Universal Helmet Laws
Reduce Injuries and Save Lives

Motorcycle helmets clearly work to reduce injuries and fatalities among motorcyclists. That's why all motorcyclists should wear helmets and why all states need a helmet law that covers all riders. Helmet laws are the way to achieve high helmet use.

"A physician dreams about having the opportunity to save as many lives as legislators save with the single act of passing a universal motorcycle helmet law."

—Dr. Tilman Jolly, M.D. Associate Professor, Dept. of Emergency Medicine
The George Washington University Medical Center.

Helmet laws translate into increased helmet usage.

Helmet laws translate into lives saved. Helmet laws increase helmet usage, which in turn saves lives and reduces head trauma. This has been proven numerous times through state fatality data (including Illinois, California, Washington, & Louisiana) that allowed comparison of deaths and injuries before and after helmet laws were enacted. The most accurate reflection of a state's helmet use law is through the comparison of that state's motorcycle crash-related fatalities before and after enactment or repeal a helmet law for all riders.

Each state's data showed approximately the same trend:

- When universal helmet laws are enacted, helmet use increases, and fatalities and serious injuries decrease.
- When these laws are repealed, helmet use decreases, and injuries and associated costs increase, far exceeding the number of new motorcycles registered.
- Motorcyclist fatalities increase when a helmet law is repealed.

These results are consistent in every state where studies on the effectiveness of motorcycle helmet laws have been conducted. Additionally, data show that age-specific laws do not protect that group of riders that are historically victims in a fatal crash: those over the age of 21 years.

Source: UCLA School of Public Health, Center for Injury Prevention

The data continue to prove that motorcycle helmet laws save lives.

Government and privately conducted studies support the effectiveness of helmets and the impact of helmet laws in reducing the number of serious injuries and fatalities. The results of some of these studies are cited below.

NHTSA estimates that in 1996 helmets saved 490 motorcyclists' lives. If all motorcyclists in all 50 states and the District of Columbia had worn a helmet, that number would have been 769.

NHTSA estimates that from 1984 to 1996 helmets saved the lives of 7,940 motorcyclists. If all motorcyclists in all 50 states and the District of Columbia had worn a helmet during this time period, the number of lives saved would have been 14,505.

Fatality Analysis Reporting System (FARS) data indicated that helmets are 29 percent effective in reducing fatalities in motorcycle crashes.

A study completed at the University California - Los Angeles (UCLA) determined that statewide motorcycle fatalities declined 40.3 percent from 1991, before the California motorcycle helmet law for all riders was in effect, to 1993, the second full year that California's law was in effect. 239 lives were saved over the same period as a result of the helmet law.

In the same UCLA study, the number of injured riders decreased over 30 percent in 1992 and 1993, the first two years of the California law, when compared to 1991 (pre-law). The number of riders admitted to the hospital decreased about 35 percent both in 1992 and 1993, which is proportionally more than riders treated in the emergency department and released. The number of riders brought to emergency departments decreased about 25 percent for both 1992 and 1993.

A study revealed that 24 out of 26 states that **repealed** their universal helmet laws experienced an average 25 percent increase in motorcycle fatalities.

The death rate for motorcyclists rose 61 percent the year following Kansas' repeal of its universal helmet law.

A privately conducted study reported a 40 percent increase in fatally injured motorcyclists in states repealing their universal helmet laws.

Data Prove: Helmet use reduces fatalities.

Source: UCLA School of Public Health, Center for Injury Prevention

Nearly 100 Percent of Motorcyclists Comply With Universal Helmet Laws

A universal motorcycle helmet law is an effective and efficient traffic safety law. When a state passes a helmet law covering all riders, helmet use rates rise nearly to 100 percent. One reason is that law enforcement officers can easily determine if a motorcyclist is wearing a helmet. But states need the right law – a law requiring everyone who rides to wear a helmet. Age-specific laws that require only minors to wear helmets have little or no impact and are virtually impossible to enforce. Likewise, helmet laws for all riders that are tied to licensing or rider education requirements are equally difficult to enforce and create burdens on law enforcement.

Helmet laws immediately increase helmet use.
When a helmet law is enacted, nearly all motorcyclists wear helmets. Statistics support the effectiveness of universal helmet laws.

In a review of nine separate studies, the U.S. General Accounting Office (GAO) found:

- 92 percent to 100 percent helmet use in states with helmet laws covering all riders.
- 42 percent to 59 percent helmet use under limited laws.

