



**Status Report:
Request for Information on All-Terrain Vehicle
Passenger Use and Passenger Prevention Project
Update**

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This report was prepared by the CPSC staff and has not been reviewed or approved by, and may not reflect the views of, the Commission.

EXECUTIVE SUMMARY

The Fiscal Year 2014 Operating Plan directed CPSC staff to “[assess] the inclusion in the NPR of a performance standard related to preventing passengers on ATVs.” To date, staff has conducted a pilot study of passenger- and ATV-related fatalities and published a Request for Information (“RFI”) soliciting feedback from the public on passenger ATV use.

Staff undertook the pilot study, conducted in 2014, to determine what, if any, passenger information was available from 502 ATV-related fatal incidents that occurred from 2005 through 2007 that were reported to CPSC and that involved passengers. From that study, staff determined that identifying the number, age, gender of passengers, and where passengers were sitting for most incidents was possible. In addition, staff found that the most common incident scenario involving passengers was a two-rider (*i.e.*, driver plus one passenger), single-vehicle incident. In this scenario, the passenger tended to be behind the driver (either specifically on the seat behind the driver or in a non-specified location on the back of the ATV), and the driver was more likely to be fatally injured than the passenger. Several other highlights are summarized in this report, and the [full report](#) is available for further review on the CPSC.gov website.

After the passenger pilot study, the Commission published an RFI to solicit feedback from the public on passenger use of ATVs. The RFI questions focused on requests for data on passenger use of ATVs, because there were little data available on the prevalence of passengers in nonfatal incidents. In addition, the RFI requested information on aftermarket seats and the technical feasibility of a performance standard that would limit passenger use. CPSC received 188 public comments. Staff divided the comments into three categories: (1) general public comments of anecdotal data and descriptions, (2) form letters, and (3) comments from specific stakeholder interest groups (*e.g.*, academic researcher, industry groups). The greatest number of comments fell under Anecdotal Data and Descriptions, with a total of 96 individual comments. The next largest category fell under form letters, with a total of 88 comments. Academic researchers submitted one comment, and industry groups submitted two comments.

This report provides summaries of the public comments received by topic area and type of comment, along with staff’s responses.

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Introduction

Since the 1980s, the U.S. Consumer Product Safety Commission (“CPSC” or “Commission”) has been involved with all-terrain vehicle (“ATV”)¹ safety through various activities, including rulemaking, recalls, educational publications and media, and litigation. Despite these activities, there continues to be a large number of ATV fatalities. Most recently, to assess the impact of passenger use of ATVs, the Commission tasked CPSC staff with “assessing the inclusion of a performance standard related to preventing passengers on ATVs” in the Commission’s open rulemaking on ATVs.² In addition to staff work, the Commission published a request for information (“RFI”) to gather information from the public about preventing passenger use of ATVs.

Background

ATV-Related Activities Since 2006

In October 2005, the Commission published in the Federal Register an advance notice of proposed rulemaking (“ANPR”) for ATVs under the Consumer Product Safety Act (“CPSA”) and the Federal Hazardous Substances Act (“FHSA”). Subsequently, in August 2006, the Commission issued a notice of proposed rulemaking (“NPR”) that proposed:

- 1) informational and training requirements for four-wheeled, adult, single-rider and tandem ATVs;
- 2) technical performance requirements for four-wheeled, adult, single-rider and tandem ATVs;
- 3) technical requirements for four-wheeled, youth ATVs; and
- 4) a ban of three-wheeled ATVs.

The 2006 NPR also directed staff to address a series of questions concerning ATVs and youth ATVs in particular.

Since the 2006 NPR on ATVs was issued, the U.S. Congress, the Commission, and the Specialty Vehicle Institute of America (“SVIA”), have all been actively involved in ATV safety efforts. For example, SVIA revised the voluntary standard twice, and CPSC staff conducted research and completed studies to respond to the Commission’s questions in the NPR. Most significantly,

¹ ATVs are motorized vehicles designed for off-road use. ATVs have a seat intended to be straddled by the operator, handlebars for steering, and four broad, low-pressure tires (less than 10 pounds per square inch).

² U.S. Consumer Product Safety Commission Fiscal Year 2014 Operating Plan, pages 13-14, at: <http://www.cpsc.gov/Global/About-CPSC/Budget-and-Performance/FY2014OperatingPlan.pdf>.

Congress passed the Consumer Product Safety Improvement Act of 2008 (“CPSIA”) in August 2008. Among other things, section 232 of the CPSIA:

- (a) required the Commission to make mandatory the voluntary standard for ATVs, the American National Standard for Four Wheel All-Terrain Vehicles Equipment Configuration, and Performance Requirements, developed by the SVIA (ANSI/SVIA –1–2007);
- (b) made it unlawful for a manufacturer or distributor to import or distribute an ATV that did not comply with the mandated ATV standard and with action plans required by the CPSIA;
- (c) banned three-wheel ATVs until a mandatory standard is promulgated; and
- (d) required the Commission to issue a final rule on ATVs stemming from the 2006 NPR.

