

# Case Study: How Does a Bike-Share Navigate Speedy Success?

**Scenario:** You are a data analyst working at Cyclistic, a bike-share company in Chicago.

Cyclistic allows people to pick up bikes and dock them at various stations. Riders who have an **annual subscription are called members** while riders who are **single-ride or full-day pass users are considered casual riders**.

The director of marketing is looking to maximize the number of annual memberships as they are more profitable than single-ride or full-day passes. This strategy is believed to be the key to future growth.

Management believes that the best approach to do this is through converting casual riders into members as casual riders are already customers and aware of Cyclistic's services.

## Ask

To understand the differences in bike usage for casual riders and annual members and create a marketing strategy to encourage casual riders to become annual members.

## Prepare

I will be using the public dataset that has been made by Motivate International Inc. and is covered by their license. Since it is an open source dataset, there is no personal information regarding the riders to protect their privacy and no information about how often the same rider uses the biking service.

According to the data source, the 2022 datasets from January 2022 to December 2022 provide key columns for start and end ride time, start and end station, and member and casual riders which will increase data value and be useful for data visualization.

## Process

I will be using Rstudio Desktop as the dataset is too large for spreadsheets.

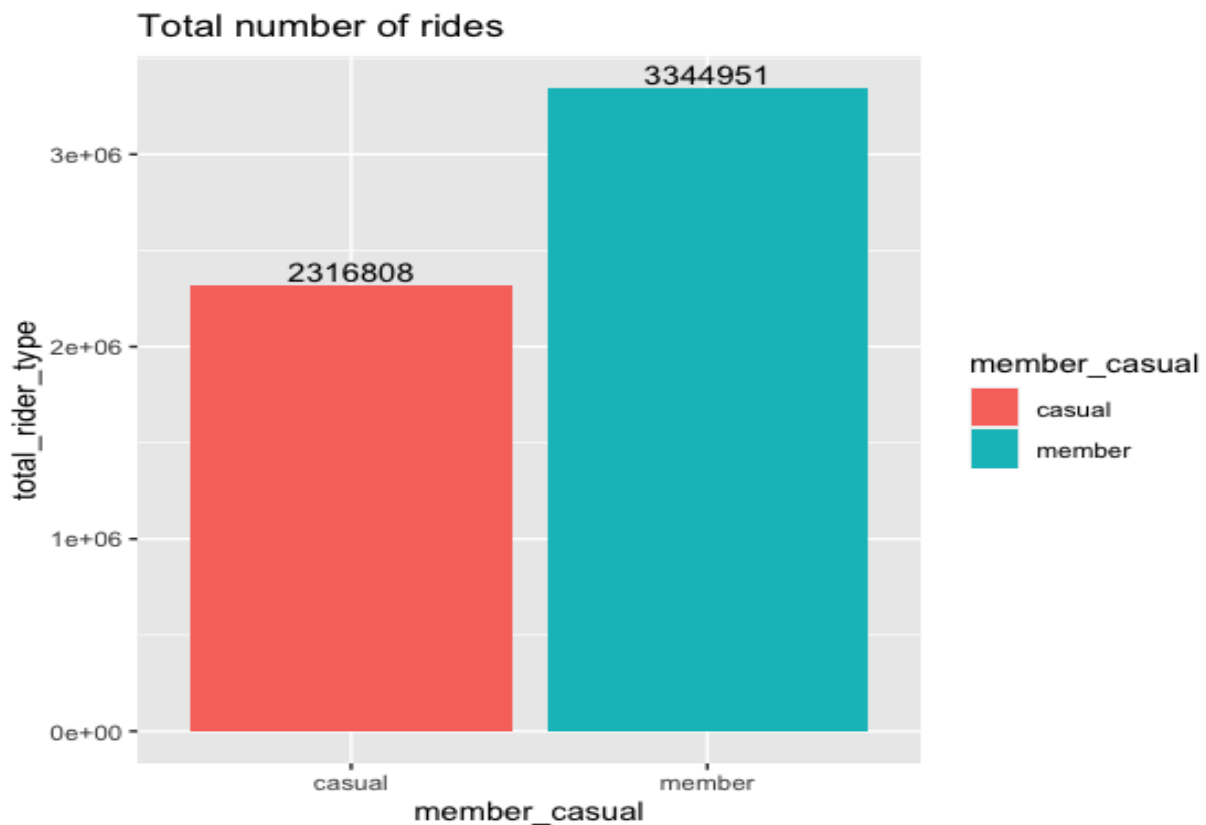
I processed a data cleaning by doing so :