In addition, the National Highway Traffic Safety Administration found the following in observational studies:

- In universal helmet law states, helmet use is close to 100 percent.
- In states without helmet use laws or with laws that only cover a specific segment of the population, helmet use is between 28 percent and 40 percent.

And here's what a study examining data from 10 states found:

- When motorcycle helmet legislation was repealed, the helmet use rate dropped from 99 percent to 50 percent.
- When the universal law was reinstated, the helmet use rate rose to above 95 percent. *(Edit note: Missouri's 2005 observed helmet use rate was 99.2 percent)*

Source: UCLA School of Public Health, Center for Injury Prevention

Motorcycle Helmets Are Effective in Preventing Serious Brain Injuries

Helmets prevent brain injury. Motorcycle helmets save lives and prevent devastating and debilitating head injuries. Motorcyclists who ride without helmets run a significantly greater risk of death or permanent injury. The U.S. General Accounting Office (GAO) has the data that prove it.

"When I had my motorcycle crash, and suffered my head injury, it changed my life and it took a huge toll on my family. If anyone has the opportunity to reduce the number of head injuries, I would personally urge them to do whatever they can to spare another person from this ordeal."

—Doug Wilson, motorcycle crash victim, Maryland

GAO reviewed 46 studies of motorcycle helmets and helmet laws. Here's what they found:

- Helmeted riders have up to a 73 percent lower fatality rate than unhelmeted riders.
- Helmeted riders have up to an 85 percent reduced incidence of severe, serious, and critical injuries than unhelmeted riders.
- The GAO concluded: "Because there is convincing evidence that helmets save lives and reduce society's burden of caring for injured riders, Congress may wish to consider encouraging states to enact and retain universal helmet laws."

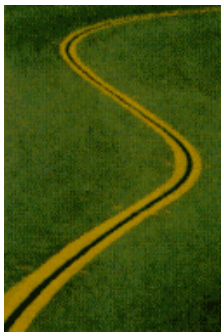
In its *Report to Congress: Benefits of Safety Belts and Motorcycle Helmets,* NHTSA confirms the facts:

- Motorcycle helmets are 67 percent effective in preventing brain injuries.
- Unhelmeted motorcyclists are over three times as likely to suffer a brain injury as those who were helmeted.

Source: UCLA School of Public Health, Center for Injury Prevention

Universal Motorcycle Helmet Laws
Reduce Costs to Society

Helmet Laws Reduce Public Payout. Helmet laws significantly reduce the strain on public resources. Unhelmeted riders cost more to treat at the hospital, spend a longer time in rehabilitation, and are more likely to require some form of public assistance to for pay medical bills and rehabilitation. In 1991, prior to enacting its helmet law, California's state medical insurance program paid $40 million for the treatment of motorcycle-related head injuries. That figure dropped to $24 million after enactment of a universal helmet law.



"It costs nothing to ride without a helmet – as long as there is no crash."

It is true that wearing a motorcycle helmet will not prevent a crash. But when a crash happens, the freedom to ride unhelmeted is paid for in different ways, by different sources. The motorcyclist pays and the public pays through taxes, insurance rates, and health care costs.

What is the price? Hospitalization and related medical expenses are higher for unhelmeted riders because of brain injuries. Here's what the data tell us:

- The average charge for inpatient care for motorcyclists who sustain a brain injury is more than twice the charge for motorcyclists receiving inpatient care for other injuries.
- The average savings for prevented brain injuries in Hawaii, Maine, Missouri, New York, Pennsylvania, Utah, and Wisconsin was $15,000 in inpatient costs for each incident in the first year.
- The average hospitalization costs for unhelmeted riders were one-third greater than those of helmeted riders ($7,208 to $5,852) in a study of Illinois-injured motorcyclists.

"We may not be able to eliminate all the risk from motorcycling, but helmet laws greatly reduce the most expensive injuries—head injuries. Reducing these costs is good for the consumer and it is good for business, too."

—Tim Hoyt, Vice President, Safety
Nationwide Insurance Enterprises.

What about insurance? Motorcyclists pay very high insurance premiums, but these premiums don't cover the complete costs of long-term rehabilitation. Increased payouts

Source: UCLA School of Public Health, Center for Injury Prevention

by an insurance company eventually translate into increased insurance rates for the public, so everyone winds up paying. The most recent statistics show that private insurance pays for approximately 66 percent of the costs of inpatient care for motorcycle crash victims. Another 22 percent is paid by public funds and 12 percent is categorized as another source (usually self-payment).

