CYCLISTIC

A CASE STUDY ON THE DIFFERENT TRENDS AMONGST CASUAL AND MEMBER RIDERS

By: Ryder Barton

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The provided data came in monthly CSV files. Combined, there were over 5,000,000 rows of data that had to be cleaned, sorted, and filtered before analyzing. To see the datasets, Python code, SQL queries, Tableau workbook, and Excel sheets used for this project, please see the Github Repository link on the last page.

About the Project

To complete the Google Data Analytics Professional Certificate, I decided to complete one of the provided case studies. This revolves around Cyclistic, a fictional bikeshare company in Chicago. However, the data provided to me is from Motivate International, a real bike share company in the United States.

In this scenario, Cyclistic's financial analysts have discovered that there is potential growth in converting Casuals (customers who do not have a membership) to Members (customers who have purchased the annual membership). I have been tasked to find out **How do Members and Casuals use Cyclistic bikes differently?**

To answer this question with the data provided to me, I decided to analyze…

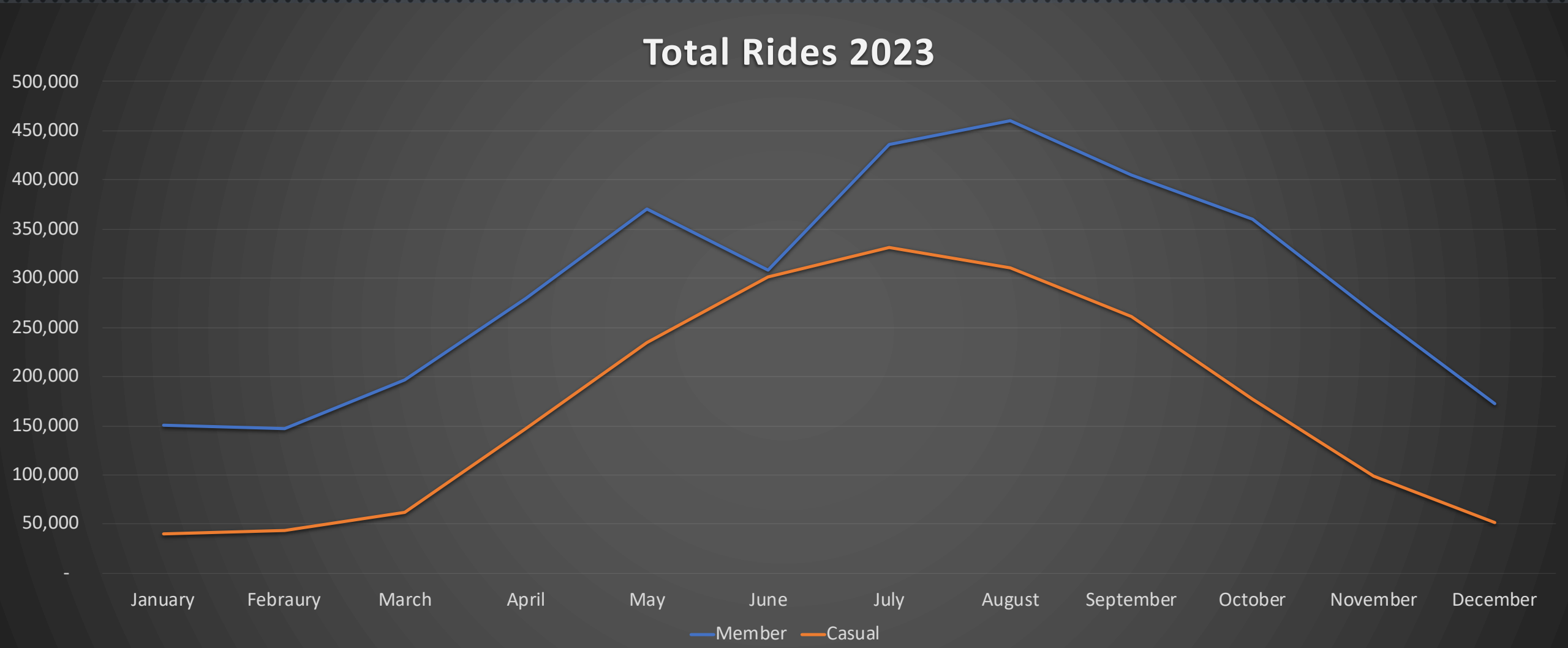
- The number of rides between Members and Casuals and the type of bike they use.
- The difference in average time of the rides between Members and Casuals throughout the year.
- The stations that Members and Casuals tend to ride from.

