

TECHNICAL REPORT

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July 2005

# **Safety Belt Usage in Illinois**

## **June 2005 Observational Survey Results**

Compiled and Prepared by  
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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 2005 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, 3215 Executive Park Drive, Springfield, Illinois 62794-9245.

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## **Survey Design**

The recent safety belt survey was a statistical (multi-stage random) observational survey conducted statewide during June 2005 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 129,281 front seat occupants observed at 258 locations statewide in this survey. Of those, 115,458 drivers and outboard passengers were observed in passenger cars (which included cars, sport utility vehicles, and vans) and 12,622 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**

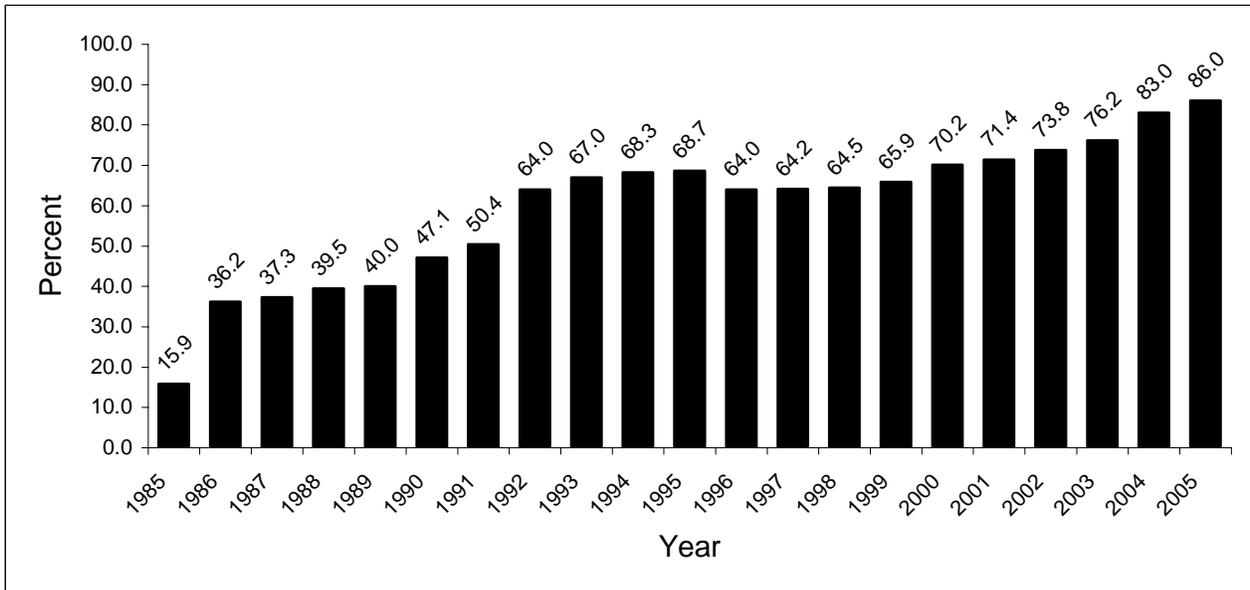
Currently the State of Illinois has a primary belt law, which became effective on July 3<sup>rd</sup>, 2003 after Governor Blagojevich signed the bill into the law. Under the primary belt law in Illinois, police officers can stop vehicles in which occupants fail to buckle up and issue citations.

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 2005 at a level of 86.0 percent. The safety belt usage rate in Illinois has increased more than 70 percentage points since the first survey was conducted in April 1985 (see Figure 1). It should be noted that the 1998 through 2005 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 2005 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 2005. 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 types, and by weekdays and weekends. A total of 129,281 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 129,281 front seat occupants observed, 86.0 percent were wearing safety belts. The Collar Counties (DuPage, Kane, Lake, McHenry, and Will) had the highest usage rate at 88.4 percent followed by the Downstate Counties (Champaign, Macon, Montgomery, Peoria, Rock Island, and St. Clair) at 86.8 percent. Cook County, excluding the City of Chicago, had a usage rate of 83.5 percent, while the City of Chicago had the lowest usage rate at 80.1 percent. Interstate highway travelers had the highest usage rate at 92.9 percent followed by U.S. and Illinois marked highway travelers at 86.3 percent. Motorists traveling on residential streets had the lowest usage rate at 82.9 percent. The usage rate on weekends was 88.0 percent, while on the weekdays it was only 83.9.

