

Motorcycle Helmet Exchange to Reduce the Use of Non-DOT-Compliant Helmets and Survey Previous and Current Participants to Evaluate the Effectiveness of the Pilot Exchange Program

Project Personnel

Hong Zhang (Snell Safety Education Center, Inc.)
Stephanie Palmer (Snell Memorial Foundation, Inc.)
Tom Rice, PhD (UC Berkeley)
Sergeant Shameil Coleman (California Highway Patrol)
Sergeant Mark Pope (California Highway Patrol)
Sergeant John Hurd (Livermore Police Department)

Project Agencies

Safe Transportation Research & Education Center, UC Berkeley
Motorcycle Safety Program Unit, California Highway Patrol
Livermore Police Department
Snell Safety Education Center, Inc., Snell Memorial Foundation, Inc.

Background

Traffic Safety Issue

After decreasing to a low of 352 motorcycle fatalities in 2010, California saw an increase of 28.7% to 453 fatalities in 2013. Helmets are frequently recommended as a highly effective countermeasure to reduce motorcyclist fatalities. As a result, California has had a universal motorcycle helmet law in effect since 1992, meaning that all motorcycle riders and passengers are required to wear a helmet while riding. However, the 2013 National Occupant Protection Use Survey (NOPUS) found that, in states with universal helmet laws, 10% of riders use helmets which do not comply with DOT standards. A UC Berkeley survey of Bay Area motorcyclists found that 15% of motorcyclists reported wearing a nonstandard helmet “sometimes” or “often.” Noncompliant or “novelty” helmet use is common in California, despite performing poorly during NHTSA-conducted impact evaluation tests. These helmets

have no energy-absorbing polystyrene foam liner and have been demonstrated to provide no protection against head and brain injury during motorcycle collisions. Countermeasures are needed in California to improve motorcycle helmet knowledge among motorcyclists using novelty helmets.

Solution & Benefits

Helmet exchange programs are a promising potential countermeasure to modify motorcycle riders' beliefs and attitudes about helmet use and helmet types. In 2012, OTS funded a helmet exchange program conducted by the Snell Safety Education Center, Inc., CHP, and the Livermore Police Department. Many of the riders at these events were willing to exchange their novelty helmets for DOT-compliant helmets when they were offered at no cost. The program exchanged 164 helmets at 5 events in Northern and Southern California and collected contact information from the participants. In addition, the benefits of wearing a DOT-compliant helmet were explained and demonstrated to riders who exchanged their non-compliant helmets. This educational effort helped increase the awareness of brain injury risks and helped facilitate a reassessment of helmet type choices among those who chose to participate in the exchange program.

The second program had planned on exchanging up to 200 helmets at 6 events in the summer of 2014 in cooperation with CHP. At the end of summer 2014, participants from both the 2012 and 2014 events were contacted for survey participation. The objective of the survey was to assess the helmet-related behaviors of the participants and to determine the feasibility of helmet exchange programs as a safety countermeasure to address California's high prevalence of novelty helmet use. The follow-up interviews were conducted by phone and elicited information on rider information and demographics, how often the rider used the helmet, for how they retained it, the acceptability of the helmet's features (style, color, noise, etc.), and their opinions of the exchange program. The survey was conducted by a third-party contractor.

The results of this project will provide the state with knowledge that will be of great value in determining the feasibility of altering the helmet choices of riders who currently use novelty helmets. A variety of potential countermeasures could be used to influence helmet behaviors of riders and an understanding of how amenable novelty helmet-wearing motorcyclists are will be highly useful in the planning and implementation of countermeasures. Data from the helmet exchange program can also be shared with other states to increase the use of DOT-compliant helmets. For example, after learning of the 2012 California motorcycle helmet exchange program, the Colorado DOT made funds available for a similar program to encourage motorcycle helmet use in Colorado which does not currently mandate helmet use.

Project Objective

The objectives of this project were to initiate another cycle of helmet exchange events across the state of California, providing DOT-compliant helmets as well as educational material to program participants. Additionally, this program is designed to increase motorcyclist and public awareness surrounding helmet use and head injury. The administration of a telephone survey was also included in our objectives, which involved contacting participants from both the 2012 and 2014 helmet exchange programs and gathering information on their helmet-related behaviors.

Helmet Exchange Events

In 2012, a total of 164 helmets were exchanged at 5 different events in Northern and Southern California. The locations were a mix of popular rest stop for riders, motorcyclists fund raising events, auto racing event, and local Harley Davidson dealer event. Livermore Police Dept. was at two of the events and the CHP were at here of the events. Each rider who exchanged his/her bogus helmet left their contact phone number and email address.

Date	Location
June 3, 2012	Vacaville Hod Rod-Harley Dealer Festival
June 23-24 , 2012	Infineon Race Track, Sonoma
July 20, 2012	Make a Wish Foundation Ride, Riverside
July 21, 2012	Rock Store, Malibu
August 26, 2012	Walt Grey Ride, Sacramento

Figure 1. Dates and locations of 2012 helmet exchange events

In 2014, 93 total helmets were exchanged at 8 different events across the state. The stock of helmets for exchange consisted of medium-cost, Snell-certified that were purchases and received as donations, and consisted of 5 different models. The Snell Safety Education Center collaborated with CHP field offices and CHP headquarters to provide motorcycle safety materials and information from the California Motorcyclist Safety Program. CHP officers were present at 4 of the events. Contact phone number and email address were collected from each rider who received an exchanged helmet.