- Removed the duplicates and NA values
- Used the clean name function to make sure all columns were unique and had no title spacing
- Added a column for the length of ride
- Deleted rows with the ride length less than 0
- Added a weekday columns for the weekdays the ride started on

## Analyze & Share

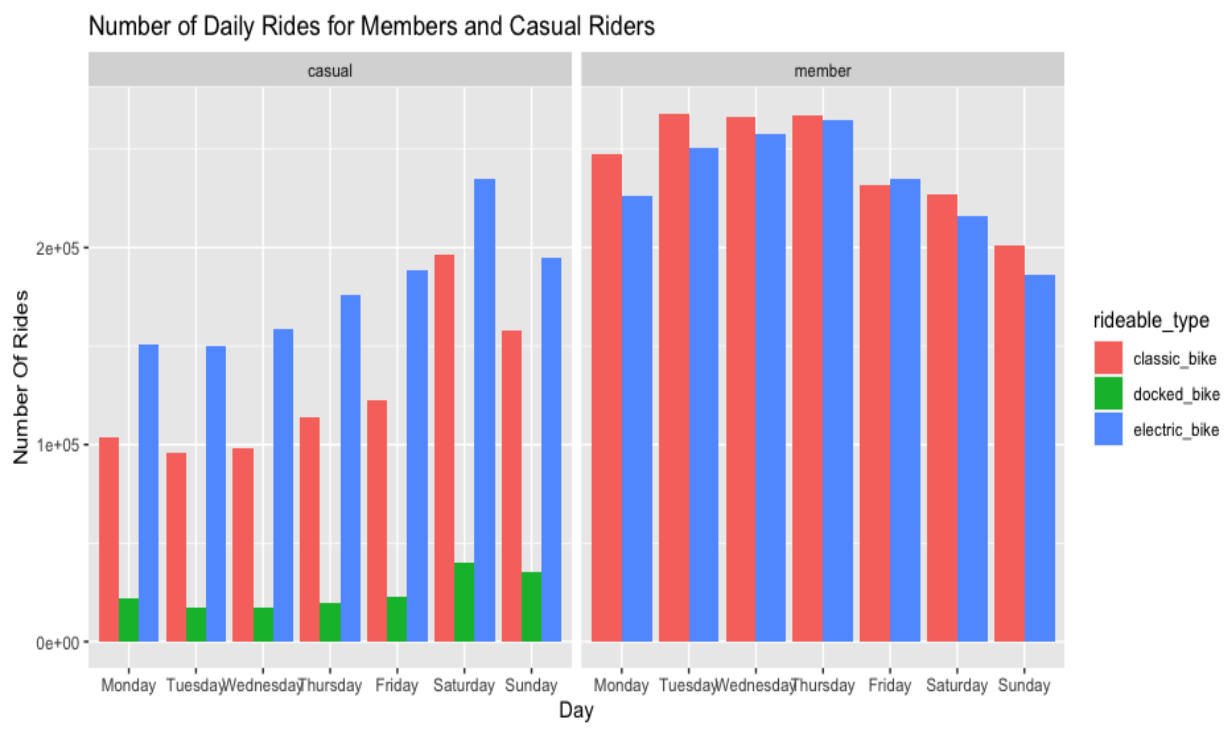
Due to the storage limitations of Tableau public, Rstudio was more suitable for me to create data visualizations for these bike sharing datasets. Below are my key findings.

The finding below shows the total number of rides for members and casual riders. In 2022, there are more members (3,344,951) than casual riders (2,316,808).



