

Analysis of Cyclistic bikes Users: annual members vs. casual riders

Presented by: Kenny Brian

2023-11-07

Objective

Analyze Cyclistic's ridership data to understand bike use between Annual members and casual riders.

Data

- This analysis uses Cyclistic's (Divvy's) historical trip data recorded for the first quarter of 2023 (January, February & March) found here <https://divvy-tripdata.s3.amazonaws.com/index.html>.
- Data Wrangling and cleaning steps taken can found in this [R markdown](#)
- Additional visualizations can be found here <https://public.tableau.com/app/profile/kenny.brian/vizzes>

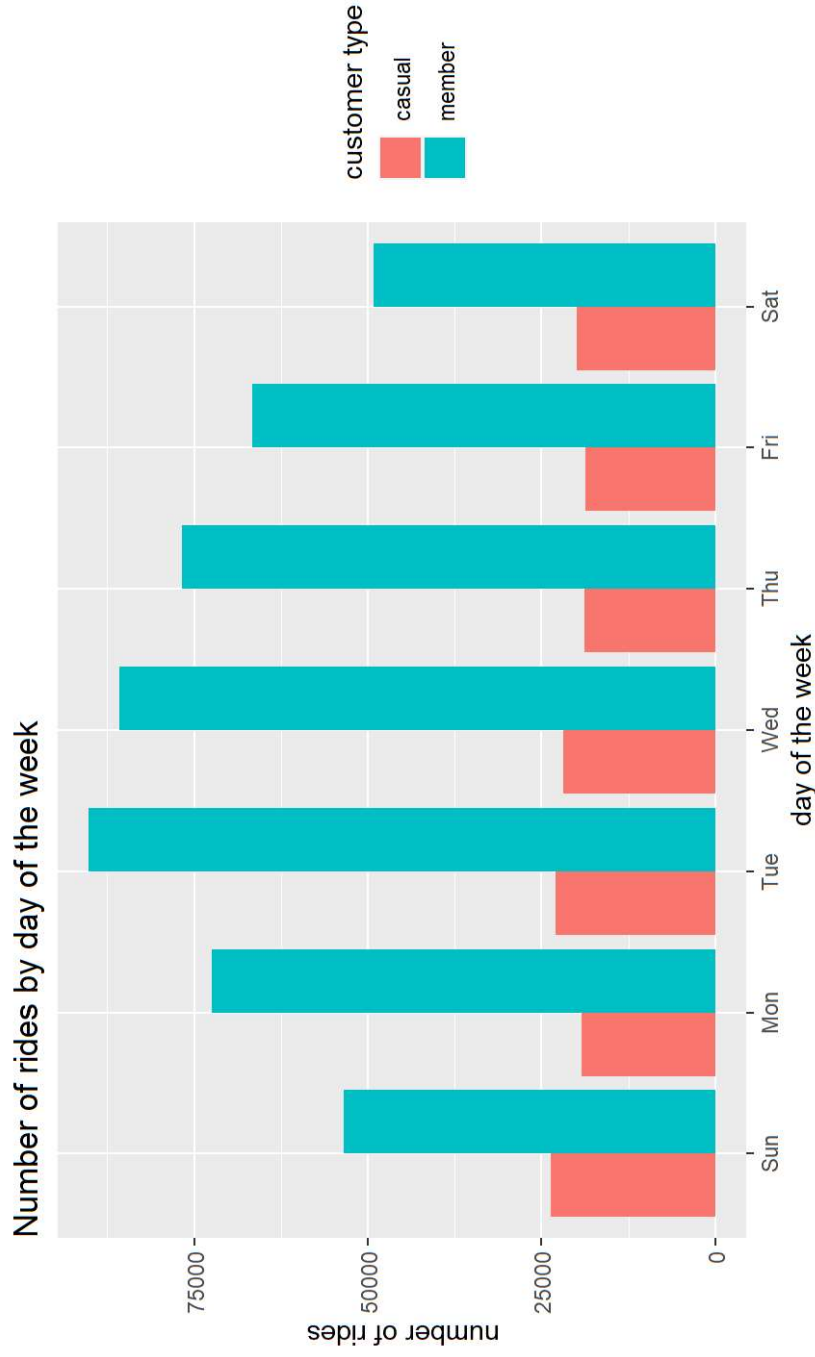
Executive Summary

- More *annual members* use the bikes during the weekdays as compared to the week, Bike use by *casual users* is varies within the week
- *Casual users* generally have a higher trip duration compared to *members*. The number increases sharply on the weekends. The trip duration for *members* is steady on weekdays with a slight increase over the weekend.
- Daily bike use by *members* peaks at 8am and 5pm
- *Both* customer segments prefer electric bikes. However, *casual riders* prefer docked bikes for longer trip duration.

