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49 CFR Part 571

Federal Motor Vehicle Safety Standards; Motorcycle Helmets; Proposed Rule

**DEPARTMENT OF TRANSPORTATION****National Highway Traffic Safety Administration****49 CFR Part 571**

[Docket No. NHTSA–2015–0045]

RIN 2127–AL01

**Federal Motor Vehicle Safety Standards; Motorcycle Helmets****AGENCY:** National Highway Traffic Safety Administration (NHTSA), DOT.**ACTION:** Notice of proposed rulemaking (NPRM).

**SUMMARY:** This document sets forth an interpretation of the definition of “motor vehicle equipment” in the United States Code, as amended by the Moving Ahead for Progress in the 21st Century (MAP–21) Act, and requests comments on two proposed changes to the motorcycle helmet safety standard, Federal Motor Vehicle Safety Standard (FMVSS) No. 218. Continued high levels of motorcycle related fatalities, the ongoing use of novelty helmets by motorcyclists and the poor performance of these helmets in tests and crashes have prompted the agency to clarify the status of such helmets under federal law to ensure that all relevant legal requirements are readily enforceable. All helmets that are sold to, and worn on the highway by, motorcyclists and that, based on their design and/or other factors, have the apparent purpose of protecting highway users are motorcycle helmets subject to the jurisdiction and standard of the National Highway Traffic Safety Administration (“NHTSA” or “agency”).

NHTSA is simultaneously proposing to amend its helmet standard, FMVSS No. 218. First, NHTSA is proposing to add a definition of “motorcycle helmet.” Second, we are proposing to modify the existing performance requirements of the standard by adding a set of dimensional and compression requirements. These requirements and the associated test procedures would identify those helmets whose physical characteristics indicate that they likely cannot meet the existing performance requirements of the standard. Third, we are incorporating an optional alternative compliance process for manufacturers whose helmets do not comply with the proposed dimensional and compression requirements, but do comply with the performance requirements and all other aspects of FMVSS No. 218. NHTSA will publish a list of helmets that have complied with the alternative compliance process and can therefore be

certified by their manufacturers. This document is the result of the agency’s assessment of other actions that could be taken to increase further the percentage of motorcyclists who wear helmets that comply with the helmet standard.

**DATES:** You should submit your comments to ensure that Docket Management receives them not later than July 20, 2015. The incorporation by reference of certain publications listed in the proposed rule is approved by the Director of the Federal Register as of May 22, 2017.

**ADDRESSES:** You may submit comments to the docket number identified in the heading of this document by any of the following methods:

- *Federal eRulemaking Portal:* Go to <http://www.regulations.gov>. Follow the online instructions for submitting comments.
- *Mail:* Docket Management Facility: U.S. Department of Transportation, 1200 New Jersey Avenue SE., West Building Ground Floor, Room W12–140, Washington, DC 20590–0001.
- *Hand Delivery or Courier:* 1200 New Jersey Avenue SE., West Building Ground Floor, Room W12–140, between 9 a.m. and 5 p.m. ET, Monday through Friday, except Federal holidays.
- *Fax:* 202–493–2251.

*Instructions:* For detailed instructions on submitting comments and additional information on the rulemaking process, see the Public Participation heading of the Supplementary Information section of this document. Note that all comments received will be posted without change to <http://www.regulations.gov>, including any personal information provided. Please see the “Privacy Act” heading below.

*Privacy Act:* Anyone is able to search the electronic form of all comments received into any of our dockets by the name of the individual submitting the comment (or signing the comment, if submitted on behalf of an association, business, labor union, etc.). You may review DOT’s complete Privacy Act Statement in the **Federal Register** published on April 11, 2000 (65 FR 19477–78) or you may visit <http://DocketInfo.dot.gov>.

*Docket:* For access to the docket to read background documents or comments received, go to <http://www.regulations.gov> or the street address listed above. Follow the online instructions for accessing the dockets.

See the **SUPPLEMENTARY INFORMATION** portion of this document (Section VII.; Public Participation) for DOT’s Privacy Act Statement regarding documents submitted to the agency’s dockets.

**FOR FURTHER INFORMATION CONTACT:** For non-legal issues, you may contact Ms. Claudia Covell, Office of Vehicle Safety Compliance (Telephone: 202–366–5293) (Fax: 202–366–7002). For legal issues, you may contact Mr. Otto Matheke, Office of the Chief Counsel (Telephone: 202–366–5253) (Fax: 202–366–3820). You may send mail to these officials at: National Highway Traffic Safety Administration, 1200 New Jersey Avenue SE., Washington, DC 20590.

**SUPPLEMENTARY INFORMATION:**

- I. Executive Summary
  - A. Purpose of the Regulatory Action
  - B. Need for Regulation
  - C. Summary of the Major Provisions of the Regulatory Action in Question
  - D. Costs and Benefits
- II. Background
  - A. Increased Motorcycle Related Fatalities and Injuries
  - B. Recent Downturns in Motorcyclist Fatalities Do Not Appear To Be a Reversal of a Decade-Long Trend
  - C. NHTSA’s Comprehensive Motorcycle Safety Program and Helmet Use
  - D. Novelty Helmets
    1. What is a novelty helmet?
    2. Novelty Helmet Use
  - E. Safety Consequences of Novelty Helmet Use
    1. Helmet Effectiveness
    2. Novelty Helmet Performance
    3. Real World Injury Risks and Novelty Helmets
  - F. Novelty Helmets and the Enforcement of State Helmet Laws
  - G. Federal Motor Vehicle Safety Standard No. 218
  - H. Recent Amendments to FMVSS No. 218
  - I. NHTSA’s Compliance Test Program
- III. Interpretation—Novelty Helmets Are Motor Vehicle Equipment
- IV. Proposed Amendments to FMVSS No. 218
  - A. Adding a Definition for Motorcycle Helmet
  - B. Proposed Amendments to Performance Requirements
- V. Effective Date
- VI. Benefits/Costs
- VII. Public Participation
- VIII. Rulemaking Analyses and Notices

**I. Executive Summary***A. Purpose of the Regulatory Action*

The purpose of this regulatory action is to reduce fatalities and injuries resulting from traffic accidents involving use of motorcycle helmets that fail to meet Federal Motor Vehicle Safety Standard (FMVSS) No. 218, Motorcycle helmets. Motorcycle crash-related fatalities are disproportionately high, compared as a measure of exposure, among all motor vehicle crash fatalities. In part, these fatalities can be attributed to the high number of motorcyclists wearing sub-standard motorcycle helmets. For example, NHTSA’s National Occupant Protection

Use Survey (NOPUS) has consistently shown that a portion of the motorcycling community wears novelty helmets. Specifically, in states where use is required for all motorcyclists, between 8–27% of motorcyclists have been observed wearing helmets that likely do not comply with FMVSS No. 218.<sup>12</sup>

These helmets, frequently marketed as “novelty” helmets, are seldom certified by the manufacturer as meeting Standard No. 218, but are sold to, and used by, on-road motorcycle riders and passengers.<sup>3</sup> Data from a study of motorcycle operators injured in crashes and transported to a shock trauma center indicates that 56 percent of those wearing a novelty helmet received head injuries as compared to 19 percent of those wearing a certified helmet.<sup>4</sup>

These novelty helmets are frequently sold as “motorcycle novelty helmets” or otherwise marketed to on-road motorcycle riders. However, these novelty helmets are usually offered along with a disclaimer that the helmet does not meet Standard No. 218, is not a protective device or is not intended for highway use. In States where universal helmet use laws often require riders and passengers to wear helmets meeting Standard No. 218, helmet users wearing novelty helmets often affix labels to their helmets that mimic the certification labels applied by manufacturers of helmets that are certified as meeting the Standard. Consequently, officials attempting to enforce compulsory helmet use laws in those States requiring that riders use helmets meeting Standard No. 218 currently find it difficult to enforce these laws to prevent the use of these novelty helmets.

In 2011, NHTSA attempted to make it easier for riders and law enforcement officials to identify non-compliant helmets by amending FMVSS No. 218 to require that all compliant helmets manufactured after May 13, 2013 have a certification decal which includes the

phrase “FMVSS No. 218”, the helmet manufacturer’s name or brand name of the helmet and the word “certified.” The new requirements were intended to make decals more difficult to counterfeit. However, this regulatory change has not been sufficient to solve the problem. Prior to May 13, 2013, the certification label requirements of FMVSS No. 218 stated simply that the certification label must consist of the letters “DOT” printed in a specified size range and located in a designated area on the rear of helmet. Facsimiles of that earlier label are widely available and are often added by “novelty helmet” users in mandatory helmet law states to their helmets to give them the appearance of a compliant helmet certified before the May 2013 change to the labeling requirements.

There are no regulatory limits on the age of motorcycle helmets that may be used to comply with a state motorcycle helmet use law. Therefore, a helmet user could assert that the wearing of a helmet manufactured prior to the May 2013 change to the certification label requirements meets the requirements of state helmet laws requiring use of an FMVSS No. 218 compliant helmet if the manufacturer properly certified the helmet with the three character “DOT” label. Until a sufficient period of time passes to establish that a helmet bearing the older certification label is likely to have not been certified as FMVSS No. 218 compliant by the manufacturer, a helmet with the older certification label would appear to be a compliant helmet. Novelty helmet users will be able to employ the counterfeit versions of the old certification label for many years into the future.

To enhance NHTSA’s ability to restrict the sale and subsequent use of novelty helmets, as well as assisting State law enforcement officials in enforcing laws requiring use of compliant helmets, this document contains an interpretation of the definition of “motor vehicle equipment” as defined by the National Traffic and Motor Vehicle Safety Act of 1966 (Safety Act), proposes adding a definition of “motorcycle helmet” to FMVSS No. 218 consistent with 49 U.S.C. 30102(a)(7)(C) as amended by the MAP–21 Act, and also proposes modifying the existing requirements of Standard No. 218. It is the agency’s view that adoption of these proposals will reduce fatalities and injuries attributable to the use of non-compliant helmets by increasing successful prosecutions in mandatory helmet law states, reducing the demand for novelty helmets and augmenting NHTSA’s ability to prevent the

importation and sale of non-compliant helmets.

#### B. Need for Regulation

Novelty helmets are sold to be worn by motorcycle riders for road use. However, these helmets provide little or no head protection in crashes. The proposed rule would assist local enforcement agencies in determining compliance with their State helmet laws and mitigate the fatalities, injuries, and societal costs that are caused by the use of improper helmets. The deterrent intent of the proposed rule is similar to other enforcement improving approaches such as the improvement of counterfeit currency detection.

NHTSA believes that at least some portion of novelty helmet use results from inadequate or asymmetric information, a major indication of market failure. Reasons for novelty helmet use may vary, but likely include some misjudgment regarding the risk associated with motorcycles and false expectations regarding the amount of protection that would be provided by some novelty helmet designs. In general, problems of inadequate information can be addressed by providing greater information to the public. NHTSA has attempted to do this through public education materials identifying the significant differences between novelty helmets and compliant helmets and expanded test programs identifying helmets that failed to meet the performance requirements of FMVSS No. 218. In the latter instance, NHTSA found that the difficulties and costs associated with attempting to test all the helmets in the marketplace could not be sustained. At the same time, critics of the expanded test program were quick to note that the results were incomplete. Efforts at increased public education regarding the risks and characteristics of novelty helmets also did not achieve desired results. Neither initiative resulted in any apparent reduction in the sale and use of novelty helmets.

In addition to riders’ misperceptions, novelty helmets can be lower cost, and some consumers find them to be more comfortable or stylish. When consumers choose to wear novelty helmets, it unnecessarily reduces their safety and burdens society with an unnecessary diversion of economic resources. Roughly three quarters of all economic costs from motor vehicle crashes are borne by society at large through taxes that support welfare payment mechanisms, insurance premiums, charities, and unnecessary travel delay. These costs may be even higher for motorcycle riders, who often experience more serious injuries when colliding

<sup>1</sup> *Motorcycle Helmet Use in XXXX—Overall Results*, Traffic Safety Facts Research Notes, DOT HS 809 867, 809 937, 810 840, 811 254, 811 610, and 811 759 available at <http://www.nrd.nhtsa.dot.gov/cats/listpublications.aspx?id=7&ShowBy=Category> (last accessed on 5/14/13).

<sup>2</sup> Data represent an aggregation of sampling units located in states where use is required for all motorcyclists.

<sup>3</sup> When NHTSA becomes aware that a manufacturer is fraudulently certifying non-compliant helmets, the agency can take legal action and impose fines on the manufacturer.

<sup>4</sup> *An Analysis of Hospitalized Motorcyclists in the State of Maryland Based on Helmet Use and Outcome*, available at <http://www.nhtsa.gov/Research/Crashworthiness> (last accessed on 04/08/13).

with larger vehicles and without protection from vehicle structures or seat belts. NHTSA also believes that this regulation is warranted by a compelling public need, specifically, the need for States to properly enforce the laws that they have passed in order to promote public safety. This proposed rulemaking is designed to enable both the identification of novelty helmets and enforcement of these laws. These requirements do not force individuals who do not currently wear complying helmets to wear complying helmets. Rather, by making it easier for law enforcement officials to enforce helmet laws, they make it more likely that riders will choose to purchase compliant helmets in order to avoid prosecution and fines.

NHTSA has worked with state law enforcement and safety officials for decades. The agency has repeatedly received reports from these sources regarding the difficulty of enforcing state helmet laws when the state law provides that a helmet must meet FMVSS No. 218. A series of court decisions from Washington State illustrate the difficulties that local law enforcement agencies face in enforcing mandatory helmet laws. These decisions implied that FMVSS No. 218 is a complex performance standard intended to apply to helmet manufacturers and not to helmet users and did not address the difficulties of proof for law enforcement agency to show that a helmet does not meet FMVSS No. 218. This proposed rule seeks to remedy this problem by the adoption of objective physical criteria which can be employed by helmet users and law enforcement officials to determine if a helmet complies with FMVSS No. 218.

### *C. Summary of the Major Provisions of the Regulatory Action in Question*

#### 1. Interpretation—Novelty Helmets Are Motor Vehicle Equipment

NHTSA is issuing an interpretation of the statutory definition of “motor vehicle equipment” as amended by the MAP-21 Act. This interpretation sets forth the agency’s position on which helmets are subject to NHTSA’s jurisdiction and, therefore, must meet Standard No. 218. The original definition of “motor vehicle equipment” in the Vehicle Safety Act of 1966 did not include protective equipment such as motorcycle helmets. In 1970, Congress amended the Safety Act to substantially expand the foregoing definition. The 1970 amendment changed the definition of “motor vehicle equipment” to include “any device, article or apparel . . .

manufactured, sold, delivered, offered or intended for use exclusively to safeguard motor vehicles, drivers, passengers, and other highway users from the risk of accident, injury or death.” In 2012, the MAP-21 Act modified this definition of “motor vehicle equipment” in two ways. First, the definition was amended by specifically adding the term “motorcycle helmet” to the description of regulated items. Second, the MAP-21 Act amended the definition of “motor vehicle equipment” by replacing the phrase “. . . manufactured, sold, delivered, offered or intended for use exclusively to safeguard motor vehicles, drivers, passengers, and other highway users . . .” with “. . . manufactured, sold, delivered, or offered to be sold for use on public streets, roads, and highways with the apparent purpose of safeguarding motor vehicles and highway users . . .”

The agency’s interpretation of this definition, based on an examination of the text of the 2012 MAP-21 amendment and the evolution of the original 1970 definition before its enactment as well as its legislative history, concludes that Congress meant to grant NHTSA authority to regulate motorcycle helmets and that any determination of what constitutes motor vehicle equipment must be governed by an objective standard and not controlled by the subjective intent of a manufacturer or seller. This conclusion is supported by the explicitly pronounced Congressional goal of reducing fatalities and injuries resulting from the use of helmets that did not provide a minimum level of safety. The agency’s interpretation further notes the absence of any suggestion in the legislative history that Congress meant to have the definition negated by subjective declarations of intended use that are contrary to an objective measure of actual sale, use and “apparent purpose.”

By applying the objective criterion of an “apparent purpose to safeguard” highway users, NHTSA concludes that novelty helmets are items of motor vehicle equipment. If a helmet is marketed and sold to highway users and has outward characteristics consistent with providing some level of protection to the wearer, such a helmet is a “motorcycle helmet” with the “apparent purpose” of protecting highway users from harm. It is, therefore, “motor vehicle equipment.” Under the foregoing circumstances, the addition of a label stating the manufacturer’s subjective intent that a helmet is “not protective equipment,” “not DOT certified,” or “not for highway use”

would, in NHTSA’s view, not be sufficient to conclude that a helmet is not “motor vehicle equipment.”

#### 2. Defining “Motorcycle Helmet”

This document also proposes adding a definition of “motorcycle helmet” to Standard No. 218 to effectuate the interpretation of the statutory definition of motor vehicle equipment described above. The proposed definition seeks to more clearly establish those helmets that are required to comply with FMVSS No. 218 by establishing conditions dictating which helmets will be considered as being intended for highway use.

NHTSA’s proposed definition of “motorcycle helmet” establishes that “hard shell headgear” meeting any of four conditions are motorcycle helmets. The criteria relate to the manufacture, importation, sale, and use of the headgear in question. First, a helmet is a motorcycle helmet if it is manufactured or offered for sale with the apparent purpose of safeguarding highway users against risk of accident, injury, or death. Under the second criterion, a helmet is a motorcycle helmet if it is manufactured or sold by entities also dealing in certified helmets or other motor vehicle equipment and apparel for motorcycles or motorcyclists. The third proposed criterion states that a helmet is a motorcycle helmet if it is described or depicted as a motorcycle helmet in packaging, promotional information or advertising. The fourth criterion states that helmets presented for importation as motorcycle helmets in the Harmonized Tariff Schedule would also be motorcycle helmets.

Because the second, third and fourth criteria may capture helmets sold legitimately for off-road use or non-motor vehicle applications, NHTSA’s proposed definition exempts helmets labeled as meeting recognized safety standards for off-highway uses from the proposed definition.

#### 3. Proposed Amendments to Performance Requirements

NHTSA is also proposing modifications to the criteria helmets must meet in order to comply with Standard No. 218. The proposal seeks to establish in S5.1 (as proposed), a set of threshold requirements to distinguish helmets that qualify for testing to the existing performance requirements of the Standard in S5.2 through and including S5.4. These threshold requirements are hereafter called preliminary screening requirements. The preliminary screening criteria proposed in S5.1 are dimensional and

compression requirements that all helmets intended for highway use must meet. These preliminary screening requirements identify helmets which, under the current state of known technologies, are incapable of meeting the minimum performance requirements for impact attenuation currently incorporated in FMVSS No. 218. NHTSA is also proposing an alternative compliance process by which manufacturers of helmets that do not meet the foregoing preliminary screening requirements may submit a petition including information and test data to the agency, to establish that a particular helmet design is capable of meeting all the requirements of Standard No. 218, excluding the preliminary screening requirements.

The agency proposes to add these preliminary screening requirements to alleviate the test burdens of NHTSA's current compliance test program. By reducing the complexity of compliance testing, the proposal would allow the agency to test more helmet brands and models without increased costs. The proposed requirements also address concerns by test laboratories that their equipment will be damaged while testing sub-standard helmets. Moreover, by establishing a set of physical criteria that may be employed to identify non-compliant helmets, these proposed requirements will assist in the enforcement of helmet laws specifying that motorcycle riders must wear helmets meeting Standard No. 218.

The proposed preliminary screening requirements specify that any helmet with an inner liner that is less than 0.75 inch (19 mm) thick would be considered incapable of complying with FMVSS No. 218. Similarly, any helmet with an inner liner and shell having a combined thickness less than 1 inch (25 mm) would also presumably not be able to comply with the standard. This document also proposes that any helmet, even those with an inner liner meeting the minimum thickness criteria

or the liner and shell combination meeting the overall thickness, must also be sufficiently resistant to deformation to ensure that the liner is capable of some level of energy absorption.

The document also sets forth proposals for measuring compliance with the preliminary screening requirements. Inner liner thickness could be measured with a thin metal probe. Measuring the combined thickness of the outer shell and inner liner could be taken using a large caliper or measuring the distance derived by noting the difference between the topmost point of a stand supporting the helmet and the topmost point of the helmet on the stand. The document also proposes that liner deformation be measured after applying force using a weighted probe or a dial indicator force gauge. To reduce the possibility of error caused by variations in helmet designs, NHTSA is proposing that the measurements of inner liner thickness, combined helmet/inner liner thickness and inner liner compression characteristics be conducted at the crown or apex of the helmet.

