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POLICY BRIEF

Bikesharing and other micromobility services can improve connectivity between affordable housing communities and transit

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Issue

Finding ways to boost transportation access for underserved populations can unlock broad social benefits. Micromobility programs, including bikesharing, offer scalable solutions. National, state, and regional housing and urban development agencies promote affordable housing and transit-accessible developments by funding programs such as the Low-Income Housing Tax Credit and Community Development Block Grants. However, these efforts are not always coordinated and the physical distance between affordable housing and transit access continues to grow. The problem is compounded by low car ownership rates in lower income urban communities. These circumstances have led to inequitable mobility access. To correct course, pairing affordable housing developments with reliable transit services is essential. This practice can increase equity and accessibility.

A team at the University of California, Davis, conducted a case study in Sacramento, California, to explore bikesharing as an option for connecting affordable housing residents with transit services.

Key Research Findings

Building affordable housing developments in transit-accessible locations requires investment and policy support. Two key factors hamper the seamless integration of housing and mobility: the expiration of current affordable housing programs and inadequate incentives for attracting housing developers to build affordable units near transit stations and job centers. As the land value increases in urban areas, especially in highly accessible and desirable locations, there is a need for increased financing from federal, state, and local governments. Besides funding, recent research suggests that policies requiring affordable units in new construction adjacent to transit-oriented developments effectively improves access to transit.

Travel behaviors and needs of affordable housing residents are not well understood. This study focused on making the placement of bikeshare stations more responsive to real travel needs. However, additional research is needed to understand preferred destinations and trip purposes to design equitable and effective transportation systems and services.

Promotion of bikesharing and other micromobility options among affordable housing unit residents can draw from existing research. Programs to increase awareness of bikeshare services, especially in suburbs, are needed to increase participation. Lessons learned from other shared-mobility educational campaigns should be complemented with a program that considers the barriers faced by affordable housing residents. Some ways to improve accessibility are by (1) offering cash payment options, (2) reducing reliance on functionality that requires smartphones, (3) providing multi-lingual support, and (4) waiving sign-up fees.

Accessibility is affected by travel behaviors, demand, and bikesharing service network design and coverage. Equitable and accessible bikesharing network designs are a key element in supporting transit access for affordable housing unit residents. Network planning should recognize that demand is dependent on the number of bikesharing stations as well

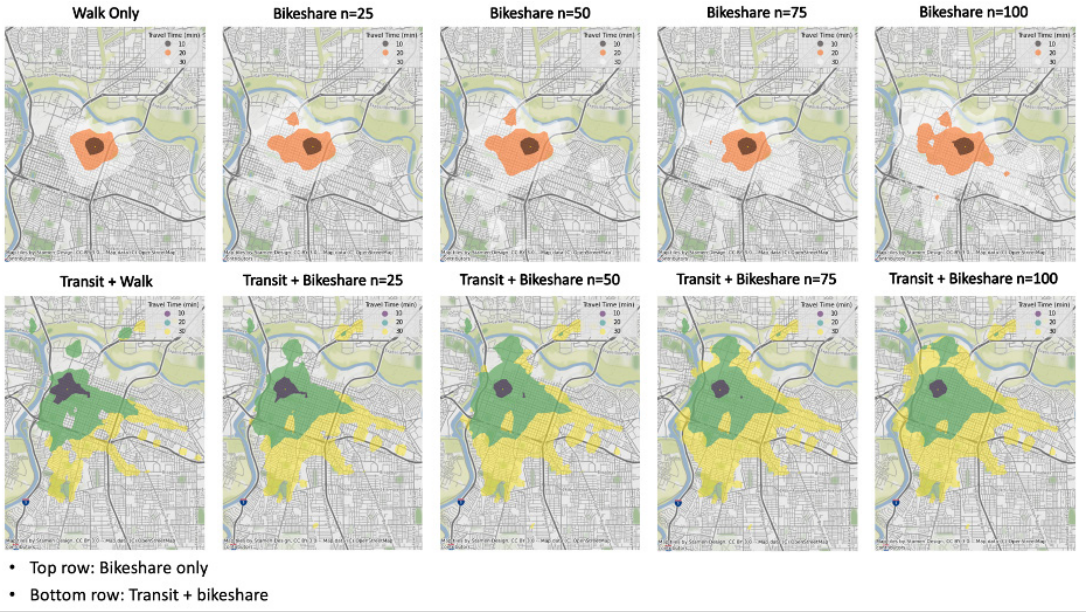

Figure 1. A comparison of destinations that can be accessed from an affordable housing development in 30 minutes using different stand-alone and combined travel modes. Combinations of modes for differently-sized bikesharing networks are shown (n=number of states in the system; each color represents 10 minutes of travel time).

as locations. Simply adding more stations without considering site context may result in suboptimal outcomes. Financial incentives can be effective for motivating service providers to create and maintain good bikeshare and biking infrastructure and coverage.

Bikesharing programs can significantly increase transit accessibility for affordable housing residents. The research shows that bikesharing plus transit can double the number of locations reached in a 20- or 30-minute travel time. For short distances, the benefits are only 20-30% (Figure 1).

Tools to inform equitable and accessible micromobility service planning and to evaluate related policy mechanisms are needed. Mathematical models that combine simulation and optimization can inform planning and decision-making. Systems should be put in place to gather information regarding micromobility use, user behaviors, facilities, and other factors to develop and implement such tools.

Further Reading and More Information

This policy brief is draw from "Optimizing Bikeshare Service to Connect Affordable Housing Units with Transit Service," a report from the National Center for Sustainable Transportation, authored by Miguel Jaller, Xiaodong Qian, and Runhua (Ivan) Xiao at the University of California, Davis. The full report can be found on the NCST website at https://ncst.ucdavis.edu/project/optimizing-bikeshare-service-connect-affordable-housing-units-transit-services. For more information about the findings presented in this brief, contact Miguel Jaller at mjaller@ucdavis.edu.

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