



Citi Bike: What Current Use and Activity Suggests for the Future of the Program

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Introduction

On November 17, 2016, policy leaders in community development, equity and transit met at NYU's Rudin Center for Transportation for an open forum to discuss the future of Citi Bike. Panelists included Tracey Capers (Bedford Stuyvesant Restoration Corporation), Elena Conte (Pratt Center for Community Development), Councilmember Ydanis Rodriguez, and Paul Steely White (Transportation Alternatives). NYU Rudin Center for Transportation Director Mitchell L. Moss moderated.

The panelists agreed that Citi Bike provided a valuable transportation service, but faced challenges of expanding beyond its current service area. The discussion emphasized alternative ways to support expansion to a five-borough Citi Bike network.

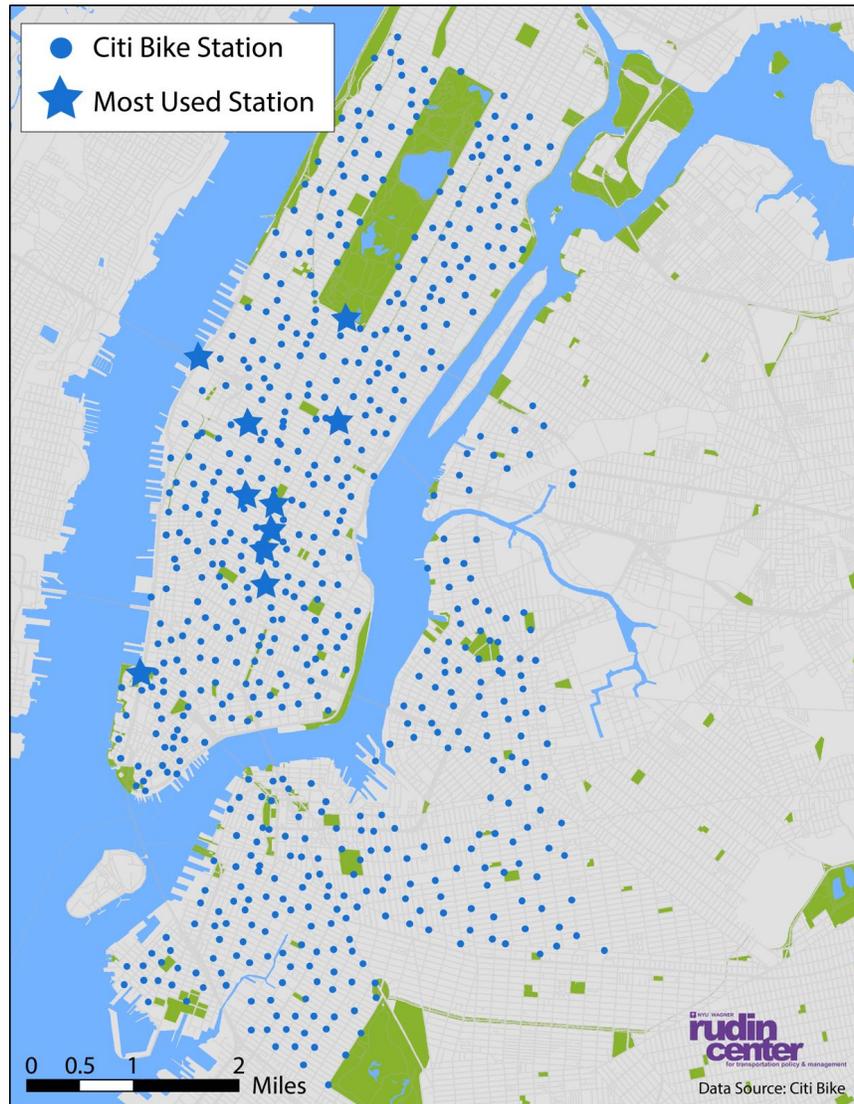
What follows is an analysis of Citi Bike as it exists today — its strengths in providing short-term trips to residents and visitors, and its current limitations in providing a valid mode of transportation to every New Yorker regardless of neighborhood or income. The report identifies use patterns and trends to help policymakers assess the best approach to achieving a five-borough Citi Bike system.

Background

Citi Bike launched in May 2013 with 6,000 bikes at 332 stations in Manhattan and Brooklyn. By the end of 2017, Citi Bike will have doubled in size, with 12,000 bikes at 700 stations in Manhattan, Brooklyn and Queens.

Since Citi Bike's launch, annual membership has grown to more than 115,000. Ridership is robust: Citi Bike users took more than 14 million trips in 2016, up from 10 million the previous year. Riders continue to break their own daily trip record; on October 19, 2016, users took 69,758 trips, a new daily record for Citi Bike.

