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The Case of the Missing Motorcycle Helmet Mandates: Why has a universal motorcycle helmet law not been passed in the U.S. even with strong scientific evidence that supports such a measure?

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The Case of the Missing Motorcycle Helmet Mandates: Why has a universal motorcycle helmet law not been passed in the U.S. even with strong scientific evidence that supports such a measure?

Abstract

Numerous studies state that universal motorcycle helmet mandates are extremely effective in reducing motorcyclist fatalities and injuries. As a result, there have been two federal attempts to pass motorcycle helmet mandates, in 1966 and 1991; however, both of these mandates have since been repealed, even despite scientific evidence supporting their implementation. The purpose of this report therefore is to examine the main reasons for why universal motorcycle helmet mandates have not yet been passed in the U.S. Through textual analysis of studies and news articles, this report concludes that the values and objectives of motorcyclist associations, and the mobilized coalition that has resulted, are the main obstacles preventing regulators from passing universal helmet law. As a result, moving forward, regulators should continue promoting education among motorcyclists on the benefits of helmet-wearing, and as an alternative to helmet mandates, also encourage helmet use through implementing choice architecture.

Keywords

motorcycle helmet mandate, universal helmet law, motorcycle associations

Disciplines

Business

THE CASE OF THE MISSING MOTORCYCLE HELMET MANDATES:

Why has a universal motorcycle helmet law not been passed in the U.S. even with strong scientific evidence that supports such a measure?

JWS Thesis

April 27, 2016

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ABSTRACT

Numerous studies state that universal motorcycle helmet mandates are extremely effective in reducing motorcyclist fatalities and injuries. As a result, there have been two federal attempts to pass motorcycle helmet mandates, in 1966 and 1991; however, both of these mandates have since been repealed, even despite scientific evidence supporting their implementation. The purpose of this report therefore is to examine the main reasons for why universal motorcycle helmet mandates have not yet been passed in the U.S. Through textual analysis of studies and news articles, this report concludes that the values and objectives of motorcyclist associations, and the mobilized coalition that has resulted, are the main obstacles preventing regulators from passing universal helmet law. As a result, moving forward, regulators should continue promoting education among motorcyclists on the benefits of helmet-wearing, and as an alternative to helmet mandates, also encourage helmet use through implementing choice architecture.

Keywords: motorcycle helmet mandate, universal helmet law, motorcycle associations

SIGNIFICANCE OF STUDY

Motorcycle accidents are quite common— and sometimes fatal. According to the National Highway Traffic Safety Administration (NHTSA)— a federal agency under the Department of Transportation (DOT)—, in 2014 alone, 4586 motorcyclists were killed and 92,000 (2016). In other words, 1.15% of all registered motorcyclists were injured or killed in 2014 (Statista, 2016). A quick Google search of recent motorcycle accidents in the U.S. returned numerous news reports of accidents that occurred within the last 24 hours alone. On April 11 at 5:30PM, there were motorcycle accidents in Moore County, CO; Lebanon County, PA; Torrington, CT; McPherson, KS... the list goes on. There are many reasons for these accidents: aggressive riding, lack of attention from drivers, dysfunctional machinery. Regardless of the cause, the resulting head injuries are a huge factor for what causes a motorcycle accident to become fatal. Many scientists have found that wearing helmets while riding is one way to prevent this. Researchers at the NHTSA assert that helmet-wearing saved the lives of 1669 motorcyclists, reduced motorcycle fatalities by 27% in 2014 (NHTSA, 2016)¹. However, not only is a motorcyclist's life on the line when a motorcyclist is injured through a motorcycle accident – one that could have been prevented through wearing of a helmet – there are other personal, economic, and societal costs as well.

To illustrate this point, on March 24th, 2016, a talented motorcyclist, Chris White died in an accident right outside his house. Though he suffered severe head injuries, he had no other injuries. His devastated mother lamented “he would still be here now if he had been wearing his helmet” (Scunthorpe, 2016). Only ten days before, on March 11th, two young twenty-year-old

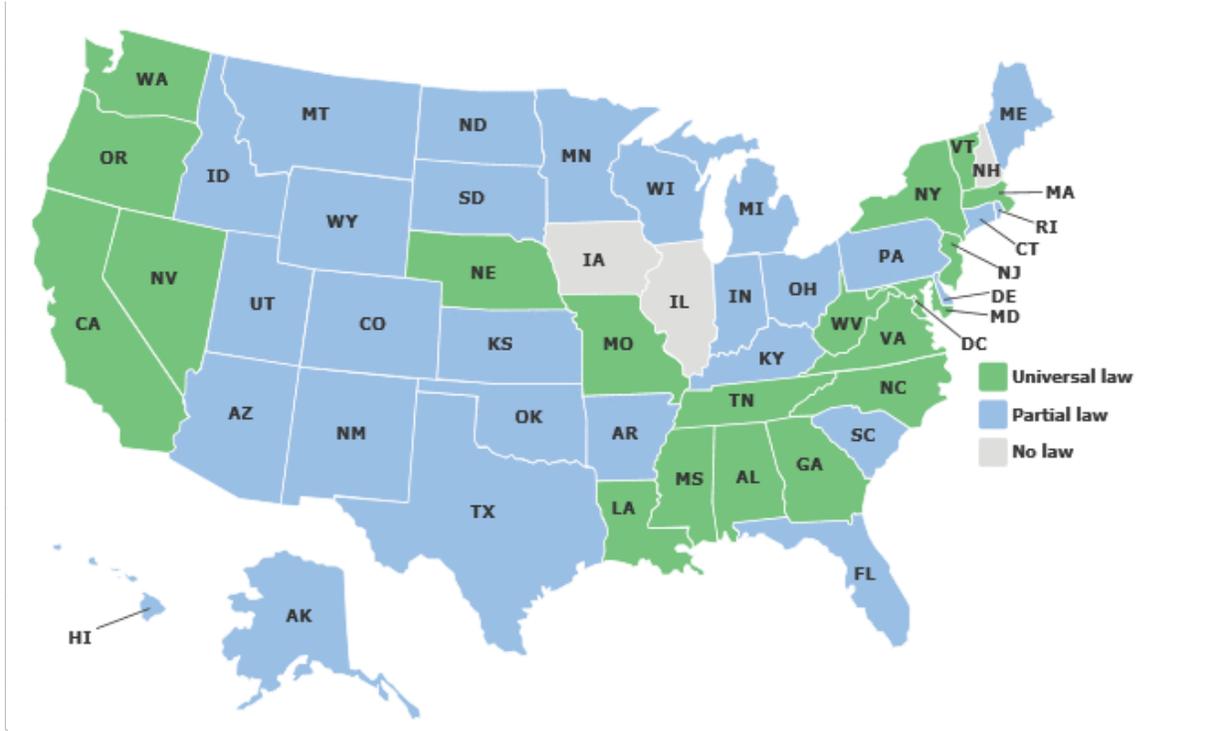
¹ This percent is calculated by using the 1669 motorcyclists saved by wearing a helmet divided by the total number of motorcyclists killed that year (4586+1669).

motorcyclists were killed in a collision with a semi-truck in Michigan. Neither of them was wearing helmets (Shalvey, 2016). Of course, their families are devastated by the tragedy. The woman, Brittany Simmons is survived by two young children, family and friends (Francis, 2016). Although not applicable to the two motorcyclists, if their injuries were less severe, there would have been exorbitant hospital expenses their families would have also burdened to carry. If White had public health insurance, then there would also be the additional societal burden of paying for his treatment. In 2014, a hospital study of 192 injured motorcyclists in Michigan calculated that medical expenses for injured helmetless riders was \$11,400 or 53% higher than for helmeted riders (Chapman et al., 2014)². The NHTSA calculated that if every motorcyclist wore a helmet from 1984-1996, 3300 lives and \$4.6B in medical expenses would have been saved (n.d. – “Universal”). Adding on other economic costs like lost productivity, legal and court costs, property damage, etc. would propel this cost even higher.

Yet, despite this evidence, the U.S. government (at both the state and the federal level) is not able to simply pass a universal helmet mandate. Though the federal government has attempted to pass universal helmet law in the past, today the ability to pass a helmet law is under the jurisdiction of the state. Currently, according to the Highway Loss Data Institute, only 19 states have universal helmet laws. Some states have flip-flopped between a universal and partial law—partial law is when only certain categories of riders are mandated to wear motorcycle helmets; these usually include children and passengers but vary from state to state—while others have no helmet law in place at all. Below, Figure 3 and Table 3 visualize the most recent state of helmet law, in 2016.

² Other similar studies described by Roelofs (2014).

Figure 1: Map of what form of motorcycle law is present in each state, as of 2016



Sourced from Highway Data Loss Institute, 2016.

Table 1: Type of motorcycle helmet law present in each state, as of 2016

| Type of Helmet Law | | States | Number of States |
|--------------------|-----------------------|---|------------------|
| Partial Law | Universal | Alabama, California, DC, Georgia, Louisiana, Maryland, Massachusetts, Mississippi, Missouri, Nebraska, Nevada, New Jersey, New York, North Carolina, Oregon, Tennessee, Vermont, Virginia, Washington, West Virginia | 20 |
| | 20 and younger | Arkansas, Florida, Kentucky, Michigan, Pennsylvania, Rhode Island, South Carolina, Texas | 8 |
| | 18 and younger | Delaware | 1 |
| | 17 and younger | Alaska, Arizona, Colorado*, Connecticut, Hawaii, Idaho, Indiana, Kansas, Maine, Minnesota, Montana, New Mexico, North Dakota, Ohio, Oklahoma, South Dakota, Utah, Wisconsin, Wyoming <i>*Age limit includes passengers</i> | 19 |
| No Law | | Illinois, Iowa, New Hampshire | 3 |

Sourced from Highway Data Loss Institute, 2016.

One reason for partial or no helmet laws rests in the conflicting values of individuals and those of the greater society. Individuals in the U.S. generally value their rights to have freedom of choice even in situations that poses serious consequences to others, whereas, societies are more concerned about the well-being of the greater good. This may not always be at odds with one another, but in the context of protective measures, cost-benefit analysis by the government can lead to restrictions of certain types of behaviours for the sake of protecting the society. Governments are not only concerned with motorcyclist safety, they also do not want motorcyclist families to face heartbreaking grief and higher medical expenses. To determine how regulators can be better positioned to prevent this devastation, this study will focus on determining why some states have been able to pass universal helmet law, and why others haven't. Specifically, this report will assess:

Why has a universal motorcycle helmet law not been passed across the U.S., even with strong scientific evidence that supports such a measure?

