

CHAPTER 8

PUBLIC TRANSPORTATION AND PUBLIC BIKE SHARE

MULTI-MODAL TRIPS: PUBLIC TRANSPORTATION

Most transit trips – bus and rail – in Cambridge begin or end with a walk or bike ride. Improving links between biking and transit benefits people who use both modes and progresses the City’s transportation and sustainability goals in a number of ways:

- + **Bicycling increases the distance people can travel to transit stations, so better bicycle connections expand the number of people who have access to and from transit—a solution to the so-called “first and last mile problems.”**
- + **Bicycle-on-transit services give people who bike the option to take transit for part of their trip to avoid riding after dark or in areas that are not comfortable to bike. Being able to take a bike on transit can also serve as a contingency plan in the event of poor weather, mechanical issues, or needing to get home quickly in an emergency.**
- + **Integrating bicycling and transit supports the goals of increasing sustainable transportation options, decreasing single-occupancy vehicle use, and reducing negative impacts of climate change emissions, air pollution, and congestion.**

These benefits help communities support sustainable travel and make transportation systems work more efficiently. As a result, bicycle and transit integration has become increasingly common. Transit agencies can support integration in a number of ways, including having bicycle racks on buses, allowing bicycles on trains and boats, installing secure bicycle racks and lockers at transit stations, and providing space for bike share (Bluebikes) stations and valet services (bike share valet services are provided during peak travel periods, to ensure that people can drop off or pick up a bike at key destinations).

The Massachusetts Bay Transportation Authority (MBTA) is the transit agency serving Cambridge and Greater Boston, operating five rapid-transit lines, commuter rail, commuter ferry, and many bus routes throughout the region.

The City also works to improve bicycle and transit integration, such as improving roads for biking, providing additional bike parking on public property near transit stations, and siting bike share stations in close proximity to transit stations.



Bikes loaded onto MBTA buses.¹



Bike CharlieCards allow users to access Pedal & Park stations.

BICYCLES ON THE MBTA

The MBTA provides some form of bike transport on most of its vehicles:

- + **Folding bikes are allowed on all transit vehicles when folded.**
- + **Almost all MBTA buses have racks to carry two or three bicycles on the front of the bus.**
- + **Bikes are allowed on the Red, Orange, and Blue Lines, except during peak commuting hours. Bikes are not allowed on the platforms of the Park Street, Government Center, and Downtown Crossing stations.**
- + **Bikes are allowed on the Commuter Rail most of the time, except when noted on the schedule. The Newburyport/Rockport and Cape Flyer lines have bike storage cars on certain trains during the summer.**
- + **Bikes are allowed on commuter ferries at all times.**

For full rules and tips for bringing bikes on the MBTA, visit <https://www.mbta.com/bikes>.

PARKING AT TRANSIT STATIONS

In Cambridge, outdoor bicycle racks are located at all MBTA subway stations. At select high-traffic stations the MBTA provides “Pedal and Park” facilities, which are secure, enclosed parking areas for 50-150 bikes. The Pedal and Park facilities are monitored by surveillance cameras and have controlled door access. In Cambridge, Alewife Station at the end of the Red Line has three Pedal and Park facilities, each accommodating up to 150 bikes. As part of the construction of the Green Line Extension to Somerville and Medford, the future Lechmere Station on the Green Line will also have a Pedal and Park facility.

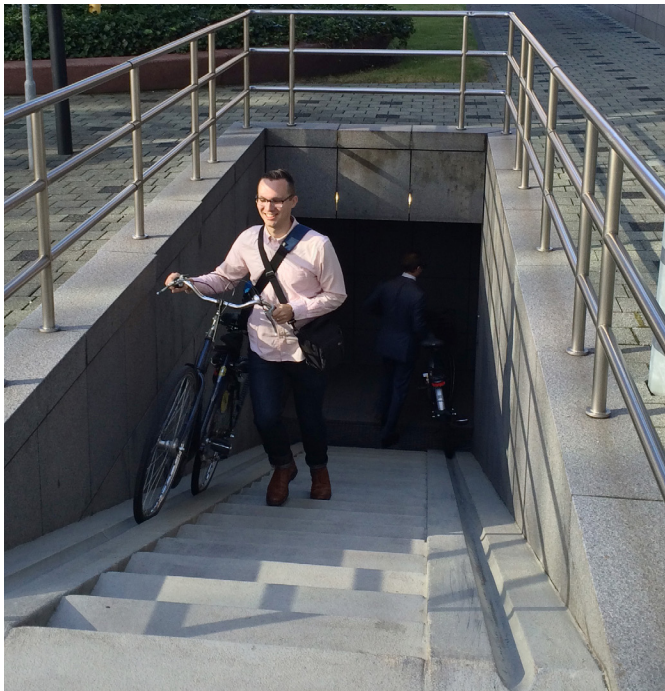
CharlieCard holders can use the Pedal and Park facilities for free by registering their CharlieCard online at <https://www.mbta.com/bikes>. The CharlieCard is the reusable fare card for MBTA buses and subways, and they are available at select subway and bus stations. In Cambridge, CharlieCards are available at the Alewife and Harvard Stations. For more information about CharlieCards and where to get one, visit <https://www.mbta.com/fares/charliecard>.



