BOSTON REGION METROPOLITAN PLANNING ORGANIZATION

Monica Tibbits-Nutt, MPO Chair | Secretary and CEO, Massachusetts Department of Transportation
Tegin Leigh Teich, Executive Director, MPO Staff

Bikeshare Station Siting Considerations and Opportunities for Transit Integration

Review of the Literature

Project Manager
Tanner Bonner

Project Principal
Rosemary McCarron

Contributors
Casey Cooper
Kyle Casiglio

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Section 1—Introduction

Bikeshare programs have been widely recognized as an effective solution for providing first- and last-mile connections, increasing system connectivity, decreasing travel times, and encouraging mode shift from cars to transit. Bluebikes, the Boston region's public bikeshare system, has seen a dramatic increase in ridership in recent years. Total annual trips more than doubled between 2013 and 2020, alongside a roughly threefold increase in bike fleet size and docking stations.

Bikeshare has the potential to increase access to transit networks. People are typically willing to walk up to a half mile to reach transit, though they may walk further to reach rail service. [1] According to the Massachusetts Department of Transportation, the majority of U.S. bikeshare trips range from one to three miles.[2] For those without a personal bicycle, bikeshare can increase users' ability to access transit stops located outside of conventionally comfortable walking distances. A survey report by the National Association of City Transportation Officials (NACTO) estimated that more than 50 percent of people using docked bikeshare in some cities use the service to connect to transit.[3]

Increasing access to bikeshare, therefore, has the potential to grow transit ridership. Increases in transit ridership are beneficial to metropolitan areas for several reasons. For instance, increased ridership leads to increased fare revenue, allowing for investment in better service, an improvement that in turn begets greater ridership levels.

While the Bluebikes system has grown considerably in recent years, gaps in Bluebikes and MBTA connectivity exist throughout the Boston region. Many municipalities do not yet have stations or have just started to expand their networks. To enable connections between bikeshare and transit, we first need bikeshare to be present. The following literature review details station siting considerations for municipalities interested in joining or expanding their Bluebikes

[1] United States Department of Transportation (USDOT) Federal Highway Administration (FHWA), *Pedestrian Safety Guide for Transit Agencies, Chapter 4: Actions to Increase the Safety of Pedestrians Accessing Transit* (January 31, 2013). https://safety.fhwa.dot.gov/ped_bike/ped_transit/ped_transguide/ch4.cfm.

[2] Massachusetts Department of Transportation (MassDOT), *Municipal Resource Guide for Bikeability* (May 2019), 47. https://www.mass.gov/files/documents/2019/06/13/2019_Municipal_Resource_Guide_for_Bikeability.pdf.

[3] National Association of City Transportation Officials (NACTO), *Shared Micromobility in the U.S.: 2018* (2019). https://nacto.org/shared-micromobility-2018/.

network, followed by an overview of opportunities to better integrate bikeshare with transit systems.

Section 2—Station Location Selection

2.1 OVERVIEW

We found that there are four main components that influence where bikeshare operators install stations: feasibility, demand, equity, and public input. This section provides an overview of the current literature on how planners can consider each of these components in practice.

2.2 FEASIBILITY

Feasibility in this section refers to an assessment of whether a site meets requirements such as maximum visibility, unrestricted public access at all times, and minimum widths for sidewalk or curb lane locations. This definition is consistent with national best practices.[4] NACTO has developed a *Bike Share Station Siting Guide* that encourages planners to locate bikeshare stations near transit, while maintaining sufficient space for people walking to bus and transit stops and maintaining access to important assets such as hydrants and loading docks.[5]

When siting bikeshare stations, NACTO recommends careful consideration of how pedestrians navigate the existing environment. New York City's Citi Bike incorporates this guidance into its *Bike-Share Station Siting Guidelines*, adding requirements that stations on sidewalks cannot be located directly in front of main entrances to major buildings and that they must be at least 15 feet from the opening of subway stairs, subway elevators, and bus stop shelter entrances.[6]

Some cities, including New York, address concerns about bikeshare stations impeding pedestrian access to high-volume transit stops and regional rail stations by spreading out smaller bikeshare stations nearby.[7] Multiple, smaller bikeshare stations are easier for pedestrians to circumnavigate than one large station that could obstruct many paths of travel.