**Table 2** presents safety belt use information for drivers and passengers of passenger cars excluding pickup trucks. Of the total of 115,458 observations, 87.2 percent were wearing seat belts. The safety belt usage rate for drivers was slightly higher than that for passengers (87.8 percent versus 84.1 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 11,398 drivers and 2,425 passengers were observed. Drivers had a slightly higher seat belt usage rate than passengers (75.8 percent versus 74.9 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 2004 to June 2005 and show percent changes among front seat occupants of passenger cars and pickup trucks.

**Table 4** and **Figure 2** depict that the overall safety belt usage rate among drivers and front seat passengers increased by 3.0 percent from June 2004 to June 2005. The Collar Counties had the highest increase in belt use of 4.4 percentage points. Cook County, excluding the City of Chicago, and the City of Chicago had increases in belt use of 3.4 and 3.3 percentage points respectively. The Downstate Counties had a slight decrease in belt use of 0.8 percentage points. U.S./Illinois Highways had an increase in belt usage of 3.9 percentage points. Residential roads had an increase in belt use of 3.4 percentage points and Interstate belt use increased by 1.2 percentage points. Safety belt use increased by 3.2 percentage points on the weekdays and 2.5 percentage points on the weekends.

**Table 5** and **Figure 3** show that the safety belt use among front seat passenger car occupants 3.0 percentage points from 84.2 percent in June 2004 to 87.2 percent in June 2005.

**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 3.0 percentage points from 72.6 percent in June 2004 to 75.6 percent in June 2005.

**Table 1**  
**Overall Safety Belt Usage Rates in Illinois**  
**(June 2005)**

Selected Characteristics	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>108,009</b>	<b>86.5%</b>	<b>21,272</b>	<b>83.1%</b>	<b>129,281</b>	<b>86.0%</b>
<b>Regions</b>						
City of Chicago (46)	20,277	81.1%	4,073	74.6%	24,350	80.1%
Cook County (40)	12,070	84.4%	1,804	77.2%	13,874	83.5%
Collar Counties (118)	52,579	88.9%	10,797	86.1%	63,376	88.4%
Downstate (54)	23,083	87.1%	4,598	85.8%	27,681	86.8%
<b>Road Type</b>						
Residential (190)	62,540	83.8%	12,090	78.0%	74,630	82.9%
U.S./Illinois Highways (40)	18,541	86.7%	3,771	84.2%	22,312	86.3%
Interstate Highways (28)	26,928	92.8%	5,411	93.5%	32,339	92.9%
<b>Day of Week</b>						
Weekends (115)	51,184	88.7%	12,339	85.3%	63,523	88.0%
Weekdays (143)	56,825	84.6%	8,933	80.0%	65,758	83.9%

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 2005)**

Selected Characteristics	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>96,611</b>	<b>87.8%</b>	<b>18,847</b>	<b>84.1%</b>	<b>115,458</b>	<b>87.2%</b>
<b>Regions</b>						
City of Chicago (46)	18,996	82.1%	3,803	75.8%	22,799	81.0%
Cook County (40)	11,169	85.6%	1,599	77.9%	12,768	84.6%
Collar Counties (118)	47,442	90.1%	9,581	86.9%	57,023	90.0%
Downstate (54)	19,004	89.0%	3,864	87.8%	22,868	88.8%
<b>Road Type</b>						
Residential (190)	56,679	84.9%	10,846	78.9%	67,525	84.0%
U.S./Illinois Highways (40)	16,054	88.9%	3,248	86.2%	19,302	88.4%
Interstate Highways (28)	23,878	93.9%	4,753	94.5%	28,631	94.0%
<b>Day of Week</b>						
Weekends (115)	45,720	90.1%	10,901	86.3%	56,621	89.3%
Weekdays (143)	50,891	85.8%	7,946	81.1%	58,837	85.1%

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 2005)**

Selected Characteristics	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>11,398</b>	<b>75.8%</b>	<b>2,425</b>	<b>74.9%</b>	<b>13,823</b>	<b>75.6%</b>
<b>Regions</b>						
City of Chicago (46)	1,281	67.9%	270	58.1%	1,551	66.0%
Cook County (40)	901	69.7%	205	71.7%	1,106	70.1%
Collar Counties (118)	5,137	77.3%	1,216	79.0%	6,353	77.7%
Downstate (54)	4,079	77.7%	734	75.2%	4,813	77.4%
<b>Road Type</b>						
Residential (190)	5,861	72.7%	1,244	70.3%	7,105	72.3%
U.S./Illinois Highways (40)	2,487	72.7%	523	71.7%	3,010	72.5%
Interstate Highways (28)	3,050	84.2%	658	86.3%	3,708	84.6%
<b>Day of Week</b>						
Weekends (115)	5,464	77.4%	1,438	78.0%	6,902	77.5%
Weekdays (143)	5,934	74.3%	987	70.5%	6,921	73.7%

Note: Large trucks were excluded from this table.