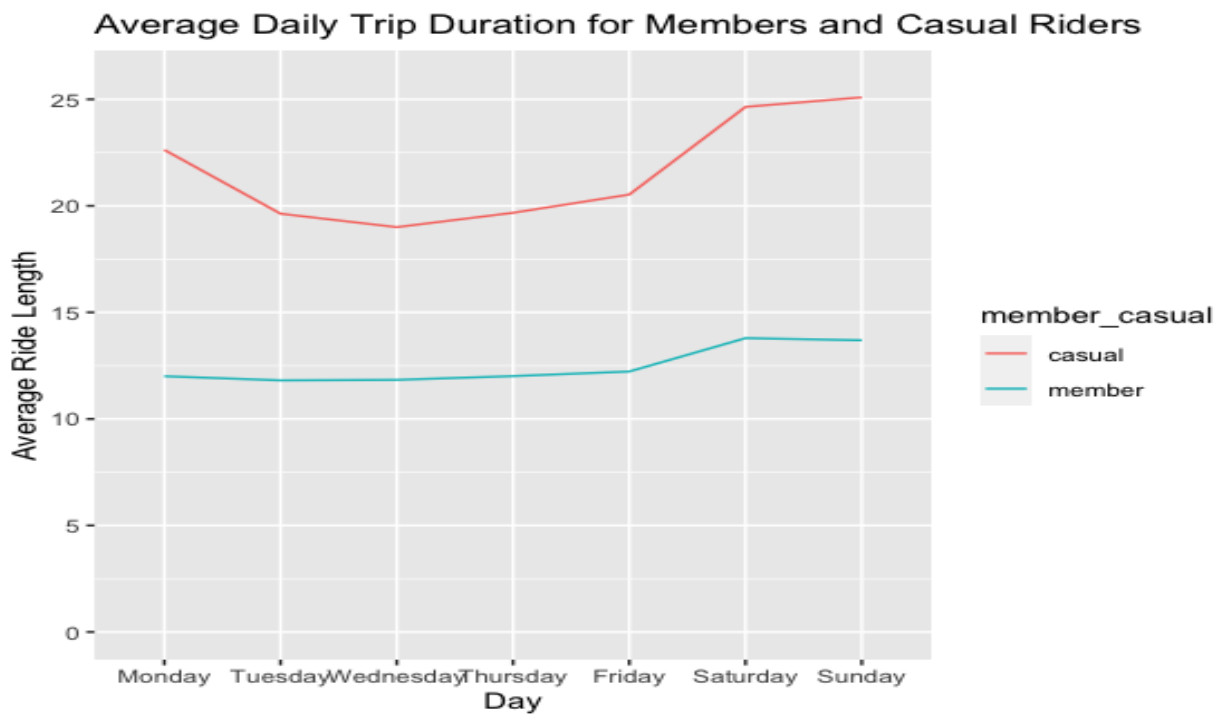
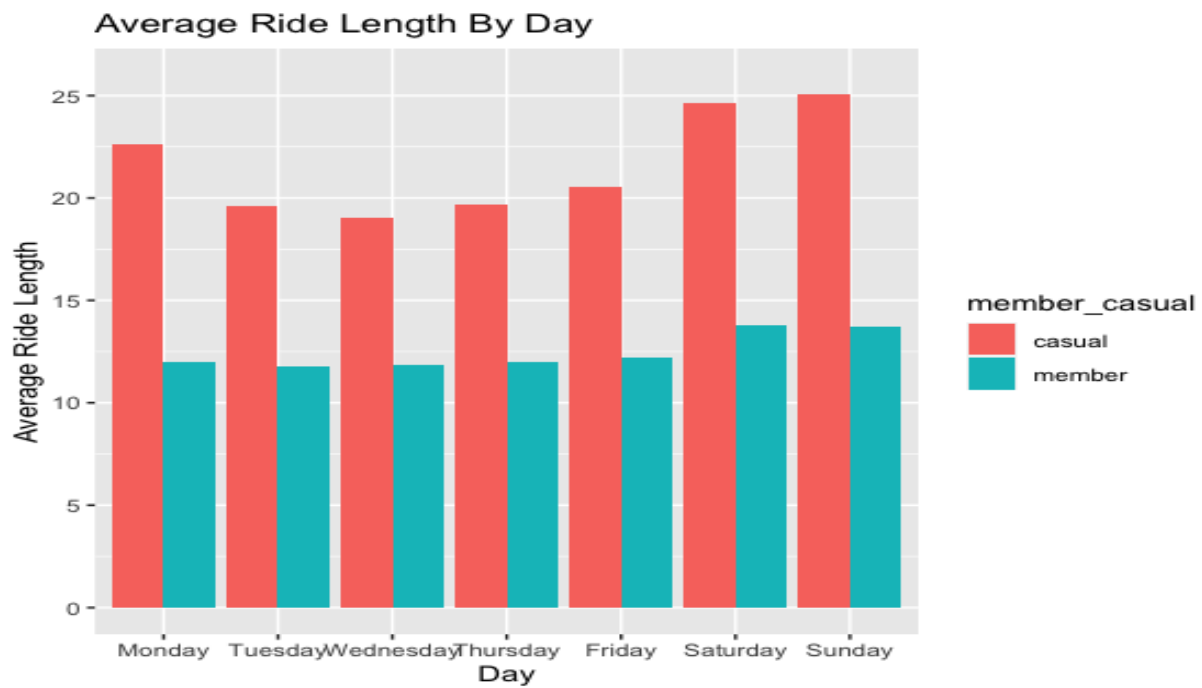
# Daily Use