Existing Citi Bike Stations, January 2017



How is Citi Bike used?

Citi Bike has approximately 115,000 annual members. More than 500,000 Citi “casual” passes (24-hour or 3-day passes) were sold this year. Despite the larger number of casual passes sold than annual memberships, annual members took the vast majority of trips in 2016. Annual members (or “subscribers”) took 85% of September trips, while 24-hour and 7-day pass holders (“customers”) took the remaining 15%.

Today Citi Bike is most heavily used in Manhattan. 83% of September trips started and ended in Manhattan, and 1.6 percent both started and ended in either Brooklyn or Queens. This distribution is largely due to Citi Bike’s system design and city geography:

As of winter 2017, 366 of 614 Citi Bike stations in New York City are in Manhattan, and 248 are located in Queens and Brooklyn. Most of the highest trafficked stations are near parks, greenways and/or major transit hubs.

There are nine Citi Bike stations within ¼ mile of Penn Station, eight stations within ¼ mile of Grand Central Station, and ten stations within ¼ mile of the Port Authority Bus Terminal. These are some of the busiest transit hubs in the United States. In fact, seven percent of Citi Bike trips are currently generated by just ten stations—or 1.6% of the system’s stations. Below are the September 2016 counts for these ten stations, all located south of Central Park in Manhattan:

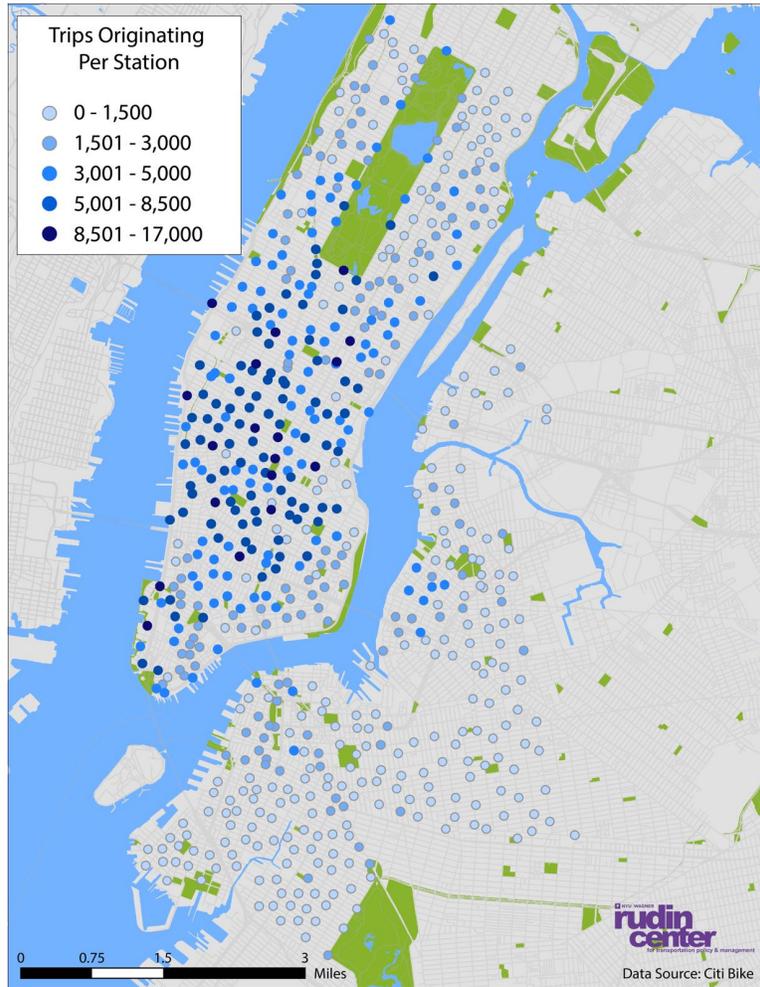
- 16,556 trips began at Pershing Square North
- 13,039 trips began at West St & Chambers St
- 12,982 trips began at Cooper Square & East 7th St
- 11,032 trips began at East 17th St & Broadway
- 10,762 trips began at Broadway & East 22nd St
- 10,649 trips began at West 21st St & 6th Ave
- 10,512 trips began at Central Park S & 6th Ave
- 10,277 trips began at 12th Ave & West 40th St
- 9,624 trips began at Broadway & East 14th St
- 9,460 trips began at 8th Ave & West 33rd St