Although this report will be focusing on mandating a motorcycle helmet law, it reflects on the theme of requiring adoption of protective measures ranging from seatbelts to helmet mandates for sports despite conflicting values of individuals and the greater society. Determining the reasons why protective measures in the case of helmet mandates have not been implemented throughout the country, provides insight into why other protective measures have not been implemented.

BACKGROUND ON HELMET MANDATES

Existing evidence of helmet mandate effectiveness

First this report will begin by presenting scientific evidence demonstrating that helmet mandates are to (1) effectively reduce the risk of fatality and injury, and (2) tangibly increase the prevalence of helmet use on the road.

Helmet Mandates Reduce Risk of Fatality and Injury

Since Foldvary & Lane's Australian report in 1964, study after study, from the U.S. and from abroad, have concluded that wearing helmets reduce the risk of fatalities. Hartunian, Smart, Willemain, & Zador (1983) showed that the 28 states that weakened or repealed their helmet laws experienced an additional 516 unnecessary deaths in 1980. This was corroborated by Chenier & Evan's report in 1987 who found that removing helmet laws in 48 U.S. states and DC was associated with an approximately 25% increase in fatalities. Even more recently Bavon & Standerfer reported in 2010 that immediately after Texas repealed its universal helmet law in 1997, there was a sharp increase in fatalities and fatality rates.

Though tempting for many states, partial helmet law is not a substitute for a universal mandate. The effects of partial helmet laws are comparable to no law at all. Changes in Texas' helmet law can serve as an apt example. The Highway Data Loss Institute recorded, and updated in April 2016, that Texas passed a universal helmet law in 1968. However, in 1977, it was replaced with a partial law where only those 17 years and younger were required to wear helmets. Then in 1989 a universal helmet law was reinstated, to be again replaced by a partial helmet law in 1997. This partial law stipulated that those 21 years and older, with a motorcyclist education or having

medical insurance, are exempt from wearing helmets. Recently, in 2011, the partial law was modified so that only those 20 years and younger would to wear helmets. A study by Preusser, Hedlund, & Ulmer published in 2000 found that each time Texas' universal law was replaced by a partial law in 1977 and again in 1997, motorcyclist fatalities increased. When the 1997 repeal occurred, there was a 31% increase in fatalities between the last full year the universal law was in place and the first full year following the repeal.

Even among youth, partial helmet laws are not effective compared to universal mandates. Houston (2007) found that from 1975 to 2004, states' universal laws were able to effectively reduce youth fatalities (youth being 15-20 year olds) by 30%, compared to states with no law. Meanwhile, there was no statistically significant difference between numbers of youth fatalities in states with partial law compared to states with no helmet law. Similar conclusions linking universal helmet law to reduced fatalities and injuries were found outside of the U.S. as well, for instance in Taiwan, Italy, Australia, Spain, and New Zealand³.

Not only were fatalities reduced, but the number and severity of injuries also declined in states with universal helmet law as well. Coben, Steiner, & Miller (2007) found that in 2001, across 33 states, states with universal law had 4.2% to 6.9% fewer motorcyclists than states with partial or no helmet law. In Washington State alone, Mock, Maier, Boyle, Pilcher, & Rivara (1994)'s study from 1986 to 1993 showed that there was a 40% reduction of hospitalized motorcyclist fatalities when universal helmet law was in place, compared to during the prior partial law. Dao et al. (2012) followed up on this finding in 2008 showing that across all 50 states, there was a

³ Refer to a full list of studies, Community Preventative Services Task Force (2016), "Supporting Materials".

statistically significant 8.7% reduction in C-spine injuries when there was universal helmet law. The Highway Loss Data Institute released a bulletin in 2013 finding that in Michigan, following the state's change from a universal to partial helmet law in April 2012, there was a 22% increase in medical claim severity for claims associated with cycle crashes. It seems clear that universal helmet mandates are able to reduce both the social cost of fatalities and the economic cost of medical expenses. The next section provides empirical evidence that helmet mandates increase motorcyclist helmet use and are thus responsible for reducing a motorcyclist's risk of fatality or injury and hence reducing medical expenses that would otherwise be incurred.

Helmet Mandates Increase Helmet Use

Many studies have looked into the relationship between helmet mandates and reduced fatalities, and in general, they have found that this reduction in fatalities is because of an increase in helmet use. Auman, Kufera, Ballesteros, Smialek, & Dischinger (2002) found that from 1992 to 1993, helmet use in Maryland increased from 24.6% to 80.5% after the state amended its partial helmet law to a universal one. Meanwhile, Turner & Hagelin (2004) found that helmet use declined in Florida by 47%, even only after a year following a repeal of the state's universal helmet law to a partial law in 2000⁴. The NHTSA (1996) uses the 2012 National Occupant Protection Use Survey further supports these findings. Survey respondents, composed of motorcycle riders, indicated that they are not predisposed to voluntarily wearing motorcycle helmets (only 34-54% do). Thus, only if there was a helmet mandate forcing motorcyclists to wear helmets would they do so. Having universal helmet laws was able to significantly increase the percentage of motorcyclists on the road wearing helmets to 89% (as cited in NHTSA, 1996).

⁴ Data collected through observed motorcyclist helmet use.

In August 2013, the Community Prevent Services Task Force (Task Force) recommended that universal helmet mandates should be implemented for all riders, operators, and passengers⁵. The Task Force is an “independent, nonfederal, unpaid panel of public health and prevention experts” appointed by Director of Centers for Disease Control and Prevention (CDC). Its purpose is to provide recommendations based on evidence that can improve community health. One of their most recent charges was to conduct a thorough analysis of 71 studies that supported different aspects of the relationship between universal helmet mandates increase helmet use and the reduction in fatalities, injuries and the ensuing medical costs (2016, “Use of – Task Force”). After years of work combing through the effectiveness of helmet mandates, the Task Force found the following when states switched from universal to partial helmet law (2016, “Use of – Task Force”):

- 1) Helmet use decreased by a median of 41 percentage points
- 2) Total deaths decreased by a median of 42%
- 3) Fatality rates increased by medians of 34% per registered motorcycle, 23% per vehicle mile traveled, and 23% per crash
- 4) Total number of non-fatal injuries increased by a median of 41%, with non-fatal injuries having a median increase of 74%

The Task Force concluded in subsequent presentations that not only would helmet mandates reduce the risk of injury and fatality, but would also “produce substantial economic benefits” (American Motorcyclist Association [AMA], 2013). At the time when these recommendations were made public, motorcycle associations loudly vocalized their dissent to an expected attempt

⁵ Addressed through numerous platforms, Community Preventive Services Task Force (2014) (2016, “Use of – Task Force”).

for the Task Force and CDC to urge the adoption of a universal helmet mandate. However, nearly three years later, there still has been little movement towards such a mandate.

Legislative History of U.S. Helmet Mandates

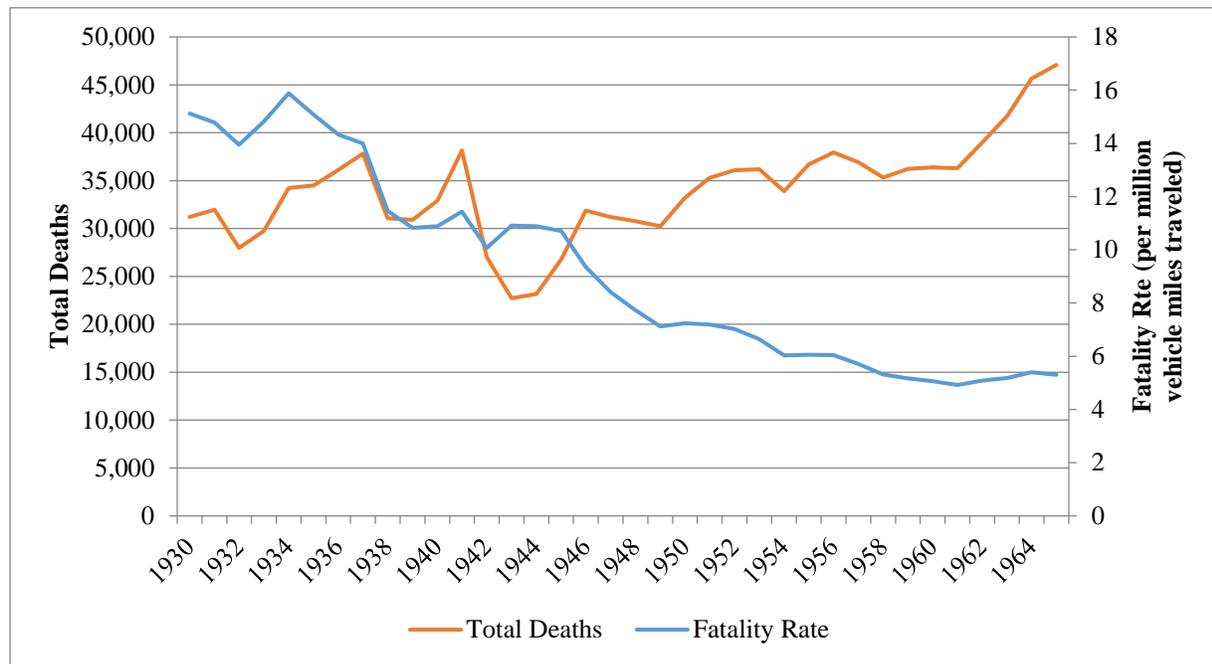
History has demonstrated that helmet mandates have been a source of disagreement. Universal mandates have been implemented, and then repealed. Partial mandates have been implemented, repealed, and implemented again. This section will briefly describe the history of federal motorcycle helmet mandates in the U.S. – from their implementation to their repeal – as well as future potential re-enactments of a federal helmet mandate. Understanding what helmet mandates have been passed in the past can help us better understand what the scope for feasible helmet mandates are and what factors influence whether they are continued or repealed.