The Commission adopted the voluntary standard as a mandatory standard in a final rule on ATVs in the *Federal Register* on November 14, 2008 (73 FR 67385). The Commission’s ATV regulation is codified at 16 C.F.R. part 1420 (part 1420) and became effective on April 13, 2009.

In 2011, Congress directed³ the Commission to issue a final rule stemming from the 2006 NPR by August 12, 2012. However, the Commission believed that the length of time between the 2006 NPR was too great to proceed directly to a final rule. Furthermore, many of the proposed requirements in the 2006 NPR were addressed by the combination of 16 C.F.R. part 1420 and mandatory action plans. Taken together, these requirements addressed, in part or in whole, the majority of the safety measures that the Commission proposed in the 2006 NPR. Thus, the Commission voted to host an ATV Safety Summit to “provide stakeholders an opportunity to present their views on the outstanding issues” related to ATV safety along with providing a forum to discuss new innovations in ATV safety. The Commission held an ATV Safety Summit on October 11 and 12, 2012 and accepted comments through November 14, 2012. A summary of these comments is available on CPSC’s website.⁴

More recently, the Commission’s Fiscal Year 2014 Operating Plan directed staff to perform six activities in preparation for a draft NPR on ATVs, in the following order, as resources permit:

1. Consulting with the National Highway Traffic Safety Administration regarding the categorization of youth ATVs, as well as the establishment of additional safety standards for ATVs.
2. Assessing the inclusion in the NPR of a performance standard related to preventing passengers on ATVs.
3. Contracting for further testing of a child-resistant ATV ignition prototype device.
4. Conducting a literature review and developing a testing strategy to evaluate steering and stability issues related to ATVs.
5. Conducting a literature review and analysis regarding roll-over protection systems for ATVs.

³ Section 9 of Public Law 112-28 (August 12, 2011).

⁴ <http://cpsc.gov/PageFiles/26/Regulations,%20Laws%20Standards/Rulemaking/ATVs/Final%20ReportATVSafetySummitfinal.pdf>

6. Conducting an ATV off-road exposure survey (the first year of a 3-year effort).

The RFI was intended to seek input from stakeholders related to item 2. Specifically, CPSC was seeking information on the prevalence of passengers riding on ATVs and the feasibility of establishing a performance requirement that would prevent or reduce the likelihood of passengers riding on an ATV.

CPSC Staff Activities Related to ATV Passenger Use

Staff conducted a pilot study analyzing several characteristics of passenger-involved fatality incidents for presentation to the Commission in Fiscal Year 2014. By analyzing ATV fatality data, staff's pilot study was intended to determine: (1) if specific passenger locations on the ATV are associated with a larger number of fatal incidents; and (2) if and how passengers affect ATV-related fatal incidents. The pilot study was intended to assist the Commission in deciding whether to devote additional resources to the development of a performance standard for passenger use of ATVs.

Staff studies demonstrate that passengers ride ATVs and sit in various locations on the ATV. For example, a 2010 CPSC special study on ATV-related deaths and emergency department-treated injuries⁵ shows that passengers comprise about 25 percent of injured victims. From 2005 through 2007, about 25 percent of fatalities involved ATVs with multiple riders; however, a passenger was the victim in slightly less than half of those fatalities with multiple riders, meaning that about 10 percent of fatalities are to a passenger of an ATV. In addition, the 2014 pilot study of ATV-related fatalities⁶ found that of 502 reported single-vehicle incidents with more than one rider on the ATV, more than 80 percent involved two riders, a driver and a passenger, with the driver being more likely to be fatally injured than the passenger. Of those, about half involved both riders on the seat of the ATV.⁷ Around 10 percent of passenger-related fatal incidents involved more than two riders (*i.e.*, a driver and two or more passengers), and a passenger was more likely than the driver to be fatally injured in these cases.

Request for Information

The RFI was issued to supplement staff's pilot study to gather information from the public on the prevalence of carrying passengers on ATVs and the feasibility of a performance requirement that would prevent passengers from being carried on ATVs. CPSC staff's data analysis can only quantify passenger location in reported fatal incidents. Staff's data do not provide information on passenger location during normal, non-incident use. In addition, CPSC data contain little

⁵ <http://www.cpsc.gov/Global/Research-and-Statistics/Injury-Statistics/Sports-and-Recreation/ATVs/ATVSpecialStudyReport.pdf>

⁶ <http://www.cpsc.gov/Global/Research-and-Statistics/Injury-Statistics/Sports-and-Recreation/ATVs/ATVPassenger>.

⁷ A large number of reported incidents did not have enough information available to determine exactly where the passenger was in relation to the driver.

information about use of aftermarket passenger seats or information about the reasons why ATV drivers choose to carry passengers and the reasons why passengers wish to ride ATVs. The RFI sought data and information concerning three main topic areas: (1) the prevalence of passengers riding ATVs, (2) the purchase and use of aftermarket seats, and (3) the feasibility of a performance standard that would reduce or eliminate carrying passengers on ATVs. Responders were encouraged to answer as few or as many of the following questions as they wished. The specific questions asked in the RFI are listed below.

