



january · february · march

Q1 2023

NEW YORK CITY REPORT

by Daniel R. Murillo Antuna



Citibike NYC report Q1 2023	Overview	Map of bike stations by popularity	Total ridership in this quarter	Ridership and membership types	Ridership and bike types	Conclusions
-----------------------------	----------	------------------------------------	---------------------------------	--------------------------------	--------------------------	-------------



overview

This report contains information about important trends found in the first quarter (Q1) of 2023 (January 2023, February 2023, and March 2023) of the [citibike](#) program in New York City. Some of the trends presented are the conclusions reached after comparing different indicators from this quarter against the last one (Q4 2022), while some others were found by exploring only the data from Q1 2023.

methodology

There were 12,932,990 data entries (or rides) from Q4 2022 to Q1 2023 altogether. Therefore, the proportions of membership types and bike types was noted and the data was sampled, that is, only 1% of the entries were selected at random while making sure that those entries had the same proportions of membership types and bike types as the original data entries. The sample is representative of all the entries, and the conclusions drawn from it have a margin of error of less than 1%, which is ideal.

data source

The data for both Q1 2023 and the last quarter were downloaded from the [citibike](https://citibikenyc.com/system-data) website: <https://citibikenyc.com/system-data>

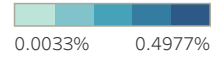
Citibike NYC report Q1 2023	Overview	Map of bike stations by popularity	Total ridership in this quarter	Ridership and membership types	Ridership and bike types	Conclusions
-----------------------------	----------	------------------------------------	---------------------------------	--------------------------------	--------------------------	-------------



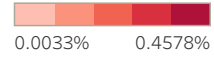
Filter by month and year:

- ☒ October 2022
- ☐ November 2022
- ☐ December 2022
- ☐ January 2023
- ☐ February 2023
- ☐ March 2023