The key usage difference between the two groups of riders is that casual riders use bikes more frequently on weekends, especially on Saturday and less frequently at the beginning of the week, whereas members riders use the bikes more at the beginning of the week and less on weekends. Members use classic and electric bikes throughout the week while only casual riders use the docked bikes.



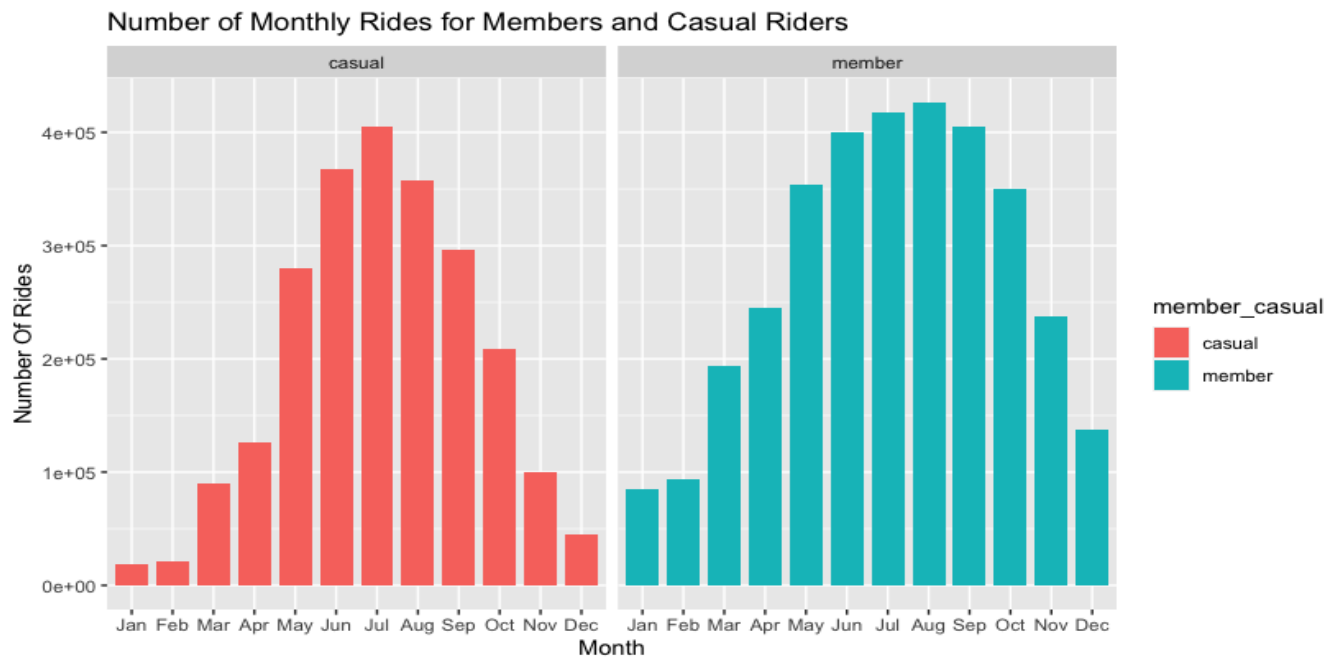
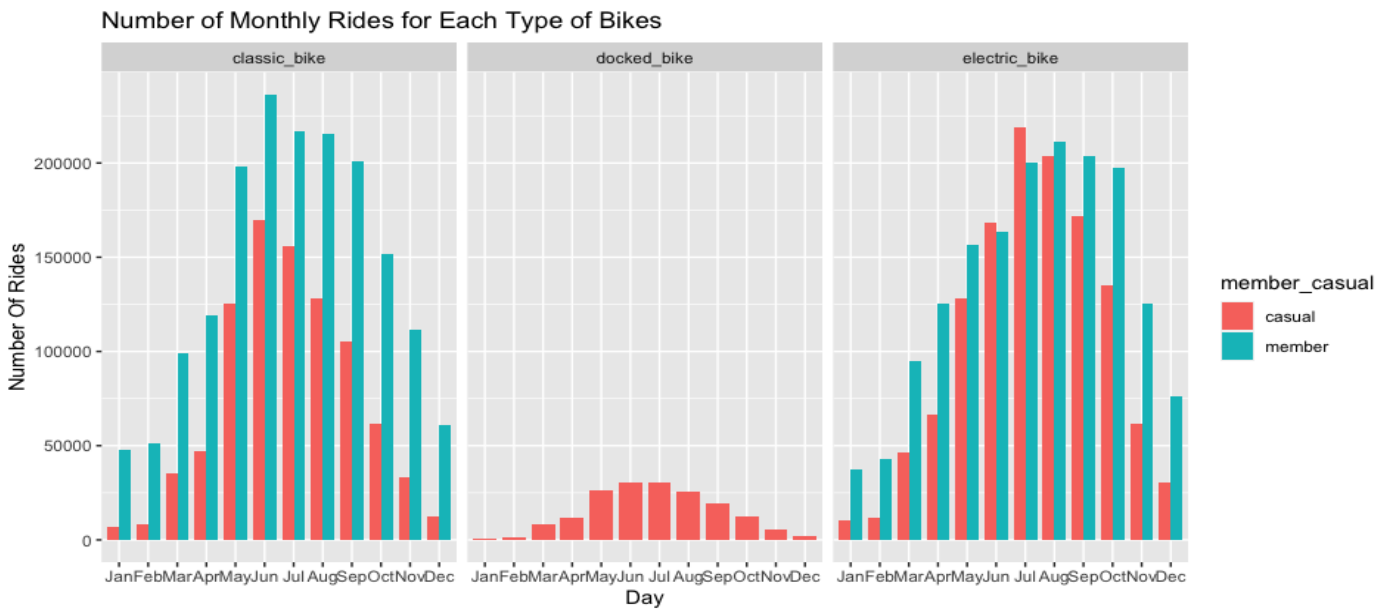
## Average Daily Ride length

We noticed that casual riders had longer rides throughout the week, especially on weekends while members used bikes more evenly throughout the week.



