

Analysis of Citibike Activity in 2019 & 2020

Group 7

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Questions for Analysis



Who are Citibike's users?

- What is the gender breakdown of our users?
- Do subscribers or casual users take more rides?
- What is the average age/age distribution of our users?
- What are the demographics of our subscribers as compared to our casual users?



How are Citibikes being used?

- How has the number of trips and trip duration changed?
- What are the most popular stations and routes?
- What are the most popular times of day to travel?
- Has monthly bike usage changed?

Understanding Citibike's Users

- We found that the primary Citibike demographic is:



Subscribers

Subscribers, or membership holders, composed **70%+** of Citibike users in '19-'20

The lowest proportion of subscribers was in May '20



Males

Males have composed anywhere between **55-75%** of Citibike users in '19-'20

The greatest dip in the male user population was also in May '20

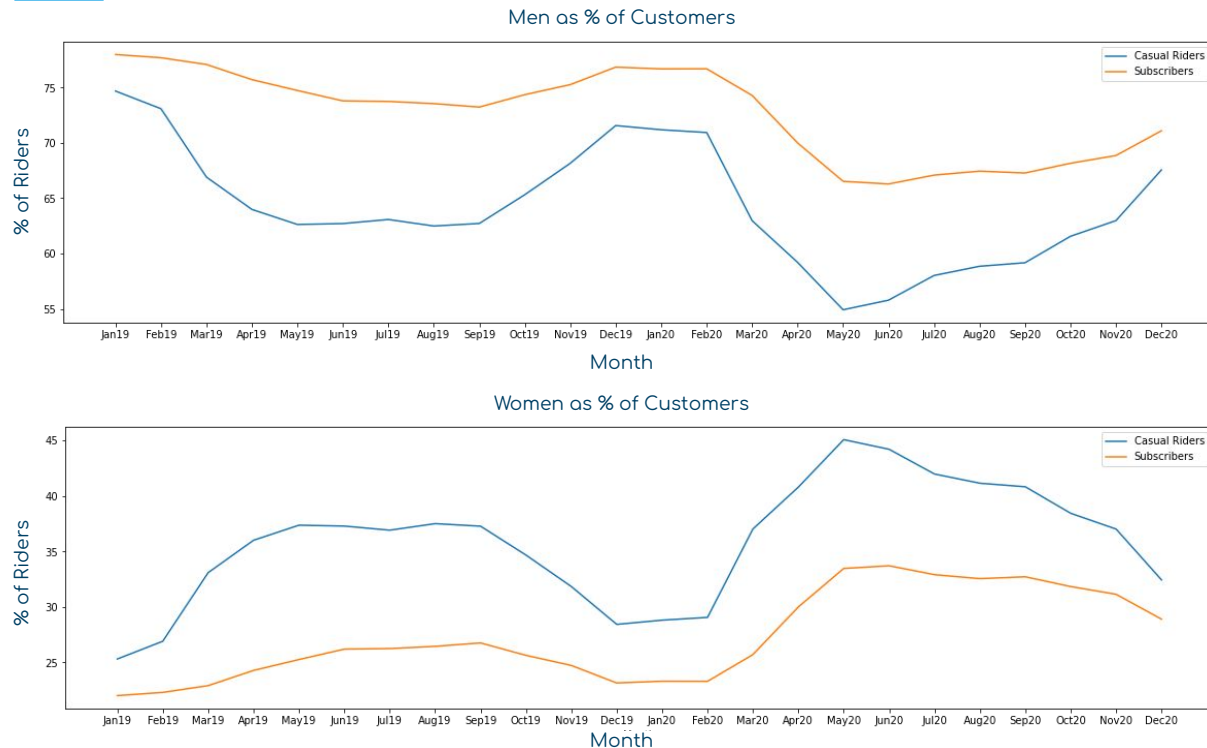


In their 30s

While the mean age of riders in '19-'20 was **39yo**, we saw that the age distribution suggests the most popular group has been **~30yo**