The National Highway Safety Act of 1966

The government initially paid very little attention to motorcycle safety. Though motorcycles were commercially available in the early 1900s, their motorcycle use only skyrocketed in the 1940s when it became a recreational sport. The Motorcycle Safety Foundation reported that by 1945, 198,000 motorcycles were registered in the U.S., and within 20 years, this number skyrocketed to 1.4 million (n.d.). As motorcycle popularity continued to rise the number of motor vehicle fatalities increased as well. The NHTSA's historical records on motor vehicle traffic fatalities and fatality rates, and as illustrated in Figure 1, reveals that the 37,965 fatalities in 1956 had surpassed the peak of 38,142 in 1941 (as cited in "Motorcycle Vehicle Traffic," 2004). Nevertheless, perhaps because the fatality rate was declining steadily to only 5 deaths per million vehicle miles travelled (VMT) – down from a high of 15 deaths per million VMT in

1930–, the government still did not attempt to make driving vehicles or riding motorcycles safer⁶ (“Motorcycle Vehicle Traffic,” 2004). The safety of motorcyclists continued to rest in the hands of the manufacturers.

Figure 2: Motor Vehicle Traffic Fatalities & Fatality Rate from 1930 – 1965



Sourced from “Motorcycle Vehicle Traffic, 2004.

It was only in the mid-1960s, when two high profile texts– “Unsafe at Any Speed” by Ralph Nader and “Accidental Death and Disability: The Neglected Disease of Modern Society” by the National Academy of Sciences– were published, that public pressure triggered Congress to address motor vehicle safety issues by hosting publicized meetings (United States, 1966). Enacting of *the National Traffic and Motor Safety Act* and the *National Highway Safety Act* soon followed in 1966. These Acts allowed the federal government to define and regulate standards

⁶ There is no historical record of motorcycle fatalities and fatality rates in the early 1900s. However, this report will assume that since the government had not yet implemented safety mandates for any personal ground transportation, fatality and fatality rate trends for motorcycles are relatively similar.

for motor vehicles and highways respectively in an effort to increase safety on the roads and reduce all forms of motor vehicle fatalities (Morbidity and Mortality Weekly Report, 2001). In relation to motorcycle safety, the 1966 Highway Safety Act linked the distribution of federal highway funds to the existence of state motorcycle helmet laws. The Secretary of Transportation had the power to set uniform standards for state highway safety programs and, as an economic incentive, withheld federal highway funds from states without laws mandating riders to wear helmets (Houston & Richardson, 2007; Ulmer & Preusser, 2003).

The agency created to carry out the safety programs outlined in the 1966 Safety Acts, the NHTSA, believed helmets were an integral part of motorcycle safety (n.d. – “Who”). Although motorcycle helmets had not been mandated in any state at this point, there was already considerable research on and international support for the benefits of motorcycle helmets.

Interest in this topic was inspired on May 19th, 1935, when T. E. Lawrence, otherwise known as Lawrence of Arabia, died after being critically injured in a fatal motorcycle accident (“1935,” n.d.). Moved by this respected man’s tragic death, Dr. Hugh Cairns, a neurosurgeon attending him, spent the rest of his life studying head injuries from motorcycle accidents. His research eventually led to the development of a motorcycle crash helmet in 1941. Dr. Cairns believed all motorcyclists, whether civilian or military, should adopt his helmet, as it protects riders from head and neck injuries– the two major causes of fatalities sustained in the event of a motorcycle accident⁷ (Maartens, Wills, & Adams, 2002). The first patent for motorcycle helmets was submitted 12 years later in 1953 by Professor C.F. “Red” Lombard (McIntyre, 2013). While the

⁷ Since motorcycle helmets aim to protect riders from head and neck injuries– the two major causes of fatalities sustained in the event of a motorcycle accident– helmets can reduce the likelihood of death or serious injury.

U.S. federal government addressed few motorcycle safety concerns in the 1950s, smaller organizations like the Snell Memorial Foundation and the California Highway Patrol, still implemented their own helmet safety standards (“Evolution of Motorcycle,” n.d.).

In 1961, according to the Insurance Institute for Highway Safety [IIHS], Australia enacted the world’s first motorcycle helmet law (2008) which is still in effect today. Most other countries followed suit. According to the World Health Organization (2010), 172 countries out of the 177 that had data on road traffic deaths by type of road users have helmet law that requires motorcyclist drivers to wear helmets. Dominica, Fiji, Kiribati, Liberia, and the U.S. are the only countries without such a mandate.

Repeal of the 1966 Highway Safety Act

The economic incentive for states to mandate universal motorcycle helmet laws was initially extremely effective. According to the Highway Loss Data Institute (2016), 36 states complied by the end of 1968 (see Table 2). In 1969 and the early 1970s, the other states gradually decided to mandate helmet laws as well. By the end of 1975, all states, except for three (California, Illinois, and Utah) had enacted universal motorcycle helmets laws. However, this success was short-lived. According to Jones & Bayer, in 1975, when the Secretary of Transportation was preparing to withhold a portion of non-complying states’ highway construction funds— in other words, penalize the three states listed above for still not having mandated motorcycle helmet laws— motorcyclist associations opposing the mandate mounted an attack on the NHTSA. They attempted to discredit the NHTSA’s claims, declaring that the NHTSA manipulated data, and that helmets actually increase the prevalence of neck injuries. More importantly, they proclaimed that (1) this mandate infringed on a motorcyclist’s right to choice, and (2) it violated the

Fourteenth Amendment. This argument was surprisingly accepted by the Illinois Supreme Court and the Michigan Appeals Court.

In Illinois, *People vs. Fries*, this ruling rested on the Supreme Court's specification that the purpose of the helmet mandate would be to "safeguard the person wearing it," to solely protect the motorcyclist. Because the safeguarding of a person is "essentially a matter of personal safety," the Supreme Court reasons that in terms of headgear protection (and more specifically helmet use), "the legislature may not, of course, under the guise of protecting the public interest, interfere with private rights" (as cited by Jones & Bayer, 2007). Meanwhile, in Michigan's *American Motorcycle Association v. Department of State Police* in 1968, the reasoning was as follows. Although the state had an interest in passing legislation that kept citizens "healthy and self-supporting," the Appeals Court believed that this logic was not applicable as it could lead to "unlimited paternalism." The Appeals Court also reasoned that though state has an interest in highway safety, this interest was not a legitimate claim for implementing helmet law since "it would also justify a requirement that automobile drivers wear helmets or buckle their seat belts for their own protection" (as cited by Jones & Bayer, 2007).

However, the rulings of the Illinois Supreme Court and the Michigan Appeals Court were anomalies. The Massachusetts District Court ruled in 1972, *Simon v. Sargent*, completely contrary to the Illinois Supreme Court. The District Court concluded with the following:

"For while we agree with plaintiff that the act's only realistic purpose is the prevention of head injuries incurred in motorcycle mishaps, we cannot agree that the consequences of such injuries are limited to the individual who sustains the injury. In view of the evidence warranting a finding that motorcyclists are especially prone to serious head injuries . . . the public has an interest in minimizing the resources directly involved. From the moment of the injury, society picks the person up off the highway; delivers him to a

municipal hospital and municipal doctors; provides him with unemployment compensation if, after recovery, he cannot replace his lost job, and, if the injury causes permanent disability, may assume the responsibility for his and his family's continued subsistence. We do not understand a state of mind that permits plaintiff to think that only he himself is concerned." (Simon v. Sargent).

In other states where the legitimacy of helmet mandates was brought to the states' high court—mainly for federal constitutional grounds— the challenge against helmet mandates was rejected. And yet, amidst mounting opposition from motorcyclist associations against a federal, universal helmet mandate, in December 1975, the Senate introduced and approved a bill to revise the 1966 Highway Safety Act, removing the financial link between highway funds and mandated helmet law (Jones & Bayer, 2007).

Despite evidence from the Highway Loss Data Institute (2016) indicating that motorcycle helmets reduce injuries and fatalities, many states began to repeal their universal helmet laws— either completely or to a partial version of the law— immediately after the 1966 Highway Safety Act was amended. That year, in 1975, the number of states with universal law dropped from 47 to 39 (see specifics in Table 2).

Table 2: Timeline of states enacting and/or repealing universal, partial, and no helmet law, from 1966 onwards (U = universal, P = partial, N = no helmet law)

| State | 1966-1975: Highway Safety Act – Enacted | 1976-1990: Highway Safety Act – Repealed | 1991-1993: ISTEA – Enacted | 1994: ISTEA – Repealed | Current Law |
|-------------------------|---|---|----------------------------------|--------------------------------|----------------|
| Alabama | [U]: Nov-1967 | | | | Universal |
| Alaska | [U]: Jan-1971 | [P]: Jun-1976 | | | Partial |
| Arizona | [U]: Jan-1969 | [P]: May-1976 | | | Partial |
| Arkansas | [U]: Jun-1967 | | | [P]: Jan-1997 | Partial |
| California | | [U]: Jan-1985 | [U]: Jan-1992 | | Universal |
| Colorado | [U]: Jul-1969 | [N]: May-1977 | | [P]: Jul-2007 | Partial |
| Connecticut | [U]: Oct-1967 | [N]: Jun-1976 [P]: Jan-1990 | | | Partial |
| District of Columbia | [U]: Feb-1970 | | | | Universal |
| Delaware | [U]: Jun-1968 | [P]: Jun-1978 | | | Partial |
| Florida | [U]: Sep-1967 | | | [P]: Jul-2000 [P]: Nov-2011 | Partial |
| Georgia | [U]: Jul-1969 | | | | Universal |
| Hawaii | [U]: Jun-1967 | [P]: Jun-1977 | | | Partial |
| Idaho | [U]: Jan-1968 | [P]: Mar-1978 | | | Partial |
| Illinois | [U]: Jul-1969 [N]: Jul-1970 | | | | None |
| Indiana | [U]: Jul-1967 | [N]: Aug-1977 [P]: Jan-1984 | | | Partial |
| Iowa | [U]: Sep-1975 | [N]: Jul-1976 | | | None |
| Kansas | [U]: Jul-1967 [P]: Jul-1970 [U]: Jul-1972 | [P]: Jul-1976 [P]: Jul-1979 | | | Partial |
| Kentucky | [U]: Jun-1968 | | | [P]: Jul-1998 | Partial |
| Louisiana | [U]: Jul-1968 | [P]: Oct-1976 [U]: Jan-1982 | | [P]: Aug-1999 [U]: Aug-2004 | Universal |
| Maine | [U]: Oct-1967 | [N]: Oct-1977 [P]: Jul-1980 | | [P]: Sep-2009 | Partial |
| Maryland | [U]: Jun-1968 | [N]: Jul-1968 [P]: Jul-1979 | | [U]: Oct-1992 | Universal |
| Massachusetts | [U]: May-1967 | | | | Universal |
| Michigan | [U]: Mar-1967 [N]: Jun-1968 [U]: Jul-1969 | | | [P]: Apr-2012 | Partial |
| Minnesota | [U]: May-1968 | [P]: Apr-1977 | | | Partial |

