

Motorcycle Helmet Laws: The Facts, What Can be Done to Jump-Start Helmet Use, and Ways to Cap the Damages

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I. Introduction

States first enacted universal motorcycle helmet laws in 1966, and by 1975 forty-seven states and the District of Columbia had such laws.¹ The laws were enacted by the states in order for those states to receive federal highway construction funds, which were contingent on the enactment of helmet laws.² These incentives were withdrawn and motorcycle enthusiasts, organized in groups, successfully lobbied to have these state laws repealed.³ Currently only twenty states require helmets for all motorcycle riders while the remaining states do not require helmets or have partial laws usually requiring helmets for riders less than eighteen years of age.⁴

Medical studies have overwhelmingly shown an increased risk of both morbidity and mortality for non-helmeted motorcycle riders as opposed to helmeted riders.⁵ Further studies have demonstrated the increased cost to society associated with the elevated morbidity and

¹ M. Margaret Knudson et al., *Motorcycle Helmet Laws: Every Surgeon's Responsibility*, 199 J. AM. COLL. SURG. 261-63, 261 (2004).

² *Id.*; Highway Safety Act of 1966, Pub. L. No. 89-564, 80 Stat. 731 (1966); *What are State Highway Safety Offices? History of the Federal Program at* <http://www.nhtsa.dot.gov/people/outreach/TipsandTactics/pages/2WhatAreSHSs.htm> (last visited Apr. 3, 2005).

³ Knudson et al., *supra* note 1, at 261; *What is the AMA? American Motorcyclist Association Seventy Five Years of the AMA at* <http://www.ama-cycle.org/whatis/history.html> (last visited Apr. 9, 2005).

⁴ *Current U.S. Motorcycle and Bicycle Helmet Laws* (Dec. 8, 2004), at http://www.iihs.org/safety_facts/state_laws/helmet_current.htm.

⁵ Knudson et al., *supra* note 1, at 262; J.C. Hundley et al., *Non-helmeted Motorcyclists: a Burden to Society? A Study Using the National Trauma Data Bank*, 57 J TRAUMA 944-49, 944 (2004).

mortality for non-helmeted riders.⁶ Although the medical literature and the cost analysis studies show universal helmet laws are in the best interest of the individual rider and society as a whole, motorcycle enthusiasts have fiercely lobbied against universal helmet laws proclaiming a right of individual choice.⁷ The motorcyclists have successfully organized and exerted significant influence over state legislatures in defeating universal helmet laws.⁸ Because society bears the burden of the increased costs associated with injuries and deaths of non-helmeted riders, the individual rider's freedom of choice may have to be curtailed.⁹

Increased education of the motorcycle enthusiasts and the public along with a concerted, directed and organized effort by health care organizations will be necessary to enact universal helmet laws.¹⁰ Other measures such as increased insurance requirements and the use of a helmet defense by defendants to allow for the mitigation of damages may help encourage the use of helmets.¹¹

II. History of Helmet Laws and Current Status

In 1966 Congress enacted the Highway Safety Act ("HSA") to deal with mounting highway safety problems.¹² The Act provided incentives for states¹³ and

⁶ *State Legislative Fact Sheet Motorcycle Helmet Use Laws* (Jan. 2000), at

http://www.nhtsa.dot.gov/people/outreach/safesobr/21qp/html/fact_sheets/Motorcycle_Helmet.html.

⁷ Knudson et al., *supra* note 1, at 261; *What is the AMA? American Motorcyclist Association Seventy Five Years of the AMA*, *supra* note 3.

⁸ *What is the AMA? American Motorcyclist Association Seventy Five Years of the AMA*, *supra* note 3.

⁹ *Simon v. Sargent*, 346 F. Supp. 277, 278 (D. Mass. 1972), *aff'd*, 909 U.S. 1020 (1972).

¹⁰ *Strap 'N' Snap in Georgia A Case Study of a Successful Campaign to Raise the Seat Belt Use Rate* at http://www.nhtsa.dot.gov/people/injury/airbags/buckleplan/BUA_WEBSITE/Archive-04/Cases/Georgia.html (last visited Apr. 12, 2005).

¹¹ John W. Schuster, *Riding Without a Helmet: Liability, Social Efficiency, and the More Perfect Wisconsin Compromise to Motorcycle Helmet Liability*, 89 IOWA L. REV. 1391, 1414 (2004).

¹² Highway Safety Act of 1966, Pub. L. No. 89-564, 80 Stat. 731; *What are State Highway Safety Offices? History of the Federal Program* at <http://www.nhtsa.dot.gov/people/outreach/TipsandTactics/pages/2WhatAreSHSos.htm> (last visited Apr. 3, 2005) (noting that in 1966, 50,894 people were killed in motor vehicle accidents in the United States, and deaths were projected to go up dramatically if Congress did not take action to address the problem).

¹³ *Id.*

the states responded immediately by enacting these laws.¹⁴ From the outset the helmet laws were controversial,¹⁵ and motorcycle groups became politically active and fought the helmet laws in court.¹⁶ Ten years later Congress eliminated the federal funding incentive,¹⁷ and many states began to repeal their helmet laws.¹⁸ Subsequently, Congress has been unsuccessful in passing any legislation encouraging states to enact mandatory motorcycle helmet laws.¹⁹ Currently only twenty states have universal motorcycle helmet laws.²⁰

A. The Highway Safety Act

Prior to 1966 no state in this country had enacted a motorcycle helmet law.²¹ The HSA created a federal highway safety grant program, and in order to receive federal funds each state was required to have a highway safety program in place which was approved by the United States Secretary of Transportation.²² Any state that did not enact a universal motorcycle helmet law was subject to withholding of portions of these federal funds.²³ The states responded, and by 1968 thirty-eight states had passed helmet laws.²⁴ By 1975, forty-seven states and the District of Columbia had passed helmet laws.²⁵ But the mandatory helmet laws were not popular with motorcycle enthusiasts who organized efforts to repeal these laws.²⁶

¹⁴ Knudson et al., *supra* note 1, at 261.

¹⁵ *Evaluation of the Repeal of Motorcycle Helmet Laws in Kentucky and Louisiana: Background at* <http://www.nhtsa.dot.gov/people/injury/pedbimot/motorcycle/kentucky-la03/index.html> (last visited Apr. 3, 2005).

¹⁶ *People v. Fries*, 42 Ill.2d 446, 450, 250 N.E.2d 149 (Ill. 1969); *Simon*, 346 F. Supp. at 278.

¹⁷ 23 U.S.C. 402(c) (1994); Knudson et al., *supra* note 1, at 261.

¹⁸ *Evaluation of the Repeal of Motorcycle Helmet Laws in Kentucky and Louisiana: Background, supra* note 15.

¹⁹ *Id.*; Intermodal Surface Transportation Efficiency Act of 1991 Pub. L. No. 102-240, 105 Stat. 1914 (1991).

²⁰ *Current U.S. Motorcycle and Bicycle Helmet Laws, supra* note 4.

²¹ Knudson et al., *supra* note 1, at 261.

²² Highway Safety Act of 1966, Pub. L. No. 89-564, 80 Stat. 731; *What are State Highway Safety Offices? History of the Federal Program, supra* note 12.

²³ Knudson et al., *supra* note 1, at 261.

²⁴ *Id.*

²⁵ *Id.*

B. Development of Motorcycle Enthusiasts Groups

Motorcycle enthusiasts had initially formed groups in the early 1900's after the first American motorcycle was developed and marketed.²⁷ The American Motorcycle Association (“AMA”) was formed in 1924 from two existing organizations.²⁸ Initially, through publications the AMA communicated with members regarding motorcycle competitions and events, legislative concerns and public relations campaigns.²⁹ With the rash of motorcycle helmet legislation in the 1960's the AMA began to focus on the laws and regulations they perceived as threatening to the riders.³⁰ The AMA's Legislative Department was formed with the goal to “coordinate national legal activity against unconstitutional and discriminatory laws against motorcyclists, to serve as a sentinel on federal and state legislation affecting motorcyclists, and to be instrumental as a lobbying force for motorcyclists and motorcycling interests.”³¹ In addition, most states have formed individual chapters of American Bikers Aimed Toward Education (“ABATE”) with missions to promote motorcyclists' interests and to pressure Congress to remove the contingency of federal funding on the enactment of state helmet laws.³²

C. Motorcycle Enthusiasts Take Their Fight to Court

The motorcyclists also took their fight to court. In the late 1960's and early 1970's a few courts held that the mandatory motorcycle helmet laws were unconstitutional, but these cases were rare and subsequently reversed or overruled.³³ In *People v. Fries* the court held that the purpose of the helmet law, which was to protect the person wearing the helmet, was laudable but

²⁶ *What is the AMA? American Motorcyclist Association Seventy Five Years of the AMA*, *supra* note 3.

²⁷ *Id.*; *Indian, History* at <http://www.indianmotorcycle.com/> (last visited Apr. 9, 2005) (noting that the Indian was the first motorcycle developed in the United States in 1901).

²⁸ *What is the AMA? American Motorcyclist Association Seventy Five Years of the AMA*, *supra* note 3 (noting that in 1976 the organization's name was changed to the American Motorcyclist Association).

²⁹ *Id.*

³⁰ *Id.*

³¹ *Id.* (noting the legislative department has since been renamed the Government Relations Department).

³² Knudson et al., *supra* note 1, at 261.

could not “justify the regulation of what is essentially a matter of personal safety.”³⁴ This holding was later overruled, and although there have been many cases since challenging helmet laws they have universally failed.³⁵ Courts have held motorcycle helmet laws constitute the proper exercise of the state police power, and that these laws are rationally related to the state’s purpose of promoting the safety of individuals riding on highways.³⁶

Plaintiffs have used a variety of arguments in their attempts to attack state helmet laws.³⁷ In *Simon v. Sargent*, Simon asserted the police power of the state “does not extend to overcoming the right of an individual to incur risks that involve only himself.”³⁸ While the court agreed the purpose of the Massachusetts statute was the prevention of a head injury to the motorcycle rider, the consequences were not limited to the injured person.³⁹ The court held that the public does have an interest in minimizing resources directly involved because:

[f]rom the moment of the injury, society picks up the person 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.⁴⁰

In *Picou v. Gillum* the plaintiff relied on a right to privacy, but the court held that the wearing of a helmet on the open road could not be deemed a private or an intimate personal decision.⁴¹ This court also invoked the notion that while the helmet law serves to protect the motorcyclist, those riding without helmets are more likely to incur injury, and it is the state and

³³ *Fries*, 42 Ill. 2d at 450; *Simon*, 346 F. Supp. at 278.

³⁴ *Fries*, 42 Ill.2d at 450.

³⁵ *Picou v. Gillum*, 874 F.2d 1519, 1520 (11th Cir. 1989).

³⁶ *Buhl v. Hannigan*, 20 Cal. Rptr. 2d 740, 745 (Cal. Ct. App. 1993).

³⁷ *Simon*, 346 F. Supp. at 278; *Commonwealth v. Kautz*, 491 A.2d 864, 865 (Pa. 1985), *Picou*, 874 F.2d at 1521.

³⁸ *Simon*, 346 F. Supp. at 278.

³⁹ *Id.* at 279.

⁴⁰ *Id.*

⁴¹ *Picou*, 874 F.2d at 1521.

local government who will provide police and ambulance services.⁴² Furthermore, the motorcycle rider may be hospitalized at public expense and could require public aid for years.⁴³ Currently, the highest courts in at least twenty-five states have upheld the constitutionality of motorcycle helmet laws.⁴⁴

D. Congress Eliminates Incentives for State Helmet Laws

While motorcycle enthusiasts were not successful in challenging helmet laws in court, in 1976 Congress eliminated the contingency of federal funding on the basis of enactment of helmet laws.⁴⁵ The motorcyclists' argument against helmet laws, often based on the notion of freedom of choice had failed in the courts, but was successful in the state legislatures.⁴⁶ As a result, many states repealed their helmet laws and by 1980 only nineteen states and the District of Columbia had universal helmet laws.⁴⁷ During the 1990's Congress again attempted to encourage the enactment of state helmet laws.⁴⁸ Congress asked the United States General Accounting Office ("GAO") to provide a report regarding the effectiveness of the use of motorcycle helmets related to morbidity and mortality, and the costs incurred by society by injuries to non-helmeted riders.⁴⁹ The GAO found that helmet use resulted in significant decreases in morbidity and mortality, and that helmet laws lead to the increased use of helmets.⁵⁰ In 1991 Congress passed the Intermodal

⁴² *Id.* at 1522.