Pedal & Park at Alewife MBTA Station

IMPROVING BIKE ACCESS TO TRANSIT

As the MBTA makes changes and improvements to their public transit vehicles and facilities, the City of Cambridge will continue to pursue opportunities to make the system friendlier to people with bicycles. Future infrastructure improvements could include better bike storage on vehicles, low-floor buses, more widespread elevator access, and stair channels, which are grooves along the edge of a stairway for rolling bikes up and down stairs. Policy changes, such as expanding the hours when bikes can be brought on transit, can complement infrastructure improvements and further enhance bike access.



Stair channels allow people to easily roll their bicycles up and down stairs.

BIKE SHARE

Bike share is a public transportation system for bikes and enables people to borrow a bike for the length of time that they need it. Nationwide, most bike share systems are station-based, with stations located throughout the service region. People can borrow a bike from one station and return to it any station in the system. There are several options for using bike share: typically, memberships may be annual or monthly and those riding infrequently or using a system as a visitor or tourist may be able to buy a single ride or a time-limited multi-ride pass.

Bike share is great for different kinds of transportation needs, including commutes and point-to-point trips, one-way bike trips, and exploration for locals and visitors. One of the many advantages of bike share compared to transit systems is the relative ease and flexibility of placing new stations in areas of high demand, as well as near transit stations. This flexibility makes bike share an effective way to connect people to a bus or train for longer trips.



Bluebikes stations are located near key destinations such as parks and in convenient places for people to access from their homes.

Another advantage of bike share is that it eliminates many of the barriers associated with bike ownership, making biking more accessible and encouraging new riders. Below are some of the benefits of bike share.

- + **Low-cost option for those who don't own a bike or can't afford a bike.**
- + **Eliminates the need for bike maintenance and repair.**
- + **Eliminates the need for bike storage.**
- + **No worrying about bike theft or damage.**
- + **Bikes come equipped with safety and comfort features, like lights, bells, baskets, and fenders.**
- + **More return-trip flexibility in the event of bad weather or change of plans.**
- + **Convenient and flexible way to explore and make spontaneous trips.**

At my house, there's no storage. Well there's storage for bikes, but it's outside. So, the Bluebikes is super convenient for us...

– Cambridge Bicycle Conversations Participant

The value of bike share systems is evidenced by their growing popularity. In 2019, approximately 50 million bike share trips were taken in the United States, up from 22 million in 2015 and 321,000 in 2010.²



BLUEBIKES: GREATER BOSTON'S BIKE SHARE

Bluebikes is the regional bike share system for Greater Boston, providing service in 11 municipalities and approximately 400 stations. Established in 2011 as Hubway, the original system had stations throughout Boston, Cambridge, Somerville, and Brookline. The system was renamed Bluebikes in 2018 when Blue Cross Blue Shield (BCBS) of Massachusetts became the title sponsor, supporting system growth and accessibility, including system upgrades and marketing. Since then, the system has continued to grow the number of stations in the original four municipalities and expanded to Everett, Arlington, Chelsea, Revere, Newton, and Watertown. In the summer of 2021, Bluebikes will launch in Salem, and there are additional municipalities in negotiation. Bluebikes is owned by the municipalities it operates within, and they contract with an operator to manage operations. The system is fully integrated amongst the participating municipalities, so users can borrow and return bikes across municipal boundaries.