| | | | | |
|-----------------------|---|---|---------------|-----------|
| Mississippi | [U]: Mar-1974 | | | Universal |
| Missouri | [U]: Sep-1967 | | | Universal |
| Montana | [U]: Jul-1973 | [P]: Jul-1977 | | Partial |
| Nebraska | [U]: May-1967 | [N]: Sep-1977 [U]: Jan-1989 | | Universal |
| Nevada | [U]: Jan-1972 | | | Universal |
| New Hampshire | [U]: Sep-1967 | [P]: Aug-1977 | [N] Sep-1995 | None |
| New Jersey | [U]: Jan-1968 | | | Universal |
| New Mexico | [U]: Jun-1967 | [P]: Mar-1978 | | Partial |
| New York | [U]: Jan-1967 | | | Universal |
| North Carolina | [U]: Jan-1968 | | | Universal |
| North Dakota | [U]: Jul-1967 | [P]: Jul-1977 | | Partial |
| Ohio | [U]: Jan-1968 | [P]: Jul-1978 | | Partial |
| Oklahoma | [U]: Apr-1967 [P]: Jan-1969 [U]: 1975 | [P]: May-1976 | | Partial |
| Oregon | [U]: Jan-1968 | [P]: Oct-1977 [U]: Jun-1988 | | Universal |
| Pennsylvania | [U]: Jul-1968 | | [P]: Sep-2003 | Partial |
| Rhode Island | [U]: Apr-1967 | [P]: May-1976 | [P]: Jul-1992 | Partial |
| South Carolina | [U]: Jul-1967 | [P]: Jun-1980 | | Partial |
| South Dakota | [U]: Jul-1967 | [P]: Jul-1977 | | Partial |
| Tennessee | [U]: Jun-1967 | | | Universal |
| Texas | [U]: Jan-1968 | [P]: Aug-1977 [U]: Sep-1989 | [P]: Sep-1997 | Partial |
| Utah | [U]: May-1969 | [P]: May-1977 | | Partial |
| Vermont | [U]: Mar-1968 | | | Universal |
| Virginia | [U]: Jun-1970 | | | Universal |
| Washington | [U]: Jun-1967 | [N]: Sep-1977 [P]: Jul-1987 [U]: Jun-1990 | | Universal |
| West Virginia | [U]: May-1971 | | | Universal |
| Wisconsin | [U]: Jul-1968 | [P]: Mar-1978 | | Partial |
| Wyoming | [U]: May-1973 | [P]: May-1983 | [P]: Jul-1993 | Partial |

Sourced from Highway Data Loss Institute, 2016.

The Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991

The latter half of the 1970s therefore inadvertently became a grand public health experiment. The states with universal helmet law were the control, while states that repealed the law were the experimental group. After a few years of observation— with 26 states having either repealed their laws entirely or adopted a partial law— in 1978, the NHTSA reported that repeals were a “major factor” leading to the 23% higher number of deaths in 1977 than in 1976, even with only a 1% increase of motorcycle registrations in the same period (as cited in Peterson, 1978)⁸. In light of this evidence and to curb this troubling rise in fatalities, that very same year, the head of the NHTSA, Joan Claybrook wrote to state governors who had repealed their laws and urged them to reinstate a universal law once again. Citing the safety risks released in the NHTSA. She even attempted to draw public eye to the issue by stating “Motorcycle deaths in 1977 were up 24% over 1976... [with] one important element of this increase [being the] decline in helmet use” in the *New York Times* the year after (as cited in Hoseldolph, 1979).

However, Claybrook’s appeal went unacknowledged, and states continued to repeal their universal helmet laws. In the 1980s, evidence continued to grow, overwhelmingly supporting the view that helmets reduced not only individual safety risks, but also had the potential to reduce societal costs, namely in the form of emergency healthcare for seriously injured, helmetless riders. Numerous reports, some of which were described previously in this report, consistently came to the same findings: that fatality rates and medical costs increased following repeals of universal helmet law. Even researchers abroad came to the same conclusion. A study in Italy determined that there was an overall decrease in head injuries and fatalities, and a 30% reduction

⁸ It is unclear if the increase in motorcyclist deaths occurred specifically in states that had repealed their universal helmet laws.

in motorcycle accidents when helmets were mandated (Nurchi, Golino, Floris, Meleddu, & Coraddu, 1986). And yet the NHTSA and the federal government continued to do nothing. Physicians, epidemiologists, and public health officials became increasingly more frustrated.

It was only in May 1989, when the federal government was also attempting to mandate states to have seatbelt laws that the issue of motorcyclists wearing helmets was again brought to the table. Senator John Chafee introduced a bill similar to the 1966 Highway Safety Act. If states did not mandate universal helmet laws *and* seatbelt laws, the Secretary of Transportation would have the authority to withhold up to 10%⁹ of the states' federal highway funds (National Highway Fatality and Injury Reduction Act of 1989; Jones & Bayer, 2007). Though the Senator and his supporters spent some time addressing the argument for government to be antipaternalistic, comparing mandatory helmet laws to compulsory immunization for the health of the greater public, again, the crux of their argument rested heavily on the scientifically proven benefits of wearing (and mandating) helmets, and the disastrous consequences of not doing so (Jones & Bayer, 2007). The staggering amount of indisputable evidence, much more than had been available in 1966, managed to trump the opposition of motorcyclist associations. The resulting National Highway Fatality and Injury Reduction Act of 1989 was thus included as an amendment, in Sec. 1031(b) to the much larger bill being structured at the time: the Intermodal Surface Transportation Efficiency Act (ISTEA) an Act that would change the way transportation planning and policymaking would be carried out and defined (H. R. Rep. 2950, 1991).

⁹ Hess, from the Houston Chronicle, reported in 1995 that this 10% was eventually reduced to 3% when the bill was officially passed (as cited in Jones & Bayer, 2007).

Following the passage of the 1991 ISTEA, California— most notably the state that had never passed a universal helmet law— revised their existing partial law to become a universal law in 1992— and has maintained it ever since (Highway Data Loss Institute, 2016). However, California was the exception. Although the 1991 ISTEA was extremely similar to its sister, the 1966 Highway Safety Act, this time, states were not compelled to enact universal laws as they had before.

Repeal of the ISTEA

However, within a few short years, soon after the Republicans took control of Congress in 1994, the American Motorcyclist Association’s national motorcycle lobby managed to convince the federal government to repeal the ISTEA¹⁰ (Jones & Bayer, 2007). No states had been fined prior to the repeal. This repeal led to another wave of states discarding their universal helmet laws, though some states decided to address the social burden of accidents by having partial laws that allowed motorcyclists to ride without helmets only if they held medical insurance (Highway Loss Data Institute, 2015). Yet even such partial law amendments are still only a patchwork solution. In Tennessee, during discussions on whether to repeal the state’s universal helmet law and replace it with the partial law described above, opponents of the partial law argued that it would be extremely difficult for enforcement officials to determine, on the street, who has proper medical coverage and who does (Associated Press, 2016).

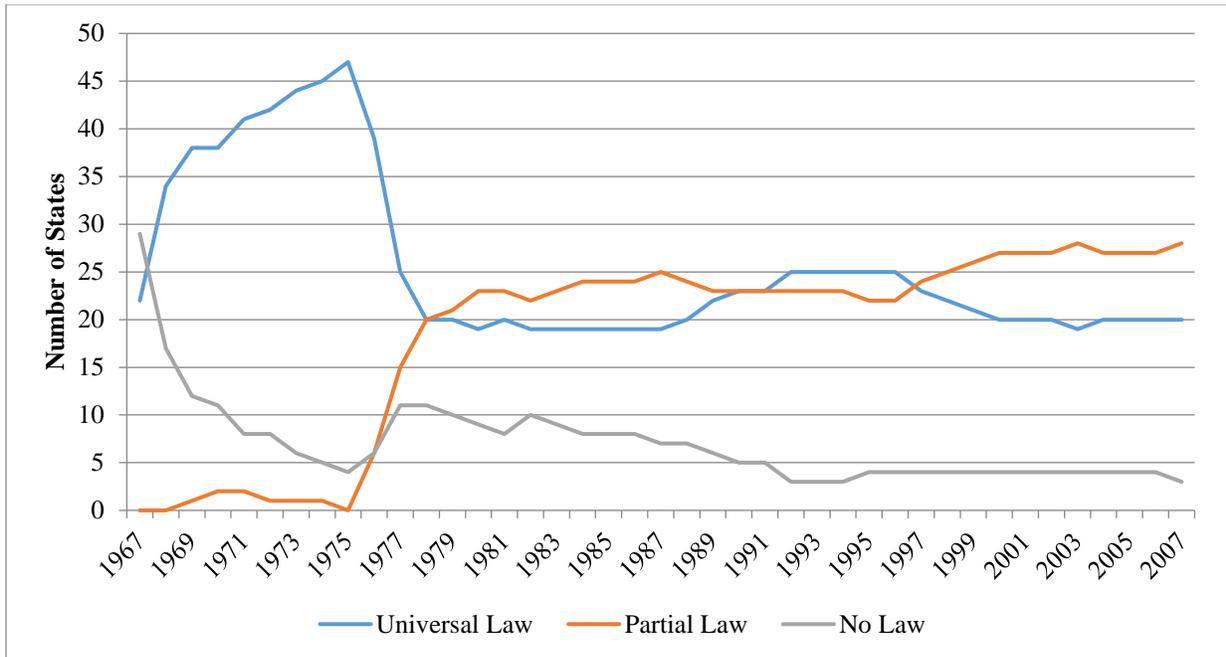
¹⁰ It’s worthwhile to note that despite the fact that though the more conservative Republicans would seem more likely be opposed to helmet laws, the likelihood of a state to be red or blue does not play any role in predicting which states do or do not have universal helmet law. For instance, Alabama, a staunchly Republican state has maintained its universal helmet law since 1967, whereas California, known as a much more liberal Democratic state, only passed a partial helmet law in 1985 and universal helmet law in 1992.

