

## Citi Bike Analysis

### Background:

Citi Bike is the largest bike share program across the nation. The service was designed to help individuals get to their destination in an affordable and convenient way. The service also provides a way of helping individuals stay healthy and green.

### Date Range for Research:

From January to November of 2019 and 2020

### Data Source:

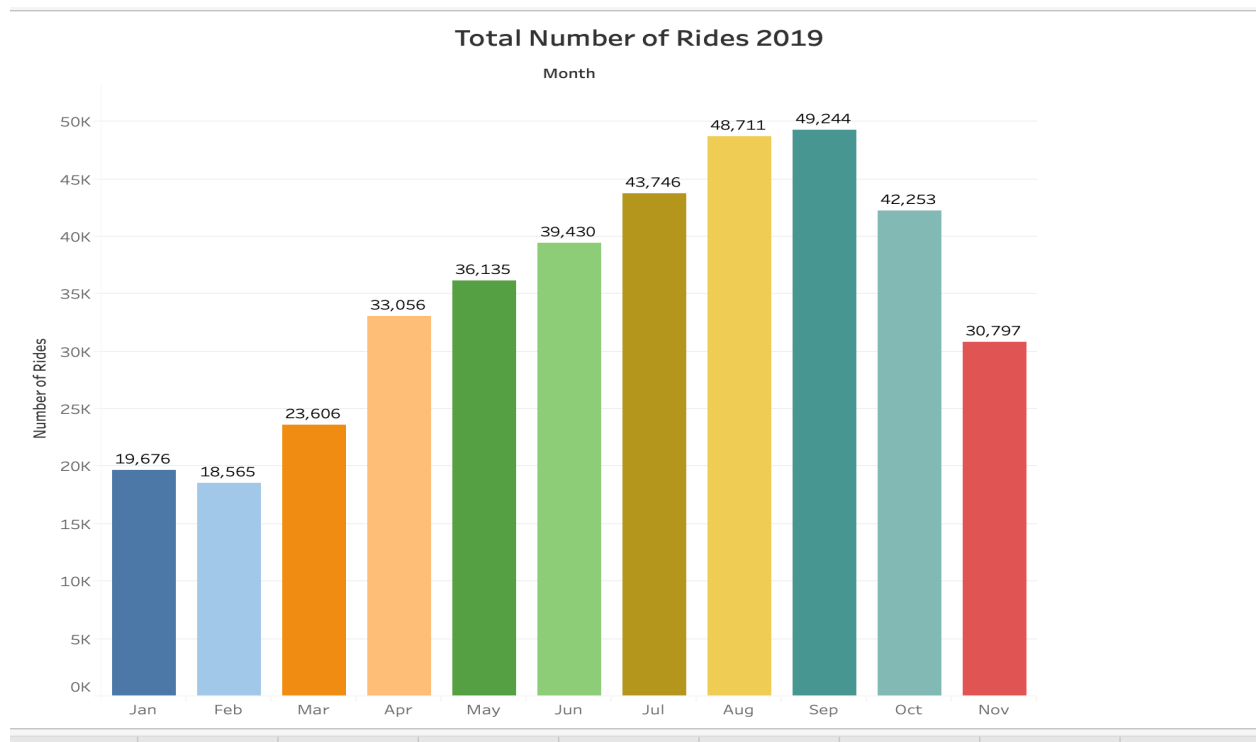
<https://s3.amazonaws.com/tripdata/index.html>

