

Introduction

From 2003-2007, more than 20,000 Utah bicyclists were hurt or killed in crashes with motor vehicles.¹ The Utah Department of Health Violence and Injury Prevention Program has conducted a yearly observational survey on bicycle helmet use since 1994. Observations are performed at 20 randomly-selected elementary schools and their surrounding neighborhoods across Utah.

A total of 20,055 bicyclists were observed over the course of the survey. Of those:

- 690 were preschool-age (ages 0-4),
- 14,449 were elementary school-age (ages 5-11),
- 2,921 were secondary school-age (ages 12-18), and
- 1,995 were adults (ages 19+).

Utah and U.S.

Utah has a higher percentage of bicyclists who wear a bike helmet than the U.S. (36.5% vs. 20-25%).²

Utah Trends, 1994-2008

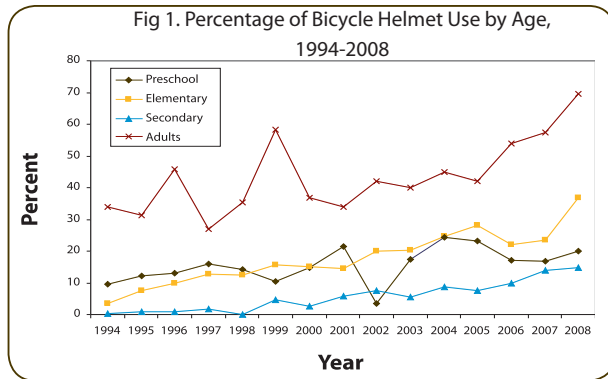
In Utah, helmet use has increased 32% overall for all ages (from 4.6% in 1994 to 36.5% in 2008).

- For preschool-age bicyclists, helmet use increased from 16.7% in 2007 to 20% in 2008. This is an overall increase of 10.5% since 1994. (Figure 1)
- For elementary school-age bicyclists, helmet use increased from 23.4% in 2007 to 36.8% in 2008. This is an overall increase of 33.4% since 1994. (Figure 1)
- For secondary school-age bicyclists, helmet use increased from 14% in 2007 to 14.7% in 2008. This is an overall increase of 14.5% since 1994.
- For adults, helmet use increased from 57.5% in 2007 to 69.7% in 2008. This is an overall increase of 35.8% since 1994. (Figure 1)



Age and Sex

Adults had the highest helmet use during the survey (45.8%), followed by elementary school (17.5%), preschool (15.8%), and secondary school-age bicyclists (6.1%). (Figure 1)



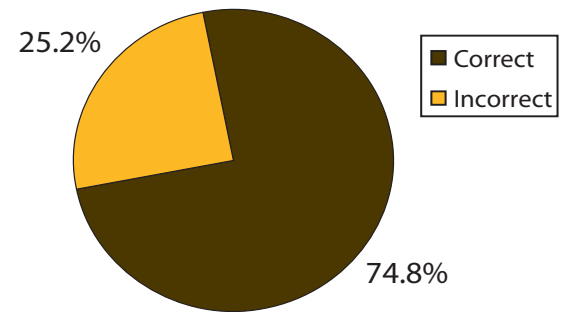
Year	Age Group			
	Preschool	Elementary	Secondary	Adults
1994	9.5	3.4	0.2	33.9
1995	12.2	7.6	0.9	1.3
1996	13	10	1	45.8
1997	15.8	12.7	1.7	26.9
1998	14.3	12.5	0	35.4
1999	10.5	15.6	4.6	58.3
2000	14.8	15.1	2.7	36.8
2001	21.4	14.6	5.7	33.9
2002	3.4	20.1	7.5	42.1
2003	17.5	20.2	5.4	39.9
2004	24.4	24.5	8.8	44.9
2005	23.2	28.1	7.4	42.1
2006	17.1	21.9	9.9	54
2007	16.7	23.4	14	57.5
2008	20	36.8	14.7	69.7

Seventy percent of the bicyclists observed were males. For all ages, 19% of male bicyclists wore helmets compared to 17.8% of female bicyclists.

Observers looked to see if helmets were positioned correctly and the strap was adjusted and fastened correctly.

Three-fourths of elementary-age bicyclists wore their helmets correctly. (Figure 2)

Figure 2. Percentage of Properly Worn Bicycle Helmets Among Elementary School-Age Bicyclists, 1994-2008

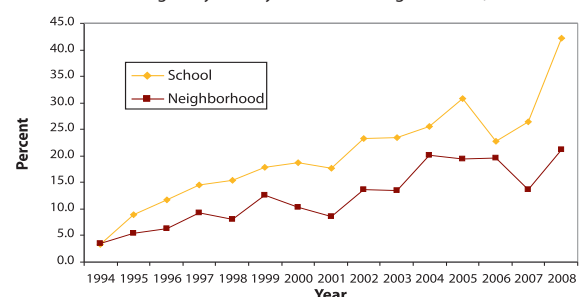


Geographic Location

Nearly half (48.7 %) of the observed bicyclists were elementary school children observed at a school. Helmet usage is higher for bicyclists at schools than in neighborhoods. For all ages, helmet use in neighborhoods increased from 5.4% in 1994 to 28.8% in 2008.