A. *Prevalence of passenger riding*

1. What, if any, data are available regarding the location of ATV passengers when riding? That is, where are passengers sitting or standing when riding ATVs? CPSC's data are limited to information related to injury and fatality incidents but does not provide information regarding ATV use when an incident does not occur.
2. What, if any, data are available regarding the frequency and duration of passengers riding on ATVs that are not intended to carry more than one rider? Is the frequency and duration of passengers riding on ATVs associated with the type of ATV use, *e.g.*, trail riding, versus utility use, versus hunting use?
3. What, if any, data are available regarding why ATV drivers carry passengers and the reasons passengers ride ATVs?
4. What, if any, data are available regarding user demand for two-rider ATVs, also called Tandem, 2-Up, or Type II ATVs?
5. Other than the data from CPSC sources, (*e.g.*, reports and databases), what, if any, data are available regarding injury or risk of injury associated with passenger use of ATVs on single-rider versus tandem ATVs? This includes, but is not limited to, data about the mechanism of driver and passenger injuries, the disposition of drivers and passengers, interactions between the driver and passenger in incidents, weight of driver and passengers, helmet use of drivers and passengers, age/gender of the driver and passengers, and sequence of events in incidents with passengers.

B. *Aftermarket seats*

Aftermarket seats generally attach to cargo racks and are generally marketed as being intended for use when the ATV is not moving.

1. What, if any, data are available regarding use of aftermarket seats by passengers when the ATV is moving?
2. What, if any, data are available regarding injury or risk of injury associated with the use of aftermarket seats?

C. Feasibility

1. Can design modifications be made to ATVs to prevent passengers?
2. If design modifications are feasible, please describe possible design changes that could prevent passengers. How could such modifications affect the usability or utility of the ATV? Although CPSC cannot mandate a specific design, information regarding proof-of-concept designs can inform decision making regarding the feasibility of a performance requirement.
3. Would it be feasible to establish a performance standard that would prevent consumers from carrying passengers or installing aftermarket seats capable of carrying passengers without significantly adversely affecting the usability or utility of the ATV for purposes other than carrying passengers?
4. How would a performance requirement to prevent passenger use of ATVs affect two-rider ATVs, also called Tandem, 2-Up, or Type II ATVs? Should such a requirement apply to two-rider ATVs?

Public Comments to the Request for Information

The RFI requested comments on three primary topic areas: (1) the prevalence of passengers riding ATVs; (2) the purchase and use of aftermarket seats; and (3) the feasibility of a performance standard that would reduce or eliminate carrying passengers on ATVs. Staff categorized the content of the comments across these three primary topic areas, with further sub-categories developed to address specific content from the comments.

Staff split the 188 comments received into three commenter categories: (1) general public comments of anecdotal data and descriptions, (2) form letters, and (3) comments submitted by specific stakeholder interest groups (*e.g.*, academic researcher, industry groups). The greatest number of comments fell under Anecdotal Data and Descriptions, with a total of 96 individual comments. The next largest category was form letters, with a total of 88 comments. One comment was submitted by academic researchers, and two comments were submitted by industry groups. Summaries across the three commenter categories, including various subcategories to address specific comments related to the three primary topic areas, are detailed below. Staff's responses are provided in the summary.

Anecdotal Data & Descriptions

The 96 comments that provided anecdotal data and descriptions were relatively brief, generally two or fewer pages. Staff summarized the comments across the categories defined in the RFI, rather than individually, as many comments addressed multiple primary topic areas. Five comments addressed all three topic areas; 16 addressed two of the topic areas; 61 addressed one topic area; and 14 comments were not directly related to the primary topic areas.

A. Prevalence of Passenger Riding

There were 80 comments regarding passengers riding on ATVs. These comments often covered multiple passenger-related topics in one comment; therefore the sum of the numbers included in the categorical summaries below exceeds 80.

1. **Passenger location.** Fifteen commenters included details regarding the location of passengers riding on ATVs. One commenter observed an ATV driver holding a child while the ATV was in motion. The remaining 14 comments referred to passengers riding behind drivers. Two of these 14 commenters specified that they drive or ride tandem on an ATV that was designed for multiple passengers.
2. **Frequency & duration of passengers riding on Type I ATVs.** Forty-two commenters provided information regarding the frequency and duration of passengers riding on single-rider ATVs. The information ranged from general statements, such as: “I have had riders on many occasions,”⁸ to more detailed information. The commenters who provided specific details regarding passenger frequency and duration primarily provided these details in terms of the approximate number of miles traveled per year versus the number of miles traveled per trip. Values ranged from “hundreds of miles”⁹ to “15,000 miles on our three ATVs.”¹⁰ One commenter, who identified as an ATV passenger, rather than as a driver, noted that they travel, “100 miles or more when riding.”¹¹ Only two comments implied infrequent passenger use on single-rider ATVs. One comment stated: “double riding is a rare occasion”¹²; and the other comment stated: “additional riders on a single-person ATV is not habituated by the majority of ATV enthusiasts.”¹³
3. **Purpose of passengers riding on Type I and Type II ATVs.** Forty-eight comments provided information regarding the purpose of passenger riding on ATVs. The comments spanned six categories, with many of the comments referencing more than one category. The six categories are detailed below, and include: Utility, Safety & Rescue, Hunting & Recreation, Access & Ability, Children, and Expenses.
 - **Utility.** Eight comments described passengers on ATVs in the context of completing utility work or in the context of transporting multiple people through rural areas that