**Table 4**  
**Overall Safety Belt Usage Rates in Illinois**  
**(Comparison of June 2004 and June 2005)**

Selected Characteristics	Drivers			Passengers			Total		
	Usage Rate (2004)	Usage Rate (2005)	Percent Change	Usage Rate (2004)	Usage Rate (2005)	Percent Change	Usage Rate (2004)	Usage Rate (2005)	Percent Change
<b>Statewide (258)</b>	<b>83.4%</b>	<b>86.5%</b>	<b>3.1</b>	<b>81.2%</b>	<b>83.1%</b>	<b>1.9</b>	<b>83.0%</b>	<b>86.0%</b>	<b>3.0</b>
<b>Regions</b>									
City of Chicago (46)	77.1%	81.1%	4.0	74.8%	74.6%	-0.2	76.8%	80.1%	3.3
Cook County (40)	81.1%	84.4%	3.3	72.9%	77.2%	4.3	80.1%	83.5%	3.4
Collar Counties (118)	84.3%	88.9%	4.6	82.7%	86.1%	3.4	84.0%	88.4%	4.4
Downstate (54)	87.9%	87.1%	-0.8	85.6%	85.8%	0.2	87.6%	86.8%	-0.8
<b>Road Type</b>									
Residential (190)	80.2%	83.8%	3.6	75.7%	78.0%	2.3	79.5%	82.9%	3.4
U.S./Illinois Highways (40)	82.3%	86.7%	4.4	83.0%	84.2%	1.2	82.4%	86.3%	3.9
Interstate Highways (28)	91.8%	92.8%	1.0	91.2%	93.5%	2.3	91.7%	92.9%	1.2
<b>Day of Week</b>									
Weekends (115)	85.8%	88.7%	2.9	84.3%	85.3%	1.0	85.5%	88.0%	2.5
Weekdays (143)	81.3%	84.6%	3.3	77.0%	80.0%	3.0	80.7%	83.9%	3.2

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 2004 and June 2005)**

Selected Characteristics	Drivers			Passengers			Total		
	Usage Rate (2004)	Usage Rate (2005)	Percent Change	Usage Rate (2004)	Usage Rate (2005)	Percent Change	Usage Rate (2004)	Usage Rate (2005)	Percent Change
<b>Statewide (258)</b>	<b>84.6%</b>	<b>87.8%</b>	<b>3.2</b>	<b>82.3%</b>	<b>84.1%</b>	<b>1.8</b>	<b>84.2%</b>	<b>87.2%</b>	<b>3.0</b>
<b>Regions</b>									
City of Chicago (46)	77.8%	82.1%	4.3	75.8%	75.8%	0.0	77.5%	81.0%	3.5
Cook County (40)	82.5%	85.6%	3.1	74.1%	77.9%	3.8	81.5%	84.6%	3.1
Collar Counties (118)	85.8%	90.1%	4.3	83.9%	86.9%	3.0	85.4%	90.0%	4.6
Downstate (54)	89.7%	89.0%	-0.7	87.3%	87.8%	0.5	89.4%	88.8%	-0.6
<b>Road Type</b>									
Residential (190)	81.3%	84.9%	3.6	76.8%	78.9%	2.1	80.6%	84.0%	3.4
U.S./Illinois Highways (40)	84.2%	88.9%	4.7	84.6%	86.2%	1.6	84.3%	88.4%	4.1
Interstate Highways (28)	92.9%	93.9%	1.0	92.1%	94.5%	2.4	92.8%	94.0%	1.2
<b>Day of Week</b>									
Weekends (115)	87.2%	90.1%	2.9	85.4%	86.3%	0.9	86.8%	89.3%	2.5
Weekdays (143)	82.4%	85.8%	3.4	78.2%	81.1%	2.9	81.8%	85.1%	3.3