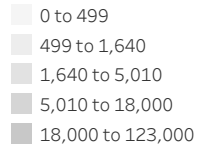
% of 'starts' per station



% of 'ends' per station



Population per zipcode

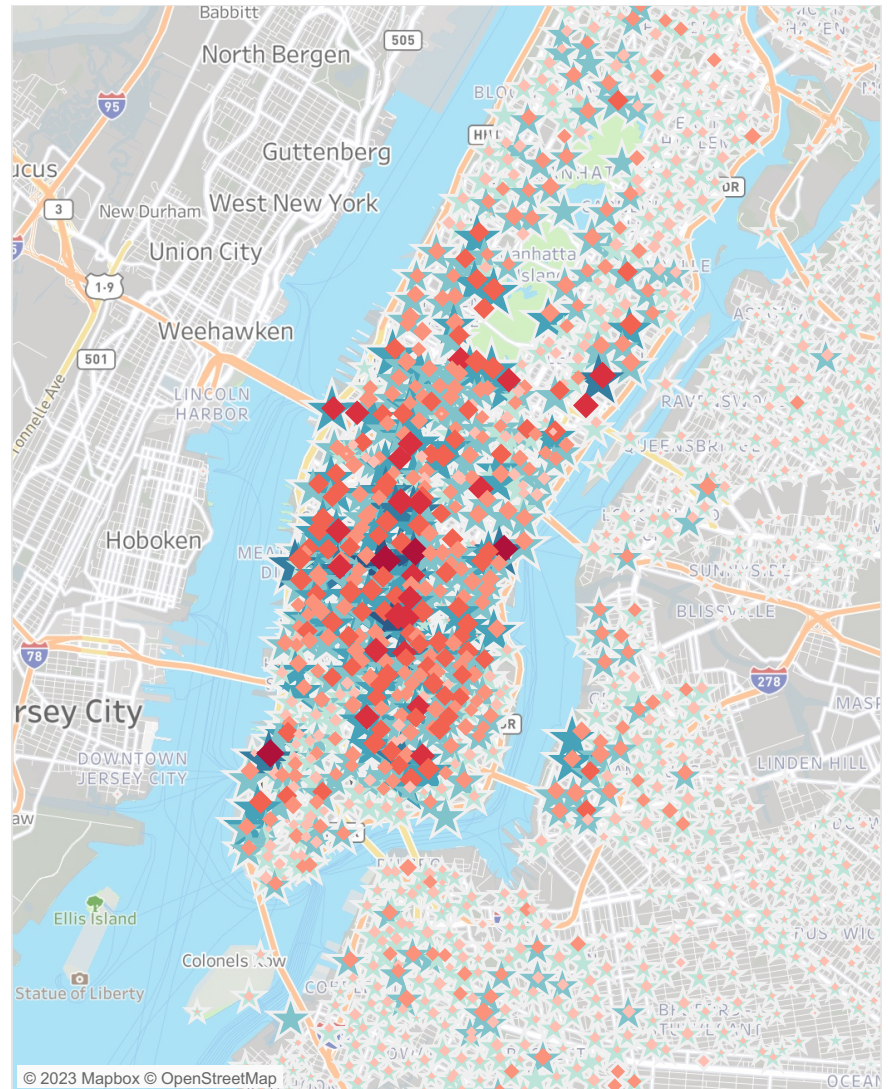


The map shows all the bike stations in NYC from October 2022 to March 2023. Each marker is a station: the star-shaped markers depict the **starting points** and the diamond-shaped ones portray the **ending points**. The bigger and more colored the marker, the more popular the station. The stations were plotted over zip code areas. The greyer those areas, the more populated they are.

The more popular stations, where most rides either start or end, were located in Downtown Manhattan, all the way from the Central Park Zoo to the World Trade Center.

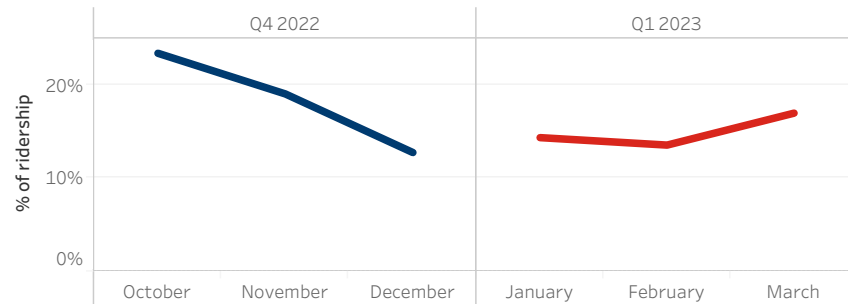
If you hover over each station, you will see its name and percentage of ridership. You can use the controllers to zoom in and out and explore any area of your choosing. You can also use the filter above this text to see the percentage of ridership of each bike station by month and year.

map of bike stations



Citibike NYC report Q1 2023	Overview	Map of bike stations by popularity	Total ridership in this quarter	Ridership and membership types	Ridership and bike types	Conclusions
-----------------------------	----------	------------------------------------	---------------------------------	--------------------------------	--------------------------	-------------

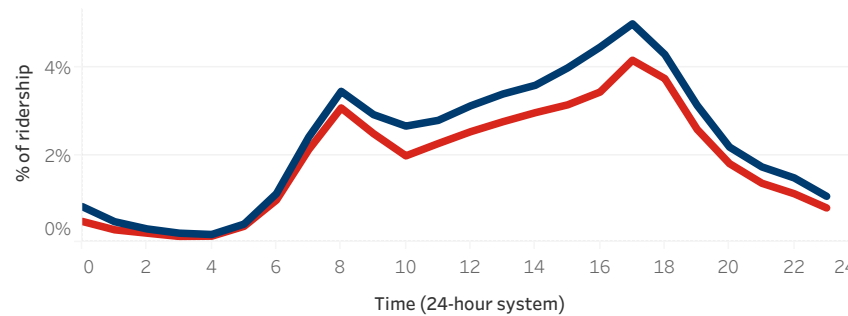
ridership per month



Quarter

■ Q4 2022
■ Q1 2023

total ridership per time

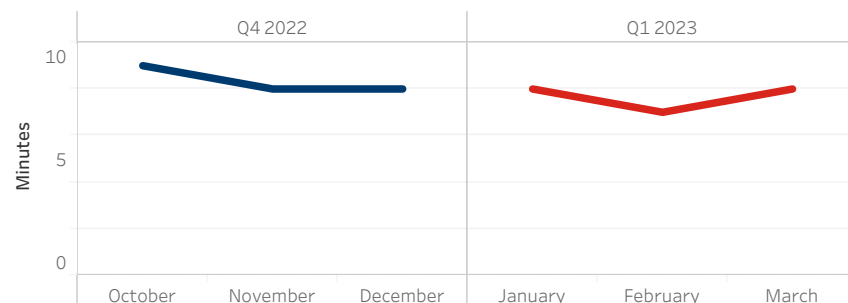


less rides in Q1 2023

The graphs on the left show a very noticeable trend: although the ridership seems to pick up by the end of Q1 2023 alone, if compared to the last quarter, **the ridership at the end of this quarter is lower than at the beginning of Q4 2022**. This could be due to the large influx of visitors in the last months of the year, whereas Q1 2023 in NYC is generally much less busy.