Currently only 19 states and the District of Columbia have universal helmet law. These states are the following:

Alabama, California, DC, Georgia, Louisiana, Maryland, Massachusetts, Mississippi, Missouri, Nebraska, Nevada, New Jersey, New York, North Carolina, Oregon, Tennessee, Vermont, Virginia, Washington, West Virginia

Overall, Figure 3 illustrates that the enactment of federal helmet law marked the two major time periods where changes in helmet law occurred. First is between 1967 and 1975– when the 1966 Highway Safety Act was in place– where nearly all states adopted a universal law. Prior to this law, most of these states didn’t have a helmet law whatsoever. The second point is the period between 1975 and 1991. Here, when there was no federal helmet mandate or penalty, more and more states began to repeal their universal laws and replace them with partial helmet laws. Third, for a few years after 1991, when Intermodal STEA was implemented, a few states adopted universal helmet law, much fewer than in the late 1960s to the early 1970s. Finally, after the ISTEA penalties were removed, more states decided to repeal their universal helmet law. Overall, federal mandates do seem to have some influence over whether states will implement universal helmet law or not. In addition, most states repealing their universal laws have opted to adopt partial helmet laws instead, with the number of states having partial helmet law now surpassing that of universal helmet law.

Figure 3: Number of states with universal, partial, and no motorcycle helmet law from 1967 - 2007



Sourced from Highway Data Loss Institute, 2016.

Thus far, the federal government has failed, twice, to incentivize states to adopt universal helmet laws. Though persuasive in theory, by restricting a portion of federal highway funding with the Highway Safety Act of 1966 and again with the 1991 ISTEA, it is clear that states do not take kindly to penalties. Yet, even with these consequences, the federal government may still attempt to mandate states to enact a universal motorcycle helmet law, following the recommendation of the Community Task Force that the U.S. should implement universal helmet laws (“Use of – Task Force,” 2016). What are the obstacles that prevent states from mandating universal helmet law? The next section addresses this question.

A HYPOTHESIZED STRATEGY FOR IMPLEMENTING HELMET LAWS

To assess why universal motorcycle helmet law has not been passed in the U.S., this report will examine the values and objectives of the two most involved parties: the regulators and the motorcycle associations. This is not to say that there are no other stakeholders in this issue; medical associations, insurance companies, motorcyclists themselves, all have varying degrees of interest in the implementation of motorcycle helmet law. However, historically, they have not had much influence on the outcome of helmet mandates in the U.S., and so will not be addressed here.

Motorcycle associations are large organizations (often non-profit), that generally represent the beliefs and desires of individual motorcyclists. Because of their sheer size, associations can magnify the voices of motorcyclist individuals and ensure that their opinions are heard by the regulators and constituencies that have the power to drive change. However, not all motorcyclists subscribe to the beliefs and goals of motorcycle associations. Sometimes, individual motorcyclists may hold beliefs that are completely contradictory to the position of motorcyclist associations but for simplicity, I will focus on the position of the motorcyclist associations and assume they reflect the individual beliefs of the motorcyclists

Scientific evidence and research since the 1930s very clearly supports a well-enforced helmet requirement significantly reduce a motorcyclist's risk of injury or death when in an accident and the ensuing hospital costs for those who are not killed. Yet motorcyclist associations and some

regulators still strongly oppose motorcycle helmet mandates, with this opposition leading to the repeal of existing universal helmet mandates in 31 states.

I hypothesize that universal helmet mandates have not been passed because of a combination of internal and external factors. First, supporting helmet mandates often ran counter to the regulators' and motorcycle associations' internal values and objectives. Second, motorcycle associations restructured their external environment and took three vital steps:

- (1) They redefined their goals and developed a strategy for repealing the helmet law
- (2) They partnered and collaborated with other motorcycle-interest organizations, like the AMA, NCOM, MRF, and various SMROs
- (3) They built strong relationships with regulators and political representatives

Together, these three steps enabled freedom of choice to be a compelling argument for why helmet laws should not be implemented.

Regulators can avoid being swayed by motorcyclist associations and encourage riders to wear helmets by:

- (1) Actively educating motorcyclists and motorcycle associations on the public benefits of helmet laws.
- (2) Implementing choice architecture to encourage motorcyclists to wear helmets on the road.

ANALYSIS AND DISCUSSION

Analyzing the Nature of the Decision Making Process

Numerous studies have made it abundantly clear that scientifically, helmet-wearing provides immeasurable benefits (both to the individual and to society). Therefore, this report will analyze the reasons for opposition to helmet mandates in two parts.

First, this report will gain a better understanding of the regulators and the motorcyclist associations by interpreting stated missions and intentions of these parties to explore their internal decision-making processes, specifically each side's values, objectives, systems of thinking, and biases. Identifying these roots can elucidate where each parties' stances stem from. Afterwards, keeping these roots in mind, this report will determine and analyze external structural and environmental influences behind the push-and-pull interactions that these two parties have with each other by combing through transcripts of and press releases following helmet law enactments and repeals. These influences are what may hold the key to why universal motorcycle helmet law has not yet been successfully passed in the U.S.

Values and Objectives

One's internal decision-making processes are what drive all our beliefs, perceptions, actions and behaviours. The most notable cogs motivating this process are one's values and objectives, systems of thinking and biases. According to *Oxford Dictionaries*, values can be defined as one's "principles or standards of behavior; one's judgment of what is important in life." Others have defined them slightly differently as "general guidelines for social conduct" (Mondal, n.d.).

Regardless, they differ from group to group, person to person. Meanwhile, objectives are the goals one wants to reach because of one's values. Values are the guiding rules that shape one's objectives, prime one's response to environmental stimuli, and then with this frame of mind, consequentially respond accordingly. For instance, one could value hard work (or industry), as Benjamin Franklin famously did, driving his objective to always be doing something productive (Franklin, 1909). What are the values and objectives that drive regulators or motorcycle associations? And in what ways do they potentially contradict with mandating universal helmet law?

Regulators Theoretically, regulators, as public servants, should value the well-being of the communities they represent and strive to achieve that end. The Treasury Board of Canada has a page on the “Values and Ethics Code for the Public Sector” which revolve around five values: respect for democracy, respect for people, integrity, stewardship, and excellence (2011). Meanwhile, the Public Sector Commission of Western Australia also details its code of ethics or values: personal integrity, relationships with others, and accountability (Public Sector Commission, 2012). There is no such explicit code in the U.S. Yet, the White House has included in a statement that U.S. regulators have the “moral responsibility” to create “a better world” (Office of the Press Secretary, 2015). In other words, regulators should also hold similar values as that of Canada and Western Australia; everything they do must reflect the core principle of protecting the people and their well-being. This is represented by the Oath of Office required at the start of Congress for all members of the U.S. Senate (excluding those that have already been sworn in) and the House of Representatives. They must “solemnly swear (or affirm) that I will support and defend the Constitution of the United States against all enemies, foreign

and domestic; that I will bear true faith and allegiance to the same” (United States Senate, n.d.). With the Constitution itself created to ensure that the U.S. government would be “just” and “protect its citizens” from internal and external conflicts. Therefore, as representatives of the people who have sworn to uphold the Constitution, it follows that U.S. regulators value their responsibility to justly protecting their people.

Yet, realistically, many regulators have personal values that may supersede that imposed by the expectations of the government. For instance, they could also value their own continuity in their role of authority and power. To maintain this, the objective of regulators may thus become about satisfying certain constituencies and special interest groups— especially appeasing those that shout the loudest— even though their issues may neither result in greater public good nor are they ones that the general public care particularly about. Here, this would be translated to repealing a universal helmet law just because various motorcyclist associations strongly voices that it should be repealed. The groups that shout the loudest often drown out the voices of smaller less organized constituencies. They have the finances to influence regulators even from the inside – through lobbying and other political avenues. Ultimately, some regulators may be part of the process encouraging repeals of helmet laws rather than attempting to implement them. The influence of lobbying and collective action will be addressed further in the report.

Motorcyclist Associations There are many motorcyclist associations in the U.S., for instance the National Coalition of Motorcyclists (NCOM), the Motorcycle Riders Foundation (MRF), and the largest of these associations, the American Motorcyclist Association (AMA). There are also state motorcyclists’ rights organizations (SMROs) in over 30 states; they are often

associated with the non-profit Alliance of Bikers Aimed Toward Education (ABATE). However, though they all have slightly different missions, all of these motorcyclist associations highly value and advocate for the rights of motorcyclists. The MRF states that they strive to “continue developing an aggressive, independent national advocate for the advancement of motorcycling and its associated lifestyle” (2016). Similarly, the AMA states that their purpose is to “promote the motorcycle lifestyle and protect the future of motorcycling” (“AMA Mission,” 2013). As a whole it is clear that their main interest lie in maintaining and advocating for motorcyclist rights.

These values are especially present in relation to the wearing of helmets and helmet mandates. Specifically, the AMA believes that “adults should have the right to voluntarily decide when to wear a helmet... adults are capable of making personal safety decisions for themselves” (“AMA Position, 2013). This is in line with their general perception that “opponents of motorcycling are hard at work trying to take away our freedoms.” (AMA, “Membership,” 2013). The AMA concedes that increased awareness for motorcycle safety is imperative, yet they and others still question the validity of evidence presented by scientists that wearing helmets reduces the likelihood of death or injury in a motorcycle accident. Even if it were proven to be safer to wear helmets, the AMA claims that riders still want the freedom to be able to make that choice. The resulting objective for the AMA and other motorcyclist associations is thus to oppose any action that restricts this freedom, to prevent or repeal already existing helmet mandates. If their members wear helmets, they want it to be because they freely chose to and not because it was forced upon them by regulators.

