

Effectiveness of All-rider Motorcycle Helmet Use Requirements (Universal Helmet Laws) SMARTER – August, 2023

Introduction

There is an extensive body of research regarding the effectiveness of helmet use for preventing head and brain injury in motorcyclist crashes. All-rider helmet use requirements (universal helmet use laws) are enacted as a method to increase the percentage of riders who wear helmets. For decades, hundreds of researchers representing distinguished organizations have explored the topics of the effectiveness of helmets and all-rider helmet requirements. (1)

Helmet effectiveness

All valid research clearly demonstrates the benefit of wearing a helmet. Motorcycle helmets save lives and prevent devastating and debilitating head injuries. Helmet use has consistently shown it reduces motorcycle crash-related injuries and deaths. Reviews of the literature find strong evidence of effectiveness and conclude that the use of motorcycle helmets (a) decreases the overall death rate from motorcycle crashes when compared with non-helmeted riders (b) decreases the incidence of lethal head injury in motorcycle crashes when compared with non-helmeted riders and (c) decreases the severity of nonlethal head injury in motorcycle crashes when compared with non-helmeted riders. Motorcycle helmets are found to reduce the risk of death by 42 percent and head injury by 69 percent in motorcyclists who crash. (2, 3, 4)

A significant body of this research is available at <https://smarter-usa.org/research/helmets-laws/helmet-effectiveness/>

All rider helmet use requirement effectiveness

Are all-rider helmet use requirements effective? In the research literature, the use of the term “effective” is defined in two primary ways. The clearest and simplest definition is in answering the question: “Do all-rider motorcycle helmet requirements increase the percentage of riders who wear helmets?” If the answer is “yes” then helmet requirements can be labeled as effective. Answering this question does not require complicated research designs. Simply counting the number of riders observed on the road wearing or not wearing a helmet before and after the enactment or before and after repeal of an all-rider helmet use requirement, will provide the answer. State laws requiring all riders to wear helmets are extremely effective in achieving helmet use. Data released by the National Highway Traffic Safety Administration (NHTSA) show that in states with all-rider helmet laws, the use of U.S. Department of Transportation (DOT) compliant helmets is 86 percent, compared to just 53 percent in states without such a law. (5)

The much more complicated definition of “effective” relates not just to helmet use rates, but to the impact of an all-rider helmet use requirement on motorcyclist-related deaths, injuries and costs. This definition of helmet use requirement effectiveness uses the same impacts used to

identify the effectiveness of helmets. It is the second step of a “two-step” definition. Most of the research on this question is of this second type, i.e., the impact of an all-rider helmet use requirement on motorcyclists’ deaths, injuries and costs to society.

Experience and data have proven that states that have repealed an all-rider motorcycle helmet requirement always experience an increase in rider deaths, serious and disabling brain injuries, and medical costs usually borne by taxpayers and the state. In Michigan, which repealed its all-rider use requirement in 2012, there would have been 26 fewer motorcycle crash deaths (a 21 percent reduction) if the helmet use requirement was still in place that year, according to the University of Michigan Transportation Research Institute. (6)

Furthermore, “minors only” helmet requirements are ineffective, unenforceable, and unpopular. According to the American Academy of Pediatrics, in states with weak youth-specific helmet laws, use decreased, and youth mortality increased. Serious traumatic brain injury among youth was 38 percent higher in states with age-specific laws compared to states with all-rider helmet use requirements. (7)

Helmet use reduces the risk of death and injury and reduces medical costs. All-rider helmet requirements increase use; therefore, an all-rider helmet use requirement is effective in reducing the risk of death and injury and serves to reduce medical costs.

The United States General Accounting Office conducted a review of the literature and issued a report published in 1991, with a title that clearly expressed the conclusion of the literature review: *Motorcycle Helmet Laws Save Lives and Reduce Costs to Society*. (8)

NHTSA has repeatedly ranked universal motorcycle helmet use laws as the number one countermeasure that works as demonstrated to be effective by high-quality evaluations with consistent results. *Countermeasures That Work, Tenth Edition* is a guide that describes major strategies and countermeasures, summarizes strategy/countermeasure use, effectiveness, cost, implementation time and provides references to the most important research summaries and individual studies. Chapter 5, pages 255 – 274 addresses motorcyclist safety. (9) An excellent summary is here: <https://www.nhtsa.gov/book/countermeasures/countermeasures/11-universal-motorcycle-helmet-use-laws>

All-rider motorcycle helmet requirement position statements

Based on the extensive evidence of helmet and all-rider helmet use requirement effectiveness numerous agencies, associations and organizations have adopted policies or published recommendations in support of state all-rider helmet use requirements (universal helmet use laws). A few are listed below:

United States General Accounting Office, 1991.

