Google Data Analytics Capstone Project - Cyclistic bike-share rider analysis

Case Study: *Understand how Cyclistic bike-share riders use bikes differently*

Business Task: *Recommend strategies to convert casual riders into annual members*
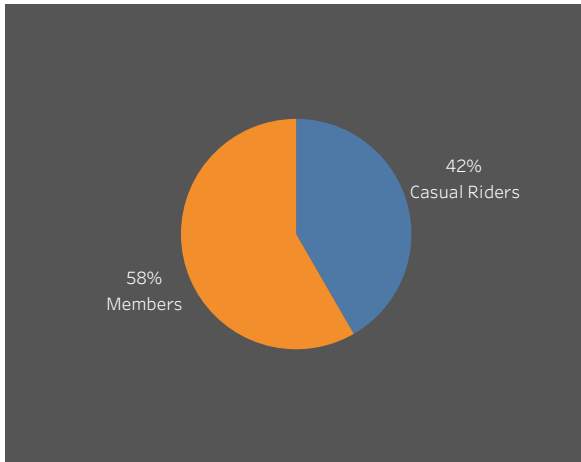
Key Stakeholders: *Cyclistic Executive Team and The director of marketing*

Data Analyzed: *[Historical trip data from July 2021 to June 2022](...)*
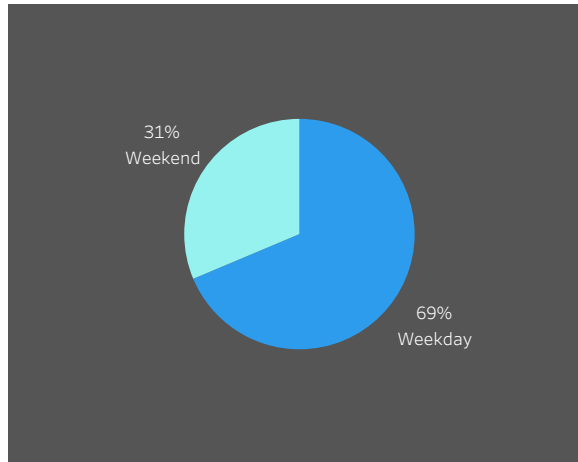*under the license [Data License Agreement | Divvy Bikes](...)*

Tools Used: *R for data cleaning and wrangling; Tableau for Data Visualization*
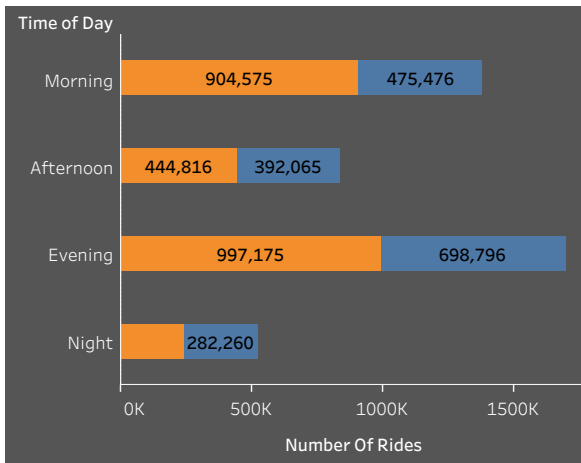
Ride Count Analysis

Total Rides by User Type
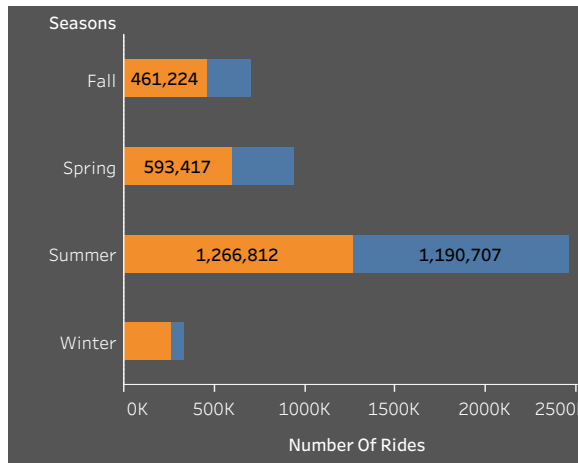
Number of Rides Weekdays vs Weekends

42%
Casual Riders

58%
Members

31%
Weekend

69%
Weekday

User Type
- Casual Riders
- Members

Weekday or Weekend
- Weekday
- Weekend

Number of Rides by Time of Day

Time of Day

Morning	904,575 — 475,476
Afternoon	444,816 — 392,065
Evening	997,175 — 698,796
Night	282,260