We saw an abnormally large number of users aged ~50 over '19-'20

Citibike Subscribers vs. Customers

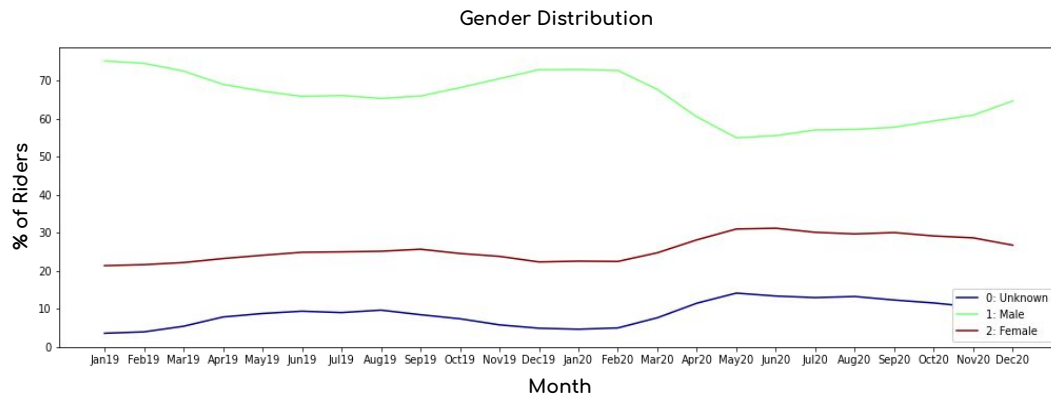
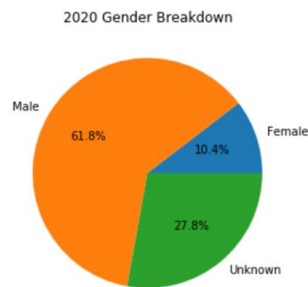
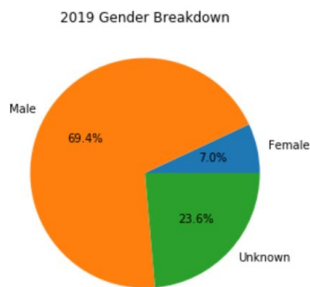


Key Takeaways

- Men consistently make up a larger percentage of subscribers
- Women consistently make up a larger percentage of casual riders
- Men account for a larger percentage of riders during the winter months. Women seem to ride less during the winter than men

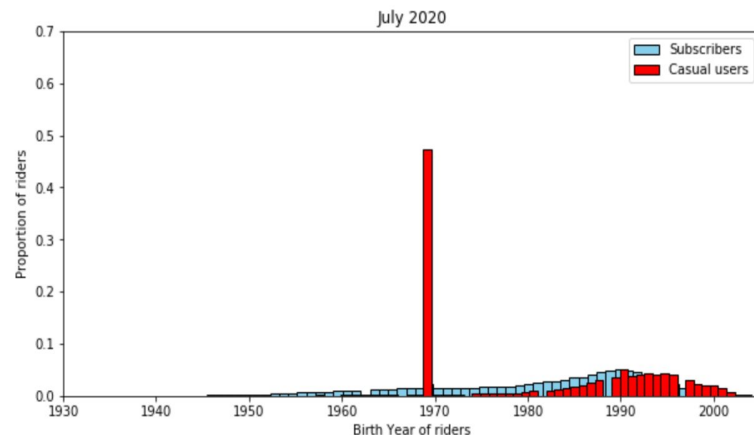
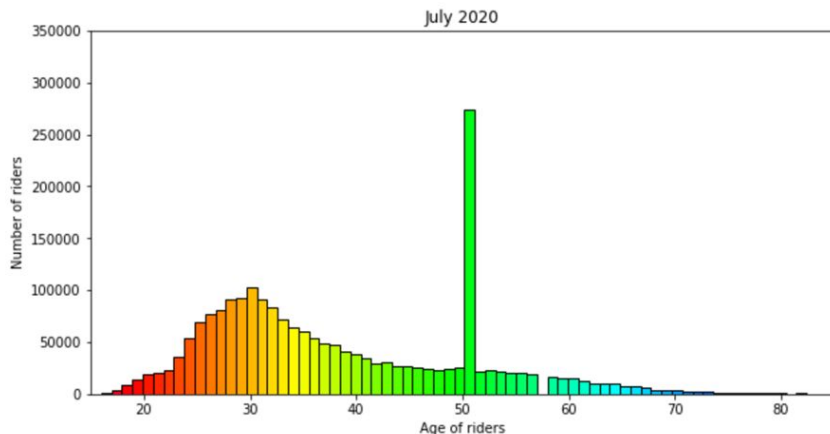
Citibike Riders by Gender