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. Congress could return to the use of penalties, such as withholding of highway funds for noncompliance, the use of incentives, such as making additional funds

available to states that have universal laws, or the use of a combination of penalties and incentives. <https://www.gao.gov/assets/rced-91-170.pdf>

National Transportation Safety Board. 2007, H-07-038, H-07-039

TO THE THREE STATES WITH NO MOTORCYCLE HELMET LAWS: Require that all persons shall wear a Department of Transportation Federal Motor Vehicle Safety Standard 218-compliant motorcycle helmet while riding (operating), or as a passenger on any motorcycle (<https://data.nts.gov/carol-main-public/sr-details/H-07-038>).

To the 27 States and 1 Territory with partial motorcycle helmet laws: Amend current laws to require that all persons shall wear a Department of Transportation Federal Motor Vehicle Safety Standard 218-compliant motorcycle helmet while riding (operating), or as a passenger on any motorcycle (<https://data.nts.gov/carol-main-public/sr-details/H-07-039>).

National Highway Traffic Safety Administration. Traffic Safety Facts, January, 2008
DOT HS-810-887W

The National Highway Traffic Safety Administration encourages each State to have and enforce a law requiring all motorcycle operators and passengers to wear helmets meeting Federal Motor Vehicle Safety Standard (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 operators and passengers is the most effective method of increasing helmet use.

Community Services Preventive Task Force. 2013, Summary of CPSTF Finding.

The Community Preventive Services Task Force (CPSTF) recommends universal motorcycle helmet laws that apply to all motorcycle operators and passengers. Evidence shows universal helmet laws increase helmet use; decrease motorcycle-related deaths and injuries; and are substantially more effective than no law or partial motorcycle helmet laws. Partial helmet laws apply only to riders who are young, novices, or have medical insurance coverage below certain thresholds. Evidence shows the economic benefits of universal motorcycle helmet laws greatly exceed costs. Most benefits come from avoided healthcare and productivity losses.

United Nations Economic Commission for Europe. The United Nations Motorcycle Helmet Study. United Nations, New York and Geneva, 2016, page 40. *This study estimates that 3.4 million deaths may be caused by motorcycle crashes during the period 2008-2020. Some 1.4 million of these could be prevented by the proper use of safety helmets. Substantial benefits could therefore be derived from implementing and enforcing helmet-wearing legislation.*

Skilled Motorcyclist Association - Responsible, Trained and Educated Riders, Inc. 2017
Unhelmeted riders are a problem we can do something about. The most effective strategy to increase helmet use is enactment of all-rider helmet laws. An all-rider (universal) motorcycle helmet law requires all motorcyclists to wear a Department of Transportation (DOT) approved helmet whenever they ride (<https://smarter-usa.org/about-smarter/our-principles/>).

American Association of Neurological Surgeons, National Injury Prevention Foundation and Congress of Neurological Surgeons. Joint Position Statement, 2017

The American Association of Neurological Surgeons (AANS), Congress of Neurological Surgeons (CNS), AANS/CNS Section on Neurotrauma and Critical Care and the ThinkFirst National Injury Prevention Foundation have a core mission to prevent and mitigate traumatic brain and spine injury. We thereby endorse universal motorcycle helmet laws for all motorcyclists in all states and oppose efforts of any state to repeal any universal motorcycle law currently in effect. Further, we urge states that have either repealed their universal helmet laws or have modified their laws to cover only a subgroup of riders with a partial motorcycle helmet requirement, to reinstate universal motorcycle helmet laws.

Governors Highway Safety Association. 2018 - 2019 Policies and Priorities, H-1, Page 28.

GHSA urges states to support the use of DOT-certified helmets by motorcycle riders of all ages, oppose efforts to repeal their universal motorcycle helmet laws and adopt motorcycle helmet laws for all riders. States should vigorously enforce their motorcycle helmet laws to ensure that motorcyclists are not using helmets that do not meet DOT standards.

Advocates for Highway and Auto Safety. May 2022.

Motorcycle helmets reduce the risk of head injury by 69 percent and the risk of death by 42 percent. Estimates show that helmets save the lives of approximately 1,800 motorcycle riders each year and that nearly 750 more lives in all states could be saved if all motorcycle riders had worn helmets. For these reasons, Advocates for Highway and Auto Safety (Advocates) has included an all-rider motorcycle helmet requirement as a critical law for all states to enact in our Roadmap of State Highway Safety Laws since the first edition in 2004. In states without universal helmet laws, almost 60 percent of motorcyclists killed in 2019 were not wearing helmets, compared to nine percent in states with such laws, according to NHTSA. Given this clear and compelling evidence, Advocates urges states to preserve existing all-rider motorcycle helmet requirements and calls upon states lacking this lifesaving traffic safety law to take swift action to add it.

<https://saferoads.org/2022/05/02/motorcycle-safety-awareness-month-statement-helmet-laws/>

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