An unhelmeted rider is more likely to be an uninsured rider. Private insurance cannot help if the rider is not insured. A study of motorcycle crash victims at one hospital found that 46 percent were uninsured. Taxpayers could be picking up a large portion of the medical costs for unhelmeted victims.

Insurance companies have the actuarial tables that tell them the high cost of protecting motorcyclists. That's why the insurance industry has taken a strong position in favor of motorcycle helmet laws. The industry recognizes that helmet laws reduce the most expensive injuries related to motorcycling -- head injuries.

"On behalf of the taxpayers I represent, I must ask: Is it worth spending these millions of dollars to pay for the wind in the hair of motorcyclists? My answer is No."

—Sen. John Cullerton
Illinois State Senate

Life and Economic savings potential. Injuries resulting from motorcycle crashes have a huge economic impact. Medical costs, lost productivity, vocational rehabilitation, insurance administration, law enforcement and emergency services, legal services, and workplace distribution (retraining someone to assume duties at work) are among the factors that are impacted by these injuries. Since states with universal helmet laws have obtained nearly 100 percent helmet use rates, a significant increase in helmet use is attainable when these laws are passed. If the states below were to enact helmet laws covering all riders, these laws could prevent hundreds of injuries and deaths and could achieve a significant savings in economic costs.

Potential Savings With 100 Percent Helmet Use For States Without Motorcycle Helmet Laws: A 13 Year Total (1984-1996)

Source: UCLA School of Public Health, Center for Injury Prevention

State	Additional Lives Saved With 100 Percent Helmet Usage	Additional Cost Saved With 100 Percent Helmet Usage
Alaska	15	$21,852,156
Arizona	231	$323,990,417
Colorado	147	$206,187,959
Connecticut	155	$218,192,346
Delaware	25	$34,488,086
Hawaii	58	$80,712,198
Idaho	57	$79,858,479
Illinois	428	$600,646,597
Indiana	265	$372,797,156
Iowa	147	$206,019,886
Kansas	94	$132,302,421

Potential Savings With 100 Percent Helmet Use For States Without Motorcycle Helmet Laws: A 13 Year Total (1984-1996)

Rhode Island	33	$46,609,477
South Carolina	202	$284,009,487
South Dakota	43	$60,541,586
Utah	76	$106,174,126
Wisconsin	217	$305,334,302
Wyoming	26	$37,275,377
Totals	3,303	$4,638,173,956

Source: UCLA School of Public Health, Center for Injury Prevention

A Helmet Law is Not a "Stand-Alone" Issue.

The motorcycle helmet law issue is directly tied to larger issues. Health care, budget, and public safety issues are under consideration in state legislatures across the country.

> *"Citizens must fight for every penny at the state government level and recognize the trade-offs where they exist. In the case of motorcycle helmet laws, clearly the money spent on head injuries means that less money will be available to pay police officers or teachers."*
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> —Judith Lee Stone, *President*
> Advocates for Highway and Auto Safety

Helmet laws make good economic sense. Every state legislature struggles with answering voters' requests for better educational systems and lower crime rates, yet state dollars are spent on citizens who incur avoidable head injuries while riding a motorcycle without a helmet.

Figures on the cost of a head injury vary, but one thing is clear: motorcycle riders injured while not wearing a helmet cost significantly more to treat than those wearing a helmet. Here are some data that point to just how expensive those costs can be:

- A surviving patient with a critical head injury incurs an average of $171,000 in medical and convalescence costs in just the first year following the injury.
- The long-term cost of a critical head injury is estimated to be almost $300,000.
- Analysis of linked data for three states with universal helmet laws in the *Crash Outcome Data Evaluation System (CODES)* showed that without the helmet law, the total *extra* inpatient charges due to brain injury would have been almost doubled from $2,325,000 to $4,095,000.

Source: UCLA School of Public Health, Center for Injury Prevention

Taxpayers' Freedom/State Citizens' Rights vs. Personal Freedom/Individual Rights

"During our consideration of the motorcycle helmet law, I became aware that the vast majority of my constituents were in favor of maintaining our mandatory helmet usage law: mothers, doctors, safety activists, seniors, epilepsy experts, hospitals, and law enforcement officials. I will always be proud of my vote. I saved lives."

—Senator Michael Oliverio
West Virginia State Senate

Data tell us that an overwhelmingly large percentage of the people supports helmet laws.