Number of Rides

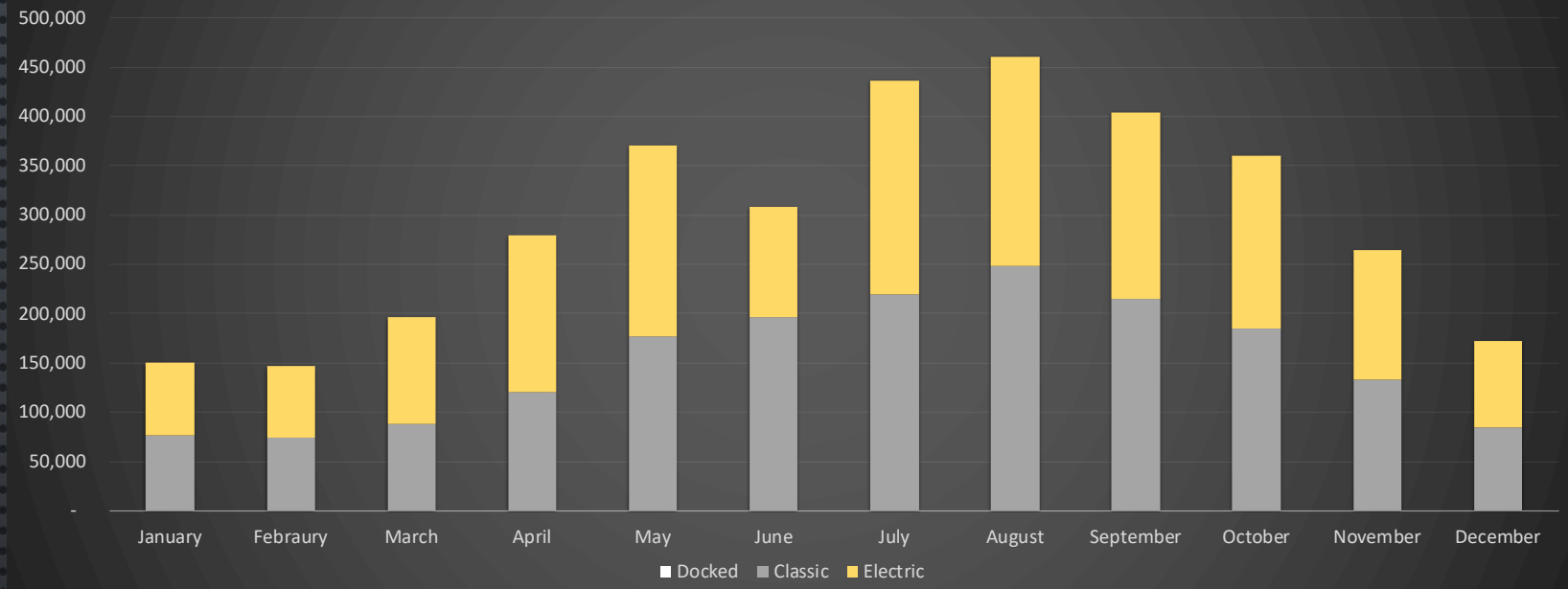
After retrieving all the data, I used basic SQL commands to see which type of bikes Members and Casuals tend to use and the number of rides Members and Casuals took throughout 2023.

These results can be seen in the next two pages.

