



Illinois Department of Transportation

Division of Traffic Safety
3215 Executive Park Drive / P.O. Box 19245 / Springfield, Illinois / 62794-9245

TECHNICAL REPORT

July 2010

Safety Belt Usage in Illinois

June 2010 Observational Survey Results

Compiled and Prepared by

Illinois Department of Transportation
Division of Traffic Safety
Evaluation Unit
1340 North 9th St.
Springfield, Illinois 62702

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 9th 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 2010 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 136,674 front seat occupants observed at 258 locations statewide in this survey. Of those, 122,323 drivers and outboard passengers were observed in passenger cars (which included cars, sport utility vehicles, and vans) and 14,351 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

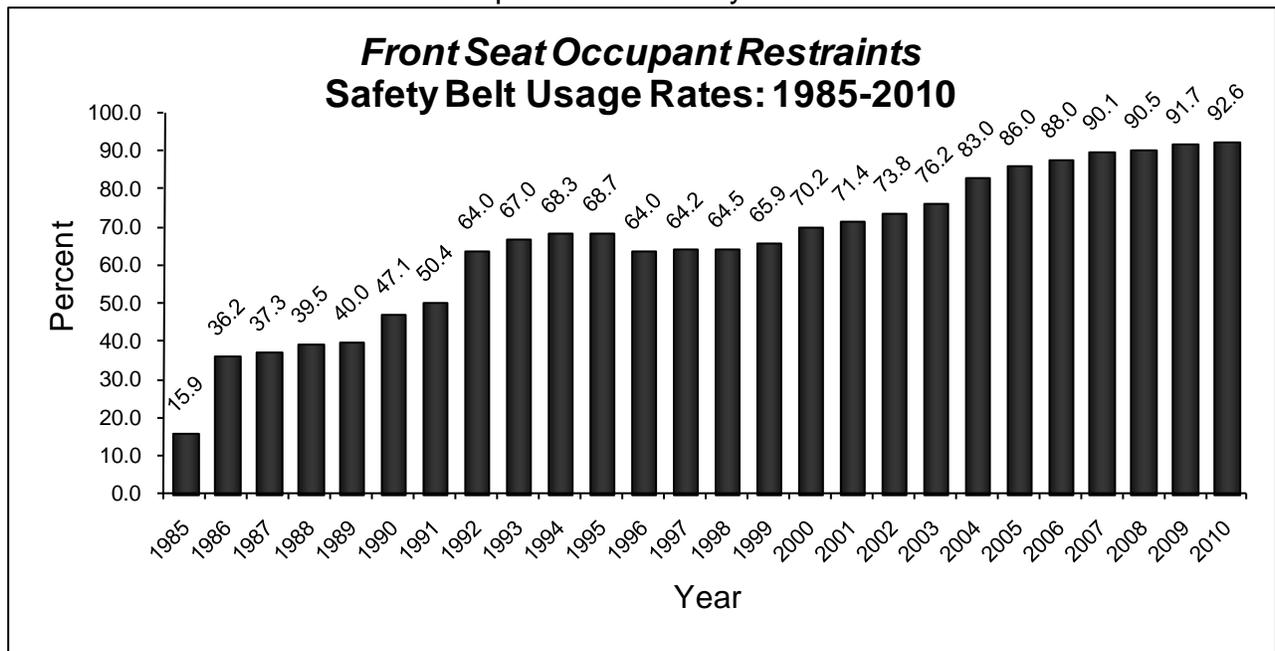
Currently the State of Illinois has a primary belt law, which became effective on July 3rd, 2003 after the bill was signed into the law. Under the primary belt law in Illinois, police officers can stop vehicles in which occupants fail to buckle up and issue citations.

The first Illinois safety belt law was passed in January 1985 and became effective July 1st, 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 3rd, 2003.