To address concerns that the proposed preliminary screening requirements may adversely affect the adoption and development of new helmet technologies and materials, the proposed amendments also set forth an alternative compliance process, in a proposed Appendix. This alternative compliance process provides helmet manufacturers with a means to demonstrate that helmets that do not adhere to the preliminary screening requirements can otherwise be properly certified and are capable of meeting all of the other requirements of Standard No. 218.

*D. Costs and Benefits*

The benefits of the proposed rule are based on the use of the dimensional and compression requirements and the proposed Appendix as criteria to distinguish certified from non-certified motorcycle helmets. Behavioral change

among motorcycle riders as a result of the rule is difficult to predict. However, the agency believes that 5 to 10 percent of the novelty helmet users in States that have a Universal Helmet Law would eventually make a switch to avoid being ticketed or fined, and that this is a modest and achievable projection. As a result, the proposal would save 12 to 48 lives annually. In addition, the analysis also estimates the maximum potential benefit of the rule which corresponds to a hypothetical scenario of all novelty helmet users in States that have universal helmet laws becoming 218-certified helmet users (the 100-percent scenario). Under this hypothetical 100-percent scenario, 235 to 481 lives would be saved. Note that this 100-percent scenario is theoretical since some novelty-helmeted motorcyclists would still be expected to circumvent the helmet laws by continuing taking the risk of wearing novelty helmets. Therefore, the estimated costs and benefits for the 100-percent scenario are not used (and not appropriate) for determining the effects of the proposed rule. However, they do indicate the potential savings in social costs that are offered by FMVSS No. 218-compliant helmets and the importance of educating the public to this potential. The discounted annualized costs and benefits are presented below. The numbers exclude benefits from nonfatal injuries prevented as well as private disbenefits to riders who prefer to wear novelty helmets, but switch to compliant helmets to avoid law enforcement. Since these benefits are obtained in violation of State law, their status is uncertain. A more detailed discussion of this issue is included in the Non-quantified impacts section of the PRIA. We are not assuming for this analysis that any novelty helmet users in States that do not have Universal Helmet Laws will switch to 218-certified helmets; however, we note that this may occur if users voluntarily make this switch.

**ANNUALIZED COSTS AND BENEFITS**  
[In millions of 2012 dollars]

	Regulatory costs	Benefits	Net benefits *
<b>3 Percent Discount</b>			
5-percent scenario .....	\$1.2	\$109.7–\$219.3	\$108.5–\$218.1
10-percent scenario .....	1.8	219.3–438.3	217.5–436.5
100-percent scenario .....	12.5	2,146.3–4,392.7	2,133.8–4,380.3
<b>7 Percent Discount</b>			
5-percent scenario .....	1.2	95.9–192.2	94.7–191.0
10-percent scenario .....	1.8	192.2–384.4	190.4–382.6

ANNUALIZED COSTS AND BENEFITS—Continued  
[In millions of 2012 dollars]

	Regulatory costs	Benefits	Net benefits *
100-percent scenario .....	12.5	1,881.7–3,851.3	1,869.2–3,838.8

\* Excludes benefits from non-fatal injuries prevented and any utility lost by novelty helmet riders who switch to FMVSS 218 compliant helmets. Since any such utility is obtained in violation of State law, its status is uncertain. See “Non-quantified Impacts” section of the PRIA for further discussion.

II. Background

A. Increased Motorcycle Related Fatalities and Injuries

There is a pressing need for improvements in motorcycle safety. As shown in NHTSA’s research, motorcycle

crash-related fatalities have been disproportionately high, compared as a measure of exposure, among all motor vehicle crash fatalities. According to the Fatality Analysis Reporting System (FARS), motorcyclist<sup>5</sup> fatalities increased from 3,270 fatalities in 2002

to 4,612 fatalities in 2011. During this time, motorcyclist fatalities as a percent of motor vehicle occupants and non-occupants killed in traffic crashes nearly doubled from 8% to 14%. Refer to Figure 1.

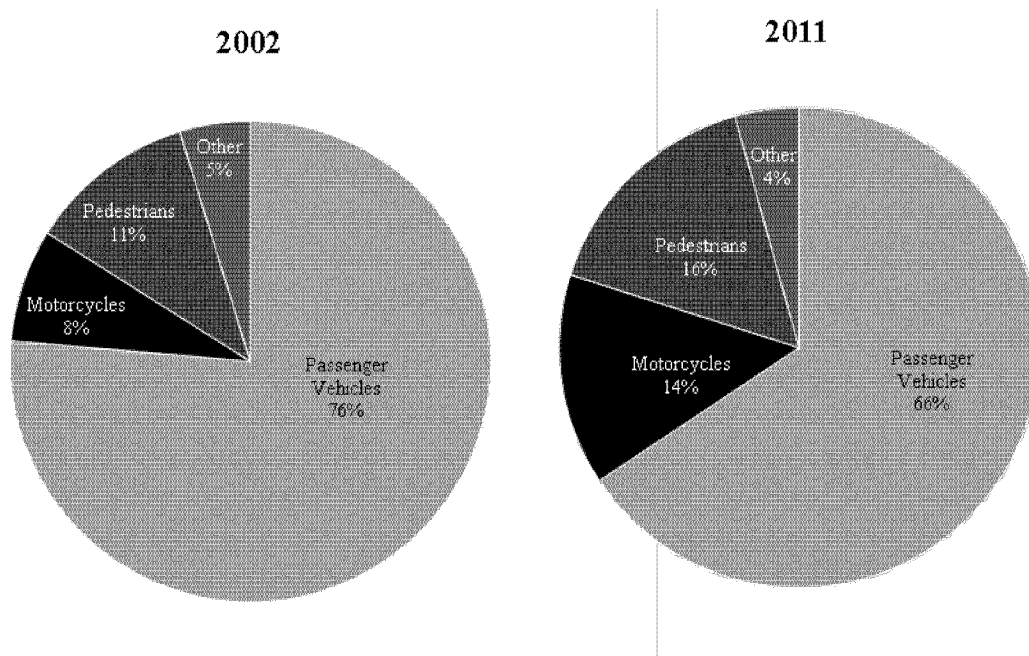


Figure 1. Motor Vehicle Related Fatalities Due to Traffic Crashes

In contrast to the total number of passenger vehicle and pedestrian fatalities, which have decreased over the past decade, motorcyclist fatalities increased significantly. Some claim this is due to increased exposure; however, registrations for both motorcycle and passenger vehicles have increased over this time period, yet it is only

motorcyclist fatalities which have risen. In 2011, motorcycles accounted for only about 3 percent of all registered vehicles and 0.6 percent of all vehicle miles traveled (VMT)<sup>6</sup> yet present themselves as a much larger proportion of the overall motor vehicle related fatalities due to traffic crashes. Compared with a passenger vehicle occupant, a

motorcyclist is over 30 times more likely to die in a crash, based on VMT.<sup>7</sup> Over the same time period, the number of motorcyclists injured increased from 65,000 in 2002 to 81,000 in 2011 accounting for 4 percent of all occupant injuries.<sup>8</sup> Simultaneously, the number of passenger vehicle occupants injured decreased by 25 percent.<sup>9</sup>

<sup>5</sup> “Motorcyclist” refers to both motorcycle drivers and motorcycle passengers.

<sup>6</sup> In August 2011, starting with 2009 data, FHWA implemented an enhanced methodology for estimating registered vehicles and vehicle miles traveled by vehicle type. In addition, revisions were

made to 2008 and 2007 data using the enhanced methodology. As a result, vehicle involvement rates may differ, and in some cases significantly, from previously published rates.

<sup>7</sup> *Motorcycles: 2011 Data, Traffic Safety Facts*, DOT HS 811 765, available at <http://www.nrd.nhtsa.dot.gov/Pubs/811765.pdf> (last accessed on 5/14/13).

<sup>8</sup> *Ibid.*

<sup>9</sup> *Traffic Safety Facts 2011, Annual Report Overview*, DOT HS 811 753, available at <http://www.nrd.nhtsa.dot.gov/Pubs/811765.pdf> (last accessed on 5/14/13).

Compared with a passenger vehicle occupant, a motorcyclist is 5 times more likely to be injured, based on VMT.<sup>10</sup>

The most common fatal injuries sustained by motorcyclists are injuries to the head.<sup>11</sup> Head injuries are common among non-fatal injuries as well. A study of data from the Crash Outcome Data Evaluation System (CODES) indicates that median charges for hospitalized motorcyclists who survived to discharge were 13 times higher for those incurring a traumatic brain injury (TBI) compared to those who did not sustain a TBI (\$31,979 versus \$2,461).<sup>12</sup>

The National Transportation Safety Board (NTSB) has also made a similar assessment of the motorcycle safety problem. They issued a November 2010 safety alert titled "Motorcycle Deaths Remain High".<sup>13</sup>

#### *B. Recent Downturns in Motorcyclist Fatalities Do Not Appear To Be a Reversal of a Decade—Long Trend*

Compared to 2010, overall traffic fatalities fell by 2 percent in 2011. Occupant fatalities fell by 4 percent in passenger cars and, 5 percent in light trucks. However, occupant fatalities increased by 20 percent in large trucks and 2 percent on motorcycles. In addition, pedestrian fatalities increased by 3 percent and pedalcyclist fatalities increased by 9 percent.<sup>14</sup>

[www.nrd.nhtsa.dot.gov/pubs/811753.pdf](http://www.nrd.nhtsa.dot.gov/pubs/811753.pdf) (last accessed on 5/14/13). Based on calculations using data provided in Table 1.

<sup>10</sup> *Motorcycles: 2011 Data, Traffic Safety Facts*, DOT HS 811 765, available at <http://www.nrd.nhtsa.dot.gov/Pubs/811765.pdf> (last accessed on 5/14/13).

<sup>11</sup> *Bodily Injury Locations in Fatally Injured Motorcycle Riders* Traffic Safety Facts, DOT HS 810 856, available at <http://www.nrd.nhtsa.dot.gov/Pubs/810856.pdf> (last accessed on 2/1/12).

<sup>12</sup> *Motorcycle Helmet Use and Head and Facial Injuries: Crash Outcomes in CODES-Linked Data*, DOT HS 811 208 available at <http://www.nrd.nhtsa.dot.gov/Pubs/811208.pdf> (last accessed on 1/31/12).

<sup>13</sup> *Motorcycle Deaths Remain High*, National Transportation Safety Board Safety Alert SA-012, November 2010, available at [http://www.nts.gov/doclib/safetyalerts/SA\\_012.pdf](http://www.nts.gov/doclib/safetyalerts/SA_012.pdf) (last accessed on 1/31/12).

<sup>14</sup> *Traffic Safety Facts 2011*, Annual Report Overview, DOT HS 811 753, available at <http://www.nrd.nhtsa.dot.gov/pubs/811753.pdf> (last accessed on 5/14/13). See Table 2.

The 2011 increase in motorcycle occupant fatalities followed a 3 year period of decline. The agency notes that the 2008, 2009 and 2010 reductions in fatalities and injuries coincided with a significant economic downturn. Past economic downturns have resulted in similar declines. The three most notable periods of across-the-board declines in overall traffic fatalities, including the current period, coincide with the three most significant economic downturns since the early 1970s. Following the first and second economic downturns, the overall number of fatalities nearly rebounded to the previous levels. The agency observes that motorcycle occupant fatalities increased slightly in 2011 and anticipates that they will likewise rebound as the economy improves. Even with the 2008–10 reductions in fatalities and injuries, motorcyclist fatalities remain far above 2002 levels.

#### *C. NHTSA's Comprehensive Motorcycle Safety Program and Helmet Use*

NHTSA's comprehensive motorcycle safety program<sup>15 16</sup> seeks to: (1) Prevent motorcycle crashes; (2) mitigate rider injury when crashes do occur; and (3) provide rapid and appropriate emergency medical services response and better treatment for crash victims. As shown in Table 1 below, the elements of the problem of motorcyclist fatalities and injuries and the initiatives for addressing them can be organized using the Haddon Matrix, a paradigm used for systematically identifying opportunities for preventing, mitigating and treating particular sources of injury. As adapted for use in addressing motor vehicle injuries, the matrix is composed of the three time phases of a crash event

<sup>15</sup> *US Department of Transportation Action Plan to Reduce Motorcycle Fatalities*, October 2007, available at <http://www.nhtsa.gov/DOT/NHTSA/Communication%20&%20Consumer%20Information/Articles/Associated%20Files/4640-report2.pdf> (last accessed on 1/31/12).

<sup>16</sup> *Countermeasures That Work: A Highway Safety Countermeasure Guide for State Highway Safety Offices*, Sixth Edition (2011), February 2011: pp. 5–1 through 5–24, DOT HS 811 258, available at <http://www.nhtsa.gov/staticfiles/nti/pdf/811444.pdf> (last accessed on 1/21/12).

(I-Crash Prevention—Pre-Crash, II-Injury Mitigation—During a Crash, and III-Emergency Response—Post-Crash), along with the three areas influencing each phase (A-Human Factors, B-Vehicle Role, and C-Environmental Conditions).

While a number of factors are believed to account for this increase in fatalities, including expanding motorcycle sales, increases in the percentage of older riders, and increases in engine size, motorcyclist head injuries are a leading cause of death. Effectively addressing motorcyclist head injuries or any other motor vehicle safety problem requires a multi-pronged, coordinated program in all of the areas of the Haddon Matrix, as shown in Table 1. Because no measure in any of the nine areas is a complete solution, the implementation of a measure in one area does not eliminate or reduce the need to implement measures in the other areas.

For example, while NHTSA encourages efforts in all areas of the motorcycle safety matrix below, including the offering of motorcyclist training, such training cannot substitute for wearing a helmet that complies with FMVSS No. 218. The results of studies examining the effectiveness of motorcyclist training in actually reducing crash involvement are mixed.<sup>17</sup> To argue that taking a motorcycle operating course eliminates the need for motorcycle helmets is akin to arguing that taking a driver's education course for driving a passenger vehicle eliminates the need for seat belts, air bags, padding, and other safety equipment in motor vehicles.

<sup>17</sup> *Approaches to the Assessment of Entry-Level Motorcycle Training: An Expert Panel Discussion*, Traffic Safety Facts Research Note, February 2010, DOT HS 811 242, available at <http://www.nhtsa.gov/staticfiles/nti/motorcycles/pdf/811242.pdf> (last accessed on 1/31/12). The report concluded:

While basic rider courses teach important skills, the effectiveness of training as a safety countermeasure to reduce motorcycle crashes is unclear. Studies conducted in the United States and abroad to evaluate rider training have found mixed evidence for the effect of rider training on motorcycle crashes.

TABLE 1—NHTSA’S MOTORCYCLE SAFETY PROGRAM <sup>18</sup>

	A-Human factors	B-Vehicle role	C-Environmental conditions
I-Crash Prevention (Pre-Crash) .....	<ul style="list-style-type: none"> <li>• Rider Education &amp; Licensing.</li> <li>• Impaired Riding.</li> <li>• Motorist Awareness.</li> <li>• State Safety Program.</li> <li>• Use of Protective Gear.</li> <li>• Use of Protective Gear.</li> </ul>	<ul style="list-style-type: none"> <li>• Brakes, Tires, &amp; Controls.</li> <li>• Lighting &amp; Visibility.</li> <li>• Compliance Testing &amp; Investigations.</li> </ul>	<ul style="list-style-type: none"> <li>• <i>Roadway Design, Construction, Operations &amp; Preservation.</i></li> <li>• <i>Roadway Maintenance.</i></li> <li>• <i>Training for Law Enforcement.</i></li> </ul>
II-Injury Mitigation (Crash) .....	<ul style="list-style-type: none"> <li>• Use of Protective Gear.</li> </ul>	<ul style="list-style-type: none"> <li>• Occupant Protection (e.g., helmets, airbags).</li> </ul>	<ul style="list-style-type: none"> <li>• <i>Roadway Design, Construction, &amp; Preservation.</i></li> </ul>
III-Emergency Response (Post-Crash).	<ul style="list-style-type: none"> <li>• Education &amp; Assistance to EMS.</li> <li>• Bystander Care.</li> </ul>	<ul style="list-style-type: none"> <li>• Automatic Crash Notification.</li> <li>• Data Collection &amp; Analysis.</li> </ul>	

Mitigating rider injury in crashes through the use of motorcycle helmets is a highly effective measure for improving motorcycle safety. The steady toll of motorcyclist fatalities would have been significantly lower had all motorcyclists been wearing motorcycle helmets that meet the performance requirements issued by this agency. Additional information about helmet effectiveness and the real world risk of not using helmets is discussed later in this document.

In November 2010, the NTSB issued a Safety Alert in which that agency expressed similar conclusions about the value of increased use of helmets that comply with FMVSS No. 218. The Safety Alert said:

- FMVSS No. 218-compliant helmets are extremely effective. They can prevent injury and death from motorcycle crashes.
- A motorcyclist without a helmet, who is involved in a crash, is three times more likely to sustain brain injuries.
- Wearing a helmet reduces the overall risk of dying in a crash by 37%.
- In addition to preventing fatalities, FMVSS No. 218-compliant helmets reduce the need for ambulance service, hospitalization, intensive care, rehabilitation, and long-term care.
- Wearing a helmet does *not* increase the risk of other types of injury.

The value of helmet use has been demonstrated in studies of injuries resulting from crashes, as discussed below in the section titled “Real World Injury Risks and Novelty Helmets.”

*D. Novelty Helmets*

1. What is a novelty helmet?

Commonly sold with a disclaimer that they are not for highway use, certain helmets worn by motorcycle riders are marketed under a variety of helmet pseudonyms. Manufacturers and sellers’ market them under names such as “novelty motorcycle helmets,” “rain bonnets,” “lids,” “brain buckets,” “beanies,” “universal helmets,” “novelty helmets,” or “loophole lids,” and others. Typically, novelty helmets cover a smaller area of the head than compliant helmets and, because they usually have very thin liners, sit closer to a user’s head. These helmets lack the strength, size, and ability to absorb energy necessary to protect highway users during a crash. Yet, they are sold to highway users and used in great numbers by motorcyclists.

Novelty helmets often display labels stating that they are not intended for highway use and are not protective gear. Some examples of labels found on novelty helmets NHTSA has examined include:

- WARNING: This is a novelty item and not intended for use as safety equipment.<sup>19</sup>
- This helmet is a NOVELTY item only and was not made for, intended for, nor designated for use as protective headgear under any circumstances. The manufacturer disclaims all responsibility if used in any manner other than a novelty item.<sup>20</sup>
- Warning: This novelty helmet is not D.O.T. certified. It does not meet ANSI, SNELL or any other American or International Safety standards. Do not wear this helmet to operate motorized or non-motorized street legal or off-road

vehicles. Doing so could result in death.<sup>21</sup>

Throughout this document, we will refer to these types of helmets as *novelty helmets*.

2. Novelty Helmet Use

Although use of a properly certified FMVSS No. 218-compliant motorcycle helmet can significantly reduce the possibility of death or injury in a crash, a significant percentage of motorcyclists either wear novelty helmets or do not wear any helmet at all. In fact, motorcyclists appear to be forsaking the use of compliant helmets in favor of novelty helmets in high numbers in States with universal helmet use laws. (See Table 2.)

In 2011, 20 States and the District of Columbia had helmet use laws requiring all motorcyclists to wear helmets. According to a NHTSA survey, in States where use is required for all motorcyclists, FMVSS No. 218-compliant helmets had an observed use rate of 84%; novelty helmets had an observed use rate of 12%; and no helmets were worn by an estimated 4 percent of motorcyclists. Comparatively, in the States with partial or no helmet use laws, the observed use rate of FMVSS No. 218-compliant helmets was 50%; 5 percent used novelty helmets; and 45 percent did not use a helmet at all.<sup>22</sup> Partial helmet use laws typically require helmet use only by persons 17 years of age or younger, even though 70 percent of the teenagers killed on motorcycles are 18 or 19 years of age and even though teenagers of all ages account for only about 4.5 percent of all motorcyclist fatalities.<sup>23</sup>

Motorcycle helmet use rates in 2011 are presented below in tabular form:

<sup>18</sup> Activities shown in italics are either implemented jointly with, or conducted by, the Federal Highway Administration.

<sup>19</sup> Hot Leathers model Hawk.

<sup>20</sup> Advanced Carbon Composites model Polo Novelty Helmet.

<sup>21</sup> Biltwell Inc. model Novelty Helmet.

