

Traffic Safety Facts

Laws

DOT HS 810 726W

February 2007

Motorcycle Helmet Use Laws

Background

The National Highway Traffic Safety Administration encourages each State to have and enforce a law requiring all motorcycle operators and passengers to wear a helmet meeting FMVSS 218. Motorcycle helmets provide the best protection from head injury for motorcyclists involved in traffic crashes. The passage of helmet use laws governing all motorcycle riders is the most effective method of increasing helmet use. Additionally, NHTSA strongly supports comprehensive motorcycle safety programs that include motorcycle helmet use, rider education, motorcycle operator licensing, and responsible use of alcohol.

Key Facts

- In 2005, 4,553 motorcyclists died and approximately 87,000 were injured in highway crashes in the United States.

- Per mile traveled in 2005, a motorcyclist is approximately 34 times more likely to die in a crash than someone riding in a passenger car.
- Head injury is a leading cause of death in motorcycle crashes.
- An unhelmeted motorcyclist is 40 percent more likely to suffer a fatal head injury and 15 percent more likely to suffer a nonfatal injury than a helmeted motorcyclist when involved in a crash.
- NHTSA estimates that motorcycle helmets reduce the likelihood of a crash fatality by 37 percent.
- A Crash Outcome Data Evaluation System (CODES) study found that motorcycle helmets are 67 percent effective in preventing brain injuries and that unhelmeted motorcyclists involved in crashes were three times more likely to suffer brain injuries than those wearing helmets.
- NHTSA estimates that from 1984 through 2005 helmets saved the lives of 17,572 motorcyclists. If all motorcycle operators and passengers had worn helmets during that period, NHTSA estimates that 11,568 additional lives would have been saved.
- A study conducted at the University of Southern California, which analyzed 3,600 traffic crash reports covering motorcycle crashes, concluded that wearing helmets was the single most important factor in surviving motorcycle crashes.
- A 1994 study by the National Public Services Research Institute concluded that wearing a motorcycle helmet does not restrict a rider's ability to hear auditory signals or see a vehicle in an adjacent lane.
- All motorcycle helmets sold in the United States are required to meet Federal Motor Vehicle Safety Standard 218, which established the minimum level of protection a helmet must afford each helmet user.
- Helmet use laws governing all motorcycle riders (universal helmet laws) significantly increase helmet use and are easily enforced because of the riders' high visibility.
- Repeal of State universal helmet use laws has resulted in fewer riders wearing helmets. According to the National Occupant Protection Use Survey, from 2000 to 2005 helmet use dropped from 71 percent to 48 percent nationally and remained at 48 percent in 2005.

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- Data on crashes in States where only minors are required to wear helmets show that fewer than 40 percent of the fatally-injured minors wear helmets even though the law requires them to do so. Helmet laws that govern only minors are extremely difficult to enforce.
- According to NHTSA's 2000 Motor Vehicle Occupant Safety Survey, public support for motorcycle helmet use laws in the United States is strong, with four out of five (81%) people 16 and older supporting such laws. This support has changed little from earlier occupant protection surveys in 1998 (80%) and in 1994 (82%). Support was more prevalent among women (88%) than men (72%), and among non-motorcyclists (83%) than those who rode motorcycles (51%), with this gap seeming to have widened in the past two years. Support was also higher in States requiring all riders to wear helmets (84%), compared with States with lesser requirements (75%) or no requirement (79%).
- Reported helmet use rates of fatally injured motorcyclists in 2005 were 56 percent for operators and 49 percent for passengers

When Florida repealed its all-rider motorcycle helmet law in 2002, there were 40 percent more motorcyclists admitted to hospitals for treatment in the 30 months immediately following the helmet law change compared to the 30 months just before the law change (4,986 versus 3,567). Deaths increased by 24 percent above what was expected from

the increased registrations after repeal of the all-rider motorcycle helmet law, beginning before the law was effect in July. Fatalities in Florida per 10,000 registered motorcycles increased 21 percent compared to 13 percent nationally for the two years before and after the law change—75 percent higher than the national rate. Unhelmeted deaths of riders under the age of 21 increased 188 percent, even though the law still applied to them. Costs to treat motorcycle injures with head injury as the primary diagnosis more than doubled to \$44 million (adjusted for inflation). Only one in four of injured motorcyclists who were hospitalized had costs less than \$10,000, the required level of medical insurance to ride without a helmet. The hospital discharge data indicate that in the post-law change period, approximately 63 percent of admitted motorcyclists were covered by commercial insurance (\$31 million), 16 percent self-paid because they were under-insured or uninsured (\$8 million), while the remaining 21 percent had costs (\$10.5 million) billed to charitable and public sources (e.g., Medicaid).

Legislative Status

- As of November 2006, 20 States, the District of Columbia, and Puerto Rico require helmet use for all motorcycle operators and passengers. In another 27 States, only those under a certain age, usually 18, are required to wear helmets. Three States do not have laws requiring helmet use.
- After the first year of the enactment of universal helmet use laws, a reduction of

motorcycle fatalities occurred in these States: Oregon, 33 percent; Nebraska, 32 percent; Texas, 23 percent; Washington State, 15 percent; California, 37 percent; and Maryland, 20 percent.