Focus on *bike use, day of the week* and *bike preference* while designing marketing strategies

Number of rides by day of the week

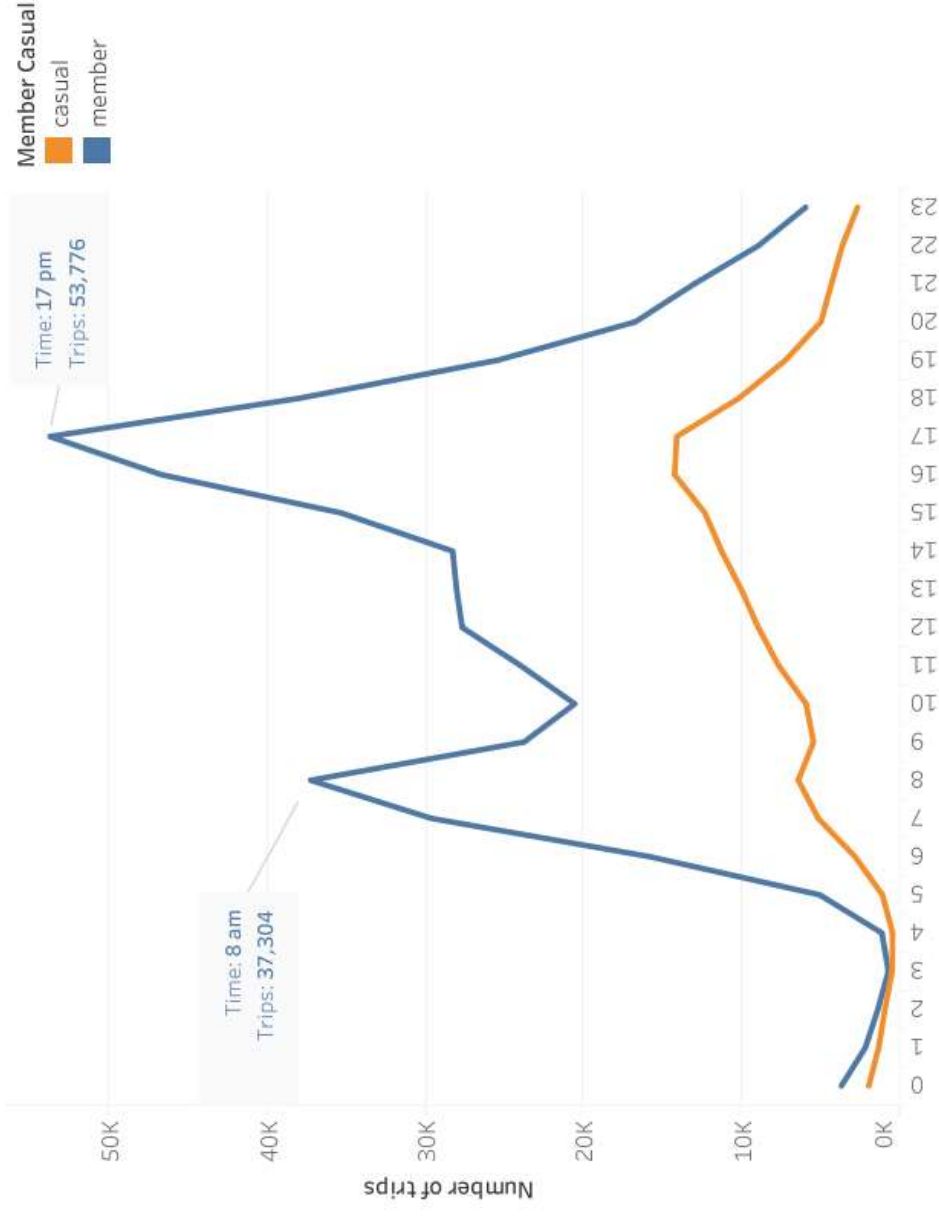
- The subscribed members use the bikes more on weekdays as compared to weekends.