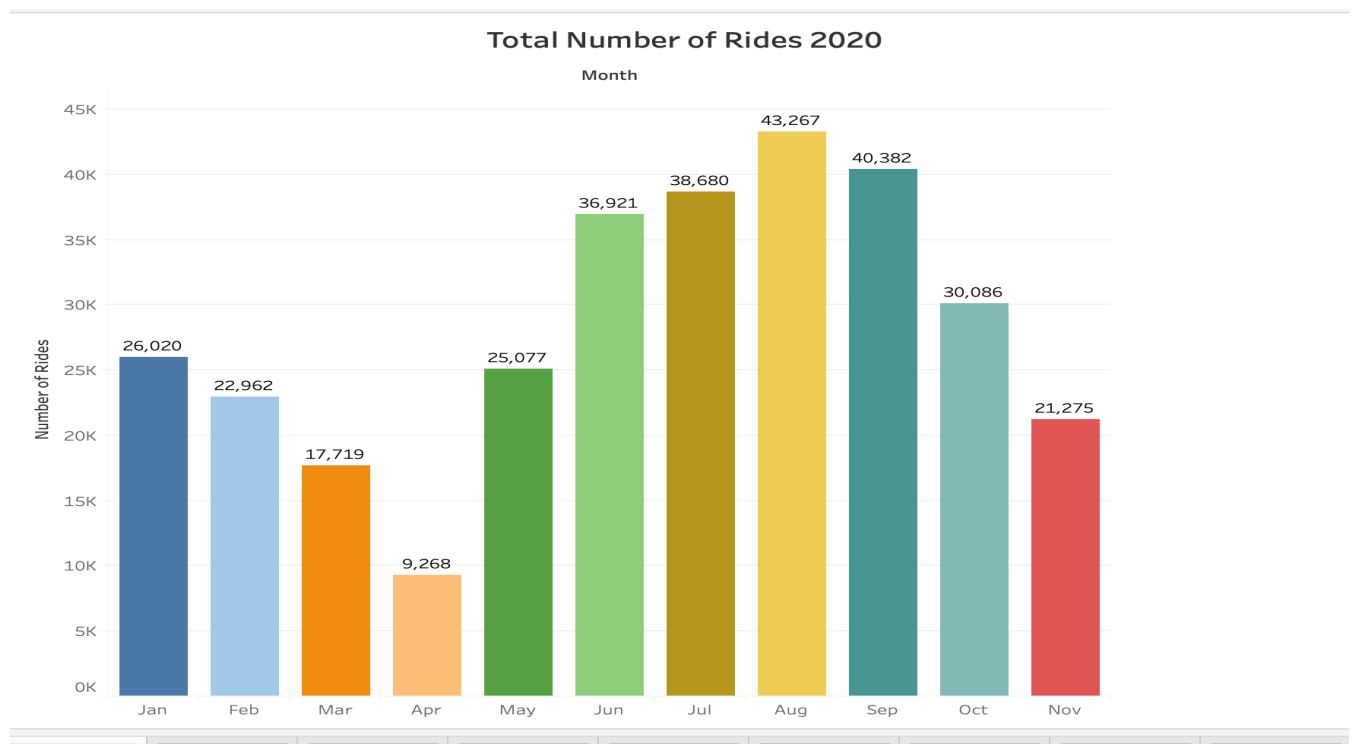
### Goal of analysis

To compare 2019 and 2020 to see what impact Covid-19 had on ridership in Jersey City, New Jersey.

## Analysis

### Number of rides in 2019 VS. 2020





- The total number of rides in 2019 was 385,219 vs. 311,657 in 2020
- March, April, and November took the biggest hit in 2020. This is likely due to the fact that many individuals were working from home. Also, there were executive orders that were put in place to try to reduce the spread of Covid-19.

