

## Motorcycle Helmet Use Laws

The United States Department of Transportation's National Highway Traffic Safety Administration (NHTSA) strongly believes that effective, comprehensive programs including motorcycle helmet usage, rider education, motorcycle operator licensing, and responsible use of alcohol have a strong positive effect on motorcycle safety. Motorcycle helmets offer motorcyclists involved in traffic crashes the best protection from head injury. The passage of helmet use laws governing all motorcycle riders is the most effective method of increasing helmet use. NHTSA encourages states to require all motorcycle riders to wear helmets.

### Key Facts

- In 1995, 2,230 motorcyclists died and approximately 58,000 were injured in highway crashes in the U.S.
- Per mile travelled, a motorcyclist is approximately 20 times more likely to die in a crash than is an automobile operator.
- Head injury is the leading cause of death in motorcycle crashes.
- An unhelmeted motorcyclist is 40 percent more likely to incur a fatal head injury and 15 percent more likely to incur a non-fatal head injury than a helmeted motorcyclist when involved in a crash.
- NHTSA estimates that motorcycle helmets reduce the likelihood of a fatality by 29 percent in a crash.
- The 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 more than three times more likely to suffer brain injury than those using helmets.
- CODES 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 2.75 times higher than for those without brain injuries. Long-term costs are not included.
- A study conducted at the University of Southern California, which analyzed 3,600 traffic crash reports covering motorcycle crashes, concluded that helmet use was the single most important factor governing survival in motorcycle crashes.
- From 1984 through 1994, it is estimated that helmets saved the lives of more than 6,995 motorcyclists. If all motorcycle operators and passengers had worn helmets during those years, it is estimated that approximately 6,010 additional lives would have been saved.
- A recent study conducted by the National Public Services Research Institute concluded that wearing motorcycle helmets 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 U.S. are required to meet Federal Motor Vehicle Safety Standard 218, the performance standard which establishes the minimum level of protection helmets must afford each user. *(continued)*

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## Key Facts *(continued)*

- Helmet use laws governing all motorcycle occupants significantly increase helmet use and are easily enforced because of the occupant's high visibility. In NHTSA's latest survey, helmet use was reported to be essentially 100 percent at sites with helmet use laws governing all motorcycle riders as compared to 34 to 54 percent at sites with no helmet use laws or laws limited to minors.
- Data on crashes in states where only minors are required to wear helmets show that fewer than 40 percent of the fatally injured minors are wearing helmets even though the law requires them to do so. Helmet laws that govern only minors are extremely difficult to enforce.
- In 1976, the Highway Safety Act was amended to remove sanctions against states without motorcycle helmet laws. Between 1976 and 1980, State laws requiring helmet use were weakened or repealed in 27 states. Comparing 1980 to 1975, the year before repeals began, motorcycle fatalities increased 61 percent while motorcycle registrations increased only 15 percent.
- Caution must be employed when comparing States to each other with crash statistics. States differ in their propensities for motorcycle fatalities. The most accurate method of evaluating the impact of traffic safety measures is to compare the state's crash experience against itself.
- Reported helmet use rates for fatally injured motorcyclists in 1995 were 55 percent and 42 percent for passengers, compared with 54 percent and 49 percent, respectively, in 1994.

## Legislative Status

- Currently 25 states, the District of Columbia, and Puerto Rico require helmet usage by all motorcycle operators and passengers. In another 22 states, only persons under a specific age, usually 18, are required to wear helmets. Three states have no law requiring helmet use.
- Data from Louisiana, the first state to repeal and then readopt a full helmet law, show a 30 percent reduction in fatalities (40 fewer deaths) during 1982, the first year after helmet law

reenactment. This reduction occurred even though motorcycle registrations increased 6 percent during the year. The helmet use rate increased from roughly 50 percent to 96 percent.

- Since 1989, 6 states (Oregon, Nebraska, Texas, Washington, California, and Maryland) have enacted helmet use laws that govern all motorcycle occupants. In Oregon, there was a 33 percent reduction in motorcycle fatalities the year after its helmet law was re-enacted; Nebraska experienced a 32 percent reduction in the first year of its law; Texas experienced a 23 percent reduction; Washington experienced a 15 percent reduction; California experienced a 37 percent reduction; and Maryland experienced a 20 percent reduction.

