

## 2018 Citi Bike Data Report

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### Objective

The objective of this report is to give a thorough breakout of bike rider demographics, rider stations, and trip experiences to better inform Jersey City public officials for future financial decisions.

### Data Description

<https://www.citibikenyc.com/system-data>

The data outlined covers 2018 biker rider trip log histories. Two datasets were merged into one large CSV file. One dataset covered quarterly membership rates of biker rider service. The other dataset focused on station locations and bike rider demographics. All data was taken from the New York Citi Bike Program which can be found in the link above.

### Important Questions to Cover

This report will use a variety of visuals that have been created through the Tableau Software program. Specific questions this report will cover are the following.

1. Which are the most popular bike stations in Jersey City for bikers to start and stop at?
2. Which hours of the day are most bike riders going to use each station?
3. Which months of the year experience the most use and traffic from bikers.

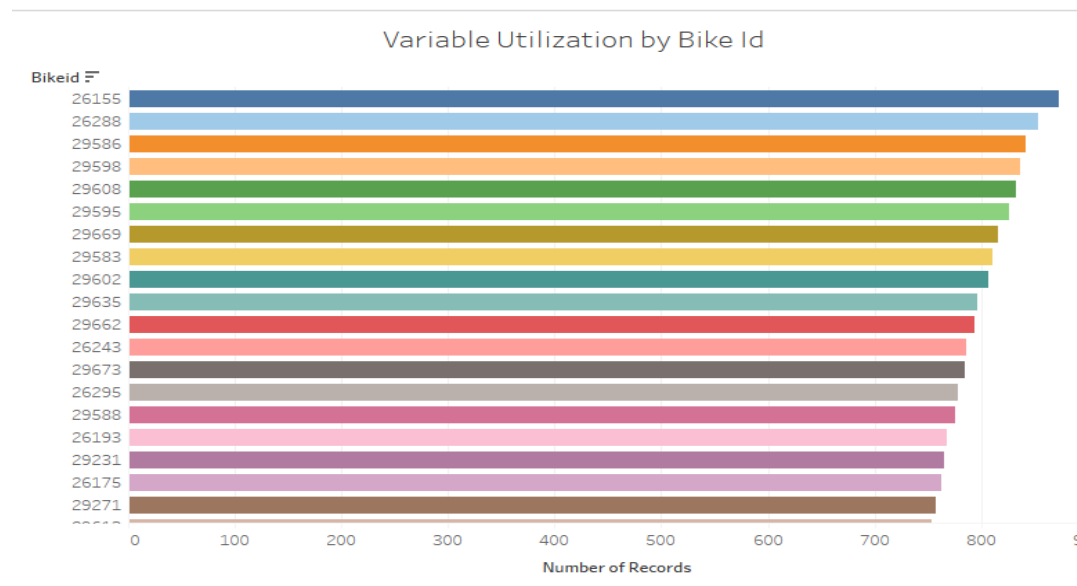
### Gender Demographics

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#### Gender Demographics of Active Participants

Gender	
Unknown	21,416
Male	257,131
Female	75,345

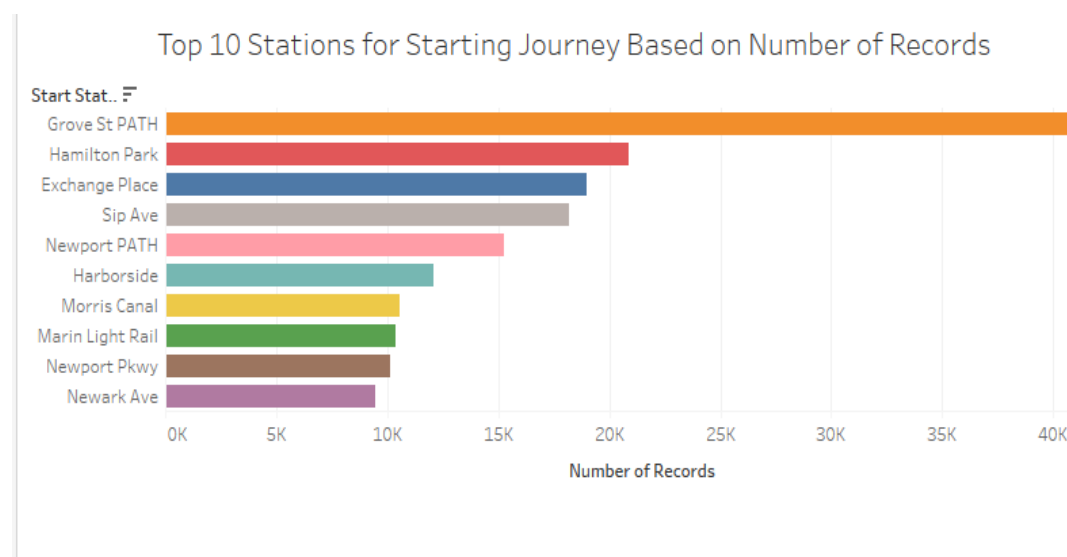
Beginning this report off, all logs put to a significant more about of records of male use of the stations than females. This was done by simply taking the total sum of records and filtering the data by gender.