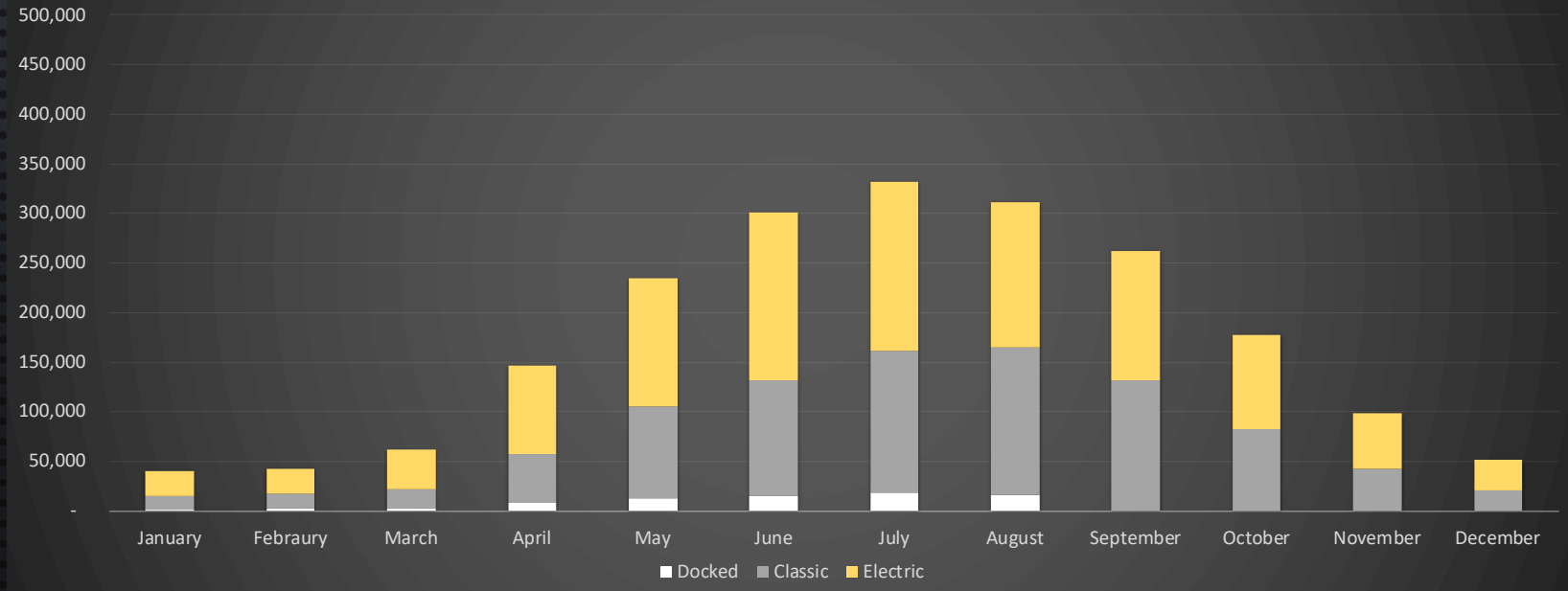
- Members and Casuals see an increase in rides during the summer months.
- Members take significantly more rides than Casuals.
- Members had an odd decrease in rides in June (worth asking management).
- Only Casuals used docked bikes, but they were not used anymore in September (Possibly discontinued?).
- Casuals prefer electric bikes while Members prefer classic bikes.


Total Rides 2023
500,000
450,000
400,000
350,000
300,000
250,000
200,000
150,000
100,000
50,000
-
January
Febraury
March
April
May
June
July
August
September
October
November
December
Member
Casual

