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Bikesharing Safety and Helmet Use

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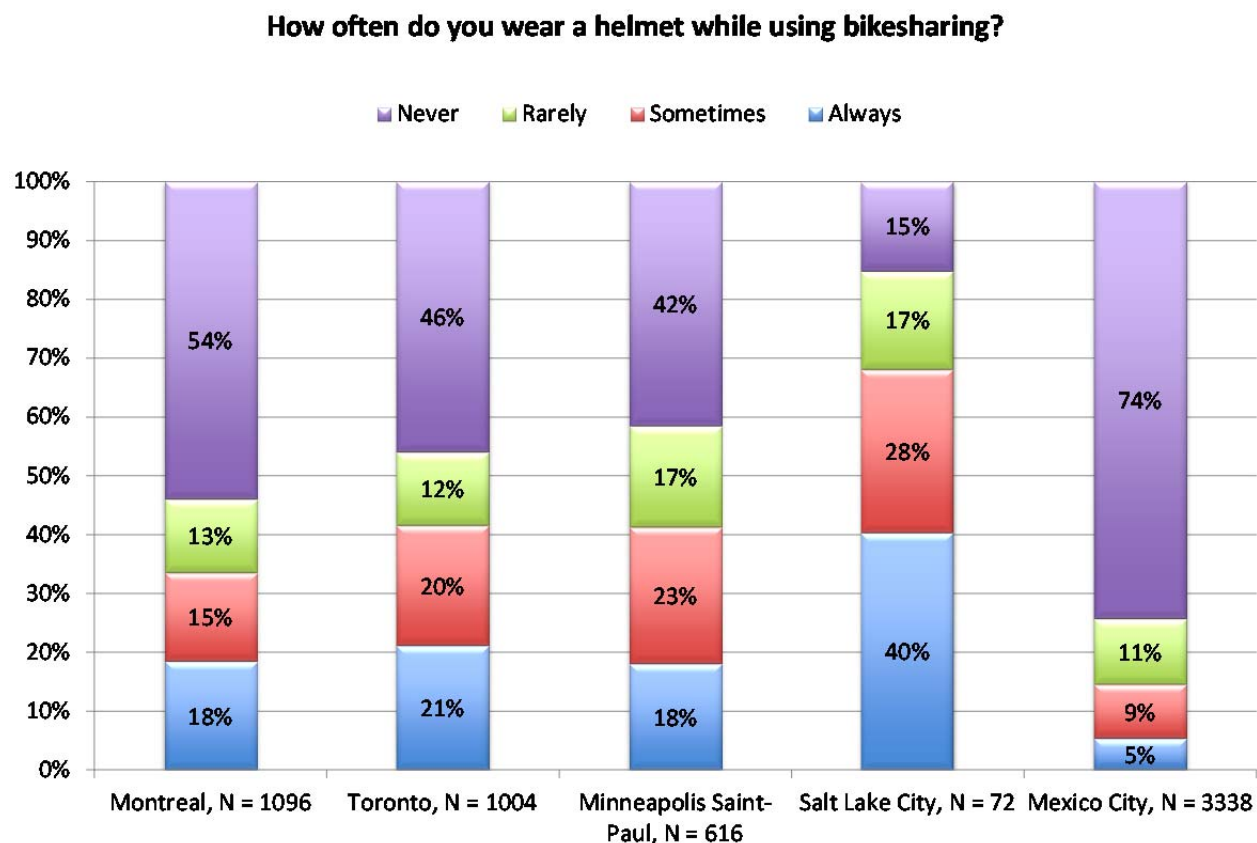
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Bikesharing Safety and Helmet Use

Crash rates involving injury among North American public bikesharing operators, average 1.36 injury crashes reported system-wide in 2011 (Shaheen et al. 2013). Bikesharing crashes are tracked in one of three ways: 1) total number of injury crashes, program-wide, annually; 2) the number of injury crashes per a number of rides; and 3) number injury crashes per distance of bikesharing use. Shaheen et al. (2013) interviewed 19 public bikesharing operators in North American in 2011-2012. Differences in data collection, however, make it difficult to compare bikesharing crash rates among operators. One operator reported a crash rate of approximately one incident for every 50,000 to 60,000 rides, and another noted one crash after approximately 100,000 miles (or 161,000 kilometers) of riding. Operators with more than 1,000 bicycles reported an average of 4.33 crashes per year (resulting in an injury); those with between 250 and 1,000 bicycles averaged 0.6 reported crashes a year; and those with less than 250 bikes reported 0.3 crashes per year (Shaheen et al. 2013).