<sup>22</sup> *Motorcycle Helmet Use in 2011—Overall Results*, Traffic Safety Facts Research Note, DOT HS 811 610, available at <http://www.nrd.nhtsa.dot.gov/Pubs/811610.pdf> (last accessed on 5/16/12).

<sup>23</sup> Insurance Institute for Highway Safety, *Teenagers: Fatality Facts 2008*, available at [http://www.iihs.org/research/fatality\\_facts\\_2008/teenagers.html](http://www.iihs.org/research/fatality_facts_2008/teenagers.html) (last accessed on 1/19/12).



TABLE 2—MOTORCYCLE HELMET USE RATES IN 2011

Motorcyclists	States with a universal helmet use law	States with partial or no helmet use law
Percentage using FMVSS No. 218-compliant helmets .....	84	50
Percentage using novelty helmets .....	12	5
Percentage not using any helmet .....	4	45

These data show that a considerable number of motorcyclists in all States are wearing novelty helmets and that novelty helmet use appears to be remaining steady over time in States with helmet laws.

NHTSA believes that some portion of novelty helmet use results from inadequate or asymmetric information, a major indication of market failure. Reasons for novelty helmet use may vary, but likely include some misjudgment regarding the risk associated with motorcycles and false expectations regarding the protection that would be provided by some novelty helmet designs. In general, problems of inadequate information can be addressed by providing greater information to the public. As noted above, NHTSA has attempted to do this through the dissemination of rider education materials and by publishing the results of an intensive expanded compliance test program. The latter proved to be ineffective and unsustainable while the former has not produced any appreciable results.

In addition to riders' misperceptions, novelty helmets can be lower cost, and some consumers find them to be more comfortable or stylish. When consumers choose to wear novelty helmets, they unnecessarily reduce their safety and burden society with an unnecessary diversion of economic resources. Roughly three quarters of all economic costs from motor vehicle crashes are borne by society at large through taxes that support welfare payment mechanisms, insurance premiums, charities, and unnecessary travel delay. These costs may be even higher for motorcycle riders, who often experience more serious injuries when colliding with larger vehicles and without protection from vehicle structures or seat belts. NHTSA also believes that this regulation is warranted by a compelling public need, specifically, the need for States to properly enforce the laws that they have passed in order to promote public safety. This proposed rulemaking is designed to enable both the identification of novelty helmets and enforcement of these laws. These requirements do not force individuals

who do not currently wear complying helmets to wear complying helmets. Rather, by making it easier for law enforcement officials to enforce helmet laws, they make it more likely that riders will choose to purchase compliant helmets in order to avoid prosecution and fines.

#### *E. Safety Consequences of Novelty Helmet Use*

##### 1. Helmet Effectiveness

Motorcycle helmets are at least 37% effective in preventing fatalities in motorcycle crashes.<sup>24 25</sup> Based on the data for 2009, the agency estimates that helmets saved at least 1,483 lives in that year. In order to employ a matched pair method of analysis, the estimates were derived by examining crashes in FARS involving motorcycles with two occupants, at least one of whom was killed.<sup>26</sup> NHTSA believes the estimate of 1,483 lives saved by helmet use in 2009 actually underreports the effectiveness of motorcycle helmets that comply with FMVSS No. 218. Because the foregoing estimate examined crashes where a helmet was used, whether it complied with FMVSS No. 218 or not, we believe the inclusion of motorcyclists wearing novelty helmets in the "helmeted" category of the database diluted the actual effectiveness of certified helmets. NHTSA estimates that if there had been 100 percent use of FMVSS No. 218-compliant helmets among motorcyclists, an additional 732 or more lives could have been saved that year.<sup>27</sup>

<sup>24</sup> *Motorcycle Helmet Effectiveness Revisited*, Technical Report, March 2004, DOT HS 809 715, available at <http://www.nrd.nhtsa.dot.gov/Pubs/809715.pdf> (last accessed on 1/31/12).

<sup>25</sup> Head injuries are not the only cause of crash fatalities. When we speak of "effectiveness" of helmets in reducing the risk of death in fatal motorcycle crashes, all types of injuries suffered by riders are included. While it would be useful to know the effectiveness of helmets in preventing potentially fatal head injuries alone, the purpose of effectiveness as calculated in this technical report was to provide a measure of the overall difference in survival value in a potentially fatal crash that was attributable to the proper use of a helmet.

<sup>26</sup> *Motorcycle Helmet Effectiveness Revisited*, Technical Report, March 2004, DOT HS 809 715, available at <http://www.nrd.nhtsa.dot.gov/Pubs/809715.pdf> (last accessed on 1/31/12).

<sup>27</sup> *Lives Saved in 2009 by Restraint Use and Minimum-Drinking-Age Laws*, Traffic Safety Fact,

Data also suggest that unhelmeted motorcyclists suffer proportionately more fatal head injuries. A study of death certificate information about 8,539 motorcyclists who were fatally injured in 2000, 2001, and 2002 revealed a direct correlation between head injury and helmet use. While about 35 percent of the helmeted motorcyclists who died had a head injury, about 51 percent of the unhelmeted motorcyclists who died had a head injury. This data was based on the National Center for Health Statistics (NCHS) Multiple Cause of Death (MCoD) data set that is linked to NHTSA's FARS. The data set includes data on all recorded fatalities that occurred in the United States during the study period, excluding the 825 fatally injured motorcyclists whose death certification information was unavailable.<sup>28</sup> As stated previously, we believe that the benefit of helmets in reducing head injury is underreported because the study included motorcyclists wearing novelty helmets in the group of helmeted riders.

##### 2. Novelty Helmet Performance

Novelty helmets do not provide protection comparable to that provided by an FMVSS No. 218-compliant helmet. When NHTSA tested novelty helmets using the protocols described in FMVSS No. 218, the agency found that they failed all or almost all of the safety performance requirements in the standard.<sup>29</sup> Based on these tests, the agency concluded that novelty helmets, despite outward appearances, do not protect motorcyclists from both impact or penetration threats, and their chin straps are incapable of keeping the

September 2010, DOT HS 811 383, available at <http://www.nrd.nhtsa.dot.gov/pubs/811383.pdf> (last accessed on 1/31/12).

<sup>28</sup> *Bodily Injury Locations in Fatally Injured Motorcycle Riders*, Traffic Safety Facts, October 2007, DOT HS 810 856, available at <http://www.nrd.nhtsa.dot.gov/Pubs/810856.pdf> (last accessed on 1/31/12).

<sup>29</sup> *Summary of Novelty Helmet Performance Testing*, Traffic Safety Facts Research Note, DOT HS 810 752, available at [http://www.nhtsa.gov/DOT/NHTSA/Traffic%20Injury%20Control/Studies%20&%20Reports/Associated%20Files/Novelty\\_Helmets\\_TSF.pdf](http://www.nhtsa.gov/DOT/NHTSA/Traffic%20Injury%20Control/Studies%20&%20Reports/Associated%20Files/Novelty_Helmets_TSF.pdf) (last accessed on 1/31/12).

helmets on the heads of their users during crashes.

3. Real World Injury Risks and Novelty Helmets

Novelty helmets have been demonstrated to be unsafe in laboratory tests and in studies of real world motorcycle crashes. A study of motorcycle operators injured during a motor vehicle crash and subsequently transported to the R. Adams Cowley Shock Trauma Center (STC) in Baltimore, MD was conducted between January 2007 and May 2008.<sup>30</sup> During this study, 244 of the 517 patients admitted granted consent to have

photographs taken of the helmets they were using during the crash and the helmets were categorized as either certified or novelty.

Data for these patients were obtained from the trauma registry, hospital discharge records, autopsy reports, and police crash reports, and were coded using the Abbreviated Injury Scale<sup>31</sup> (AIS). The AIS is a scoring system that ranks the severity of an injury on a scale between 1 and 6. The AIS score is used to determine the threat to life correlated to a specific injury, rather than comprehensively evaluating the severity of injuries. A score of 1 indicates a

minor injury, while a score of 6 represents an injury that currently is untreatable and extremely difficult to survive. The Maximum Abbreviated Injury Scale (MAIS) is the maximum AIS score of injuries sustained.

A comparison of head injury and helmet type revealed that 56 percent (28/50) of those wearing a novelty helmet received a head injury (AIS 1–6) as compared to 19 percent (37/194) of those wearing a certified helmet. The breakdown of the severity as measured by the Head MAIS of motorcycle operators who sustained a head injury is summarized below in Table 3.

TABLE 3—HELMET USE AND HEAD MAIS AMONG MOTORCYCLE OPERATORS

Head MAIS	1 (percent)	2 (percent)	3 (percent)	4 (percent)	5 (percent)	6 (percent)	Total percent having head injury
Certified (n=194) .....	3	4	6	3	3	0	19
Novelty (n=50) .....	16	12	16	10	2	0	56

Table 3 shows the safety benefit of using FMVSS No. 218-certified helmets by the fewer number of head injuries at the levels MAIS 1 through 4 in crashes that were at least as severe, if not more severe, than crashes involving novelty helmets.<sup>32</sup> The number of patients admitted to the STC who sustained a head injury at the MAIS 5 and 6 levels during the study was low due to the fact that patients with MAIS 5 or greater injuries are likely to have suffered fatal injuries during a crash and are not likely to be admitted to the STC; therefore, this study did not measure significant differences in performance of certified and novelty helmets at MAIS 5 and 6 levels. Note that these injury rates cannot be interpreted as the true protective effects (*i.e.*, effectiveness) for these two types of helmets because the study did not take into account the respective helmet use rates (*i.e.*, the exposure data) and the limited sample size.

F. Novelty Helmets and the Enforcement of State Helmet Laws

Novelty helmets present particular challenges to State and local government authorities seeking to enforce helmet use laws. These laws often require that riders use helmets that

meet the requirements of FMVSS No. 218.<sup>33</sup> However, because novelty helmets are similar in outward appearance to FMVSS No. 218-compliant helmets, successfully enforcing a State use law that requires the use of a FMVSS No. 218-compliant helmet necessitates that enforcement officials do more than simply affirm the absence or presence of a helmet when dealing with a motorcyclist using a novelty helmet. When a motorcyclist uses a novelty helmet in lieu of an FMVSS No. 218-compliant helmet, law enforcement officers and hearing officers or judges must have means of determining that the novelty helmet does not meet FMVSS No. 218.

The certification label required by FMVSS No. 218 is, of course, intended to serve as evidence that a helmet is certified by its manufacturer to FMVSS No. 218. Unfortunately, counterfeit certification labels are widely available. While we expect the recent final rule revising the certification label requirements<sup>34</sup> will make production of false certification labels more difficult in the future, nothing prevents the continued production and use of counterfeit certification labels by motorcyclists intent on using novelty helmets, including motorcycle helmets

manufactured prior to the effective date of the final rule.

Given the availability of false certification labels, law enforcement officials attempting to establish that a novelty helmet user has violated a State helmet use law must present evidence in a hearing that establishes, in the face of a false certification label, that a particular helmet does not meet FMVSS No. 218. This can be a difficult burden. Over the years that novelty helmets have been in use, NHTSA has been contacted many times by police officers and other state enforcement officials that have lost enforcement cases or complained about the costs due to the difficulty with demonstrating that a helmet does not meet the requirements of FMVSS No. 218.

FMVSS No. 218 was intended to establish minimum performance criteria for helmets. Although compliance with some of the requirements of FMVSS No. 218 may be ascertained by visual examination of a helmet, establishing whether a particular helmet meets the performance requirements of the standard requires specific laboratory tests under tightly controlled conditions. It is impractical for State or local law enforcement officials to perform such testing in individual

<sup>30</sup> Kerns, Timothy and Catherine McCullough, An Analysis of Hospitalized Motorcyclists in the State of Maryland Based on Helmet Use and Outcome. Paper presented at the 2009 ESV conference, paper No. 09-0061, available at <http://www.nhtsa.gov/Research/Crashworthiness> (last accessed on 4/8/13).

<sup>31</sup> The Abbreviated Injury Scale (AIS) 1990 Revision (1998 Update), Association for the

Advancement of Automotive Medicine, Des Plaines, IL.

<sup>32</sup> Injury Data collected during Kearns, et al., study available at <http://www.nhtsa.gov/Research/Crashworthiness> (last accessed on 04/08/13).

<sup>33</sup> Nineteen states, the District of Columbia, the Northern Mariana Islands, Puerto Rico and the U.S. Virgin Islands have a universal helmet law,

requiring helmets for all riders. Of the 19 mandatory helmet law states, 17 have laws providing that motorcyclists must wear a helmet that complies with FMVSS No. 218.

<sup>34</sup> Federal Register Vol. 76, No. 93 page 28132, Friday, May 13, 2011.

cases. This discourages law enforcement personnel from issuing citations to novelty helmet users. In the event that the helmet user chooses to contest the citation, the issuing officer, as well as any prosecutors associated with the case, must expend time, energy and resources to pursuing a case that they are likely to lose if the trier of fact determines that compliance cannot be ascertained without testing. Furthermore, while NHTSA does compliance testing of some helmets, testing all helmets in the marketplace would be difficult and place a heavy burden on the agency's resources.

NHTSA believes that helmet laws save lives and reduce injuries. The use of novelty helmets frustrates full achievement of those goals. Effective enforcement of helmet laws therefore requires that State and local governments have the means to successfully prosecute violations, including cases in which riders are using novelty helmets to create the false impression that they are complying with laws that require FMVSS No. 218-compliant helmets.

In the past, NHTSA has been contacted by North Carolina, Nevada, New York, and other States seeking objective, measurable criteria that could be used to enforce State helmet laws. The best available information NHTSA could provide them was a brochure available online titled *How to Identify Unsafe Motorcycle Helmets*.<sup>35</sup> While conducting research to develop the proposals contained in this document of proposed rulemaking, the agency contacted Georgia, Washington, and California to discuss the criteria and test procedures. All three States were supportive of this initiative. As explained in the section of this document titled Proposed Amendments to Performance Requirements, NHTSA will be seeking official comment about this proposal from all States having universal helmet laws.

### G. Federal Motor Vehicle Safety Standard No. 218

The purpose of FMVSS No. 218 is to reduce fatalities and injuries to motorcyclists resulting from head impacts. FMVSS No. 218 applies to all helmets designed for use by motorcyclists and other motor vehicle users. Helmets complying with this standard have been demonstrated to be a significant factor in the reduction of critical and fatal injuries involving

motorcyclists in motorcycle crashes.<sup>36</sup> A further study based on impact attenuation test data supports the determination that helmets complying with FMVSS No. 218 significantly decrease the risk of a fatal head injury.<sup>37</sup> A manufacturer of a motorcycle helmet must certify that the helmet meets or exceeds all of the standard's requirements. Those requirements include three performance requirements as well as requirements dealing with peripheral vision, projections, and labeling.

FMVSS No. 218 is primarily a performance standard, not a design standard. It requires certain physical attributes such as: a minimum coverage area, the presence of a chin strap, the location and content of the certification and other labels, the specification of the maximum size of projections, a minimum range of peripheral vision and the requirement that a helmet shell have a continuous contour. However, FMVSS No. 218 does not direct that a helmet have a particular configuration or design.

The first of the three principal performance requirements in FMVSS No. 218 is that a motorcycle helmet must exhibit a minimum level of energy absorbency upon impact with a fixed, hard object. Compliance is determined by conducting a series of drop tests at four different sites onto two anvils. The impact attenuation requirement limits the acceleration levels of the headform and is quantified in units of *g*, gravitational acceleration. The acceleration level relates to the amount of force that is transferred through the helmet to the human head. FMVSS No. 218 limits the maximum acceleration to a level of 400g and limits accelerations exceeding 200g to a cumulative duration of 2.0 milliseconds and accelerations exceeding 150g to a cumulative duration of 4.0 milliseconds.

The second performance requirement is a penetration test, in which a metal striker is dropped 118.1 inches (3 meters) in a guided free fall onto a stationary helmet mounted on a headform. To meet the performance requirement, the striker may not contact the surface of the headform.

The third performance requirement of FMVSS No. 218 is the retention system test. It requires that the retention system, chin strap, or any component of

the retention system be able to withstand a quasi-static load. To meet the performance requirement, the helmet's retention system may not break while the loads are being applied and the adjustable portion of the retention system may not move more than 1 inch (2.5 centimeters) during the test.

The test procedures in FMVSS No. 218 specify the manner in which testing will be conducted by any laboratory under contract with NHTSA to test helmets. Additional details on how the tests are to be conducted are contained in the NHTSA Laboratory Test Procedure for FMVSS No. 218 Motorcycle Helmets.<sup>38</sup>

### H. Recent Amendments to FMVSS No. 218

NHTSA issued a final rule amending FMVSS No. 218 on May 13, 2011.<sup>39</sup> These amendments modified labeling requirements, made changes to certain test procedures, updated references, and corrected the identification of figures incorporated into the standard.

Among other things, the final rule requires the certification label to bear the manufacturer's name and helmet model, as well as the statement "FMVSS No. 218 CERTIFIED." The final rule also clarified and simplified other labeling requirements, such as permitting the certification label to be located on the helmet exterior between 1 and 3 inches (2.5 to 7.6 cm) from the lower rear edge of the helmet and requiring the size to be labeled in a numerical format.

In addition to these labeling changes, the final rule clarified the test procedures for the retention system and impact attenuation tests, added tolerances to several parts of the standard, amended the time required to condition helmets, and updated a reference and figure numbers.

The final rule stated that the amendments made to FMVSS No. 218 were issued for two purposes. One was to modify tolerances, test procedures, and similar requirements impacting compliance testing. The second was to address the increased use of novelty helmets and the relative ease of applying false certification labels to novelty helmets.

The final rule<sup>40</sup> observed that the ability of novelty helmet users to attach inexpensive, easy-to-produce and easy-to-obtain labels mimicking legitimate

<sup>35</sup> How to Identify Unsafe Motorcycle Helmets, HS 807 880, September 2004, available at <http://www.nhtsa.gov/people/injury/pedbimot/motorcycle/unsafehelmetid/images/UnsafeHelmets.pdf> (last accessed on 2/29/12).

<sup>36</sup> Evans, Leonard, and Frick, Michael, "Helmet Effectiveness in Preventing Motorcycle Driver and Passenger Fatalities: Accident Analysis and Prevention," U.S. Department of Transportation, National Highway Traffic Safety Administration, Volume 20, Number 6, 1988.

<sup>37</sup> Docket No.: NHTSA-2011-0050-0002.1 can be accessed at <http://www.regulations.gov>.

<sup>38</sup> NHTSA Laboratory Test Procedure for FMVSS No. 218, *Motorcycle Helmets*, May 13, 2011, TP-218-07, available at <http://www.nhtsa.gov/staticfiles/nvs/pdf/TP-218-07.pdf> (last accessed on 1/31/12).

<sup>39</sup> Federal Register Vol. 76, No. 93 page 28132, Friday, May 13, 2011.

<sup>40</sup> 76 FR 28132, 28138.

certification labels frustrated enforcement of helmet use laws. NHTSA further noted that widely available false certification labels made it difficult to prove that a motorcyclist is evading helmet use laws by wearing a novelty helmet that appears to be certified. More importantly, the agency noted that the use of novelty helmets puts motorcyclists at much greater risk of head injury or death in the event of a crash.

In order to make the production and use of fraudulent certification labels more difficult the final rule added a number of new requirements for certification labels. Instead of the simple three letter symbol "DOT," the amended label requirements state that the symbol "DOT" be accompanied by the word "CERTIFIED" as well as the phrase "FMVSS No. 218." To restrict the use of a "one size fits all" certification label, the final rule required that the helmet manufacturer's name and/or brand and the precise model designation of the helmet also appear on the certification label.<sup>41</sup>

While the final rule will make it easier for State and local law enforcement officials to enforce State laws requiring the use of FMVSS No. 218-compliant helmets, the agency anticipates that, based on the improved labeling alone, only 5 to 10 percent of motorcyclists using novelty helmets in States with universal helmet use laws will switch to using compliant helmets. Therefore, the agency acknowledged that more is needed to be done to further reduce novelty helmet use by motorcyclists. Citing comments by the Governors Highway Safety Association that novelty helmet use had become a means of expressing displeasure with helmet use laws and evading the operation of such laws, NHTSA indicated that it was assessing other actions that should be taken to address the marketing and selling of novelty helmets to motorcyclists for highway use.<sup>42</sup>

The agency noted the duplicity inherent in marketing or selling a novelty version of motor vehicle equipment. For example, the final rule observed that manufacturers of seat belts complying with FMVSS No. 209, "Seat belt assemblies," do not also produce novelty versions of the same type of equipment used in motor vehicles, that they declare, explicitly or implicitly, are not intended to provide protection and therefore are not motor vehicle equipment subject to the FMVSSs. The final rule further stated

that it was difficult to imagine any manufacturer, importer or seller of seat belts arguing that their seat belts are not motor vehicle equipment and stating, as novelty helmet manufacturers do, that their novelty products are not intended for highway use and not designed to provide protection in a crash. As explained in the final rule, the notion that an item of safety equipment can be transformed into something other than what it is by virtue of a disclaimer is absurd. This, in the agency's view, would be aptly demonstrated by the disclaimer that might accompany the sale of a novelty seat belt:

"Novelty seat belts are intended for display. They are not intended to be used in motor vehicles and are not designed to provide protection in a crash. Their use in a crash may result in serious injury. Use this seat belt at your own risk."