Illinois' first safety belt survey was conducted in April 1985, prior to the safety belt law becoming effective on July 1st, 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 2010 at a level of 92.6 percent. The safety belt usage rate in Illinois has increased over 76 percentage points since the first survey was conducted in April 1985 (**see Figure 1**). It should be noted that the 1998 through 2010 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 2010 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 136,674 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 136,674 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 94.2 percent closely followed by the downstate counties (Champaign, Macon, Montgomery, Peoria, Rock Island, and St. Clair) at 92.5 percent. Cook County, excluding the city of Chicago, had a usage rate of 91.0 percent, while the city of Chicago had the lowest usage rate at 88.0 percent. Based on Road Type, Interstate highway travelers had the highest usage rate at 95.6 percent followed by U.S./Illinois Highway travelers at 91.8 percent. Motorists traveling on residential streets had the lowest usage rate at 90.9 percent. The usage rate on weekends was 94.0 percent, while on the weekdays it was slightly lower at 91.0 percent.

Table 2 presents safety belt use information for drivers and passengers of passenger cars excluding pickup trucks. Of the total of 122,323 observations, 93.1 percent were wearing safety belts. The safety belt usage rate for drivers was slightly higher than that for passengers (93.1 percent versus 92.8 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 11,944 drivers and 2,407 passengers were observed. Drivers had a slightly higher safety belt usage rate than passengers (88.0 percent versus 86.5 percent). The usage rate patterns across selected

categories in **Table 3** are similar to the overall usage rate patterns shown in **Table 1** with the exception being region. For pickup trucks, the region with the highest usage rate was Cook County at 89.3 percent. This was closely followed by the collar counties (DuPage, Kane, Lake, McHenry, and Will) at 89.1 percent. The downstate counties (Champaign, Macon, Montgomery, Peoria, Rock Island, and St. Clair) had a usage rate of 87.1 percent. The city of Chicago had the lowest usage rate at 78.8 percent.

Table 4 through **Table 6** compare safety belt usage rates from June 2009 to June 2010 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 0.9 percentage point from June 2009 to June 2010. The city of Chicago had the highest increase in safety belt use showing an increase of 1.2 percentage points from 2009 to 2010. The collar counties had an increase of 1.1 percentage points in safety belt use from 2009 to 2010. Cook County had an increase in safety belt use by 0.8 percentage point. On the other hand, the downstate counties had a slight decrease in safety belt use by 0.5 percentage point from 2009 to 2010. Based on road type, residential roads had the largest percentage point increase in safety belt use of 1.0 percentage point. Safety belt use on U.S./Illinois highways and Interstate Highways increased by 0.5 and 0.3 percentage points respectively. Based on day of the week, safety belt use increased by 1.1 percentage point on the weekends and by 0.7 percentage point on weekdays.

Table 5 and **Figure 3** show that the safety belt use among front seat passenger car occupants increased 0.8 percentage point from 92.3 percent in June 2009 to 93.1 percent in June 2010. **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 increased by 2.6 percentage points from 85.1 percent in June 2009 to 87.7 percent in June 2010.

Table 1
Overall Safety Belt Usage Rates in Illinois
(June 2010)

	Drivers		Passengers		Total	
	Total Observed	Actual Usage Rate	Total Observed	Actual Usage Rate	Total Observed	Actual Usage Rate
	(1)	(2)	(3)	(4)	(5)	(6)
Statewide (258)	115,206	92.6%	21,468	92.1%	136,674	92.6%
Regions						
City of Chicago (46)	18,971	88.1%	2,890	87.2%	21,861	88.0%
Cook County (40)	13,900	91.3%	2,236	89.6%	16,136	91.0%
Collar Counties (118)	60,514	94.1%	12,029	94.3%	72,543	94.2%
Downstate (54)	21,821	92.9%	4,313	90.7%	26,134	92.5%
Road Type						
Residential (190)	60,261	91.0%	10,998	90.1%	71,259	90.9%
U.S./Illinois Highways (40)	19,961	91.7%	3,653	92.1%	23,614	91.8%
Interstate Highways (28)	34,984	95.7%	6,817	95.4%	41,801	95.6%
Day of Week						
Weekends (115)	55,505	94.0%	12,150	93.9%	67,655	94.0%
Weekdays (143)	59,701	91.2%	9,318	89.9%	69,019	91.0%