⁴³ *Id.*

⁴⁴ *Buhl*, 20 Cal. Rptr. 2d at 745; *Picou*, 874 F.2d at 1520.

⁴⁵ Knudson et al., *supra* note 1, at 261. Ostensibly, the helmet requirement was dropped to protect individual liberty, and may in part have been a result of the organized political activities of the motorcycle groups. Stephen P. Teret & Ruth Gaare, *The Law and the Public's Health*, BIOLAW § 3, at 29, 3940 (1986) (quoting House and Senate floor statements); Thaddeus Mason Pope, *Balancing Public Health Against Individual Liberty: The Ethics of Smoking Regulations*, 61 U. PITT. L. REV. 419, 498 n.60 (2000).

⁴⁶ Clay P. Graham, *Helmetless Motorcyclists—Easy Riders Facing Hard Facts: The Rise of the "Motorcycle Helmet Defense,"* 41 OHIO ST. L. J. 233, 238 (1980).

⁴⁷ *Evaluation of the Repeal of Motorcycle Helmet Laws in Kentucky and Louisiana: Background*, *supra* note 15.

⁴⁸ *Id.*

⁴⁹ *Id.*

⁵⁰ *United States General Accounting Office, Report to Congressional Requesters, Highway Safety: Motorcycle Helmet Laws Save Lives and Reduce Costs to Society* (July 1991), available at <http://archive.gao.gov/d19t9/144486.pdf>; *Evaluation of the Repeal of Motorcycle Helmet Laws in Kentucky and*

Surface Transportation Efficiency Act which incorporated both an incentive and a penalty to promote universal helmet laws, but this had little effect on the states.⁵¹ The act was repealed in 1995 and in the late 1990's many states repealed or amended their universal helmet laws.⁵² Since 1997, Texas, Florida, Pennsylvania, Kentucky and Arkansas have amended their universal helmet laws to partial laws requiring only those riders twenty years old or younger to wear helmets.⁵³

E. Current Status of Helmet Laws

As of December 2004, twenty states had universal motorcycle helmet laws and twenty-six states had partial helmet laws which usually covered individuals either twenty-years-old and younger, or seventeen-years-old and younger.⁵⁴ Four states had no helmet laws.⁵⁵ Many states with partial laws are written to cover all riders but then allowing exceptions.⁵⁶ Florida's helmet law requires that all motorcycle riders wear helmets except for riders over the age of twenty-one years if those riders are covered by an insurance policy providing for a minimum of \$10,000 in medical benefits for injuries incurred as a result of any accident while riding or operating a motorcycle.⁵⁷ Texas law requires that an individual wear a helmet to operate a motorcycle on a

Louisiana: Background, *supra* note 15 (noting that with universal helmet laws in place most states reported 20% to 40% lower fatality rates, and furthermore, the use of helmets virtually doubled after the institution of helmet laws. The GAO concluded the burden of caring for injured riders was reduced by the enactment of universal helmet laws).

⁵¹ Intermodal Surface Transportation Efficiency Act of 1991 Pub. L. No. 102-240, 105 Stat. 1914; *Evaluation of the Repeal of Motorcycle Helmet Laws in Kentucky and Louisiana: Background*, *supra* note 15 (noting as an incentive Congress offered additional federal funding for states, and as a penalty states without a universal helmet law and a safety belt law would have a portion of their federal highway funds transferred to their highway safety programs).

⁵² *Id.*

⁵³ Karen Lundegaard, *Head-to-Head Battle Bikers Lobby to Eliminate State Helmet Laws* (Feb. 2005), at http://www.wsjclassroomedition.com/archive/05feb/poli_helmet.htm; *Current U.S. Motorcycle and Bicycle Helmet Laws*, *supra* note 4.

⁵⁴ *Current U.S. Motorcycle and Bicycle Helmet Laws*, *supra* note 4.

⁵⁵ *Id.* (noting Colorado, Illinois, Iowa and New Hampshire have no law regarding motorcycle helmet use). New Hampshire has also foregone federal highway funds and repeatedly refused to enact a seatbelt law. James A. Gardner, *State Constitutional Rights as Resistance to National Power: Toward a Functional Theory of State Constitutions*, 91 GEO. L.J. 1003, 1027 (2003).

⁵⁶ *History of U.S. Motorcycle Helmet Laws and Changes in Coverage* (Dec. 2004), at http://www.iihs.org/safety_facts/state_laws/helmet_history.htm.

⁵⁷ Fla. Stat. § 316.211 (2004).

public street or highway but makes an exception for persons (1) who are at least twenty-one years old and (2) have successfully completed a motorcycle operator training and safety course, or (3) are covered by a health insurance plan providing at least \$10,000 in medical benefits for injuries incurred in an accident while operating the motorcycle.⁵⁸

III. Compliance with Existing State Helmet Laws

The enactment of a universal helmet law directly relates to helmet use in that state.⁵⁹ The use of a helmet rises to nearly 100% when a state passes a universal helmet law.⁶⁰ The GAO, in reviewing nine separate studies, found 92% to 100% of riders complied with the helmet law in states with universal helmet laws.⁶¹ In states without universal helmet laws in which such laws were reinstated, helmet use increased to over 95%.⁶² For example, in a California study, helmet use increased from 50% to 99% after the re-enactment of a universal helmet law.⁶³ Compliance with helmet laws may be high because helmets are highly visible, and a law enforcement officer can often easily determine if the motorcyclist is wearing a helmet.⁶⁴

In contrast, as states have repealed helmet laws, the use of helmets has decreased.⁶⁵ In the nine-study-review done by the GAO, the use of helmets by motorcyclists ranged from 42% to 59% in states with limited helmet laws.⁶⁶ In a study looking at data from ten states, helmet use

⁵⁸ Tex. Transp. Code § 661.003 (2003).

⁵⁹ Knudson et al., *supra* note 1, at 261.

⁶⁰ *Nearly 100 Percent of Motorcyclists Comply With Universal Helmet Laws at* <http://www.nhtsa.dot.gov/people/injury/pedbimot/motorcycle/safebike/helmet.html> (last visited Apr. 9, 2005).

⁶¹ *Id.*; *Highway Safety: Motorcycle Helmet Laws Save Lives and Reduce Costs to Society* (GAO/RCED-91-170) Washington, DC: United States General Accounting Office (July 1991).

⁶² *Nearly 100 Percent of Motorcyclists Comply With Universal Helmet Laws*, *supra* note 60.

⁶³ Knudson et al., *supra* note 1, at 261 *citing* J.F. Kraus et al., *The evaluation of the 1992 California Mandatory Helmet Use Law: Change in Helmet Use, Statewide Fatalities and Non-injuries: Final Report*. Arlington, VA: Insurance Institute for Highway Safety (1994). Helmet use was observed in sixty locations in seven California counties. *Id.*

⁶⁴ *Nearly 100 Percent of Motorcyclists Comply With Universal Helmet Laws*, *supra* note 60.

⁶⁵ Knudson et al., *supra* note 1, at 261.

⁶⁶ *Highway Safety: Motorcycle Helmet Laws Save Lives and Reduce Costs to Society*, *supra* note 61.

dropped from 99% to 50% when universal helmet laws were repealed.⁶⁷ For example, in Arkansas, helmet use dropped from 97% to 52% after the repeal of the helmet law.⁶⁸ In the United States, overall helmet use has decreased from 71% in 2000 to 58% in 2002.⁶⁹ In states with partial helmet laws the compliance of underage riders using helmets is considerably lower than in states with universal helmet laws.⁷⁰ Age specific laws that require riders under a certain age to wear a helmet are much more difficult to apply and enforce, and therefore have much less impact on helmet use than a universal law.⁷¹ Similarly, helmet laws that are tied to rider education requirements, such as the Texas law, are equally difficult to enforce.⁷²

IV. Motorcycle Accidents: Factors Affecting Brain Related Morbidity and Mortality

By virtue of their design, motorcycles are more dangerous than automobiles.⁷³ The rate of injuries and deaths for riders involved in motorcycle accidents is far greater than rates for occupants involved in automobile accidents.⁷⁴ Studies from multiple states have shown that helmet use significantly reduces the morbidity and mortality for motorcycle riders,⁷⁵ and studies from other countries support the findings in the United States.⁷⁶ Studies which do not support these conclusions are exceedingly rare,⁷⁷ and therefore, overwhelmingly the medical literature

⁶⁷ *Nearly 100 Percent of Motorcyclists Comply With Universal Helmet Laws*, *supra* note 60; N.E. McSwain & B. Wiley, *Impact of the Re-enactment of the Motorcycle Helmet Law in Louisiana*. (DOT HS 806 760), Washington, DC: United States Department of Transportation (Dec. 1984).

⁶⁸ Knudson et al., *supra* note 1, at 261 *citing* D.F. Preusser et al., *Evaluation of Motorcycle Helmet Law Repeal in Arkansas and Texas*, Springfield, VA: NHTSA (2000).

⁶⁹ Knudson et al., *supra* note 1, at 261.

⁷⁰ *Id.*

⁷¹ *Id.*

⁷² *Id.* (noting that verification of the rider's compliance with a motorcycle operator training and safety course would create significant burdens on law enforcement officers).

⁷³ *Highway Safety: Motorcycle Helmet Laws Save Lives and Reduce Costs to Society*, *supra* note 61.

⁷⁴ Knudson et al., *supra* note 1, at 262.

⁷⁵ *State Legislative Fact Sheet Motorcycle Helmet Use Laws*, *supra* note 6.

⁷⁶ W.T. Chiu et al., *The Effect of the Taiwan Motorcycle Helmet Use Law on Head Injuries*, 90 AM J PUBLIC HEALTH, 793-96, 793 (2000); F. Servadei et al., *Effect of Italy's Motorcycle Helmet Law on Traumatic Brain Injuries*, 9 INJ PREV 257-60, 257 (2003).

⁷⁷ Lisa Stolzenberg & Stewart J. D'Alessio, "Born to be Wild" *The Effect of the Repeal of Florida's Mandatory Motorcycle Helmet-Use Law on Serious Injury and Fatality Rates*, 27 EVALUATION REVIEW, 131-150, 131 (2003);

supports the use of motorcycle helmets to reduce the rate of head injuries and death from motorcycle accidents.⁷⁸

A. Comparison of Motorcycle and Automobile Designs

A motorcycle lacks the crashworthiness and protection that the usual automobile offers.⁷⁹ The typical automobile insulates the occupants with its door beams, roof and airbags, and also weighs more and is bulkier than a motorcycle.⁸⁰ Additionally, the automobile has four wheels which allows for greater stability than a motorcycle, and with the automobile's larger size comes greater visibility.⁸¹ Because the motorcycle offers no protection to the head or body of the rider he is often subjected to forcibly striking objects, or may be ejected from the motorcycle when it comes to a sudden stop.⁸²

B. Motorcycle Accident Morbidity and Mortality Data in the United States

In 1990, in terms of the number of deaths per mile traveled, the deaths related to motorcycle accidents were twenty-one fold higher than the deaths related to automobile accidents.⁸³ Between 1994 and 1996, motorcycle rider deaths composed 9.3% of all traffic deaths.⁸⁴ While motorcycles represent less than 3% of registered passenger vehicles they represent approximately 9% of the fatalities for all passenger vehicles.⁸⁵ While 80% of motorcycle accidents result in injury or death, only 20% of other passenger vehicular accidents

Jonathan P. Goldstein, *The Effect of Motorcycle Helmet Use on the Probability of Fatality and the Severity of Head and Neck Injuries: A Latent Variable Framework*, 10 EVALUATION REVIEW 355-75, 355 (1986).

⁷⁸ *Orthopedic Corner: Studies Support Use of Motorcycle Helmets* (Mar. 10, 2004), at <http://www.billingsgazette.com/index.php?id=1&display=rednews/2004/03/10/build/health/45-ortho-corner.inc>;

Motorcycle Helmets are Effective in Preventing Serious Brain Injuries at <http://www.nhtsa.dot.gov/people/injury/pedbimot/motorcycle/safebike/preventing.html> (last visited Apr. 12, 2005).