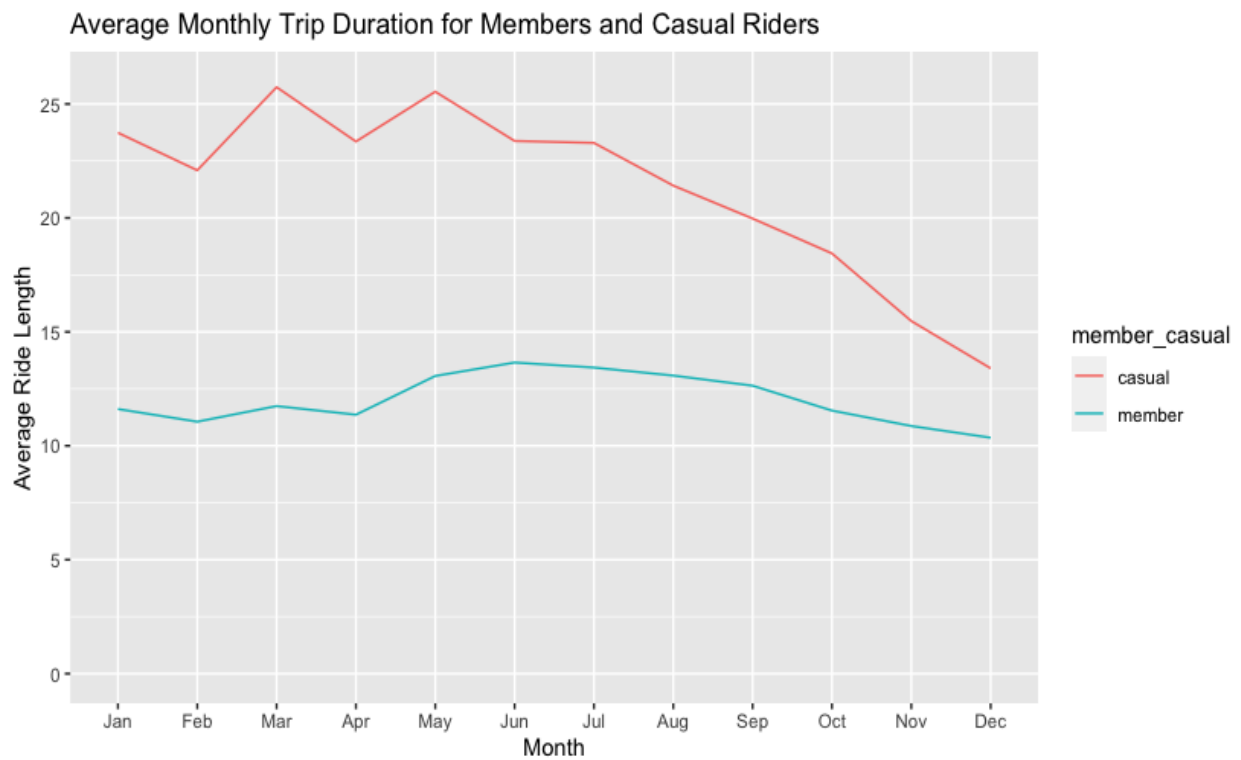
# Monthly Use

In general, bikes are used most frequently and for longer periods of time from June to August. Casual riders use it more on Saturdays in July. As expected, there are fewer users in winter periods. Interestingly, members did not use docked bikes throughout the whole year. Members use more classic bikes than casual riders and electric bikes are fairly popular among both members and casual riders.



## Average Monthly Ride Length

Based on monthly trip duration, we noticed that casual riders have longer ride journeys throughout 2022 compared to members. Casual riders spend significantly less time riding in winter, while members ride more evenly throughout the year.



## **Data Analysis Conclusion**

Casual riders have a longer ride length than annual members but annual members have more monthly rides than casual riders throughout 2022.

Casual riders use bikes more frequently on weekends whereas annual members use bikes oftenly on workday. With this information we can assume a relationship with annual members who use cyclists as a way to get to work and back home.

## **Next Steps**

The findings of this analysis were taken as a sign that cyclistic is primarily used for leisure by casual riders while annual members are used for commuting to and from work. We suggest continuing the investigation by surveying our annual members directly, if they commute to work on bikes. The marketing campaign should concentrate on motivating casual riders to sign up as annual members and utilize cyclistic to get to work and offer a free trial, money-back guarantee, or other strategies to reassure them of your intent.

## **Recommendations**

1. Introduce late fees and limiting the length of each ride per casual rider to prevent casual riders from taking a huge amount of time per ride
2. Provide members with priority access during peak periods by implementing advance booking
3. Introduce a promotional annual membership deal and target the market over the summer and on weekends when casual riders use the service the most
4. Increase the price of other passes (need to compared with competitor' price)
  - specifically during peak hours e.g. during summer (June, July, August) and weekends
  - specifically at peak stations e.g. Streeter Dr & Grand Ave