The public wants universal motorcycle helmet laws. Voters may not be on the phone with their legislators or other policy makers once a week, but that does not mean they do not care about or support motorcycle helmet laws.

The public strongly supports highway safety and motorcycle helmet laws. In a 1996 Louis Harris poll, 61 percent of respondents stated that helmet laws are **very important.**

"Despite conventional wisdom that the public wants less government involvement in regulatory matters, a decisive majority of Americans feel it is important for the government to play a strong role in highway safety. The American people look to their lawmakers to make decisions that protect lives and save money on our nation's roads."

—Louis Harris, nationally recognized pollster and author of the Advocates for Highway and Auto Safety's 1996 national survey

The National Highway Traffic Safety Administration's *1995 Motor Vehicle Occupant Safety Survey* is consistent with the results of the 1996 Louis Harris poll. The survey found that public support for motorcycle helmet laws in the United States is strong: 82 percent of persons age 16 and older support universal helmet laws.

A majority of motorcyclists support universal helmet laws. The same NHTSA survey published in 1995 revealed that 62 percent of those **motorcyclists** who rode in the preceding year **support helmet laws for all riders**.

Source: UCLA School of Public Health, Center for Injury Prevention

Common Myths About Motorcycle Helmets and Motorcycle Helmet Laws

Myth—Helmets cause neck or spinal cord injuries

Fact—Research has proven this untrue. Five studies reviewed by the GAO all reported a higher incidence of severe neck injuries for unhelmeted riders. An Illinois study found that helmets decrease the number of significant spinal injuries.

Myth—Helmets impair hearing and sight

Fact—"The helmet affects my peripheral vision" and "I can't hear as well" are two common myths neither of which is supported with scientific data. Normal peripheral vision is between 200° and 220°. Federal safety standards require that helmets provide 210° of vision. Over 90 percent of crashes happen within a range of 160° (with the majority of the remainder occurring in rear-end collisions), so it's clear that helmets do not affect peripheral vision or contribute to crashes. Hearing is not affected either. Helmets reduce the loudness of noises, but do not affect the rider's ability to distinguish between sounds. The University of Southern California conducted 900 on-scene, in-depth investigations of motorcycle crash scenes, and could not uncover a single case in which a rider could not detect a critical traffic sound. Some studies indicate that helmets are useful in reducing wind noise and protecting hearing.

Myth—Motorcycle helmet laws are unconstitutional

Fact—The highest courts in more than 25 states have held motorcycle helmet laws to be constitutional. The Massachusetts motorcycle helmet law was affirmed by the U.S. Supreme Court.

"From the moment of the injury, society picks the person up off the highway; delivers him to a municipal hospital and municipal doctors; provides him with unemployment compensation if, after recovery, he cannot replace his lost job, and, if the injury causes permanent disability, may assume the responsibility for his and his family's continued subsistence. We do not understand a state of mind that permits plaintiff to think that only he himself is concerned."

—Simon v. Governor of the Commonwealth of Massachusetts.

Source: UCLA School of Public Health, Center for Injury Prevention

Myth—Motorcycle helmets laws violate individual rights

Fact—All highway safety laws require individuals to act in specific ways: stop at stop signs, yield to pedestrians, etc. However, courts have consistently recognized that helmet laws do not violate the right to privacy and other due process provisions. Nevertheless, the legitimacy of other traffic laws, like driving on the right side of the highway, buckling a safety belt, using a child safety seat, not driving while impaired, and obeying traffic signals is readily accepted, because all motorists recognize that failure to obey these laws results in serious risk to themselves and others. Motorcycle helmet laws are no different.

Myth—Age-specific motorcycle helmet laws are effective

Fact—Statistics tell us that the helmet use rate in states with age-specific helmet laws is usually the same as having no law at all. Currently 23 states have a law requiring helmet use for a specific portion of the population, usually those under 18 years of age. These laws only complicate the law enforcement community's job, not make it easier. It's hard to judge a person's age when he or she is moving.

Myth—States will no longer lose federal funds if motorcycle helmet laws are repealed. This is the time to repeal helmet laws without penalty.

Fact—In attempts to repeal or weaken helmet laws, helmet laws opponents imply that the Federal Government penalized states without motorcycle helmet laws through a loss of highway construction funds until the repeal of Section 153 of the Intermodal Surface Transportation Efficiency Act (ISTEA) in December 1995. **This is not true**. From 1992 to 1995, as part of an incentive package for states to pass motorcycle helmet laws covering all riders, Section 153 provided for the transfer of Federal funds from highway construction accounts to highway safety accounts in states not having all-rider helmet laws. The National Highway System Designation Act of 1995 repealed this provision.

