

# UTAH SAFETY BELT OBSERVATIONAL SURVEY

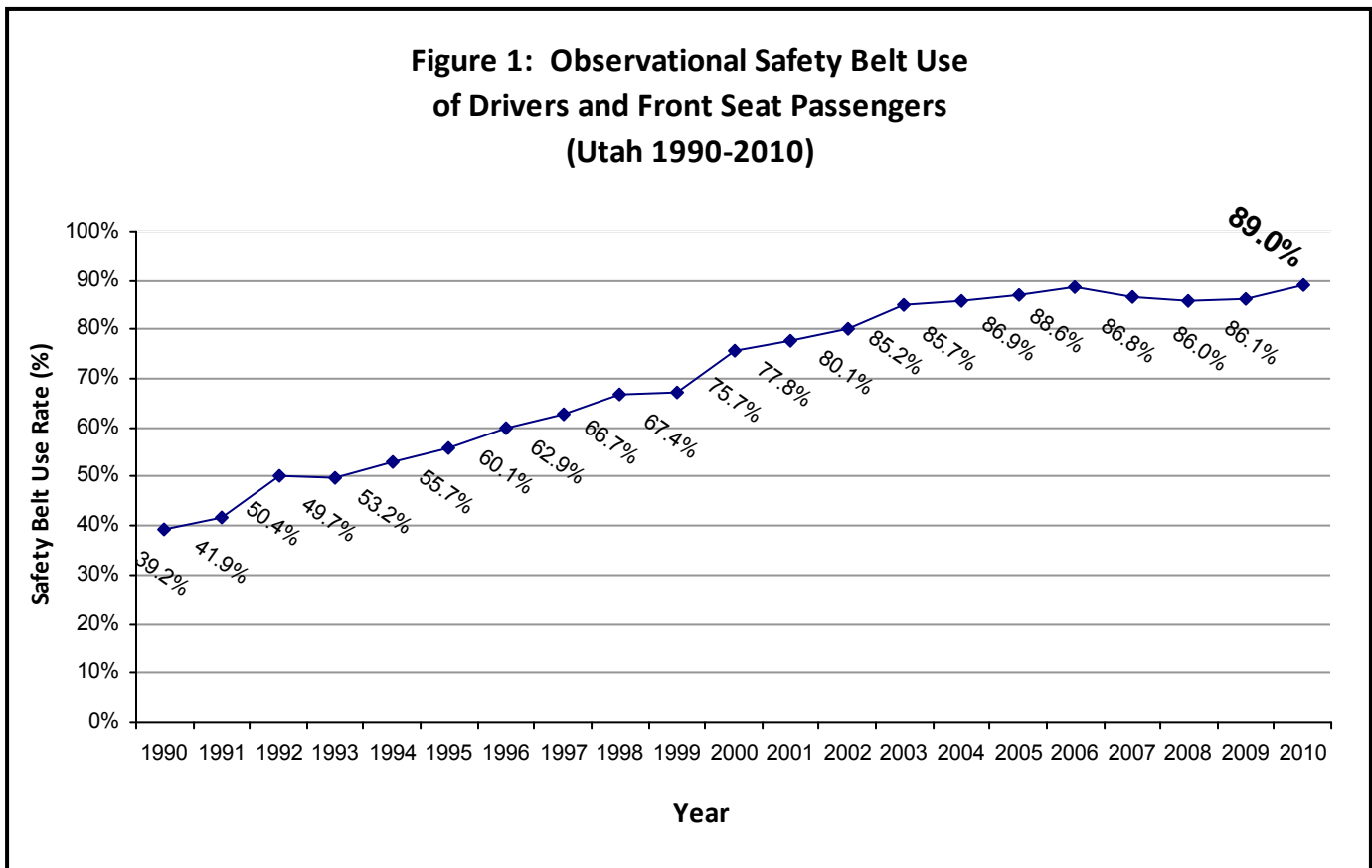
SEPTEMBER 2010 REPORT

## INTRODUCTION

According to the National Highway Traffic Safety Administration (NHTSA), deaths and serious injuries caused by motor vehicle crashes could be reduced by approximately 50% with proper and consistent use of safety belts. To help increase safety belt use, traffic safety advocates have used a combined approach which involves legislation, public information and education efforts, and enforcement.