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 2010)

	Drivers		Passengers		Total	
	Total Observed (1)	Actual Usage Rate (2)	Total Observed (3)	Actual Usage Rate (4)	Total Observed (5)	Actual Usage Rate (6)
Statewide (258)	103,262	93.1%	19,061	92.8%	122,323	93.1%
Regions						
City of Chicago (46)	18,025	88.5%	2,742	87.9%	20,767	88.4%
Cook County (40)	12,674	91.4%	2,012	89.8%	14,686	91.2%
Collar Counties (118)	54,427	94.7%	10,680	95.0%	65,107	94.8%
Downstate (54)	18,136	94.0%	3,627	91.9%	21,763	93.6%
Road Type						
Residential (190)	54,968	91.5%	9,897	90.7%	64,865	91.4%
U.S./Illinois Highways (40)	17,384	92.7%	3,202	93.1%	20,586	92.7%
Interstate Highways (28)	30,910	96.2%	5,962	96.3%	36,872	96.2%
Day of Week						
Weekends (115)	49,801	94.6%	10,878	94.5%	60,679	94.6%
Weekdays (143)	53,461	91.7%	8,183	90.6%	61,644	91.5%

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 2010)

	Drivers		Passengers		Total	
	Total Observed (1)	Actual Usage Rate (2)	Total Observed (3)	Actual Usage Rate (4)	Total Observed (5)	Actual Usage Rate (6)
Statewide (258)	11,944	88.0%	2,407	86.5%	14,351	87.7%
Regions						
City of Chicago (46)	946	79.5%	148	74.3%	1,094	78.8%
Cook County (40)	1,226	89.6%	224	87.5%	1,450	89.3%
Collar Counties (118)	6,087	89.1%	1,349	88.8%	7,436	89.1%
Downstate (54)	3,685	87.7%	686	84.1%	4,371	87.1%
Road Type						
Residential (190)	5,293	86.4%	1,101	85.0%	6,394	86.1%
U.S./Illinois Highways (40)	2,577	85.0%	451	85.1%	3,028	85.0%
Interstate Highways (28)	4,074	91.9%	855	89.0%	4,929	91.4%
Day of Week						
Weekends (115)	5,704	88.7%	1,272	88.4%	6,976	88.6%
Weekdays (143)	6,240	87.3%	1,135	84.2%	7,375	86.8%

Note: Large trucks were excluded from this table.

Table 4
Overall Safety Belt Usage Rates in Illinois
(Comparison of June 2009 and June 2010)

	Drivers			Passengers			Total		
	Usage Rate (2009)	Usage Rate (2010)	Percent Change	Usage Rate (2009)	Usage Rate (2010)	Percent Change	Usage Rate (2009)	Usage Rate (2010)	Percent Change
Statewide (258)	91.8%	92.6%	0.8	90.5%	92.1%	1.6	91.7%	92.6%	0.9
Regions									
City of Chicago (46)	86.7%	88.1%	1.4	87.6%	87.2%	-0.4	86.8%	88.0%	1.2
Cook County (40)	90.2%	91.3%	1.1	89.6%	89.6%	0.0	90.2%	91.0%	0.8
Collar Counties (118)	93.3%	94.1%	0.8	91.3%	94.3%	3.0	93.1%	94.2%	1.1
Downstate (54)	93.5%	92.9%	-0.6	90.8%	90.7%	-0.1	93.0%	92.5%	-0.5
Road Type									
Residential (190)	90.1%	91.0%	0.9	89.1%	90.1%	1.0	89.9%	90.9%	1.0
U.S./Illinois Highways (40)	91.6%	91.7%	0.1	89.4%	92.1%	2.7	91.3%	91.8%	0.5
Interstate Highways (28)	95.4%	95.7%	0.3	94.1%	95.4%	1.3	95.3%	95.6%	0.3
Day of Week									
Weekends (115)	93.2%	94.0%	0.8	91.8%	93.9%	2.1	92.9%	94.0%	1.1
Weekdays (143)	90.5%	91.2%	0.7	88.9%	89.9%	1.0	90.3%	91.0%	0.7