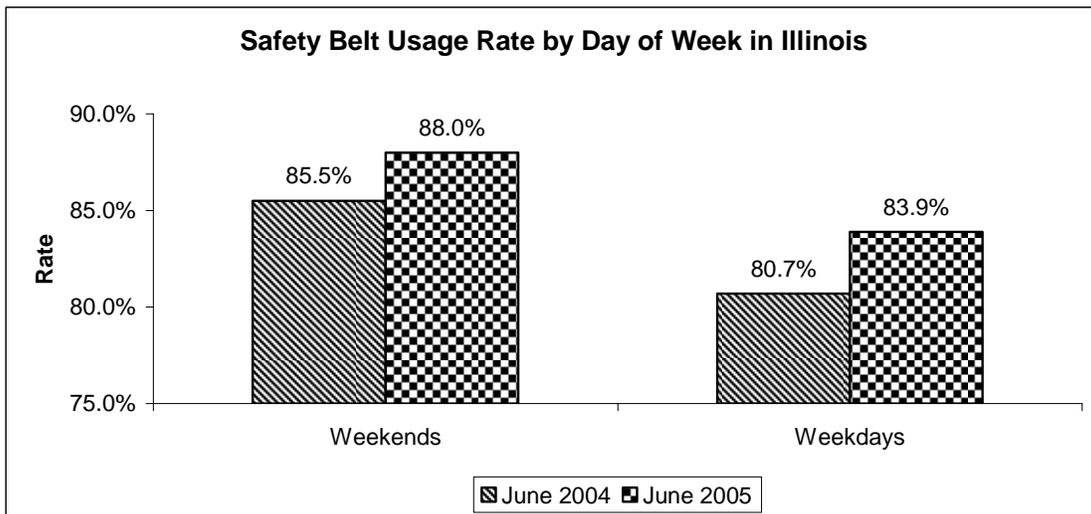
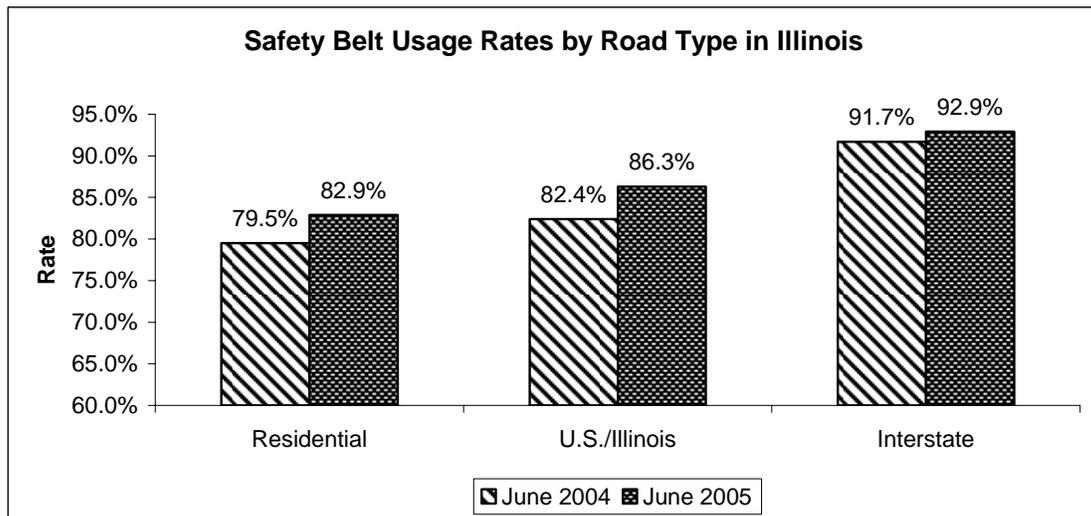
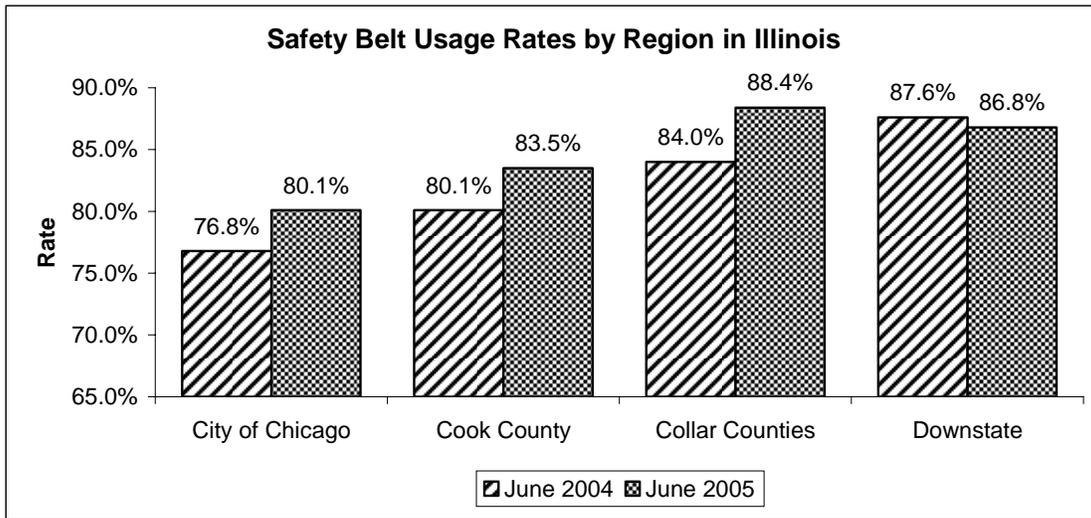
Note: Passenger cars (cars, sport utility vehicles, taxicabs and vans) were included in this table.