⁸ Comment CPSC-2012-0048-0046

⁹ Comment CPSC-2012-0048-0227

¹⁰ Comment CPSC-2012-0048-0104

¹¹ Comment CPSC-2012-0048-0121

¹² Comment CPSC-2012-0048-0079

¹³ Comment CPSC-2012-0048-0114

are not accessible to other vehicles. Three of these comments specifically noted that passengers rode on ATVs to assist with various types of labor, and included statements such as, “farmers need to use ATVs to get workers to fields,”¹⁴ “I also use my ATV for working, hauling, snow removal, brushing trails . . . [sic] sometimes requiring the work of 2 people rather than 2 ATVs,”¹⁵ and completing “chores necessary require more than one person to accomplish.”¹⁶

- **Safety & Rescue.** Six commenters described the need to ride with passengers for safety and rescue reasons, such as an injured or stranded person. For instance, two commenters noted that it is important to be able to, “give a lift to someone whose ATV has broken down or otherwise become stranded”¹⁷; and another commenter stated: “to get that person off the trail and to medical aid, it may be necessary to transport them using an ATV designed for only a rider and no passenger.”¹⁸
- **Hunting & Recreation.** Thirty-eight commenters stated that they ride with passengers while hunting and fishing, and/or for fun and recreation. The 13 comments that mentioned passengers riding on ATVs for hunting and fishing included statements such as, ATV drivers “frequently haul game and hunters out of the woods”¹⁹; “ice fishermen use these machines to safely travel back and forth from their fish houses, often bring a buddy out with them.”²⁰ Many commenters stated that they ride with passengers for recreational purposes or to enjoy the outdoors with friends and family. Commenters made statements such as, “we ride because we love to spend time together as a family and we love to be in the beautiful great outdoors”²¹; and passengers ride “on club rides with many others who ride double.”²² Two of these commenters specifically stated that they ride with passengers on ATVs designed for two people, rather than single-rider ATVs. Both of these comments were related to recreational ATV use, rather than hunting.
- **Access & Ability.** Twelve commenters remarked that passengers ride ATVs because they may not have the ability to drive their own ATV. Riding as a passenger on an

¹⁴ Comment CPSC-2012-0048-0116.

¹⁵ Comment CPSC-2012-0048-0103.

¹⁶ Comment CPSC-2012-0048-0107.

¹⁷ Comments CPSC-2012-0048-0219, and CPSC-2012-0048-0075.

¹⁸ Comment CPSC-2012-0048-0205.

¹⁹ Comment CPSC-2012-0048-0051.

²⁰ Comment CPSC-2012-0048-0107.

²¹ Comment CPSC-2012-0048-0061.

²² Comment CPSC-2012-0048-0082.

ATV was also mentioned as a way to provide access to outdoor spaces that would not be available to people with certain physical limitations. For instance, commenters made statements such as, riding together “lets us enjoy the woods and trails that we are no longer able to walk”²³; and “many passengers are spouses or partners of the ATV driver who aren’t comfortable with riding their own ATV in certain areas or terrain, or don’t possess the skills or physical ability to ride their own ATV.”²⁴ This category omits access and ability comments related to children riding ATVs as passengers.

- **Children.** Twenty-one commenters stated that they ride with children as passengers. Seventeen of these comments stated that children ride as passengers because they are not big enough or able to drive their own ATVs. These comments included statements such as, children “are not old enough to ride an ATV legally in certain areas or situations, or simply aren’t big or mature enough to handle their own ATV.”²⁵ Four comments stated that riding with children on ATVs provides an opportunity to begin teaching children how to drive ATVs. Commenters made statements such as, “this is a great way for children to learn the safe and respectful way to ride”²⁶; and “it is a way for children to get experience when they are riding double with an adult.”²⁷
- **Expenses.** Six comments noted that people ride as passengers on ATVs because people cannot afford multiple ATVs. Of these six comments, three comments are also related to children, and make statements such as, “maybe a family is only able to afford so much in their budget to spend and to get their children involved in outdoors,”²⁸; and “they are not old enough to drive one on their own, and even if they were, we could not afford to buy more machines”²⁹; and “parents cannot afford two ATVs just to give a kid a ride.”³⁰ Comments that do not refer to children include statements such as, “we would have to buy another Atv [sic] and a bigger trailer”³¹; and “people become passengers on ATV’s [sic] because everyone can’t afford to buy one.”³²

²³ Comment CPSC-2012-0048-0056.

²⁴ Comment CPSC-2012-0048-0075, and CPSC-2012-0048-0219.

²⁵ Comment CPSC-2012-0048-0075, and CPSC-2012-0048-0219.

²⁶ Comment CPSC-2012-0048-0058.

²⁷ Comment CPSC-2012-0048-0118.

²⁸ Comment CPSC-2012-0048-0083.

²⁹ Comment CPSC-2012-0048-0230.

³⁰ Comment CPSC-2012-0048-0116.

³¹ Comment CPSC-2012-0048-0102.

³² Comment CPSC-2012-0048-0154.