In addition to sponsorship from BCBS of MA, funding for Bluebikes is provided through a combination of municipal funds, developer mitigation, and private sponsorships and donations (the initial launch of the system in 2011-2012 also included federal and state grants). In Cambridge, a number of organizations have donated stations, including Harvard University, Massachusetts Institute of Technology (MIT), CambridgeSide, Museum of Science/Barr Foundation, BioMed Realty, Biogen, Verizon, EF/Education First, and Alexandria Real Estate, and many other stations have been added as part of development projects.

As a senior citizen and Cambridge resident, I am a daily user of the Bluebikes...I rely on the bikes for my activities of daily living: errands, shopping, medical appointments, and frequent visits with my 91-year-old mother who lives 3 miles from my Central Square apartment. I get plenty of exercise this way...I love the feeling when my leg muscles reach that threshold of being in "bike shape" and I am able to manage hills and inclines without getting winded...I am grateful for the program, as owning a bike would be problematic for me in terms of storage issues and bike maintenance costs, which I can't afford, together with my lack of mechanical aptitude...I love that the program keeps my stats, and I was pleased to learn that I have made 545 trips, traveled a total distance of more than 1,500 miles, and saved 66 gallons of gas and 1,290 lbs. of CO2 emissions.

– Paul, Healthy Aging and Cycling program participant



MEMBERSHIPS AND PASSES

Bluebikes offers membership and pay-per-use options. Members pay an annual or monthly fee (\$109/year or \$25/month) for unlimited shorter rides (up to 45 minutes), with increasing charges for longer rides. Pay-per-use riders have two options: 1) Single Trip (\$2.95) or 2) Adventure Pass (\$10). A Single Trip is designed for people who need to make one short point-to-point trip, while the Adventure Pass allows users to take longer rides within a 24-hour period, ideal for those exploring the area or taking a recreational ride.

Bluebikes have made getting around Cambridge by bike fun and easy. I used them to commute to work for three years before buying my own bike. I hop on them for quick lunch trips to restaurants a bit too far to walk to. I use them to cross the MIT campus for meetings. I love the bike [valet] that exists to handle all the overflow bikes during the morning commute. I cannot wait to see the Cambridge Bicycle Plan be enacted and have even more bikes on the roads.

– Tim Russell, North Cambridge Resident and parent whose use of Bluebikes has changed over time



DISCOUNT PROGRAMS

On top of improving access to biking with new stations and service expansions, Bluebikes has become more accessible with the establishment of discounted membership programs. Through the systemwide Income-Eligible program, discounted memberships (\$50/year or \$5/month) are available for individuals aged 16+ who participate in qualifying public assistance programs or who meet income guidelines. Trends from winter 2020-2021 suggest that income-eligible members represent a greater percentage of riders on bad weather days, highlighting that Bluebikes is an important resource for making necessary trips.

Additionally, many companies, universities, and institutions partner with Bluebikes through the Group/Corporate Membership Program to offer discounted memberships to their employees and students. There are 340 Group/Corporate Members in the system (as of 2020), demonstrating the high support and interest for companies and organizations to provide this benefit to their employees.

Cambridge is also exclusively supporting a Youth Discount program for high school students. Through the program, high school students ages 16-19 are eligible for an annual Bluebikes membership for just \$25. This program was the outcome of a project undertaken as part of the EF Glocal Challenge, an annual contest facilitated by Education First, Cambridge Public Schools, and the City of Cambridge, in which teams of Cambridge high school students design solutions to environmental challenges.



Cambridge's Bluebikes Youth Pass is available to Cambridge high school students ages 16-19.



Bike valets ensure that bikes can be picked up or dropped off at busy stations.

GROWTH OF BLUEBIKES

Bluebikes has experienced significant growth in Cambridge and systemwide since its launch, both in ridership and number of stations. The system had more than 2.5 million rides in 2019 alone, compared to just over 500,000 in its first full year of operation in 2012. Launching with 61 stations in four municipalities in 2011, Bluebikes ended 2020 with 378 stations in 10 municipalities. In Cambridge, the number of stations has more than tripled since 2012 and at the end of 2020 the City owned about 21% of the entire system’s bike station docks. The Cambridge stations are also among the most utilized in the system, accounting for 35% of all trips.