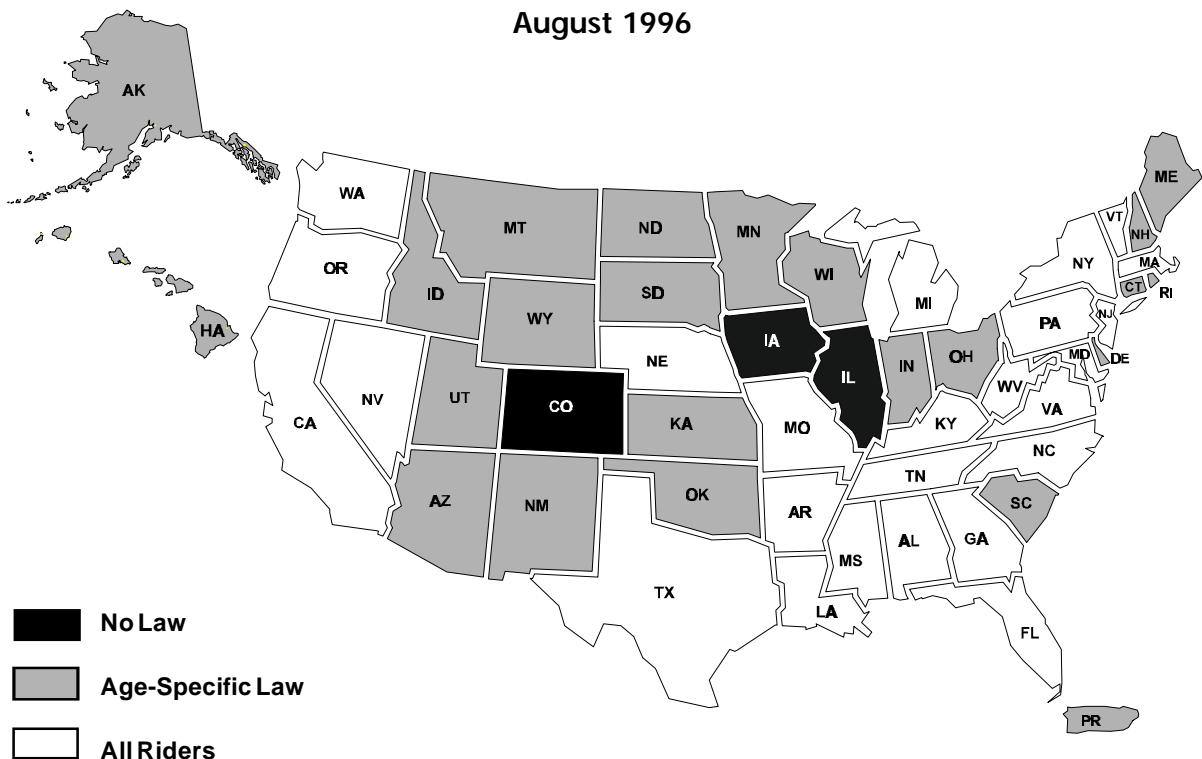
## Cost Savings

- Failure to use motorcycle helmets places a large financial burden on society and individual states. A number of studies have been conducted that compare hospital costs for helmeted and non-helmeted motorcyclists involved in traffic crashes. They have found 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.
- In Louisiana, the average cost per motorcycle crash decreased by 48 percent from 1981 to 1982, the first year of its helmet use law. Dramatic differences were found in hospital stay lengths between helmeted and non-helmeted riders.
- Studies show that the cost of helmeted vs. non-helmeted motorcyclists who were treated at various hospitals across the country range from \$2,438 to \$13,368 for helmeted motorcyclists and \$3,368 to \$30,365 for unhelmeted riders.
- NHTSA estimates that motorcycle helmet use saved \$5.9 billion between 1984 and 1992. An additional \$5.9 billion would have been saved if all motorcyclists had worn helmets.