Member Rides 2023



Casual Rides 2023

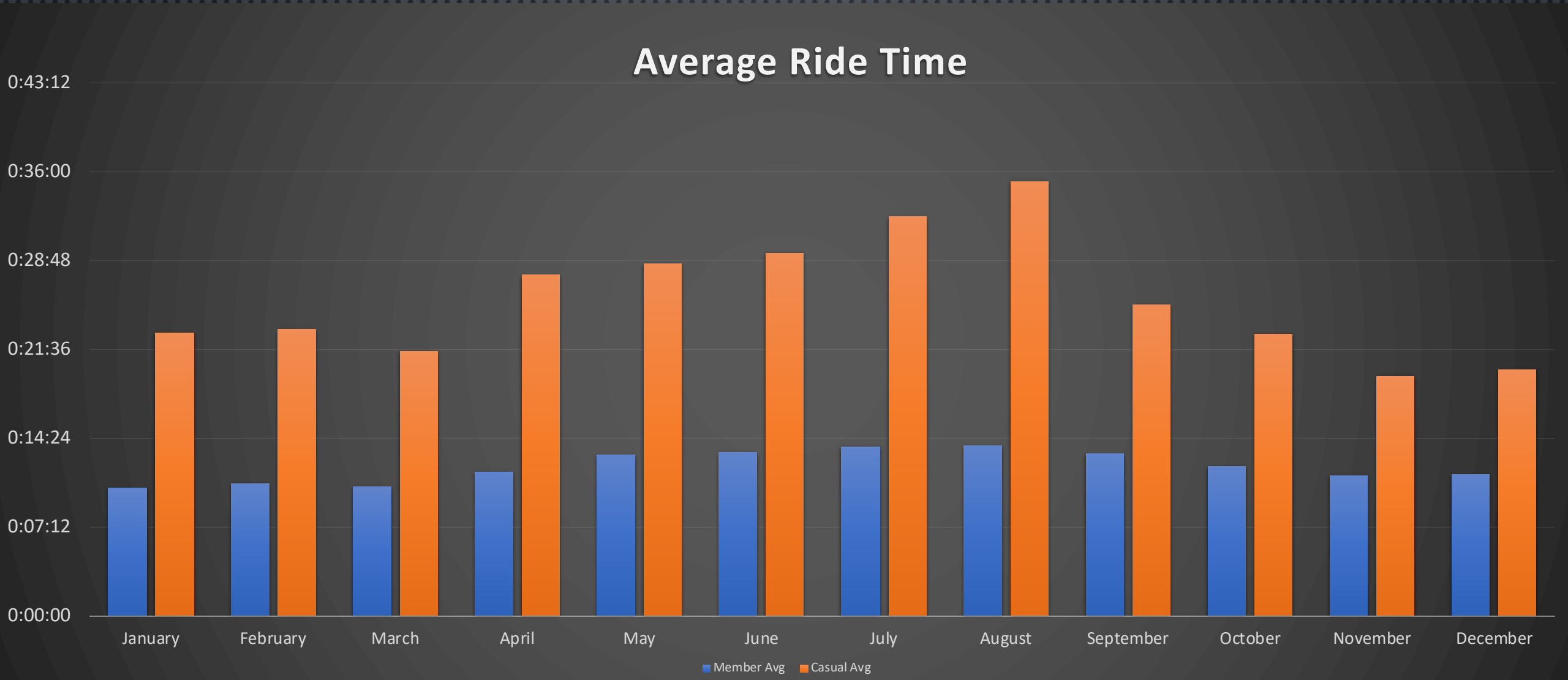


Time

Next, I decided to use SQL to retrieve the average time that Members and Casuals rode per ride during each month.

These results can be seen in the next page

- On average, Casuals rode over double the amount of time than Members. Note that Members had significantly more rides than Casuals. This could mean that there is possible correlation with time and number of rides.
- Members and Casuals both saw an increase in time during the summer months.
- Casuals time was not as fixed as Members.