NHTSA also observed then, as it does again now, that novelty helmets are sold by businesses that also sell motorcycles or motorcycle related products, are in widespread use on public highways, and are only minimally used for any purpose other than while riding a motorcycle. Nonetheless, sellers of novelty helmets attempt to maintain the fiction that they are not producing products for highway use by providing disclaimers that the helmets they make are for "display or show," not intended to be used in motor vehicles and are not designed to provide protection in a crash. NHTSA then stated its view that novelty safety equipment (having no apparent purpose other than facilitating evasion of legal requirements) is an item of "motor vehicle equipment" within the meaning of the Vehicle Safety Act and is subject to a FMVSS. Since they do not comply, it is impermissible to manufacture, import or sell novelty helmets in the United States.<sup>43</sup>

Furthermore, the agency explained that "In some cases, the use of these look-alike labels has enabled motorcyclists either to assert successfully in court that he or she believed in good faith that the helmet he or she was using had been certified to the federal standard and/or to put State authorities to the time and expense of conducting tests to prove that the helmet is noncompliant." Further, sellers and distributors of these labels, which bear the letters "DOT," attempt to avoid any responsibility for their sale and use. They assert that the labels are not counterfeit or misleading look-alike "certification" labels, but merely labels that coincidentally resemble legitimate "DOT" certification labels and whose letters stand for "Doing Our Thing," not

"Department of Transportation." The agency notes its understanding that these look-alike labels appeared only after the implementation of FMVSS No. 218. As a result, application of these labels to noncompliant helmets enables motorcyclists to avoid conviction and penalties in situations in which State and local helmet laws require the use of a certified FMVSS No. 218-compliant motorcycle helmet.

In NHTSA's judgment, the mere presence of a "DOT" label on a helmet that otherwise lacks the construction and appearance of a FMVSS No. 218-compliant helmet cannot reasonably be thought to be a reliable indication that the helmet is a compliant helmet. The plausibility of such a false indicator of compliance is negated by a lack of critical visible physical attributes such as an impact absorbing liner of adequate thickness and composition to protect a user in the event of a crash, as well as the presence of interior labeling required by FMVSS No. 218. The presence of a label on such a helmet is instead actually indicative that the label is a misleading look-alike label applied by a helmet seller or user, not by its manufacturer. This has led the agency to propose criteria to assist the public and law enforcement in identifying novelty helmets. This proposal is discussed further in the section of this document titled *Proposed Amendments to Performance Requirements*.

#### *I. NHTSA's Compliance Test Program*

To help ensure that helmets are properly certified by their manufacturers, NHTSA conducts a compliance test program that tests approximately 40 different makes and models of helmets each year. The helmets are purchased by NHTSA through normal retail channels. Because FMVSS No. 218 requires that helmets be tested under four different environmental conditions, NHTSA purchases four samples of each helmet model. The helmets are then tested by test laboratories under contract with the agency. Currently, testing of a particular model of helmet costs approximately \$2,000.00.

The appearance of novelty helmets in the marketplace and their increasing use creates a number of challenges for NHTSA that are relevant to the agency's test program. First, although novelty helmets are typically not manufactured or sold with certification labels attesting that they comply with Standard No. 218, novelty helmets with certification labels have appeared in the marketplace. Second, as stated elsewhere in this document, the agency is proposing to add a new definition of

<sup>41</sup> 76 FR 28132, 28140–41.

<sup>42</sup> 76 FR 28132, 28157.

<sup>43</sup> 76 FR 28132, 28158.

“motorcycle helmet” to FMVSS No. 218 that is intended to focus on the sale and use of helmets as determinants of their intended use. If adopted, this new definition will expand the universe of helmets subject to NHTSA testing to include novelty helmets. Because production of novelty helmets is, when compared to FMVSS No. 218 compliant helmets, relatively simple and inexpensive, there appear to be many manufacturers and importers of novelty helmets.

Responding to consumer concerns and inquiries from law enforcement about the difficulties in distinguishing compliant helmets from non-compliant helmets, NHTSA embarked on an expanded test program in 1994 with the goal of providing more comprehensive coverage of the existing helmet market. This expanded test program illustrated the difficulties inherent in attempting to perform full FMVSS No. 218 testing on a wide range of helmets. Resource constraints prevented the agency from testing all of the helmets in the program under the four environmental conditions specified in the standard. The agency also found it difficult to procure all helmets in the marketplace and was criticized for failing to do so. Finally, the poor performance of novelty helmets in impact testing proved not just to be an ample demonstration of the threat they pose to users, but also had serious consequences for the test equipment used to assess performance. Due to concerns about damaging expensive test equipment in novelty helmet impact testing, laboratories contracting with NHTSA became reluctant to test novelty helmets or refused to do so.

### III. Interpretation—Novelty Helmets Are Motor Vehicle Equipment

Congress passed the National Traffic and Motor Vehicle Safety Act of 1966 (Safety Act) with the express purpose of reducing motor vehicle accidents and injuries.<sup>44</sup> To promote this end, the Safety Act provided for the establishment of motor vehicle safety standards for motor vehicles and equipment in interstate commerce. 15 U.S.C. 1381 (1988 ed.). The Safety Act empowered the Secretary of the Department of Transportation to establish motor vehicle safety standards for motor vehicles and motor vehicle equipment. 15 U.S.C. 1392(a) and 1407 (1988 ed.) (codified without substantive

change as 49 U.S.C. 30107 and 49 U.S.C. 30111 (2006 ed. and Supp. III)).

“Motor vehicle equipment” was defined in the Safety Act as “any system, part, or component of a motor vehicle as originally manufactured or any similar part or component manufactured or sold for replacement or improvement of such system part, or component or as any accessory or addition to the motor vehicle.” 15 U.S.C. 1391(4) (1988 ed.) Given that satisfaction of that definition was predicated on the existence of a motor vehicle which would be improved or enhanced by the equipment at issue, items that were not incorporated into vehicles or were accessories for a vehicle were not motor vehicle equipment. Therefore, when enacted in 1966, the Safety Act’s definition of “motor vehicle equipment” did not include protective equipment such as motorcycle helmets.

In 1970, Congress amended the Safety Act of 1966 to substantially expand the definition of “motor vehicle equipment” to include motorcycle helmets and other protective equipment that did not meet the originally enacted definition of the term. The existing definition of “motor vehicle equipment,” was expanded beyond motor vehicle components to include “any device, article or apparel not a system, part, or component of a motor vehicle (other than medicines, or eyeglasses prescribed by a physician or other duly licensed practitioner) which is manufactured, sold, delivered, offered or intended for use exclusively to safeguard motor vehicles, drivers, passengers, and other highway users from the risk of accident, injury or death.”<sup>45</sup>

In 1994, the National Traffic and Motor Vehicle Safety Act, 15 U.S.C. 1381 *et seq.*, was codified without substantive change as 49 U.S.C. Chapter 301—Motor Vehicle Safety. Section 301(4) was redesignated as section 30102(a)(7)(C). In the codified form, the section defines Motor vehicle equipment to include devices, articles and apparel “manufactured, sold, delivered, offered, or intended to be used only to safeguard motor vehicles and highway users against risk of accident, injury, or death.”

This definition of “motor vehicle equipment” was again amended by Congress in 2012. Specifically, MAP–21 amended this phrase to specifically state that motorcycle helmets are motor vehicle equipment. The definition now directs that motor vehicle equipment includes “. . . any device or an article

or apparel, including a motorcycle helmet and excluding medicine or eyeglasses prescribed by a licensed practitioner.” The MAP–21 amendment further refined the definition by replacing the term “intended for use only” with the term “apparent purpose.” As enacted, this definition defines “motor vehicle equipment” as “any device or an article or apparel, including a motorcycle helmet and excluding medicine or eyeglasses prescribed by a licensed practitioner, that . . . is not a system, part, or component of a motor vehicle; and . . . is manufactured, sold, delivered, or offered to be sold for use on public streets, roads, and highways with the apparent purpose of safeguarding motor vehicles and highway users against risk of accident, injury, or death.”

The 1970 expansion of the definition of “motor vehicle equipment” and the MAP–21 amendments confirm that Congress provided NHTSA with jurisdiction over motorcycle helmets used on public highways. By specifically including “motorcycle helmets” and replacing the phrase “intended to be used only to safeguard” highways users with the phrase “apparent purpose of safeguarding” highway users, the 2012 amendment further clarifies the scope of what constitutes “motor vehicle equipment” under the Safety Act. This modification indicates that Congress did not want the definition of motor vehicle equipment to turn on the question of “intent” to safeguard users, which could be either the subjective intent of a manufacturer or an objective assessment of intent based on the circumstances of marketing and sale. By choosing to employ the words “apparent purpose to safeguard” highway users, Congress indicated that decisions about what constitutes motor vehicle safety equipment are to be governed by an objective examination of the facts and circumstances of the marketing, sale, use and physical characteristics of the item at hand. More importantly, the specific inclusion of “motorcycle helmet” as the only example of motor vehicle equipment indicates that Congress intended to include every helmet that can reasonably be considered such a helmet. Nor did Congress want the word “only” to insulate from the Act’s reach any type of equipment that arguably has more than one possible use. The specific inclusion of “motorcycle helmet” in the Act’s definition clearly signals, along with these other changes, that Congress intended to include all items with that apparent purpose.

The “apparent purpose” test employed by Congress indicates that

<sup>44</sup> S. Rep. No. 1301, 89th Cong., 2d Sess. 6 (1966), U.S. Code Cong. & Admin. News 1966, p. 1; Conf. Rep. No. 1919, 89th Cong., 2d Sess. 1 (1966).

<sup>45</sup> Public Law 91–265, 84 Stat. 262 (May 22, 1970).

motorcycle helmets, including “novelty” helmets, are items of motor vehicle equipment. Focusing on objective evidence, if a helmet is, based on its design, such that it would be used by a person while riding on a motorcycle to provide some level of protection, its apparent purpose is to safeguard that rider. It would therefore properly be an item of motor vehicle equipment. If it is offered for sale as a motorcycle helmet but the manufacturer or seller disclaims that it provides any protection, its apparent purpose remains the same. In other words, the apparent purpose of the helmet as a protective device outweighs a manufacturer’s stated purpose to the contrary when defining a motorcycle helmet as motor vehicle equipment. If it is worn by ordinary motorcycle riders while riding a motorcycle on the highway or in the immediate vicinity of a motorcycle before or after riding one,<sup>46</sup> it is a “motorcycle helmet” whose apparent purpose is to provide protection in a crash. Such a helmet is therefore an item of motor vehicle equipment.<sup>47</sup>

Furthermore, a manufacturer’s addition of a label stating that a helmet is “not for highway use” would not be sufficient to overcome objective evidence regarding its apparent purpose (use while on the highway) and take a novelty helmet out of the ambit of “motor vehicle equipment.” By amending the definition of motor vehicle equipment to delete the words “intended” and “only” and to focus on the “apparent purpose” of safeguarding users, Congress indicated that the definition of motor vehicle equipment should not be controlled by subjective statements in which a manufacturer denies any intention of protecting wearers of the product from injury. NHTSA sees no reason to conclude that Congress would give any greater weight to similar subjective expressions of intent regarding highway use. Instead, we believe that Congress meant for the question of whether a product is manufactured or sold for highway use to be resolved by an objective examination of the facts.

If a helmet is manufactured by a company that produces safety equipment for drag racers, the helmet is promoted for racing use and is sold by entities that serve racers, the objective facts and circumstances indicate that such a helmet is not manufactured, sold, delivered, or offered to be sold for highway use and not subject to

NHTSA’s jurisdiction. However, if a helmet is promoted and advertised for purchase by highway users, is sold in outlets catering to highway users and is worn by highway users, an objective examination of these facts compels the conclusion that the helmet was sold for highway use regardless of any manufacturer disclaimers to the contrary. This is a sensible position and one that the agency concludes is wholly consistent with Congressional intent and the text of the Safety Act as modified by MAP–21.

#### IV. Proposed Amendments to FMVSS No. 218

##### A. Adding a Definition for Motorcycle Helmet

The agency is proposing to add a definition of “motorcycle helmet” to section S4 of FMVSS No. 218 to effectuate the interpretation of the statutory definition of motor vehicle equipment described in Section III of this document and help ensure that helmets being used by motorcyclists on highways meet the minimum performance standards set forth in FMVSS No. 218.

Neither the Safety Act nor NHTSA’s regulations currently provide a precise definition of what constitutes a motorcycle helmet. FMVSS No. 218 currently states that regulated helmets are those helmets designed for highway use. Section S1 of FMVSS No. 218 states that the standard establishes minimum performance requirements for helmets designed for use by motorcyclists and other motor vehicle users. Section S3, stating what the standard applies to, sets forth that the standard applies to all helmets designed for use by motorcyclists and other motor vehicle users.

The term “motorcyclist” is not defined by the Safety Act. Under the term’s ordinary meaning, a “motorcyclist” is an operator or passenger of a motorcycle.<sup>48</sup> As employed in FMVSS No. 218, a “motorcyclist” is a user of a “motor vehicle.” As the term “motor vehicle” is restricted under the Safety Act to those vehicles “manufactured primarily for use on public streets, roads, and highways,” the existing statutory and regulatory text defines motorcycle helmets as helmets designed for use by motorcyclists and other motor vehicle

users. Accordingly, helmets designed for use by motorcyclists and other motor vehicle users are helmets manufactured primarily for use on public highways. Manufacturers, sellers and, to a degree, buyers of novelty helmets are well aware of the implications of these terms. There is little question that novelty helmets are marketed and sold to “motorcyclists”—operators and passengers of motorcycles. However, by designating these helmets as “not for highway use,” notwithstanding their well-known highway use, manufacturers and sellers of novelty helmets are attempting to circumvent their legal responsibilities.

Although NHTSA believes, as explained more fully in the section of this document titled *Interpretation—Novelty Helmets are Motor Vehicle Equipment*, that novelty helmets are presently within the scope of FMVSS No. 218 because they are intended for use by motorcyclists and are in fact used by them on the highway, we are proposing to add a new definition of motorcycle helmet to FMVSS No. 218 section S4 to make clear that the stated intent of a manufacturer in designing a helmet is not the determinant of whether a helmet is intended for highway use. A broader examination of relevant factors is necessary where, as here, the stated intent regarding the use of the product is inconsistent with the actual use of the product, as well as the manner in which it is marketed and sold. Further, we are proposing to adopt this definition contemporaneously with other proposed amendments discussed below, to provide law enforcement officers, end users of motorcycle helmets, and hearing officers or judges with objective characteristics allowing them to distinguish helmets that are certified to FMVSS No. 218 from novelty helmets. The agency also believes that adding a definition and other provisions proposed in this document will assist States with helmet use laws, to more effectively enforce those laws.

Although the agency remains concerned that manufacturers may tailor their efforts to avoid NHTSA’s enforcement efforts, we believe that focusing on the marketing, promotion and sale of helmets provides an important and legitimate means of distinguishing motorcycle helmets from other protective helmets. Marketing, promotion and sales materials are important objective indicia of the intended use of a product and this definition employs an eminently practical set of tests by examining who is selling the product and the use it is being sold for. If a helmet is sold by

<sup>46</sup> Such use is incidental to the wearing of the helmets by persons riding on motorcycles.

<sup>47</sup> We note that a novelty helmet meets all three of those tests.

<sup>48</sup> A motorcycle is a vehicle with motive power having a seat or saddle for the use of the operator and designed to travel on not more than three wheels in contact with the ground. 49 CFR 571.3. Any vehicle with three or fewer wheels manufactured for use on public streets, roads, and highways including motor scooters, mopeds, and 3-wheeled trikes, are therefore motorcycles.

entities selling other products for motorcyclists, then it follows that the helmet is intended for use by those same motorcyclists. If, when viewed by a reasonable observer, the helmet is promoted or displayed as suitable for uses including use as a motorcycle helmet, then it similarly follows that the helmet is actually made and sold as a motorcycle helmet. Of course, the agency recognizes that helmets of all kinds may be sold by entities that sell motorcycle equipment and accessories as well as a variety of other products. Marketing and promotion materials may also be broad or enigmatic. To clarify the definition and prevent the operation of the presumption when inappropriate, the definition also states that helmets within the scope of subsections (1)(B) and (1)(C) would not presumptively be a motorcycle helmet when it is certified by a recognized body for use as protective gear for purposes other than as a motorcycle helmet or is permanently labeled as not intended for highway use.

NHTSA believes that including helmets worn by motorcyclists using public highways is supported by the expanded definition of motor vehicle equipment adopted by Congress in 1970 and the recent MAP-21 amendments. As we interpret that definition, the manner of actual use is compelling objective evidence of the intended use of a product regardless of any disclaimers issued by a manufacturer or seller. Nonetheless, the agency has tentatively decided not to propose incorporating this criterion in the definition of motorcycle helmet. This tentative determination is based on the current lack of data regarding which helmets are actually being used on public highways. As stated elsewhere in this document, if NHTSA were to adopt an actual use component in the definition of motorcycle helmet, the agency would not consider incidental use as evidence that a particular type of helmet is a motorcycle helmet. Instead, only those helmets being used on-road by a sufficient number of motorcyclists would be considered as evidence that the helmet being worn is intended for highway use.

Although NHTSA has tentatively decided not to include a use-based criterion in the definition of “motorcycle helmet” the agency may include such a provision in the definition contained in the final rule. The agency therefore requests comments on including a provision in the final rule that helmets used on the highways are motorcycle helmets and motor vehicle equipment under the Safety Act.

NHTSA’s proposed definition of “motorcycle helmet” establishes that “hard shell headgear” meeting certain conditions are motorcycle helmets. As employed in the definition, hard shell headgear refers to headgear that retains its shape when removed from the user’s head, whether or not covered by a decorative surface such as leather. “Hard shell” distinguishes motorcycle helmets from other non-hard shelled headgear such as soft caps and bandannas that are also used by motorcyclists on road. If an item of headgear meets this threshold requirement, additional criteria are employed to determine if the item is a motorcycle helmet.

The criteria relate to the manufacture, importation, sale, and use of the headgear in question. First, a helmet is a motorcycle helmet under subsection (1)(A) if it is manufactured for sale, sold, offered for sale, introduced or delivered for introduction in interstate commerce, or imported into the United States, for use on public streets, roads, and highways with the apparent purpose of safeguarding highway users against risk of accident, injury, or death. The apparent purpose of a product stems from its essential physical characteristics such as the size, shape, design and general appearance of the helmet. For example, a small bicycle with small diameter wheels and a correspondingly small frame would have the apparent purpose of being used by a child for short distances on sidewalks and driveways. Conversely, a bicycle with large wheels and a large frame would have the apparent purpose of being used by an adult on roads and highways. In the case of helmets, an unperforated hard shell helmet with a chin strap or retention system would have the apparent purpose of being a protective motorcycle helmet. If that helmet also has snaps for attaching a visor or face shield, the apparent purpose becomes even clearer. Further, if such a helmet is similar to helmets certified by their manufacturers as meeting the requirements of FMVSS No. 218, the helmet would have the apparent purpose of being a protective helmet.

Under subsection (1)(B) a helmet is a motorcycle helmet if it is manufactured, sold, introduced into interstate commerce, or imported by entities also manufacturing, offering, selling or importing certified helmets or other motor vehicle equipment and apparel for motorcycles or motorcyclists. Under this standard, if a helmet is manufactured, imported, sold, offered for sale or introduced into interstate commerce, or imported into the United

States, by entities that undertake the same activities for other products, services or goods used by on-road motorcyclists, the apparent purpose of the helmet is on-road use and the helmet is a motorcycle helmet. Proposed subsection (1)(C) states that a helmet is a motorcycle helmet if it is described or depicted as a motorcycle helmet in packaging, display, promotional information or advertising. This criterion is met if the helmet is described or depicted as a motorcycle helmet in packaging, display, promotional materials or advertising. Such materials may include obvious characteristics such as the word “motorcycle” in a description of the helmet or more subtle factors such as a depiction of a user who is also wearing goggles, sunglasses, or other protective clothing or gear normally worn by motorcyclists.