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 2009 and June 2010)

	Drivers			Passengers			Total		
	Usage Rate (2009)	Usage Rate (2010)	Percent Change	Usage Rate (2009)	Usage Rate (2010)	Percent Change	Usage Rate (2009)	Usage Rate (2010)	Percent Change
Statewide (258)	92.5%	93.1%	0.6	91.4%	92.8%	1.4	92.3%	93.1%	0.8
Regions									
City of Chicago (46)	87.0%	88.5%	1.5	88.8%	87.9%	-0.9	87.3%	88.4%	1.1
Cook County (40)	90.8%	91.4%	0.6	90.1%	89.8%	-0.3	90.8%	91.2%	0.4
Collar Counties (118)	94.1%	94.7%	0.6	92.2%	95.0%	2.8	93.9%	94.8%	0.9
Downstate (54)	94.5%	94.0%	-0.5	91.9%	91.9%	0.0	94.1%	93.6%	-0.5
Road Type									
Residential (190)	90.6%	91.5%	0.9	89.9%	90.7%	0.8	90.5%	91.4%	0.9
U.S./Illinois Highways (40)	92.6%	92.7%	0.1	91.0%	93.1%	2.1	92.4%	92.7%	0.3
Interstate Highways (28)	96.2%	96.2%	0.0	94.8%	96.3%	1.5	96.0%	96.2%	0.2
Day of Week									
Weekends (115)	94.0%	94.6%	0.6	92.7%	94.5%	1.8	93.7%	94.6%	0.9
Weekdays (143)	91.1%	91.7%	0.6	89.9%	90.6%	0.7	90.9%	91.5%	0.6