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[4] New York City Department of Transportation, *NYC Bike Share: Designed by New Yorkers; Appendix B: Bike-Share Station Siting Guidelines*. https://www.nyc.gov/html/dot/downloads/pdf/bike-share-outreach-report.pdf.

[5] National Association of City Transportation Officials (NACTO), *Bike Share Station Siting Guide*. https://nacto.org/wp-content/uploads/2016/04/NACTO-Bike-Share-Siting-Guide_FINAL.pdf.

[6] New York City Department of Transportation, *NYC Bike Share: Designed by New Yorkers*.

[7] National Association of City Transportation Officials (NACTO), Bike Share Station Siting Guide.

Fear of bicycle crashes can be a major deterrent for users to bike to transit.[8] The presence of adequate bicycle infrastructure (such as separated or protected bike lanes) can support safe bikeshare siting and travel.[9] However, prioritizing locations near existing bicycle infrastructure may reinforce inequities if existing bicycle infrastructure is inequitably distributed.

2.3 DEMAND

Bikeshare operators often prioritize expected demand when planning for station locations. Citi Bike used a model to predict the size requirement for a station at a given location based on population, surrounding land uses, tourism rates, subway turnstile counts, and the use of other transit options in the area.[10] Citi Bike also factored proximity to transit, access and proximity to bike lanes, and distance from other bikeshare stations into the location selection process.

Capital Bikeshare in Washington D.C. published a development plan update in 2020 that prioritized expanding capacity at stations that were frequently entirely full or empty of bicycles, and stations with high overall ridership.[11] It also established a maximum target distance between stations of half a mile, and stated that distances closer than a half mile would be preferable. This strategy helped to support a 79 percent increase in ridership between 2019 and 2024.[12]

The Los Angeles County Metropolitan Transportation Authority has referred to Paris's Vélib system as "one of the most accessible bike share programs in the world."[13] Vélib' stations are located every 1,000 feet, and they are more densely sited near transit hubs. Additionally, Vélib' station sizes vary according to the market. García-Palomares et al. found that the station siting approach that best

[8] Jianhong Ye, Jiahao Bai, and WenYang Hao, "A Systematic Review of the Coopetition Relationship between Bike-Sharing and Public Transit," Journal of Advanced Transportation 2024 (January 16, 2024): 14. https://doi.org/10.1155/2024/6681895.

[9] Julia Ursaki and Lisa Aultman-Hall, Quantifying the Equity of Bikeshare Access in US Cities (Burlington, Vermont: University of Vermont Transportation Research Center, 2015): 5.

[10] New York City Department of Transportation, NYC Bike Share: Designed by New Yorkers.

[11] Capital Bikeshare, Development Plan Update, May 2020. https://d21xlh2maitm24.cloudfront.net/wdc/DRAFT-Capital-Bikeshare-Plan-Update-2020-04-22.pdf?mtime=20200422171147.

[12] Cuneyt Dil, "Capital Bikeshare ridership increases to new record," Axios, May 15, 2025, accessed August 27, 2025. https://www.axios.com/local/washington-dc/2025/05/15/capital-bikeshare-ridership-increases-to-new-record.

[13] Los Angeles County Metropolitan Transportation Authority - Metro I Southern California Association of Governments – SCAG, *First Last Mile Strategic Plan and Planning Guidelines*, 48. https://scag.ca.gov/sites/main/files/file-attachments/first_last_mile_strategic_plan.pdf.

maximizes the amount of people with access to bikeshare stations concentrates stations in areas of high demand.[14]

It is important to note that while many operators have prioritized demand when locating stations, the resulting distributions of stations can be inequitable.[15] Equity concerns are further described in the following section.

2.4 EQUITY

In contrast to public transit users, the majority of bikeshare users in systems across the United States are typically white males with higher incomes.[16] A demographic survey of Bluebikes riders conducted by CTPS in 2023 suggested a similar user base in Boston. Minority and low-income users may also make less frequent use of bikeshare services.[17] Better integration of bikeshare and transit, particularly buses, could improve accessibility for transit users and promote a more diverse and inclusive user base for bikeshare.