0K   500K   1000K   1500K
Number Of Rides

Number of Rides by Season

Seasons

Fall	461,224
Spring	593,417
Summer	1,266,812 — 1,190,707
Winter	

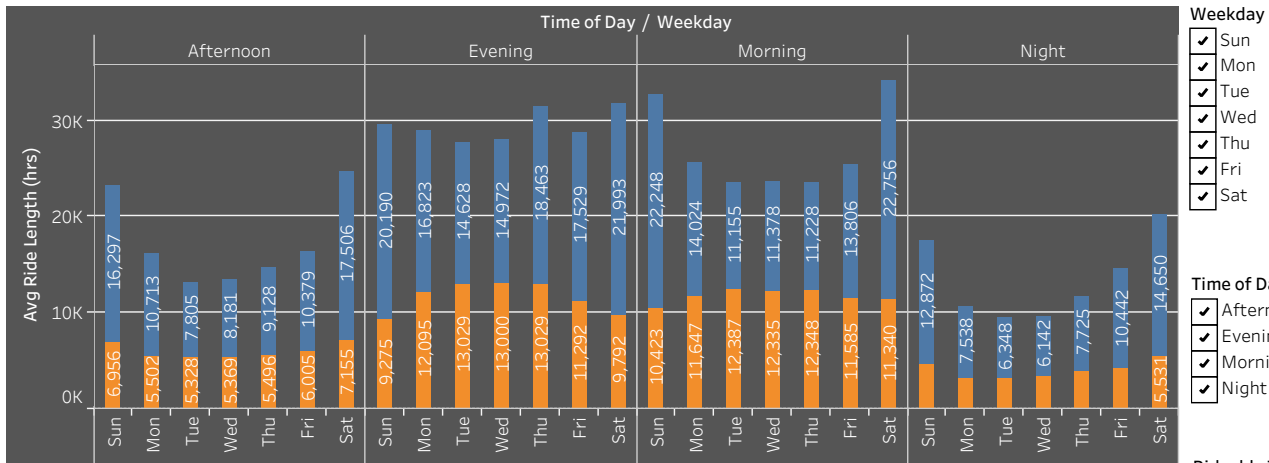0K   500K   1000K   1500K   2000K   2500K
Number Of Rides

Seasons
- ✔ Fall
- ✔ Spring
- ✔ Summer
- ✔ Winter

Time of Day
- ✔ Afternoon
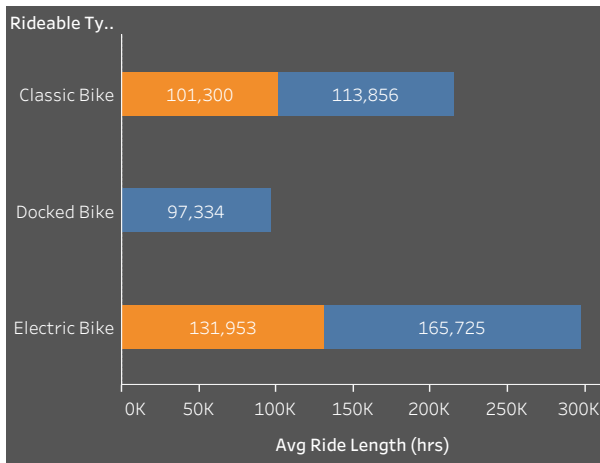- ✔ Evening
- ✔ Morning
- ✔ Night

Ride Length Analysis

Average Ride Length by Day and Time

User Type
- Casual Riders
- Members

Weekday
- ✔ Sun
- ✔ Mon
- ✔ Tue
- ✔ Wed
- ✔ Thu
- ✔ Fri
- ✔ Sat

Time of Day
- ✔ Afternoon
- ✔ Evening
- ✔ Morning
- ✔ Night

Rideable Type
- ✔ Classic Bike
- ✔ Docked Bike
- ✔ Electric Bike

Average Ride Length by Bike Type

Average Ride Length by Month

Month
- ✔ Jan
- ✔ Feb
- ✔ Mar
- ✔ Apr
- ✔ May
- ✔ Jun
- ✔ Jul
- ✔ Aug
- ✔ Sep
- ✔ Oct
- ✔ Nov
- ✔ Dec
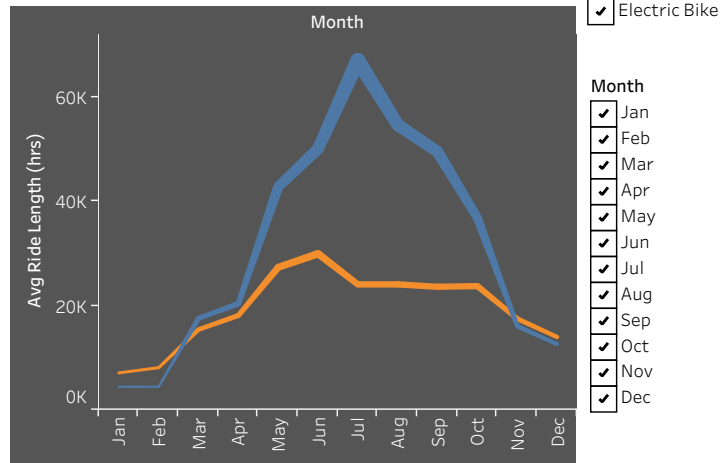
Ride Distance Analysis