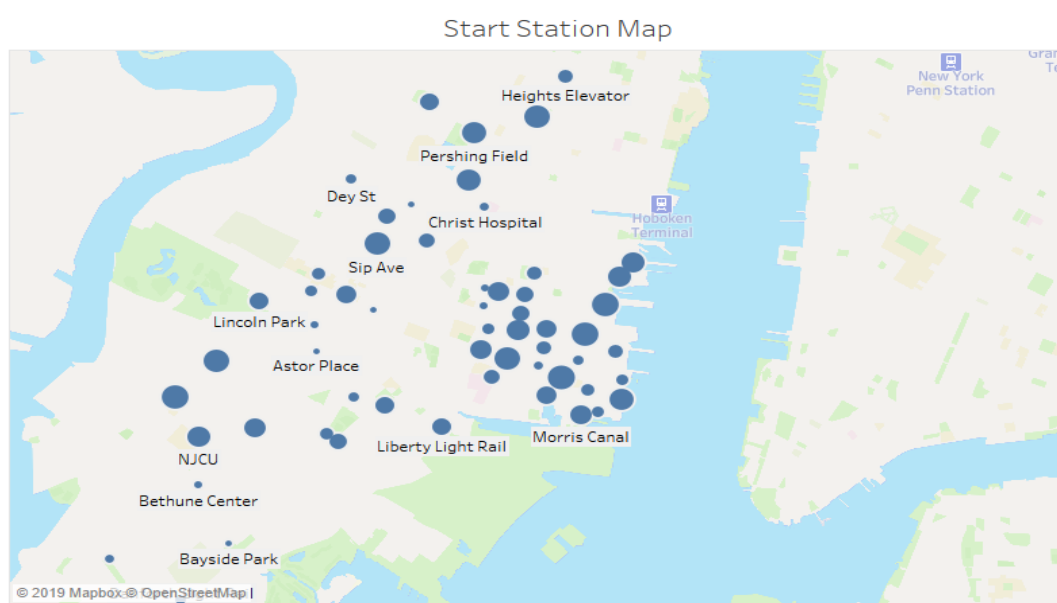


The bar graph above shows the which bikers logged in the most amount of records. Biker 26155 logged in over 873 records in 2018.