To effectively prioritize equity in bikeshare station location selection, planners must understand the characteristics of existing and proposed bikeshare networks.[18] As opposed to focusing solely on potential demand, bikeshare location optimization models can consider demand and equity in tandem. These models can incorporate measures for demand, such as number of jobs and points of interest, along with demographic characteristics, such as total low-income and minority populations by census tract.[19] Some studies evaluating the equity of docked bikeshare systems have also considered the number of bikes available at each station as "overlooking bike share station capacity may consequently underestimate equity concerns."[20]

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[14] Juan Carlos García-Palomares, Javier Gutiérrez, and Marta Latorre, "Optimizing the location of stations in bike-sharing programs: A GIS approach," Applied Geography 35 (2012) http://dx.doi.org/10.1016/j.apgeog.2012.07.002.

[15] Zhufeng Fan and Corey D. Harper, "Taking a Multimodal Approach to Equitable Bike Share Station Siting," *Journal of Transport Geography* 115 (February 9, 2024): 2.

[16] Julia Ursaki and Lisa Aultman-Hall, *Quantifying the Equity of Bikeshare Access in US Cities* (Burlington, Vermont: University of Vermont Transportation Research Center, 2015): 5.

[17] Zhufeng Fan and Corey D. Harper, "Taking a Multimodal Approach to Equitable Bike Share Station Siting," *Journal of Transport Geography* 115 (February 9, 2024): 2.

[18] While behavioral, cultural, and health factors also greatly impact the equity of bikeshare systems, this section focuses on networks and infrastructure.

[19] Zhufeng Fan and Corey D. Harper, "Taking a Multimodal Approach to Equitable Bike Share Station Siting," Journal of Transport Geography 115 (February 9, 2024), 5.

[20] Xavier Harmony, "Docked Bikeshare Equity and Goal Conflict: An Evaluation Using Gini Coefficients and Lorenz Curves" Public Works Management & Policy 2023 (November 22, 2023), 4. https://doi.org/10.1177/1087724x231217501.

A few analyses have leveraged census data to compare the demographic characteristics of areas where bikeshare is and is not accessible.[21] A 2023 study conducted by the MIT Media Lab compared how spatial and demographic equity has evolved among five cities' bikeshare systems (Washington D.C., Boston, Chicago, New York City, and Philadelphia) during the course of more than a decade.[22] The authors found that the Bluebikes system has had consistent inequitable access for both low-income and minority populations since its inception as Hubway in 2011.[23] As of 2022, Bluebikes had the largest disparity among its peer systems for black residents with only 60 percent of black residents living in a Bluebikes service area compared to 75 percent of white residents.[24] The authors of the study published an interactive map visualization as a useful tool to compare the Bluebikes network to demographics within the study period.[25]

To date, there is little publicly available information about how bikeshare systems (particularly privately owned bikeshare systems) have committed to prioritizing equity in their system expansions. There are reasons to believe that for many bikeshare systems, ensuring equitable access may be seen as financially infeasible. Capital Bikeshare's expansion plan explicitly states that half of the system's new stations should be located in equity and access areas where low-income and minority populations reside and people lack access to transit and/or bikeshare. However, for these areas, Capital Bikeshare states that the system cannot guarantee that ridership levels will allow the program to meet its objective of growing in a financially responsible way.[26]

As seen with Bluebikes in Boston, stations installed in underserved neighborhoods often underperform. Even where stations exist, they may go underutilized without complementary infrastructure that makes choosing a bicycle a safe and comfortable option.[27] Additionally, financial and technical barriers such as credit card requirements, account holds, smartphone ownership, and

[21] Xavier Harmony, 4.
[22] Alex Berke, Walter Truitt, and Kent Larson, "Is Access to Public Bike-Share Networks Equitable? A Multiyear Spatial Analysis across 5 U.S. Cities," Journal of Transport Geography 114 (November 25, 2023). https://doi.org/10.1016/j.jtrangeo.2023.103759.
[23] Alex Berke et al., 7.
[24] Alex Berke et al., 8.
[25] See https://aberke.github.io/income-race-bikes/?city=boston&year=2022 .
[26] Capital Bikeshare, *Development Plan Update*, May 2020.
[27] Bateman, et al., "Barriers and facilitators to bikeshare programs: A qualitative study in an urban environment," *Journal of Transport and Health* 21 (June 2021). https://doi.org/10.1016/j.jth.2021.101062.

