City Bike Analytics – Daily Activity

1. **Data Set**

The data set includes the New York city bike data for the summer months (July, August and September) of 2019 consisting over 100,000 data points.

1. **Findings**
   1. Rush Hours

Bikes are not used much in the time period midnight-5am, based on the start times. Most trips start from 7-9am or 5-7pm. Least number of trips start from 3-4am. The busiest hours are 7-9am and 5-8pm. This is not a surprising result at all. However, those who use bikes from 3-5am, use them for longer average time periods compared to other users. Their average trip time is 4521 seconds. Most of the rest of the day, average trip time stays below 1000 seconds. But there are very few trips in this time period. The total daily trip duration is highest between 4pm-8pm. This also indicates, that this is the time most people use bikes. The next highest trip duration is between 7am-9am. Based on the ending time, trips end at the midnight have the longest average trip time. Overall most trips are short trips less than 2 hours. Some are very long trips (more than 8 hours).

* 1. Bike Usage

The top 5 most used bikes (based on the total trip time) are 29459, 26173, 29674, 29299 and 29551. These bikes are the ones that most likely need servicing or repairs. On the other hand, there is one bike, 25421 stands out as the one with the highest average trip duration. The average trip durations for this bike is about 9 hours. By digging deeper, it revealed that most of the trips started between 4pm-5pm.

* 1. Gender

There are three gender groups in the data set. Males (indicated by ‘1’), Females (ind1cated by ‘2’) and Unknowns (indicated by ‘0’). They all are very similar in terms of the trip start time. Majority of bike users are males. Most effective gender outreach program is required to attract more females.

* 1. Why some bike stations are more popular?

By analyzing the top 10 starting and ending stations, it revealed that top 5 stations for starting and ending are the same. This is a interesting result and needed more digging to find out why. After looking at several parameters without much success, I looked at the map for any clues. The map shows four of the top five stations located near subway stations. The other bike station is located near the Hamilton park. Hamilton park seems to be a popular place among the bikers. This shows where the bike stations should be located.