Much of the system’s growth followed the 2018 sponsorship of BCBS of MA and the expansion of participating municipalities. From 2017 to 2019 total annual ridership jumped by over 1 million and between 2018 and 2020 the total number of stations approximately doubled. Bluebikes’ 42% growth in ridership in 2019 was the largest of the major US bike share systems, and the system’s 34% growth in 2018 was the second largest that year. Bluebikes also had the second highest bike utilization of the major bike share systems in 2019 with 3.3 rides per bike per day (behind only New York City). For several weeks in 2019, Bluebikes’ total ridership even surpassed Washington D.C.’s Capital Bikeshare system, despite Bluebikes having fewer stations and bikes. By the end of 2020, Bluebikes surpassed 12 million lifetime trips and had 378 stations. The system is poised to top 400 stations by summer, 2021.

Figure 8.1: Top 10 Most Popular Bluebikes Stations, 2018 - 2020 (Cambridge Stations in bold)

Station Name	Station Visits 2018 - 2020
MIT at Mass Ave / Amherst St	278,418
Central Square at Mass Ave / Essex St	246,444
MIT Stata Center as Vassar St / Main St	214,956
Nashua Street at Red Auerbach Way	190,112
Ames St at Main St	181,712
South Station - 700 Atlantic Ave	181,424
MIT Pacific St at Purrington St	168,639
Harvard Square at Mass Ave / Dunster	167,708
Kendall T	156,103
Charles Circle - Charles St at Cambridge St	148,524



