Citi Bike Analytics Report

The purpose of this regular report is to analyze on the phenomenon that we have discovered to help the city officials publicize and improve the city program for future planning.

We have chosen the timespan over the last 12 months from January 2020 to December 2020, to give us a good overview on how the shared bike program was performing and any likely phenomenon in the year 2020.

Over the course of the analysis, we organized the following valuable facts and trends which will help the decision makers to make the plan in a more efficient and effective way.

**Phenomena 1 – Users Age/ gender:**

Age and gender groups is one of the interesting phenomena that we have been focused on.

We started the analysis by asking following questions including:

1. How does the average trip duration change by age?
2. How frequency of the people using the shared bikes by age?
3. What are the gender portions of the users?

We understand that not all the users put correct personal information when registering their information, some users even registered with the birth year being in 1890s. Therefore, to avoid the incorrect report, we have removed the outliers in our analysis.

Given the available data, we can use the average trip duration to determine the age groups that are actually enjoying using the share bike service. The result shows that for people around age 50 are having the exceptionally long trip on the shared bikes. The second highest age group is for people around age 30 use the bikes for long trips in average.

Chart, line chart, histogram

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Age frequency means that the number of the people that use this bike service based on the age. The result shows in line with the average trip duration result which demonstrated that due to the large number of people born in the year 1969 that have ridden the bikes over the year, hence the total trip duration is the longest in total.

Chart, bar chart

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The result shows that the male riders are the main user group in using the bike service which indicates males are more active in this type of activities than female.

Chart, pie chart

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Another observation here is apart from this pike age, other age groups are gradually increasing in number of people using this service from age 50 to 30, which means the second pike age is for people during age 30s.

**Phenomena 2 – Top & bottom stations for starting and ending trip**

The second phenomena we have identified is the popular stations for the riders to start and to finish their trip.

We started the analysis by asking questions including:

1. What are the top 5 stations for starting trip?
2. What are the top 5 stations for ending trip?
3. What are the bottom 5 stations for starting trip?
4. What are the bottom 5 stations for ending trip?

The result we found here is that the top 4 stations for starting and ending trip are being the same – Grove St Path, Newport Parkway, Liberty light rail & Hamilton Park. Grove St Path location are exceptionally more than other stations.

Map

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The popular stations are geologically close to each other being shopping and leisure side of the town. The shopping and restaurant areas attract most people and tourists; therefore, these stations have more people using the biking facilities.

For the common stations that are least popular in starting and ending trips are quite different as it is up to the riders to decide where to end the trip at. For starting stations, JCBS Depot, Leonard Gordon Park, Jackson Square, Dey St & Union St are the least popular places for the starting trip. These areas are more of for residential rather than hot travel spots. For least popular ending places, it is observed that if riders want to end their trip, they would rather find somewhere with more transportation access as well as dining access upon finishing their trip. Therefore, Grove St Path, Newport Parkway, Liberty light rail & Hamilton Park are being hot ending trip stations.

Map

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Background pattern

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