app access can exclude potential users.[28] For other bikeshare systems, the considerable level of investment required to bridge the gap between the existing and requisite number of stations to satisfy certain equity metrics has led researchers explore how systems could change the locations of existing stations.[29] People living in underserved neighborhoods may also be wary of bikeshare services coming to their neighborhood because of perceived links between stations and gentrification.[30]

These challenges demonstrate the need for bikeshare programs to systematically prioritize equity throughout expansions and work with local and regional partners to address the barriers to bikeshare usage to achieve both goals of meeting demand and securing access to bikeshare for all. An integrated bikeshare and transit fare payment system could also serve to make bikeshare more accessible, which is discussed in Section 3.2. Simply adding stations is not, on its own, providing equitable access.

2.5 PUBLIC INPUT

Several bikeshare system operators have engaged the public when deciding where to install bikeshare stations. Citi Bike published a listing of every site within New York City that technically qualified as a host location. Citi Bike staff were able to omit some sites that were technically feasible from consideration because there was no public support for stations at those locations. Conversely, there were some sites that the staff highlighted due to positive interest expressed through Citi Bike's outreach efforts.[31]

During the COVID-19 pandemic, Chicago's Divvy bike-sharing system engaged residents and stakeholders by hosting socially distanced working sessions as well as online events, such as listening sessions and community roundtable discussions, while simultaneously promoting Divvy's online expansion survey.[32] Divvy has also provided opportunities to engage people locally by placing yard signs with a QR code and a link to the expansion survey at potential Divvy

[28] Dill, et al., "Factors Influencing Bike Share Among Underserved Populations: Evidence from Three US Cities," *Transportation Research Part D* 112 (2022). https://doi.org/10.1016/j.trd.2022.103471.

[29] Lindsey Conrow, Alan T. Murray, and Heather A. Fischer, "An optimization approach for equitable bicycle share station siting," *Journal of Transport Geography* 69 (2018), 163-170. https://doi.org/10.1016/j.jtrangeo.2018.04.023.

[30] Jen-Jia Lin and Jia-Jhen Wu, "Association of bike-sharing service with gentrification in a transit-rich city: A catalyst or an outcome?," *Transportation Research Interdisciplinary Perspectives* 22 (November 2023). https://doi.org/10.1016/j.trip.2023.100941.

[31] New York City Department of Transportation. NYC Bike Share: Designed by New Yorkers.

[32] Divvy Bikes, Expanding Bike Share to All Chicagoans. https://divvybikes.com/explore-chicago/expansion-temp.

locations. Divvy staff additionally engage with residents via community planning bike rides and Divvy sign-up events.

When engaging in efforts to gather public input on new station locations, agencies should be mindful of policy feedback bias that could result in inequitable decision-making. One scholar called attention to a common conflict between program goals of equity and support for existing bikeshare members,[33] who are more often white males with higher incomes.[34] To counteract this potential bias, researchers have emphasized the importance of engaging in targeted public awareness campaigns, especially in areas without ample existing bicycle infrastructure.[35]

Coordination can be established with transit agencies to leverage their public outreach and data collection efforts and avoid duplicating efforts. Transit agencies can also bring forth multimodal connections in conversations with communities surrounding transit planning. For transit-oriented developments, developers could be required to include bikeshare as a mitigation measure and seek feedback on optimal station placement.

Section 3—Transit Integration

3.1 INTRODUCTION

Other system improvements beyond bikeshare station siting can further strengthen a complementary relationship between bikeshare and transit. Transit and bikeshare systems can coordinate on fare payment systems, navigation guidance and wayfinding, funding mechanisms, and data collection and analysis. Close collaboration between bikeshare operators and transit agencies can improve transit and bikeshare users' experiences by making it easier and faster to navigate the region's transportation system outside of a single-occupancy vehicle.