### User type by gender in 2019 vs 2020

### 2019 Usertype

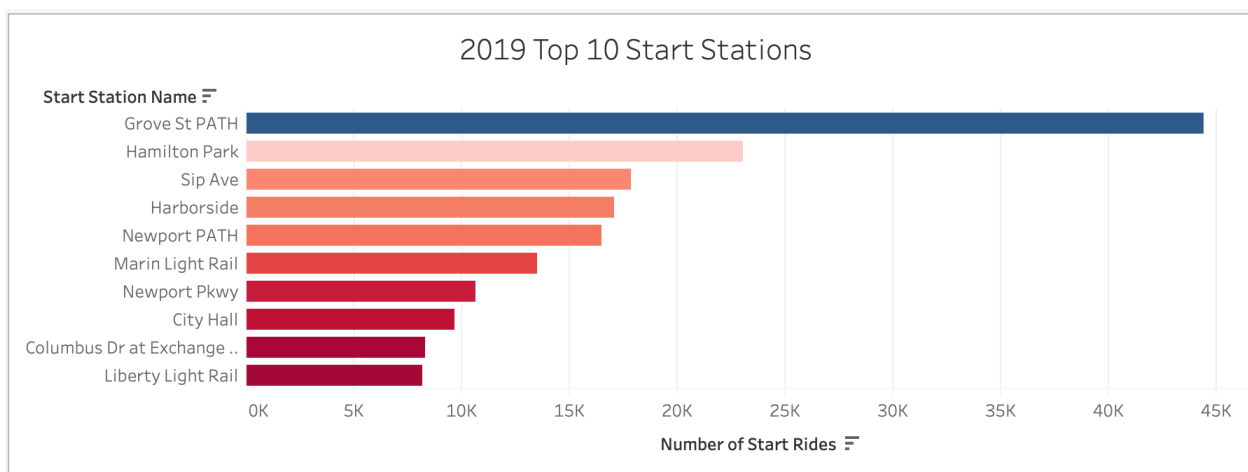
Usertype	Gender		
	Female	Male	Unknown
Customer	8,020	15,930	17,840
Subscriber	79,518	256,174	7,737

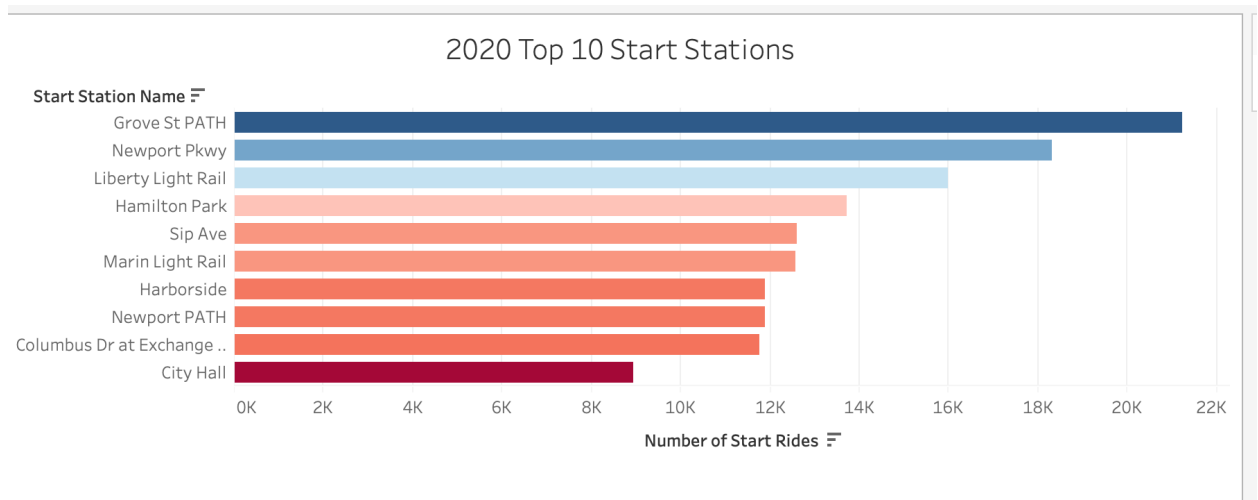
## 2020 Usertype

Usertype	Gender		
	Female	Male	Unknown
Customer	22,427	30,640	45,625
Subscriber	56,468	153,390	3,107

- Citi Bike has 3 riding options:
  - Annual Membership- Subscriber
  - Day pass or single ride- Customer
- The data from 2019 and 2020 show that most subscribers are males that use the service
  - In 2019- there were 256,174 male subscribers vs. 79,518 female subscribers
  - In 2020- there were 153,390 male subscribers vs. 56,468 female subscribers
- There was an increase of customers that used the service in 2020 vs. 2019
  - A reason for this increase of customer use could be due to the fact that the service was not needed every day in 2020 since a large majority of individuals were working from home.
  - Individuals could have been also using the service as a safer alternative to getting around the city so they did not have to use subway or an Uber/Lyft.