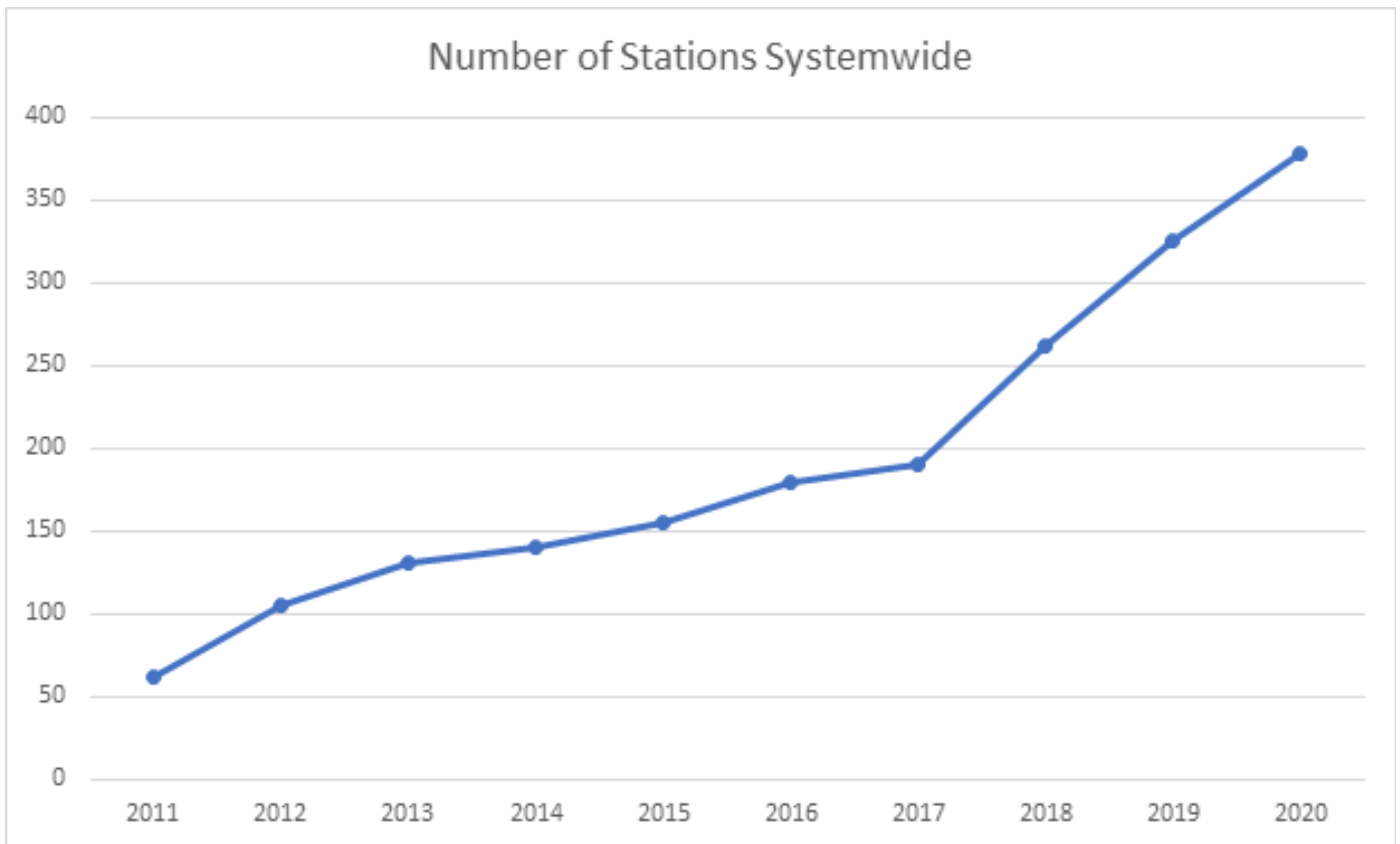
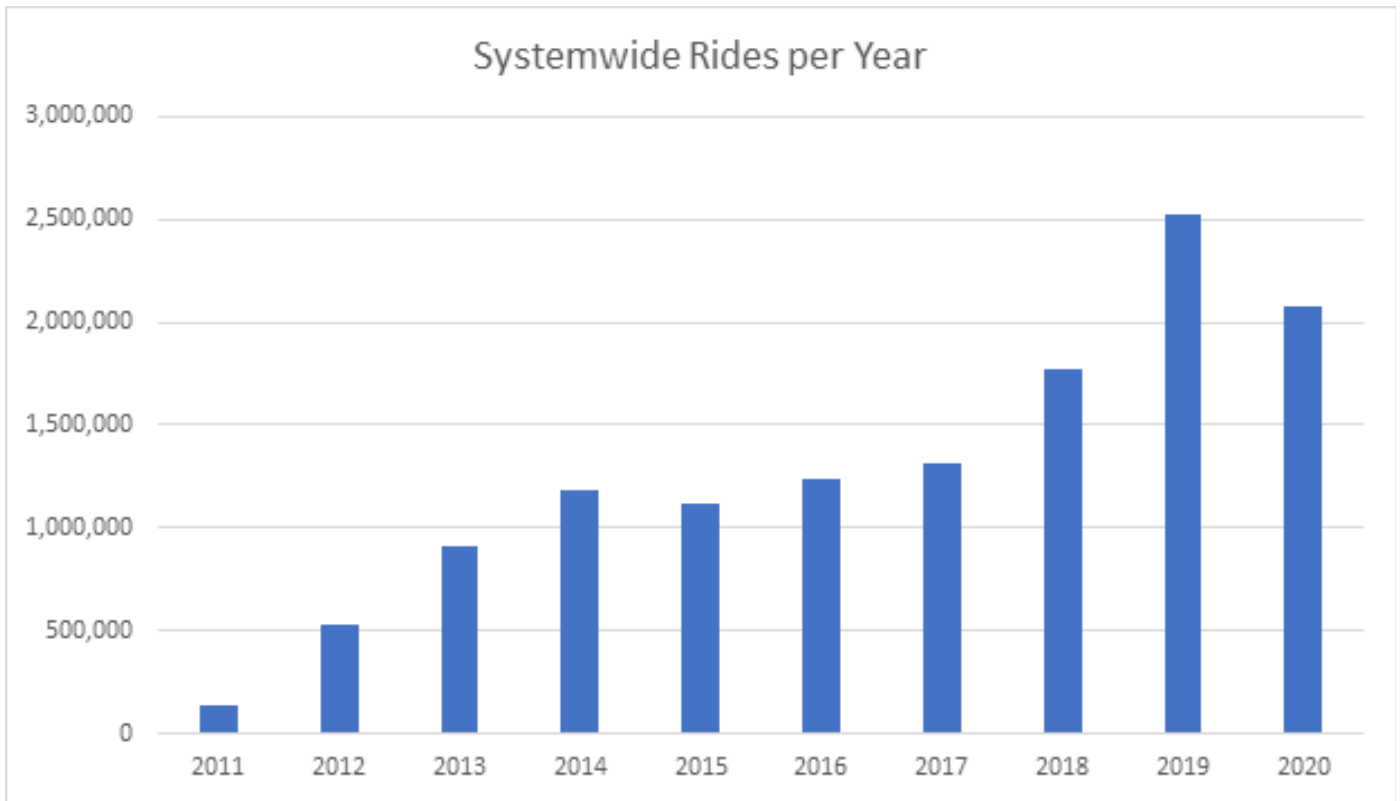
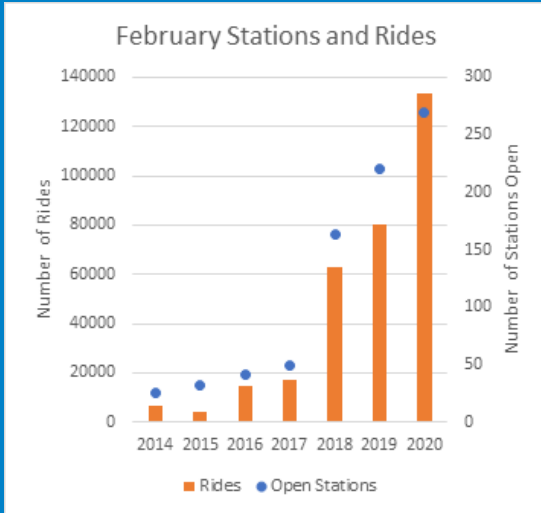