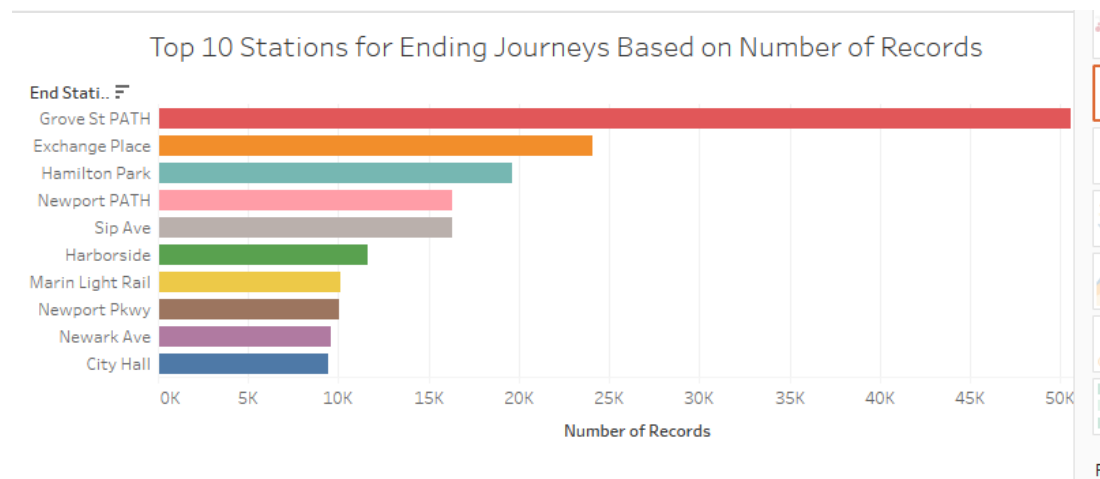
### Starting and Ending Station Journey

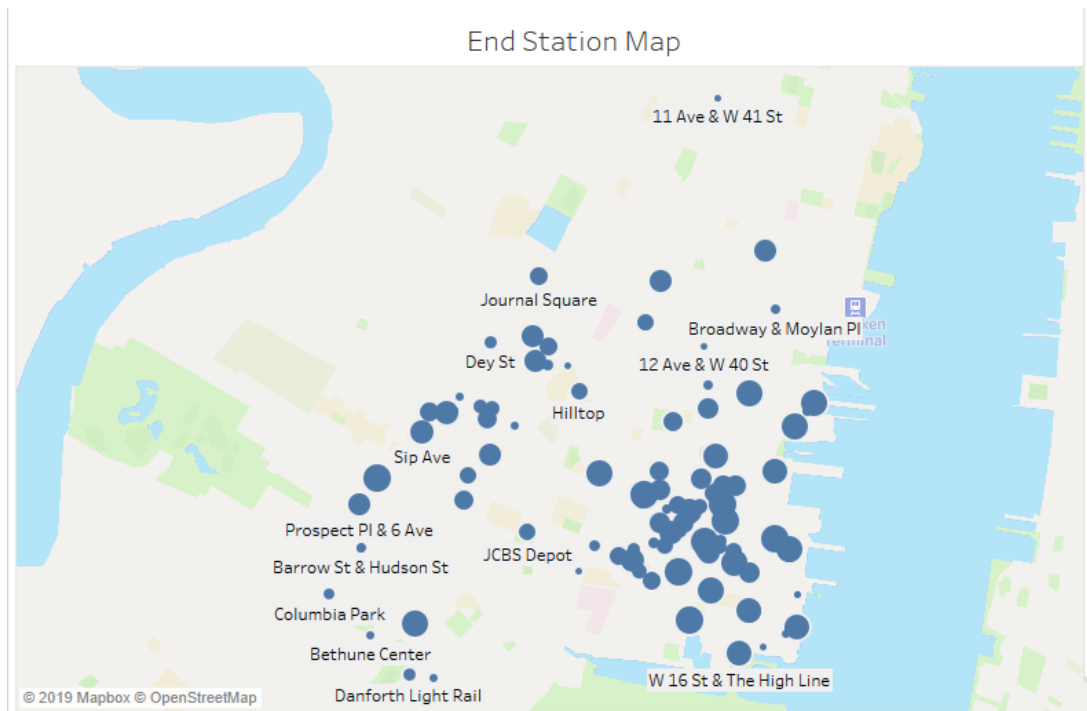
This section outlines which bikers stations were the busiest in Jersey City in 2018. A bar graph and a world map each have been outlined to show the Top 10 busiest stations based on the sum of all the records.





In 2018, Grove St Path was by far the selected bike station location in Jersey City for a starting point. With over 40,931 records, it has nearly double the amount of records the second most used bike station Hamilton Park had with 20,867.