- Men make up the majority of Citibike riders
- Men accounted for a smaller percentage of Citibike riders in 2020 than they did in 2019 (69.4% down to 61.8%)
- Women and Unknown experienced an increase as a percent of total riders between January and May of 2020
- Women rose from around 22.5% to 31%, while Unknown rose from 4.06% to 14.09%



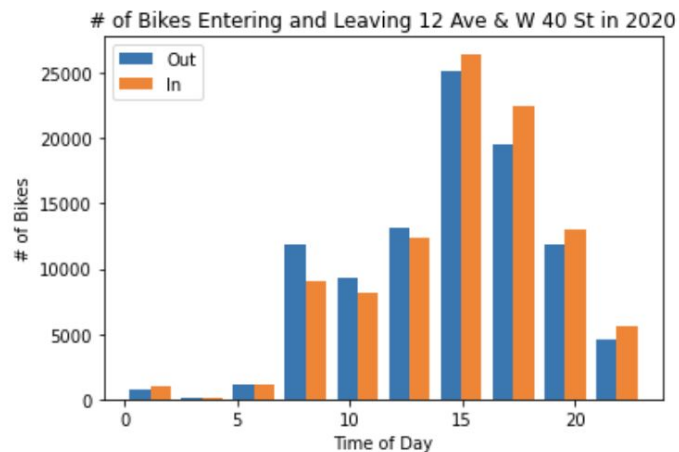
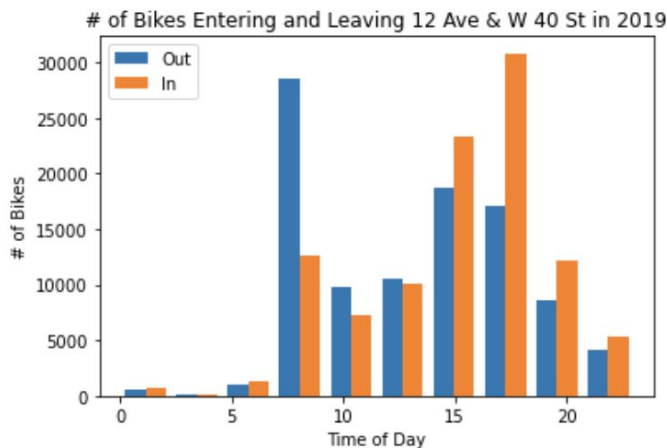
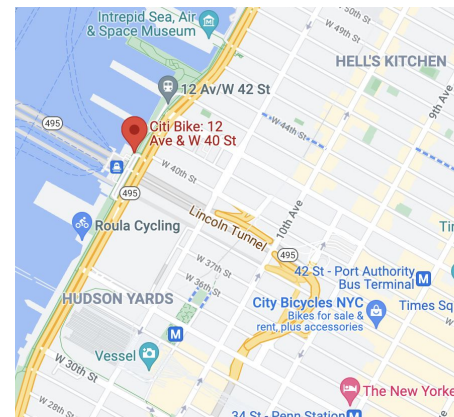
Citibike Users by Age

- There was a spike in the birth year 1969 every single month between 2019 and 2020
- This spike is predominantly in the data for casual riders
- We theorized that missing birth year values are being converted to Unix time at some point and missing values are being treated as the start of Unix time, which is December 31st, 1969 for the Western Hemisphere