- 4. User demand for Type II ATVs.** Four commenters stated that they owned a Type II ATV, with one of the owners stating that although the ATV was designed for more than one person, it is only used as a single-rider ATV. One commenter expressed interest in purchasing a Type II ATV, and one other commenter stated direct support for the continued production of Type II ATVs.
- 5. Passengers on Type I ATVs: Risk of Injury.** Four commenters made remarks regarding the safety, or risk of injury that could be associated with passengers on ATVs. Two comments stated: “Many spouses or partners cause the rider to ride more cautiously than they would if they were riding solo. This effect can be attributed to the rider being aware of the effect the passenger’s weight has on the handling of the ATV, or sometimes the passenger tells the rider to slow down or be more careful.”³³ One commenter stated: we “take great care whenever we have any of our precious cargo on board with us,”³⁴ when referring to riding with grandchildren as passengers. Another commenter stated: “I know that there is someone else’s life in my hands so I dial it back a few notches for their safety.”³⁵

B. Aftermarket Seats

Six comments referenced the use, or observed use, of aftermarket seats on moving ATVs. The seats were described as seating installed on the cargo area of the ATV. Three of these comments specify that the seats provide a backrest, foothold, and handles. The seats were referenced as a benefit for passenger ATV riding, as they provide support for passengers across various types of terrain. One comment described the cargo seating as “secure and safe,”³⁶ and one remarked that they are safe as long as they are installed correctly. Two comments noted that aftermarket seats could potentially prevent injuries during accidents as the passenger seatback would prevent the weight of the ATV from pinning the driver or passenger. Both of these comments stated: “These cargo trunks/seats prevent many injuries in roll-over or end-over-end crashes because they keep the weight of the ATV off the rider and passenger in the event that the ATV ends up upside-down with the rider(s) underneath it. I have seen many instances where a hard trunk or cargo box prevented someone from being crushed under the ATV when it flipped over backwards.”³⁷

³³ Comment CPSC-2012-0048-0075 and CPSC-2012-0048-0219.

³⁴ Comment CPSC-2012-0048-0104.

³⁵ Comment CPSC-2012-0048-0046.

³⁶ Comment CPSC-2012-0048-0104.

³⁷ Comment CPSC-2012-0048-0075, and CPSC-2012-0048-0219.

C. Feasibility

Not feasible. Twenty-two commenters provided feedback regarding the feasibility of design modifications to prevent passengers from riding ATVs. Many of the comments made general statements, such as, “it is not feasible to make design changes that would prevent passengers on ATVs.”³⁸ Other commenters stated that modifying the seat or cargo areas of ATVs to prevent passengers would create utility and usability issues. These comments referred to potential modifications as changes that would “make it impossible to use my ATV as a hauling vehicle”³⁹ and “prevent cargo from being carried on the racks rendering them useless and diminishing the value of the ATV for work or recreation.”⁴⁰ Three commenters stated that modifying the seat would disrupt a driver’s ability to engage in active riding positions. Several other comments stated that riders would still put passengers on ATVs, or that ATV owners would create other modifications to accommodate passengers that would create additional safety issues. One commenter supported passengers on ATVs that were specifically built for multiple riders, but did not support altering a Type I ATV or using a Type I ATV for multiple riders.⁴¹

Feasible. Three commenters favored modifying ATVs that would prevent passengers. As for passengers riding behind drivers, one commenter remarked: “there are many reasons why this is not a good practice but the most important one is that the driver must be concentrating 100% of time on what the terrain is and how he/she must maneuver through it. This leaves little time to be instructing the passenger on what to do. The only ATV that should carry passengers is a side-by-side or 4 passenger type vehicle.”⁴² One commenter described an incident in which a driver was holding an infant while driving and the driver had difficulty maintaining control of the ATV. One commenter stated: “I hope that the CPC [sic] can pass and enforce the No passenger on ATVs.”⁴³

Form Letters

There were 88 comments that contained nearly identical language, with some minor variations and edits. The form letter, along with the unique information or details added by individual commenters, is summarized in this section.

³⁸ Comment CPSC-2012-0048-0182.

³⁹ Comments CPSC-2012-0048-0197, CPSC-2012-0048-0076, CPSC-2012-0048-0099, CPSC-2012-0048-0124 and CPSC-2012-0048-0103.

⁴⁰ Comments CPSC-2012-0048-0219, and CPSC-2012-0048-0075.

⁴¹ Comment CPSC-2012-0048-0054.

⁴² Comment CPSC-2012-0048-0063.

⁴³ Comment CPSC-2012-0048-0233.