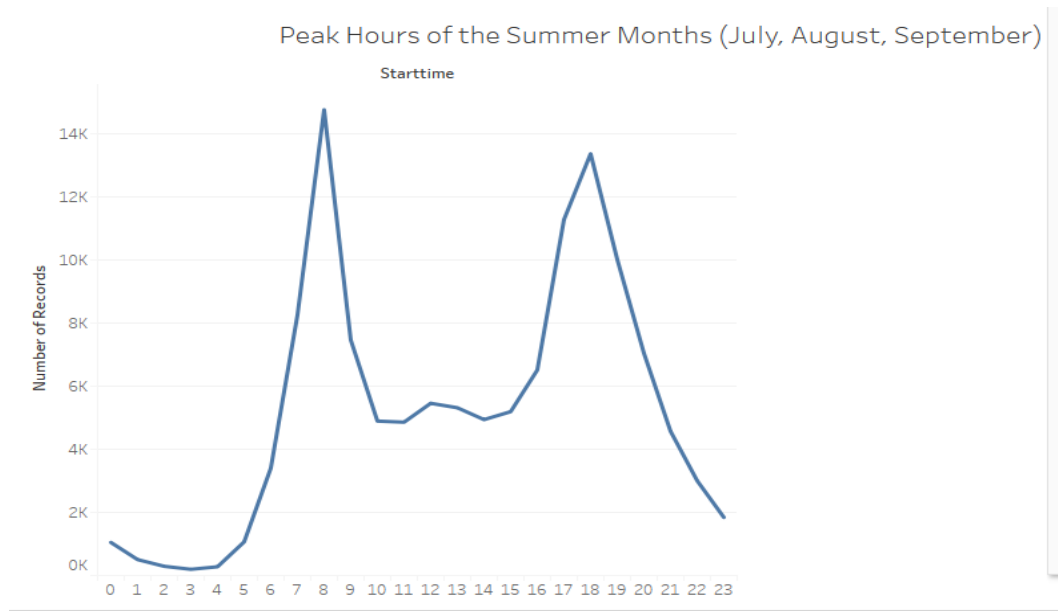




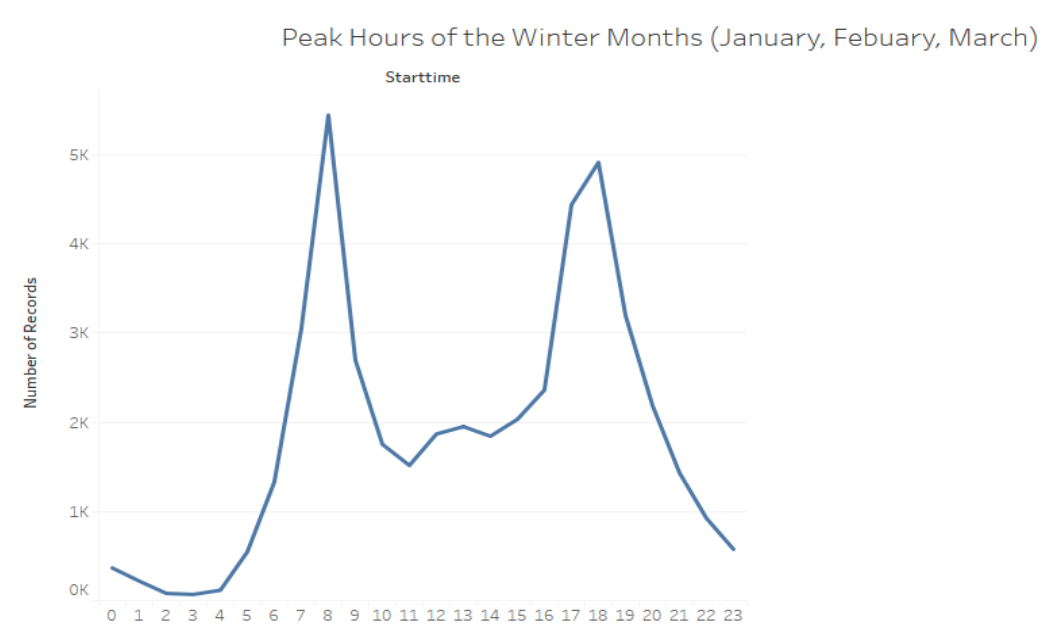
Not surprising is that Grove St Path is most used station for a destination point with 50,623 records. Exchange Place is the second largest destination point for bike riders with 24,105 records. What can be concluded from the maps above is that a cluster of bike stations surround the Grove Street Path Trains Station. This is the busiest terminal that connects Jersey City to Manhattan. The flow of car traffic is likely the most busiest here which is why there is a use of many bike stations.

### Peak Riding Hours

Taking the total sum number of records, the data was filter into two separate line graphs comparing the business of the summer months to the winter months. The sum of all records is placed on the y-axis and the hours of the day is placed on the x-axis.