Public bikesharing experts and users generally perceive helmet laws as an obstacle to use because of the inconvenience associated with carrying a helmet, lack of availability for last-minute trips, and the challenges associated with providing sterile shared helmets. Golden Community Bike Share (Golden, BC) and Pronto Cycle Share (Seattle, WA) are the two North American programs in which helmet use is required, due to provincial or county laws. Golden Community Bike Share has complimentary helmets with each bike rental, and Pronto Cycle Share offers helmet rentals at its station. Many operators sell helmets through central locations or offer them for purchase when members join the program (e.g., Capital Bikeshare and Hubway). In addition, many offer helmets through partnerships with local bike stores and provide helmet purchase discounts (Shaheen et al. 2012).

According to a study by Buck et al. (2012), only six percent of short-term Capital Bikeshare users wore helmets, while 37 percent of annual users wore helmets. Shaheen et al. (2012) conducted a North American member survey in 2011 of four public bikesharing programs and found that the majority of respondents never wear helmets. In Montreal, 62 percent of survey respondents indicated never wearing a helmet while bikesharing compared to 50 percent in the Twin Cities, 45 percent in Toronto, and 43 percent in Washington, D.C. The survey also found that helmet use ranged between 20 percent and 38 percent, while using bikesharing (Shaheen et al. 2012). In a follow-up study, Shaheen et al. (2014) conducted another bikesharing member survey in Montreal, Toronto, Minneapolis-Saint Paul, Salt Lake City and Mexico City in 2013 with similar helmet use results. In Mexico City, 74 percent of respondents reported never wearing helmets. In Montreal, 54 percent of respondents reported no helmet use. In Toronto and Minneapolis-Saint Paul, 46 percent and 42 percent, respectively, never wear a helmet. In contrast, members of GREENBike SLC in Salt Lake City exhibited a notably different distribution of helmet use. Only 15 percent reported never wearing a helmet, while 40 percent reported always wearing one. See Figure C1 below.



Source: Shaheen et al. 2014

FIGURE 1 Helmet use while using public bikesharing.

To understand this issue further, Shaheen et al. (2014) probed those that did not report “always” wearing a helmet with additional questions to better understand why helmet usage was not higher. The first question asked respondents whether or not they owned a helmet. The responses showed distributions that may partially explain the relative magnitude of “never” responses shown in Figure 1 above. Mexico City, where respondents reported the lowest relative helmet use noted the lowest helmet ownership, where only 34 percent of respondents stated owning a helmet. Montreal, which reported the second lowest helmet use, noted the second lowest ownership rate of helmets at 66 percent. Toronto, with the third lowest helmet use also reported the third lowest helmet ownership. Similarly, Minneapolis-Saint Paul exhibited just slightly higher helmet use than Toronto and showed just higher helmet ownership rates. Finally, respondents in Salt Lake reported near universal helmet ownership. While it is clear that helmet ownership does not ensure helmet use while bikesharing, it is a necessary pre-requisite to regular use and suggests a clear relationship between the rate of helmet ownership and the rate of helmet usage.

Respondents who did not always wear a helmet were further asked to describe the main reason why they did not. See Table C1 for a summary the main reasons for not wearing a helmet while bikesharing.

TABLE 1 The Main Reason Why Respondents Do Not Wear a Helmet While Bikesharing

What is the MAIN REASON you do not always use a helmet while bikesharing? Select the circumstances that most often apply to you regarding helmet use.					
Response Options	Montreal	Toronto	Minneapolis and Saint Paul	Salt Lake City	Mexico City
I never wear a helmet while riding any bicycle.	23%	14%	13%	2%	29%
My use of bikesharing is not always planned and I do not have a helmet with me in such cases.	42%	47%	45%	53%	27%
I do not like to carry a helmet around, even though I generally know in advance when I am going to use bikesharing.	29%	32%	31%	26%	25%
Other, please explain:	5%	6%	9%	19%	6%
I do not own a helmet.	2%	1%	2%	0%	13%
Total	893	792	506	43	3145

Source: Shaheen et al. 2014

Respondents in four of the five surveyed cities indicated that the most common reason for not always wearing a helmet was the unplanned nature of bikesharing trips. The second most common response was that users did not like carrying helmets around. The distribution in Mexico City was slightly different, with the top response: “I never wear a helmet,” followed by “unplanned use” and “do not like carrying a helmet.” Notably, 13 percent of respondents wrote that the lack of helmet ownership was a key inhibitor to using one, whereas far fewer cited this reason in the other cities.

For those respondents that simply answered: “I never wear a helmet while riding any bicycle,” the survey probed even further to understand why. Overall, most responses indicated that people who never wear helmets, do so more by choice rather than constraint. Other responses available included: “helmets are uncomfortable,” “helmets mess up my hair,” and “helmets do not look good on me.” When aggregated together, these “choice-based” responses comprised over 60 percent of the selections by respondents in the U.S. and Canada, and 45 percent of respondents in Mexico City. Responses based on helmet availability encompassed between 15 percent to 30 percent of responses in the U.S. and Canada and 42 percent in Mexico.

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