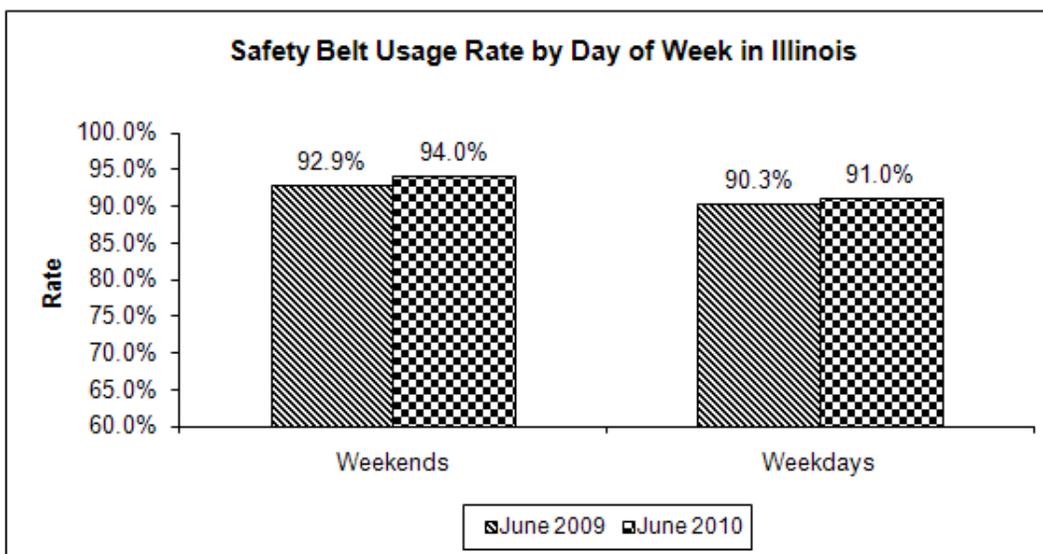
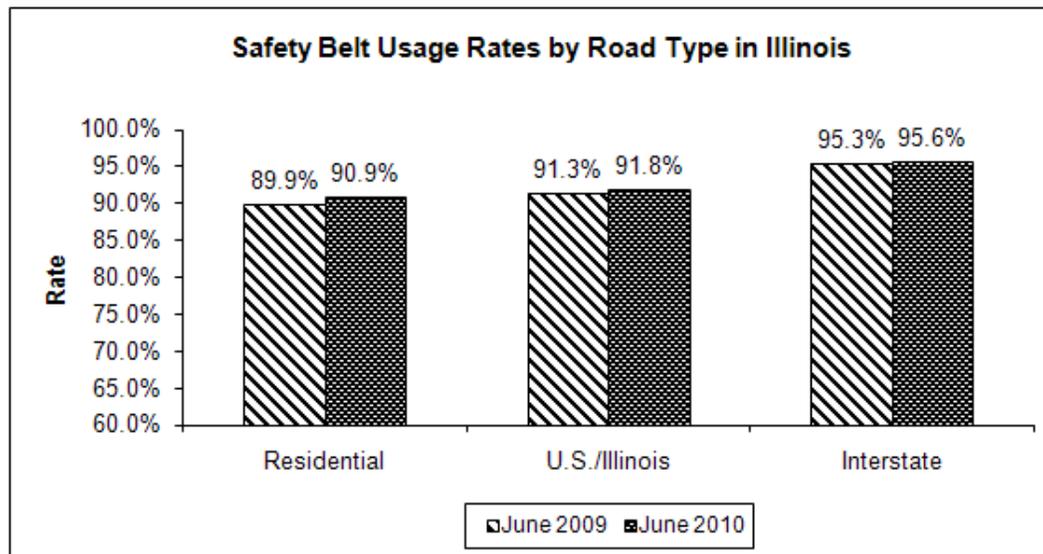
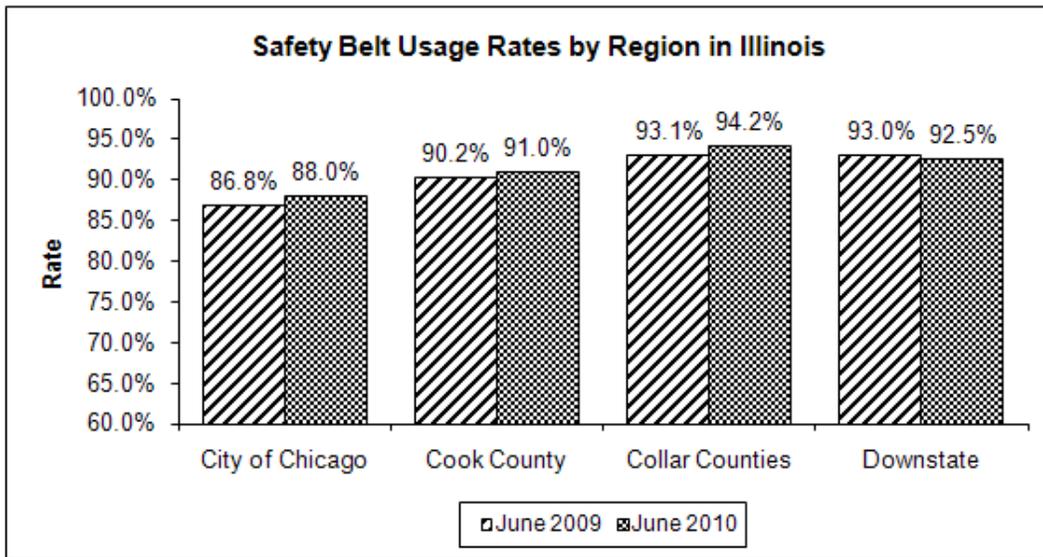
Note: Passenger cars (cars, sport utility vehicles, taxicabs and vans) were included in this table.