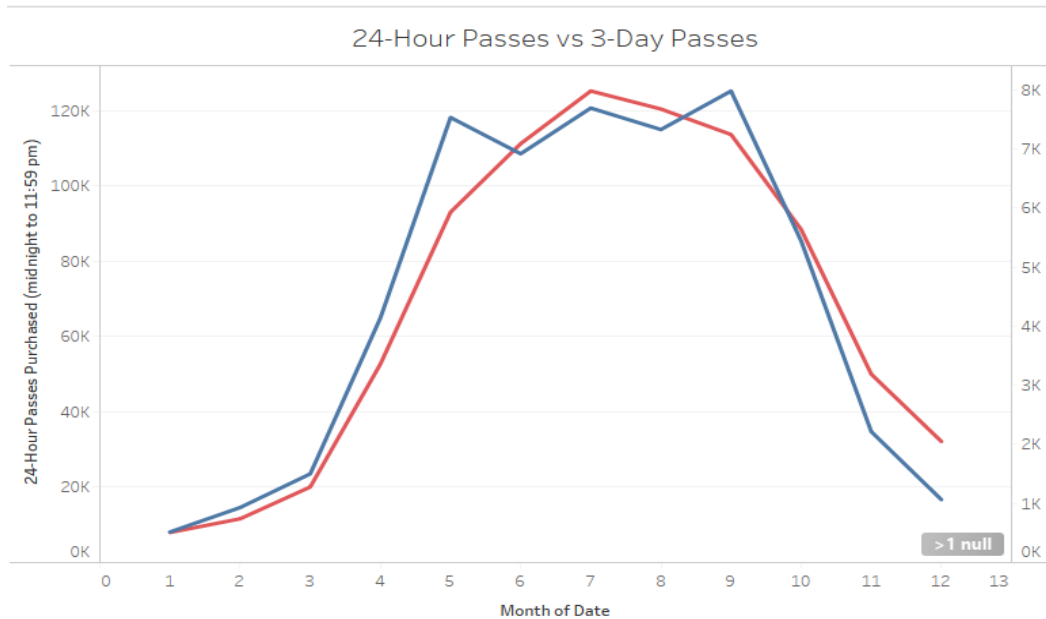
As expected, work hours between 7 PM and 8 AM in the morning peak the usage of bike rider records. Traffic picks back up again between the hours of 4 PM and 6 PM.



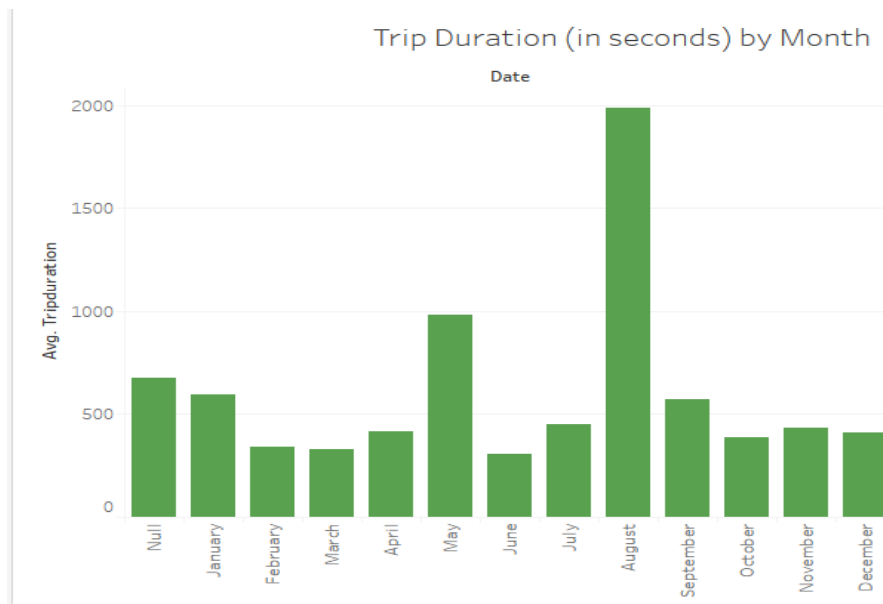
There is a slight difference in mid afternoon usage among big riders in the winter. It could be that the summer heat makes it less enjoyable to bike ride between the hours of 12 PM to 2 PM.

## Log Time Usage

Below shows 24-Hour Passes in a red line and 3-Day Passes in a blue line. The number of months is placed on the x-axis and the sum of the total records is placed on the y-axis.



The peak usage month in the year is July with peaks out at 125,184 records for 24-Hour Passes. However, riders that purchased 3-Day Passes were more likely to come out between the months of April all through October.



Apart from summer being the most widely used months of the year for biker riders, the bar graph above breaks down the average time duration in seconds that each biker rider had. In August, biker riders average 1,985 seconds between stations.

## **Conclusion**

Within Jersey City, stations located around the Grove Street Path Trains and Highway 7 are the most used because of the Jersey City/Manhattan connection. If public officials are looking to expand the number of bike stations, then there should be a look to put more bike stations on the West and North side of Jersey City. Using bike stations has been an effective and popular way to cut down on traffic and provide a steady travel for work. Work hours between 7 AM – 8 AM and 4 PM – 6 PM show massive spikes in bike usage. All year long, work hours remain busy, but recreational use appears to be more common in the summer. The sale of 3-Day passes are more common throughout the summer and longer durations of bike rides are in August. Officials may want to look towards providing a 7-Day pass for the most frequent bikers in order to gain public revenue. Also, providing more bike stations near concert events during the summertime, will likely show a boost in ticket sales.