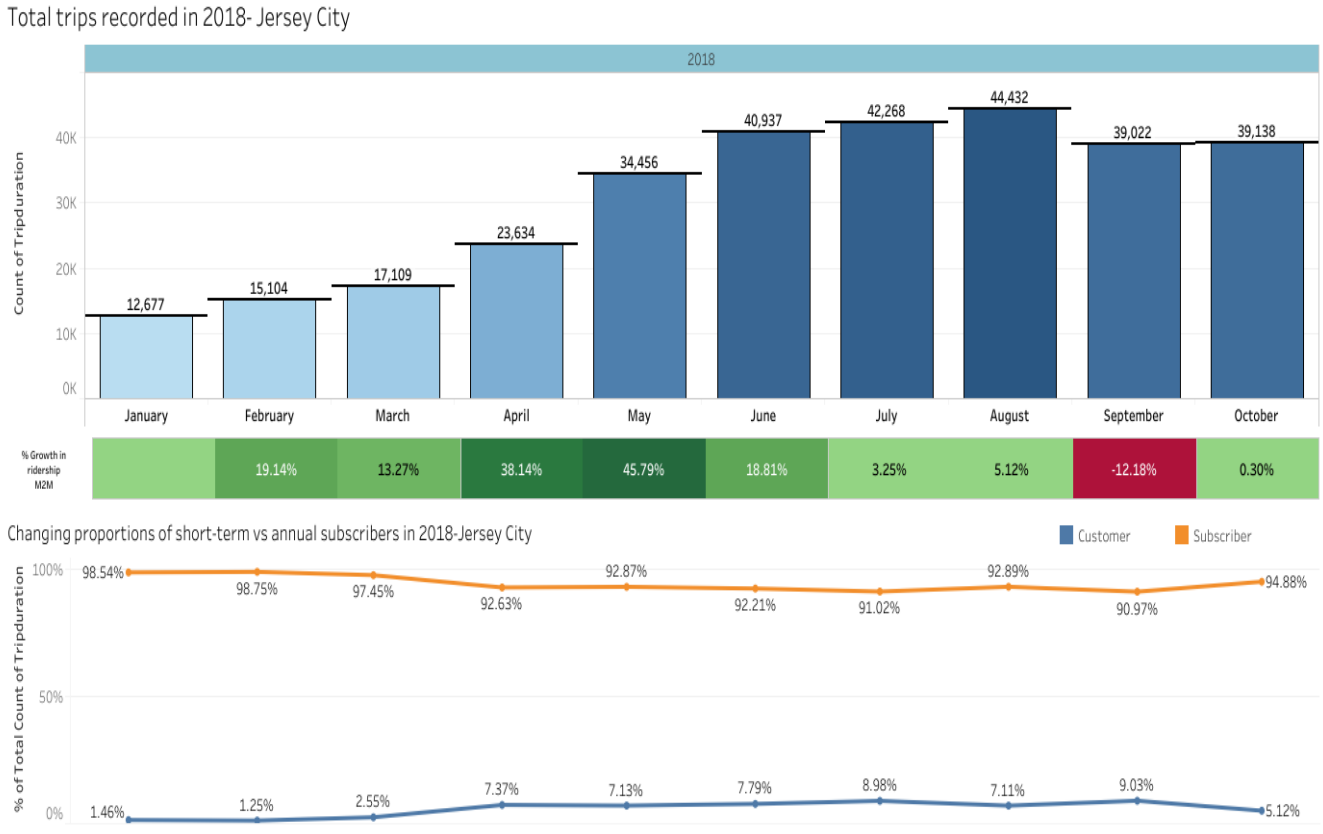
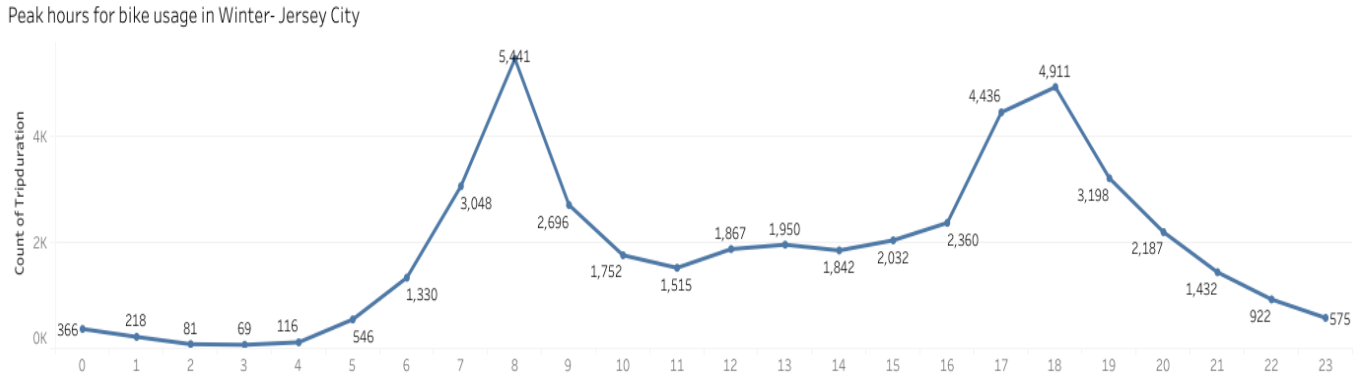
I chose to work with monthly datasets (from 2018) for Jersey City's Citi Bike program to create insightful visualizations. First, I used Pandas and Jupyter notebook to generate a merged .csv file output with all the monthly data before attempting to generate visuals on Tableau Public.