[33] Xavier Harmony, "Docked Bikeshare Equity and Goal Conflict: An Evaluation Using Gini Coefficients and Lorenz Curves," *Public Works Management & Policy* 2023 (November 22, 2023): 23.

[34] Julia Ursaki and Lisa Aultman-Hall, *Quantifying the Equity of Bikeshare Access in US Cities* (Burlington, Vermont: University of Vermont Transportation Research Center, 2015): 5.

[35] Jianhong Ye, Jiahao Bai, and WenYang Hao, "A Systematic Review of the Coopetition Relationship between Bike-Sharing and Public Transit," *Journal of Advanced Transportation* 2024 (January 16, 2024): 14.

3.2 FARE SYSTEM INTEGRATION

A few systems allow users to use the same fare media for both bikeshare and transit services. Los Angeles County's public transit fare payment media, the TAP card, can be used for Metro Bike Share rides.[36] Bay Wheels bikes in San Francisco can be unlocked using Clipper, the Bay Area's all-in-one transit card.[37] In Paris, the Navigo card, which provides access to all means of transport in Île-de-France, can be used to pay for trips using the city's Vélib' bikeshare system.[38] In Montreal, users can pay transit fares as well as reserve and unlock a BIXI bike directly in the Chrono application.[39]

There have been considerations to allow riders to transfer between bikeshare and transit service at free or reduced costs.[40] However, these systems do not yet permit these transfers, despite the desires of riders.[41] By fully integrating bikeshare and public transit payment systems and offering cost incentives, cities can make it easier for users to access their entire transportation system and switch between modes. Indeed, Mobility as a Service programs that allow for easy transfers between modes have increased both bikeshare ridership and multimodal connections in cities large and small.[42]

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[36] Metro Bike Share, "Will my TAP card work with Metro Bike Share?" https://bikeshare.metro.net/faq/will-my-tap-card-work-with-metro-bike-share/

[37] Lyft, "Use your Clipper Card to Unlock a Bike: Bay Wheels" https://www.lyft.com/bikes/bay-wheels/clipper-card.

[38] Île-de-France Mobilités, "Discover self-service bikes." https://www.iledefrance-mobilites.fr/en/le-reseau/services-de-mobilite/velo/decouvrir-velos-libre-service.

[39] Chrono, "On your marks! Get set! Reload your card!" https://www.artm.quebec/en/chrono-blogue/on-your-marks-get-set-reload-your-card/; Chrono, "Meet an avid Chrono user for a glimpse into the BIXI winter season!" https://www.artm.quebec/en/chrono-blogue/meet-an-avid-chrono-user-for-a-glimpse-into-the-bixi-winter-season/.

[40] Freemark, Yonah. "In L.A., Efforts Are Afoot to Make Bike Share a Genuine Part of the Transit Network." The Transport Politic, August 3, 2015. https://www.thetransportpolitic.com/2015/08/03/in-l-a-efforts-are-afoot-to-make-bike-share-a-genuine-part-of-the-transit-network/; "L.A. Metro Reduces Bike-Share Fares, Plans Expansion." Metro Magazine, July 16, 2018. https://www.metro-magazine.com/10032512/l-a-metro-reduces-bike-share-fares-plans-expansion#:~:text=Upon%20completion%20of%20TAP%20card%20integration%20development%2C,30%20minutes%20of%20a%20bike%20share%20trip.

[41] Rep. *Bike Share in Los Angeles County: An Analysis of LA Metro Bike Share and Santa Monica Breeze*. Southern California Association of Governments (SCAG), May 2024. https://scag.ca.gov/sites/default/files/2024-05/labikeshare_scag.pdf.

[42] Shared Use Mobility Center, "Living Streets: Redding Bikeshare's Integration with Public Transit," May 2025, accessed August 27, 2025. https://learn.sharedusemobilitycenter.org/casestudy/living-streets-redding-bikeshares-integration-with-public-transit/; House of Commons Transport Committee, *Mobility as a Service: Eighth Report of Session 2017–19* (London: House of Commons, Transport Committee, December 19, 2018), HC 590, accessed August 27, 2025. https://publications.parliament.uk/pa/cm201719/cmselect/cmtrans/590/590.pdf.