Subsection (1)(D) states that helmets presented for importation under applicable designation(s) for motorcycle helmets in the Harmonized Tariff Schedule of the United States would also be deemed to be on-road motorcycle helmets. This fourth criterion relates to the manner in which imported goods enter the United States and would specify that any helmet imported into the United States under the designations reserved for motorcycle helmets in the Harmonized Tariff Schedule of the United States (HTS) is intended for highway use. The HTS, which replaced former US Tariff Schedules, was enacted by Congress and made effective on January 1, 1989. The HTS establishes a hierarchical structure for describing all imported goods for duty, quota, and statistical purposes. The United States International Trade Commission (USITC) maintains and publishes the HTS, which is enforced and interpreted by the Bureau of Customs and Border Protection of the Department of Homeland Security.<sup>49</sup>

NHTSA recognizes that some helmet manufacturers, importers and sellers produce, sell or import a variety of helmets for various purposes and uses. Therefore, that retailer might sell motorcycle helmets, ski helmets, bicycle helmets, mountaineering helmets and other protective headgear for off-highway uses. A manufacturer or importer may produce helmets certified as meeting Standard No. 218 but may also produce helmets for racing or other motorsports that are not certified to that standard. Unlike “novelty helmets,”

<sup>49</sup> Depending on the materials used in their construction, motorcycle helmets are currently found in 6506.10.3030, HTSUS, or subheading 6506.10.6000, HTSUS.

such racing helmets may provide significantly more impact protection than required by Standard No. 218, but for a variety of reasons related to their specialized use, are not certified as meeting Standard No. 218. We also note that the current version of the Harmonized Tariff Schedule contains two classifications for motorcycle helmets but neither of these classifications distinguishes between helmets intended for highway use and those imported for legitimate off-road uses. NHTSA is therefore proposing additional language that would address the legitimate concerns of manufacturers, importers and sellers of helmets that are imported for legitimate off-road uses.

Our proposed definition would exclude helmets designed and manufactured to, and labeled in accordance with other recognized helmet standards. For example, football helmets marked as complying with the National Operating Committee on Standards for Athletic Equipment (NOCSAE) or ASTM International ASTM F717–10 football helmet standards meet the exception clause included in the definition. Similarly, hockey helmets marked as complying with ASTM International ASTM F1045–07 or Hockey Equipment Certification Council (HECC) hockey helmet standards would not be motorcycle helmets.

Subsection (1)(A) couches the acts of manufacturing, selling, offering or introducing into interstate commerce, or importing into the United States, as being gauged by the “apparent purpose” of safeguarding highway users from death or injury. Deriving the apparent purpose involves looking to the essential physical characteristics of the item involved. Moreover, even though a manufacturer or seller of a novelty helmet may declare that the helmet is not “DOT Certified” or is “Not a Safety Device,” these products are sufficiently similar to helmets that actually do provide protection that both users and reasonable observers might conclude that they provide some degree of protection against impact. Subsections B and C also follow the language used by Congress in the MAP–21 and 1970 amendments. In this instance the actions of manufacturing, offering and selling are framed by the manner in which products are sold. The surrounding circumstances used to assess the apparent purpose of the product are found in the acts of making or selling other goods and services intended for use by motorcyclists or in promoting the helmet. If one sells a helmet in venues offering other

products that motorcyclists use on public highways, it is objectively reasonable to conclude that the helmet at issue is also intended for this use. It is also objectively reasonable to conclude that a product depicted as a motorcycle helmet in promotional materials or packaging is also meant by its maker to be used by ordinary motorcyclists. Subsection D follows the logical premise that a helmet declared to be a motorcycle helmet by an importer is intended by that importer to be used by motorcyclists.

The proposed definition therefore characterizes motorcycle helmets as hard shell headgear meeting any one of four conditions. The first condition is that it is manufactured for sale, sold, offered for sale, introduced or delivered for introduction in interstate commerce, or imported into the United States, for use on public streets, roads, and highways with the apparent purpose of safeguarding highway users against risk of accident, injury, or death. The second condition is that it is manufactured for sale, sold, offered for sale, introduced or delivered for introduction in interstate commerce, or imported into the United States by entities that also manufacture for sale, sell, offer for sale, introduce or deliver for introduction in interstate commerce, or import into the United States either motorcycles, helmets certified to FMVSS No. 218, or other motor vehicle equipment and apparel for motorcycles or motorcyclists. The third condition is that it is described or depicted as a motorcycle helmet in packaging, display, promotional information or advertising. The fourth and final condition is that it is imported into the United States under the applicable designation(s) for motorcycle helmets in the Harmonized Tariff Schedule of the United States. However, if a helmet that meets any of conditions two, three, or four is labeled and marked in accordance with a non-motorcycle helmet standard issued or adopted by any one of the organizations identified as manufacturing other types of safety helmets and listed in the proposed definition, it would not be considered to be a motorcycle helmet.

For consistency, NHTSA also proposes to revise the language in the scope and application sections of FMVSS No. 218 to refer to motorcycle helmets.

The agency requests comments on the proposed definition as well as the alternative definitions discussed previously. Depending on the public comments, elements of the different definitions could be combined into the definition adopted in the final rule. In addition, the agency request comment

on additional government entities or industry standards that should be included in Paragraph (2) of the definition.

#### *B. Proposed Amendments to Performance Requirements*

As NHTSA has observed elsewhere in this document, the existing performance requirements of FMVSS No. 218 establish test procedures specifying that compliance with the standard be evaluated through the use of laboratory tests requiring that four samples of each helmet model be tested under different specific environmental conditions. Although compliance with some of the requirements of the standard may be determined by simple visual examination—*i.e.* a compliant helmet must have the required interior labels, the shell must be free of rigid projections taller than 0.20 inch (5 mm) and have a continuous contour, and it must cover a minimum area of the head—current compliance tests require sensitive specialized equipment and can only be performed by trained personnel employed by specialized laboratories. Testing four samples of one helmet model currently costs NHTSA approximately \$2000.00 and the agency’s budget allows approximately forty tests in one fiscal year.

The interpretation issued in this document, as well the proposed amended definition of motorcycle helmet, would both require significant expansion of NHTSA’s compliance test program.

Such an expansion would, of course, require significant additional agency expenditures if the agency continues to rely on the existing performance requirements of FMVSS No. 218. In addition, novelty helmets perform very poorly in compliance testing. This performance is substandard to the point that performing impact attenuation testing on novelty helmets poses a threat to accelerometers and other devices incorporated into test devices. The risk of damage to this equipment has caused NHTSA-contracted test laboratories to be reluctant to perform impact attenuation testing on novelty helmets or to refuse to test them altogether. The agency also notes that because manufacturing and/or importing novelty helmets requires less financial resources than manufacturing conventional FMVSS No. 218 compliant helmets, there appear to be many entities manufacturing, importing and selling novelty helmets. Taken together, the foregoing factors indicate that a full test program aimed at examining large numbers of both novelty and



conventional helmets would be difficult and expensive.

The agency is therefore proposing modifications to FMVSS No. 218 to lessen NHTSA's test burden and allow a more comprehensive examination of helmets being sold and marketed to highway users. The proposed amendments would incorporate certain physical criteria into FMVSS No. 218 in order to facilitate simplified test procedures. The physical characteristics being proposed are, in NHTSA's view, excellent indicators that a helmet will be unable to comply with the impact attenuation and penetration tests already incorporated in the standard.

With the issuance of the NPRM, the agency will simultaneously be contacting States with universal helmet laws for feedback on the proposals contained herein. Specifically, the agency requests the following feedback:

- Does your State's helmet law require use of a DOT-certified helmet?
- Has your State had difficulty with prosecuting cases against users of novelty helmets in the past and, if so, why?
- Has your State had difficulty with prosecuting cases against manufacturers of novelty helmets in the past and, if so, why?
- Have law enforcement officers in your state had difficulty distinguishing novelty helmets from certified helmets?
- Will these criteria help your state to distinguish novelty helmets from certified helmets?
- Will the tools described in the regulatory text be useful to you?
- Will you use the tools in the field or during court hearings?
- Do you believe this rule will encourage greater use of DOT-certified helmets in your state?
- Are there other actions that NHTSA can take to assist the States in this area?

To the extent that advances in technology and materials may permit the development of helmets meeting all the requirements of Standard No. 218 excluding the proposed preliminary screening requirements, we are also proposing to establish an alternative compliance process encompassing a petition procedure allowing helmet manufacturers an opportunity to establish that a specific helmet design qualifies for further testing. In so doing, NHTSA acknowledges that such a petition process appears to present an increased burden to both manufacturers and the agency. The agency believes, however, that the likelihood that the proposed petition process will be frequently employed is small. The proposed preliminary screening requirements are quite conservative. We

believe that it is extremely unlikely that any helmet constructed using presently known techniques and materials can meet the performance requirements of Standard No. 218 without also complying with the proposed preliminary screening requirements.

The alternative compliance process being proposed allows manufacturers to petition the agency and demonstrate that new technologies allow their helmets to comply with the requirements of S5.2–S5.7 (as renumbered) of the Standard even if they do not meet the proposed preliminary screening requirements in S5.1. They do this by providing information specified in the proposed Appendix including the evidence on which they base their belief that the helmet complies with all requirements of S5.2–S5.7. The Agency reviews their petition and has an option to conduct validation testing. Manufacturers who have all required information on file and whose helmets are determined by the agency to be capable of meeting Standard No. 218 S5.2–S5.7 and yet do not meet the preliminary screening criteria of S5.1, will be identified in an Appendix to the Standard and this information will be made available on the NHTSA Web site.

Adoption of these proposed requirements will also have ancillary benefits for State officials charged with enforcing helmet laws requiring the use of FMVSS No. 218 compliant helmets. Many States with helmet use laws have adopted a requirement that riders subject to the law must use a helmet that complies with FMVSS No. 218. Although such a requirement advances the laudable goal of ensuring that motorcyclists use helmets meeting minimum performance requirements, it creates an additional burden for State and local authorities who must enforce these helmet laws. In many jurisdictions, establishing a violation requires the State to prove either that a rider was not wearing any helmet or that the helmet worn by the rider did not meet the performance requirements incorporated in the State helmet law. Given the popularity of novelty helmets and the widespread availability of "DOT" stickers and other facsimiles of actual manufacturer certifications, successful enforcement of such a State helmet law requires proof that a particular helmet, even when marked with the symbol "DOT," does not meet FMVSS No. 218.

These helmets are typically not certified by the manufacturer as meeting FMVSS No. 218 and are not designed or manufactured to comply with FMVSS No. 218. Nonetheless, the availability of

misleading look-alike or "counterfeit" certification labels provides users with the opportunity to give the helmet the appearance of having been properly certified. In jurisdictions where motorcycle helmet laws require the use of an FMVSS No. 218-compliant helmet, riders using novelty helmets are violating the law. However, proving the violation requires establishing that a helmet does not comply with FMVSS No. 218. This can be especially difficult when a helmet has a fraudulent certification label. Under the current regulations, the only recourse enforcement officials may have is to establish that a helmet does not meet the performance requirements of FMVSS No. 218. If NHTSA has not tested the helmet at issue, State and local officials attempting to establish that a helmet does not comply with FMVSS No. 218 are often asked to present their own data. Although manufacturers of properly certified helmets routinely perform compliance testing before releasing a product for sale, such testing is obviously not performed by novelty helmet manufacturers claiming their products are not for highway use. If agency or manufacturer test data are not available, it is impractical to expect State and local enforcement officials to commission or perform such tests to prosecute individual cases.

To reduce NHTSA's test burdens, prevent or reduce the entry of novelty helmets into the United States, and assist State and local governments with the means to effectively enforce their helmet laws, NHTSA undertook an examination of the physical characteristics of helmets certified to FMVSS No. 218 and novelty helmets to determine if a set of simple criteria could be developed to differentiate between the two groups of helmets. In doing so, the agency's goal was to develop a test, or set of tests, that would employ commonly available tools or measurement devices in a manner that would not impair or compromise the performance of the helmet being examined.

In an effort to reduce the agency's test burden and provide a means for State officials and consumers to differentiate compliant and non-compliant helmets, NHTSA examined the possibility of comparing the weight and/or dimensions of the two classes of helmets and positing a test based on weight or size. However, because novelty helmets are produced in a wide variety of sizes and are not necessarily labeled as being a particular size, comparing the weight or exterior dimensions of large novelty helmets to

those of small compliant helmets does not produce meaningful results.

Next, NHTSA examined the possibility of comparing liners of the two classes of helmets. The importance of an energy absorbing liner in preventing and reducing brain injuries was first established in the United States shortly after World War II by research directed toward developing effective protective helmets for military pilots.<sup>50</sup> Since that time, expanded polystyrene (EPS) foam has become the predominant helmet liner material in FMVSS No. 218 compliant helmets because it combines light weight, manufacturing advantages, affordability, and an ability to “crush” and absorb energy in an impact. Because some amount of “crush” in a motorcycle helmet’s liner is needed to absorb a sufficient amount of energy during a crash, EPS foam liners (or their equivalents) must have a certain minimum thickness to prevent or reduce injury. Therefore, the configuration and composition of a semi-rigid liner is a critical factor in a protective helmet’s ability to reduce or prevent injury and was considered a potentially useful criterion for differentiating novelty helmets from certified helmets.

NHTSA therefore examined the thickness of the liners, liners and shells, and compression characteristics of a sample of motorcycle helmets commercially available in 2009 and

2010. Two critical physical differences between novelty and FMVSS No. 218 certified helmets were revealed: The thickness and compression characteristics of the padding and/or energy absorbing material inside the shell of the helmet. Novelty helmets are typically manufactured with a relatively thin comfort liner between the wearer’s head and the exterior shell. These comfort liners consist of a layer of cloth immediately next to the wearer’s head and possibly a thin layer of foam between the cloth and the inside of the helmet shell.

NHTSA attempted to quantify the differences in the thickness and response of helmet liner materials to compression in order to determine if threshold values for thickness and compression could be identified to distinguish certified from novelty helmets. Measurements were taken near the apex of 30 helmets obtained from the market place. The apex of the helmet is the highest point when a helmet is oriented so the brow opening is parallel to the ground. Inner liner thickness was measured by inserting a push pin into the liner, marking its depth along the shaft of the pin, withdrawing the pin, and measuring the depth of penetration to the shell. The combined thickness of the shell and liner was measured using digital calipers. The combined thickness of the shell and liners were measured before and after being compressed with a

specified force. In order to measure the thickness when the comfort liner was compressed, a 5 pound-force (lbf) (22 Newton (N)) was applied using a dial force gauge. This force was selected because it is sufficient to distinguish EPS foam from foam that does not have sufficient compressive resistance to attenuate energy during an impact, not damage the EPS foam, and can readily be achieved using a thumb-fingertip grip should a gauge not be available.<sup>51</sup> The purpose of this test is to distinguish relatively dense impact attenuating liners, typically made of expanded polystyrene (EPS) or urethane, from comfort liners made of foams that are easily indented and unable to adequately attenuate energy of a head hitting a surface during a crash. The EPS and urethane foams do not crush under this very minor force whereas the comfort liners typically do.

The tools used to measure helmet characteristics are described in Table 4. These tools were selected because they are commercially available, relatively inexpensive, and are easy to use. While these tools will not measure the criteria with high precision, we believe they are minimally sufficient to perform the preliminary screening tests proposed in the standard. Other tools may be useful as well. Based on useful life, the tool kit in 2012 dollars is estimated to be \$81.43 per kit per year.

TABLE 4—TOOLS USED TO EXAMINE THE PHYSICAL CHARACTERISTICS OF MOTORCYCLE HELMETS

Purpose	Description	Manufacturer	Part No.	Approximate cost
Measure inner liner thickness .....	Size 28—1¾ inch Nickel Plated Steel T-Pin.	Dritz .....	6828 .....	\$3.50 for a 40-count pack.
Measure combined thickness of shell & inner liner.	0–8 inch Outside Diameter Caliper	iGAGING .....	35–OD8 .....	\$28.00.
Apply compressive force to the non impact-attenuating liner.	Push style force gauge 1–10 lbf range 6.3 mm diameter flat probe.	Wagner Instruments ..	FDK 10 .....	\$225.

NHTSA examined each helmet and took multiple measurements in the vicinity of the apex. Two measurements are being reported: Thickness at the low end of the range (*i.e.*, a thin location) and thickness at the upper end of the range (*i.e.*, a thick location). See Table 5. The methodology used was not designed to identify the absolute minimum or maximum thickness values, but rather to obtain a general characterization of the inner liner, shell, and non-impact attenuating liner

thicknesses. Summaries are reported in Tables 6 and 7. The certified helmets in this group had impact attenuating liners that were at least 1 inch (25 mm) thick and an overall thickness from the inside of the impact attenuating liner to the outside of the shell measured at least 1.1 inch (28 mm). On the other hand, the novelty helmets examined had no impact attenuating liners or liners that were less than 0.59 inch (15 mm) thick and a combined thicknesses of liner and shell that measured less than or equal to

0.75 inch (19 mm). The certified helmets examined had an inner liner that would not deform when subject to a load of 5 lbf (22 N); whereas the liners (inner and comfort) on novelty helmets that we examined deformed readily. It is possible to foresee that a user of a novelty helmet might mistake the comfort liner of non-energy attenuating foam for an inner liner; therefore NHTSA measured the amount that the liners would deform under such a small load. The measurements made on these

<sup>50</sup> N. Yoganandan et al. (Eds.), *FRONTIERS IN HEAD AND NECK TRAUMA Clinical and Biomechanical*, IOS Press, OHMSHA, 1998, retrieved from <http://www.smf.org/docs/articles/>

*helmet\_development.html*, July 18, 2011 (last accessed on 1/19/12).

<sup>51</sup> Per MIL–STD–1472F Department of Defense’s Design Criteria Standard for Human Engineering

revised 23 August 1999, data contained in Figures 23.

helmets are reported in Table 5. In one case, the comfort liner on the novelty helmet deformed 0.6 inch (15.1 mm).