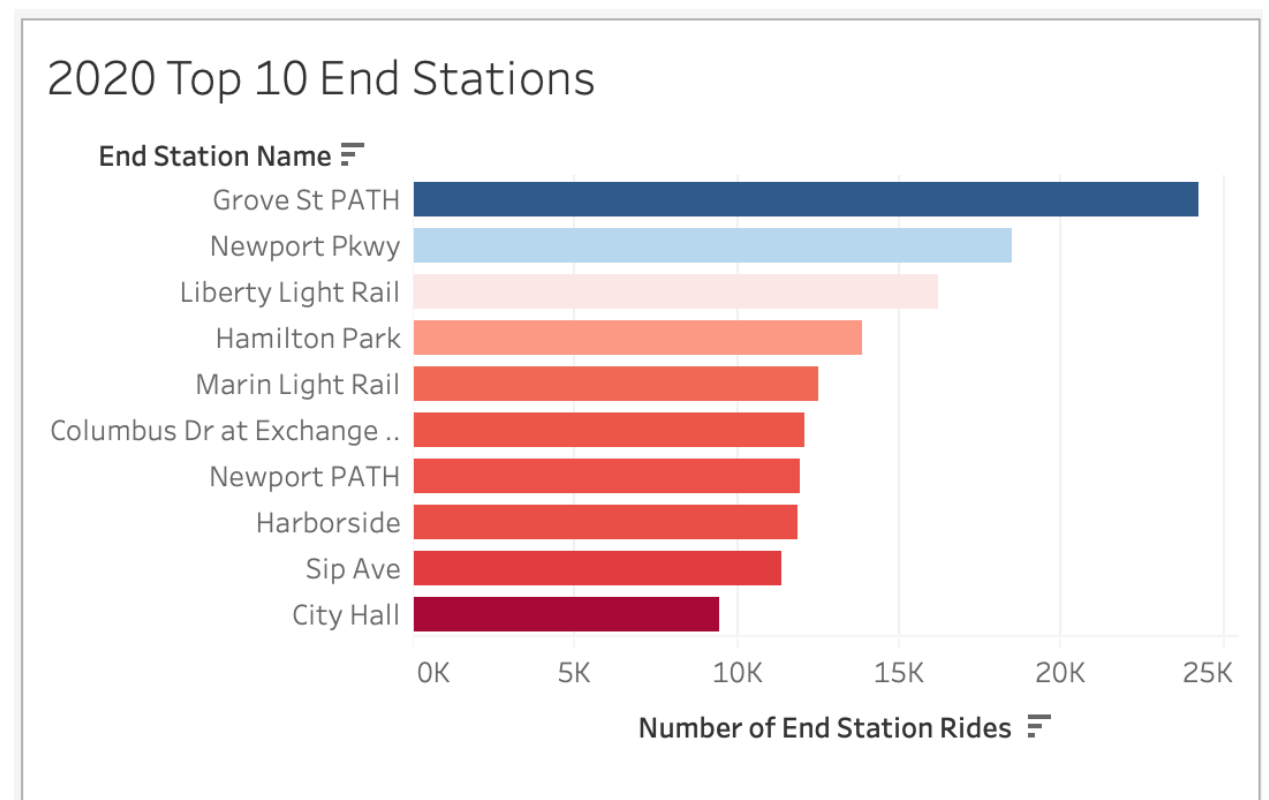
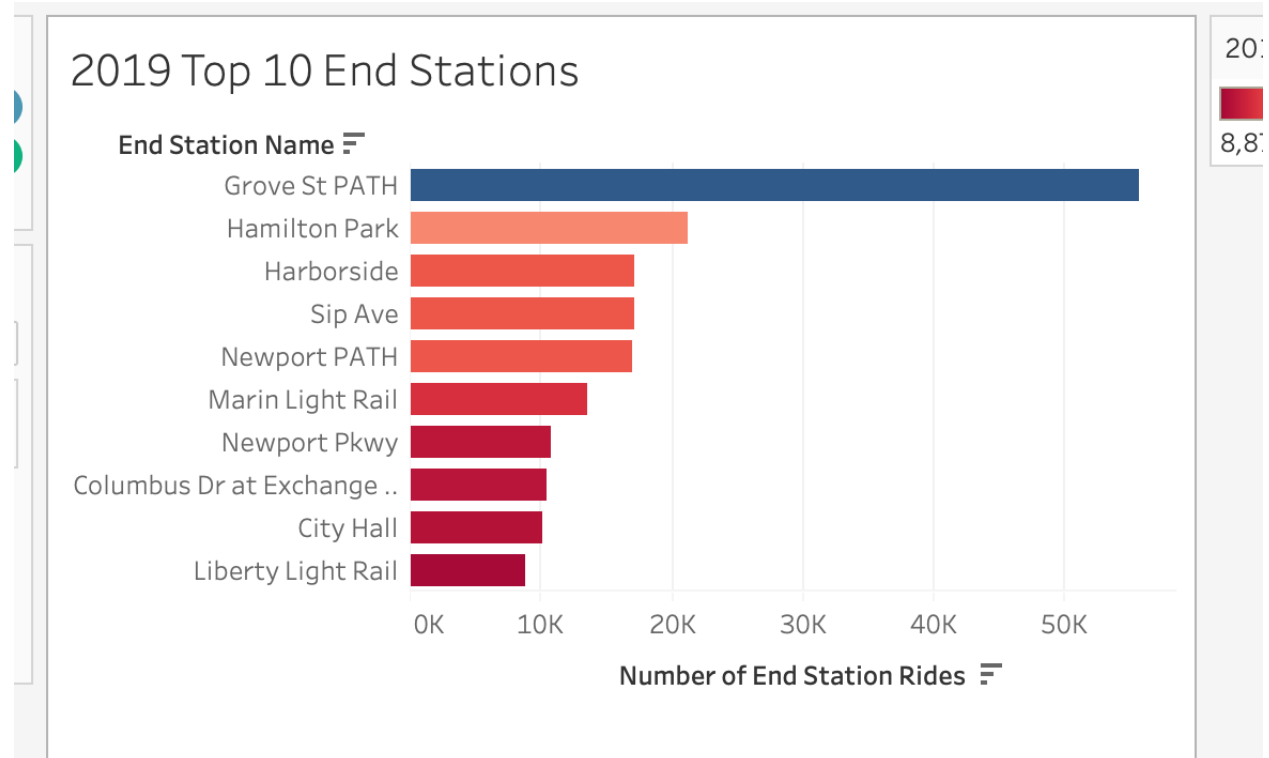
## 2019 And 2020 Top 10 Start Stations