⁷⁹ *Highway Safety: Motorcycle Helmet Laws Save Lives and Reduce Costs to Society*, *supra* note 61.

⁸⁰ *Id.*

⁸¹ *Id.* (noting in contrast to an automobile a motorcycle has greater maneuverability and agility).

⁸² *Id.* (noting that after being ejected the rider will then strike some object or the pavement).

⁸³ Knudson et al., *supra* note 1, at 262.

⁸⁴ *Id.*

⁸⁵ *Traffic Safety Facts 2003 Data Motorcycles at* <http://www-nrd.nhtsa.dot.gov/pdf/nrd-30/NCSA/TSF2003/809764.pdf> (last visited Apr. 12, 2005).

result in injury or death.⁸⁶ For every motorcycle fatality there are approximately ninety motorcycle injuries requiring medical care.⁸⁷ In 2002 approximately 65,000 motorcyclists were injured, and 3,244 were killed in highway accidents in the United States.⁸⁸ Motorcycle accident fatalities have been increasing since 1997 and motorcycle accident injuries have been increasing since 1999.⁸⁹

C. The Effect of Helmet Use on Motorcycle Accident Morbidity and Mortality

Many studies of motorcycle accidents have related the increasing incidence of morbidity, in particular brain injuries, and mortality due to brain injuries, to the repeal of the helmet laws.⁹⁰ The variation in helmet laws from state to state has enabled extensive research to be done comparing the effects of helmet laws on morbidity and mortality within states, before and after repeal, and between states having helmet laws and those without such laws.⁹¹ According to the National Highway Traffic Safety Administration (“NHTSA”), head injury is a leading cause of death in motorcycle accidents.⁹² The use of a motorcycle helmet reduces the likelihood of death in a motorcycle accident by 29%.⁹³ Additional studies done by the NHTSA have shown that the likelihood of a rider incurring a brain injury is three times more likely in accidents involving a non-helmeted rider.⁹⁴ The mortality rates are lower in states with universal helmet laws than in states without such laws.⁹⁵ This has been demonstrated after taking into account such factors as

⁸⁶ *The National Highway Traffic Safety Administration Motorcycle Safety Program* at <http://www.nhtsa.dot.gov/people/injury/pedbimot/motorcycle/motorcycle03/> (last visited Apr. 12, 2005).

⁸⁷ Knudson et al., *supra* note 1, at 262.

⁸⁸ *Traffic Helmet Laws, Motorcycle Helmet Use Laws* (Apr. 2004), at <http://www.nhtsa.dot.gov/people/injury/Newfact-sheet03/MotorcycleHelmet.pdf>.

⁸⁹ *The National Highway Traffic Safety Administration Motorcycle Safety Program*, *supra* note 86.

⁹⁰ Knudson et al., *supra* note 1, at 262; *Traffic Helmet Laws, Motorcycle Helmet Use Laws*, *supra* note 88.

⁹¹ Erica Straus, *Motorcycle Helmet Laws: The Role of Scientific Research in Public Policy* at <http://healthresearch.georgetown.edu/Erica/helmetlaws.htm> (last visited Mar. 14, 2005).

⁹² *State Legislative Fact Sheet Motorcycle Helmet Use Laws*, *supra* note 6.

⁹³ *Id.*

⁹⁴ *Id.* (noting that the Crash Outcome Data Evaluation System (CODES) study found that motorcycle helmets were 67% effective in preventing brain injuries).

⁹⁵ Straus, *supra* note 91.

the climate, speed limits, median age, density of the population and the alcohol intake per capita.⁹⁶ One study used data from the National Trauma Data Bank (“NTDB”) over an eight year period in which 9,769 patients were identified as motorcycle accident victims.⁹⁷ Of this group 6,756 (69.2%) were helmeted and 3,013 (30.8%) were non-helmeted.⁹⁸ Overall, the helmeted riders sustained less severe injuries and had a lower mortality rate as compared to the non-helmeted riders.⁹⁹

D. Morbidity and Mortality Data from Arkansas

Effective August 1, 1997 Arkansas became the first state in fourteen years to repeal its adult helmet law.¹⁰⁰ Among motorcyclists receiving emergency medical services in Arkansas the use of helmets dropped from 55% in 1997 to below 30% in 1998.¹⁰¹ A study from the University of Arkansas for Medical Sciences provided data from their trauma registry for a six year period which covered three years prior to the repeal of the helmet law, and three years after the repeal of the helmet law.¹⁰² Before the repeal 25% of motorcyclists injured in an accident were non-helmeted as opposed to 54% after the repeal.¹⁰³ Although the total number of accidents did not change significantly, non-helmeted deaths increased from 39.6% before the repeal to 75.5% after the repeal.¹⁰⁴ All surviving patients were evaluated and those with head and neck injuries were given a score, with higher scores given for more severe injuries.¹⁰⁵

⁹⁶ *Id.*

⁹⁷ Hundley et al., *supra* note 5, at 944.

⁹⁸ *Id.*

⁹⁹ *Id.* (noting that the outcome was worse for non-helmeted riders independent of the use of alcohol or drugs).

¹⁰⁰ *Evaluation of Motorcycle Helmet Law Repeal in Arkansas and Texas* (Sept. 2000), at <http://www.nhtsa.dot.gov/people/injury/pedbimot/motorcycle/EvalofMotor.pdf>.

¹⁰¹ *Id.*

¹⁰² G.H. Bledsoe et al., *The Negative Impact of the Repeal of the Arkansas Motorcycle Helmet Law*, 53 J TRAUMA 1078-86, 1078 (2002).

¹⁰³ *Id.*

¹⁰⁴ *Id.*

¹⁰⁵ *Id.*

Overall, the patients who were non-helmeted had a significantly increased incidence of head and neck injuries as opposed to the patients who had worn helmets.¹⁰⁶

E. Morbidity and Mortality Data from California

California passed a universal helmet law in 1992, and in that first year the number of motorcyclists hospitalized with a brain injury dropped 53%.¹⁰⁷ In one California study, data regarding fatalities was gathered from police reports and death certificates in eleven counties.¹⁰⁸ Nonfatal motorcycle injury reports were obtained from the records of twenty-eight hospitals in ten of the eleven counties.¹⁰⁹ Motorcycle fatalities decreased by more than 37%, and motorcycle fatality rates per 100,000 registered motorcycles were reduced by 26.5%.¹¹⁰

F. Morbidity and Mortality Data from Louisiana

Louisiana's universal helmet law was repealed on August 15, 1999.¹¹¹ Thereafter, helmet use was required only by motorcyclists and passengers under the age of eighteen years, and for those riders over the age of eighteen years without health insurance coverage of at least \$10,000.¹¹² In the last full year of the universal helmet law 97% of the motorcyclists complied with the law.¹¹³ In 2000, 52% of the motorcyclists were wearing helmets.¹¹⁴ In the last two years in which the universal helmet law was in place, 741 motorcyclists were injured.¹¹⁵ In 2000, injuries increased by 40% to 1,011 injuries.¹¹⁶ Although Louisiana did experience a large

¹⁰⁶ *Id.*

¹⁰⁷ Straus, *supra* note 91 (noting the number of riders admitted to hospitals with brain injuries dropped from 1,258 to 588).

¹⁰⁸ J.F. Kraus et al., *The Effect of the 1992 California Motorcycle Helmet Use Law on Motorcycle Crash Fatalities and Injuries*, 272 JAMA 1506-1511, 1506 (1994).

¹⁰⁹ *Id.*

¹¹⁰ *Id.*

¹¹¹ *Evaluation of Repeal of Motorcycle Helmet Laws in Kentucky and Louisiana*, *supra* note 15.

¹¹² *Id.*

¹¹³ *Id.*

¹¹⁴ *Id.*

¹¹⁵ *Id.*

¹¹⁶ *Id.*

increase in motorcycle registrations from 1997 to 2000,¹¹⁷ the injury rate per registered motorcycle increased approximately 20% indicating that the increase in the injuries was not due solely to an increase in motorcycle registration.¹¹⁸ In 1998 the Louisiana Department of Public Safety reported 5.9 motorcyclists killed per 10,000 registered motorcycles.¹¹⁹ In 2000 there were 7.9 motorcyclists killed per 10,000 registered motorcycles representing an increase in fatalities of approximately 75% after the repeal of the universal helmet law.¹²⁰

G. Morbidity and Mortality Data from Maryland

Maryland enacted a universal helmet law on October 1, 1992.¹²¹ Statewide motorcycle fatalities during a seasonably comparable thirty-three month period immediately prior to the passage of the helmet law were compared to fatalities in the seasonally comparable thirty-three months after the passage of the law.¹²² The number of registered motorcycles remained almost the same during the entire period and the motorcycle fatality rate dropped from 10.3 per 10,000 registered motorcycles prior to enactment of the law to 4.5 per 10,000 registered motorcycles after enactment of the law.¹²³ In addition, helmeted riders were found to have a lower risk of traumatic brain injury.¹²⁴

H. Collation of Morbidity and Mortality Data from Multiple States

An extensive literature review was performed by a group of researchers who collated the available evidence on helmets, and their impact on mortality, and head, face and neck injuries of

¹¹⁷ *Id.*

¹¹⁸ *Id.* (noting that in 1998 there were 121 motorcycle accident injuries per 10,000 registered motorcycles, and in 2000 there were 152 motorcycle accident injuries per 10,000 registered motorcycles).

¹¹⁹ *Id.*

¹²⁰ *Id.*

¹²¹ K.M. Ausman et al., *Autopsy Study of Motorcyclist Fatalities: The Effect of the 1992 Maryland Motorcycle Helmet Use Law*, 92 AMERICAN JOURNAL OF PUBLIC HEALTH, 1352-1355, 1352 (2002).

¹²² *Id.*

¹²³ *Id.*

¹²⁴ *Id.*

motorcycle rider accident victims.¹²⁵ To quantify the effectiveness of helmet use in reducing mortality and head and neck injuries in motorcycle accidents, the researchers reviewed multiple databases including web sites of traffic and government agencies involved in road accident research.¹²⁶ Fifty-three studies were identified, and although there were differences in methodology regarding the various studies, helmets were consistently found to reduce the incidence of mortality and head injuries.¹²⁷ The effect of helmet use on the incidence of facial or cervical injuries could not be discerned due to insufficient data.¹²⁸

I. Morbidity and Mortality Data from Other Countries Supports Data from the United States

Most countries other than the United States have laws requiring motorcyclists to wear helmets.¹²⁹ Studies from other countries support the pervasive findings in the United States medical literature of decreased incidence of head injuries and death associated with motorcycle helmet use.¹³⁰ In Taiwan, data was collected from fifty-six major hospitals regarding motorcycle related head injuries for a one year period prior to enactment of a helmet law, and for a one year period after enactment of the law.¹³¹ The number of motorcycle related head injuries decreased by 33% after enactment of the law.¹³² Similarly, an Italian study found a decreased incidence of traumatic brain injury in motorcyclists in the Romagna region after the institution of a helmet

¹²⁵ B. Liu et al., *Helmets for Preventing Injury in Motorcycle Riders*, 2 Cochrane Database Syst Rev, CD004333 (2004).

¹²⁶ *Id.* (noting that the search for relevant articles included the Cochrane Injuries Group Specialised Register, Cochrane Central Register of Controlled Trials (The Cochrane Library issue 1, 2003), MEDLINE (January 1966 to February 2003), EMBASE (January 1985 to February 2003), CINAHL (January 1982 to February 2003), IRRD (International Road Research Documentation), TRANSDOC, TRIS (Transport Research Information Service), ATRI (Australian Transport Index) (1976 to Feb 2003), and the Science Citation Index).

¹²⁷ *Id.* (noting that the risk of head injury in five particularly well-conducted studies was decreased by approximately 72%. The decreased risk of mortality with helmet use may be modified by other factors such as speed).

¹²⁸ *Id.*

¹²⁹ *Insurance Institute for Highway Safety, Q & A: Motorcycle Helmet Use Laws* (Mar. 2004), at http://www.iihs.org/safety_facts/qanda/helmet_use.htm#11

¹³⁰ Chiu et al., *supra* note 76, at 793; Servadei et al., *supra* note 76, at 257.