Date	Location
July 11 & 12, 2014	Laguna Seca Raceway, Monterey
August 3, 2014	Alice's Restaurant, Woodside
August 17, 2014	Walt Grey Ride, Folsom
August 22, 2014	RaceLegal, San Diego
August 23, 2014	SD Motorcycle Competition, San Diego
August 24 , 2014	Tom's Farm, Riverside
August 28, 2014	Raley Field, Sacramento
Sept. 14, 2014	Point Reyes Station

Figure 2. Dates and locations of 2014 helmet exchange events

In addition to the helmets provided for participants, the Snell Safety Education Center provided educational DVDs, brochures, charts, and demonstration helmets. Snell staff members were present at each event to answer questions and interact with participants. Individuals who presented a noncompliant helmet were fitted with a new DOT/Snell M2010 helmet and offered the helmet free of charge in exchange for the non-compliant helmet. A helmet sign-out log kept record of each recipient's name, phone number, email address, and helmet received. This log was used in the survey portion of the program to contact participants. A few photographs taken at exchange events can be seen below.



Figure 3a. Snell staff members fit a participant with a helmet at Alice's Restaurant



Figure 3b. Motorcyclists visit the exchange booth at Tom's Farm

Survey Administration and Results

Of the total program participants with valid contact information, 95 surveys were completed, yielding a 50% participation rate. Out of those 95 surveys, 49 individuals participated in the 2012 exchange program, and 46 participated in the 2014 program. Survey respondents were largely male (88%), and a majority were between the ages of 45-64 (63%). Additionally, a majority of respondents identified the make/brand of their motorcycle as Harley-Davidson (69%). Over half of those surveyed (51%) had no formal motorcycle safety training.

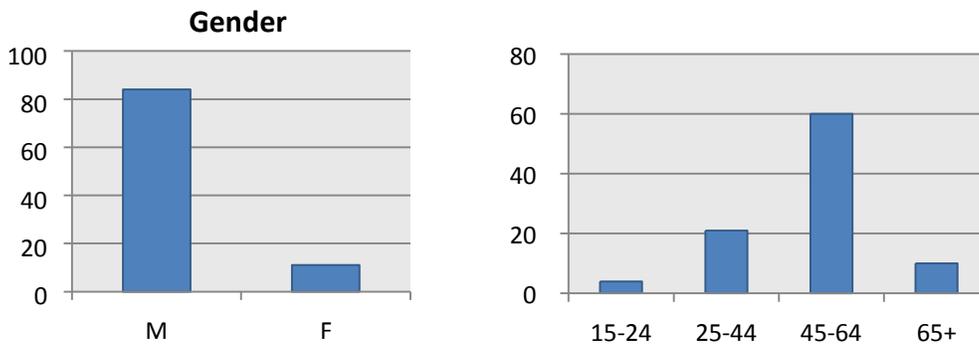


Figure 4a. Demographics of survey respondents

Many of the survey participants indicated that they were content with the overall appearance and functionality of the exchanged helmets (Figure 4b). Most respondents stated they liked the color (95%) and the styling (72%) of the helmet, and most thought that the helmet was comfortable (79%).

	Yes	No	Somewhat
Did you like the color of the helmet?	89	4	1
Did you like the way the helmet looked other than its color (such as any graphics or other features of the helmet)?	68	3	11
Was the helmet comfortable?	74	11	8

Figure 4b. Responses to helmet characteristics

More importantly, the survey found that a large majority of the survey participants (86%) were still using the helmet they received from the exchange at the time the survey was administered (Figure 4c). Even more encouraging was the fact that 39 of 47 respondents (83%) who participated in the 2012 exchange stated that they were still using their helmet more than 2 years later. This reflects positively towards the exchange program’s long-term impact on motorcyclists’ attitudes towards helmet use.

	Yes	No	TOTAL
2012 Exchange	39	8	47
2014 Exchange	41	5	46
TOTAL	80	13	93

Figure 4c. Responses to question “Are you still using the helmet?” by year

Furthermore, a large majority of the survey respondents identified their new, DOT/Snell helmet as being “more protective against head injury” (94%) and more protective against facial or eye injury (88%) than the non-compliant helmets (Figure 4d). Most respondents also said that they would recommend to other riders in California who wear non-compliant helmets to switch to the type of helmet that was received through the exchange program (82%).

	New Helmet	Old Helmet	Same
Comparing the two helmets, which one do you think was more protective against head injury?	87	1	3
Comparing the two helmets, which one do you think was more protective against other types of injury, like injuries to the face or eyes?	82	1	9

Figure 4d. Responses to perceived helmet safety

When allowed to make open comment during the survey, almost all participants gave overwhelmingly positive feedback about the program. One participant said they “deeply appreciate this program for the safety of the riders.” Another said, “I have some friends that wish they had heard about it.” One rider said they think “it’s a good program” and that “the knowledge they gave me showed me what the helmet can do.”