Number of rides by time of the day

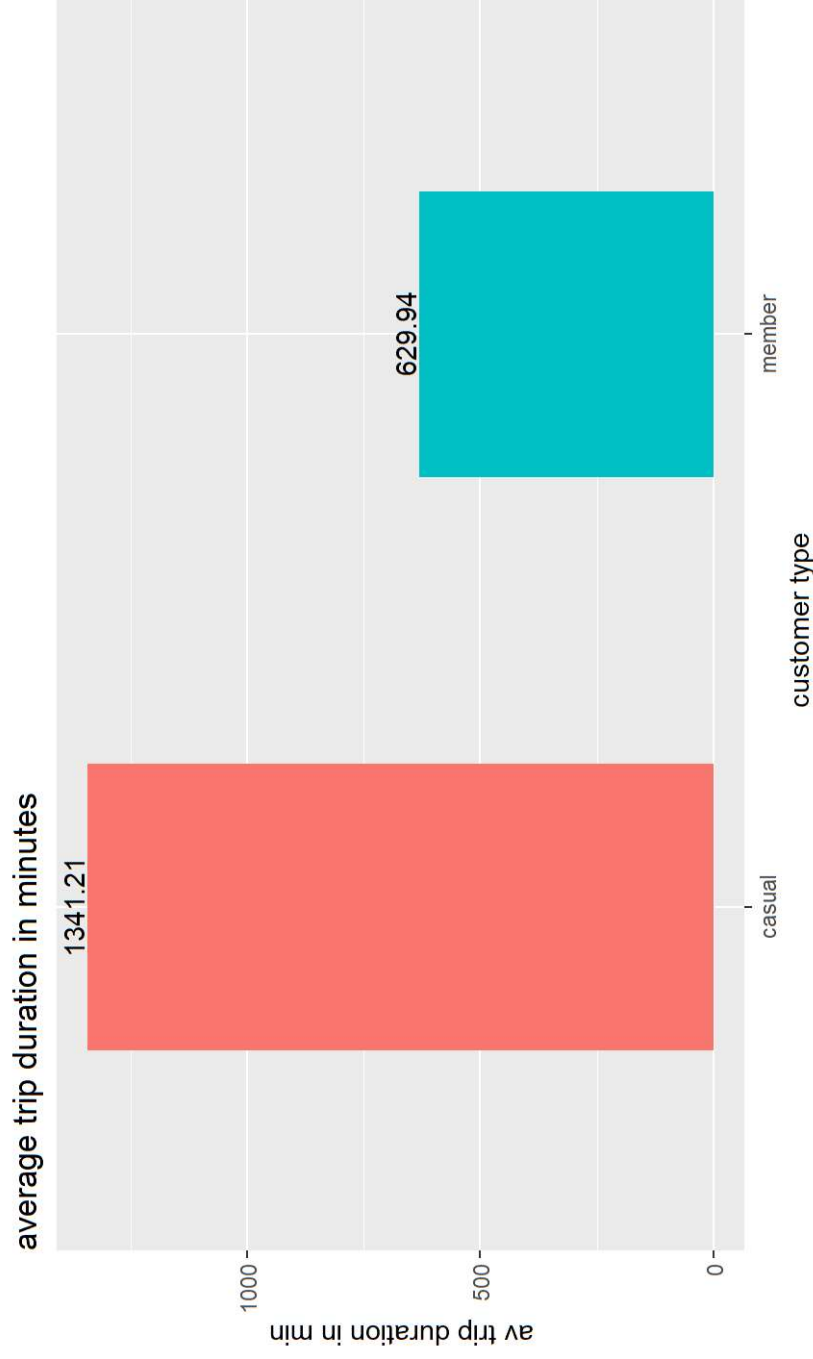
- Daily bike use by *members* peaks at 8am and 5pm while number of trips by casual riders increases steadily during the day and peaks at 4 pm