Overall, the nearly-identical comment language provided details about the organization that generated the letter and also made a specific statement regarding the feasibility of design modifications that would prevent passengers from riding on ATVs. The comment stated: there is “no need to prohibit single passengers from machines designed for their use. Further, the rider-active nature of ATV operation requires that the extended-seat design common on most single-rider ATVs be retained as an important safety feature.”⁴⁴

Of the commenters who submitted the form letter, seven commenters added information to or changed information in the form letter:

- Two of these comments added specific details regarding why modifications to prevent passengers on ATVs are not feasible beyond the original identical language. These comments included the following statements: “moving forward or rearward to descend and ascend hills or counterbalance loads requires that the extended-seat design common on most single-rider ATVs be retained as an important safety feature”⁴⁵; and “a small, confining seat would inhibit necessary lateral and fore-aft movement of the atv [sic] ‘driver.’”⁴⁶
- Two of these comments opposed any modifications that would prevent passengers, with these remarks linked to the idea that drivers and passengers should be responsible for their own safety rather than regulations dictating driver and passenger behavior. These comments included statements such as: “we need to stop over protecting people.”⁴⁷
- One of these comments noted that if modifications were made to ATV design, “an ingenious owner can and will figure out a way to add room for a passenger if they want to ride double. These types of requirements will create an aftermarket product line to alter the vehicles as well.”⁴⁸
- One of these comments addressed the purpose of passenger use of ATVs. This commenter added: “we farm and ranch and many many times we use atvs [sic] to move equipment and livestock and it takes two.”⁴⁹
- One of these comments changed the name of the organization that generated the letter to represent a different organization, but did not alter any other text.⁵⁰

⁴⁴ Comment CPSC-2012-0048-0246, representative of all comments with identical text.

⁴⁵ Comment CPSC-2012-0048-0220.

⁴⁶ Comment CPSC-2012-0048-0136.

⁴⁷ Comment CPSC-2012-0048-0178.

⁴⁸ Comment CPSC-2012-0048-0222.

⁴⁹ Comment CPSC-2012-0048-0224.

⁵⁰ Comment CPSC-2012-0048-0172.

Stakeholder Interest Groups

The third commenter category, stakeholder interest groups, included three comments. An industry group submitted one of the comments; a consumer group submitted one comment; and academic researchers submitted one comment.

The one industry group comment and one consumer group comment in response to the RFI made opposing statements across the primary comment categories. These comments are summarized below, with the comment that is not in favor of modifications to limit passenger use of ATVs preceding the comment that favors such modifications.

A. Prevalence of Passenger Riding

The industry group's opposing comment outlined the current limitations and gaps in passenger use data, noting that according to CPSC data, roll over or overturning events were the most significant hazard in ATV fatalities, and that various other sources of ATV fatalities were not significantly linked to passenger use of ATVs. The comment also noted that there are not enough data to make statements that support the idea that ATV fatalities would decrease with restrictions on passenger use. The comment does not provide additional data or anecdotal descriptions regarding prevalence of passenger riding, but the comment does provide an analysis of "A Pilot Study of Fatal ATV-Related Incidents Involving Passengers" (Garland, 2014).

The consumer group's comment favoring modifications cited multiple studies that provide some insight on passenger use of Type I ATVs. However, many of the studies cited use CPSC data in the analyses. The comment explained that passengers seated in front of drivers may increase the risk of forward pitchover when traveling downhill, and that passengers seated behind drivers may increase the risk of backward pitchover when traveling uphill. Issues related to the need for ATV drivers to engage in active riding positions within the context of passengers riding on ATVs were also addressed by this comment, with statements such as, "passengers are not able see and react to changes in terrain and direction," and "passengers can prevent active riding by the operator and act as a distraction, both of which increase the likelihood of certain crash mechanisms."⁵¹ Finally, this comment discussed the findings of an upcoming manuscript that uses data gathered at a Level 1 Trauma Center that links passenger ejection from the rear or toward the rear of an ATV with a greater likelihood of severe head injury. The commenter asserted that the increase in injuries could be

⁵¹ Comment CPSC-2012-0048-0242

connected with an inability to self-eject from an ATV when multiple people are on the same vehicle.⁵²

The academic researchers⁵³ provided the results of a recent school-based youth survey conducted with a target audience of children aged 11 to 16 years old. They found that 92 percent of the 3,344 respondents report riding “with more than one person on the ATV,” and that females are more likely to have ridden as a passenger. This comment also indicated that about half of the respondents were aware that most ATVs were designed for one person, but those that reported this knowledge were no less likely to have reported riding with more than one person. The researchers found similar results with a second survey conducted at a two-state farm show. Of these respondents, 82 percent reported riding with more than one person, and knowledge regarding the “correct” number of riders for “most ATVs” was not correlated with riding behavior.

B. Aftermarket Seats

The industry group stated that aftermarket seats, and all other aftermarket modifications, are not controlled by manufacturers. The comment stated: “changes to ATV design would lead to changes to aftermarket products. Unpopular changes imposed on consumers would likely lead to aftermarket workarounds, which could have unintended adverse consequences.”

Neither the consumer group, nor the academic group specifically addressed topics related to aftermarket seats.

C. Feasibility

The industry group not in favor of ATV modifications addressed the feasibility of a performance standard that would reduce or eliminate carrying passengers on ATVs using photographs and text. The comment stated that shortening ATV seats would pose a hazard to riders, due to the active nature of riding ATVs. The comment supplemented this idea with photographs showing ATV riders of different sizes sitting in a neutral position on an ATV, and photographs that showed ATV riders of different sizes in active riding positions on uphill and downhill slopes.