Clearly, regulators and motorcycle associations do not align along the same values, and thus have very different objectives. Regulators value serving the greater good; yet this can conflict with their individual value to maintain continuity. Meanwhile, motorcycle associations value freedom of choice, which is much more individualistic. This misalignment in values can help explain why scientific evidence showing the effectiveness of helmet mandates do not lead to any urgency for helmet mandate implementation.

Thinking Via Systems 1 and 2

In addition to ones values and objectives, one's use of different systems of thinking also influences one's decision-making. Kahneman (2002) categorized human thought-processes into two systems: System 1 or intuitive thinking, and System 2 or deliberative thinking based on 50 years of research by psychologists. Intuitive thinking is characterized as quick, involuntary, and automatic, while deliberative thinking is slower, conscious, and more effortful (Kahneman, 2014). Intuitive thinking allows us to expend less time and attention to collecting and processing information but at the cost of mental shortcuts, systematic biases, and simplified decision rules. The reason intuitive thinking works so quickly is because signals are channeled through existing neural pathways or schemas— in psychology, defined as a cognitive framework or concept, unique to each individual, that helps one organize and interpret information— rather than being processed as a unique signal in its own right (DiMaggio, 1997). This will be explored by examining the differing responses of regulators and motorcyclist associations to the death of a 15 year old motorcyclist in California in 1973.

Regulators Following the death, a Burbank councilman proposed a mandatory helmet law in California. For this regulator, the death of this youth immediately triggered the need to have increased protection for individuals on the road, which in turn led to the thought that helmets must be worn and that it is the regulators' job to ensure that this is the case. This near-automatic link between a motorcyclist death and the need to wear helmets is an intuitive form of thinking. It is a link that has been impressed upon individuals since they were young, that wearing helmets protects against injuries. Thus the regulator's response is one that can be understood. However, if there are also many other ways that regulators could have responded more deliberately.

Motorcycle Associations Meanwhile, in contrast, the motorcycle associations responded to the death more ambivalently. However, when they heard of the regulators' proposal to implement a helmet mandate, they immediately, intuitively jumped to the conclusion that regulators are doing so because they he right of motorcyclists to freedom of choice. Of course, there are definitely more nuances behind the intent of the regulators to mandate helmet use, for instance, the desire to reduce the likelihood of future youth deaths, the believe that protecting the public is more important than one's individual freedoms etc. Ultimately the motorcycle associations were able to successfully lobby against the mandate, and the helmet law failed.

Biases of Regulators and Motorcyclist Associations

When it comes to whether there should be a motorcycle helmet mandate or not, intuitive thinking and its accompanying biases can influence different parties to act in certain ways. These behaviours can then be unconsciously used to support already existing values and objectives.

They may drive the strong opinions criticizing the implementation of helmet mandates. Below is a list of biases and decision rules that seem to apply to regulators and motorcyclist association and inferred from reading numerous articles and press releases about them and their behaviour (Table 3).

Table 3: Biases corresponding to regulators and/or motorcycle associations

| Bias / Decision Rule | Definition | Regulators | Associations |
|----------------------|--|------------|--------------|
| Survivorship | Concentrating on individuals who have “survived” and overlooking those who haven’t | | X |
| Availability | Relying on immediate examples to estimate the frequency of an occurrence | X | |
| Optimism | Believe “it won’t happen to me” | | X |
| Consistency | Reliability and uniformity of successive results | X | |

Survivorship – Motorcycle Associations

Motorcyclist associations, who through intuitive thinking immediately jump into opposing a helmet mandate, can rationalize the gap between their position and scientific evidence by believing that the likelihood of an accident doesn’t reflect the probabilities of its members; there is a greater focus on individuals who have “survived” and overlooking those who haven’t, otherwise called a survivorship bias (Shermer, 2014). For instance, the AMA staunchly supports education when it comes to a solution for reducing motorcycle injuries on the road. However, this belief can imply that if only everyone was a competently skilled, educated motorcyclist, accidents on the road would not occur. The reason for this thinking is that motorcyclists’ minds can self-select the accidents they want to remember. Thinking about themselves, they can rationalize to themselves that they have not gotten into an accident yet because they know how to

properly navigate a motorcycle on the road. Yet, when thinking through this veil of survivorship bias, the motorcyclists conveniently “forget” the other accidents with equally competent motorcyclists that were out of the riders’ control. Competency equates to a much lower risk of getting into an accident than truly is the case.

Availability Bias – Regulators

Regulators, who through intuitive thinking want to satisfy their constituencies, can rationalize to themselves that the number of motorcyclist accidents occurring each year is dwarfed by the much larger number of vehicular accidents a year (Highway Loss Data Institute, 2016). Thus some regulators may believe that it does not make much difference if helmets are not mandated. In fact, as mentioned previously, motorcycle accidents happen all the time; the media just does not cover them and they do not become front-page news. The lack of prominent headlines and the corresponding belief that there are not very many motorcycle accidents would be an availability bias— when individuals rely on related, immediate examples to estimate the frequency of an occurrence (Tversky & Kahneman, 1973). By using media coverage as a metric for the frequency of motorcycle accidents, and essentially succumbing to the availability bias, regulators have a reduced sense of urgency to take action, and thus the passing of helmet mandates is not the top priority

Optimism Bias – Motorcycle Associations

Motorcycle association members fall prey to the optimism bias, or won't-happen-to-me bias— although they recognize that the probability of being involved in an accident is relatively high, they often believe that this is only applicable to other motorcyclists, not them. The IDAHO STAR Program, which trains motorcyclists with skills for how to behave on the road, released a statement that pointed out that the motorcyclists they have seen often succumb to the optimism bias. Following devastating accidents, motorcyclists have a tendency to comment saying that “Well, the rider was...” or “That rider should have/shouldn't have...” This attitude may seem dismissive or attribute unnecessarily blame on the riders, however, it could also be a defense mechanism for how motorcyclists cope with the fact that their hobby is so dangerous. IDAHO STAR contends that all motorcyclists “know – deep down– that riding a motorcycle carries a much higher risk of injury and death than driving a car,” and yet, the motorcyclists tend to believe that the accidents won't happen to them.

Consistency – Regulators

As mentioned briefly before, to maintain their public image, regulators tend to remain consistent— reliable and uniform— in their beliefs and values, thus meaning that they will continue to either support helmet mandates or not; there is very little change once an opinion about helmet mandates has been formed. For instance, in the 2008 Iowa Senate election, ABATE Iowa surveyed whether senator candidates supported helmet mandates or not. The opposition responses were recorded verbatim. Many who opposed said things along the lines of “Very simple – oppose, as I have in the past,” “We have repealed the helmet law once – I will vote against reinstating it!” (ABATE Iowa, 2008). Their references to previous actions infer that they

believe consistency is important, both to themselves and to the eyes of the public. However, it is important to note that consistency can also work for helmet mandate supporters as well. Those that have supported helmet mandates in the past may be more likely to support them in the future to maintain consistency in the eyes of the public and potentially hold greater appeal with their voter base.

Though exploring these biases and decision rules is insightful, the external structural environment of motorcycle associations and regulators may also shed more light on why helmet mandates have not been enacted in the U.S.

Analyzing Structural and Environmental Influences

The role of the regulators is ultimately to decide on whether to pass a bill or not. However, this decision can largely be based upon the organizational power of more special interest groups like motorcycle associations. Here, this report will be discussing what motorcycle associations have done to increase their political power and strengthen their influence over regulators.

Drawing motivation from their values and objectives, motorcycle associations, from MRF to the AMA, are staunchly opposed to helmet mandates. They oppose any attempt for helmet mandates to be implemented and work to repeal ones that already were. However, this strength of such opposition is not solely the work of their values; it may also be due to their ability to organize and take advantage of collective action. One very applicable method for analyzing how they have been able to retain such authority in Washington and Senates across the nation is through Kotter's "leading change" framework.

“Leading change” is premised on Kotter’s belief that change is not an event, where one situation will cascade and lead to another; in fact, change is a process where, each stage builds upon the previous one. These stages, as Kotter explains them, are the following:

1. Establish sense of urgency
2. Form powerful coalition
3. Create a vision
4. Communicate vision
5. Empower others to act on that vision
6. Plan and create ST wins
7. Consolidate improvements and produce more change
8. Institutionalize new approaches

Through reviewing the history and process of the repeal of federal helmet laws, as well as using the first six steps of this framework, it can be determined how the structural and environmental changes motorcycle associations were able to implement to strengthen their collective voice in opposing helmet mandates. When compounded with the lack of a coalition supporting helmet mandates, motorcyclist associations were able to become an extremely strong presence in both federal and state governments.

Establishing a Sense of Urgency

A sense of urgency is imperative to effectively stir the masses into driving change. In the case of California following the 1966 Highway Safety Act, this sense of urgency was what spurred individual motorcyclists to come out and publically take action against the federal helmet

mandate. By 1975, California was still the only state that had not passed a mandatory helmet law (Highway Data Loss Institute, 2016). Motorcyclists saw it as the last state standing, the last place where they could still make a difference and prevent helmet mandates from passing (Jones & Bayer, 2007). Therefore, to the individual motorcyclists, as well as the organizations, protesting helmet mandates in California was an obvious decision. Furthermore, because California had the most number of registered motorcyclists, as well as the highest number of motorcyclist fatalities from accidents, its lack of a helmet law only served to propel this sense of urgency. Urgency was thus what allowed motorcyclist organizations to thwart state legislators who had attempted to introduce helmet mandates in the state eight separate times between 1968 and 1975. The most salient example of this power of urgency was demonstrated in 1973. When a councilman decided to propose a mandatory helmet mandate, 100 motorcyclists entered the council's chambers to protest. Hell's Angels announced that they would bring "at least 500 members" to the day of the scheduled vote (as cited in Jones & Bayer, 2007). All this pressure from individuals and organizations desperate to keep helmet mandates at bay led to the councilman withdrawing his ordinance.

As an aside, the lack of urgency from the general public – with the public generally being ambivalent to the implementation of helmet manate law– only served to further strengthen the voice of the motorcycle associations.

