



# Public Bikesharing in North America During a Period of Rapid Expansion: Understanding Business Models, Industry Trends & User Impacts

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MTI Project 1131

October 2014

*The study found that bikesharing reduces automobile dependency and may reduce public transit ridership in situations where bikesharing provides a faster, more direct, and lower-cost alternative.*

Public bikesharing—the shared use of a bicycle fleet—is an innovative

transportation strategy that has recently emerged in major North American cities.

Information technology (IT)-based bikesharing systems typically position bicycles throughout an urban environment, among a network of docking stations, for immediate access. Trips can be one-way, round-trip, or both, depending on the operator. Bikesharing can serve as a first-and-last mile (connector to other modes) and a many-mile solution. As of January 2013, there were 28 IT-based public bikesharing programs with approximately 1.1 million users sharing 17,344 bicycles at 1,599 locations in North America.

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## Study Methods

This study evaluates public bikesharing in North America from several angles, including current operational practices, business models, membership demographics, and environmental and social impacts during a period of rapid expansion. A combined 23 interviews were conducted with operators during this study. Additionally, a member survey was conducted of 6,373 individuals in Mexico City, Minneapolis, Montreal, Salt Lake City, and Toronto. Finally, three operators in Boston, San Antonio, and Salt Lake City participated in an experimental survey of casual users with 205 individual responses. This study identified a range of critical observations and lessons.

## Findings

The member survey exhibited a diverse array of modal shifts in the cities surveyed. Key transportation impacts uncovered from the user survey include:

- Reduction in the number of respondents using the bus in four of the five cities
- Reduction in the number of respondents using rail in Montreal, Toronto, and Mexico City
- Reduction in the number of respondents driving private automobiles by large amounts
- Better accessibility to and from the bus line (the most common reason for increasing bus use)

Cost savings, more direct routing, and time savings (the most frequent reasons for shifting from public transit to bikesharing).

The study provides a comprehensive state-of-the-industry examination of bikesharing on a variety of topics including business models; operational issues (such as theft, vandalism, helmet usage, safety, and insurance); and equity issues. The study identified a variety of IT-based bikesharing business models prevalent in North America, including 1) non-profit, 2) privately owned and operated, 3) publicly owned and operated, 4) publicly owned/contractor operated, and 5) vendor operated. Common challenges identified among bikesharing operators observed

in the study included theft and vandalism; bicycle balancing and redistribution; and issues pertaining to social equity. Forty-three percent of bikesharing operators (n=9/21) factor equity considerations into their station siting. Sixteen percent stated existing station placement was impacted by the goal of serving low-income communities (n=3/19), and 11 percent indicated that equity issues will factor into their programs' future expansion plans (n=2/19). However, bikesharing operators have varied definitions of social equity and special-needs populations ranging from low-income users, non-banked users (users without credit/debit card access), and serving immigrant communities. Building partnerships with public transit and local government, enhancing marketing and outreach, and refining system scaling were identified as key lessons to promote a successful operations.



### Policy Recommendations

As public bikesharing operators and local governments consider implementing bikesharing in their regions, they should consider what types of system designs are most effective for promoting synergistic cooperation between public transit and public bikesharing. The results of the member survey suggest that policymakers should consider implementing bikesharing with different outcomes based on city and program size. Policymakers in larger cities should consider deploying bikesharing to alleviate crowded public transit lines and increase transit capacity during peak periods. Policymakers in small and medium cities should consider implementing carsharing when the goal is to provide first-and-last mile connections to public transit to increase ridership. In addition, local governments should determine which ordinances and policies must be in place before implementing public bikesharing and how to document the social and environmental impacts of new bikesharing programs. Finally, data have shown that bikesharing users are more likely be male, Caucasian, wealthier, younger, and have attained higher educational degrees than the general population in which a given bikesharing program resides. As a form of public transportation, it is pivotal that bikesharing serve all socio-economic classes and ethnicities in an urban area. Thus, it is recommended that governments consider appropriate outreach, public subsidies, and system deployment (e.g., access mechanisms for the unbanked and multi-lingual communications) be focused on low-income and minority communities.

### About the Authors

Susan A. Shaheen, Ph.D., is a research associate with the Mineta Transportation Institute. She is also a co-director of the Transportation Sustainability Research Center (TSRC) and an adjunct professor in the Civil and Environmental Engineering Department at the University of California, Berkeley. Elliot W. Martin, Ph.D., Nelson D. Chan, and Adam P. Cohen are researchers with the Transportation Sustainability Research Center. Dr. Martin and Mr. Cohen are also research associates with MTI. Joseph Michael Pogodzinski, Ph.D., is a professor of economics at San Jose State University.

### To Learn More

For more details about the study, download the full report at [transweb.sjsu.edu/project/1131.html](http://transweb.sjsu.edu/project/1131.html). The first MTI report on Bikesharing in North America (2012) can be downloaded at <http://transweb.sjsu.edu/project/1029.html>. To access journal articles and conference proceedings related to this research, please visit <http://tsrc.berkeley.edu/finder/publication>.