Under the heading, “Cargo Racks Can’t Distinguish Between Objects and People,” the comment noted that ATV cargo racks are meant to carry a variety of loads. These loads were

⁵² Jennison et al. (in preparation), as cited in comment CPSC-2012-0048-0242

⁵³ Comment CPSC-2012-0048-0120

described as: “camping gear, work tools and equipment, etc.” The comment also stated the racks “serve important utility purposes and they are not designed for passengers.”⁵⁴

This comment stated support for “appropriate efforts to keep passengers off single person (Type I) ATVs,” and summarized the current warnings and labels directed toward passenger use on Type I ATVs. In addition, the comment focused on the importance of enforcing current standards.

The consumer group comment indicated that although educational and enforcement activities that would promote safe ATV use are important to pursue, it would also be appropriate to initiate engineering changes to prevent passengers from riding ATVs. This group suggested that ATV design could be altered to deter passengers, by either making the seats too short to accommodate multiple riders, or by making the ATV uncomfortable for potential passengers.

The academic researchers were generally in favor of an engineering approach, specifically stating: “‘passive’ engineering approaches are the fastest, easiest way to promote safe behavior and to reduce risk of death and injury.” The researchers provided summary statistics from a study that examined seat characteristics of 67 models of adult ATVs. They found seat length and location varied between sport and utility ATVs, and seat length was not correlated with wheelbase. They hypothesized that short seats allow for “safe, active riding,” and therefore longer seats “serve no functional purpose except to make it more likely that a passenger will be on the ATV.”

Staff Response to Comments and Summary of Passenger Prevention Project Progress

The RFI on passenger use of ATVs garnered a great deal of attention from the public and gathered a number of unique and interesting responses. Aside from the stakeholder interest groups that generally respond to requests for information, 168 comments were received from the general public, 88 of which were form letters that were submitted individually. Staff greatly appreciates the time and effort of all respondents to this RFI.

When drafting the RFI questions, staff focused the questions to attempt to locate new, novel data sources to supplement our current knowledge; however, much of the data provided were anecdotal in nature or analyses of CPSC published databases and reports. In general, staff noted that the majority of comments opposed restricting passenger use on ATVs.

⁵⁴ Comment CPSC-2012-0048-0241,

Staff Response to Comments

Prevalence of passenger riding

Two peer-reviewed studies were provided in comment CPSC-2012-0048-0242 that suggest as many as 80 to 90 percent of ATV users may ride with more than one person on an ATV. In addition, numerous anecdotal comments were received suggesting a wide variety of reasons for riding with or as a passenger. Although staff appreciates the anecdotal information related to passenger exposure, we cannot draw conclusions about overall passenger use and exposure, due to the subjective and general nature of the values provided; and, unfortunately, the anecdotal information cannot be used to develop consumer use estimates.

Regarding Type II ATVs, staff previously had little information regarding the market or demand for these ATVs. Therefore, the information provided indicating there was some demand for a vehicle specifically designed for two riders was encouraging. Several commenters appeared to believe this RFI was indicating a desire to prevent passengers on Type II ATVs, which was not the intention; and staff has no plans to consider changes to the passenger seating for Type II ATVs.

Aftermarket seats

Staff appreciated the information related to aftermarket seats, given the limited information available, to date, on this market. Staff is particularly interested in the suggestion that the seatback may mitigate injuries, as conceptually the seatback is similar to several occupant protection devices on the market. However, staff notes the industry hypothesis that design changes will lead to “aftermarket workarounds and unintended consequences.”

Feasibility

Few of the comments received indicated that designing an ATV to prevent passengers was feasible. The one comment suggested that optimizing the seat length was possible, but the comment did not provide information suggesting a specific requirement. The majority of other commenters on this topic expressed concerns that preventing passengers would limit the utility of an ATV. Some commenters felt that the utility of the cargo area of an ATV may be limited if the ATV was designed to prevent passenger use; while others seem to imply that ATV passengers were simply another type of cargo, and therefore, no different from other cargo, as long as one stays within the overall cargo capacity of the ATV.

Passenger Pilot Study

In 2014, CPSC staff conducted a pilot study⁵⁵ of 502 fatal, ATV-related incidents from 2005 through 2007 that were reported to CPSC that involved more than one rider. The intention was to quantify what was known about where passengers were sitting (or standing) on the ATV during fatal incidents. This study found that, in general, the driver was more likely to be fatally injured than the passenger, and that more than 80 percent of the reported multi-rider incidents involving a fatality had two riders on one ATV and did not involve a second vehicle. In nearly half of these multi-rider incidents, passengers were reported to be sitting on the seat behind the driver; in almost 30 percent of the incidents, the passenger was in an unknown location. Other highlights of the results include:

Scenario 1:

The most common scenario of multi-rider fatal incidents was where two riders (a driver and a passenger) were involved in an incident involving one ATV. Of the 502 incidents, 419 (83.5%) fell into this category.