Helmet		Size	Type	Inner liner thickness (mm)		Overall thickness from inside of the inner liner to the outside of shell (mm)		Shell, inner liner, and comfort liner no compression (mm)		Shell, inner liner, comfort liner under compression w/22N force (mm)		Average deformation of non-impact attenuating liner with compression (mm)
Brand	Model			Certified/ Novelty	Thin Location	Thick Location	Thin Location	Thick Location	Thin Location	Thick Location	Thin Location	
AGV	Dragon	XL	Certified	27.0	27.5	33.0	33.5	46.9	51.1	43.7	49.7	2.3
Bell	Custom 500	XL	Certified	31.0	33.0	36.8	37.2	46.3	53.9	39.8	44.6	7.9
Bell	Drifter	XL	Certified	33.0	34.0	37.2	39.5	43.9	52.6	43.9	50.3	1.2
Bitwell	Hustler	XL	Certified	34.0	35.0	39.0	40.0	53.7	55.8	50.0	50.9	4.3
GMAX	GM35S	XL	Certified	31.0	32.0	36.5	37.5	47.9	48.3	47.2	47.4	0.8
HJC	IS-2	XL	Certified	33.0	37.0	37.4	41.4	48.3	57.4	47.2	46.9	5.8
Nolan	Super Cruise	XL	Certified	34.0	35.0	37.1	43.1	37.5	48.3	37.5	37.5	5.4
Scorpion	EXO-900	M	Certified	39.0	43.0+	43.7	56.5	43.7	63.6	43.7	57.7	3.0
Scorpion	EXO-100	XL	Certified	34.0	40.0	38.1	45.4	39.6	49.8	39.6	46.9	1.5
Seer	S1602	XL	Certified	Not Measured		Not Measured		36.3	45.4	35.5	44.3	0.9
Shoei	St. Cruz	XL	Certified	37.0	38.0	41.0	42.0	46.4	47.4	41.4	42.4	5.0
THH	T-70	XL	Certified	28.0	32.0	34.0	36.0	49.8	55.2	44.1	51.7	4.6
VCAN	V528	XL	Certified	35.0	37.5	41.0	43.5	51.1	58.2	50.2	52.7	3.2
VCAN Sports	531BKXL	XL	Certified	34.5	38.0	40.4	47.6	40.4	49.2	40.4	48.3	0.5
Zox	Old School	XL	Certified	28.5	30.0	31.6	34.1	35.1	41.4	35.1	38.0	1.7
AFX	FX-200	XL	Certified	29.0	30.5	33.1	34.1	36.9	39.0	36.3	38.4	0.6
Daytona Helmets	Cruiser	XL	Certified	25.0	26.0	28.0	29.0	37.2	37.3	35.1	35.2	2.1
Daytona Helmets	Skull Cap	XL	Certified	28.5	29.5	34.4	36.8	35.4	45.4	35.4	37.8	3.8
Fuel	Half Helmet	XL	Certified	26.0	30.0	32.5	36.5	41.9	51.9	37.4	50.0	3.2
Fulmer	AF-81 Half Helmet	XL	Certified	28.0	31.0	32.7	36.6	39.4	43.4	36.7	40.7	2.7
HCI	50	XL	Certified	36.5	37.0	40.5	41.0	45.5	46.0	40.7	41.2	4.8
Vega	XTS	XL	Certified	29.0	31.0	34.4	35.3	40.1	48.7	38.6	45.7	2.3
Dauida	Classic	L	Novelty	5.5	8.0	11.9	17.3	13.1	18.5	12.1	17.5	1.0
	Eagle	XL	Novelty	0.0	0.0	5.7	6.9	5.8	11.3	5.8	8.0	1.7
	EZ Rider	XL	Novelty	9.0	11.4	16.1	18.3	16.5	18.7	4.7	5.8	12.4
	Big German	XL	Novelty	0.0	0.0	4.5	6.6	5.8	8.6	5.8	8.1	0.3
	Hawk	XL	Novelty	3.9	4.4	9.1	11.0	11.6	13.5	5.8	8.6	5.4
	Iron Braid	M/L	Novelty	12.0	15.0	16.0	19.0	22.8	26.2	13.4	17.4	9.1
	Turtle	XL	Novelty	1.2	1.4	4.9	6.3	6.2	9.8	6.2	8.2	0.8
Bitwell	Novelty Helmet	e Size	Novelty	0.0	0.0	4.3	5.1	26.7	27.5	11.6	12.4	15.1

Table 5. Thickness Data

Certified	Impact attenuating inner liner thickness (mm)	Overall thickness from inside of the inner liner to the outside of shell (mm)	Shell, inner liner, and comfort liner, uncompressed (mm)	Shell, inner liner, comfort liner under compression w/22N force (mm)	Average deformation of comfort liner with compression (mm)
# of helmets: 22					
Minimum	25.0	28.0	35.1	35.1	0.5
Maximum	40.0	56.5	63.6	57.7	7.9
Average	32.3	37.8	46.2	43.1	3.1
Std Dev	3.9	5.2	6.8	5.8	2.0

**Table 6. Summary of Thickness Results for Certified Helmets**

Novelty	Non impact attenuating inner liner thickness (mm)	Overall thickness from inside of the inner liner to the outside of shell (mm)	Shell, inner liner, and comfort liner, uncompressed (mm)	Shell, inner liner, comfort liner under compression w/22N force (mm)	Average deformation of non-impact attenuating liner with compression (mm)
# of helmets: 8					
Minimum	0.0	4.3	5.8	4.7	0.3
Maximum	15.0	19.0	27.5	17.5	15.1
Average	4.5	10.2	15.2	9.5	5.7
Std Dev	5.1	5.5	7.5	4.1	5.8

**Table 7. Summary of Thickness Results for Novelty Helmets**

In comparison, the liners of helmets certified by manufacturers as complying with FMVSS No. 218 are thicker and are composed of materials with different physical properties. Certified helmets employ an energy absorbing non-resilient material in the helmet liner. Typically, this non-resilient liner, which fits between the cloth comfort liner and the inside of the helmet shell, is made from a semi-rigid material such as EPS or polyurethane foam<sup>52</sup> that deforms when subjected to certain pressure and does not spring back to shape. This semi-rigid foam liners in the examined helmets were all greater than 1.0 inch (25 mm) thick near the apex of the helmet and did not deform when subjected to a force up to 5 lbf (22 N) distributed over a circular area approximately ¼ inch (6 mm) in diameter. However, at some force greater than 5 lbf (22 N) over the same area, the certified helmet liners will begin to crush or deform.

<sup>52</sup>Newman, James A. "Chapter 14: Biomechanics of Head Trauma: Head Protection" from Nahum, Alan M. and Melvin, John W., ed. *Accidental Injury: Biomechanics and Prevention*. 2nd ed. New York: Springer Science+Business Media, Inc., 2002.

NHTSA is not alone in its efforts to characterize helmet liners. A study of helmet design and effectiveness published in the 1990s concluded that a helmet must have a combined shell and liner minimum thickness of 1.5 inch (40 mm) in order to meet the impact attenuation requirements of the then-current Snell M90 standard.<sup>53</sup> The Snell M90 standard differs from FMVSS No. 218 in several respects, but the general concept that a certain thickness of energy absorbing material must be present still prevails. By conducting FMVSS No. 218 compliance tests over several decades and recently examining the thickness of commercially available motorcycle helmets, NHTSA concludes that those helmets meeting the NHTSA standard must have an energy absorbing liner that is greater than 0.75 inch (19 mm) thick. Such a liner dissipates energy during a crash and allows the wearer's head to come to a stop more slowly in order to reduce head injuries.

<sup>53</sup>Hurt, H.H., Jr. and Thorn, D.R., "Accident Performance of Contemporary Safety Helmets," *Head and Neck Injuries in Sports*, p. 15. ASTM STP 1229, American Society for Testing and Materials, Philadelphia, 1993.

By contrast, novelty helmets have very soft liners of foam that cannot absorb energy or provide an adequate amount of cushion to a wearer's head during a crash.

Based on the examination of these certified and novelty helmets, the threshold thickness value of 0.75 inch (19 mm), measured within 4-inches of the apex, would allow for variability in helmet design, test equipment usage, and materials, while serving as an objective thickness criterion to distinguish certified from novelty helmets. Accordingly, NHTSA proposes to amend FMVSS No. 218 to incorporate a series of simple tests that would evaluate the physical characteristics required to meet current standards of helmet performance. These tests would serve to establish whether further testing is needed to fully and fairly determine if a helmet meets the existing performance requirements of FMVSS No. 218. Helmets not meeting the proposed requirements would be deemed to be non-compliant.<sup>54</sup> Helmets

<sup>54</sup>Excluding helmets that have been listed in Appendix B of FMVSS No. 218 as discussed elsewhere in this document.

meeting the proposed requirements would be subject to further evaluation through laboratory tests to determine if they provide the required minimum levels of performance needed to adequately protect users. Any helmet with an inner liner that is less than 0.75 inch (19 mm) thick would be considered incapable of complying with FMVSS No. 218. Moreover, NHTSA proposes that any helmet with a liner meeting the minimum thickness criteria must also be sufficiently resistant to deformation to ensure that the liner is capable of some level of energy absorption. Finally, because the combined thickness of the liner and the shell together is also an excellent predictor that a helmet will be unable to comply with the performance requirements of FMVSS No. 218, NHTSA also proposes that any helmet whose combined shell and inner liner thickness is less than 1 inch (25 mm) and whose liner meets the same resistance to deformation would also presumably not be able to comply with the standard. NHTSA seeks comments and data from helmet manufacturers of compliant helmets pertaining to the thickness of impact attenuating liners and of shell and liner combinations.

The aforementioned criteria are of little use to NHTSA or to State and local law enforcement officials if tools and techniques for ascertaining helmet inner liner thickness and composition are not readily available or are only available at significant cost. Similarly, the procedures employed in examining helmets should not be complex. Accordingly, this preamble discusses tests that could be performed on easily accessible areas of a helmet using simple tools and provides a guideline that could be adapted to reference cards carried by law enforcement personnel conducting traffic stops.

Inner liner thickness could be measured in a number of ways. One method could be to penetrate the helmet liner with a pin, needle, or similarly small diameter wire probe until the inside of the helmet shell is reached and measuring the depth of the penetration. NHTSA is confident that measurements of inner liner thickness taken in this fashion will not impair helmet performance and that a single penetration, or a limited number of similar penetrations, of the energy attenuating foam liners employed in compliant motorcycle helmets by a pin, needle or other small diameter probe would not degrade a helmet's ability to protect a user in a crash. Because we recognize that some organizations may be reluctant to conduct such a test, we request comment on this method of measuring inner liner thickness, its

potential impact on helmet performance and any alternative means that may be employed using simple tools to readily and accurately find liner depth.

NHTSA is also proposing a measure of the combined thickness of the outer shell and inner liner as another means of identifying helmets that do not comply with FMVSS No. 218. As discussed above, the combined shell and inner liner thickness are good predictors of how well a helmet will perform in compliance testing. Because the combination of the outer shell and the impact absorbing inner liner are critical determinants of a helmet's ability to meet the performance requirements of FMVSS No. 218, NHTSA proposes that any helmet whose outer shell and liner are less than 25 mm (1 inch) thick would not comply with FMVSS No. 218. This measurement could be taken using a large caliper. Another method would be to place a helmet on a headform or stand so that the inner liner is seated against that stand, measure the combined height of the helmet and the stand, and then remove the helmet and measure the height of the stand alone. The difference between the two measurements would yield the thickness of the combined shell and liner.

Measuring inner liner thickness, or combined shell and inner liner thickness, represents only one component of a test for identifying helmets that do not comply with FMVSS No. 218. NHTSA proposes a second component of this test that involves examining the resistance of helmet liners to crush when low forces are applied. This technique is useful because, as previously explained, novelty helmets have thin, non-substantial inner liners that are too soft to absorb energy if they have any liner at all. NHTSA is proposing guidance stating that an inner liner that meets the appropriate thickness requirements but which may be deformed  $\frac{1}{12}$  inch (2 mm) by the application of a force between 1 lbf (4.4 N) and 5 lbf (22 N) distributed over a circle approximately 0.20–0.30 inch (5–7 mm) in diameter is incapable of complying with FMVSS No. 218. The area over which the proposed force would be applied is the diameter of most common pencils. The specified force range of 1 lbf (4.4 N) to 5 lbf (22 N) is sufficient to deform soft liners and may be applied using a weighted probe or a dial indicator force gauge.<sup>55</sup> The amount of deformation of

the inner liner could be ascertained either by observation or by measurement using a small ruler or use of the force gauge and calipers in combination. By examining and testing novelty and certified helmets, NHTSA has observed the force proposed produces little to no deformation on the impact absorbing liners made of EPS or urethane in helmets meeting FMVSS No. 218, while novelty helmets with thick soft "comfort" liners experience a noticeable degree of deformation. Again, NHTSA requests comments on the means employed to make this measurement.

To reduce the possibility of error caused by variations in helmet designs, NHTSA is proposing that the measurements of inner liner thickness, combined helmet/inner liner thickness and inner liner compression characteristics be conducted in a limited area near the crown or apex of the helmet. Helmets providing the minimum level of impact and penetration resistance required to meet FMVSS No. 218 must have a robust shell and liner in this area. In addition, the test area proposed in this document is intended to be located, measured and marked using simple tools that are readily available at low cost. This is best achieved by focusing at the topmost area of the helmet. Finally, it is not NHTSA's intention to discourage manufacturers from designing helmets with ventilation channels. NHTSA requests feedback about the following issues as they relate to this proposal:

- How will the proposed measurements be affected by the presence of ventilation channels?
- How will the proposed measurements stand up to the effects of wear and aging on certified motorcycle helmets?
- Will compliant motorcycle helmets that are currently manufactured meet the newly proposed performance requirements?
- What emerging motorcycle helmet technologies will be affected if this proposal moves forward?

The proposal specifies that the measurements of inner liner thickness, combined shell and inner liner thickness and inner liner resilience be made within a circular zone having a 4 inch (104 mm) radius centered at the apex of the helmet. We are proposing the term "inner liner" to mean an energy absorbing material that is molded to conform to the inner shape of the helmet's shell and serves to protect

<sup>55</sup> Mechanical dial force gauges suitable for this measurement may be acquired for approximately \$225. An example of one such gauge is found at

[http://www.wagnerinstruments.com/force\\_gauges/fdk\\_mechanical\\_dial\\_force\\_gauge.php](http://www.wagnerinstruments.com/force_gauges/fdk_mechanical_dial_force_gauge.php) (last accessed on 1/19/12).

the user's head from impact forces during a crash. We are also proposing the term "apex" to mean the upper most point on the shell of the helmet when the helmet is oriented such that that brow opening is parallel to the ground. The agency does not intend that measurements must be made with such precision that they could only be taken at a single point. Instead, we are proposing that measurements be taken within a circle centered on the apex. The center point of this circle need not be precisely located at the single point constituting the "apex" of a helmet. To that end, we solicit comments on using an alternative definition for the topmost area of a helmet, including the use of the term "crown" to designate the measurement area. Alternatively, we also solicit comments on locating the center of the measurement circle within a specified tolerance range—*i.e.* a 4 inch (104 mm) radius of the actual apex. Once the approximate location of the apex is determined, a flexible cloth tape may be used to measure the outer bounds of the circular measurement area. Alternatively, a circle having a 4 inch (104 mm) radius cut out of a flexible material capable of conforming to the contours of the liner could be employed for the same purpose. Helmet measurements would be made within this circle.

NHTSA's intention is that thickness measurements are made along the shortest line that passes through the helmet to measure the thinnest cross section and avoid artificially inflating the thickness. Therefore, we propose that this measurement be made along a line that is at or near perpendicular to a plane tangent to a point on the outer shell near the apex of the helmet. We are proposing to add to FMVSS No. 218, a figure of an exemplar helmet to demonstrate the general location and meaning of these terms, so the public will know where and how the measurement should be made and a new Table 3 to specify which certification label is required based on the helmet's manufacture date.

NHTSA is also proposing the establishment of an alternative compliance process for manufacturers whose helmets do not meet the aforementioned preliminary screening criteria, to prove that their products are capable of meeting the remaining requirements of Standard No. 218. As noted above, we are proposing this process to ensure that the preliminary screening criteria do not stifle advances in helmet technology and materials. To accomplish this end, the Agency proposes that manufacturers of advanced technology helmets that do

not meet the preliminary screening criteria be allowed to petition the agency for a determination that a particular helmet is capable of meeting S5.2–S5.7 (as renumbered) of the Standard.

The proposed requirements for such a petition are straightforward and stated in the proposed regulatory section (Appendix B) of this document. Manufacturers of helmets, including importers of helmets, would be eligible to file a petition provided that such manufacturer or importer has identified itself to NHTSA in compliance with 49 CFR part 566 and, in the case of helmets manufactured outside of the United States, the manufacturer of the helmet has designated a U.S. agent for service of process as required by subpart D of 49 CFR part 551 (49 CFR 551.45 *et seq.*). Petitions must be in writing, be written in English, properly identify the manufacturer of the helmet, provide contact information for the petitioner and identify the precise model and name brand of the helmet at issue. Petitioners would be required to submit test data, photographs, videos, and other evidence establishing that the helmet at issue is capable of meeting the requirements of Standard No. 218 with the exception of the proposed preliminary screening criteria of S5.1. Petitions that are incomplete or fail to comply with any of the foregoing requirements would be rejected. Otherwise, the Agency will seek to inform the manufacturer not later than 60 days after receipt of the written submission, if the information is complete.

If the petition is complete, NHTSA's review of the petition may, at the agency's discretion, result in subsequent testing of sample helmets. If NHTSA is unable to obtain sample helmets that are the subject of the petition, it will reject the request. If the Agency determines that a particular model helmet that does not comply with the preliminary screening requirements of S5.1 is otherwise capable of meeting Standard No. 218, it will publish this determination in the **Federal Register** and make a copy of the determination available on the agency's Web site. The brand name, model and size of any helmet not meeting the preliminary screening requirements of S5.1 that is determined by NHTSA to be capable of meeting Standard No. 218 will be published in an appendix to Standard No. 218 and be made available on the Agency's Web site.

The proposed petition process would also allow for termination or modification of a determination if doing so is in the public interest, if additional

information indicates that the determination was erroneous or if the petition was granted on the basis of false, fraudulent or misleading information.

If adopted, the petition process proposed here would exist alongside existing provisions that offer similar relief. Manufacturers of motor vehicles and motor vehicle equipment, along with other interested parties, currently have the ability to petition NHTSA to initiate rulemaking to amend a safety standard under 49 CFR part 552. Therefore, a helmet manufacturer that has developed new materials or technologies allowing the use of thinner helmet liners than those currently needed to meet Standard No. 218 could address their inability to meet the proposed preliminary screening requirements through a petition for rulemaking rather than the special petition procedures being proposed in this document. We therefore note that NHTSA may decide that the proposed petition process described above may not be needed and may be deleted from a final rule.

NHTSA solicits comments on the proposed petition process in general and the following specific issues related to this portion of our proposal:

- Are the existing provisions of part 552 adequate to minimize or alleviate the risk that the proposed preliminary screening requirements for helmets would stifle innovation?
- What is the likelihood that new cost effective technologies or materials would allow for helmet liners to meet the performance requirements of Standard No. 218 while not meeting the preliminary screening requirements proposed in this document?
- What means should the Agency employ to ensure that helmet users and state and local law enforcement agencies are adequately informed about determinations made under the proposed petition process?

#### V. Effective Date

NHTSA is proposing a lead time of two years from the publication of the final rule for manufacturers to comply with the new requirements. Based on NHTSA's survey of helmets, NHTSA believes that helmets currently sold in the market place will comply with the new screening criteria; however, responsible manufacturers may wish to submit their products to independent laboratories to generate data on which they base their certification. The agency believes that a lead time of two years to be a sufficient and reasonable time to allow the manufacturers the opportunity

to recertify their products to the updated regulations.

**VI. Benefits/Costs**

To calculate the benefits and costs of this proposed rulemaking, the agency has prepared a Preliminary Regulatory Impact Analysis (PRIA). The results of the PRIA indicate that the proposed rule is cost-effective. The goal of this rule is have motorcyclists wearing novelty helmets switch to FMVSS No. 218-certified helmets (certified helmets). Depending on the degree of effectiveness of the rule, the costs and benefits can vary substantially. The benefits and costs of the proposal depend on how many additional motorcycle riders change from wearing novelty helmets to wearing certified helmets in States that have a Universal Helmet Laws beyond the benefits estimated for the final rule that becomes effective on May 13, 2013.<sup>56</sup> This NPRM proposes two amendments to FMVSS No. 218 that affect the benefits calculation: Inclusion of a definition of “motorcycle helmet” and the addition of dimensional and compression requirements to identify helmets that, under the current state of the art of helmet design and construction, would not be capable of complying with FMVSS No. 218 because they lack characteristics needed to absorb and dissipate impact energy.

The benefit of the proposed definition is seen to the extent that it clarifies and supports the other actions in this proposed rule, and the benefits and costs of such will not be estimated independently in this analysis. The preliminary screening requirements will be beneficial to enforcement. The costs and benefits of the proposal are described in detail in the accompanying PRIA.

Behavioral change among motorcycle riders as a result of the rule is difficult to predict. However, the agency believes that this proposal would further improve the ability to enforce helmet laws and that an additional 5 to 10 percent of the novelty helmet users in States that have a Universal Helmet Law would eventually make a switch to avoid being ticketed or fined, and that this is a modest and achievable projection. In addition, the analysis also estimates the maximum potential benefit of the rule which corresponds to a hypothetical scenario of all novelty helmet users in States that have universal helmet laws becoming 218-certified helmet users (the 100-percent scenario). Note that this 100-percent scenario is considered theoretical since some novelty-helmeted motorcyclists would still be expected to circumvent the helmet laws by continuing taking the risk of wearing novelty helmets. Therefore, the estimated costs and

benefits for the 100-percent scenario are not used (and not appropriate) for determining the effects of the proposed rule. However, they do indicate the potential savings in social costs that are offered by FMVSS No. 218-compliant helmets and the importance of educating the public to this potential.