¹³¹ Chiu et al., *supra* note 76, at 793.

law.¹³³ Helmet use increased from 20% to 96% after enactment of the law, and the incidence of traumatic brain injuries decreased by 66%.¹³⁴

In the United States the NHTSA estimates that helmet use by riders saved approximately 8,974 lives from 1984 through 1998 and during that same time frame an additional 7,124 lives could have been saved by the wearing of helmets by motorcyclists.¹³⁵ The medical literature overwhelmingly supports the use of helmets by motorcyclists, and documents reduction in both mortality and brain injuries with helmet use.¹³⁶ Interpretations of NHTSA data and state records regarding motorcycle accidents that contradict these findings are sparse.

J. Sparse Conflicting Data Regarding Morbidity and Mortality

Two papers, both from Evaluation Review, have reported findings demonstrating the ineffectiveness of helmets in preventing morbidity and mortality.¹³⁷ In one study, NHTSA data was used to reconstruct accidents while considering factors including helmet use, speeds, and the rider's age and experience.¹³⁸ According to the study, helmet use did not prevent fatalities but did lead to reduction of severity of head injuries at only very low speeds.¹³⁹ The NHTSA responded to this report by noting several major flaws in the interpretation of the data which led to erroneous conclusions.¹⁴⁰ This study is widely cited by helmet opponents, but the findings have been refuted in over a dozen studies.¹⁴¹ One large study in particular evaluated 1,153

¹³² *Id.*

¹³³ Servadei et al., *supra* note 76, at 257.

¹³⁴ *Id.*

¹³⁵ *State Legislative Fact Sheet Motorcycle Helmet Use Laws*, *supra* note 6.

¹³⁶ Liu et al., *supra* note 125.

¹³⁷ Stolzenberg & D'Alessio, *supra* note 77, at 131; Goldstein, *supra* note 77, at 355.

¹³⁸ Goldstein, *supra* note 77, at 355.

¹³⁹ *Id.* (noting that beyond approximately thirteen miles per hour helmet use did not decrease the risk of brain injury, but did increase the risk of cervical injuries).

¹⁴⁰ *Id.* (noting that according to the NHTSA, Goldstein incorrectly used the equation for relative impact velocity, did not include impact velocity as a separate variable which he should have done, and finally, the model did not take into account the fact that neck injuries occurred one-tenth as often as head injuries).

¹⁴¹ *Auto and Road User Journal Q & A Helmet Use Laws* (June 4, 1997), at <http://www.usroads.com/journals/aruj/9706/ru970601.htm>.

motorcycle crashes in four states, and concluded that helmet use led to a reduction in head injuries without any increase in the incidence of spinal injuries.¹⁴²

The second paper from the same journal evaluated data from Florida, and concluded that the helmet law repeal had “little observable effect” on morbidity and mortality from motorcycle accidents.¹⁴³ This isolated result directly conflicts with multiple studies related to the repeal of Florida’s helmet law, which has been studied extensively.¹⁴⁴ Florida repealed its universal helmet law on July 1, 2000.¹⁴⁵ In one study, examination of data revealed a 48.6% overall increase in fatalities of motorcycle riders in the year after the law change.¹⁴⁶ When the increase in motorcycle registrations was considered the fatality rate had increased by 21.3% and when trends in travel mileage were taken into account the fatality rate had increased by 38.2%.¹⁴⁷ Another study from the University Of Miami School Of Medicine’s Department of Neurological Surgery studied all patients involved in motorcycle accidents from July 1, 2000 through December 31, 2000.¹⁴⁸ During the time of the study helmet use decreased from 83% to 56%.¹⁴⁹ In 1999, the year before the repeal, fifty-two motorcycle accident patients were treated at the facility, and in the year after the repeal ninety-four such patients were treated and the number of patients with brain injuries increased from eighteen to thirty-five.¹⁵⁰ In addition, there was an increase in the number of fatalities.¹⁵¹

¹⁴² *Id.* (noting that the study was reported in the *Annals of Emergency Medicine*).

¹⁴³ Stolzenberg & D’Alessio, *supra* note 77, at 131.

¹⁴⁴ *Id.*; A. Muller, *Florida’s Motorcycle Helmet Law Repeal and Fatality Rates*, 94 AM J PUBLIC HEALTH, 556-58, 556 (2004).

¹⁴⁵ Muller, *supra* note 144, at 556.

¹⁴⁶ *Id.* (examining data from January 1994 to December 2001).

¹⁴⁷ *Id.*

¹⁴⁸ G.A. Holtz et al., *The Impact of a Repealed Motorcycle Helmet Law in Miami-Dade County*, 52 J TRAUMA 469-74, 469 (2002) (noting that the patients were treated at Jackson Memorial Medical Center).

¹⁴⁹ *Id.*

¹⁵⁰ *Id.*

K. Medical Literature Overwhelmingly Shows Decreased Morbidity and Mortality Associated With Motorcycle Helmet Use

The medical literature overall supports the fact that helmet use results in a significant decrease in brain injuries, and likely does not increase the risk of a cervical injury.¹⁵² The GAO also vigorously supports the use of helmets, and in a review of forty-six studies found increased fatality rates up to 73% for non-helmeted riders and a reduction in the risk of injury of 85%.¹⁵³ Statistically, the case for helmet laws is solid and well supported by government statistics, and in each state that has repealed its universal helmet law motorcycle deaths have more than doubled.¹⁵⁴ Motorcycle use has also increased, but the increase has not been as great as the increase in the rate of fatalities.¹⁵⁵

To investigate the relationship of increase in use to increased fatalities, the Wall Street Journal looked at the change in motorcycle fatalities per 10,000 registered motorcycles.¹⁵⁶ In 2003 motorcycle deaths rose 12% nationwide to 3,661.¹⁵⁷ Through 2004 motorcycle deaths have risen for six straight years with the largest annual percentage increase since 1988 occurring in 2004.¹⁵⁸ The death rate had increased to 6.82 deaths per 10,000 motorcycles which represented an increase of 4.4% and the highest death rate since 1990.¹⁵⁹

¹⁵¹ *Id.* (noting that the number of fatalities increased from two prior to the repeal of the law to eight after repeal of the law).

¹⁵² *Orthopedic Corner: Studies Support Use of Motorcycle Helmets*, *supra* note 78 (noting that the observations in a health column were written for the Billings Gazette by orthopedic surgeon Dr. Michael Yorgason).

¹⁵³ *Motorcycle Helmets are Effective in Preventing Serious Brain Injuries*, *supra* note 78.

¹⁵⁴ Lundegaard, *supra* note 53 (noting that the shortest span of time in which the state death rate doubled was three years).

¹⁵⁵ *Id.*

¹⁵⁶ *Id.*

¹⁵⁷ *Id.*

¹⁵⁸ *Id.*

V. Helmet Standards and Motorcyclists' Perception of Helmets

To promote the development of effective helmets the Department of Transportation (“DOT”) established the Federal Motor Vehicle Safety Standard (“FMVSS”) and since 1974 motorcycle helmets have been required to meet or exceed this standard.¹⁶⁰ It is illegal to sell a helmet for use on a motorcycle if it does not meet this standard.¹⁶¹ Periodically these standards are updated by private testing laboratories, and many helmet manufacturers practice voluntary submission of their helmets for testing.¹⁶² The helmets have a hard outer shell so that upon impact the forces applied are distributed to protect the skull and brain, and also to prevent penetration of the helmet.¹⁶³ An inner liner which is crushable absorbs part of the forces applied to the helmet to prevent the direct application of that force to the skull and brain.¹⁶⁴ In the early 1990’s a significant improvement in the materials used in the manufacture of helmet was the introduction of Kevlar, expanded polypropylene, and carbon fiber used in the outer shell and the protective lining.¹⁶⁵

DOT not only establishes standards regarding the amount of force a helmet should absorb, but also sets standards regarding the allowable amount of peripheral vision.¹⁶⁶ In order to set standards and evaluate the effect of helmet use on the ability of the rider to see vehicles in an adjacent lane prior to changing lanes and to hear traffic sounds at normal highway speeds

¹⁵⁹ *Id.*

¹⁶⁰ 49 U.S.C. § 322 (1983); 49 C.F.R. § 571.218 (2004); *Traffic Safety Facts 2003 Data Motorcycles*, *supra* note 85.

¹⁶¹ *Safety Belt and Helmet Use in 2002-Overall Results* (Sept. 2002), at <http://www-nrd.nhtsa.dot.gov/pdf/nrd-30/NCSA/Rpts/2002/809-500.pdf>.

¹⁶² *Id.*

¹⁶³ *How to Identify Unsafe Motorcycle Helmets at* <http://www.nhtsa.dot.gov/people/injury/pedbimot/motorcycle/UnsafeHelmetID/pages/page2.htm> (last visited Apr. 12, 2005).

¹⁶⁴ *Id.*

¹⁶⁵ *How to Identify Unsafe Motorcycle Helmets*, *supra* note 163.

¹⁶⁶ *Id.*

DOT conducted a study.¹⁶⁷ Federal standards were set requiring helmets to allow for 210 degrees of peripheral vision, which falls within the normal, peripheral vision range of 200 to 220 degrees.¹⁶⁸ With this standard no restriction in vision or the ability to see adjacent vehicles was found.¹⁶⁹ The NHTSA study also noted an insignificant reduction in the rider's ability to hear while wearing a helmet.¹⁷⁰

Helmet opponents assert that helmets make it much more difficult for the rider to see by reducing peripheral vision, and also impair the rider's ability to perceive useful sounds.¹⁷¹ Some riders also argue researchers manipulate the data to show the benefits of helmet use.¹⁷² Many enthusiasts argue that in spite of protective equipment the rider is still at significant risk if an accident does occur, and so focus should be placed on accident prevention.¹⁷³ They argue that the focus should not be on helmet use, but rather on the attendance of safety and educational programs.¹⁷⁴

Studies by the government have supported the importance of safety programs, and have also noted that approximately 40% of fatal motorcycle accidents involve consumption of alcohol.¹⁷⁵ Motorcycle groups have acknowledged this fact, and instituted alcohol awareness

¹⁶⁷ *Traffic Helmet Laws, Motorcycle Helmet Use Laws*, *supra* note 88.

¹⁶⁸ *Virginia Panel to Again Consider Lifting Helmet Mandate* (Jan. 30, 2005), at <http://www.wjla.com/news/stories/0105/203827.html>.

¹⁶⁹ *Id.*

¹⁷⁰ *Auto and Road User Journal Q & A Helmet Use Laws*, *supra* note 141 (noting that in large part this occurs because the loud noise of the motorcycle does not cause any further reduction by the helmeted rider in the ability to hear other sounds).

¹⁷¹ *Id.* (noting in addition, many complain the helmets are too hot for summer).

¹⁷² *Id.* (noting that one motorcycle enthusiast claims the government relied on data in which thousands of motorcycle registrations were missed).

¹⁷³ *AMA Position in Support of Voluntary Helmet Use* at <http://www.amadirectlink.com/legisltn/positions/helmet.asp> (last visited Mar. 4, 2005).

¹⁷⁴ *Id.*

¹⁷⁵ *Motorcycle Safety Foundation, Motorcyclist Alcohol & Other Impairment* at <http://www.nhtsa.dot.gov/people/injury/pedbimot/motorcycle/00-NHT-212-motorcycle/human25-26.html#top> (last visited Apr. 30, 2005).

programs.¹⁷⁶ But opponents of the helmet law also assert the government's analyses of accident data do not accurately account for the effect of alcohol or drugs.¹⁷⁷ Finally, the motorcycle enthusiasts claim approximately two-thirds of motorcycle accidents are caused by the driver of another vehicle, usually when that vehicle fails to yield appropriately for the motorcyclist.¹⁷⁸ Campaigns to educate motorists and increase their awareness would theoretically help reduce the frequency of those types of motorcycle accidents, but unfortunately if an accident occurs the non-helmeted rider will suffer more serious consequences.¹⁷⁹

VI. Non-helmeted Riders and the Costs to Society

Public and private groups in addition to studying morbidity and mortality related to helmet use have looked at the costs associated with motorcycle accidents, and the relationship to helmet use.¹⁸⁰ Studies have been done under the auspices of the United States government, and individuals have compiled state-wide data to study the effects of helmet use on motorcycle accident costs.¹⁸¹

A. National Cost Data

The Crash Outcome Data Evaluation System ("CODES") conducted under the auspices of the NHTSA found over a one year period that the costs for riders suffering brain injuries were more than twice as much as the costs for motorcycle accident riders with non brain related injuries.¹⁸² The NHTSA estimated the use of helmets saved approximately \$669 million in 1998,

¹⁷⁶ *AMA Position in Support of Voluntary Helmet Use*, *supra* note 173.