Figure 8.2: The Bluebikes system and ridership has continually grown since 2011. A significant expansion occurred in 2018, which correlated with a significant increase in Bluebikes use. From 2017 to 2019 total annual ridership jumped by over 1 million and between 2018 and 2020 the total number of stations approximately doubled.

Bluebikes in Winter

In 2013-2014, Bluebikes (then Hubway) first piloted winter operations with 26 stations in Cambridge.³ Since then, the number of stations operating through the winter has grown each year, reaching 270 in 2020, and winter ridership has skyrocketed. Between 2014 and 2020 February ridership grew nearly 2000%!



BIKESHARE IS ESSENTIAL TRANSPORTATION

Due to the COVID-19 pandemic, Bluebikes experienced an overall dip in ridership from 2019 to 2020 but still recorded its second highest yearly ridership numbers. Bluebikes provided continuous service throughout 2020 and took additional measures to ensure that people had access to safe, reliable transportation. During the summer of 2020, free memberships were offered to healthcare workers, and over 1,000 healthcare workers from 15 participating hospitals took more than 20,000 trips. Bluebikes' participating municipalities also sponsored free 90-day memberships for essential workers in the grocery, pharmacy, retail, and restaurant industries, which helped over 300 workers take more than 6,000 trips in 2020. Bluebikes, like bike share systems across the country, was an important transportation alternative for essential workers and others who were less comfortable using public transit or had their transit options reduced during the pandemic.⁴

Despite challenges, Bluebikes hit several records and milestones in 2020. The number of casual rides (pay-per-use) continued to grow, hitting an annual record at nearly 571,000 and showcasing that bike share served as a way for people to be active outdoors during the pandemic. September 14, 2020 set an all-time daily ridership record with 14,403 rides and November 7, 2020 had the highest ridership of any November day in system history with 12,220 rides. In April 2021, system ridership exploded again, with one day coming close to the all-time record. The Income-Eligible program also had its highest use year with 900 members.