Number of rides by time of the day



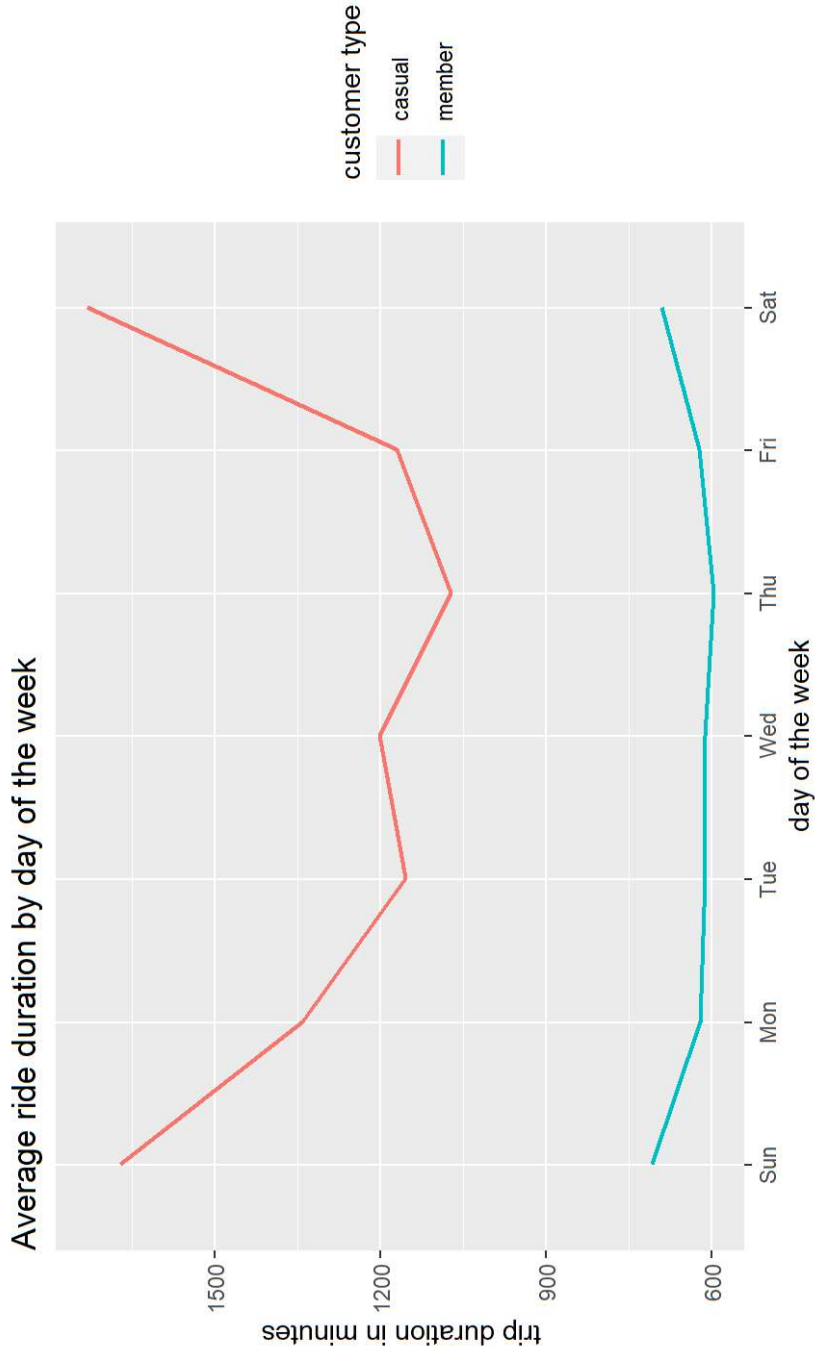
Average trip duration by customer type

- The average trip duration for casual riders is more than double the average trip duration for members.



