Observed phenomenon

1-Location of the stations is a direct driver of the number of users. The data clearly shows that stations located centrally near central park have the highest number of users. I would suspect this is due to the amount of foot traffic in the area and simply the largest population of the area. Given that most of the cities largest attractions and tourist destinations are in this area, it is not surprising that these are the most used stations. It would appear that users of these central stations are not using them long, as they also have the shortest trip durations. This is likely because they are using them block to block rather than simply walk. Since car traffic is so bad in this area, users are riding rationally. Inversely, stations furthest from the center have the longest average duration. This supports that users are taking the bikes from the further boroughs (Bronx, Queens and Brooklyn) and riding them into Manhattan.

2-There is little to no variation in the peak hours the bikes are used over the time period analyzed. The most frequent start times are roughly correlated with rush hour(7-9am) and the end of the business day (3-5pm). This is to be expected as a considerable amount of the bike traffic likely uses the bikes to commute to and from the office. What was variable was the seasons which saw peak ridership. Ridership peak in the fall and was lowest in the winter. Considering weather in New York can be quite cold, it is not surprising that winter is the least active season. What is perhaps most surprising, is that summer was not the peak season. Given the warm weather, students out of school and tourist season in full swing we might expect summer to be the peak season. Without further analysis it is hard to nail down why this is, but I suspect that warm weather actually works against some riders encouraging them to either walk for very short distances or take a cab/rideshare for longer distances. Fall likely encourages riders because the temperature is moderate. Users don’t want to ride when it is super cold(winter) or super-hot(summer). Further analysis looking at average distance by season would probably shed some light on this