Forming A Powerful Coalition

One could argue, however, that the success of the motorcyclist organizations and the motorcyclist riders themselves in preventing helmet mandates from passing in California was

attributed to the coalition of similarly-interested parties and accorded to the power of collective action. Olson (2009) pioneered that effective collection action rests on the size of the group, as well as the incentive system in place to ensure members contribute to the group's efforts. He proposed that a special interest organization should be small, but still be able to command the authority similar to that of a larger group – in other words, “a federation of federations” (2009). The motorcyclist associations made an effort to create this structure when fighting against the 1991 ISTEA's penalty clause.

Starting from the late 1900s, numerous small motorcyclist associations and organizations were formed across the country due to the benefits attached to being a member. Beyond a voice that can fight on your behalf for motorcyclist rights, associations provide members with other perks. For instance, the ABATE of Wisconsin provides members with regular news updates on motorcycle-related legislation from the surrounding states, as well as action items for members to take if they would like to speak out (Dwyer, 2007). AMA members are eligible for discounts on items that may interest motorcyclists, for instance certain types of health insurance¹¹, Hertz, etc. (“AMA Member, 2013). Once these small groups are established, the social bonds that are built between members only serve to strengthen the small group's commitment to each other and to the association's mission. However, small groups are at a disadvantage because they do not have much power. Prior to when the 1991 ISTEA was passed, the smaller SMROs attempted to repeal the ISTEA's penalty clause, to no avail. Resources were dispersed across associations, across multiple issues, resulting in less authority in federal politics. Instead, when multiple small

¹¹ It is uncertain whether some states have been able to enact and enforce health insurance discounts for motorcyclists that wear their helmet

associations joined together to create an overarching structural body for themselves, they were more effective.

Following the failure to prevent the ISTEA's penalty clause from passing, in the early 1990s, the SMROs began to partner and work closely with other motorcycle associations like NCOM, the MRF, and even the AMA. With the combined resources of all these associations, they were able to bring more clout to the federal political space. From 1991-1995, the SMROs alone sent more and more members every year, eventually in 1995 having 37 state representatives and delegations in Washington supporting their cause (Jones & Bayer, 2007). In practical terms, coalitions between organizations did not just increase others' awareness of why one would want to oppose helmet mandates. They also increase the amount of finances, time, and energy resources devoted to the cause only made organization of the association even stronger. In early 1995, the partnership with the AMA was able to fulfill this need. With their financial sources, the AMA was able to fund trips for over 50 motorcycle rights activists to DC, and as a result, continue to build the presence of the motorcycle associations as a powerful coalition (Curtin, 2011).

As this coalition of smaller motorcyclist associations grew larger, the coalition was fortunately still able to maintain its small-group structure. Each still has separate Boards, yet they all maintain in contact through regular face time meetings. Therefore, the MRF Board of Directors worked with the NCOM administrators to schedule meetings at the same time so that maximum support could just be given to these easily mobilized, tight-knit smaller associations.

Creating a Vision

Having built a coalition, the next stage of Kotter's framework is to create a vision. These associations, though all fighting to have no helmet laws, did not have a defined vision for themselves. Specifically for the ISTEAs, they held a joint "Meeting of the Minds" – a two hour session– where they decided that their vision would be to further their value of maintaining their motorcyclists' freedom of choice (Curtin, 2011). Previously, they had pushed for bifurcated purposes, pushing for both a repeal of the penalty portion of the ISTEAs as well as as repealing the seatbelt mandate. However, they realized during this Meeting that they needed to decide on a singular goal, and so agreed to focus on just opposing helmet mandates. Once this vision was clarified, the rest of the Meeting was thus devoted to creating a coordinated agenda for how things needed to get done. One of their main goals was to repeal the penalty portion of the ISTEAs by 1995. This gave them a four year window for them to repeal the penalty portion of the ISTEAs before the states that did not have helmet mandates would be penalized. By redefining their goals and creating a vision for themselves, the motorcyclist associations were able to move forward and come up with an ultimately very successful, targeted strategy to accomplish these goals.

Communicating Vision to Others

With this concrete goal– to repeal the penalty portion of the ISTEAs by 1995– in mind, the motorcycle associations were on the same page. However, more importantly, in the 1990s, they were able to set up an efficient communication system that propagated this mission to the smaller mobile organizations. These techniques for diligently managing relationships with other motorcycle associations and members also applied to their relationship with regulators.

The MRF had always highly valued active communication between their members and their congressional delegations. They find it essential to “grass-root movements” such as opposing helmet mandates. Communication exists through phone calls, letters, in-person visits, etc. Now, having partnered with other motorcycle associations, this transparent communication structure has been used in inter-association interactions too. For instance, the MRF publishes a bi-monthly newsletter that keeps SMROs updated on current legislative information – as it relates to motorcycles. Furthermore, since 1991, there have been expanded regional seminars for members from any of the motorcycle associations that allow state officers of SMROs and other chapter leaders to talk to the actual motorcycle activists (Curtin, 2011). Because of these efforts, the coalition has been able to constantly know which representatives are in support or opposition to a helmet bill. In 2008, ABATE Iowa has a complete listing of all the potential representatives during the 2008 election that opposed helmet law (ABATE Iowa, 2008). Together, through these meetings, they are able to develop legislative mailing lists. This widens the network of the motorcycle associations, allowing the cycle to repeat again with each successive representative or region.¹²

Overall, it seems the main reasons for why motorcycle associations were able to gain such political influence lie in their ability to transform change. Specifically, by partnering with numerous other associations and create a coalition of collective action, they were able to redefine their goals and strategy in order to build strong relationships with each other and with the regulators.

¹² <http://mrf.org/library2/index.php/mrf-white-papers/white-vol4/repeal-of-federal-helmet-law-/>

RECOMMENDATIONS FOR IMPLEMENTING HELMET MANDATES

Based on this exploration, the two main recommendations for regulators trying to pass helmet mandates are: (1) to continue increasing education among both regulators and motorcycle associations— and even the individual motorcyclists as well— and if that does not work, (2) to use choice architecture to create alternative methods for encouraging motorcyclists to wear helmets.

Educating Motorcyclists

First, educating motorcycle associations about the scientific evidence behind wearing helmets, there would need to be a greater focus on the ramifications of motorcycle accidents to the rest of society, not just solely an individual burden. Regulators should speak and emphasize to the associations the differences in their values. However, because the intrinsic values of the motorcycle members and associations are so strong, it may be more worthwhile to target education towards the motorcyclist association members.

Therefore, second, to increase education amongst motorcycle association members, it is important to specifically address the optimism bias of these individuals. Like discussed before, one reason why motorcyclist association members may believe that serious and fatal injuries will not happen to them is simply their lack of knowledge on the topic. As mentioned previously, if motorcyclists have not personally experienced an accident, known of close friends and family that were involved in accidents, or heard anything about motorcyclist accidents on the news, it is likely that motorcyclists would perceive the risk of an accident to be much lower than it actually is. They may not fully understand the ramifications of an accident of such severity. To combat this perception, the newest riders, who are at the time the most impressionable, should be

targeted with education. Information including the most current rate of death from motorcycle accidents, and the effectiveness of helmets in reducing this risk, would be included in education materials for new riders studying for their motorcycle operating license exams. These should be framed using stretched time horizons, where the rates and number of deaths should be stretched across longer periods of time. For instance, stating the probability of registered motorcyclist getting into an accident over the lifetime of that motorcyclist's riding career, rather than focusing on a year-to-year statistic. Because the probabilities are higher for longer time horizons, motorcyclists are likely to take greater stock and internalize the impacts of not wearing a helmet than if the probabilities are presented over a shorter one.

This education should not engender much opposition from motorcyclist association. As much as they oppose helmet mandates, this is not because they believe that helmets are ineffective. They in fact acknowledge that helmets are effective forms of protective gear that can reduce a motorcyclist's chance of being injured. Their opposition stems solely from their interest in maintaining motorcyclists' freedom of choice. The purpose with education would be to ensure that the motorcyclists make the right choice, to wear a helmet when riding. A question on why helmets should be worn while riding should be asked in each exam. This could potentially change a new motorcyclist's perception of how risky it is to ride a motorcycle and reinforce the importance of helmets to a motorcyclist's safety.

During the training or exam itself, a video of a now disabled motorcycle accident survivor speaking about his experience, or anecdotes from family members of a motorcyclist killed in a motorcycle accident should be shown. The video would be a particularly salient example

showing why helmets should be worn. Focusing on the victim and employing the identifiable victim bias— which theorizes that personal stories are more impactful than statistics— would make motorcyclists more inclined to absorb and better understand the safety risks when a helmet is not worn, eroding the perception of “won’t happen to me.” Hence, they would be more likely to wear helmets of their own volition— even in states not requiring helmets.

However, realistically, increased education would not be enough. Although improved education has the opportunity to change one’s values and objectives, and potential biases, the external collective action of motorcyclist associations is much more influential and powerful. Because of the structure of how bills are written and the existence of lobby, the already concentrated power of these motorcycle associations is very difficult to weaken and combat.

Alternatives to Helmet Mandates – Using Choice Architecture

Rather than attempting to push mandates through, there are alternate methods for encouraging motorcyclists to wear helmets. Previously this report discussed the biases and decision rules of regulators and motorcycle associations. Because they are sometimes so closely tied to intuitive thinking, it is probably that even with increased education, both parties may still not be inclined to pass motorcycle helmet mandates. Therefore, instead, choice architecture can be implemented on the regulator end to circumvent these biases and decision rules. These solutions would thus satisfy the interests and objectives of both the regulators and the motorcycle associations. The ultimate goal is to encourage motorcyclists to wear helmets in a way where it does not feel like their core value— of having the freedom of choice— is being suppressed.

To encourage helmet-wearing amongst motorcyclist, it is important to address the main biases and beliefs of the riders: thinking that accidents “won’t happen to me” and wanting to maintain individual freedom of choice. Regulation specifically works counter to the latter, with laws being seen by some as the epitome of control and a lack of choice. Therefore, instead of state regulation— which has more often than not been repealed— or the federal government passively forcing every U.S. state to adopt these laws, there are other ways to encourage motorcyclists to wear helmets. Many are drawn from similar strategies used to popularize the seatbelt use in automobiles.

