



Motorcycle Rider Safety

Motorcycle Rider Safety Facts

- Motorcycles are the most hazardous form of motor vehicle transportation.¹
- In 2020, 5,579 motorcycle riders were killed. This is the highest one-year fatality total since data collection began in 1975. An additional 82,528 motorcycle riders were injured.²
- In 2020, motorcyclist fatalities increased 11 percent and injuries decreased 1.5 percent from 2019. The variance in trajectories between fatalities and injuries can be explained by the fact that while there were fewer crashes in 2019, those that did occur tended to be more deadly than the previous year.
- In 2020, motorcycle riders represented 14 percent of the total traffic fatalities, despite representing only three percent of all registered vehicles.³
- The number of motorcycle crash fatalities in 2020 (5,579) is more than two and a half times the low of 2,116 motorcycle crash deaths in 1997.⁴
- Per vehicle mile traveled, motorcycle riders were nearly 29 times more frequently killed in a traffic crash than occupants of passenger cars in traffic crashes.⁵
- Motorcycle rider fatalities of older adults (aged 65 and older) increased by 81 percent over the ten-year period from 2010 to 2019.⁶

All-Rider Helmet Requirements Save Lives and Prevent and Mitigate Injuries

- According to a 2012 Government Accountability Office (GAO) report, “laws requiring all motorcyclists to wear helmets are the only strategy proved to be effective in reducing motorcyclist fatalities.”⁷
- The National Highway Traffic Safety Administration (NHTSA) estimates that helmets saved the lives of 1,872 motorcycle riders in 2017 and that 749 more lives in all states could have been saved if all motorcycle riders had worn helmets.⁸
- The observed use rate of U.S. Department of Transportation (DOT)-compliant helmets among motorcycle riders was just over 86 percent in states with all-rider helmet laws, compared to only 53 percent in other states in 2021.⁹
- In Michigan, which repealed its all-rider law in 2012, there would have been 26 fewer motorcycle crash deaths (a 21 percent reduction) if the helmet mandate was still in place, according to the University of Michigan Transportation Research Institute.¹⁰ Additionally, in the remainder of the year after the helmet repeal was enacted, only 74 percent of motorcycle riders involved in crashes were helmeted, compared to 98 percent in the same time period of the previous four years.¹¹
- A study of motorcycle crash victims in Wisconsin from 2010 to 2015 by researchers at the University of Wisconsin in Madison found that unhelmeted riders in the state sustained cervical spine injuries twice as often as riders who wore helmets.¹²
- Motorcycle helmets reduce the risk of head injury by 69 percent and reduce the risk of death by 42 percent.¹³
- When crashes occur, motorcycle riders need adequate head protection to prevent one of the leading causes of death and disability in America -- head injuries.¹⁴
- According to the American Academy of Pediatrics (AAP), in states with only youth-specific helmet laws, helmet use has decreased and youth mortality has increased. Serious traumatic brain injury among young riders was 38 percent higher in states with only age-specific laws compared to states with all-rider helmet laws.¹⁵

- All-rider motorcycle helmet law repeal efforts which include motorcycle education and training requirements fail to meet the safety benefit provided by a universal helmet law. There is no scientific evidence that motorcycle rider training reduces crash risk. In fact, motorcycle fatalities continued to increase even after a motorcycle education and training grant program included in federal legislation took effect in 2006.

Motorcycle Helmet Use Saves Costs

- Annually, motorcycle crashes cost \$13 billion in economic impacts and \$66 billion in societal harm as measured by comprehensive costs based on 2010 data. When adjusted only for inflation, these amounts increase to \$17 billion and \$86 billion, respectively.¹⁶ Compared to other motor vehicle crashes, these costs are disproportionately caused by fatalities and serious injuries.¹⁷
- Motorcycle helmets are currently preventing \$17 billion in societal harm costs annually, but another \$8 billion in harm costs could be prevented if all motorcycle riders wore helmets.¹⁸ When adjusted only for inflation, these amounts increase to \$22 billion and \$10 billion, respectively.¹⁹
- In states with an all-rider helmet law, use of a helmet resulted in economic costs saved to society of \$725 per registered motorcycle, compared with \$198 per registered motorcycle in states without such a law.²⁰
- Helmets are currently saving \$2.7 billion in economic costs annually.²¹