Table 6
Pickup Truck Safety Belt Usage Rates in Illinois
(Comparison of June 2009 and June 2010)

	Drivers			Passengers			Total		
	Usage Rate (2009)	Usage Rate (2010)	Percent Change	Usage Rate (2009)	Usage Rate (2010)	Percent Change	Usage Rate (2009)	Usage Rate (2010)	Percent Change
Statewide (258)	85.5%	88.0%	2.5	82.3%	86.5%	4.2	85.1%	87.7%	2.6
Regions									
City of Chicago (46)	79.6%	79.5%	-0.1	68.4%	74.3%	5.9	78.2%	78.8%	0.6
Cook County (40)	83.6%	89.6%	6.0	83.5%	87.5%	4.0	83.6%	89.3%	5.7
Collar Counties (118)	85.7%	89.1%	3.4	83.3%	88.8%	5.5	85.3%	89.1%	3.8
Downstate (54)	87.8%	87.7%	-0.1	83.9%	84.1%	0.2	87.2%	87.1%	-0.1
Road Type									
Residential (190)	83.8%	86.4%	2.6	80.5%	85.0%	4.5	83.3%	86.1%	2.8
U.S./Illinois Highways (40)	84.3%	85.0%	0.7	78.8%	85.1%	6.3	83.5%	85.0%	1.5
Interstate Highways (28)	89.2%	91.9%	2.7	87.9%	89.0%	1.1	89.0%	91.4%	2.4
Day of Week									
Weekends (115)	86.1%	88.7%	2.6	83.9%	88.4%	4.5	85.7%	88.6%	2.9
Weekdays (143)	85.0%	87.3%	2.3	80.2%	84.2%	4.0	84.4%	86.8%	2.4