Creating Checklists

In addition to education for new motorcyclists, a decision aid, such as a checklist, could be used to help develop a helmet-wearing habit. Checklists are a useful tool to incorporate deliberate thinking into otherwise intuitive decision processes (Gawande, 2010). In the case of wearing helmets, the checklist is a useful tool for forcing motorcyclists to use their deliberative thinking when deciding whether to wear a helmet or not. By steering the brain away from intuitive thinking, the hope is that because of increased education, motorcyclists would be more likely to wear helmets. This checklist would outline actions that riders should take every time they ride a motorcycle, would be drafted by regulators and included in education materials used for the permit tests. Over time, if the motorcyclists follow the checklist, the wearing of helmets, among other items listed on the checklist, will become almost second-nature, similar to how seatbelts are now a habit for most American adults riding in an automobile.

Public-Private Partnerships with Manufacturers

Despite the importance of education and decision aids, there will still be motorcyclists who simply do not care for wearing helmets. Faced with this obstinacy, a feasible alternative solution would be for regulators to partner with private companies and together implement choice architecture. Choice architecture is used when regulators recognize the difficulty of interfering with people's natural decision-making process, and as a result, redesigning the environment to nudge riders into choosing the desired action— here, wearing helmets. These environments do not bombard riders with information on helmet safety, but are much more nuanced and subtle. By creating these new environments, more motorcyclists will, on their own volition, decide to wear helmets, and because they feel like they made their own choice, they are more likely to continue wearing helmets.

One method would be to partner with motorcycle manufacturers. Currently, the two largest motorcycle manufacturers, Harley Davidson and Honda, support the wearing of helmets. On Harley Davidson's website, under an obscure link called "We Care About You," they explicitly say to "always wear a helmet... and insist your passengers do too" (Harley-Davidson, 2014). And yet, it is ironic that on the same page, Harley Davidson encourages motorcyclists to join the AMA— which as explained prior, is against helmet mandates that, as described earlier, increase helmet use. Meanwhile, Honda Powersports does a better job of promoting helmet use. A page on its website, under Honda Services, is dedicated to safe riding and has a pre-ride checklist. On this checklist, a statement says "Your helmet is by far the most important piece of protective gear for safe riding. Period" (Honda Powersports, n.d.). Beyond this page, there is a vague nod to helmets under the "Learn to Ride" section of the website, under "Get Gear" (Honda Powersports,

2013). Because they support wearing helmets, it is not surprising that these motorcycle manufacturers also manufacture and sell their own motorcycle helmets. However, there is much more that can be done. Both Harley Davidson and Honda are well-loved brands. Motorcyclists exhibit brand loyalty and a certain relationship with their motorcycle dealers. Therefore, these manufacturers are in the unique position of being able to influence their customers. Since helmets are a huge part of protecting their customers, the riders, they should take on a more proactive approach in advocating for helmet-wearing. This will also have the added financial benefit of increasing helmet sales.

In terms of physical changes to the motorcycle, riders may be induced to wear helmets if there are warning lights on the motorcycle or reminder stickers. Warning lights, similar to those mandated in U.S.-sold automobiles when a front-seated person is not wearing a seatbelt, are naturally seen as an annoyance. Thus, motorcyclists would be inclined to behave in ways that will turn it off. A warning light on the motorcycle would either be programmed to turn on for a number of seconds when the ignition is started, or if added with a sensor, would only turn off if it senses a helmet on the rider's head. Though the former may be effective for the first few weeks and easier to implement, after a while, riders may learn to mentally block out the warning sound, as it activates whether a rider wears a helmet or not. Even the psychological wiring of our brain to heed warnings can be rewired. For instance, when fire alarms go off in classrooms or apartment buildings, there are many students and residents who don't leave, thinking that it is just another fire drill. Therefore, the latter would be much more effective.

Another option would be to have reminder stickers on all motorcycles. They would detail the effectiveness of motorcycle helmets in preventing head and neck injuries, and would be another way to reinforce the importance of helmets. Every time riders clamber upon their motorcycles, they would be reminded to wear a helmet. If individuals do not want the sticker marring their motorcycles, they would have to actively remove it. Even in this situation, they would've at least seen and acknowledged the sticker. Both methods make it more difficult for riders to ignore important helmet safety information.

Instead of physical changes, there can also be marketing changes. Currently, motorcycles and motorcycle helmets are sold separately. Having just spent a couple thousand on a motorcycle, buyers are not inclined to purchase something else, even if it is a comparably less expensive \$100-\$600 motorcycle helmet. According to loss aversion theory and the property of diminishing marginal utility (or disutility), having two separate losses makes an individual feel worse than having one large loss. Therefore, bundling them together would not make the purchasers feel as “bad” as purchasing the motorcycle and helmet separately. The manufacturers themselves would not even need to set a discount for the bundle. An additional \$100 tacked onto the end of an already sizeable investment does not significantly change a purchasers’ decision to buy the motorcycle (bundle) or not. Essentially by bundling, a helmet would not be treated as purchasing something “extra.”¹³

If discounts are a feasible option, and the government is able to subsidize the agreed upon difference, manufacturers could give motorcyclists who have purchased a helmet discounts on

¹³ This is also related to the concept of mental accounting, when combining losses is more attractive than looking at each one separately.

other riding accessories, like other protective gear, or oils and chemicals. There could also be discounts for purchasing a second helmet. Any of these options would be appealing for an avid rider, but would also be great gifts for motorcyclists that are part of motorcycling communities and associations, for instance the AMA. With more people purchasing safety equipment, including helmets, peer pressure and herding will come into play, influencing even more motorcyclists to wear helmets. Helmets could become the next “cool” trend. Not only would this drive financial revenues for the motorcycle manufacturers (and continue to build brand loyalty), such an intervention would likely be much cheaper for the government than implementing additional enforcement for a universal helmet mandate, or giving states supplementary highway transportation funding.

Public-Private Partnerships with Insurance Companies

In addition to partnering with manufacturers, government regulators can also partner with health insurance and motorcycle insurance companies. Insurance companies remain profitable by increasing their premiums for more high-risk individuals. This concept can be applied for motorcyclists as well. First, the government could launch a campaign on national highways encouraging motorcycle riders to wear helmets. It would be similar to the “Click It or Ticket” (CIOT) campaign that takes place annually over the Memorial Day Weekend to remind riders and passengers to wear seatbelts. According to the NHTSA, the CIOT campaign is the most successful seat belt enforcement campaign ever to increase the national seat belt usage rate (NHTSA, 2014).

A helmet-wearing version of this campaign could include putting up billboards and electronic signs on highways with short facts or messages explaining the importance of wearing helmets—such as how much more frequent motorcycle accidents occur compared to automobiles, or how many lives could be saved in a year if all motorcycle riders wore helmets. There could also be messages with facts on how much more the average taxpayer pays every year in taxes in hospital costs, due to unhelmeted motorcyclists taking up hospital funds for severe injuries that could have been prevented if they had worn helmets. This would not only shame motorcyclists into wearing helmets, but would rouse the otherwise indifferent public into “forcing” motorcyclists (through peer pressure) to wear helmets when they ride. No one wants to pay additional taxes for someone else’s recklessness.

In conjunction to this campaign, insurance companies can claim that they will only pay for medical expenses of motorcyclists, or even increase the payout for motorcyclists involved in accidents if they were wearing proper DOT-certified helmets. Because non-certified helmets have limited effectiveness in preventing serious injury, it is imperative that the certified vs. non-certified distinction is made. One way to implement this would be to reduce the premiums or limit the coverage for motorcyclists that can prove that they wear certified helmets on the road. Thus, either way, motorcyclists who do not wear certified helmets would be sent a clear message that riders by all means have the freedom of choice, to engage in whatever risky behaviour they would like, as long as they understand it is at their own financial risk. When implementing this scheme, insurance companies should emphasize that purchasing a helmet now is much cheaper than paying for potentially astronomic hospital bills in the future. Since riders often think of themselves as “invincible” speaking in comparable monetary terms may be more effective than

just elusively talking about death. If a public-private partnership with manufacturers regarding discounts is implemented, there is even more reason for riders to wear a helmet: not only would riders receive a lower premium for their health insurance, but would also receive discounts after purchasing a helmet.

Overall, extending some creativity into the policy-making process and framing it in terms of the biases associated with irrational behaviour, more motorcyclists will wear helmets while riding. Only after this willingness to wear helmets is nurtured would later universal helmet mandates will be less threatening to motorcyclist associations and riders themselves, and thus receive their stamp of approval.

CONCLUSION

Ultimately, this report found that though there is sound scientific evidence supporting the enactment of motorcycle helmet mandates, there are several reasons that motorcycle helmet law has not been passed across the U.S. First, though regulators are charged with protecting the interests of the public, they often succumb to more personal values of consistency, which in turn can lead to them adhering to the objective of catering to special interest groups, like motorcycle associations, rather than that of the general public. This behaviour is compounded by the motorcyclist association's strong interest to maintain their riders' freedom of choice. Furthermore, the specific biases of the regulators and motorcycle associations prime them to react intuitively, making quick decisions to support or oppose helmet law without much deliberative thought or consideration.

Second, the internal motivations driving motorcyclist associations to oppose universal helmet law spurred them into organizing themselves and strengthening their collective bargaining power. Specifically, the Kotter framework describes that the associations were extremely effective at forming powerful coalitions, creating a vision— to repeal the penalty portion of the 1991 ISTEA— and maintaining strong communication with their members and various regulators. As a result, proposals to pass a helmet mandate, either at the federal or the state level, are prone to not being passed.

Though education on the importance of wearing motorcycle helmets is still valuable, to take a concrete step towards having motorcyclists wear helmets, regulators should resort to other measures. Since at this point, after over twenty years of organized collective action, it is very

difficult to weaken the motorcycle association lobbyists and influence, the alternative would be to implement choice architecture. This choice architecture would aim to influence motorcyclists to wear helmets of their own volition— maintaining their freedom of choice while regulators continue to protect the safety of the greater public. Specifically, regulators should form public-private partnerships with manufacturers and insurance companies.

Over time, as more motorcyclists are nudged towards and become used to wearing helmets, their attitudes will indirectly change the underlying values and objectives of motorcycle associations, potentially weakening them and allowing regulators to finally pass the lasting federal helmet mandate that the U.S. needs.

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