The following table lists the discounted injury benefits from lives saved and monetized savings. It excludes benefits from non-fatal injuries prevented and any utility lost by novelty helmet riders who switch to FMVSS 218 compliant helmets. Since any such utility is obtained in violation of State law, its status is uncertain. See “Non-quantified Impacts” section of the PRIA for further discussion. The lower bounds represent the savings for the 7 percent discount rate and the higher bounds represent savings for the 3 percent discount rate. In addition to discount rates, the estimated benefit ranges also reflect two different approaches that were used to derive the benefit target population and the injury risk reduction rates as described in the accompanying PRIA. Furthermore, due to great uncertainty in deriving the estimated portion of non-fatal injuries attributed to the head, the benefits attributed to non-fatal head injuries are not quantified in this analysis.<sup>57</sup>

**TABLE 8—DISCOUNTED BENEFITS OF THE PROPOSED RULE**  
[Millions of 2012 dollars]

	Number of lives saved	Societal economic benefits	VSL benefits	Total benefits from fatalities prevented
5-percent scenario .....	9–22	\$3.0–\$7.4	\$92.9–\$211.9	\$95.9–\$219.3
10-percent scenario .....	19–43	6.4–14.4	185.8–423.9	192.2–438.3
100-percent scenario .....	186–433	62.5–145.4	1,819.3–4,247.4	1,881.7–4,392.7

VSL: Value of statistical life.

**Note:** The lower bounds represent the estimated benefits at a 7 discount rate and the higher bounds represent the estimated benefits at a 3 percent discount rate. Additionally, the wide range of benefits also reflects the two approaches that were used for deriving the benefit target population and risk reduction rates.

The regulatory costs of the proposed rule are derived from the incremental cost increase due to purchasing a 218-certified helmet versus a novelty helmet, and the cost of State and local law enforcement acquiring preliminary screening tools.

The incremental cost per replaced novelty helmet is estimated to be

\$48.92. The estimated costs of the proposed rule are based on 5 percent and 10 percent of consumers in Law States replacing novelty helmets with compliant helmets. The estimated consumer cost ranged from \$0.6 million to \$1.2 million, where 12,150 to 24,300 novelty helmets would be replaced by compliant helmets. Under the maximum

benefit scenario in which 100 percent of novelty helmet users would switch to compliant helmets, the incremental cost to consumers is \$11.9 million, where 243,000 novelty helmets would be replaced by compliant helmets.

The cost of the preliminary screening tool kit is estimated to be \$81.43 per kit per year,<sup>58</sup> for a total cost of \$0.6 million

<sup>56</sup> Office of Regulatory Analysis and Evaluation, National Center for Statistics and Analysis, “Final Regulatory Evaluation: FMVSS No. 218 Motorcycle Helmet Labeling,” May 2011, Docket NHTSA–2011–0050.

<sup>57</sup> See Chapter IV, *Benefits of the Preliminary Regulatory Evaluation*, FMVSS No. 218 Motorcycle Helmet Labeling (Docket No. NHTSA–2011–0050–

0001). Based on 2003–2005 Crash Outcome Data Evaluation System (CODES) data from Maryland, Utah and Wisconsin, and 2005–2007 NASS–GES.

<sup>58</sup> A complete kit includes three tools. We estimated the cost is \$264.67 per complete kit. The total first year investment in screening tools for the 7,214 State and local law enforcement agencies would be \$1.9 million. Because one of the tools

would need to be replaced only every five years, one-fifth cost for that specific component was used for estimating for the annual costs of the screening tools. In other words, the difference between the first year cost and the annual cost is the allocation of the tool costs over their useful life.

(assuming each of the 7,214 State and local law enforcement agencies in only the States that require motorcycle helmet use will purchase one screening tool kit).

The total regulatory cost of the proposed rule including the cost of novelty helmet replacement and screening tool kits ranged from \$1.2 million to \$1.8 million. For achieving

the maximum benefit (*i.e.*, 100-percent scenario), the estimated total regulatory cost is \$12.5 million.

TABLE 9—REGULATORY COSTS OF THE PROPOSED RULE  
[Millions of 2012 dollars]

	Number of novelty helmets assumed to be replaced	Total cost of replacing novelty helmets*	Annual cost of screening tools**	Total regulatory cost
5-percent scenario .....	12,150	\$0.6	\$0.6	\$1.2
10-percent scenario .....	24,300	1.2	0.6	1.8
100-percent scenario .....	243,000	11.9	0.6	12.5

\* \$48.92 per minimally-compliant helmet which replace novelty helmets.

\*\* \$81.43 per screening tool kit per year.

The net benefit of the proposed rule is the regulatory cost minus the societal economic savings. The societal economic savings is greater than the regulatory cost for all three scenarios.

**VII. Public Participation**

*How do I prepare and submit comments?*

Your comments must be written and in English. To ensure that your comments are filed correctly in the docket, please include the docket identification number of this document in your comments. Your comments must not be more than 15 pages long. (49 CFR 553.21) NHTSA established this limit to encourage you to write your primary comments in a concise fashion. However, you may attach necessary additional documents to your comments. There is no limit on the length of the attachments. Please note that pursuant to the Data Quality Act, in order for substantive data to be relied upon and used by the agency, it must meet the information quality standards set forth in the OMB and DOT Data Quality Act guidelines. Accordingly, we encourage you to consult the guidelines in preparing your comments. OMB's guidelines may be accessed at <http://www.whitehouse.gov/omb/fedreg/reproducible.html>.

*How do I submit confidential business information?*

If you wish to submit any information under a claim of confidentiality, you should submit three copies of your complete submission, including the information you claim to be confidential business information, to the Chief Counsel, NHTSA, at the address given above under **FOR FURTHER INFORMATION CONTACT**. In addition, you should submit a copy, from which you have deleted the claimed confidential

business information, to the docket at the address given above under **ADDRESSES**. When you send a comment containing information claimed to be confidential business information, you should include a cover letter setting forth the information specified in NHTSA's confidential business information regulation (49 CFR part 512).

*Will the Agency consider late comments?*

NHTSA will consider all comments received before the close of business on the comment closing date indicated above under **DATES**. To the extent possible, the agency will also consider comments that the docket receives after that date. If the docket receives a comment too late for the agency to consider it in developing a final rule (assuming that one is issued), the agency will consider that comment as an informal suggestion for future rulemaking action.

*How can I read the comments submitted by other people?*

You may read the comments received by the docket at the address given above under **ADDRESSES**. The hours of the docket are indicated above in the same location. You may also read the comments on the internet. Please note that even after the comment closing date, NHTSA will continue to file relevant information in the docket as it becomes available. Further, some people may submit late comments. Accordingly, the agency recommends that you periodically check the docket for new material. You can arrange with the docket to be notified when others file comments in the docket. See <http://www.regulations.gov> for more information. Anyone is able to search the electronic form of all comments received into any of our dockets by the

name of the individual submitting the comment (or signing the comment, if submitted on behalf of an association, business, labor union, etc.). You may review DOT's complete Privacy Act Statement in the **Federal Register** published on April 11, 2000 (Volume 65, Number 70; Pages 19477-78).

**VIII. Rulemaking Analyses and Notices**

*A. Executive Order 12866 and DOT Regulatory Policies and Procedures*

The agency has considered the impact of this rulemaking action under Executive Order 12866 and the Department of Transportation's regulatory policies and procedures. This rulemaking is economically significant and was reviewed by the Office of Management and Budget under E.O. 12866, "Regulatory Planning and Review." The rulemaking action has also been determined to be significant under the Department's regulatory policies and procedures. NHTSA has placed in the docket a Preliminary Regulatory Impact Analysis describing the costs and benefits of this rulemaking action and summarized those findings in Section V titled Benefits/Costs.

*B. Regulatory Flexibility Act*

Pursuant to the Regulatory Flexibility Act of 1980 (5 U.S.C. 601 *et seq.*, as amended by the Small Business Regulatory Enforcement Fairness Act (SBREFA) of 1996), whenever an agency is required to publish a notice of proposed rulemaking or final rule, it must prepare and make available for public comment a regulatory flexibility analysis that describes the effect of the rule on small entities (*i.e.*, small businesses, small organizations, and small governmental jurisdictions). The Small Business Administration's regulations at 13 CFR part 121 define a small business, in part, as a business



entity “which operates primarily within the United States.” (13 CFR 121.105(a)). No regulatory flexibility analysis is required if the head of an agency certifies the rule will not have a significant economic impact on a substantial number of small entities. SBREFA amended the Regulatory Flexibility Act to require federal agencies to provide a statement of the factual basis for certifying that a rule will not have a significant economic impact on a substantial number of small entities.

NHTSA has considered the effects of this proposed rule under the Regulatory Flexibility Act. Manufacturers not currently producing compliant helmets that switch to manufacturing compliant helmets will recapture the increased costs associated with manufacturing such compliant helmets as reflected in this analysis. Small entities selling motorcycle equipment and accessories would be precluded from selling non-compliant novelty helmets but would still have the ability to obtain and sell compliant helmets from numerous suppliers and wholesalers. Similarly, to the extent that there are any small entities whose business is based solely on the sale of non-compliant novelty helmets, these entities would be able to obtain, market and sell compliant helmets. I certify that this proposed rule would not have a significant economic impact on a substantial number of small entities.

#### C. Executive Order 13132 (Federalism)

NHTSA has examined this proposed rule pursuant to Executive Order 13132 (64 FR 43255, August 10, 1999) and concluded that no additional consultation with States, local governments or their representatives is mandated beyond the rulemaking process. The proposed rule does not directly require a state or local government entity to take any action or refrain from acting. This proposed rule would not alter the relationship between the national government and the States or the distribution of power and responsibilities among the various levels of government. To the extent that any state is impacted by this proposed rule, the principal effect of today’s proposed rule will be to assist mandatory helmet law states in enforcing helmet laws requiring motorcyclists to wear helmets complying with FMVSS No. 218. As noted above, NHTSA consulted with certain state officials regarding enforcement of such laws prior to issuing this proposed rule. The agency has concluded that the rulemaking would not have sufficient federalism

implications to warrant further consultation with State and local officials or the preparation of a federalism summary impact statement.

NHTSA rules can preempt in two ways. First, the National Traffic and Motor Vehicle Safety Act contains an express preemption provision: When a motor vehicle safety standard is in effect under this chapter, a State or a political subdivision of a State may prescribe or continue in effect a standard applicable to the same aspect of performance of a motor vehicle or motor vehicle equipment only if the standard is identical to the standard prescribed under this chapter. 49 U.S.C. 30103(b)(1). It is this statutory command by Congress that preempts any non-identical State legislative and administrative law addressing the same aspect of performance.

The express preemption provision described above is subject to a savings clause under which “[c]ompliance with a motor vehicle safety standard prescribed under this chapter does not exempt a person from liability at common law.” 49 U.S.C. 30103(e). Pursuant to this provision, State common law tort causes of action against motor vehicle manufacturers that might otherwise be preempted by the express preemption provision are generally preserved. However, the Supreme Court has recognized the possibility, in some instances, of implied preemption of such State common law tort causes of action by virtue of NHTSA’s rules, even if not expressly preempted. This second way that NHTSA rules can preempt is dependent upon there being an actual conflict between an FMVSS and the higher standard that would effectively be imposed on motor vehicle manufacturers if someone obtained a State common law tort judgment against the manufacturer, notwithstanding the manufacturer’s compliance with the NHTSA standard. Because most NHTSA standards established by an FMVSS are minimum standards, a State common law tort cause of action that seeks to impose a higher standard on motor vehicle manufacturers will generally not be preempted. However, if and when such a conflict does exist—for example, when the standard at issue is both a minimum and a maximum standard—the State common law tort cause of action is impliedly preempted. See *Geier v. American Honda Motor Co.*, 529 U.S. 861 (2000).

Pursuant to Executive Order 13132 and 12988, NHTSA has considered whether this proposed rule could or should preempt State common law causes of action. The agency’s ability to

announce its conclusion regarding the preemptive effect of one of its rules reduces the likelihood that preemption will be an issue in any subsequent tort litigation.

To this end, the agency has examined the nature (e.g., the language and structure of the regulatory text) and objectives of today’s proposed rule and finds that this proposed rule, like many NHTSA rules, prescribes only a minimum safety standard. As such, NHTSA does not intend that this proposed rule preempt State tort law that would effectively impose a higher standard on motor vehicle equipment manufacturers than that established by today’s proposed rule. Establishment of a higher standard by means of State tort law would not conflict with the minimum standard announced here. Without any conflict, there could not be any implied preemption of a State common law tort cause of action.

#### D. Executive Order 12988 (Civil Justice Reform)

With respect to the review of the promulgation of a new regulation, section 3(b) of Executive Order 12988, “Civil Justice Reform” (61 FR 4729, February 7, 1996) requires that Executive agencies make every reasonable effort to ensure that the regulation: (1) Clearly specifies the preemptive effect; (2) clearly specifies the effect on existing federal law or regulation; (3) provides a clear legal standard for affected conduct, while promoting simplification and burden reduction; (4) clearly specifies the retroactive effect, if any; (5) adequately defines key terms; and (6) addresses other important issues affecting clarity and general draftsmanship under any guidelines issued by the Attorney General. This document is consistent with that requirement.

Pursuant to this Order, NHTSA notes as follows. The preemptive effect of this proposed rule is discussed above. NHTSA notes further that there is no requirement that individuals submit a petition for reconsideration or pursue other administrative proceeding before they may file suit in court.

#### E. National Technology Transfer and Advancement Act

Under the National Technology Transfer and Advancement Act of 1995 (NTTAA) (Pub. L. 104–113), “all Federal agencies and departments shall use technical standards that are developed or adopted by voluntary consensus standards bodies, using such technical standards as a means to carry out policy objectives or activities determined by the agencies and departments.”

Voluntary consensus standards are technical standards (e.g., materials specifications, test methods, sampling procedures, and business practices) that are developed or adopted by voluntary consensus standards bodies, such as the Society of Automotive Engineers (SAE). The NHTAA directs us to provide Congress, through OMB, explanations when we decide not to use available and applicable voluntary consensus standards.

FMVSS No. 218 is largely based on ANSI Z90.1–1971, “Specifications for Protective Headgear for Vehicular Users,” and incorporates the SAE Recommended Practice J211 MAR 95, “Instrumentation for Impact Test—Part 1—Electronic Instrumentation,” both of which are voluntary consensus standards. While the Snell Memorial Foundation also produces helmet specifications (e.g., the 2005 and 2010 Helmet Standards for use in Motorcycling), the agency continues to base its standard on the ANSI specification, as the purpose of this rulemaking action is to make minor changes and clarifications to the standard for labeling and enforcement purposes, and we have not analyzed the effectiveness of the Snell standard.

Paragraph 2 of the definition of “motorcycle helmet” proposed in this document employs compliance with voluntary standards for protective helmets (other than motorcycle helmets) as a means of delineating those helmets that are not motorcycle helmets subject to NHTSA’s jurisdiction.

#### F. Unfunded Mandates Reform Act

The Unfunded Mandates Reform Act of 1995 requires agencies to prepare a written assessment of the costs, benefits and other effects of proposed or final rules that include a federal mandate likely to result in the expenditure by State, local or tribal governments, in the aggregate, or by the private sector, of more than \$100 million annually (adjusted for inflation with base year of 1995).

Adjusting this amount by the implicit gross domestic product price deflator for the year 2012 results in \$141 million ( $115.366/81.602 = 1.414$ ). The assessment may be included in conjunction with other assessments, as it is here.

This proposed rule would not result in expenditures by State, local or tribal governments of more than \$141 million annually as the Federal government (1) is not requiring States to purchase all of the preliminary screening tools described in the cost section and (2) provides grants to States for other motorcycle safety related programs and

would likely aid in offsetting the costs estimated in this analysis.

#### G. National Environmental Policy Act

NHTSA has analyzed this rulemaking action for the purposes of the National Environmental Policy Act. The agency has determined that implementation of this action would not have any significant impact on the quality of the human environment.

#### H. Paperwork Reduction Act

Under the procedures established by the Paperwork Reduction Act of 1995 (PRA), a person is not required to respond to a collection of information by a Federal agency unless the collection displays a valid OMB control number. The proposed rule would require manufacturers of motorcycle helmets to submit a petition and provide data on motorcycle helmets to NHTSA if they wish to utilize the alternative compliance path proposed in this NPRM.

In compliance with the PRA, we announce that NHTSA is seeking comment on a new information collection.

*Agency:* National Highway Traffic Safety Administration (NHTSA).

*Title:* 49 CFR 571.218 Motorcycle helmets.

*OMB Control Number:* Not assigned.

*Form Number:* The collection of this information uses no standard form.

*Requested Expiration Date of Approval:* Three years from the date of approval.

#### Summary of the Collection of Information

NHTSA is proposing a new requirement in section 571.218 which would permit manufacturers of motorcycle helmets to petition the agency regarding their belief that their helmet meets the requirements of FMVSS No. 218, excluding the proposed S5.1 which contains preliminary screening requirements. This collection of information would be used by the agency to evaluate the manufacturers’ claims and determine if confirmation testing of their product is warranted. If the information submitted to the agency by the manufacturer together with confirmation testing, shows the helmet that is the subject of the petition can meet the requirement of FMVSS No. 218, the brand, model, and size of the helmet will be added to an appendix in the standard and the information will be published in the docket for public reference.

The information would be provided by manufacturers to NHTSA under a reporting requirement that allows them

an alternate process in lieu of complying with S5.1(a) through S5.1(c). NHTSA would make the manufacturer’s submission available to the public via the Internet if it can be supported by NHTSA testing.

#### Estimated Annual Burden

The total estimated annual burden to manufacturers is based on the cost to manufacturers to review the regulatory text, conduct testing of their products, complete and review the collection of information, and transmitting that information to NHTSA.

The cost to review the collection requirement is small. The collection requirement is documented in FMVSS No. 218, Appendix B which will be publicly available through the Internet once the rule is finalized. It is estimated that a management level employee will spend less than one hour reviewing the regulatory text pertaining to the optional reporting requirement. The labor rate for this type of manager is \$62.19 per hour<sup>59</sup> to which we have applied a fringe-benefit factor of 0.41<sup>60</sup> and an overhead factor of 0.17 to obtain a fully loaded staff cost per hour of \$102.59 for engineering managers.

Second, we considered the cost burden imposed by the proposed petition process for motorcycle helmets which requires testing of products. However, testing of products is usual and customary for manufacturers of motorcycle helmets wishing to introduce their products into interstate commerce in the United States. Responsible manufacturers conduct tests during the development phase of their product and again prior to the introduction of their product to market as well as throughout production. Per 49 U.S.C. 30115, manufacturers shall exercise reasonable care in certifying that their equipment complies with applicable FMVSS. This testing often serves, in part, as the basis for exercising reasonable care that their products comply with FMVSS 218. However, the proposed process requests that photographic and video documentation of the testing be provided, which is typically more documentation than is obtained during a standard helmet test. A motorcycle helmet test of four samples is estimated to cost \$1,500 and this additional requirement is estimated to cost approximately 7% more than a standard

<sup>59</sup> Occupational Employment and Wages, May 2011 for Standard Occupational Classification Code 11–9041 Architectural and Engineering Managers, <http://www.bls.gov/oes/current/oes119041.htm>, last accessed on May 31, 2012.

<sup>60</sup> BLS, Employer Costs for Employee Compensation, May 2010.

test, which can be attributed to initial purchase of video recording equipment, and recurring costs associated with recording media, labor to execute the recording, and profit. Since the base cost (\$1,500) is considered usual and customary, it will not be factored into the estimated annual burden; yet, the additional burden (\$100 for each unique shell/liner combination and model) will be included into the burden for the collection requirement.

Next, the cost to complete and review the collection of information is expected to require 15 hours of technical labor which costs \$40.17<sup>61</sup>/hour to which we have applied a fringe-benefit factor of 0.41 and an overhead factor of 0.17 to obtain a fully loaded staff cost per hour of \$66.27 for engineering managers and one hour of fully loaded managerial labor (\$102.59/hour) for a total cost of \$1,096.64.

Finally, the cost to transmit the data to the agency using a contract carrier is expected to be \$10.

Therefore, the total estimated cost burden to each manufacturer who chooses to pursue this alternative compliance process is \$1,206.64 and the total number of burden hours is 16 per company. Given an annual estimate of three respondents, the total cost burden to manufacturers is \$3,619.92 and 48 hours.

**Estimated Annual Cost to the Government**

The estimated annual cost to the Federal Government is \$9,500. This cost includes approximately \$4,500 for enforcement testing and approximately \$5,000 annually to process, respond to, and publish determinations for the anticipated respondents.

**Estimated Number of Respondents**

Because this option is being included in the NPRM as a means facilitating the introduction of innovative helmet technologies and materials, it is anticipated that approximately three companies will attempt to pursue this option on an annual basis.