- A majority of passengers may have been on the seat behind the driver, but this cannot be concluded from the fatality reports.
 - In 45.6 percent of incidents, the passenger was reported to be on the seat behind the driver.
 - In 29.6 percent of incidents, the location of the passenger was not reported.
 - In 68 incidents (16.2%), the passenger was behind the driver, but it was unknown if the passenger was on the seat with the driver.
 - In 36 incidents (8.6%), the passenger was on the back of the ATV, but not on the seat; was in front of the driver; was held by the driver or on the driver's lap; was in a passenger seat; or was standing on the ATV.
- The driver was most likely to be the fatally injured party in these incidents (52.7% of incidents). Additionally, the driver and passenger both died in 7.4 percent of incidents.
 - When the passenger was not on the seat, was held by driver/on the driver's lap, or was on the seat in the front of the driver, it was more likely that the passenger was the fatally injured rider.
- There was an association between the age of the driver and passenger, as well as the sex of the driver and passenger.
 - The age of the passenger and driver were similar for ages through 25 years of age. When the driver was older than 25 years, the passengers were most frequently younger than the driver.
 - The sex of the passenger most often matched the sex of the driver.

⁵⁵ <http://www.cpsc.gov/global/research-and-statistics/injury-statistics/sports-and-recreation/atvs/atvpassengerpilotstudyreport.pdf>

Scenario 2:

The second most common scenario of multi-rider fatal incidents consisted of incidents with more than two riders (a driver and 2 or more passengers) involved in a single ATV incident. Of the 502 incidents, 53 (10.6%) fell into this category.

- In this scenario, most incidents involved three riders on an ATV (81.1%).
 - A passenger was more likely than the driver to be the fatally injured rider (67.4% of incidents resulted in a passenger's death; 27.9% of incidents resulted in the driver's death; and 4.7% in the driver and a passenger's deaths). This differs from the two-rider scenario.
 - The distribution of incidents across the driver's age group showed higher proportions of drivers in younger age groups than in the two-rider scenario.
 - Three on the seat (multiple configurations) and unknown locations were the most common passenger locations.
 - In 16 incidents, the location for both passengers was unknown.
 - In 16 incidents, the passengers were on the seat with the driver (11 incidents had both passengers behind the driver, and five incidents had one passenger in front of the driver and one behind the driver).
 - In seven incidents, neither passenger was on the seat. In all seven incidents, one passenger was on the left rear fender, and one passenger was on the right rear fender.
 - In one incident, one passenger was on the seat in front of the driver, and one passenger was held by driver or in the driver's lap.
 - One incident had a passenger in front of the driver, but it is unknown where the second passenger was located.
- When the number of riders was four, five, or six, there were several different riding configurations, with passengers on and off of the seat, and several passengers with an unknown riding location.

Riding and Hazard Pattern Characteristics Comparison for Single Rider Versus Multi-Rider Incidents:

To understand how passengers might affect fatal ATV incidents, CPSC staff compared the results of Scenarios 1 and 2 incidents to fatalities involving only one rider and only ATV.

- The driver's age group was associated with carrying a passenger in reported fatal incidents. Younger age groups were represented in larger proportions as the number of riders increases from one to two to more than two riders (p-value < 0.0001, excluding unknown ages and driver's <6 years of age).
- The driver's sex was associated with carrying a passenger in reported fatal incidents. Female drivers were seen in larger proportions as the number of riders increases from one to two to more than two riders (p-value < 0.0001, excluding unknowns).
- Overturning events were not more or less prevalent in scenarios with one, two, or more than two riders (p-value=0.10), while overturning events remain the most significant hazard pattern in all ATV-related fatalities.

- The proportion of reported, fatal incidents on different types of terrain and types of roads did not change from one, to two, to more than two rider scenarios (p-value=0.055 and 0.22, respectively).
- The proportion of traffic-related, fatal incidents did not change from one, to two, to more than two rider scenarios (p-value=0.72).

Staff concluded the results of the pilot study were sufficient at this stage, because further analysis of fatal ATV incidents was unlikely to yield any significant further information about passengers to change conclusions. There is little, if any, evidence to support passengers being a problem in fatal incidents when considering only data from reported fatal incidents; however, the lack of data regarding the frequency and prevalence of passengers on ATV precludes determining the different levels of risks associated with different riding patterns; thus staff cannot determine the extent of the danger, if any, of riding with passengers. Further data, such as consumer use data, needs to be coupled with the currently available data in order to see the effects of passengers on ATVs during incidents. However, it is uncertain how the conclusions would change if these data were available.

Dynamic testing

The next step to complete a full analysis and response to the Commission's 2014 direction to assess "the inclusion in the NPR of a performance standard related to preventing passengers on ATVs," is to evaluate the dynamic handling characteristics of two-person ATV riding. CPSC is currently involved in contracted testing to characterize the performance and handling of 12 single-driver ATVs, with results expected by March 2016. The next task order will be to characterize the performance and handling of these same 12 ATVs with two riders, with the second rider located on the seat behind the driver. These results will then be compared to the single-driver results to evaluate any changes in the vehicle's dynamics with the addition of a second person. This will also inform staff's evaluation of the feasibility of future ATV work. Results are expected in late 2016.

Conclusions

Since the Commission direction in December 2014 to assess "the inclusion in the NPR of a performance standard related to preventing passengers on ATVs," staff has been working on this task as resources have allowed. This insights from the passenger pilot study, the RFI, and results of the dynamic testing will inform staff's recommended future effort in improving ATV safety.