



## A Study of Bikesharing and Bicycle Safety

The growth of bikesharing in the United States has had a transformative impact on urban transportation. Many major cities have established large bikesharing systems, including Boston, Chicago, Denver, Minneapolis-Saint Paul, New York City, Salt Lake City, the San Francisco Bay Area, Seattle, Washington DC, and others. While numerous North American cities have large operational bikesharing programs, bikesharing has some qualities that could be inherently unsafe for cyclists. For example, bikesharing helmet usage has been shown to be lower than the broader bicycling population, and bikesharing tends to be used by a relatively large share of less experienced cyclists and tourists.



MTI Research Associate Elliot Martin

Capital Bikeshare in Washington, D.C.

The [Mineta Transportation Institute's](#) report, [Bikesharing and Bicycle Safety](#), enhances our understanding of the factors influencing bikesharing safety and evaluates available data to determine if bikesharing has been safer or more dangerous than regular bicycling in terms of collision rates. The study found that bikesharing users have lower vehicle-involved collision rates than standard measures of collision rates for personal bicyclists. This implies that bikesharing users appear to avoid collisions more than regular cyclists, which naturally reduces their exposure to injury. Additionally, [Bikesharing and Bicycle Safety](#) explored the role of "safety in numbers" in bikesharing, and whether bikesharing activity contributes to a reduction

in the broader number of bicycle collisions within operating areas. The study concluded that there is no strong evidence that bikesharing is having a broader safety in numbers impact on bicycling overall.

To develop these findings, researchers examined bikesharing safety from both qualitative and quantitative perspectives. Through four focus groups, researchers evaluated the perceptions of bikesharing usage and safety with bikesharing members and nonmembers in the San Francisco Bay Area. Researchers interviewed experts from a variety of fields across the country to document the opinions and perspectives on bikesharing safety. Finally, researchers analyzed bicycle and bikesharing collision data as well as bikesharing activity data from three different bikesharing regions including: Minneapolis-Saint Paul, the San Francisco Bay Area, and Washington D.C.

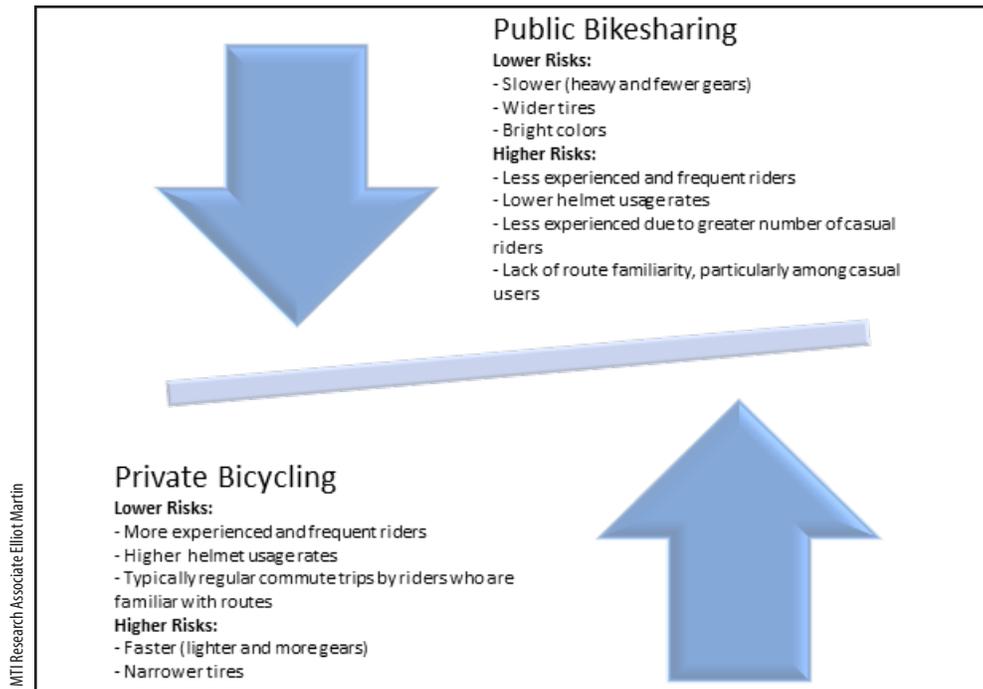
While the report finds that bikesharing users have been "safer" than regular bicyclists in terms of avoiding vehicle-involved (and other) collisions, this analysis does not suggest that bikesharing users are more protected in the event of collisions. Bikesharing user safety would still benefit from increased helmet use. Much like a seatbelt in a car, use of a helmet does not influence the odds of having a collision, but rather reduces the odds of a serious injury in the event of one.

The key reasons for the reduced vehicle-involved collision rates of bikesharing users were not definitively established in this study, but qualitative methods pointed to several possible explanations. Expert interviews and focus group participants independently pointed to bikesharing user behavior and bicycle design as possible factors for reduced



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Helmet Kiosk for the Pronto Cycle Share System in Seattle, WA.



A comparison of risk factors of bikeshaaring vs. private cycling.

collision rates. In particular, bikeshaaring bicycles are designed in ways that promote stability and slower speeds, which mitigate the factors often contributing to collisions. Experts indicated that bikeshaaring tends to attract novice and infrequent riders. Although less experienced, these riders may be cautious, defensive riders and more risk-averse. People have experienced serious injuries on bikeshaaring bicycles, but to date (March 2016) no fatalities have occurred in U.S. bikeshaaring systems. A number of bikeshaaring fatalities have occurred outside the United States, including Canada, Mexico, and Europe.

This study motivates further research into bikeshaaring safety. A greater understanding of the reasons for the lower injury and fatality rate of bikeshaaring could help maintain or improve the bikeshaaring safety record, and may aid in improving bicycle safety more broadly. Theories for further consideration include, but are not limited to:

- Bikeshaaring bicycles are generally more visible and recognizable. Bikeshaaring bicycles typically light up at night and are painted in bright colors.

- Bikeshaaring equipment is typically heavier and designed with fewer gears, leading to slower and more stable riding, mitigating risky behaviors and contributing factors to bicycle collisions.
- Bikeshaaring riders may be more cautious while riding. Demographics may also impact bikeshaaring safety. Surveys of bikeshaaring users consistently suggest that they do not reflect the general population, but among other characteristics, are younger and more educated.
- Bikeshaaring bicycles are rented and typically require a deposit. People using bikeshaaring equipment may be more careful on equipment that is not their own and of which they are less familiar.

Further research on methods for encouraging helmet use among bikeshaaring users would also contribute to bikeshaaring safety. Overall, research evaluating the safety of bikeshaaring, the cause of collisions, and its potential impact on broader cycling could help advance safety in all areas of bicycling.

## About This Project

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