The first set of visuals show how many trips were recorded in Jersey City, every month in 2018 while also providing percent change in ridership from month-to-month. There is a steady increase in the amount of time people spend on bikes in Spring and Summer owing to good weather conditions. Once fall starts to set in (September onwards), we see a drop in numbers.

The last visual shows the changing ratios between short-term customers and long-term subscribers to the program. Spring and Summer months show increased numbers for short-term customers suggesting that Citi Bike program is popular with tourists in the area.

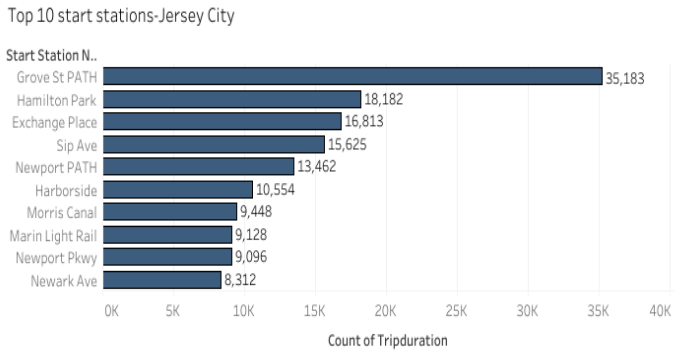


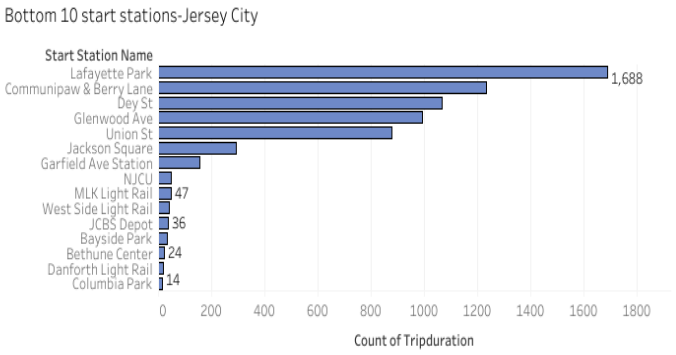
The next set of visuals show peak hours of bike usage in summer and winter months. The most popular hours seem to be 8 AM and 6 PM. Most riders may use these bikes at these times to commute to and from work or other businesses to beat peak traffic hours.

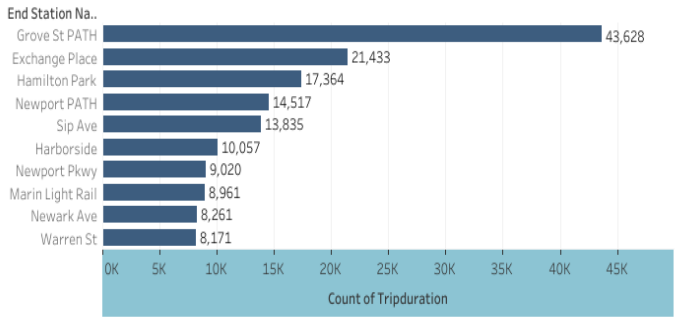


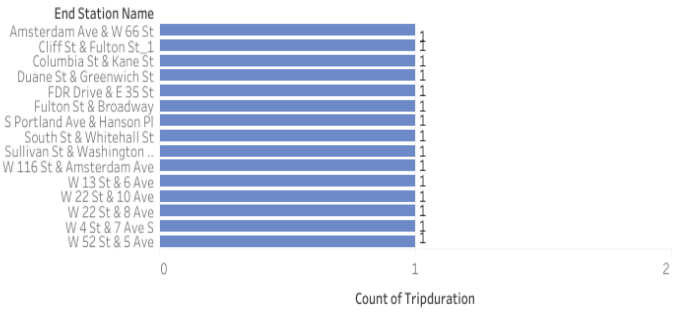
The next set of visuals point to the most popular and least popular start and end stations in Jersey City in 2018. The most popular stations may be located close to workplaces, homes or other places of interest. The chances of booking a bike at these popular locations might be tougher during peak hours despite having a higher number of bikes, due to increased demand.