Citi Bike Proximity to Major Transit Hubs

	Penn Station		Grand Central Station		Port Authority Bus Terminal	
	Stations	Docks (bikes)	Stations	Docks (bikes)	Stations	Docks (bikes)
Within ¼ Mile	9	403	8	382	10	365
Within ½ Mile	28	1,092	27	1,132	27	1,125

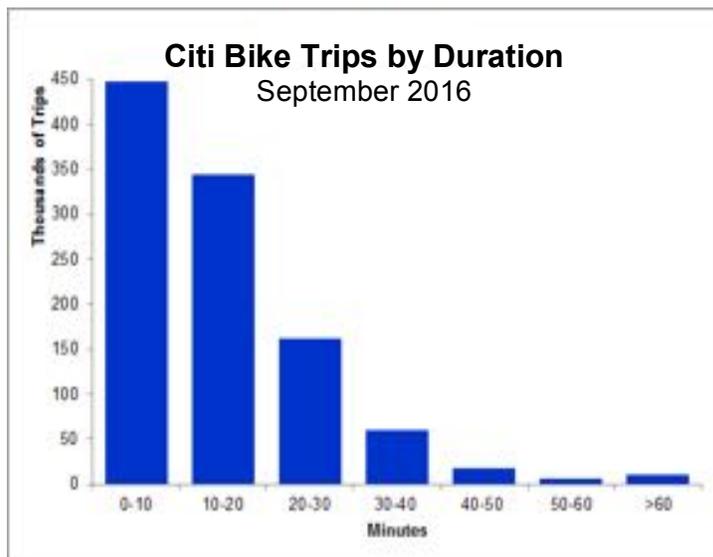
Ridership is lower in Brooklyn and Queens, where population and station density and median household income are lower than in Manhattan.

Citi Bike Station Number of Originating Trips, September 2016



The majority of Citi Bike trips are short. Ninety-eight percent of trips in September lasted under 45 minutes. 48% lasted under ten minutes.

This data suggests riders are using Citi Bike to make short trips around their neighborhoods or as last-mile connections to transit for longer trips.



Citi Bike's Proximity to Transit

Citi Bike is often referenced as a solution for closing last-mile gaps in the fixed route public transportation network, which includes buses and subways. Of the 614 Citi Bike stations in New York City, 443 (72%) are within a quarter-mile of a subway station entrance and 577 (94%) are within a half-mile of a subway station entrance.

Citi Bike Station Proximity to Subway Stations

	Within Quarter-Mile of Subway	Within Half-Mile of Subway
Citi Bike Stations	72%	94%

In Manhattan, 82 percent of residential buildings and 85 percent of commercial buildings sit within a quarter-mile of a subway station entrance, while 98 percent of residential buildings and 99 percent of commercial buildings are within a half-mile of the subway. Of the 548 residential buildings that are more than a half-mile from a subway entrance in Manhattan, 511 (93%) are within a half-mile of a Citi Bike station. Of the 192 commercial buildings that are more than a half-mile from a subway entrance in Manhattan, 182 (95%) are within a half-mile of a Citi Bike station.

Eighteen percent of residential buildings in Manhattan are closer to a Citi Bike station than they are to a subway entrance or a bus stop, making Citi Bike an attractive alternative to transit.

Building Proximity to Subway Stations and Citi Bike Stations

	Within Half-Mile of Subway	Within Half-Mile of Subway or Citi Bike
Manhattan Residential Buildings	98.3%	99.9%
Manhattan Commercial Buildings	98.8%	99.9%

