Phenomenon 1 – Utilization % of Bicycles

Looking at the bike utilization rate revealed that most bikes are not being used very often and are sitting idle waiting for a customer to come along. I divided the duration of the ride in minutes by the total minutes in the month being analyzed to get that rides utilization rate and then summed it up by Bike Id. I then looked at the top and bottom 10 stations ranked by average utilization of the bikes that come came from them during this time. Additionally, I graphed the start time as hours of the day vs. the total trip duration. All of this shows the importance of having the assets in the right place at the right time and maximizing the utilization of each one. Based on the utilization percentages, it looks like Citi has an opportunity to relocate bikes to the top 10 stations to get better usage and ensure customers have them at the right time of day, preferably around 7 to 9 AM and 5 to 8 PM.

Phenomenon 2 – Gender and Usage Type

The second phenomenon looks at gender and types of usage. In the first graph, we can see that more men us the bikes across both usage type categories than women do, but subscribers far exceed the customer base. We also see that the average age of the customers is about 6 to 6.5 years younger than the average subscriber for both men and women. Customers are also using the bikes for longer trips than the subscribers are and subscribers are using them during peak travel hours for work vs. a more bell shaped curve throughout the day for customers. From this we can infer that subscribers are likely using the bikes to get to work and back every day which, depending on the distance to work, would lower their overall average trip duration whereas the customers are likely using them for longer, one off type trips.