¹⁷⁷ Hundley et al., *supra* note 5, at 944.

¹⁷⁸ *Id.*

¹⁷⁹ Knudson et al., *supra* note 1, at 261-62.

¹⁸⁰ *State Legislative Fact Sheet Motorcycle Helmet Use Laws*, *supra* note 6; M. Braddock et al., *A Population-based Study of Motorcycle Injury and Costs*, 21 ANN EMERG MED 273-78, 273 (1992).

¹⁸¹ *Id.*

¹⁸² *State Legislative Fact Sheet Motorcycle Helmet Use Laws*, *supra* note 6 (noting that the costs were 2.75 times higher for brain injured riders, and that long term costs were not included).

and if all motorcyclists had used helmets an added \$454 million could have been saved.¹⁸³ The Administration further estimated that from 1984 to 1998 helmet use saved \$12.1 billion in costs, and if all motorcyclists had used helmets \$10.4 billion more could have been saved.¹⁸⁴ One study looking at motorcycle related hospital discharges across the United States in 2001 found approximately one quarter of the cases were either “self-pay” or some type of government supported insurance.¹⁸⁵ Studies have been done in multiple states looking at data from those states to determine the effect of helmet use on costs of care provided. The percentage of non-helmeted motorcyclists involved in accidents requiring hospitalization varies from state to state, approximating 29% to 55%.¹⁸⁶

B. Cost Data from Individual States

Texas repealed its universal helmet law effective September 1, 1997.¹⁸⁷ The Texas Trauma Registry was used to obtain data regarding motorcycle accident victims before and after the repeal.¹⁸⁸ In September through December 1996 approximately 94% of the riders admitted to hospital were helmeted, and the incidence of traumatic brain injury was 18%.¹⁸⁹ In September

¹⁸³ *Id.*

¹⁸⁴ *Id.*

¹⁸⁵ J.H. Coben, *Motorcycle –Related Hospitalizations in the United States, 2001*, 27 AM J PREVENTIVE MEDICINE 355-62, 355 (2004).

¹⁸⁶ *Missouri Monthly Vital Statistics Focus...Motorcycle Helmets Reduce Head Injuries and Hospitalizations* (June 2002), at <http://www.dhss.mo.gov/FOCUS/june02.pdf>; Braddock et al., *supra* note 180, at 273.

¹⁸⁷ Tex. Transp. Code §661.003; *Evaluation of the Repeal of Motorcycle Helmet Laws in Kentucky and Louisiana: Background*, *supra* note 15. Sen. Jerry Patterson, R-Pasadena sponsored the bill which was signed into law by Governor George W. Bush. Rep. Jim Pitts, R-Waxahachie, the chief supporter of the bill said the bill was about freedom and “the right to choose for yourself whether you wear a helmet or not.” For the debate, Pitts carried a white helmet to the podium and read a warning label inside the helmet which stated that “no helmet can protect from all foreseeable impact or injuries.” Rep. David Counts, D-Knox City, also noted that if a person has “all the information, they can make informed decisions.” Rep. Fred Hill, R-Richardson, unsuccessfully countered these views stating it was “common sense” that a person whose head struck a curb after a motorcycle accident would have a better chance of surviving if they had on a helmet. Mary Alice Robbins, *Motorcyclists May Have Choice in Wearing Helmet* (Apr. 14, 1997), at <http://www.lubbockonline.com/news/041597/motorcyc.htm>.

¹⁸⁸ *Evaluation of Motorcycle Helmet Law Repeal in Arkansas and Texas*, *supra* note 100 (noting that the Texas Trauma Registry is maintained by the Texas Department of Health, and is a trauma reporting and analysis system in which records are entered into the Registry from hospitals and emergency medical providers).

¹⁸⁹ *Id.*

through December 1997, of those motorcyclists sustaining brain injuries, 30% used helmets.¹⁹⁰

Comparing these two time periods, the average hospital cost per case increased 75% from \$18,418 to \$32,209.¹⁹¹ For motorcyclists who did not sustain traumatic brain injuries, the average cost of treatment declined slightly during the same time comparisons.¹⁹²

The fact that the health care system incurs more costs as a result of non-helmeted riders¹⁹³ was clearly demonstrated by an Arkansas study which looked at data from the University of Arkansas for the three year period prior to the repeal of the universal helmet law in July 1997, and for a three year period after this date.¹⁹⁴ Overall, non-helmeted patients had more significant head and neck injuries than riders with helmets.¹⁹⁵ The length of stay in the intensive care unit for the non-helmeted riders was significantly longer than the stays of the riders with helmets.¹⁹⁶ The non-helmeted riders utilized more hospital resources, and the hospital received poorer reimbursement for their charges in comparison to the helmeted riders.¹⁹⁷

Costs for non-helmeted riders were also increased in a Michigan study.¹⁹⁸ Records for patients admitted to the University of Michigan Health System from July 1996 to October 2000 were reviewed, and information regarding injuries, length of stay, outcome, hospital cost and insurance information was collected.¹⁹⁹ The non-helmeted riders had a significantly increased

¹⁹⁰ *Id.*

¹⁹¹ *Id.* (noting that the median cost increased from \$4,585 to \$33,531, which represented an increase of more than 300%).

¹⁹² *Id.* (noting that the number of cases involved was not a large number, and further studies were suggested to help confirm the findings from Texas).

¹⁹³ Bledsoe et al., *supra* note 102, at 1078.

¹⁹⁴ *Id.*

¹⁹⁵ *Id.*

¹⁹⁶ *Id.*

¹⁹⁷ *Id.* (noting that over the length of the study the hospital lost almost \$1 million in revenue due to the higher unreimbursed charges of the non-helmeted riders).

¹⁹⁸ M.M. Brandt et al., *Hospital cost is Reduced by Motorcycle Helmet Use*, 53 J TRAUMA 469-71, 469 (2002).

¹⁹⁹ *Id.*

incidence of head injuries but not other injuries.²⁰⁰ Hospitalization costs were decreased by more than \$6000 per patient by the use of a helmet.²⁰¹

The impact of a universal helmet law on cost was dramatically demonstrated in California, where there was a 53% drop in the number of motorcyclists hospitalized with brain injuries in the first year after the enactment.²⁰² This accounted for a drop in hospital charges paid by Medi-Cal²⁰³ and other taxpayer sources of \$11 million from 1991 to 1992.²⁰⁴ In the first two years after the enactment of a universal helmet law, California's total cost of medical care for motorcyclists injured after accidents dropped by 35%.²⁰⁵ Of that decrease in cost, 73% was attributable to a reduction in costs for patients with brain injuries.²⁰⁶

The higher costs associated with head injuries sustained by non-helmeted riders as opposed to helmeted riders was also demonstrated in a Wisconsin study.²⁰⁷ This study of motorcyclists involved in accidents in Wisconsin in 1991 provided data regarding 545 riders who were hospitalized.²⁰⁸ Of those patients, seventy-four died.²⁰⁹ This included fifty-five non-helmeted riders and nineteen helmeted riders.²¹⁰ Of the remaining 471 patients, 187 suffered a brain injury or a skull fracture.²¹¹ This included 153 non-helmeted riders and thirty-four

²⁰⁰ *Id.*

²⁰¹ *Id.*

²⁰² Straus, *supra* note 91 (noting that the drop was from 1,258 to 588 patients).

²⁰³ *Welcome to California, Medi-Cal Web Site* (May 15, 2005), at <http://www.medi-cal.ca.gov/> (noting that Medi-Cal is California's Medicaid program which provides health insurance for low income individuals or families, the elderly and disabled individuals).

²⁰⁴ *Id.* (noting that the drop was from \$17 million to \$11 million).

²⁰⁵ *Id.*

²⁰⁶ *Id.*

²⁰⁷ *MMWR Weekly: Head Injuries Associated with Motorcycle Use-Wisconsin*, 1991 (June 17, 1994), at <http://www.cdc.gov/mmwr/preview/mmwrhtml/00031470.htm>.

²⁰⁸ *Id.*

²⁰⁹ *Id.*

²¹⁰ *Id.*

²¹¹ *Id.*

helmeted riders.²¹² In this group of 153 non-helmeted riders ninety-seven sustained brain injuries and incurred hospital charges of \$2,396,366 compared to \$333,619 in hospital charges for the seventeen helmeted riders with brain injuries.²¹³ Non-helmeted riders with brain injuries incurred an average hospital cost of \$24,705 as compared to the cost of \$19,624 for helmeted riders with brain injuries.²¹⁴ Although the wearing of a helmet cannot prevent every head injury or death, if the outcomes for the helmeted riders were applied to the non-helmeted riders, then helmet use would have prevented eighty-one head injuries.²¹⁵ Increased societal costs were also noted in Maryland (which has a universal helmet law) where uninsured non-helmeted motorcycle accident victims were costing the taxpayers in that state almost \$1.35 million annually.²¹⁶

There is virtually no data that disputes the findings of increased costs associated with non-helmeted riders.²¹⁷ One theory that has been advanced suggests that the use of helmets actually leads to increased costs because riders who otherwise would have been killed survive, and their care leads to a considerable increase in costs.²¹⁸ With that argument the author of this theory seems to advocate that riders not wear helmets and die to keep costs down. However, the premise for this argument has not been supported by the literature.²¹⁹ The data from the

²¹² *Id.* (noting riders without helmets were more than twice as likely to be hospitalized with a head injury as helmeted riders. The incidence of skull fracture in non-helmeted riders was 4.5 times the incidence in helmeted riders. The rate for concussions in non-helmeted riders was higher than that for helmeted riders).

²¹³ *Id.*

²¹⁴ *Id.*

²¹⁵ *Id.* (noting that this includes brain injuries, concussions and skull fractures).

²¹⁶ *Protect Maryland's Motorcycle Helmet Law* (Feb. 10, 2005), at http://www.saferoads.org/ActionAlert/aa_MDHelmet2-15-05.htm (citing findings from Maryland Shock Trauma and contrasting this with the helmeted rider's annual cost of \$80,025 in uncompensated care).

²¹⁷ *Id.*; Knudson et al., *supra* note 1, at 263.

²¹⁸ Philip Cole, *The Moral Bases for Public Health Interventions*, 6 EPIDEMIOLOGY 78-83, 81 (1995).

²¹⁹ *Id.* (noting no medical literature was cited in support of this theory).

medical literature, and government and private studies, overwhelmingly shows the increased costs to society incurred by non-helmeted riders.²²⁰

VII. Arguments against Mandatory Helmet Laws

Given the vast amount of data showing the health benefit and cost savings associated with helmet use, what are the arguments against mandatory helmet laws?²²¹ Motorcycle manufacturers often sidestep this debate, but note that the decision regarding helmet use should be made by the rider.²²² Helmet manufacturers, not surprisingly, have not used “scare tactics” to sell helmets, concerned that pushing helmet use may lead to a backlash by motorcyclists.²²³ Many individuals, including most motorcycle enthusiasts, believe that the individual rider can best assess the risks and benefits of helmet use.²²⁴ The average motorcyclist has an income above the national average, is approximately forty-two years old, has a college degree and is either a skilled craftsman or works in a white-collar job.²²⁵ The reasoning then, is that these are the types of “responsible adults who should decide for themselves whether to wear a motorcycle helmet.”²²⁶

Thus, the argument frequently raised against mandatory helmet laws is the concept of individual freedom.²²⁷ Overall, most motorcycle enthusiasts feel the use of a helmet is an individual choice affecting only the motorcycle rider.²²⁸ Many encourage the use of helmets,

²²⁰ Knudson et al., *supra* note 1, at 263.

