



## Shared Micromobility Pilot Promotes Low-Income Access in Fort Smith, Arkansas

### Challenge

Fort Smith is a city in Northwest Arkansas with a population of approximately 90,000 people. The median household income of Fort Smith is below the national average, with a poverty rate of 18.9 percent in 2021.<sup>1</sup> Roughly 65 percent of low-income residents in Fort Smith do not own a personal vehicle or have access to reliable public transportation.<sup>2</sup> Most routes in Fort Smith’s public transportation network only run hourly from 7am to 6pm, 6 days a week, making it difficult for low-income residents to rely on public transportation for consistent and timely trips to and from home, work, medical providers, and other essential destinations. This is particularly true for commuting trips outside of typical morning and evening service.

Shared micromobility is emerging in larger cities across the country as a viable transportation mode to address the first- and last-mile challenge, helping to connect individuals to public transit and other transportation options. However, the benefits of shared micromobility may not be equitably shared across all communities and abilities. Because growth of shared micromobility is often dependent on private investment and the availability of high-quality active transportation infrastructure, its development has been concentrated in large, urban areas. Furthermore, some low-income populations may face barriers to accessing shared micromobility for a number of reasons, including:

- Lack of outreach to and engagement with underserved and disadvantaged populations in planning shared mobility systems;
- Lack of safe, micromobility-friendly infrastructure throughout the operation area;
- Lack of safe, accessible infrastructure and/or transit accessibility at and beyond the operation area boundary to further extend network reach;
- Lack of pricing structure affordability;
- Lack of access to payment and trip options for unbanked individuals and individuals without a smartphone;
- Lack of availability of adaptive devices for people with disabilities;
- Inequitable distribution of devices across the network; and
- Inequitable enforcement.



Bicycle docked at bikeshare station. Image source: [University of Arkansas](#)

### Solution

In early 2021, the National Science Foundation (NSF) [awarded](#) the University of Arkansas (U of A) a \$50,000 grant as part of the [CIVIC Innovation Challenge](#), which is co-funded by the U.S. Departments of Energy and Homeland Security. This planning study, “[A Community-Based Framework to Develop Shared Micromobility for](#)

<sup>1</sup> U.S. Census Bureau

<sup>2</sup> [University of Arkansas, \\$1.2 Million NSF Grant to Deploy Micromobility Services in Low-Income Neighborhoods](#)



**Affordable-Accessible Housing (SMILIES),**” sought to improve access to jobs and essential activities for affordable housing communities in small- and mid-sized cities and rural areas by leveraging the explosive growth of shared micromobility.

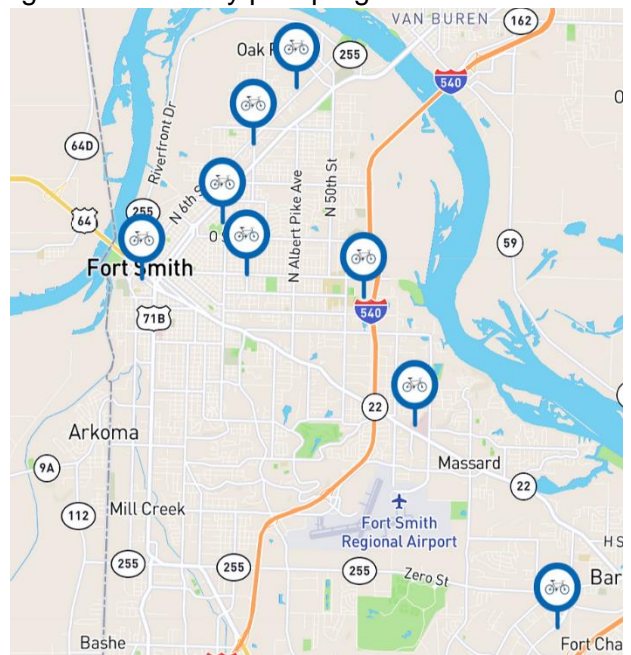
This initial planning grant created the opportunity for researchers to study weak transportation links in the city. University of Arkansas worked with Frontier Metropolitan Planning Organization (FMPO) to conduct community engagement activities, including virtual public meetings and an open house. Public involvement efforts relied on QR codes and social media to encourage the public to respond to surveys about transportation needs through FMPO’s input platform. The team also held one-on-one meetings with stakeholder organizations and developed a community-based participatory action group to involve local residents in the decision-making process.

