Matt Siriani

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Data Analytics and Visualization

Tableau Challenge/ Citi Bike Analysis

Throughout the Tableau Unit, I discovered that its easy to utilize and create visualizations in many different aspects. Throughout this assignment, I created six different visualizations based on the Citi Bike Data: standard bar chart, a map, stacked bubbles, line chart, horizontal bar chart, and pie chart. The following subjects that I touched on are as follows: Average Trip Duration based on age, Peak weekdays based on consumer, the subscriber/customer breakdown based on User type, a Map of the best start stations in the area based on popularity, a chart based on the popularity of best and worst end stations, and a stacked bubble graph based on which month provides the most data and more riders based on Average Bike ID and total data for the month. A majority of the visualizations are based exactly 10 years ago from July 2013, but I also utilize July 2013- February 2014 as well.

The first visualization that I used was a bar chart based on trip duration through age. By observing the data, I discovered that people born between the years 1945-1961 can go at least 800 meters on average per trip. For context, that means you were between the ages of 53-69 according to the 2013-2014 data sets that I used for this. I did discover that the highest overall average trip goes to someone who was born in the year 1899. However, that is an outlier because there is not a huge sample size for a population in that birth year.

The second visualization involved a line chart based on peak days of the week based on consumer. The chart would give you the average number of people that would bike on each weekday between the timeframe that I used. According to the data, Wednesday (or hump day as some would call it) has the highest peak of total consumers biking throughout the week. Fridays are a very close second by a peak just around 8,000 people less than Wednesday’s.

The third visualization is a simple pie chart breaking down the status of the people who participate for Citi Bike whether they are a subscriber or a customer. The split between the two showed that around 88.5% of the participants were subscribers to Citi Bike, while the remaining 11.5% of participants were customers.

The fourth visualization was a Map of the best starting stations in 2013 based on popularity. The bigger the circle, the more popular the destination. The map identified that the most popular starting locations were Central Park South and 6th Avenue while the second most popular place was in Wythe and Metropolitan Avenue located outside of New York City.

On the opposite side of the coin, the popular ending stop to a journey was made through a horizontal bar chart. The chart showed that Central Park and 6th was the number one choice on average for people to conclude their biking. A very distant second was Franklin and Myrtle Avenue.

The final visualization was a stacked bubble chart based on average Bike ID and based on which month had the most data to utilize. Surprisingly, the month of October of 2013 was the month that possessed the most data as far as total bikers are concerned with well over a million people taking to the streets and putting the pedal to the medal. It’s surprising because of the idea that cold weather starts to come in around October, however the facts show that October is a perfect blend of cool and warm air which is good enough for people to bike.