²²¹ *Id.*

²²² Lundegaard, *supra* note 53. Manufacturers state that they encourage riders to wear helmets, but also add that this is a choice for the individual consumer to make. Bob Klein, a Harley Davidson spokesperson, says “the rider should be able to exercise their own best judgment” and denies this view reflects a fear of alienating those riders opposing helmet use. *Id.*

²²³ *Id.*

²²⁴ *A.B.A.T.E. of Pennsylvania Mandatory Helmet Use Laws at* <http://www.abatepa.org/abate/legislation/lobbying/helmetlaws.pdf> (last visited Apr. 10, 2005).

²²⁵ Leslie Reed, *Bills Kick-start Fresh Tug-of-war on Helmet Law Two Proposals Backed by Motorcyclists Prompt Widespread Opposition*, OMAHA WORLD-HERALD, Jan. 26, 2005, at 01A.

²²⁶ *Id.* (citing a quote from State Senator Adrian Smith made to a legislative hearing).

²²⁷ Linda C. McClain, *Rights and Irresponsibility*, 43 DUKE L.J. 989, 1072-73 (1994).

²²⁸ *The Helmet Page at* <http://www.ncrider.com/Helmet-Page.html> (last visited Mar. 11, 2005).

but feel as an adult the rider should have the right to make his or her decision based on their lifestyle.²²⁹ The concept that an individual will make an irresponsible or incorrect decision is a lesser evil than the outright denial to the population as a whole to make decisions regarding their individual destiny.²³⁰ A person's individual dignity and autonomy is respected by allowing that individual to make a decision regarding their own well being, even when that decision can lead to serious consequences.²³¹ The cost of preserving the individual freedom is that the individual's choice may be irresponsible, bad or wrong.²³² Furthermore, the constraint on the choice of risks an individual decides to take can lead to a loss of dignity for that individual, and cause an erosion of the quality of their life.²³³ Some individuals may be more likely to engage in sensation-seeking or risk-taking behavior and curtailing those pursuits may lead to adverse consequences for those individuals.²³⁴ The freedom to make one's own decisions regarding one's own risks is an important part of the individual's self-fulfillment and enjoyment of their life.²³⁵ By consenting to take a risk, the individual assumes the risk of personal injury.²³⁶ Therefore, that choice by the individual should be given wide latitude, and any imposition by the state on that individual choice should be subject to a high burden of justification.²³⁷

The argument continues that the legislature, by implementing helmet laws, has thus become paternalistic, and is taking action in an attempt to protect the individual without that

²²⁹ *AMA Position in Support of Voluntary Helmet Use*, *supra* note 173.

²³⁰ McClain, *supra* note 227, at 1072-73.

²³¹ *Id.*

²³² *Id.*

²³³ Donald P. Judges, *Article: Of Rocks and Hard Places: The Value of Risk Choice*, 42 EMORY L.J. 1, 20 (1993).

²³⁴ *Id.* at 23.

²³⁵ *Id.* at 26.

²³⁶ *Id.* at 111.

²³⁷ *Id.*

individual's consent.²³⁸ This legislative action may be considered undesirable because it infringes on personal autonomy.²³⁹ Although this particular limit on personal autonomy is arguably very small, there is the question of the cumulative effect of small intrusions and the broadening extent of the legislature's power over personal freedoms.²⁴⁰ If the legislature requires motorcyclists to wear helmets, then the question becomes why all unhealthy behavior is not subject to regulation.²⁴¹ The legislature may then decide the riding of motorcycles is dangerous and should be outlawed.²⁴²

It has also been alleged that this legislation violates the Fourteenth Amendment.²⁴³ Specifically, motorcycle enthusiasts have argued that the Due Process Clause of the Fourteenth Amendment provides protection from intrusion by the state into the individual's intimate and fundamental personal decisions.²⁴⁴ They characterize the right to choose to wear a helmet as a highly private right, similar to reproductive decisions, decisions regarding the family structure, and the freedom of parents to control the education of their children.²⁴⁵ Initially, the courts supported this view, but later reversed.²⁴⁶ The decision regarding helmet use while riding a motorcycle was not deemed to be a constitutional right because it is not a private decision.²⁴⁷ Additionally, courts have cited the more far reaching purposes of the regulations than just the protection of the individual from himself.²⁴⁸

²³⁸ Eric Daniel Johnson, *Sounds of Silence for the Walkman Generation: Rock Concerts and Noise-Induced Hearing Loss*, 68 IND. L.J. 1011, 1019 (1993).

²³⁹ *Id.*

²⁴⁰ *Id.* at 1026-27.

²⁴¹ Cole, *supra* note 218, at 81.

²⁴² *Id.*

²⁴³ Johnson, *supra* note 238, at 1031 (noting that the legislation may violate a privacy right or similar right).

²⁴⁴ *Griswold v. Conn.*, 381 U.S. 479, 482-83, 85 S.Ct. 1678, 1680 (1965); *Picou*, 874 F.2d at 1520-21.

²⁴⁵ *Id.*

²⁴⁶ Pope, *supra* note 45, at 437.

²⁴⁷ *Picou*, 874 F.2d at 1520-21.

²⁴⁸ *Id.*; *Simon*, 346 F. Supp. at 278; Pope, *supra* note 45, at 437 (noting that the same courts reversed this view on the basis of not only protecting the individual, but also protecting the broader interests of society).

Freedom of choice regarding helmet use would likely be more palatable if society did not incur the enormous direct and indirect costs associated with non-helmeted riders involved in crashes.²⁴⁹ Perhaps more personal freedoms such as the choice to wear a helmet or a seatbelt would be allowed if people paid their own way, and risk-taking individuals internalized the costs of their injuries.²⁵⁰ But the costs of injuries and deaths of non-helmeted riders are not internalized, and billions of dollars are absorbed by the public in the form of higher taxes, and lost taxes resulting from the injuries and deaths of these riders.²⁵¹ Society's social programs force a tax-funded subsidy that in essence leads to this imposition on personal liberties.²⁵² Because the public will have to pay directly for the costs of motorcycle accidents, then the public will have control over conduct and the choices that are made which directly impact the severity of the accidents.²⁵³ The motorcycle enthusiasts argue that the legal structure and societal structure should be arranged to accommodate the individual's choice regarding their individual risk taking activity.²⁵⁴ But when the injured individual cannot afford to pay for health care and there is no mechanism to internalize the cost, society is structured to help those individuals.²⁵⁵

Furthermore, the motorcycle enthusiasts could argue that the legislation regarding helmet use is unnecessary because the volume of non-helmeted motorcyclists sustaining head injuries is too small to justify legislation.²⁵⁶ Motorcycle rider fatalities represent just 7.6% of

²⁴⁹ Knudson et al., *supra* note 1, at 263; Judges, *supra* note 233, at 129.

²⁵⁰ Judges, *supra* note 233, at 129.

²⁵¹ Knudson et al., *supra* note 1, at 263.

²⁵² *Id.*

²⁵³ *Id.*

²⁵⁴ *Id.*

²⁵⁵ *Id.*

²⁵⁶ Johnson, *supra* note 238, at 1019.

the total number of 42,815 people who died in traffic crashes.²⁵⁷ But motorcycle rider fatalities have increased each year since 1997 and in 2003 there were 3,592 fatalities, an increase of 11% from the previous year.²⁵⁸ It could also be argued that the goal of legislation to prevent head injuries cannot be achieved because helmet use may prevent some, but not all head injuries.²⁵⁹ While the costs related to accidents involving non-helmeted riders may be less than other costs to society, the economic consequences associated with non-helmeted riders will invariably fall on society and does have an impact on society.²⁶⁰

VIII. The Need for Mandatory Helmet Laws

To some extent the arguments regarding freedom of choice are ethereal in that they fail to account for the reality of current societal structure.²⁶¹ Given this current structure, paternalistic interventions such as helmet laws are legitimate because riders who injure themselves by not wearing helmets impose costs on society's social welfare programs, and their almost inevitable use of these programs.²⁶² Also, it is highly unlikely that society will dismantle the current welfare system.²⁶³ This is not to deny that a personal freedom to choose risk taking behavior exists or to deny that it is a valid right.²⁶⁴ But to view a personal freedom in an isolated fashion is to ignore the fact that the non-helmeted rider will often have a spouse, child or parent who will suffer grief in the event of the rider's injury or death.²⁶⁵ That same rider may become dependent on his family and may require long-term rehabilitation or life-

²⁵⁷ *Older Motorcycle Riders Driving Death Rate Higher* (Sept. 1, 2004), at <http://www.seniorjournal.com/NEWS/SeniorStats/4-09-02Bikes.htm>.

²⁵⁸ *Id.*

²⁵⁹ Johnson, *supra* note 238, at 1021.

²⁶⁰ Schuster, *supra* note 11, at 1394-95.

²⁶¹ Judges, *supra* note 233, at 129.

²⁶² *Id.* at 142.

²⁶³ *Id.* at 129.

²⁶⁴ Pope, *supra* note 45, at 436-37.

²⁶⁵ *Id.*

long care.²⁶⁶ The costs related to disabling and fatal injuries will likely be carried by society as a whole.²⁶⁷ To allow the motorcyclist the personal freedom of not wearing a helmet leads to higher taxes, higher insurance premiums and increased health care costs.²⁶⁸

Courts eventually shifted gears in upholding motorcycle helmet laws.²⁶⁹ The injury to the motorcyclist is not a victimless event insofar as it imposes a burden on society and a drain on medical resources.²⁷⁰ The courts have recognized the negative externalities associated with injuries and deaths of non-helmeted riders, and have justified helmet regulations on two levels.²⁷¹ On the primary level the individual is being protected from the poor choice of not wearing a helmet in a risky situation, and on a secondary level the broader interests of society are being protected.²⁷² In joining the effects on society with the direct effect on the individual the courts have agreed to uphold the regulation of a personal choice.²⁷³

The goals of public health initiatives include insuring the health of the public while limiting the power of the state to constrain the liberties and privacy of the individual.²⁷⁴ Some may then question whether the non-helmeted rider is a public health threat which justifies the use of state police powers.²⁷⁵ According to a liberal philosophy, riding without a helmet should not be regulated as a public health issue because this activity does not affect others, and thus belongs in the private, unregulated sphere.²⁷⁶ The use of state powers is only necessitated to

²⁶⁶ *Id.*

²⁶⁷ *Id.*

²⁶⁸ Schuster, *supra* note 11, at 1394.

²⁶⁹ Pope, *supra* note 45, at 436-37.

²⁷⁰ *Id.*

²⁷¹ *Id.*

²⁷² *Id.*

²⁷³ *Id.* at 438.

²⁷⁴ Mark A. Rothstein, *Rethinking the Meaning of Public Health*, 30 JOURNAL OF LAW, MEDICINE & ETHICS 144-49, 148 (2002).

²⁷⁵ Lawrence O. Gostin, *When Terrorism Threatens Health: How Far are Limitations on Personal and Economic Liberties Justified?*, 55 FLA. L. REV. 1105, 1146 (2003).

²⁷⁶ *Id.*

avert significant harm to others.²⁷⁷ But helmet laws not only result in protection of the individual, but they protect society as a whole.²⁷⁸ In the case of a motorcyclist colliding with a car, if the use of a helmet leads to mitigation of an injury which otherwise would have been fatal, then the rider survives and the driver of the car has not killed the rider.²⁷⁹

Helmet laws represent the use of state powers to avoid economic harm in the form of negative externalities.²⁸⁰ The non-helmeted rider involved in an accident creates costs for himself, his family and the public at large.²⁸¹ The paternalistic approach can further be justified by the fact that helmet laws prevent a serious risk of injury while the interference with personal choice is minimal.²⁸² Although the probability of injury or death occurring in any single motorcycle ride is low, the actual insult to the non-helmeted rider is likely to be very serious, and consequently it is significant to society.²⁸³ The cost of a helmet is low, and wearing a helmet is a minor burden, while the use of a helmet benefits not only the parties involved in the accident, but also society as a whole.²⁸⁴

IX. The Current Fight over Universal Helmet Laws

Despite the abundance of data regarding the benefits of universal helmet laws for riders, and the decrease in costs associated with these laws, only twenty states have universal helmet laws.²⁸⁵ Many Americans support universal helmet laws, but others who are directly affected do not, and they have a powerful voice.²⁸⁶ In the past several decades the AMA has actively

²⁷⁷ *Id.*

²⁷⁸ *People v. Poucher*, 247 N.W.2d 798, 800 (Mich. 1976).