Average Ride Distance by Day and Time

User Type
- Casual Riders
- Members

Time of Day
- ✔ Afternoon
- ✔ Evening
- ✔ Morning
- ✔ Night

Weekday
- ✔ Sun
- ✔ Mon
- ✔ Tue
- ✔ Wed
- ✔ Thu
- ✔ Fri
- ✔ Sat
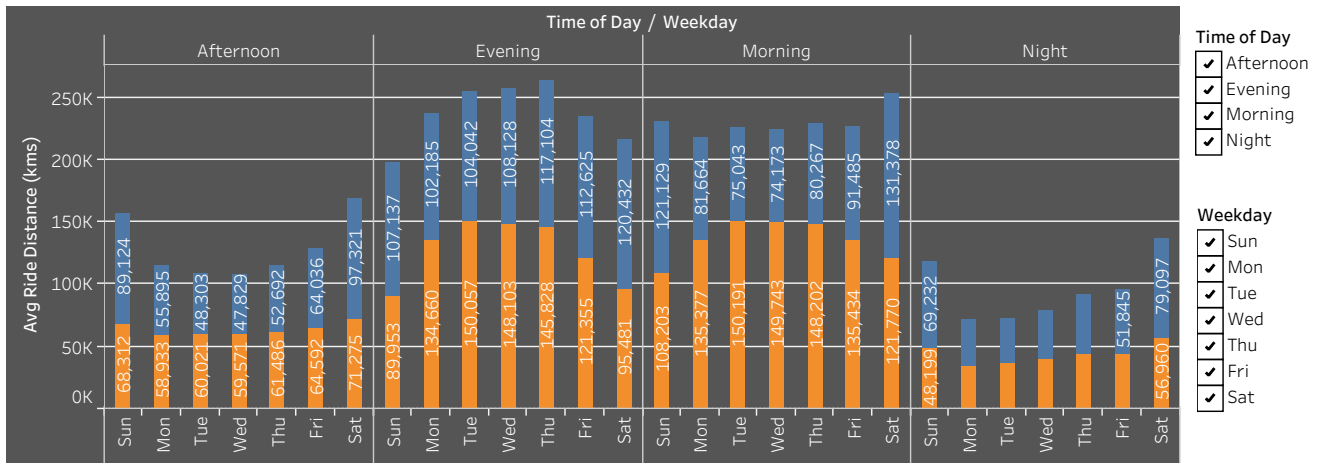
Average Distance by Month
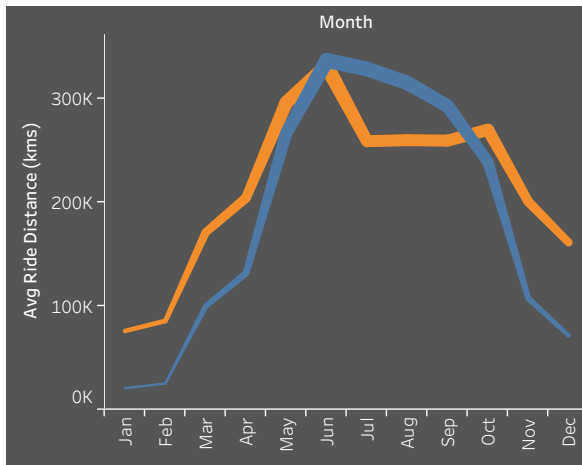
Average Distance by Bike Type

Rideable Type
- ✔ Classic Bike
- ✔ Docked Bike
- ✔ Electric Bike

Month
- ✔ Jan
- ✔ Feb
- ✔ Mar
- ✔ Apr
- ✔ May
- ✔ Jun
- ✔ Jul
- ✔ Aug
- ✔ Sep
- ✔ Oct
- ✔ Nov
- ✔ Dec