January and February 2023 had some of the lowest riderships in both quarters. Q1 2023's drop in riderships is also seen by comparing the percentage of rides per time of day or night. The most popular riding times still coincide with rush hour. There are two peaks of ridership during daytime: one at 8am and one at 5pm. The latter peak is noticeably higher, as more rides take place in the hours leading up to it and just afterwards —ridership dramatically rises from 3pm until 6pm. Hence, the evening rush hour is the busiest time for **citibike**.

median ride duration



The duration of a normal ride is almost **10% down** in Q1 2023. In order to know how long a normal ride lasts, the median duration was chosen over the average because some data entries were very extreme, which drastically biased the average. Thus, the median was a more truthful indicator. The normal ride duration fluctuated between 7 and 8 mins in Q1 2..

Citibike NYC report Q1 20..	Overview	Map of bike stations by popularity	Total ridership in this quarter	Ridership and membership types	Ridership and bike types	Conclusions
-----------------------------	----------	------------------------------------	---------------------------------	--------------------------------	--------------------------	-------------



Type of member

- Annual member
- Casual rider

more rides by annual members

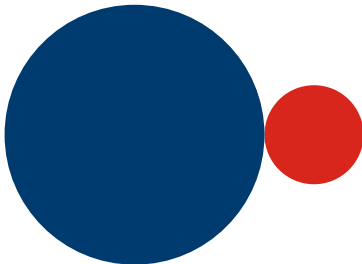
An **annual member** is a rider who purchased the *Citi Bike* plan, whereas a **casual rider** is the one who either choose the *Single Ride* or the *Day Pass* option.

There are more annual member rides than casual ones. In Q1 2023, 7 out of 8 rides were by an annual member. This could be explained by the main benefits of that membership: cheaper rides, and longer periods allowed.

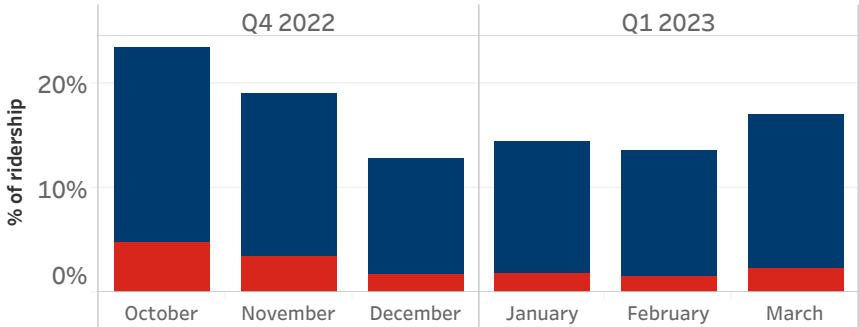
Although the percentage of ridership was still smaller than in the last quarter, there was an upward trend on rides by both types of members in Q1 2023. In fact, the percentage of casual rides increased slightly more than that of annual member rides.

In terms of ride duration per membership, casual rides were considerably longer. The median ride duration by an annual member stayed consistent at 7 min, while the median of casual rides grew from 11 to 12 min. That could be due to more casual riders who wanted to use the full benefits of their purchase because they knew they had less time to do so than annual members. It is very interesting that, although it is annual members who are allowed longer rides, casual riders were the ones who actually used the service for longer.