Integrating bikeshare and transit into the same fare system could enable more detailed data collection and analysis, offering greater insight into bike-to-transit travel behavior. When bikeshare and transit fare systems are separate, researchers must rely on surveying and complex methodologies that can only provide a partial understanding of travel patterns. While surveys can be a useful tool, they may overestimate rates of bikeshare usage substituting for transit ridership.[43] Surveys also are limited by the language and interpretation of the questions posed. Leveraging bikeshare and transit ridership data in tandem also requires assumptions and can only meaningfully suggest behavior at an aggregate level.[44] As Ye et al. claim, "the study of the potential coopetition [cooperative and competitive] relationships between bike-sharing and public transit cannot reflect the actual relationships of substitution, connection, and complementation."[45]

3.3 NAVIGATION APPLICATION INTEGRATION

There are some applications that help users plan trips that involve both bikeshare and transit beyond the capabilities of commonly used tools such as Google Maps. Citymapper, a navigation application, identifies routes and directions that include bikeshare for many cities. Citymapper has included data on docked bikeshare systems for years but added dockless systems to the platform in 2018.[46] Citymapper currently provides navigation data for 107 cities around the world, including cities in Europe, North America, and Asia.[47]

In Chicago, the Ventra application allows users to plan trips and track transit across the Chicago Transit Authority, Metra, and Pace public transportation systems. The tool allows users to see their own location and a list of nearby transit services, including nearby Divvy bikeshare locations, along with estimated arrival and departure times.[48] The Ventra trip planner also provides users with

[43] Jianhong Ye, Jiahao Bai, and WenYang Hao, "A Systematic Review of the Coopetition Relationship between Bike-Sharing and Public Transit," *Journal of Advanced Transportation* 2024 (January 16, 2024): 11.

[44] Ying Song and Yuchuan Huang, "Investigating Complementary and Competitive Relationships between Bikeshare Service and Public Transit: A Spatial-Temporal Framework," *Transportation Research Record: Journal of the Transportation Research Board* 2674, no. 1 (January 2020): 263. https://doi.org/10.1177/0361198119899389.

[45] Jianhong Ye, Jiahao Bai, and WenYang Hao, "A Systematic Review of the Coopetition Relationship between Bike-Sharing and Public Transit," *Journal of Advanced Transportation* 2024 (January 16, 2024): 18.

[46] Katie Pyzyk, "Citymapper integrates dockless bike information into app," *Smart Cities Dive*, June 22, 2018. https://www.smartcitiesdive.com/news/citymapper-integrates-dockless-bike-information-app/526370/.

[47] Citymapper, *Our Cities*. https://citymapper.com/cities.

[48] Ventra. Trip Tools. https://www.ventrachicago.com/how-to/trip-tools/.

real-time information about the availability of bikes and docking stations to inform customers' choices of origin and destination stations.[49]

In Montreal, the Chrono application allows users to plan trips using a bike, public transit, or alternative transportation such as Communauto rentable vehicles. The application helps bicyclists locate a BIXI station and identify the number of bikes available. It allows users to rent a bike while also providing a complete bike route and estimated travel time when users select bike mode.[50] The application also makes it possible to plan and manage all of a user's trips in the Montreal metropolitan area, providing real-time bus and train tracking, and sharing adjusted schedules if either service is running behind or likely to arrive early.[51] The application also includes the crowding level on buses and trains.[52]

CapMetro, the public transit agency for Austin and Central Texas, has created a tool called TripPlanner that allows users to both plan transit trips and compare transportation modes to determine which choice to make. TripPlanner helps people identify which bus to take, determine the most convenient bus stop location, and learn the scheduled departure time of the next bus.[53] It also provides directions and time estimates for completing the same trip by car, bicycle, or on foot and shares navigation instructions and times for trips by both car and public transit and trips by both bicycle and public transit. If bikeshare stations are conveniently located along the bicycle and public transit route, the guidance for such trips includes bike sharing to complement the public transit recommendations.