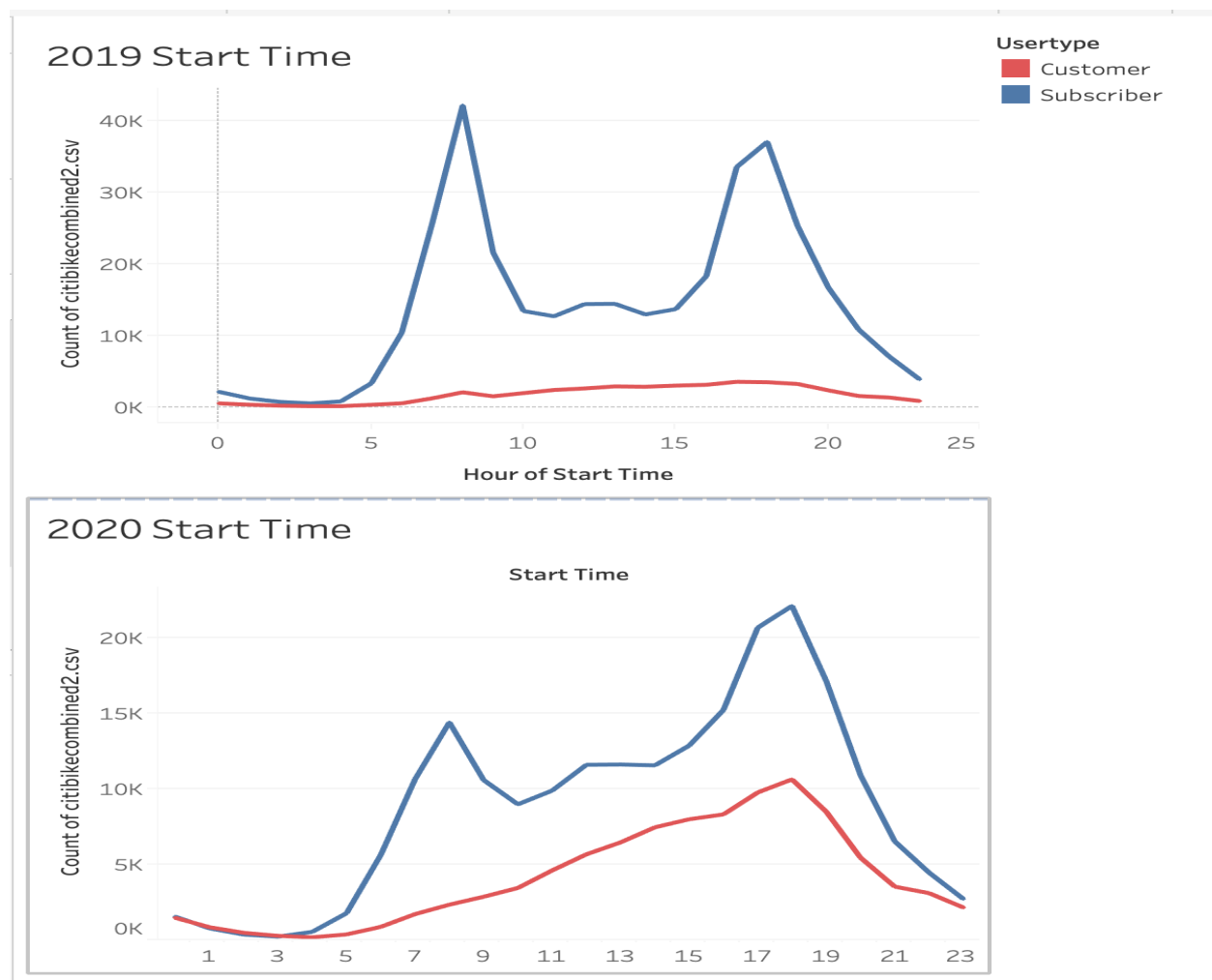
- 2019 top 3 stations
  - Grove St. Path
  - Hamilton Park
  - Sip Ave
- 2020 top 3 stations:
  - Gove St Path
  - Newport Pwy
  - Liberty Light Rail
- Grove St Path was the most popular start station for both 2019 and 2020
  - This could be due to the fact that this bike station provides access to a direct path train ride into NYC
- Hamilton park is .5 miles from Grove St in Jersey City. Riding a Citi Bike from Hamilton Park to Grove St could provide a convenient way to reach a Path station for commuter purposes to NYC. In 2020, Hamilton Park ranked 4 vs. 2 in the top 10 Start Bike Stations. This could be due to the fact that less people were commuting directly into NYC due to the restrictions in place for Covid-19
- Newport Pwy ranked 2 in 2020 vs 5 in 2019. Newport Pwy includes a huge shopping area. This could have been a way for individuals to fulfill their shopping needs and return to destination without using other public transportation methods such as the light rail or Uber.