²⁷⁹ *Id.*

²⁸⁰ Gostin, *supra* note 275, at 1148 (noting that a negative externality is a “spillover harm” that extends beyond the initial event and affects third parties and innocent bystanders).

²⁸¹ *Poucher*, 247 N.W.2d at 799; Knudson et al., *supra* note 1, at 236.

²⁸² Johnson, *supra* note 238, at 1025.

²⁸³ *Id.* at 1027.

²⁸⁴ *Poucher*, 247 N.W.2d at 800.

²⁸⁵ *Current U.S. Motorcycle and Bicycle Helmet Laws*, *supra* note 4.

²⁸⁶ Straus, *supra* note 91.

dealt with regulations regarding mandatory helmet use, maintaining adults should have the right to voluntarily decide whether to wear a helmet.²⁸⁷ Currently, the AMA has more than 270,000 members.²⁸⁸ Anti-helmet activists have carried out high profile campaigns which include circling federal buildings on motorcycles and vigorous lobbying.²⁸⁹ The AMA hosted a seminar in Washington, D.C. in March 2005 for motorcyclists who wanted to learn how to be influential in legislative decisions.²⁹⁰ The ABATE group provides nationwide legal representation and accident investigation assistance twenty-four hours a day.²⁹¹

A. The Helmet Law Fight in Pennsylvania

One example of the resourcefulness and success of the anti-helmet activists was the campaign run in Pennsylvania in 2003.²⁹² After decades of attempts, ABATE was successful in getting the state's universal helmet law repealed.²⁹³ In 2001 they hired a lobbyist, Charles Umbenhauer, a retired federal worker and a long time motorcyclist.²⁹⁴ He coordinated efforts by the motorcyclists to contact legislators.²⁹⁵ Mr. Ed Rendell, the former mayor of Philadelphia, had become familiar with ABATE because of the group's annual donation of thousands of toys to the Children's Hospital of Philadelphia.²⁹⁶ In 2003, as the newly elected Governor of Pennsylvania, Rendell agreed to speak at an ABATE rally and promised to sign a law allowing experienced riders over twenty-one years old to ride without a helmet.²⁹⁷

²⁸⁷ *AMA Position in Support of Voluntary Helmet Use*, *supra* note 173.

²⁸⁸ *What is the AMA? American Motorcyclist Association Seventy Five Years of the AMA*, *supra* note 3.

²⁸⁹ Straus, *supra* note 91.

²⁹⁰ *AMA News & Notes* (Nov. 2004), at <http://www.ama-cycle.org/legisltn/newsand notes/1104.asp>.

²⁹¹ *ABATE Legal, Lawyers Who Ride!* at <http://www.abatelegal.com/> (last visited Apr. 10, 2005).

²⁹² Lundegaard, *supra* note 53.

²⁹³ *Id.*

²⁹⁴ *Id.*

²⁹⁵ *Id.*

²⁹⁶ *Id.*

²⁹⁷ *Id.*

According to several lawmakers, they were contacted by many more anti-helmet activists than by individuals in favor of the universal helmet law.²⁹⁸

B. The Helmet Law Fight in West Virginia

In West Virginia, which currently has a universal helmet law, Governor Joe Manchin is known for riding motorcycles and regularly attends a large motorcycle rally in North Dakota.²⁹⁹ State Senate Majority Leader and motorcyclist, Truman Chafin, has sponsored a bill to repeal the universal helmet law.³⁰⁰ Chafin argues that Manchin adds credence to the debate, and if the Governor pushes for the bill it is likely to pass.³⁰¹ State Senator Adrian Gering has also sponsored a bill in Nebraska to repeal the state's universal helmet law.³⁰² Currently, the only states without universal helmet laws, which are considering such laws, are Connecticut and Hawaii.³⁰³

C. Tourism Dollars and the Helmet Law Fight

Another factor that is likely impacting states' decisions regarding helmet laws is the relationship of helmet laws to tourism dollars.³⁰⁴ The bulk of tourism dollars from motorcyclists goes to states without universal helmet laws.³⁰⁵ The four major motorcycle rallies in the country include Sturgis, Laconia, Bike Week and Biketoberfest.³⁰⁶ All four are held in states without universal helmet laws.³⁰⁷ One rally, the South Carolina hosted Myrtle

²⁹⁸ *Id.*

²⁹⁹ Tom Searls, *Legislators Pull Back Bond Election Bill*, THE CHARLESTON GAZETTE, Feb. 26, 2005, at 6A.

³⁰⁰ *Id.*

³⁰¹ *Id.*

³⁰² Reed, *supra* note 225, at 01A.

³⁰³ *Connecticut General Assembly Proposed S.B. No. 721 Session Year 2005 at* http://www.cga.ct.gov/asp/cgabillstatus/cgabillstatus.asp?selBillType=Bill&bill_num=721 (last visited Apr. 10, 2005); *S.B. No. 687 A Bill for an Act Relating to Tort Actions at* http://www.capitol.hawaii.gov/sessioncurrent/bills/sb687_.htm (last visited Apr. 10, 2005).

³⁰⁴ *The Helmet Page, supra* note 228.

³⁰⁵ *Id.*

³⁰⁶ *Id.*

³⁰⁷ *Id.*

Beach Bike Week, attracts approximately 400,000 riders to the state.³⁰⁸ According to some authorities the average rider spends about \$1500 during this bike week.³⁰⁹ This represents approximately \$60 million spent by tourists in South Carolina during Bike Week.³¹⁰ In contrast, North Carolina, which has a universal helmet law, cannot compete with the “pro-choice” states.³¹¹ The largest rally in North Carolina is only able to attract approximately 20,000 riders.³¹² In West Virginia, where a bill has been introduced to repeal the universal helmet law, the tourism dollars may be a factor.³¹³ Jon Amores, a motorcyclist and the House Judiciary Chairman, notes that it is becoming harder each year not to back a repeal of the law because it has become such a tourist issue.³¹⁴

D. The Federal Government and Helmet Laws

Presently, DOT does not have a program to actively promote the enactment of universal helmet laws by states, but rather has an unofficial policy encouraging such laws.³¹⁵ The department continues to fund research regarding motorcycle helmet use and performs research.³¹⁶ They also continue to sponsor the national Motorcycle Awareness Month.³¹⁷ The requirement for mandatory helmet use is an issue that appears to be in the hands of the states with much less intervention by the federal government than had previously occurred.³¹⁸ This lack of intervention by the federal government to provide incentives to the states to enact universal helmet laws may in part be due to the fact that less than 1% of United States health

³⁰⁸ *Id.* (noting that South Carolina does not have a universal helmet law).

³⁰⁹ *Id.*

³¹⁰ *Id.*

³¹¹ *Id.*

³¹² *Id.*

³¹³ Searls, *supra* note 299, at 6A.

³¹⁴ *Id.*

³¹⁵ Straus, *supra* note 91.

³¹⁶ *Id.*

³¹⁷ *Id.*

³¹⁸ *Id.*

care costs are attributable to motorcycle accidents.³¹⁹ Since only a portion of these costs are related to non-helmeted riders the government may feel the use of funds as incentives to states is money better spent on other measures.³²⁰

The lack of success of state universal helmet laws may also in part be due to cultural perceptions. Motorcycle enthusiasts are commonly viewed in this country as adventurers, risk-takers and as individuals somewhat outside the norm. The majority of adult Americans do not ally themselves with motorcyclists, and cannot identify with the motorcyclists' image as a free spirit riding unhampered in the breeze. Most adults don't own motorcycles.³²¹ In contrast most adults do own an automobile, and they can identify with driving an automobile on a daily basis and the importance of driving safely.³²² Seatbelt laws have been accepted almost universally as compared to helmet laws,³²³ and these cultural perceptions may play a role in the acceptance of seatbelt laws in the United States as compared to the fight against helmet laws in state legislatures.

X. Solutions: Encouraging the Use of Motorcycle Helmets

The most effective method of preventing brain injuries and death as a result of motorcycle accidents has been the enactment of universal helmet laws.³²⁴ The motorcycle

³¹⁹ *AMA Position in Support of Voluntary Helmet Use*, *supra* note 173.

³²⁰ *Id.*

³²¹ *Highway Statistics 2000, State Motor-Vehicle Registrations* (Oct. 2001), at <http://www.fhwa.dot.gov/ohim/hs00/mv1.htm> (noting that in 2000 there were just under 4.5 million registered motorcycles in the United States).

³²² Leslie Miller, *Cars and Trucks Now Outnumber Drivers* (Aug. 30, 2003), at <http://www.detnews.com/2003/autosinsider/0309/04/autos-258088.htm> (noting that in 2003 there were 107 million households in the United States, and each had an average of 1.9 automobiles, sports utility vehicles or trucks with an average of 1.8 drivers per household; this meant there were approximately 204 million vehicles and 191 million drivers).

³²³ *States With Primary Safety Belt Laws* at http://www.nhtsa.dot.gov/people/outreach/state_laws-belts04/safeylaws-states.htm (last visited May 12, 2005) (noting that as of July 2004, New Hampshire was the only state without a seatbelt law for adults).

³²⁴ Knudson et al., *supra* note 1, at 263.

enthusiasts have successfully organized to repeal these laws and prevent their enactment.³²⁵ The enactment of these laws will likely require the mobilization of advocates from across a state in the form of a broad-based coalition.³²⁶ This coalition would likely include hospitals, managed care organizations and state Medicaid officials, along with others necessary to actively campaign for the legislation. Engendering the support of citizens would require an aggressive education program and the urging of these citizens to contact their legislators.³²⁷ It is likely that a well-funded, orchestrated campaign would be necessary to enact a universal helmet law in the face of the opposition from the politically active motorcycle enthusiast organizations.

Education regarding the effectiveness of helmet use may help increase helmet use especially among novice riders.³²⁸ High school driver education classes should devote some time to motorcycle safety and helmet use. Most states have state funded motorcycle education programs for individual enrollment.³²⁹ DOT also helps fund state highway safety grants, educational programs and research regarding motorcycle helmet use.³³⁰ The AMA is also actively involved in developing and providing motorcycle rider-education programs.³³¹

Another possible means of encouraging the use of helmets is through the court system.³³² In general, the decision regarding the admission of evidence of helmet use to

³²⁵ *AMA News & Notes*, *supra* note 290.

³²⁶ *Strap 'N' Snap in Georgia A Case Study of a Successful Campaign to Raise the Seat Belt Use Rate*, *supra* note 10.

³²⁷ *Id.*

³²⁸ *Bicycle and Motorcycle Helmets Increasing Helmet Use* (Apr. 10, 2005), at <http://www.emedicinehealth.com/articles/11785-6.asp>.

³²⁹ Melissa Savage, *National Conference of State Legislatures Transportation Reviews Motorcycle Safety* (July 2001), at <http://64.233.187.104/search?q=cache:GXf60GRIZJQJ:www.ncsl.org/programs/transportation/899trnrvt.htm+fundin+g+education+motorcycle+helmet+use&hl=en>.

³³⁰ Straus, *supra* note 91.

³³¹ *What is the AMA? American Motorcyclist Association Seventy Five Years of the AMA*, *supra* note 3.