- Since 1997, six States (Arkansas, Texas, Kentucky, Louisiana, Florida, and Pennsylvania) have weakened universal helmet laws to limit coverage to those under a specific age. These six States were the first States since 1983 to repeal or weaken a universal helmet law. In August 2004, Louisiana reenacted a universal helmet use law.
- Helmet use decreased following the changes in helmet laws in Arkansas and Texas. In the first full year following repeal of the law, fatalities in Arkansas increased by 21 percent, compared with the fatality rate in the last full year under the universal use law. In Texas, operator fatalities increased by 31 percent compared with the previous year when the universal helmet law was in place.
- The 1998 universal helmet law repeal in Kentucky and the 1999 repeal in Louisiana produced similar effects to those experienced by Arkansas and Texas. Observed helmet use dropped from nearly full compliance under the universal law to about 50 percent without the law. Motorcyclist fatalities increased by over 50 percent in Kentucky and over 100 percent in Louisiana. Injuries also increased substantially in both States (48% in Louisiana and 34% in Kentucky). The

rates of fatalities and injuries per registered motorcycle increased in both States following the helmet law repeals.

Cost Savings

- Analysis of linked data from CODES in three States with universal helmet laws showed that without the helmet law, the total extra inpatient charges due to brain injury would have almost doubled from \$2,325,000 to \$4,095,000.
- A number of studies have compared hospital costs for helmeted and unhelmeted motorcyclists involved in traffic crashes. These studies have revealed that unhelmeted riders involved in crashes are less likely to have insurance and more likely to have higher hospital costs than helmeted riders involved in similar crashes.
- The CODES study also found that brain injury cases were more than twice as costly as non-brain injury cases for the one-year period studied. Among the unhelmeted motorcycle inpatients, charges for those suffering brain injuries were 2.25 times higher than for those without brain injuries. Long-term costs were not included.

- NHTSA estimates that motorcycle helmet use saved \$1.3 billion in 2002 alone. An additional \$853 million would have been saved if all motorcyclists involved in fatal crashes had worn helmets.

- NHTSA estimates that motorcycle helmet use saved \$19.5 billion in economic costs from 1984 through 2002. An additional \$14.8 billion would have been saved if all motorcyclists had worn helmets during the same period.

References

Evaluation of Motorcycle Helmet Law Repeal in Arkansas and Texas. National Highway Traffic Safety Administration, Washington, DC, June 2000 (DOT HS 809 131).

Without Motorcycle Helmet Laws We All Pay the Price. National Highway Traffic Safety Administration, Washington, DC, August 1998 (DOT HS 808 600).

The Effects of Motorcycle Helmets Upon Seeing and Hearing. National Highway Traffic Safety Administration, Washington, DC, February 1994 (DOT HS 808 399).

The Crash Outcome Data Evaluation System (CODES): Technical Report. National Highway Traffic Safety Administration, Washington, DC, January 1996 (DOT HS 808 338).

Report to Congress on the Benefits of Safety Belts and Motorcycle Helmets. National Highway Traffic Safety Administration, Washington, DC, February 1996 (DOT HS 808 347).

Report to Congressional Requesters Highway Safety: Motorcycle Helmet Laws Save Lives and Reduce Costs to Society. U.S. General Accounting Office, July 1991 (GAO/RCED-91-170) (now called the U.S. General Accountability Office).

Evaluation of the Repeal of the All-Rider Motorcycle Helmet Law in Florida. National Highway Traffic Safety Administration, Washington, DC, August 2005 (DOT HS 809-849).

Countermeasures That Work: A Highway Safety Countermeasure Guide For State Highway Safety Offices. National Highway Traffic Safety Administration, Washington, DC, January 2006 DOT HS 809 980.

Traffic Safety Facts: Motorcycles Fact Sheet – 2005 Data, National Center for Statistics and Analysis, National Highway Traffic Safety Administration, DOT HS 810 620.

State Motorcycle Helmet Use Requirements

20 States, DC, and PR Require Use for All Riders

Alabama	Nevada
California	New Jersey
District of Columbia	New York
Georgia	North Carolina
Louisiana	Oregon
Maryland	Puerto Rico
Massachusetts	Tennessee
Michigan	Vermont
Mississippi	Virginia
Missouri	Washington
Nebraska	West Virginia

Not Required In 3 States

Colorado
Illinois
Iowa

27 States Require Use for a Specific Segment of Riders (Usually Under Age 18)

Alaska	New Hampshire
Arizona	New Mexico
Arkansas	North Dakota
Connecticut	Ohio (5)
Delaware (1)	Oklahoma
Florida (2)	Pennsylvania (8)
Hawaii	Rhode Island (6)
Idaho	South Carolina
Indiana	South Dakota
Kansas	Texas (7)
Kentucky (3)	Utah
Maine (4)	Wisconsin
Minnesota	Wyoming
Montana	

1. Required for riders under 19 and helmets must be in the possession of other riders, even though use is not required
2. Required for riders under 21 and for those without \$10,000 of medical insurance that will cover injuries resulting from a motorcycle crash.
3. Required for riders under 21, riders operating a motorcycle with an instruction permit, riders with less than one year's experience, and/or riders who do not provide proof of health insurance to county clerk (insurance provision repealed effective July 15, 2000).
4. Required for riders under 15 years of age, novices, and holders of learners permits.
5. Required for riders under 18 and first year operators.
6. Required for riders under 21 and first year operators.
7. Required for riders 20 and under and those who have not completed a rider training course or who do not have \$10,000 medical insurance coverage.
8. Required for riders under 21 and 21 or older who have had a motorcycle operator's license for less than two years or who have not completed an approved motorcycle safety course.

**Reports and additional
information are available
from your State Highway
Safety Office, the NHTSA
Regional Office serving your
State, NHTSA Headquarters,
Impaired Driving and
Occupant Protection Office,
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DC 20590; 202-366-2683;
or NHTSA's Web site at
www.nhtsa.gov**