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**

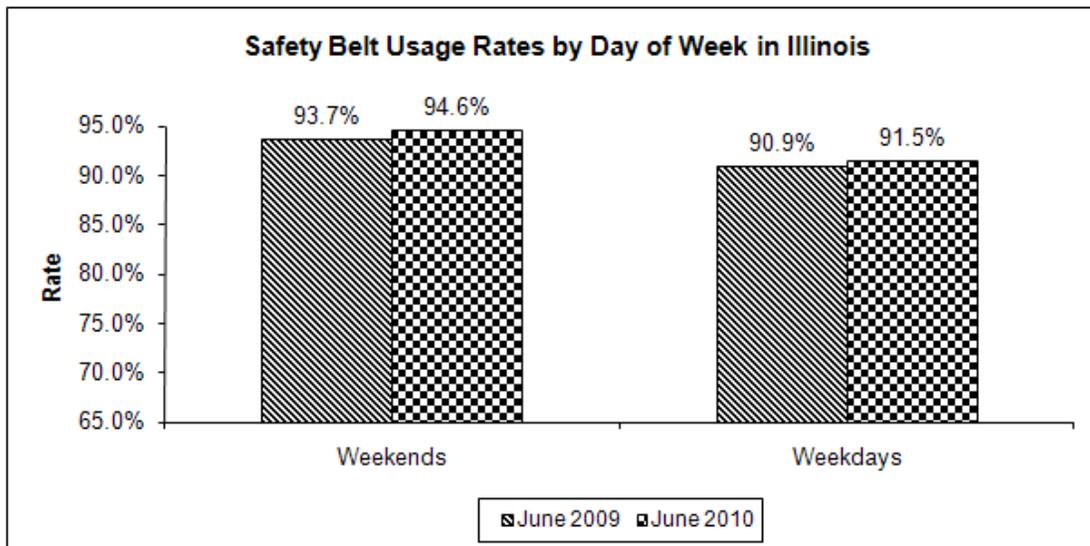
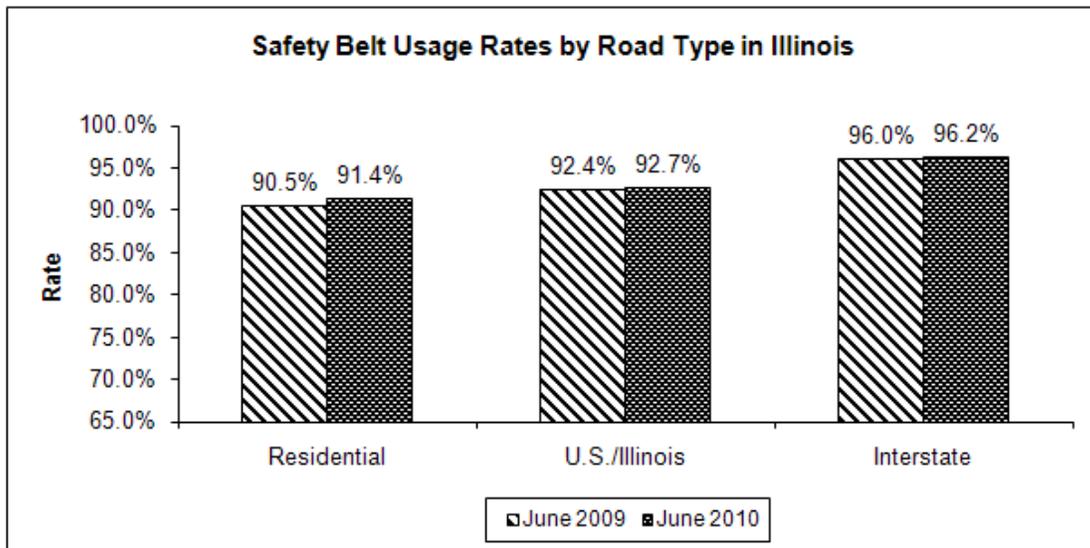
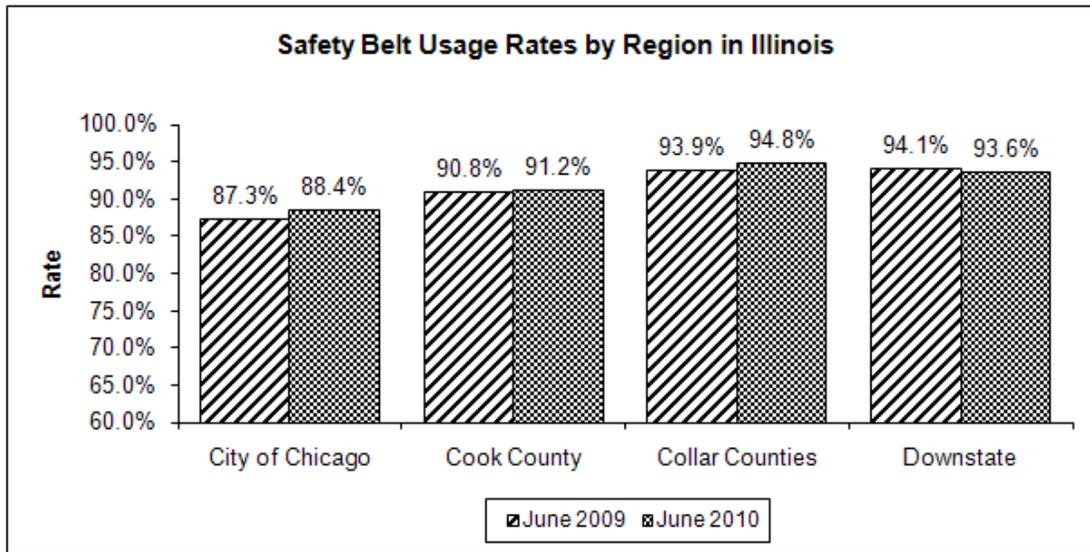


Figure 4
Pickup Truck Safety Belt Usage Rates in Illinois