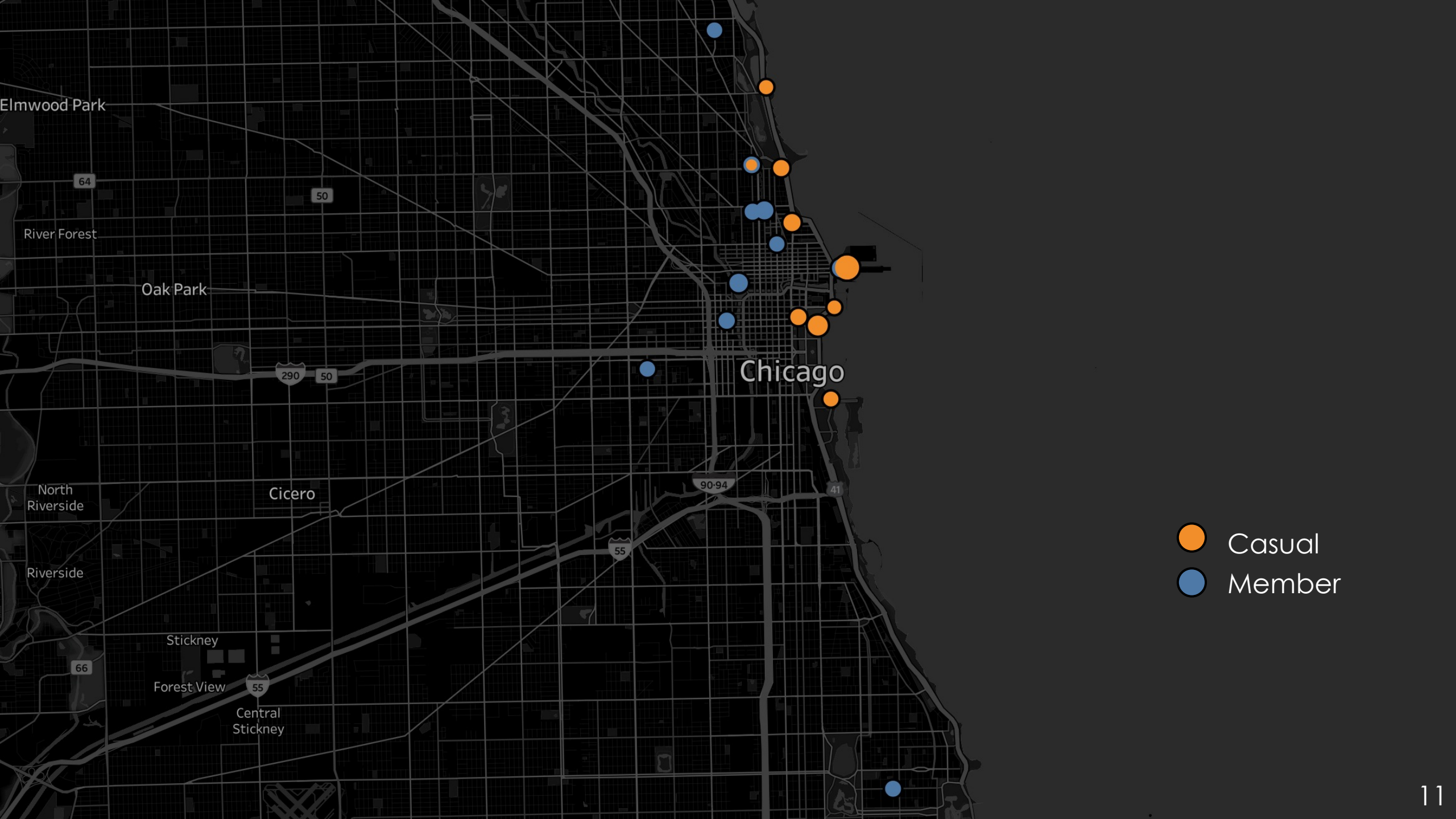

Average Ride Time
0:43:12
0:36:00
0:28:48
0:21:36
0:14:24
0:07:12
0:00:00
January
February
March
April
May
June
July
August
September
October
November
December
Member Avg
Casual Avg

Stations

Using SQL, I pulled the top 10 stations that Members and Casuals start their rides from. After searching for the latitude and longitude of these stations, I used Tableau to make an interactive dashboard to show these stations on a map of Chicago.

A picture of this dashboard can be seen on the next page. Note that the bigger the circle, the greater the number of customers that visit that station.

- Compared to Members, Casuals tend to be attracted to stations on the coast of Lake Michigan.
- The station on Wells & Concord is the only station that appears on both Members and Casuals top 10.


Elmwood Park
64
50
River Forest
Oak Park
290
50
Chicago
90·94
41
North Riverside
Cicero
55
Riverside
Stickney
66
Forest View
55
Central Stickney
Casual
Member

Conclusion & Recommendations

After analyzing and visualizing the data. I have come to the conclusions that

- Casuals ride for leisure
  - This is supported by the facts that they ride the longest and seem to ride near the coast.
- Members ride for efficiency
  - There rides are shorter but they in total ride a lot more than casuals. Also, the locations they ride at are a University and other areas inland.

Because of this I have 3 recommendations to try and convert Casuals into Members:

1. Charge customers based on the time of their rides.
2. Market memberships at stations on the coast of Lake Michigan.
3. Investigate into bringing back docked bikes.

Useful Links

Tableau Interactive Dashboard: https://public.tableau.com/app/profile/ryder.barton/viz/AnalyticsCaseStudyPopularStationsinChicago/Stations

Github Repository: https://github.com/ryder-barton/Case-Study