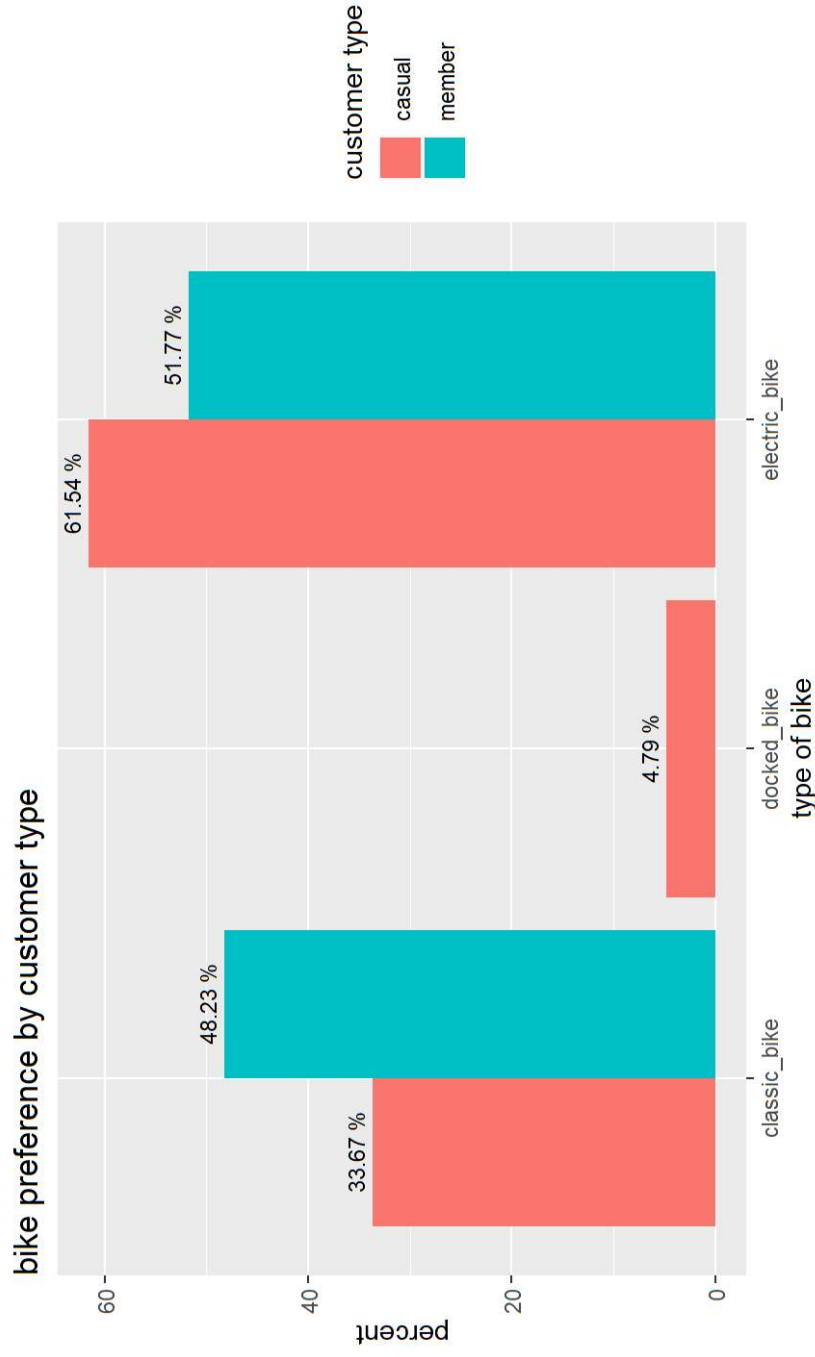
Average ride duration by day of the week

- Both customer segments have relatively higher ride duration during the weekends
- Casual riders have generally a higher ride duration. this number increases sharply over the weekend.