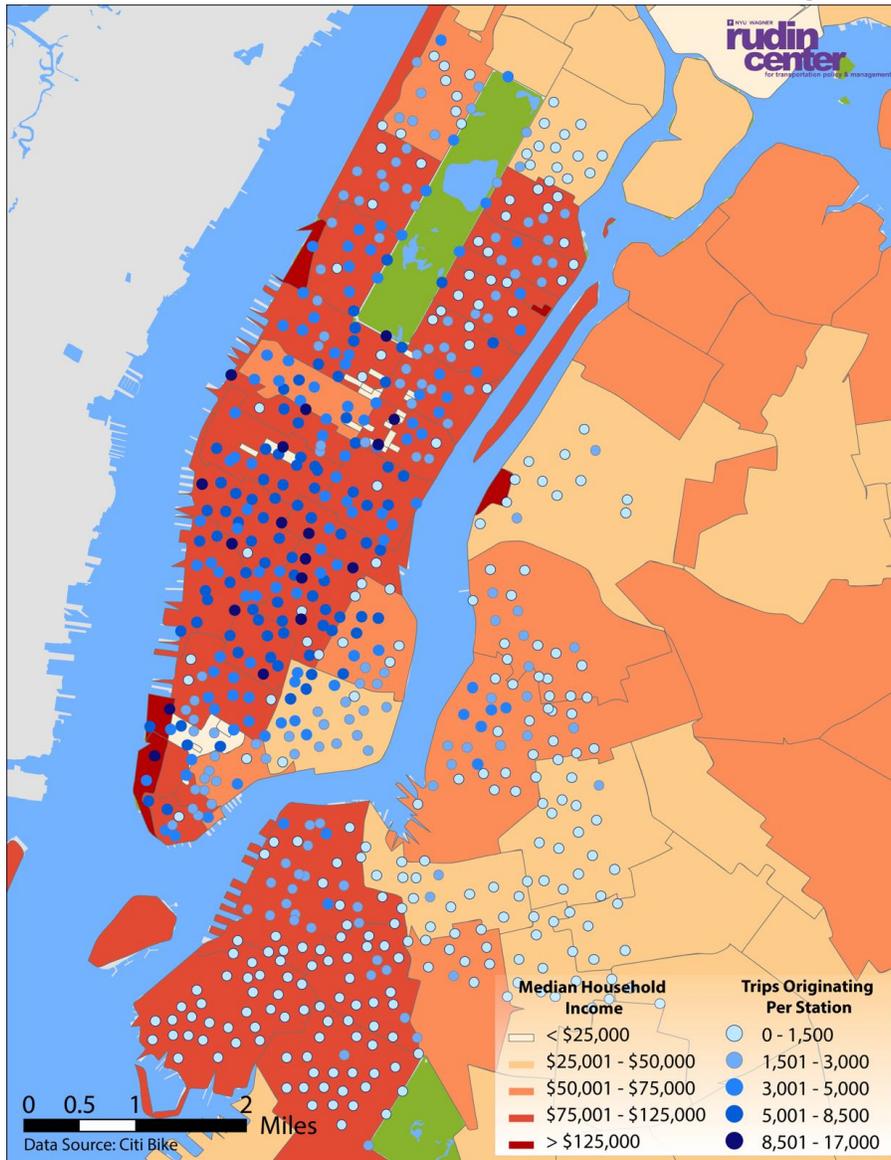
This analysis did not consider the proximity of Brooklyn or Queens residential and commercial buildings to Citi Bike because the number of Citi Bike stations is significantly lower and the population less densely dispersed in those boroughs.

Equity in Citi Bike

Providing service to all New Yorkers presents a challenge to Citi Bike. Seventy-three percent of subscriber trips in September 2016 were taken by men, compared to the 25 percent taken by women. With additional protected bike lanes and stations in residential areas, more women are likely to use the service.

One-hundred and twelve stations (18% of NYC stations) are located in ZIP Code Tabulation Areas that have median household incomes of less than \$50,000.

Median Household Income and Citi Bike Usage



Citi Bike is increasing efforts to strengthen investments in low-income areas, working closely with community groups in Bedford-Stuyvesant, a diverse Brooklyn neighborhood with concentrations of poverty, unemployment and chronic health conditions. By allocating additional city and private funds and partnering with Bed-Stuy Restoration, Citi Bike earmarked 26 new stations for this community. Since this 2015 launch, Bed-Stuy memberships have increased 57 percent.

Additionally, as of September 2016, 2,000 Citi Bike members have joined through the affordability program that offers \$5/month memberships to NYC Housing Authority residents and members of participating Community Development Credit Unions.

As Citi Bike expands farther into Manhattan, Brooklyn and Queens, the gender and income diversity of subscribers is likely to grow. While service to these additional areas won't match the revenue and ridership experienced in the Central Business District of Manhattan, Citi Bike should become an important mode of transportation in the outer boroughs of New York City.

Future of Citi Bike

The future of Citi Bike has been discussed extensively in recent months, including a City Council hearing in November 2016. The City Council Transportation Committee has called for continued expansion of Citi Bike to underserved communities, reinforcing the comments of panelists at the Rudin Center event.

The sheer volume of trips will be lower in outlying communities, where both population density and commercial densities are lower than in Manhattan. Nonetheless, based on how the system is currently used, there is potential for Citi Bike to serve an important transportation role in these areas. Citi Bike can continue to provide short trips, connecting neighborhoods that are currently underserved by more traditional transit methods, and offering a last mile option in areas further away from transit stops. Citi Bike can also provide a back-up option for neighborhoods only served by one transit line when that line is disrupted for planned maintenance or unexpected events. However, maintaining the program's station density as it expands to less dense communities will undoubtedly affect Citi Bike's financial model and require new sources of private and public funding support for both capital and operations.