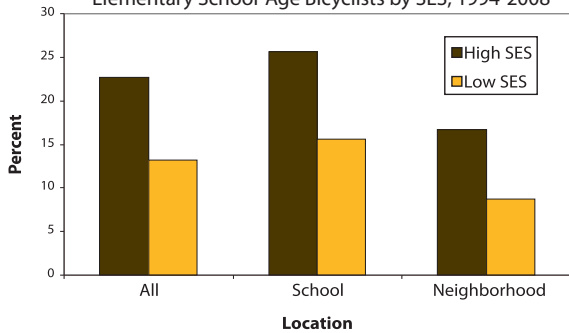
For elementary school-age bicyclists, helmet use observed on school property increased from 3.3% in 1994 to 42.2% in 2008, and from 3.5% in 1994 to 21.1% in 2008 when observed in surrounding neighborhoods. (Figure 3)

Figure 3. Percentage of Bicycle Helmet Use Among Elementary School-Age Bicyclists by School and Neighborhood, 1994-2008



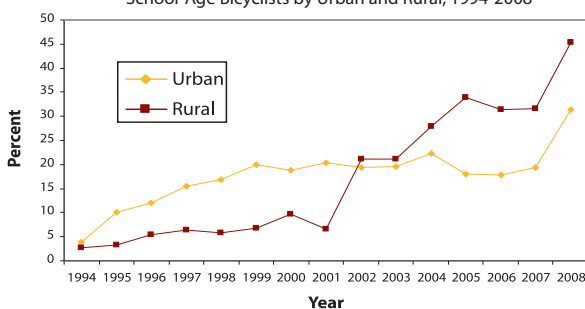
Elementary school-age bicyclists in high socioeconomic status (SES) areas had higher helmet usage than bicyclists in low SES areas. (Figure 4) SES was determined by the percentage of students enrolled in the free/reduced lunch program at the school where the observation was conducted. High SES areas had 0-25% enrollment and low SES areas had >25% enrollment.

Figure 4. Percentage of Bicycle Helmet Use Among Elementary School-Age Bicyclists by SES, 1994-2008



Since 2002, helmet usage has been higher in rural areas than in urban areas (45.5% in 2008 vs. 31.4% in 2008 respectively). (Figure 5)

Figure 5. Percentage of Bicycle Helmet Use Among Elementary School-Age Bicyclists by Urban and Rural, 1994-2008



Safety Tips

Wearing a bike helmet can reduce the risk of head and brain injuries by 85-88%.^{2,4} In 2007 in the U.S., 92% of bicyclists killed in crashes were not wearing a helmet.⁵

- Always wear a helmet when you ride a bike.
- Be sure your helmet is safety approved by the CPSC.
- Your helmet should fit snugly.
- Your helmet should rest low and level on your forehead, just above your eyebrows. When you open your mouth to yawn, you should feel pressure on top of your head.
- Always fasten the strap. The strap should form a "V" below your ears.
- You should only be able to fit two fingers from your eyebrow to the brim of the helmet and two fingers under the chin strap.
- Adults should set a good example for children by wearing a helmet.

Cost

If every Utah bike rider wore a helmet, it would prevent an estimated:

- Three deaths;
- 59 hospitalizations;
- 920 emergency department visits; and
- The loss of over \$18 million in health care costs each year.³

Laws

Utah is one of only 14 states with no law requiring bicyclists to wear a helmet.² States with helmet laws have higher helmet use rates than states without laws.⁶

Utah bicycle laws can be found at <http://safe-route.org/laws/>.

Resources

- Pedestrian and Bicycle Information Center, www.bicyclinginfo.org
- National Highway Traffic Safety Administration, www.nhtsa.gov

References

¹Utah's Indicator-Based Information System for Public Health (IBIS-PH)
<http://ibis.health.utah.gov/home>.

²National Highway Traffic Safety Administration. Traffic Safety Facts: Bicycle Helmet Use Laws 2008.

³Schulman J, et al. State level estimates of the incidence and economic burden of head injuries stemming from non-universal use of bicycle helmets. *Inj Prev* 2002;8:47-52.

⁴Thompson RS, et al. A case-control study of the effectiveness of bicycle helmets. *N Engl J Med* 1989;320(21):1361-1367.

⁵Insurance Institute for Highway Safety www.iihs.org/research/fatality_facts_2007/bicycles.html.

⁶Rodgers, GB. Bike Helmet Safety. *Consumer Product Safety Review* 2002;7(1):1-2,6.

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If your life has been affected by wearing a bicycle helmet, the Utah Department of Health wants to hear from you. Share your story with the Utah Health Story Bank at www.health.utah.gov/bhp/sb/.

Our Mission

We are a trusted and comprehensive resource for data related to violence and injury. Through education, this information helps promote partnerships and programs to prevent injuries and improve public health.

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