Ride Start Stations
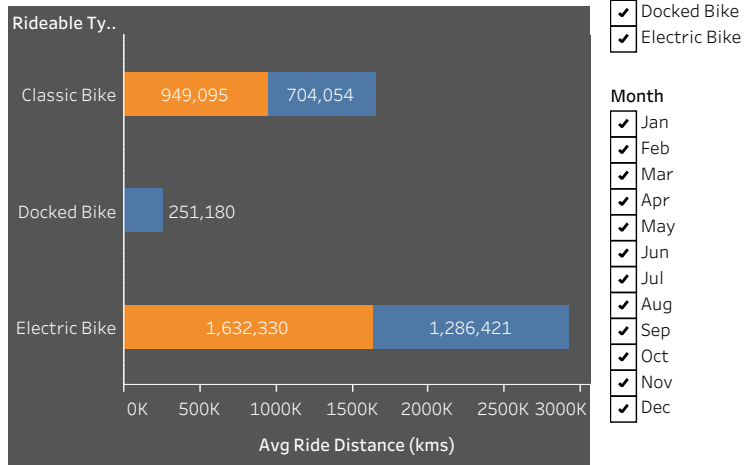
User Type
- Casual Riders
- Members
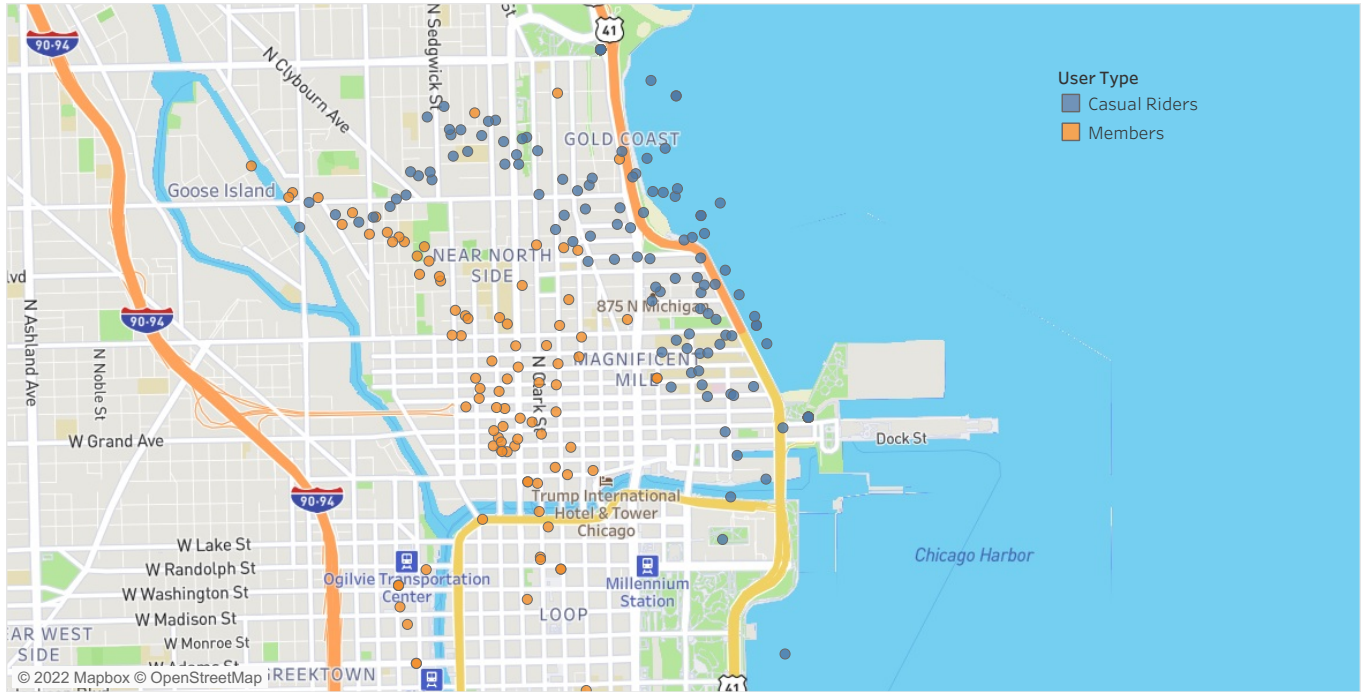
Summary and Recommendations

Summary

From ride count analysis, it is clear there are more casual riders than members.

Members use the bikes more on weekdays compared to weekends.

Casual riders and members use the bikes more in summer & spring months than in winter.

Both Members and casual riders use the bikes more during evenings and mornings.

Most casual riders start their trips near waterfront/tourist locations, wheras members start their trips in the city's business district. It can be implied that members are mostly office-goers and casual riders use bikes for leisure.

Recommendations

To make annual membership more appealing to both user groups, the following marketing strategies can be implemented.

1. Run discount programs on annual membership packages during summer months when the demand for bikes is significantly high.

2. Offer tiered-annual memebership packages. For example "weekend-access-only membership" and "weekday-access-only membership". The weekday-access membership will appeal office-goers and the weekend-access will appeal to people who use bikes for leisure.

3. Include exclusive member benefits according to seasons. For example, discounted passes to the tourist attractions in summer months, food coupons or vouchers in winter months.

4. Collaborate with employers in the business district to offer membership discounts to their employees.