## Who Supports Motorcycle Helmet Use Laws?

- Advocates for Highway and Auto Safety
- American Academy of Family Physicians
- American Academy of Orthopedic Surgeons
- American Academy of Pediatrics
- American Association of Critical Care Nurses
- American Association of Neurological Surgeons
- American Association of Occupational Health Nurses
- American Coalition for Traffic Safety, Inc.
- American College of Emergency Physicians
- American College of Preventive Medicine
- American College of Surgeons
- American Hospital Association
- American Insurance Association
- American Medical Association
- American Nurses Association
- American Public Health Association
- American Trauma Society
- Association for the Advancement of Automotive Medicine
- Consumer Federation of America
- Emergency Nurses Association
- Emergency Nurses C.A.R.E.
- Epilepsy Foundation of America
- GEICO
- General Federation of Women's Clubs
- Motorcycle Industry Council
- National Association of Public Hospitals
- National Association of Emergency Medical Technicians
- National Association of State EMS Directors
- National Council on the Handicapped
- National Head Injury Foundation
- National Safety Council
- National Safe Kids Campaign, Inc.
- Snell Memorial Foundation
- Students Against Driving Drunk

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## Information Sources

The Effect of Helmet Law Repeal on Motorcycle Fatalities, A Four Year Update. NHTSA Research Notes, Sept. 1989. This report estimates fatalities increased about 20 percent in states that repealed helmet use laws.

The Effectiveness of Motorcycle Helmets in Preventing Fatalities. U.S. Dept. of Transportation, Report No. DOT HS 807 416, March 1989. This publication presents the data and analysis used to estimate that motorcycle helmets are 29 percent effective in preventing fatalities.

The Effects of Motorcycle Helmets Upon Seeing and Hearing. U.S. Department of Transportation, NHTSA, February 1994. (DOT HS 808 399). The study examined how wearing a helmet affected the ability of motorcycle riders (1) to visually detect the presence of vehicles in adjacent lanes before changing lanes, and (2) to detect traffic sounds when operating at normal highway speeds. Results indicated that wearing helmets does not restrict the likelihood of seeing a vehicle in an adjacent lane or the ability to hear auditory signals.

Impact of Re-Enactment of the Motorcycle Helmet Law in Louisiana. U.S. Dept. of Transportation, Report No. DOT HS 806 760, December 1984. This report documents the effect of Louisiana's helmet law on injuries, fatalities, and costs. The repeal and subsequent re-enactment of Louisiana's helmet use law offer unique and valuable data to conduct this systematic study.

Report to Congress on the Benefits of Safety Belts and Motorcycle Helmets. NHTSA, April 1985. The study employed methods whereby statewide data from police crash reports, emergency medical services, hospital emergency departments, hospital discharge files, claims, and other sources were linked so that those people injured in motor vehicle crashes could be followed through the health care system. Information for both the injured and uninjured was then used to determine the benefits of protective devices in motor vehicle crashes. The available financial information included inpatient charges (acute care, rehabilitation, long-term care) and estimates of actual costs using a charge-to-cost ratio.

Report to Congress: The Crash Outcome Data Evaluation System (CODES). U.S. Department of

Transportation, NHTSA, February 1996. (DOT HS 808 347). This study measured effectiveness to determine the benefits of safety belts and motorcycle helmets. Effectiveness is defined as the percentage reduction in the likelihood of injury or death for people wearing safety belts or motorcycle helmets. This study was undertaken in response to Section 1031(b) of the Intermodal Surface Transportation Efficiency Act of 1991.

Motorcycle Accident Cause Factors and Identification of Countermeasures, Volume 1: Technical Report. University of Southern California, Los Angeles, U.S. Department of Transportation, Report No. DOT HS 805 862, January 1981. This report presents the data and findings from on scene, in-depth investigations of 900 motorcycle crashes and the analysis of 3,600 traffic accident reports of motorcycle crashes in the same study area.

Highway Safety: Motorcycle Helmet Laws Save Lives and Reduce Costs to Society. U.S. General Accounting Office, Report to Congress, July 1991. This report evaluates studies on motorcycle helmet laws. The report summarizes each study's findings on (1) the effectiveness of helmets in preventing deaths and serious injuries, (2) the effect of helmet laws on helmet use and fatality rates, and (3) the cost that society incurs when motorcyclists who do not wear helmets are involved in crashes. All studies comparing helmeted riders to non-helmeted riders found that all helmeted riders had a lower fatality rate.

***These reports and additional information are available through your State Office of Highway Safety, the NHTSA Regional Office serving your state, or from NHTSA Headquarters, Traffic Safety Programs, NTS-23, 400 Seventh Street, S.W., Washington, D.C. 20590, 202-366-1739.***