³³² Schuster, *supra* note 11, at 1395.

mitigate damages is left up to the court.³³³ In the case of an injured plaintiff rider who was not wearing a helmet, there is no state in which there is a statutory limit or prohibition regarding the admission of such evidence.³³⁴ In the majority of states that have faced this issue, no common law duty to wear a helmet has been found.³³⁵ Some courts have based this decision on the fact that neither Congress nor their state legislature had passed a law mandating helmet use.³³⁶ For example, in New Jersey, the court in *Cordy v. Sherwin Williams Co.* held that because the state law did not require helmet use by adults, that individual did not have notice that it would be unreasonable not to wear a helmet, and that by not wearing a helmet their legal rights would be adversely affected.³³⁷ Therefore, the defendant could not offer evidence to establish that the plaintiff's injury was caused or worsened as a result of the plaintiff's decision not to wear a helmet.³³⁸ Consequently, the defendant bears full responsibility for their negligent act, and the plaintiff has no pre-existing duty to minimize the damages.³³⁹

Some courts have been torn between the traditional principal of tort law which requires the negligent tortfeasor take the plaintiff as he finds him, and the larger principal of equity which dictates that the tortfeasor should not be responsible for negligent acts of the plaintiff.³⁴⁰ This conflict has been resolved in some jurisdictions by allowing the helmet defense, and represents a growing minority trend.³⁴¹ The courts allowing the helmet defense have stressed

³³³ *Id.*

³³⁴ *Id.*

³³⁵ *Id. citing Dare v. Sobule*, 674 P.2d 960, 963 (Colo. 1984); *Kealoha v. County of Hawaii*, 844 P.2d 670, 677 (Haw. 1993); *Hukill v. DiGregio*, 484 N.E.2d 795, 796 (Ill. App. Ct. 1985); *Meyer v. City of Des Moines*, 475 N.W.2d 181, 186 (Iowa 1991); *Bond v. Jack*, 387 So.2d 613, 616 (La. Ct. App. 1980); *Rogers v. Frush*, 262 A.2d 549, 552 (Md. 1970); *Burgstahler v. Fox*, 186 N.W.2d 182, 183 (Minn. 1971); *Mayes v. Paxton*, 437 S.E.2d 66, 70 (S.C. 1993).

³³⁶ *Nunez v. Schneider Nat'l Carriers, Inc.*, 217 F. Supp. 2d 562, 567-68 (D.N.J., 2002) *citing Cordy v. Sherwin Williams Co.*, 975 F. Supp. 639, 647 (D.N.J. 1997).

³³⁷ *Cordy*, 975 F. Supp. at 647.

³³⁸ Schuster, *supra* note 11, at 1396.

³³⁹ *Id.* at 1399.

³⁴⁰ *Id.* at 1396.

³⁴¹ *Id.* at 1400.

three main policies.³⁴² First, by not wearing a helmet the plaintiff has chosen not to conform to a reasonable standard of care, and should take responsibility for their choice.³⁴³ Second, the allowance of a helmet defense will encourage the use of helmets.³⁴⁴ Third, the reasonable person understands that there is some likelihood of having an accident while riding a motorcycle, and therefore, reasonable measures should be taken to prevent an accident and to minimize any damages associated with it.³⁴⁵

Additionally, in establishing a common law duty to wear a helmet, courts do not have to defer to the legislature to create a duty.³⁴⁶ Traditionally, negligent conduct has largely been governed by common law and not statutes.³⁴⁷ The motorcyclist has a common law duty to exercise care regarding his own safety and the automobile driver defendant has the right to assume the motorcyclist will exercise that reasonable care.³⁴⁸ The burden of wearing a helmet is minimal, requires little time and effort and insignificant costs.³⁴⁹ The lack of a state helmet law, therefore, will not eliminate the common-law standard of conduct to which a motorcyclist should be held.³⁵⁰

Consequently, the line of reasoning used by the *Cordy* court has been subject to much criticism.³⁵¹ Failure to wear the helmet does not cause the injury, but failure to wear a helmet may contribute to the injuries sustained by the plaintiff, and therefore is relevant to the issue of damages.³⁵² Some courts have been willing to allow such evidence to be considered on the

³⁴² *Id.* at 1400.

³⁴³ *Id.*

³⁴⁴ *Id.*

³⁴⁵ *Id.*

³⁴⁶ *Id.* at 1413.

³⁴⁷ *Id.*

³⁴⁸ *Graham, supra* note 46, at 247-48.

³⁴⁹ *Id.* at 252.

³⁵⁰ *Id.* at 251, 253.

³⁵¹ *Nunez*, 217 F. Supp. 2d at 567-68.

³⁵² *Id.* at 565.

basis of scientific testimony which explains the causes of the injuries.³⁵³ This could lead to a battle of the experts regarding the extent of a plaintiff's head injury in relation to the lack of a helmet.³⁵⁴ But advances and developments in medicine and forensic science have allowed the separation of causes of head injuries.³⁵⁵ A common law duty to wear a helmet therefore has been upheld in some jurisdictions.³⁵⁶ In particular, the defense has been allowed in states without mandatory helmet laws.³⁵⁷ For example, in Arizona, the lack of a state universal helmet law did not conflict with the admission of evidence to show that injuries could have been reduced by helmet use.³⁵⁸

In states that allow helmet use to be considered in the analysis of damages mitigation, the defendant must prove the plaintiff's injuries could have been reduced or eliminated if the plaintiff had been wearing a helmet.³⁵⁹ This must be established by the defendant even if the plaintiff admits to not wearing a helmet.³⁶⁰ The use of the helmet defense does not apply to the issue of liability but only to the issue of reduction of damages.³⁶¹ Given the trend towards repeal of state universal helmet laws and the successful involvement of motorcycle enthusiasts in the state legislative process, it is unlikely states without universal helmet laws will be enacting such laws in the near future.³⁶² If courts allow the apportionment of damages such that some burden is placed on the plaintiff for not wearing a helmet, then an incentive may be

³⁵³ Schuster, *supra* note 11, at 1396 citing *Stehlik v. Rhoads*, 645 N.W.2d 89, 897 (Wis. 2002).

³⁵⁴ *Id.* at 1399.

³⁵⁵ *Id.* at 1401.

³⁵⁶ *Id.* at 1400 citing *Stehlik*, 645 N.W.2d at 897; *Rodgers v. Honda Motor Co.*, 46 F.3d 1, 2-3 (1st Cir. 1995).

³⁵⁷ *Nunez*, 217 F. Supp.2d at 569-70 (noting that although there was no statute requiring the use of bicycle helmets a two step inquiry was applied. First, was it reasonable for the plaintiff to wear a helmet, and second whether helmet use would have lessened or prevented the injury).

³⁵⁸ *Warfel v. Cheney*, 157 Ariz. 424, 429-430 (Ariz. Ct. App., 1988).

³⁵⁹ Schuster, *supra* note 11, at 1400; *Nunez*, 217 F. Supp.2d at 565.

³⁶⁰ Schuster, *supra* note 11, at 1401.

³⁶¹ *Id.* at 1401-02 citing *Dean v. Holland*, 350 N.Y.S.2d 859, 861-62 (N.Y. Sup. Ct. 1973); *Halvorson v. Voeller*, 336 N.W. 2d 118, 119 (N.D. 1983).

³⁶² Lundegaard, *supra* note 53; *AMA News & Notes*, *supra* note 290.

created for the motorcyclist to wear a helmet.³⁶³ This premise must be based on the fact that the rider has knowledge of such a common law rule, and therefore would be dependent on education of the rider through formal programs or via information disseminated by motorcycle groups and clubs. Ideally, licensing of the motorcyclist and the obtaining of insurance should be dependent on the rider being informed of this common law duty.

Another method to address the increased costs associated with accidents involving non-helmeted riders is reform of the health insurance requirements for motorcyclists.³⁶⁴ Some states have laws allowing riders over twenty-one years old with a minimum of \$10,000 in medical benefits for motorcycle accidents to ride without a helmet.³⁶⁵ The amount of coverage is very likely insufficient when the average cost for hospitalization after a motorcycle accident generally far exceeds this amount.³⁶⁶ The minimum amount should be increased and the policy enforced.³⁶⁷ This could be accomplished through legislation and would likely require the support of many medical organizations to be successful.³⁶⁸ But given the recent lack of success of pro-helmet laws this type of legislation will likely face an uphill battle.³⁶⁹

In 2003, State Senator Allen Hurt proposed a bill in New Mexico which stated that any “person operating a motorcycle without a helmet and who, as a result of an accident, is pronounced brain dead...by a licensed physician shall become an organ donor regardless of whether the person made an anatomical gift by completing the organ donor statement.”³⁷⁰ New

³⁶³ Schuster, *supra* note 11, at 1414-15.

³⁶⁴ *It's Time to Require Insurance for All Motorcycle Riders* (Feb. 13, 2005), at <http://www.tampatrib.com/News/MGBY0NKP35E.html>.

³⁶⁵ *Id.* (noting that this is the law in Florida).

³⁶⁶ *Id.*

³⁶⁷ *Id.*

³⁶⁸ *American Medical Association Report 6 of the Council on Scientific Affairs* (Dec. 1998), at <http://www.ama-assn.org/ama/pub/category/13623.html>.

³⁶⁹ Cheryl L. Pinkerton, *Civil Liberties*, 20 U. ARK. LITTLE ROCK L.J. 415, 419 (1998).

³⁷⁰ *Riders Nationwide Join AMA Outrage over Mandatory Organ-donor Legislation for Motorcyclists* (Jan. 31, 2003), at <http://www.ama-cycle.org/news/2003/outrage.asp>.

Mexico's helmet law requires helmet use only by riders seventeen years old and younger.³⁷¹

The law specifically designated non-helmeted motorcyclists who died as a result of a motorcycle accident and did not include those dying in car accidents.³⁷² Arguably the purpose of the bill was to encourage helmet use by riders. The AMA rapidly organized resistance to the bill citing organ donation as a noble cause, but stating that decision must remain in the individual's hands.³⁷³ New Mexico officials received more than 1,100 e-mails from the AMA and the bill was withdrawn.³⁷⁴ The victory further demonstrates the power of the motorcycle lobby.³⁷⁵

XI. Conclusion

There is overwhelming evidence that helmet laws lead to a reduction in head injuries, and deaths due to head injuries, and also that non-helmeted riders in motorcycle accidents generate enormous direct and indirect costs to society.³⁷⁶ The costs include ambulance and police services along with hospitalization which are provided by the state government at public expense.³⁷⁷ If the motorcyclist is severely injured, he may require public aid for his remaining life.³⁷⁸ The motorcyclist arguing for his freedom regarding helmet use fails to account for the fact that society will bear the costs associated with his decision not to wear a helmet.³⁷⁹ As

³⁷¹ *Current U.S. Motorcycle and Bicycle Helmet Laws*, *supra* note 33.

³⁷² *Riders Nationwide Join AMA Outrage over Mandatory Organ-donor Legislation for Motorcyclists*, *supra* note 370.

³⁷³ *Id.*

³⁷⁴ *Victory in New Mexico* at <http://www.ama-cycle.org/releases/2003/A03002.asp> (last visited Mar. 4, 2005).

³⁷⁵ *Id.*

³⁷⁶ Knudson et al., *supra* note 1, at 263.

³⁷⁷ Deborah J. La Fetra, *Freedom, Responsibility, and Risk: Fundamental Principles Supporting Tort Reform*, 36 IND. L. REV. 645, 685 (2003).

³⁷⁸ *Id.*

³⁷⁹ Knudson et al., *supra* note 1, at 263.

Professor Tribe has stated, “in a society unwilling to abandon bleeding bodies on the highway, the motorcyclist or driver who endangers himself plainly imposes costs on others.”³⁸⁰

These increased costs can be prevented by the enactment of universal helmet laws in all states, but this goal is much more easily stated than it is to achieve. The motorcycle lobby has proved to be very powerful.³⁸¹ While health care providers and epidemiologists acknowledge the benefit of helmet use,³⁸² a concerted, organized effort by these individuals is necessary to defeat the motorcycle lobby and enact state helmet laws. This effort may be lacking because of the focus on the multitudes of other large problems in the health care and public health fields today. The enactment of helmet laws would require this concerted effort in every state without a helmet law, and would require adequate financing to get the media and the public focused on the benefits of helmet use. This same effort would also be needed to increase the inadequate, minimum statutory medical benefit requirement currently in force in many states.

Increased helmet use can most likely be successfully achieved by the courts’ adoption of a common law duty to wear a helmet.³⁸³ The creation of such a duty is efficient for society and encourages riders to wear helmet to avoid assertion of the helmet defense and mitigation of damages.³⁸⁴ The courts are not required to defer to the legislation to create such a duty and by creating a socially efficient rule and providing a more equitable apportionment of damages the use of helmets will be encouraged.³⁸⁵

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³⁸⁰ La Fetra, *supra* note 377, at 685 n.149.

³⁸¹ Straus, *supra* note 91; *AMA Position in Support of Voluntary Helmet Use*, *supra* note 173.

³⁸² Knudson et al., *supra* note 1, at 261.

³⁸³ Schuster, *supra* note 11, at 1414.

³⁸⁴ *Id.* at 1414-15.

³⁸⁵ *Id.* at 1517-18.