**Comments Are Invited On**

Whether the proposed collection of information is necessary for the proper performance of the functions of the Department, including whether the information will have practical utility; the accuracy of the Department's estimate of the burden of the proposed information collection; ways to enhance

the quality, utility and clarity of the information to be collected; and ways to minimize the burden of the collection of information on respondents, including the use of automated collection techniques or other forms of information technology. Please submit any comments to the NHTSA Docket Number referenced in the heading of this document, and to Claudia Covell as referenced in the **FOR FURTHER INFORMATION CONTACT** section of this document.

**I. Regulation Identifier Number (RIN)**

The Department of Transportation assigns a regulation identifier number (RIN) to each regulatory action listed in the Unified Agenda of Federal Regulations. The Regulatory Information Service Center publishes the Unified Agenda in April and October of each year. You may use the RIN contained in the heading at the beginning of this document to find this action in the Unified Agenda.

**List of Subjects in 49 CFR Part 571**

Imports, Motor vehicle safety, Motor vehicles, Tires.

In consideration of the foregoing, NHTSA proposes to amend 49 CFR part 571 as set forth below.

**PART 571—FEDERAL MOTOR VEHICLE SAFETY STANDARDS**

■ 1. The authority citation for part 571 of title 49 continues to read as follows:

**Authority:** 49 U.S.C. 322, 30111, 30115, 30117, and 30166; delegation of authority at 49 CFR 1.95.

- 2. Amend § 571.218 by:
  - a. Revising S1;
  - b. Revising S3;
  - c. Adding definitions of “Apex”, “Inner Liner”, and “Motorcycle Helmet” in alphabetical order in S4;
  - d. Revising S5;
  - e. Redesignating S5.1 through S5.7 as follows:

Old section	New section
S5.1	S5.2
S5.2	S5.3
S5.3	S5.4
S5.3.1	S5.4.1
S5.3.2	S5.4.2
S5.4	S5.5
S5.5	S5.6
S5.6	S5.7
S5.6.1	S5.7.1
S5.7	S5.8

- f. Adding S5.1;
- g. Revising S6;
- h. Revising S6.3.2;
- i. Revising the introductory text of S6.4.1;

- j. Revising S6.4.2;
- k. Redesignating S7.1 through S7.3.4 as follows:

Old section	New section
S7.1	S7.2
S7.1.1	S7.2.1
S7.1.2	S7.2.2
S7.1.3	S7.2.3
S7.1.4	S7.2.4
S7.1.5	S7.2.5
S7.1.6	S7.2.6
S7.1.7	S7.2.7
S7.1.8	S7.2.8
S7.1.9	S7.2.9
S7.1.10	S7.2.10
S7.1.11	S7.2.11
S7.2	S7.3
S7.2.1	S7.3.1
S7.2.2	S7.3.2
S7.2.3	S7.3.3
S7.2.4	S7.3.4
S7.2.5	S7.3.5
S7.2.6	S7.3.6
S7.2.7	S7.3.7
S7.2.8	S7.3.8
S7.3	S7.4
S7.3.1	S7.4.1
S7.3.2	S7.4.2
S7.3.3	S7.4.3
S7.3.4	S7.4.4

- l. Adding S7.1, S7.1.1, S7.1.2, S7.1.3, and S7.1.4;
  - m. Revising the heading of the Appendix to § 571.218;
  - n. Adding Figure 9 and Table 3 at the end of Appendix A; and
  - o. Adding appendices B and C.
- The revisions and additions read as follows:

**§ 571.218 Standard No. 218; Motorcycle helmets.**

S1. *Scope.* This standard establishes minimum performance requirements for motorcycle helmets.

\* \* \* \* \*

S3. *Application.* This standard applies to all motorcycle helmets.

S4. \* \* \*

*Apex* means the upper most point on the shell of the helmet when the helmet is oriented such that that brow opening is parallel to the ground.

\* \* \* \* \*

*Inner liner* means an energy absorbing material that is molded to conform to the inner shape of the helmet's shell and serves to protect the user's head from impact forces during a crash.

\* \* \* \* \*

*Motorcycle helmet* (1) Except as provided in paragraph (2) of this definition, any hard shell headgear is a motorcycle helmet and an item of motor vehicle equipment if it is either—

(A) Manufactured for sale, sold, offered for sale, introduced or delivered for introduction in interstate commerce,

<sup>61</sup> Occupational Employment and Wages, May 2011 for Standard Occupational Classification Code 17–2141 Mechanical Engineers, <http://www.bls.gov/oes/current/oes172141.htm>, last accessed on May 31, 2012.

or imported into the United States, for use on public streets, roads, and highways with the apparent purpose of safeguarding highway users against risk of accident, injury, or death, or

(B) manufactured for sale, sold, offered for sale, introduced or delivered for introduction in interstate commerce, or imported into the United States by entities that also manufacture for sale, sell, offer for sale, introduce or deliver for introduction in interstate commerce, or import into the United States either motorcycles, helmets certified to FMVSS No. 218, or other motor vehicle equipment and apparel for motorcycles or motorcyclists, or

(C) described or depicted as a motorcycle helmet in packaging, display, promotional information or advertising, or

(D) imported into the United States under the applicable designation(s) for motorcycle helmets in the Harmonized Tariff Schedule of the United States.

(2) Paragraphs (1)(B), (1)(C), and (1)(D) of this definition do not apply to a helmet that is properly labeled and marked by its manufacturer as meeting a standard (other than a standard for motorcycle helmets) issued or adopted by the U.S. Consumer Product Safety Commission, ASTM International, National Operating Committee on Standards for Athletic Equipment, Snell Memorial Foundation, American National Standards Institute, The Hockey Equipment Certification Council, International Mountaineering and Climbing Federation, SFI Foundation, European Commission CE Marking (CE), or the Fédération Internationale de l'Automobile and such labeling and marking and the manner in which it is done are in accordance with that standard.

\* \* \* \* \*

S5. Requirements. Except as provided in this paragraph, each helmet shall meet the requirements of S5.1, when tested in accordance with S7.1. Helmets meeting the requirements of S5.1 when tested in accordance with S7.1 shall also meet the requirements of S5.2, S5.3 and S5.4 when subjected to any conditioning procedure specified in S6.4, and tested in accordance with S7.2, S7.3, and S7.4. Helmets shall also

meet requirements of S5.5 through and including S5.7. A manufacturer may submit to NHTSA evidence that a helmet model complies with the requirements of FMVSS 218 S5.2 through and including S5.7, despite not meeting the requirements of S5.1 and thereby request to be included in appendix C of this standard. The provisions for submitting such a request can be found in appendix B of this standard.

S5.1 Preliminary screening. Each helmet shall have the following characteristics (refer to Figure 9 of appendix A of this standard) when tested in accordance with S7.1:

(a) The inner liner, excluding any cloth or fabric liner, is at least 3/4 inch (19 mm) thick; and

(b) The combined thickness of the inner liner, excluding any cloth or fabric liner, and outer shell is at least 1 inch (25 mm) thick; and

(c) The inner liner shall not deform more than 1/12 inch (2 mm) when measured in accordance with S7.1.4.

\* \* \* \* \*

S6. Preliminary test procedures. Before subjecting a helmet to the testing sequence specified in S7.2, S7.3 and S7.4, prepare it according to the procedures in S6.1, S6.2, and S6.3.

\* \* \* \* \*

S6.3.2 In testing as specified in S7.2 and S7.3, place the retention system in a position such that it does not interfere with free fall, impact or penetration.

\* \* \* \* \*

S6.4.1 Immediately before conducting the testing sequence specified in S7.2 through S7.4, condition each test helmet in accordance with any one of the following procedures:

\* \* \* \* \*

S6.4.2 If during testing, as specified in S7.2.3 and S7.3.3, a helmet is returned to the conditioning environment before the time out of that environment exceeds 4 minutes, the helmet is kept in the environment for a minimum of 3 minutes before resumption of testing with that helmet. If the time out of the environment exceeds 4 minutes, the helmet is returned to the environment for a

minimum of 3 minutes for each minute or portion of a minute that the helmet remained out of the environment in excess of 4 minutes or for a maximum of 12 hours, whichever is less, before the resumption of testing with that helmet.

\* \* \* \* \*

S7.1 Thickness and inner liner compression test.

S7.1.1 The thickness is measured anywhere within a 4-inch (104 mm) radius of the apex of the helmet.

S7.1.2 The inner liner is measured by penetrating the helmet liner using a stiff metal probe having a gauge of 26–30 (nominal outer diameter 0.01825 inch (0.4636 mm)). The probe is inserted until it contacts the inner surface of the shell in a direction that measures the shortest distance along a line that connects a point on the outer shell and the closest point on the inner surface of the inner liner. The depth of penetration of the probe equates to the thickness of the helmet liner.

S7.1.3 The combined thickness of the inner liner, excluding any cloth or fabric liner, and the outer shell is measured using an outside dimension caliper that can reach the measurement area without interference with the helmet. One tip of the caliper is placed on a point on the outer shell of the helmet and the other tip of the caliper is placed on the closest point on the inner surface of the inner liner.

S7.1.4 The uncompressed thickness of the inner liner is measured in accordance with the procedure in S7.1.2 or the uncompressed thickness of the inner liner and outer shell is measured in accordance with the procedure in S7.1.3. A force gauge having a flat tip of 0.20–0.30 inch (5–7 mm) in diameter is used to apply a compression force of not less than 1 lbf (4.4 N) and not more than 5 lbf (22.2N) to the inner liner adjacent to the area measured for thickness. The compression force is held for 10 seconds and the thickness measurement is repeated at the original location. The thickness measured during compression is subtracted from the initial thickness measured at the original location.

\* \* \* \* \*

APPENDIX A TO §571.218

\* \* \* \* \*

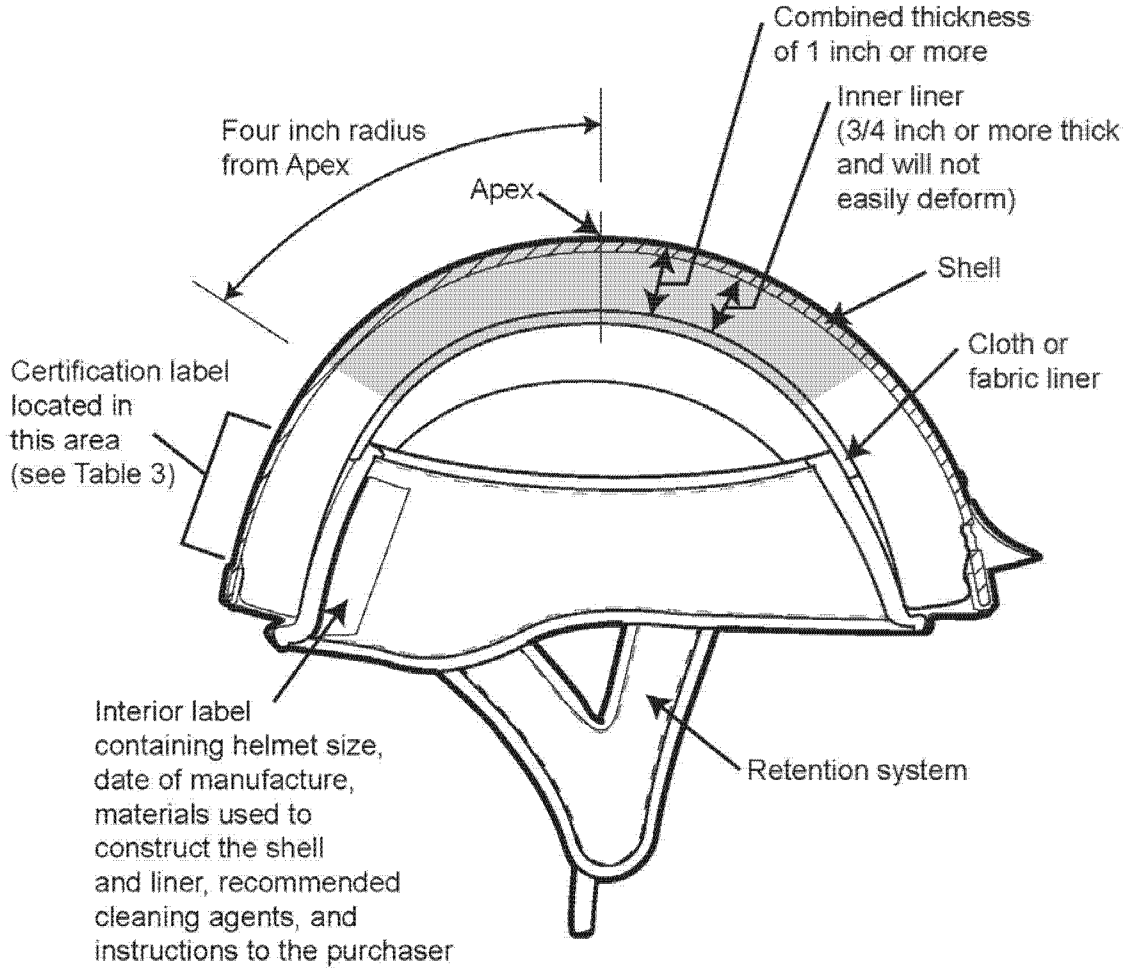


Figure 9. Preliminary screening guide.  
(Exemplar certified motorcycle helmet)

TABLE 3—REQUIRED CERTIFICATION LABEL BASED ON HELMET MANUFACTURE DATE

Motorcycle helmet date of manufacture	Certification label shall contain the following information
Prior to May 13, 2013 ..... On or after May 13, 2013 .....	DOT Mfr. Name and/or Brand Model Designation DOT FMVSS No. 218 CERTIFIED

**Appendix B—Petition in Accordance With the Alternative Compliance Process for Motorcycle Helmets, Section 5 of FMVSS No. 218**

*S1. Application.* This section establishes procedures for the submission and disposition of petitions filed by manufacturers of motorcycle helmets whose products do not meet the requirements of S5.1 and do meet the requirements of S5.2 through and including S5.7, who wish to certify their products in accordance with the alternative compliance process established in S5 of FMVSS No. 218.

*S2. Form of Petition.*

(a) Information shall be furnished to: Associate Administrator for Enforcement, National Highway Traffic Safety Administration, 1200 New Jersey Avenue SE., West Building, Washington, DC 20590, Attention: Filing for 218 Motorcycle helmet S5 Alternative compliance Process.

(b) Be written entirely in the English language.

(c) Each submission shall consist of one set of information, all written information shall be on 8½ by 11-inch paper, visual information shall be provided in printed color photographs, and color videos.

(d) Petitions may be submitted by motorcycle helmet manufacturers.

(e) Set forth in full the data, photographs, videos, and other documentation supporting the petitioner's statements and claims required in S4 of this appendix.

(f) Test data shall be labeled with the appropriate units cited in the standard.

(g) Not request confidential treatment for the contents of the petition.

*S3. Contents of petition.*

The petitioner shall provide the following information—

(a) State the full name and address of the original equipment manufacturer (petitioner), the name and contact information for a point of contact to which the Agency can direct correspondence, the nature of the petitioning organization (individual, partnership, corporation, etc.) and the name of the State or country under the laws of which it is organized.

(b) Identify the motorcycle helmet for which the petition is being submitted. The motorcycle helmet must be identified by manufacturer's name in accordance with S5.6.1(a), precise model designation per S5.6.2(a)(4), and manufacturer's name and/or brand per S5.6.2(a)(5) of FMVSS No. 218. The helmet identification provided in the petition must correspond to the information found on the helmet and in the supporting documentation submitted with the petition.

(c) The petitioner shall provide evidence of current information on file to facilitate correspondence with NHTSA and procurement of test samples by NHTSA, as applicable, including, but not limited to, part 551 of this chapter, part 566 of this chapter, and compliance with other applicable legal requirements. Valid contact information must be made available. Submission of a petition in accordance with this appendix does not constitute submission of information with respect to any other regulation.

(d) Submissions shall be unique and specific to the motorcycle helmet for which

a petition is being submitted in accordance with this appendix. The brand and precise model designation must refer to a unique design and fabrication process for a specific motorcycle helmet. The submission shall address every size that will be made available for sale. Information about the differences in each size that will be sold shall be completely described.

(e) The basis on which the manufacturer certifies the helmet must be explained and address all aspects of FMVSS No. 218 including data evaluating the helmet to all aspects of FMVSS No. 218. Test protocol(s), calibration records, test dates, information about the testing organization(s), photographs of test locations and test results, videos of the actual testing of the helmet, and any other relevant information must be fully documented.

(f) The manufacturer shall provide contact information for the independent testing organization(s) used to collect supporting data and a statement granting the Agency permission to discuss the testing contained in the petition with that testing organization.

(g) Photographs and other descriptive characteristics to adequately describe and identify the samples must be provided. Distinguishing features must be identified. Such photographic and descriptive material shall not be copyrighted, shall be of sufficient quality for reproduction, and may be reproduced by the Agency for purposes of disseminating information about the helmets listed in appendix C of this standard.

*S4. Processing of Petition.*

(a) NHTSA will process any petition that contains the information and supporting documentation specified by this section. If a petition fails to provide any of the information, NHTSA will not process the petition.

(b) The Associate Administrator seeks to review each submission and inform the manufacturer not later than 60 days after its receipt of the written submission, if the information is complete or acceptable. The Associate Administrator does not accept any submission that does not contain all of the information specified in this appendix, or that contains information suggesting that the design or manufacture of the motorcycle helmet which is the subject of the petition does not conform to all aspects of FMVSS 571.218, Motorcycle Helmets, excluding S5.1.

(c) At any time during the agency's consideration of a petition submitted under this part, the Associate Administrator for Enforcement may request the petitioner to submit additional supporting information and data. If such a request is not honored to the satisfaction of the agency, the petition will not receive further consideration until the information is submitted.

(d) If the submission is complete, valid, and provides adequate indication that the helmet can comply with S5.2–S5.7 of FMVSS No. 218, NHTSA will contact the manufacturer to obtain samples for testing. NHTSA will procure up to ten identical samples of each size motorcycle helmet for which the manufacturer is submitting a petition. The manufacturer must furnish the helmet positioning index for each size helmet at the time of procurement.

(e) NHTSA will conduct testing of the helmet, at its discretion, to some or all of the requirements, in accordance with the test procedures established in FMVSS No. 218. If any apparent non-compliances with FMVSS No. 218 are identified, the Associate Administrator shall reject the submission.

(f) The Associate Administrator seeks to test samples within six months of receipt. Samples that cannot be procured for any reason will not be tested and the petition will not be granted. Samples will not be returned to the manufacturer.

(g) If the submission is accepted, if NHTSA finds no discrepancy with administrative or performance information included in the submission, and if testing performed on behalf of NHTSA is acceptable, the complete submission and NHTSA's determination will be placed in the docket. Such motorcycle helmets identified by manufacturer, brand (if applicable), precise model designation, and size will be listed in appendix C of this standard.

(h) Products manufactured, sold, offered for sale, introduced in interstate commerce, or imported into the United States under the brand and precise model name for which a submission was made must be identical in design, manufacturing processes, materials, and sizes, to those submitted to NHTSA for review.

(i) The granting of the petition is valid only:

(1) As long as the design and manufacture of the helmet does not vary from the make, model, and size helmet for which the petition was submitted; and

(2) While the make, model, and size of helmet are listed in appendix C of this standard.

(j) The Associate Administrator terminates or modifies its determination if—

(1) Granting the petition is no longer consistent with the public interest and the objectives of the Act; or

(2) Subsequent to granting the petition, additional information or testing becomes available to indicate the helmet fails to comply with any requirement of the standard; or

(3) Subsequent to granting the petition, additional information or testing becomes available to indicate the helmet may fail to comply with any requirement of the standard and the responsible manufacturer is non-responsive or fails to comply with his obligations under the law; or

(4) Subsequent to granting the petition, additional information or testing becomes available to indicate the helmet poses an unreasonable risk to safety; or

(5) The petition was granted on the basis of false, fictitious, fraudulent, or misleading representations or information.

(k) The knowing and willful submission of false, fictitious or fraudulent information will subject the petitioner to the civil and criminal penalties of 18 U.S.C. 1001.

**Appendix C—Motorcycle Helmets That Have Complied With the Alternative Compliance Process for Motorcycle Helmets, Section 5 of FMVSS No. 218 and Must Be Further Certified by the Manufacturer Before Being Manufactured, Sold, Offered for Sale, Introduced Into Interstate Commerce or Imported Into the United States**

At the time of this notification, there are no motorcycle helmets that meet the alternative compliance process for S5.

Issued on May 12, 2015 in Washington, DC, under authority delegated in 49 CFR 1.95.

**Daniel C. Smith,**  
*Senior Associate Administrator for Vehicle Safety.*

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