The Bonjour RATP application developed for the Parisian transportation system helps customers identify the best public transit route for a given trip and informs users about the Vélib' bikeshare stations located nearby to facilitate trip planning.[54] While the application does not directly share navigation guidance for trips that combine bikeshare and public transit, the application does include real-time passenger numbers along bus and train routes. This feature, along with transit route details and information on the location of bikeshare stations, gives

[49] Federal Transit Administration, Mobility on Demand (MOD) Sandbox Demonstration: Chicago Transit Authority (CTA) Ventra-Divvy Integration Case Study, Federal Transit Authority Report Number 0196 (June 2021): 4. https://www.transit.dot.gov/sites/fta.dot.gov/files/2021-06/FTA-Report-No-0196.pdf.

[50] Chrono, "All you need for cycling." https://www.artm.quebec/en/chrono-blogue/all-you-need-for-cycling/.

[51] Chrono, "Chrono mobile application." https://www.artm.quebec/en/chrono-mobile-application/.

[52] Chrono, "Crowding level now included in Chrono!" https://www.artm.quebec/en/chrono-blogue/crowding-level-now-included-in-chrono/.

[53] CapMetro, "Using our Trip Planning Tools. "https://www.capmetro.org/plan.

[54] RTAP Smart Systems, "Bonjour RTAP." https://www.ratp.fr/en/apps/bonjour-ratp.

users the tools to build bikeshare trips that complement Paris's larger public transportation system.

By providing navigation guidance tools such as those developed for Chicago, Montreal, Austin, and Paris, metropolitan regions are setting up their users and their transportation systems for success. By making it easier for people to understand the various routes and approaches they can take to arrive at their destinations, cities can facilitate informed decision-making that optimizes metropolitan transportation networks and helps users efficiently and comfortably complete their daily trips.

3.4 SIGNAGE INTEGRATION

Many bikeshare programs include maps on their station kiosks to help orient users to their surroundings. These maps provide a natural opportunity to highlight the connection between bikeshare stations and public transit. LA Metro identified bikeshare stations as locations where the system could provide directional guidance to transit stations.[55] Given the role that bikeshare can play as a first- and last-mile connection to bus stops and rail stations, ensuring that bikeshare station kiosk maps identify nearby public transit access points is a logical way to facilitate complementary bikeshare and transit usage.

3.5 COLLABORATIVE MANAGEMENT AND PUBLIC FUNDING

There are many approaches to funding and operating bikeshare programs. Montreal created BIXI Montreal as a nonprofit organization to manage the city's bikeshare system in 2014.[56] Los Angeles's Metro Bike Share was the first U.S. bikeshare system to be operationally integrated into a city's public transit system.[57] Capital Bikeshare is owned by five neighboring jurisdictions: the District of Columbia, Arlington County, Montgomery County, Alexandria, and Fairfax County.[58] The bikes, stations, and vehicles of Chicago's Divvy bikeshare are owned by Chicago's Department of Transportation. Lyft manages the bikeshare programs in both Washington D.C. and Chicago, as well as the bikeshare systems in Boston, New York, San Francisco, Minneapolis, Portland (Oregon), and Columbus.[59] While the variety of bikeshare operational models makes it

[55] Los Angeles County Metropolitan Transportation Authority - Metro I Southern California Association of Governments – SCAG, *First Last Mile Strategic Plan and Planning Guidelines*, 48.

[56] BIXI, "About Us." https://bixi.com/en/who-we-are/.

[57] Sarah Goodyear, "Late to the Bike-Share Party, L.A. Could End Up a Leader," *Bloomberg CityLab* (September 3, 2015). https://www.bloomberg.com/news/articles/2015-09-03/l-a-s-new-bike-share-system-will-be-part-of-the-public-transportation-network.

[58] Capital BikeShare, *Capital Bikeshare and Dockless Bike System: Your Top 3 Questions Answered.* https://capitalbikeshare.com/partners.

[59] Divvy, "About Divvy." https://divvybikes.com/about.

difficult to draw conclusions about the impact of publicly funding bikeshare systems, it stands to reason that funding bikeshare as a piece of the larger public transportation system can foster cross-collaboration between bikeshare and transit planners.

