Citi Bike Data Analysis

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This project consists of phenomenon findings discovered while analyzing New York Citi Bike data from Q3 of 2020. The data originates from the New York Citi Bike Program's Citi Bike Data webpage, where data is collected from each journey a bike took. The data contains each bike's ID and accompanying user information such as the gender of the user, the birth year of the user, trip duration, and more. While the New York Citi Bike Program regularly updates the data, there does not currently exist a dashboard or sophisticated reporting process to unearth trends or significant findings. This is where my project comes into play.

Story Breakdown

Dashboard One:

The first dashboard within the Citi Bike Analysis story consists of visualizations to display the type of bike users during Q3 of 2020. We begin with this tile to obtain a broad understanding of the bike user demographic. The first phenomenon found is that the number of recorded bike users during Q3 of 2020 appears to be decreasing. This phenomenon is represented by the three single bars charts on the left-hand side of the dashboard. This decrease could be a result of the dropping temperatures during the Winter months where the New York Citi Bike Program is located. The colder it is outside; the less likely individuals would be willing to take a journey on a bike.

The first dashboard also consists of visualizations to display the demographic breakup between gender and subscribed users. The number of subscribed users appear to be significantly greater than the number of non-subscribed, customer, users. The number of male users compared to female or unknown users also appears to be significantly greater. An idea to note here could include a recommendation to increase marketing strategies targeted at women to increase their use of bikes. The last phenomenon to note is that the number of user types, female, male, subscribed, or unsubscribes, appear to be decreasing as well. This decrease, similar to the decrease of recorded journeys, could be explained by the fall in outside temperature during the selected months in Q3.

Dashboard Two:

The second dashboard within the Citi Bike Analysis Story consists of six static maps indicating the most popular locations to start and end a journey with zip code data overlaid. The most prominent phenomenon discerned from these maps, is that St. Grove Path appears to be among

the most popular location to begin and end a journey in all three months of the quarter. The second phenomenon observed is that most bikes are starting and ending their journeys within the 07302 zip code area. These findings could lead to efforts to discover methods of increasing journeys outside of this zip code area to expand the volume of bike users.

Dashboard Three:

The third dashboard within the Citi Bike Analysis Story also consists of six static maps, however, these maps instead indicate the top ten stations to start and end a journey rather than all stations. The points on each map are sized and colored according to each station's popularity. The darker and larger the station point, the more popular that station is to start or end a journey. Once again, St. Grove Path appears to be the top station to start and end a journey. A separate and prominent phenomenon discerned from this dashboard is that the decrease in bike users through Q3 are depicted geographically. The size of station points drastically decrease as one moves down each map.

Dashboard Four:

The fourth and final dashboard within the Citi Bike Analysis Story consists of trip duration phenomenon findings. This dashboard includes average trip duration based upon user age or gender per month of Q3. The first phenomenon is that the younger the bike user, the longer their average trip duration will be. There does appear to be a few longer trips made by older bike users, however, the trend of each graph does slope downward on average. A second phenomenon is that females tend to use the bikes longer than males.

Overall, many phenomena can be discerned from the New York Citi Bike data from Q3 of 2020. These phenomena can ultimately be used to make countless business decisions to increase the use of bikes and the continued use of dashboards such as the four included in this Tableau story would be a highly strategic use of the New York Citi Bike Program's Citi Bike data.