## 2019 and 2020 top 10 End Stations



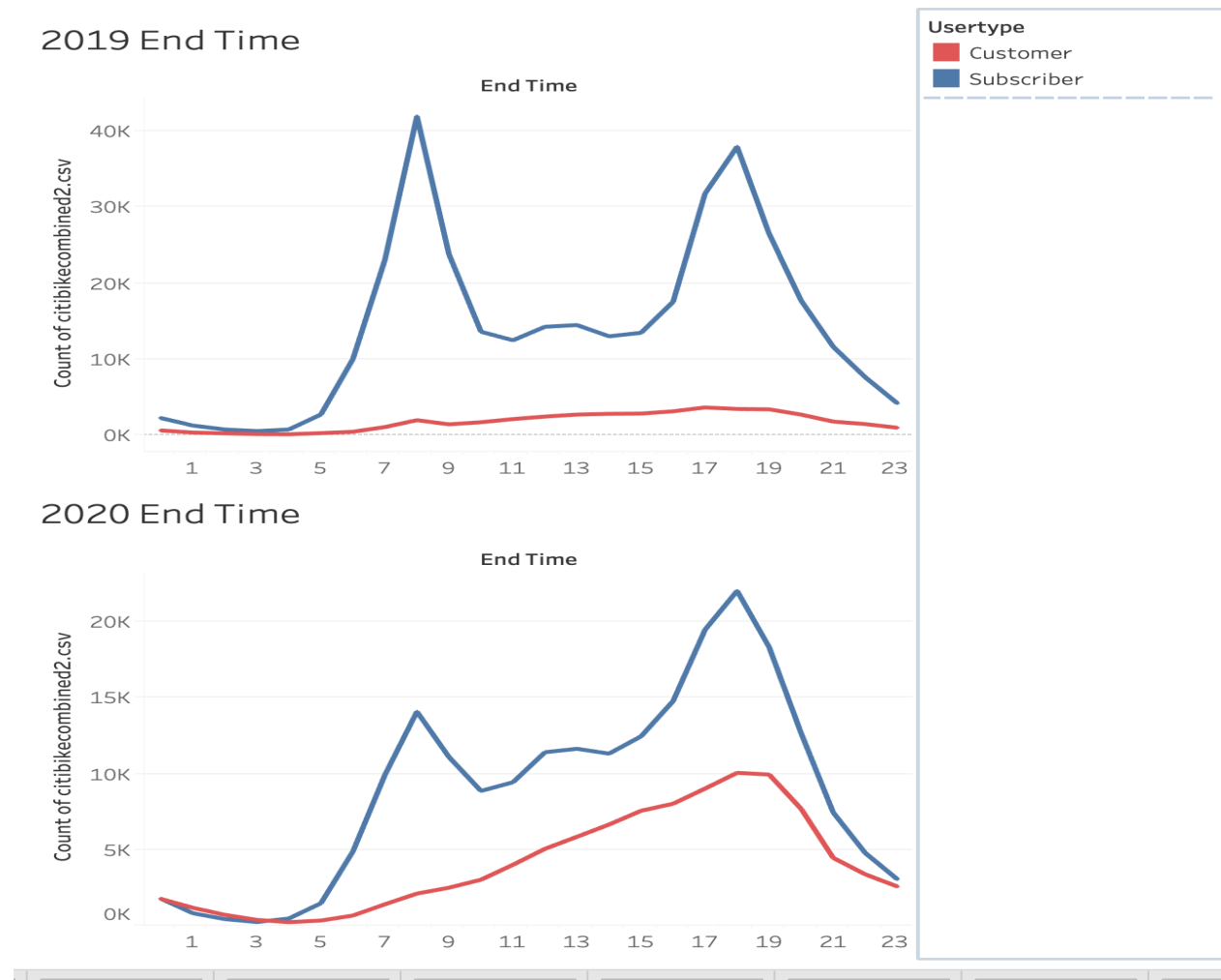
- Top 3 End Stations in 2019
  - Grove St. Path
  - Hamilton Park
  - Harborside
- Top 3 End Stations 2020
  - Grove St Path
  - Newport Pwy
  - Liberty Light Rail
- Grove St Path was the most popular end station for both 2019 and 2020
  - This could be due to the fact that this bike station provides access to a direct path train ride from NYC. This could be a way for individuals to reach their final destination once they get off the Path from NYC.