Bikeshare systems rarely stand on their own two wheels financially. Funding models vary, with examples including user fees and advertising as well as philanthropy, corporate sponsorships, and (often essential) public subsidies.[60] The North American Bikeshare and Scootershare Association (NABSA), considers public funding critical and points to the local and state or provincial involvement in many of the continent's most successful systems.[61]

With collaborative bikeshare management and the use of public subsidies, transit agencies can seek to equitably strengthen their complementary relationship with bikeshare systems. An example in which bikeshare provides significant utility to public transit is during rail shutdowns. Shutdowns and emergencies may result in a local oversaturation of the bikeshare system due to an insufficient supply and relocation of bikes.[62] Active partnerships between transit and bikeshare operators can counteract this oversaturation through efficient management of bike supply and a careful placement of additional stations.

A lack of funding has been found to be the most common limiting factor in promoting equity when integrating bikeshare and transit systems.[63] To support these collaborative efforts while promoting equity, transit operators can advocate for additional public subsidies, particularly for introducing stations in low-income neighborhoods and providing educational resources.[64]

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[60] Plotch, Philip. "E-Bikes and Creating Financially Sustainable Bike Share Programs." *Streetsblog USA*, May 7, 2024, accessed August 27, 2025. https://usa.streetsblog.org/2024/05/07/e-bikes-and-creating-financially-sustainable-bike-share-programs.

[61] Laura Mallonee, "Shared Micromobility Needs Public Funding to Support It," *North American Bikeshare & Scootershare Association*, March 28, 2024, NABSA, accessed August 27, 2025. https://nabsa.net/2024/03/28/public-funds/.

[62] Jianhong Ye, Jiahao Bai, and WenYang Hao, "A Systematic Review of the Coopetition Relationship between Bike-Sharing and Public Transit," *Journal of Advanced Transportation* 2024 (January 16, 2024): 19.

[63] Julia Ursaki and Lisa Aultman-Hall, *Quantifying the Equity of Bikeshare Access in US Cities* (Burlington, Vermont: University of Vermont Transportation Research Center, 2015): 6.

[64] Ursaki and Aultman-Hall, 15.

Section 4—Discussion

Despite modern bikeshare's recent introduction to the United States in 2010, knowledge of the industry has grown considerably for both municipalities and operating companies.[65] Siting bikeshare stations near transit and integrating bikeshare and public transit navigation guidance and fare payment encourage complementary use of both services. By presenting all route options simultaneously, especially when combined public transit and bikeshare routes are provided, users are better able to plan their trips and ensure they are choosing their preferred option for their current circumstances. Allowing users to pay for all transportation services through the same application or fare card can provide a more seamless user experience.

As the MBTA and Bluebikes continue to work towards optimizing service within the Boston region, the success of both systems stands to improve as bikeshare and public transit better integrate and complement one another's services. Bluebikes can lighten the burden carried by the MBTA during peak hours and alleviate customer impacts during construction and maintenance activities on MBTA rail lines. These impacts could be estimated through monitoring of potential Bluebikes substitution activity along crowded routes over time, and by quantifying increases in Bluebikes activity near rail lines during service disruptions.[66] The MBTA can serve as a strong attractor and generator for Bluebikes, making possible trips that would otherwise be infeasible or unsafe by bicycle alone.

To optimize the beneficial relationship between the two transportation service providers, conversations between the MBTA and Bluebikes regarding property ownership and cost responsibilities will be important to resolve—some of these conversations are already underway. Both agencies stand to benefit from strong coordination. Optimizing the connection between bikeshare and transit is an area that the MBTA and Bluebikes can explore in the future.

While considering Bluebikes' expansion and integration with the MBTA's service, it is essential to take a proactive approach that does not reinforce existing inequities. The agencies can coordinate with regional and municipal partners to

[65] NACTO, Bike Share in the US: 2010-2016.https://nacto.org/publication/shared-micromobility-report-2010-2016/.

[66] Office of Performance Management and Innovation, "Biking Behavior During the July 2024 Red Line Diversion," OPMI Data Blog, November 15, 2024. https://www.opmidatablog.com/latest-posts/biking-behavior-during-the-july-2024-red-line-diversion.

ensure that equity and public input are considered in tandem with feasibility and potential demand when planning for bikeshare and transit integration. Identifying public funding opportunities for bikeshare could ensure that bikeshare operations equitably serve the region.

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