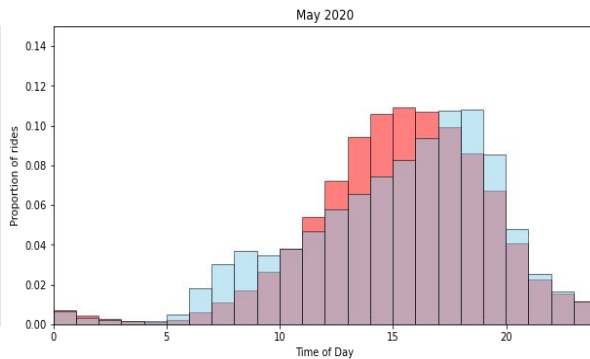
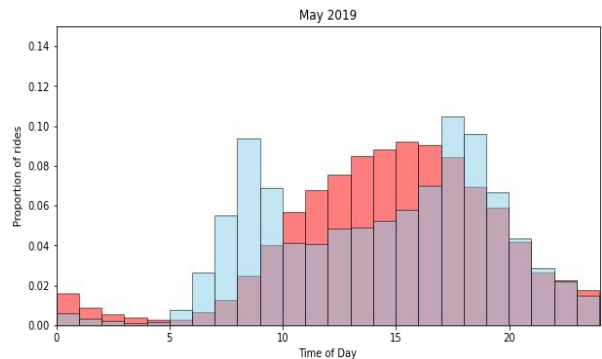


Station Traffic

- 2019: Commuter Station (second most popular June & July)
- 2020: One of the most popular stations (top station May - August)
- If commuter traffic returns to 2019 levels in the future, we recommend Citibike expand this station or add an additional station in the vicinity

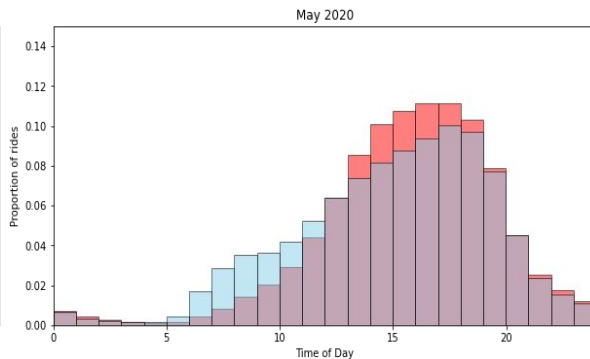
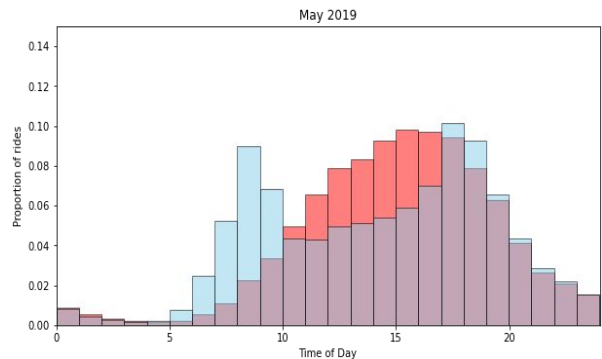


Hourly Distribution of Bike Traffic



Hourly Bike Traffic
Distribution by
Weekend vs Weekday

Weekend Bike Traffic
Weekday Bike Traffic

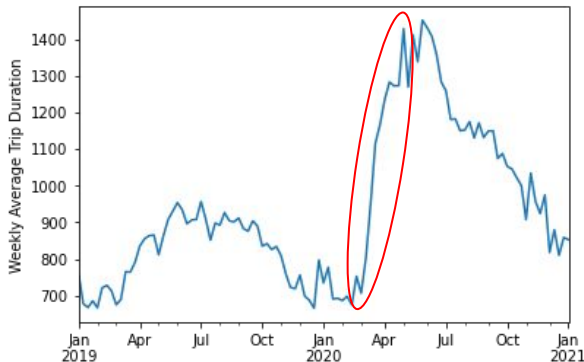


Hourly Bike Traffic
Distribution by
Rider User Type

Casual User Bike Traffic
Subscriber Bike Traffic

Trip Trends

- A comparison of average bike usage in 2019 vs. 2020:
 - Overall, bike usage in terms of hours increased while trips decreased in 2020
 - Trip duration specifically doubled from winter to spring 2020 -- likely due to both seasonality factors and an uptick in Citibike popularity



We saw an interesting trend -- a significant drop in Citibike activity with the onset of Covid, followed by a spike in May/June as people may have picked up biking recreationally