In 1986, the first Safety Belt Use Law was enacted in Utah. The law has gone through several revisions throughout the years and currently states that all drivers and passengers must use safety belts. The law is secondary for people ages 19 and older and primary for people under 19 years of age. In addition, during the 2008 legislative session, the child restraint law was upgraded and now requires that children under the age of eight must be restrained in an appropriate child safety seat or booster seat.

Educational and enforcement programs are also used to increase awareness of the importance of safety belts. Public education activities include training, presentations, media campaigns, and high visibility enforcement efforts. These activities are conducted by the Utah Highway Safety Office (UHSO), Utah Department of Transportation, Utah Highway Patrol, state and local health departments, hospitals, local law enforcement agencies, fire/EMS, businesses, and other partnering agencies committed to making Utah's roads safer. To determine the effectiveness of these legislative and preventative efforts, a survey has been conducted each year since 1986 to measure safety restraint usage rates. The survey results show that these efforts have been effective in increasing safety belt use. Utah's safety belt usage rate has increased from 18% in 1986 to the current rate of 89%. The figure below shows the state's usage rate over the past two decades.



## BACKGROUND

From 1986 to 1998, the methodology for conducting safety belt observational surveys was based on guidelines specific to Utah. In 1998, the National Highway Traffic Safety Administration (NHTSA) began to award the states federal funds based on their statewide safety belt use rates and established new survey criteria. The criteria directed that a state survey must be: probability based; based on observed shoulder belt use; designed to produce estimates with a relative precision of +/- 5 percent; designed to study front seat occupants of all passenger vehicles during all daylight hours for all days of the week; designed to include the largest geographic areas containing at least 85 percent of the state's population; and properly documented. In addition, beginning in 2003, states were required to conduct the survey in June, which marks the conclusion of the national *Click It or Ticket* enforcement campaign. By conducting the study during this time period, Utah is able to determine the highest possible safety belt usage rate for the year and evaluate the effectiveness of the *Click It or Ticket* effort. This study also helps NHTSA establish a national use rate, which was reported as 85% in 2010.

## METHODOLOGY

**Sample Stratification:** Utah encompasses an area of 84,916 square miles, and had a population of 2,233,169 in the 2000 census. The state has a varied geographic distribution of its population with large rural and frontier areas. Over 76% of Utah's population lives within four counties clustered against the Wasatch Mountains. This leaves the remaining 25 counties with less than 24% of the population. Based on national criteria, the six most populated counties (Cache, Davis, Salt Lake, Utah, Washington, and Weber) were selected for the survey.

**Sample Selection:** Road segments were defined by data from the Utah Department of Transportation. It was determined that there was an average of 282 road segments in each of the six sampled counties. Through random selection, 27 state road segments in each county (162 total) were selected for observation. The 27 road segments within each county were defined as rural or urban roadways and were randomly selected with probabilities of selection corresponding to vehicle miles traveled.

**Day of Week and Time of Day:** Day of the week, time of day, and direction of travel were randomly selected for each road segment. In addition, no more than six sites were selected for a 40-minute observation in a single day. All time periods were during daylight hours, starting at 7:30 AM and ending at 4:30 PM. To minimize travel time, sites were grouped into geographic clusters.

**Sample Size:** To determine sample size, based on previous surveys, it was estimated that approximately 15,000 observations would need to be acquired from the 162 sites for a single survey in order to meet the required accuracy of an approximate margin of error of less than 1%, at a 95% confidence level.

**Data Collection:** Each site included a specific road segment using a mile post, time of day, day of week, and direction of travel. All passenger cars, pickup trucks, vans, and sport utility vehicles were observed for a period of 40 minutes at each site. Commercial trucks and motor homes were excluded. Only drivers and front passengers were observed. All lanes of traffic traveling in the predetermined direction of travel were observed. Observers were trained using a Field Observer's Instruction Manual and were provided with survey observation forms and information on each of the 162 sites to help locate the exact location to be observed.

**Statistical Analysis:** Completed data collection forms were returned to the UHSO where the data was entered into an electronic format and provided to a statistician for analysis.