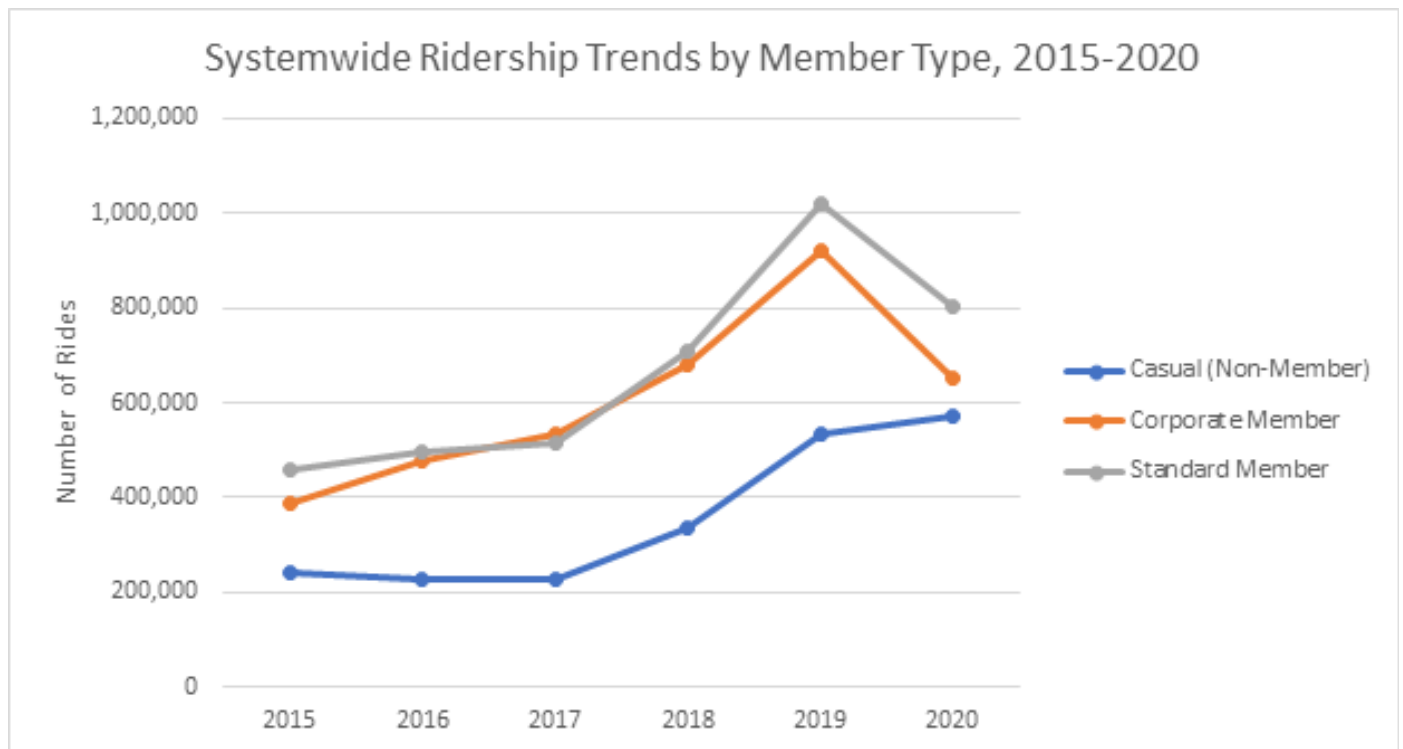


Figure 8.3: While rides from standard and corporate members dipped in 2020, the number of casual rides continued to increase.

Special Events & Initiatives

Over the past few years, Bluebikes has run a number of special events and promotions to encourage biking and provide greater access to its system. On Election Day, November 3, 2020, Blue Cross Blue Shield of Massachusetts sponsored Bike to Vote, providing free 24-hour passes for all riders to have an easy and socially distanced option for getting to the polls. Nearly 250 people took advantage of the free passes, the second highest number among Bike to Vote campaigns across the US. (New York City had 700, but has a system about 10 times larger.)

In celebration of Pride Month (June), 100 Bluebikes were wrapped with the signature rainbow colors, courtesy of title sponsor BCBS. In addition, for every ride taken on a rainbow-wrapped “Proud” bike during the month, Blue Cross donated \$1 to Fenway Health, a Boston-based organization that enhances the wellbeing of the lesbian, gay, bisexual and transgender community and beyond through access to the highest quality health care, education, research and advocacy.

In April 2019 Bluebikes hosted a Rock ‘N Ride youth-led celebration at Joan Lorentz Park in Cambridge, a free public event geared toward high school students during April vacation and the Cambridge Science Festival. The event featured a Bluebikes group ride and test rides, as well as youth-led bands, giveaways, and games.

Other special events and initiatives have included a group ride for Women’s Bike Month, valet services for the Boston Pride Parade, and systemwide free and discounted ride days to celebrate National Bike Month, during MBTA construction closures, and on Small Business Saturday.



THE FUTURE OF BLUEBIKES

The high demand for Bluebikes, both within Cambridge and in the Metro Boston area demonstrates that it is here to stay as a public transportation system. Cambridge's growth continues, with over 20 new stations already set to be implemented, and more being planned. Some new stations will be implemented in connection with new development projects, but the City is also working to reach all residents near where they live. The ultimate goal is that every person in Cambridge will have access to at least one station within a 5-minute walk of their home or office.



Unicorn Bikes

In 2019, the City of Cambridge launched its first "Unicorn" bike, which are special bikes in the Bluebikes fleet with unique artwork celebrating local communities, culture, and achievements. For its Unicorn bike, Cambridge held a design contest for high school students. Winner Alba Cruz-Pimentel is pictured below with her winning bike design.



"I feel like Cambridge is very diverse, so I put a lot of color. I added some other things that reminded me of Cambridge, like the names of schools, and a few other little fun things just for people to look at."

- Artist Statement from Alba Cruz-Pimentel

2020 MEMBER SURVEY

Bluebikes conducted a member survey in 2020, with 500 survey participants (respondents were self-selected so it was not a randomized survey).

