Bike-sharing Systems and Congestion: Evidence from US Cities

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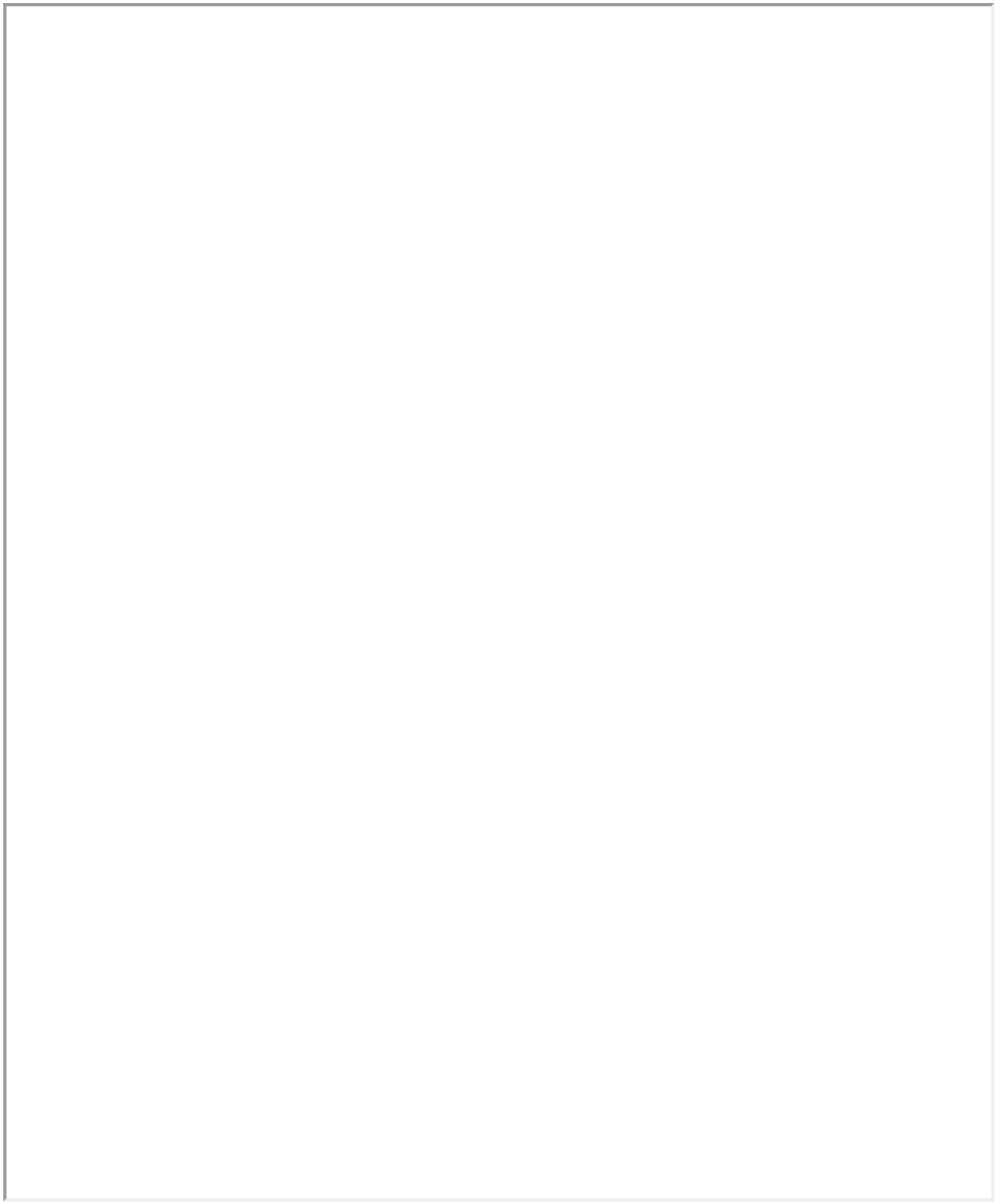
Why did we select this research?

In the past decades, there has been a resurgence of public bike-sharing systems (BSSs). While it is claimed that social and environmental benefits are associated with the implementation of BSSs, few empirical studies have investigated the actual congestion reduction effect of BSSs on cities. To fill such gap, this paper aims to examine whether the launch of BSSs can reduce citywide congestion.

Key findings:

- BSSs benefits larger cities more than smaller ones in congestion reduction.
- Compared to smaller cities, larger cities usually have more robust public transport systems, which offers more routes and frequent services. As many of docking stations are located near public transport stops, BSSs encourage multimodal transport by providing connections with public transport systems.
- Richer cities tend to get worse off with the introduction of BSSs. Richer cities usually have greater ownership of private cars and more luxury cars. One possible explanation is that the launch of BSSs sometimes encourages extra trips which would not be made without such facilities.
- BSSs has a direct effect on reducing congestion during rush hours, which may imply a modal substitution, where people reduce car and bus use as a result of BSSs. Such finding is consistent with bike-share member surveys.



Reference:

Wang, M., & Zhou, X. (2017). Bike-sharing systems and congestion: evidence from US cities. *Journal of transport geography*, *65*, 147-154. https://www.sciencedirect.com/science/article/pii/S0966692317302715.