These least popular stations may have made the list because the locations might favor more foot traffic (lack of parking spots/ construction/ traffic etc.) rather than bike riders.



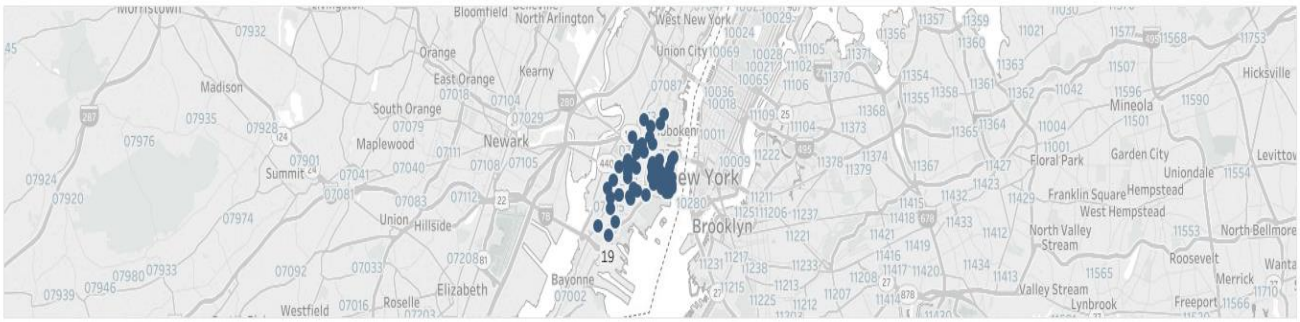






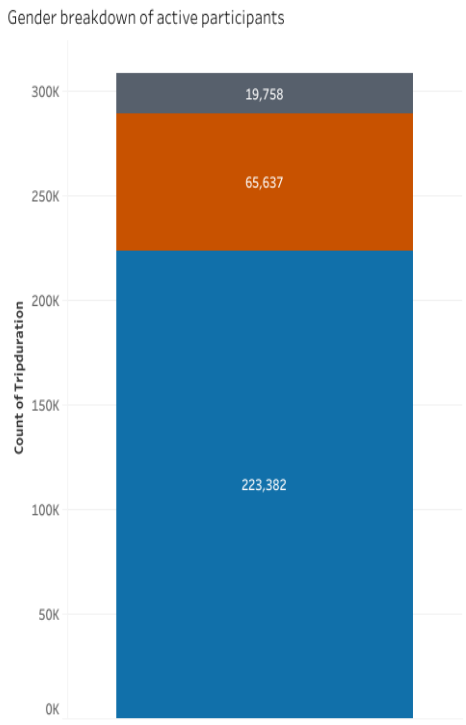
This visual shows a static map that plots all bike stations (start and end) and indicates popular locations to start and end a journey with zip code data overlaid on top. All Start stations are in Jersey City while end stations can also be seen in Brooklyn and New York as well.