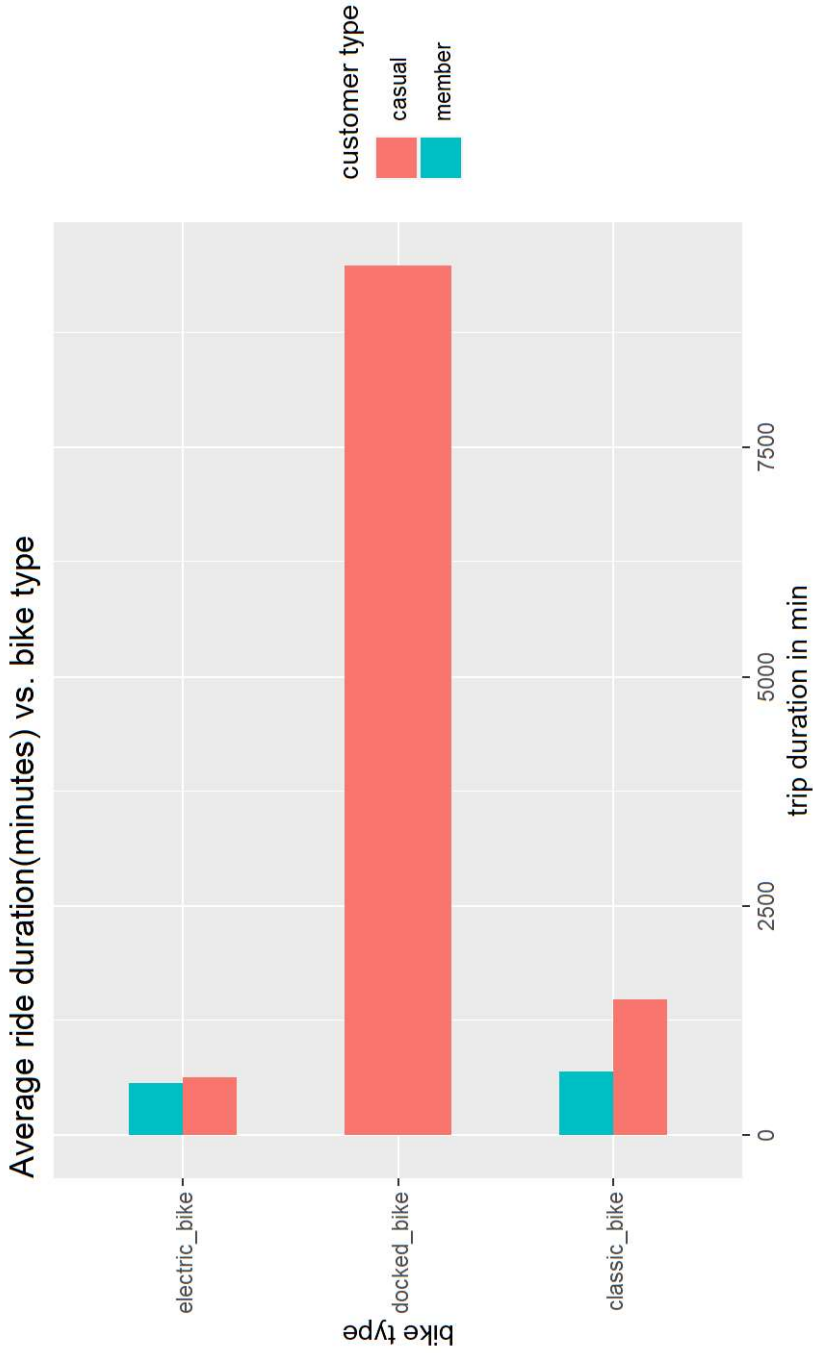
Bike preference by customer type

- There are no subscribed members that used docked bikes.
- A higher proportion of customers in both segments prefer electric bikes over other bike types.



Average ride duration by bike type

Comparing the average ride duration for each bike type, we notice that docked bikes have a higher ride duration compared to other bike types.



Findings and Hypothesis

- The average ride duration for Casual users (22.35 minutes) is more than double the average duration for members (10.5)
 - Average ride duration by day of the week relatively higher for casual users. This number peaks during the weekend.
 - we can assume that casual members use bikes for leisure/recreation
- Bike use varies by the day of the week
 - More subscribed members use the bikes more on weekdays
 - Owing to the number of rides over the weekdays, shorter ride duration and peak hours, we postulate that annual members mostly use the bikes to commute to and from work
- While Docked bikes accounted for the highest trip duration for casual riders, majority (61.5%) prefer electric bikes. Could bike range/charging stations be a factor?

Next steps

Further analysis needed on

- Trip duration, we have trips that lasts that < 5 seconds
- More data on the use of bikes by the customers
- Additional demographics for analysis e.g. age of users