**Table 6**  
**Pickup Truck Safety Belt Usage Rates in Illinois**  
**(Comparison of June 2004 and June 2005)**

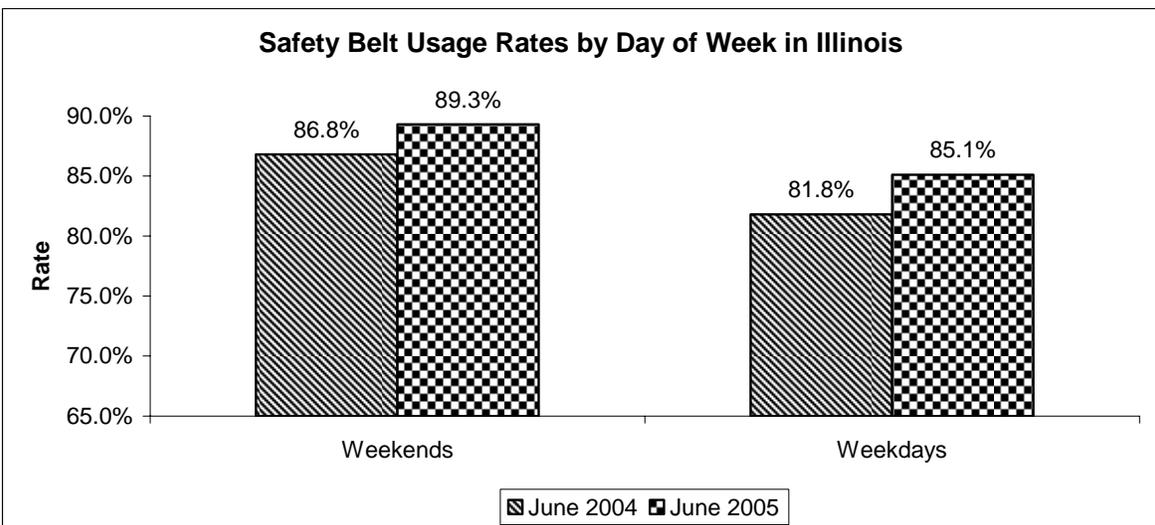
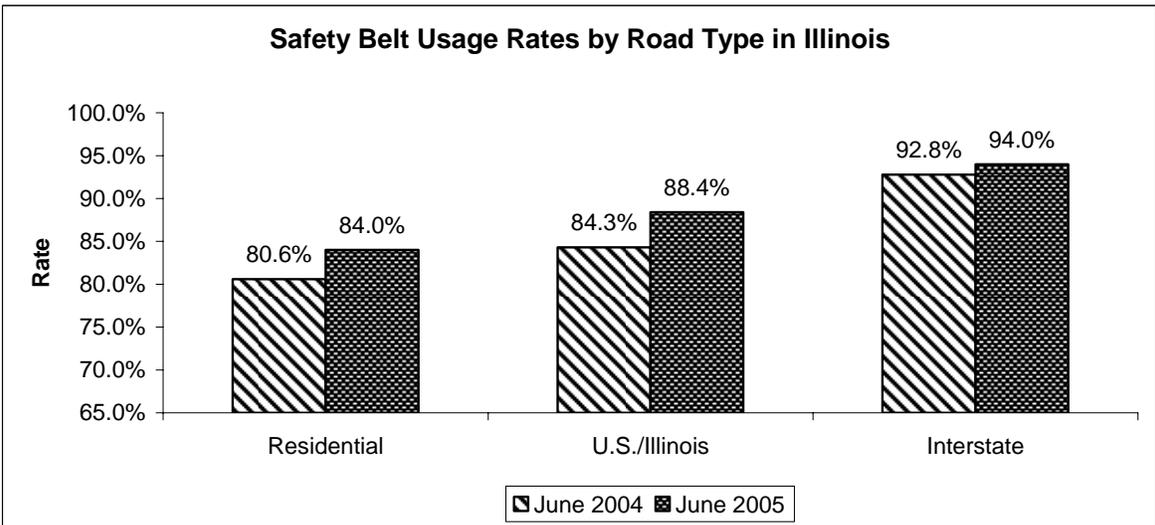
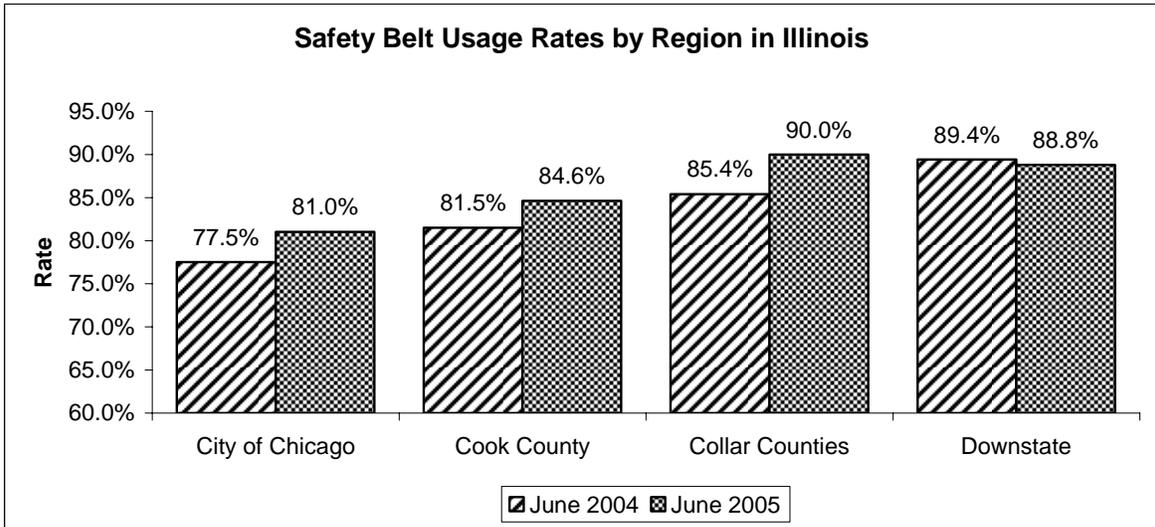
Selected Characteristics	Drivers			Passengers			Total		
	Usage Rate (2004)	Usage Rate (2005)	Percent Change	Usage Rate (2004)	Usage Rate (2005)	Percent Change	Usage Rate (2004)	Usage Rate (2005)	Percent Change
<b>Statewide (258)</b>	<b>72.9%</b>	<b>75.8%</b>	<b>2.9</b>	<b>71.3%</b>	<b>74.9%</b>	<b>3.6</b>	<b>72.6%</b>	<b>75.6%</b>	<b>3.0</b>
<b>Regions</b>									
City of Chicago (46)	64.9%	67.9%	3.0	59.9%	58.1%	-1.8	64.2%	66.0%	1.8
Cook County (40)	64.8%	69.7%	4.9	62.1%	71.7%	9.6	64.4%	70.1%	5.7
Collar Counties (118)	71.4%	77.3%	5.9	71.1%	79.0%	7.9	71.3%	77.7%	6.4
Downstate (54)	79.1%	77.7%	-1.4	77.0%	75.2%	-1.8	78.8%	77.4%	-1.4
<b>Road Type</b>									
Residential (190)	68.9%	72.7%	3.8	65.9%	70.3%	4.4	68.4%	72.3%	3.9
U.S./Illinois Highways (40)	70.3%	72.7%	2.4	71.7%	71.7%	0.0	70.5%	72.5%	2.0
Interstate Highways (28)	82.9%	84.2%	1.3	82.9%	86.3%	3.4	82.9%	84.6%	1.7
<b>Day of Week</b>									
Weekends (115)	73.3%	77.4%	4.1	75.2%	78.0%	2.8	73.6%	77.5%	3.9
Weekdays (143)	72.5%	74.3%	1.8	66.2%	70.5%	4.3	71.7%	73.7%	2.0

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**