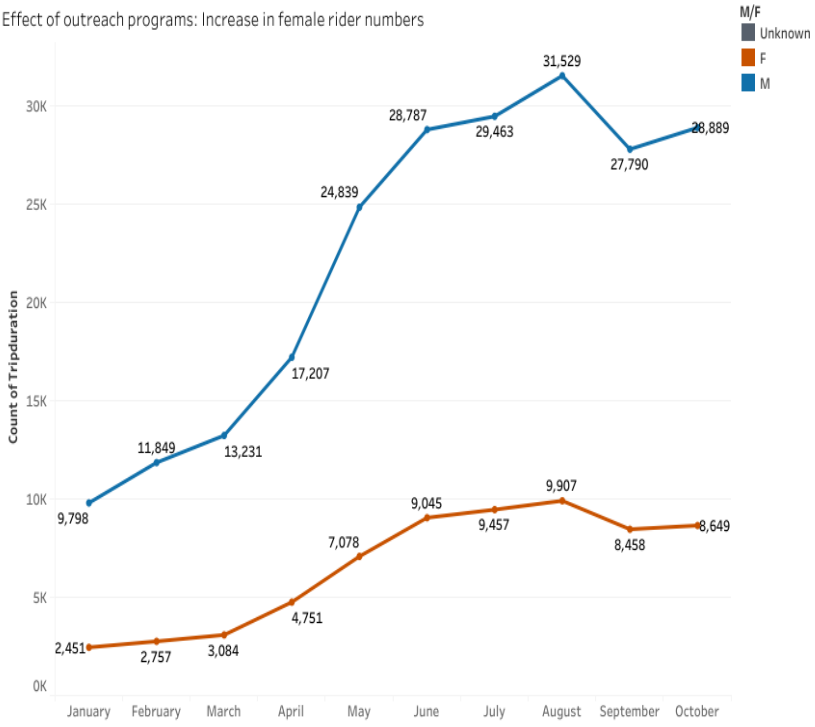
Start Stations-Jersey City



End Stations-Jersey City

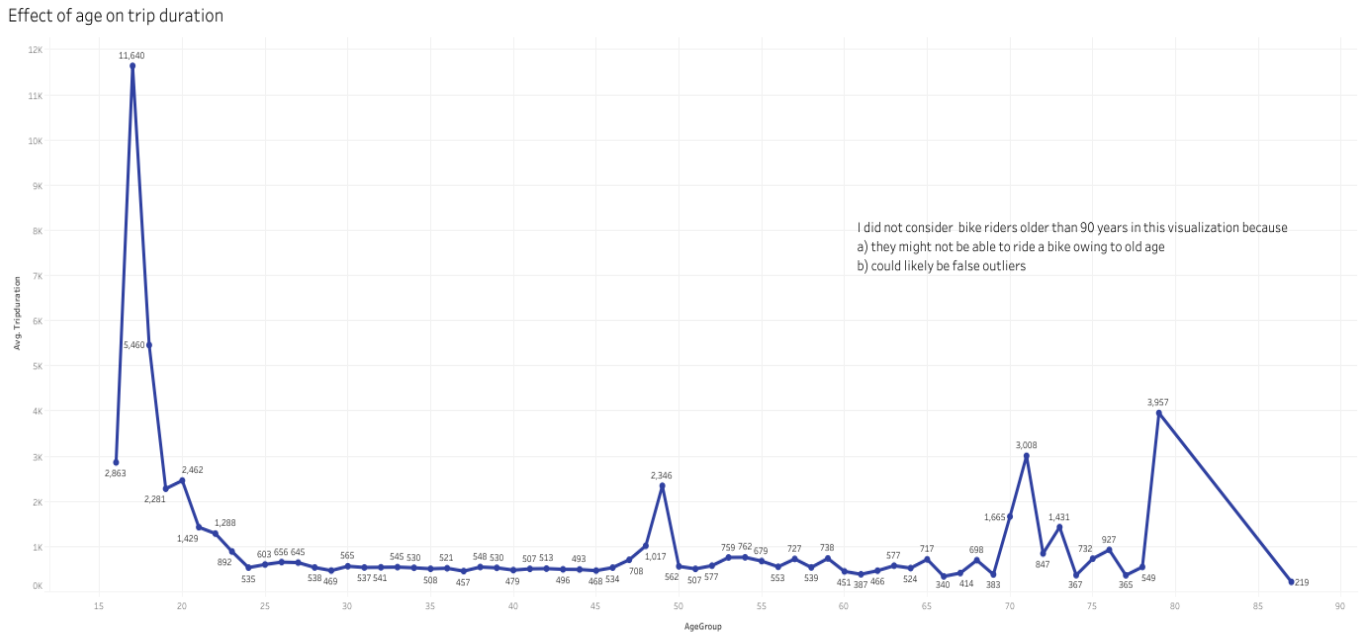
The next set of visuals gives us an insight into the gender of both short-term and long-term subscribers. As is seen, most bike riders are male. Gender Outreach programs may have played a major role in motivating, inspiring and assuring women of their safety, thus helping increase female ridership over this time period.





The next visual dashboard demonstrates the effect of age on ability to handle and ride a bike. As expected, riders between 16-20 years of age seem most comfortable riding bikes. There are fewer people in their 20's, 30's and 40's riding these bikes. However, we also notice a small increase in number of people riding the bikes in their mid-40's, 50's, 60's and 70's. This may be to avail the health benefits of maintaining an active lifestyle.

I did not consider data points over the age of 85 as these could most likely be false outliers.



I calculate that the average distance a Citi Bike is ridden is 0.61 miles. More the number of miles put on a bike, more the chances that it is up for inspection or repairs.

In this visual, all the bikes are represented on the X-axis (Bike ID) and the number of miles on Y-axis. Every circle is an individual bike. The green-red color schema is helpful to indicate how close a bike is to inspection time or repair. Green circles indicate bikes that do not have many miles on them and are in decent/ good condition. The orange-red circles indicate bikes that require some sort of servicing while deep red color circles indicate bikes that might need to be phased out.