WHY DO PEOPLE USE BLUEBIKES?

- + Over one-third of participants said their main reason for joining Bluebikes was because it is a convenient way to get around.
- + Specifically, a quarter of participants joined mainly because Bluebikes was easier than using a personal bike or saved them time or money compared to other forms of transportation.
- + Discount memberships were a big draw, with over a quarter of participants attributing a free or discounted membership as the main reason for joining.
- + Overwhelmingly, participants consider Bluebikes to be beneficial for a variety of reasons.

HOW DOES BLUEBIKES AFFECT TRANSPORTATION BEHAVIOR?

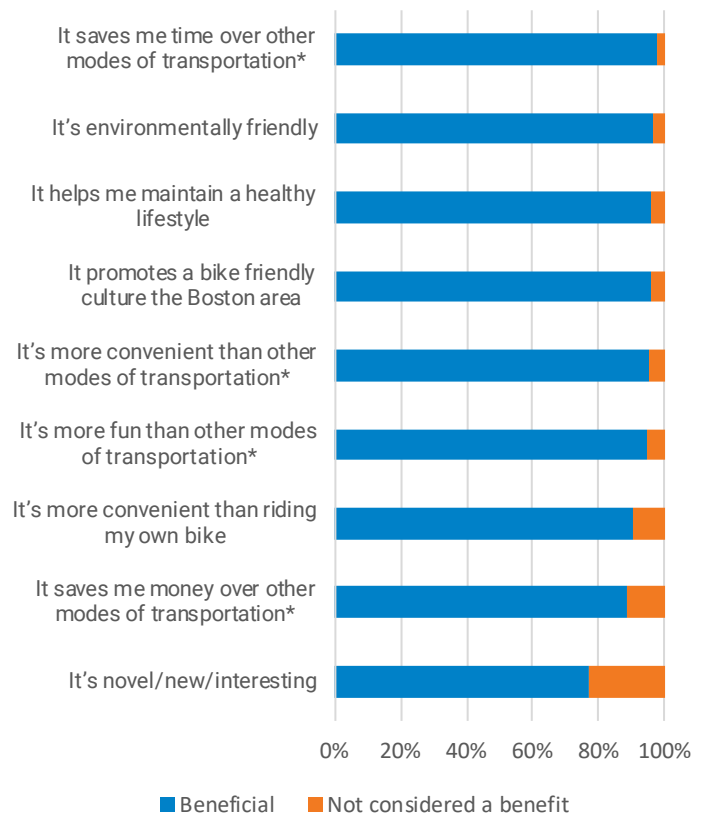
- + Over 50% of participants said they bike more as a result of their Bluebikes membership.
- + About 50% said they use a personal motor vehicle less often since joining Bluebikes, and 65% use rideshare (Uber, Lyft, taxis, etc.) less often.
- + Without Bluebikes, about 10% of participants responded they would have used a personal motor vehicle to make their most recent trip.
- + Almost 20% of participants said their most recent Bluebikes trip was a multimodal trip in combination with MBTA services.

- + 22% of participants said they used Bluebikes to replace another mode of transportation during the COVID-19 pandemic.

WHAT ARE BLUEBIKES MEMBERS' OTHER TRANSPORTATION OPTIONS?

- + About 50% of participants reported owning their own bike, and about 50% said they had a personal motor vehicle available to them on a regular basis.
- + Nearly a quarter of participants said they don't have any personal vehicles available to them on a regular basis.

Which aspects of a Bluebikes membership do you view as beneficial?



* (i.e. driving, train/bus, walking, etc.)

Figure 8.4: Results of a Bluebikes member survey in 2020

ENDNOTES

- 1 Except for routes 71, 73, SL1, SL2, and SL3 (as of January 2021)
- 2 National Association of City Transportation Officials (NACTO), "Shared Micromobility in the US: 2019," <https://nacto.org/shared-micromobility-2019/>.
- 3 In the early years of Hubway, the system shut down during winter months. Now Bluebikes operates year-round, with some stations seasonally removed in some of the municipalities; Cambridge's stations are all off-street and are operational year-round.
- 4 Elaine Glusac. "Farther, Faster and No Sweat: Bike-Sharing and the E-Bike Boom." The New York Times. March 2, 2021. <https://www.nytimes.com/2021/03/02/travel/ebikes-bike-sharing-us.html>