Myth— Statistics show that fatality rates are lower in states without helmet laws.

Fact— Comparisons should be across years within the same state rather than across states in the same year. This is because states differ significantly on a number of factors, such as weather, length of riding season, population density, urban versus rural roads. The real issue is what happens within a state after a helmet law is adopted or repealed.

Myth—Motorcycles are a small percentage of registered vehicles, thus motorcycle crashes represent a minuscule burden to society.

Fact—Motorcycles are only 2 percent of the registered vehicles nationally, but motorcyclist fatalities are 5 percent of traffic fatalities each year. Motorcyclists account for over 2,100 fatalities and 56,000 injuries. The fatality rate per mile traveled for motorcyclists is 16 times that of car occupants, and the injury rate is about 4 times that of car accidents.

Source: UCLA School of Public Health, Center for Injury Prevention

The Anatomy of a Motorcycle Crash

A motorcycle crash. A motorcycle crash is a complex event involving the interaction of human, vehicle, and environmental factors. While there is no "typical" motorcycle crash, what is "typical" is that a motorcycle crash is a violent event. More than 80 percent of all reported motorcycle crashes result in injury or death to the motorcyclist. The motorcycle itself provides no head injury protection to the rider or passenger. Ejection from the motorcycle is a common injury pathway. If a motorcycle comes to a sudden stop and the rider is ejected from the motorcycle, the rider will forcibly strike objects in the path as well as the ground.

Vehicle differences. A motorcycle lacks the crashworthiness and occupant protection characteristics of an automobile. An automobile has more weight and bulk than a motorcycle. It has door beams, a roof, airbags, and seat belts. It is also more stable because it is on four wheels. Because of its size, an automobile is easier to see. What a motorcycle sacrifices in weight, bulk, and other crashworthiness characteristics is somewhat offset by its agility, maneuverability, ability to stop quickly, and ability to swerve quickly when necessary.

Causes of motorcycle crashes. In 1996 there were 67,000 motorcycles involved in police-reported crashes, of which 40 percent (27,000) were single vehicle crashes. Many of the causes of motorcycle crashes may be attributed to lack of experience or failure to appreciate the inherent operating characteristics and limitations of the motorcycle. These factors require motorcyclists to take special precautions and place more emphasis on defensive driving. A motorcyclist, for example, has to be more alert at intersections, where most motorcycle-vehicle collisions occur. About one-third of multi-vehicle motorcycle crashes are a result of other motorists turning into the path of the motorcycle. More than other vehicle drivers, motorcyclists must remain visible at all times, and anticipate what might happen. For example, motorcyclists must anticipate that drivers making left turns may not see them and prepare to make defensive maneuvers. They also must be more cautious when riding in inclement weather, on slippery surfaces, or when encountering obstacles on the roadway. Motorcyclists must place greater reliance on their helmet, eye protection, and clothing to reduce the severity of injury should they become involved in a crash. And they should attend a motorcycle training course to learn how to safely operate a motorcycle.

Approximately 43 percent of all fatal motorcycle crashes involve alcohol. A motorcycle requires more skill and coordination to operate than a car. Riding a motorcycle while under the influence of any alcohol significantly decreases an operator's ability to operate it safely.

Source: UCLA School of Public Health, Center for Injury Prevention

An estimated one-third of motorcycle operators killed in crashes are not licensed or are improperly licensed to operate a motorcycle. Being licensed to operate a car does not qualify a person to operate a motorcycle. By not obtaining a motorcycle operator's license, motorcyclists are bypassing the only method they and the state licensing agencies have to ensure they have the knowledge and skills needed to safely operate a motorcycle.

The helmet at work. **The single most important safety device a motorcyclist can have is a helmet**. Motorcycle helmets have a hard outer shell that distributes the force of an impact to protect the skull and prevents objects from piercing it. The crushable inner liner limits the force of impacts by absorbing a portion of the energy that would otherwise reach the head and brain. As the helmet does its job, the number and severity of head injuries are significantly reduced.

Helmets cannot work if they are improperly designed. Federal safety standards determine the amount of force helmets should absorb and the amount of peripheral vision the helmets must allow. Only helmets that meet or exceed these standards should be worn.

Source: UCLA School of Public Health, Center for Injury Prevention