## RESULTS

The results of this study show the overall safety belt use rate for Utah as well as the use rate by county, gender, and road type. A total of 62,827 drivers and front seat passengers were observed. Overall usage was found to be **89.0%**, which has a margin of error of +/-0.24%. This demonstrates an increase of 2.9% from the 2009 rate of 86.1%. The study also revealed that four of the six counties surveyed had a statistically significant increase in seatbelt use from the previous year. Figure 2 shows the 2009 and 2010 safety belt usage rates for the six counties.

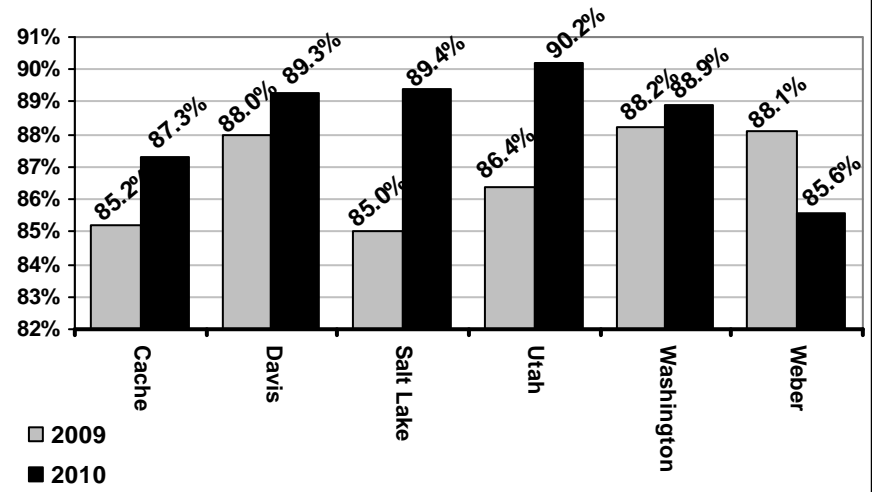
### Gender by County

In all six counties surveyed, females (91.3%) were more likely to wear safety belts than males (86.3%). The results for safety belt usage among male and female occupants in 2009 and 2010 are summarized by county in Table 1.

### Road Type by County

More people used safety belts while traveling on highways (91.2%) when compared to local roadways (86.6%). Table 2 provides the safety belt use rates for both local roadways and highways for each county. The table does not include a usage rate for highways in Cache County since all roads selected for observation in Cache County were considered to be local.

**Figure 2: Safety Belt Usage by County  
Utah (2009-2010)**



**Table 1: Safety Belt Use Among Male and Female Occupants by County (2009-2010)**

County	MALE OCCUPANTS		FEMALE OCCUPANTS	
	2009	2010	2009	2010
Cache	81.4%	83.6%	89.7%	91.8%
Davis	85.5%	87.4%	90.9%	91.7%
Salt Lake	83.8%	87.9%	86.7%	91.4%
Utah	84.4%	86.4%	88.8%	91.6%
Washington	85.6%	88.4%	91.3%	92.0%
Weber	85.3%	82.6%	91.7%	89.5%
<b>Overall</b>	84.4%	86.3%	89.9%	91.3%

**Table 2: County Safety Belt Use by Road Type (2010)**

County	Local Roadway	Highway
Cache	87.3%	N/A
Davis	87.4%	90.9%
Salt Lake	88.2%	90.9%
Utah	85.8%	92.9%
Washington	84.7%	92.2%
Weber	85.5%	85.9%
<b>Overall</b>	86.6%	91.2%

## CONCLUSIONS

- The weighted statewide result for 2010 is 89.0% +/- 0.24%, which is similar to the 2006 level.
- Since the implementation of this new survey methodology in 1998, Utah's safety belt use rate has increased 21.6 percentage points.
- Five of the six counties included in the survey experienced increases in safety belt use.
- Increases were found among both local and highway road types and with both genders in Cache, Salt Lake and Utah counties.
- Salt Lake County experienced the greatest increase in safety belt use (89.4%, +4 ppt).
- Utah County was found to have the highest overall safety belt use rate (90.2%).
- The decline in Weber County (85.6%, -2 ppt) was observed for both genders and on both local and highway roads.
- Child restraint use was not studied in 2010. Usage data can be found in the 2009 Utah Safety Belt Observational Survey Report.

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