## 2019 and 2020 Start Time



- Most popular start time for subscribers was at 8am for 2019 where 6pm was the most popular time in 2020.
- There was no popular start time for customers in 2019, but that was changed in 2020. 6pm seemed to be the most popular start time for customers in 2020.

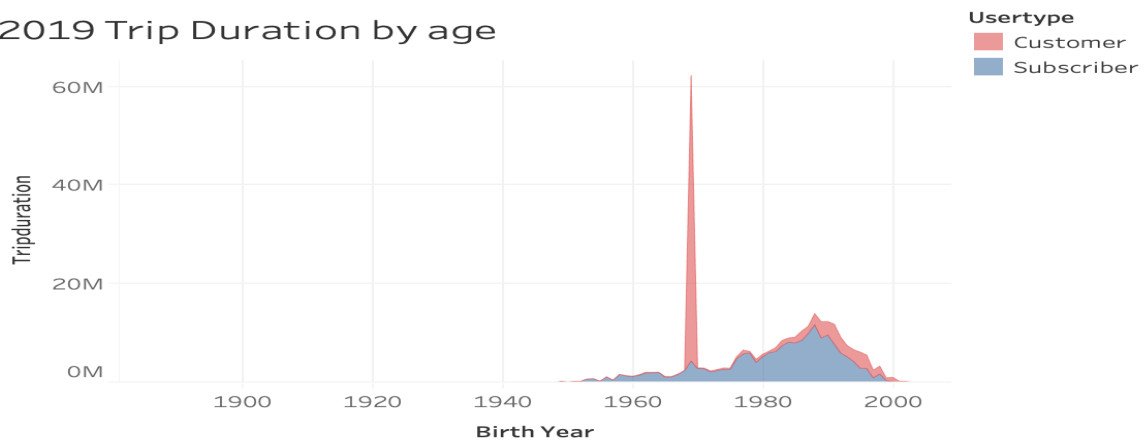
## 2019 and 2020 End Time



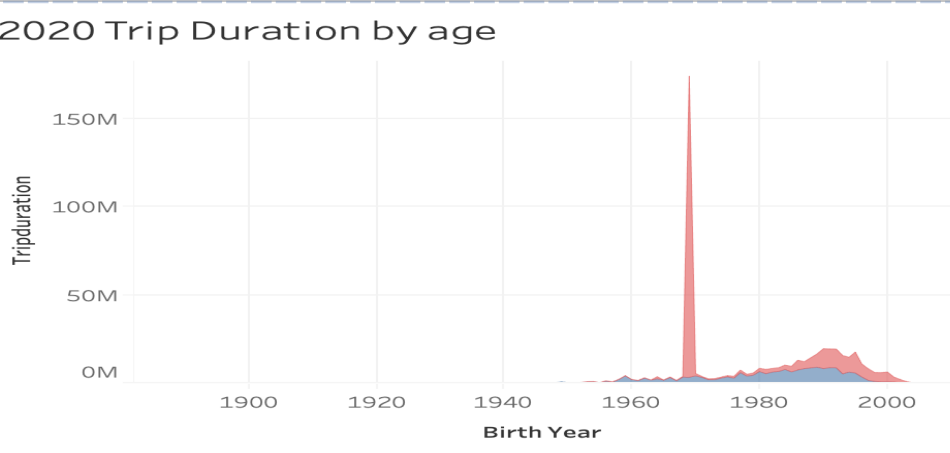
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## 2019 and 2020 Trip Duration by age

2019 Trip Duration by age



2020 Trip Duration by age



- In 2019- millennial subscribers were taking longer rides for trips whereas generation X customers were taking longer rides in 2019.
- In 2020- Generation X customers were taking longer rides in 2020 whereas millennials subscribers were taking longer rides.