All-Rider Helmet Requirements Are Effective and The Public Supports Them

- According to NHTSA, in 2019, there were 8.7 times as many unhelmeted fatalities (1,670 fatalities) in states without a universal helmet law compared to states with a universal helmet law (192 fatalities). These states were nearly equivalent with respect to total resident populations.²²
- A study of motorcycle rider crash injuries before and after Michigan partially repealed its motorcycle helmet use law found that following the repeal, the percentage of hospitalized trauma patients with a head injury rose 14 and the percentage of skull fracture-related injuries rose 38 percent. The study also found that trauma patients with head injuries were more likely to need costly hospital services, such as intensive care unit stays, ventilation, and neurosurgical interventions than patients without head injuries.²³
- By an overwhelming majority (more than 82 percent), Americans favor state laws requiring all motorcycle riders to wear helmets.²⁴

Safety Technology to Prevent Motorcycle Crashes

- The Insurance Institute for Highway Safety (IIHS) evaluated on-road data and found that motorcycle anti-lock braking systems were associated with a 22 percent reduction in the rate of fatal crash involvements.²⁵ This proven technology should be required in new motorcycles to prevent and mitigate crashes.
- Proven collision avoidance systems in vehicles including automatic emergency braking (AEB), lane departure warning (LDW), blind spot detection (BSD), rear AEB and rear cross-traffic alert should be required to detect vulnerable road users including motorcycle riders.

May 2022

¹ The Economic and Societal Impact of Motor Vehicle Crashes, 2010 (Revised), NHTSA, May 2015 (Revised), DOT HS 812 013, available at <http://www-nrd.nhtsa.dot.gov/Pubs/812013.pdf>.

² Overview of Motor Vehicle Crashes in 2020, NHTSA, Mar. 2022, DOT HS 813 266, available at <https://crashstats.nhtsa.dot.gov/Api/Public/ViewPublication/813266>.

³ Traffic Safety Facts. 2019 Data: Motorcycles, NHTSA, Sept. 2021, DOT HS 813 112 available at <https://crashstats.nhtsa.dot.gov/Api/Public/ViewPublication/813112>; Highway Statistics Series, Highway Statistics 2020, State Motor-Vehicle Registrations – 2020, FHWA, Dec. 2021, Table MV-1, available at <https://www.fhwa.dot.gov/policyinformation/statistics/2020/pdf/mv1.pdf>.

⁴ Traffic Safety Facts 2019: A Compilation of Motor Vehicle Crash Data, NHTSA, Aug. 2021, DOT HS 813 141 available at <https://crashstats.nhtsa.dot.gov/Api/Public/ViewPublication/813141> & Overview of Motor Vehicle Crashes in 2020, NHTSA, Mar. 2022, DOT HS 813 266, available at <https://crashstats.nhtsa.dot.gov/Api/Public/ViewPublication/813266>.

⁵ Traffic Safety Facts. 2019 Data: Motorcycles, NHTSA, Sept. 2021, DOT HS 813 112.

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- ⁶ Traffic Safety Facts. 2019 Data: Motorcycles, NHTSA, Sept. 2021, DOT HS 813 112.
- ⁷ Traffic Safety Safety: Increasing Federal Flexibility and Identifying Research Priorities Would Help Support States' Safety Efforts, GAO, 2012, GAO-13-42, available at <http://www.gao.gov/assets/660/650037.pdf>.
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- ¹⁷ The Economic and Societal Impact of Motor Vehicle Crashes, 2010 (Revised), NHTSA, May 2015 (revised), DOT HS 812 013.
- ¹⁸ The Economic and Societal Impact of Motor Vehicle Crashes, 2010 (Revised), NHTSA, May 2015 (revised), DOT HS 812 013.
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