The community transportation needs assessment survey conducted through the planning grant found that more than 50 percent of respondents reported challenges accessing transportation services to travel to workplaces every day in Fort Smith. For lower-income populations with annual household incomes of less than \$34,000, this rose to 65 percent, with many reporting that they do not own a car or are challenged by limited public transportation options. Further, many of these communities are considered food deserts<sup>3</sup>, and residents also have limited access to education and healthcare. Accessing grocery stores, schools, and medical facilities are transportation intensive activities. Moreover, the survey found that more than 70 percent of low-income people—more than 50 percent of the overall population—were interested in using shared micromobility in Fort Smith.

Results from the planning grant were foundational for U of A’s successful proposal for an additional \$1.2 million pilot implementation grant also through the CIVIC Innovation Challenge, which was awarded in September 2021. The additional grant award focused on creating and funding a micromobility pilot program for residents in Fort Smith from early 2022 to late 2024.

In 2022, the research team initiated a bikeshare pilot with 40 bikes (20 electric bicycles (e-bikes) and 20 traditional bicycles) in four neighborhoods, including three low-income neighborhoods (with a total of six stations) and one affluent neighborhood (with two stations). The goal of the pilot is to determine a long-term pricing strategy and sources of funding to help the city to sustain the program going forward. The pilot is testing various payment options including cash and prepaid cards to overcome barriers to access for low-income communities.<sup>4</sup>

The researchers determined bikeshare station placement in all four neighborhoods through a community input process. In the three low-income neighborhoods, community input influenced the team’s decision to place bikeshare stations at key community locations, including markets, community centers, housing complexes, and workplaces with non-



Initial locations of the bikeshare stations in Fort Smith. Image source: [Tandem Mobility](#)

<sup>3</sup> [USDA, Food Access Research Atlas](#)

<sup>4</sup> [Better Bikeshare Partnership, Researchers in Arkansas Are Redesigning Bike Share](#)



traditional hours.<sup>5</sup> Evaluating the performance of the stations for about nine months, the researchers rearranged station placement in low-income neighborhoods after further consultation with the community and local leaders.

Complementary infrastructure projects are planned in Fort Smith, including improvements to existing riverfront trails and bike lanes. The Arkansas College of Health is also developing a mobile application for individuals to identify infrastructure deficiencies and provide feedback directly to the city. The application will be able to geospatially locate areas for improvement, filling a current gap in information.

FMPO and Fort Smith are conducting public engagement to inform development of an active transportation plan, *Move Fort Smith*, which will guide improvements to the city’s active transportation infrastructure and thus improve comfort, safety, and access for people biking, walking, and rolling, including for shared micromobility users.

## Conclusion

[Shared micromobility is expanding](#) beyond larger cities and growing in smaller and rural communities. Research and pilot programs, including this example in Fort Smith, are helping to ensure that there is equitable access to essential destinations for all residents regardless of income. As of May 2024, the Fort Smith bikeshare pilot is ongoing, and the data cited in this case study are based on the information available at the time of publication. The U of A researchers found through their trip end survey that 60 percent of bikeshare trips taken were by low-income riders, illustrating the pilot’s success in mobilizing low-income residents of Fort Smith. Despite challenges such as the COVID-19 pandemic, safety concerns due to lack of active transportation infrastructure, and low participation during colder winter months, in December 2022 the city [added](#) new e-bikes to the system. As of April 2024, the system has logged over 12,000 miles from more than 1,600 users since its inception in May 2022.<sup>6</sup> Moreover, the program supports reduction in greenhouse gas emissions, as 36 percent of surveyed users indicated that their bikeshare trips would have been otherwise taken in a personal vehicle.<sup>7</sup>

Equitable shared micromobility projects such as this can be scaled and replicated in other mid-size cities across the country. E-bike sharing programs are likely eligible for funding under several DOT [surface transportation funding programs](#). Allowable costs may include capital and equipment expenditures, education and encouragement activities related to safe access for bicyclists, and data collection and monitoring for bicyclists.

### *Additional FHWA Resources*

- [Micromobility](#)
- [E-Bike Resources](#)
- [Bicycle and Pedestrian Program](#)
- [Bicycle and Pedestrian Funding Opportunities](#)
- [Bicycle and Pedestrian Program Guidance](#)
- [Technical Assistance Resources for Active Transportation](#)

<sup>5</sup> [National Center for Mobility Management, Fort Smith Pilot Redesigns Shared Micromobility Services for Low-Income Residents](#)

<sup>6</sup> [Tableau Public, Ride 4 Smilies Dashboard](#)

<sup>7</sup> [Northwest Arkansas Regional Planning Commission, Northwest Arkansas Priority Action Plan Supplement](#)