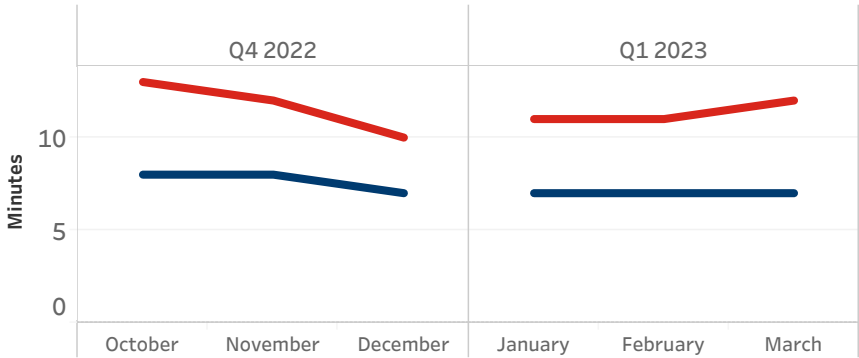
ridership by type of member Q1 2023



memberships per percentage of ridership and month

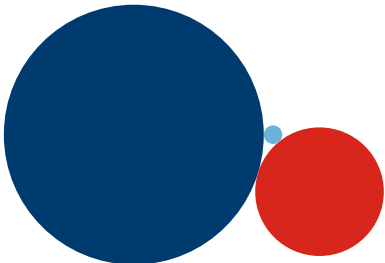


median ride duration per membership



Citibike NYC report Q1 20..	Overview	Map of bike stations by popularity	Total ridership in this quarter	Ridership and membership types	Ridership and bike types	Conclusions
-----------------------------	----------	------------------------------------	---------------------------------	--------------------------------	--------------------------	-------------

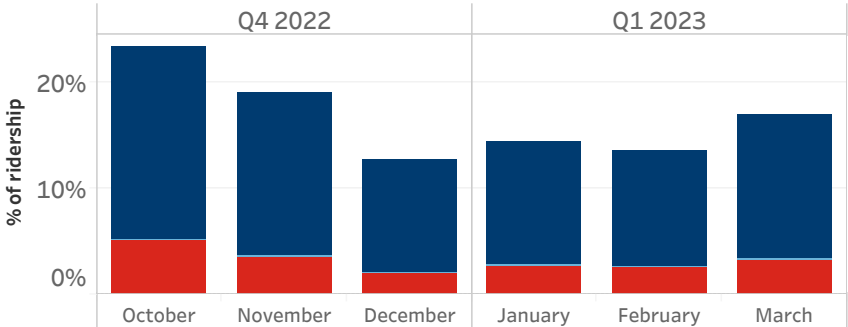
ridership by bike type Q1 2023



Bike type

- Classic bike
- Docked bike
- Electric bike

bike types per percentage of ridership and month



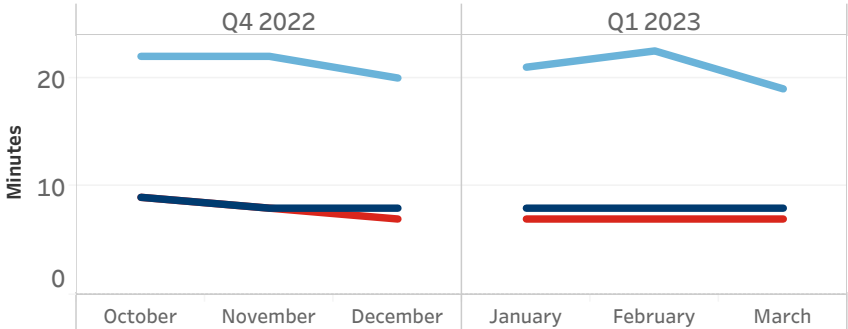
classic bikes rides over electric ones

The graphs show 3 types of bikes: classic, electric, and docked. For this analysis, it was assumed that rides done by docked bike represent the time that either classic or electric bikes spent docked rather than in actual rides.

The only big difference between classic and electric bikes was that classic bike rides were extremely popular, as 4 out of 5 rides was done by one of those bikes.

In Q1 2023, the percentage of both classic and electric bikes ridership rose by approximately 5% from January to March. The largest increase, however, was experimented by docked bikes (8.33%).

median ride duration per bike type



The normal ride duration by classic and electric bikes was noticeably stable this quarter. Every month had a median ride duration of 7 min for both types. Bikes generally spent docked half a minuted less in this quarter than in the last. This last trend is interesting when compared to the percentage of ridership by quarter because it could mean that, although more bikes were docked in Q1 2023, they either generally spent less time docked or there were fewer bikes in total this quarter.

Citibike NYC report Q1 20..	Overview	Map of bike stations by popularity	Total ridership in this quarter	Ridership and membership types	Ridership and bike types	Conclusions
--------------------------------	----------	---------------------------------------	------------------------------------	-----------------------------------	-----------------------------	-------------



conclusions

- The most popular stations are located in lower Manhattan.
- There were less rides in Q1 2023, although the evening rush hour was still the most popular time.
- The normal ride duration decreased by almost 1 min.
- Although annual members represent more than 85% of total ridership, the normal ride duration of casual riders is higher than that of annual members.
- Classic bikes are still extremely popular, and the normal ride duration by classic or electric bike was 7 min.