

# Google Data Analytics

## Capstone Project: Cyclistic

### Bikeshare Case Study

A case study of Cyclistic, a bike-share company in Chicago, and how the marketing analyst team aims to design marketing strategies to convert casual riders into annual members by analyzing historical bike trip data.



## About Cyclistic

- Launched in 2016 as a successful bike-share offering in Chicago
- Fleet of 5,824 bicycles geotracked and locked into a network of 692 stations
- Pricing plans include single-ride passes, full-day passes, and annual memberships



# Importance of Annual Memberships

- Cyclistic's finance analysts have concluded that annual members are much more profitable than casual riders
- Maximizing annual memberships is key to future growth
- Targeting casual riders for conversion is a priority



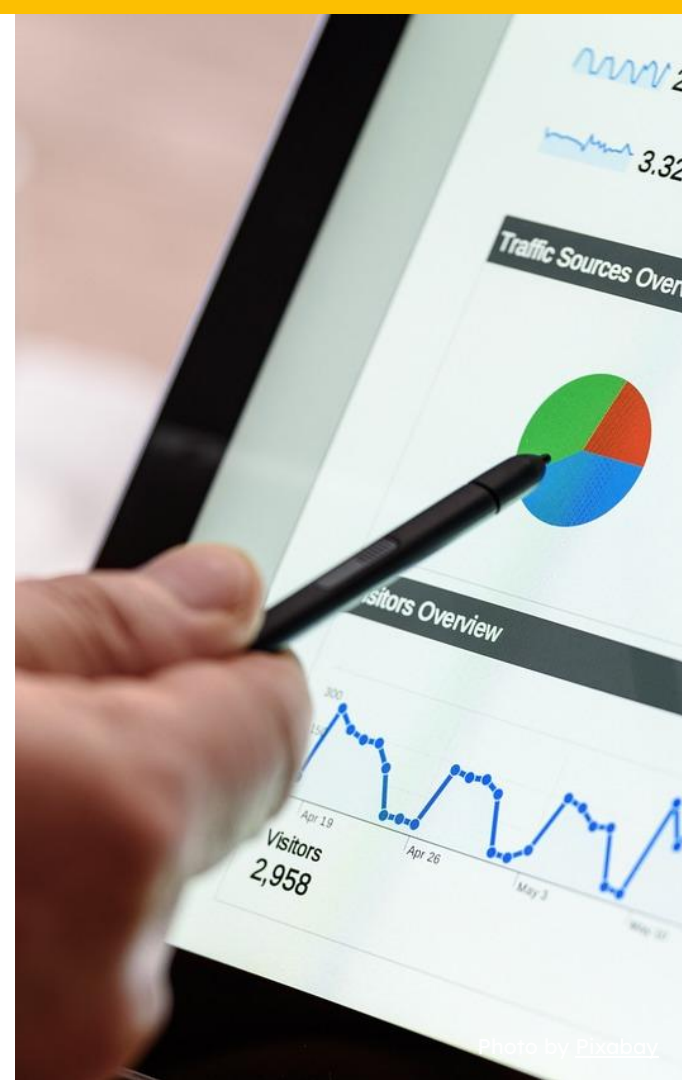
# Analyzing Historical Bike Trip Data

- Marketing analyst team aims to understand how casual riders and annual members use Cyclistic bikes differently
- Insights from data will inform marketing strategies to convert casual riders into annual members
- Consideration of digital media and its impact on marketing tactics



# Key Stakeholders

- Important stakeholders include Lily Moreno (Director of Marketing), Cyclistic Marketing Analytics Team (data analysts), and Cyclistic Executive Team.
- Moreno is responsible for developing campaigns and initiatives to promote the bike-share program.
- Cyclistic Marketing Analytics Team collects, analyzes and reports data to guide marketing strategy.
- Cyclistic Executive Team approves recommended marketing programs.



# Data Organization and Preparation

- 12 months of data from Jan 2021 to Dec 2021 used for analysis.
- Data link provided for access to the data.
- Data satisfies ROCCC standard and some null values were deleted.
- RStudio used for cleaning and transforming the data.
- Relevant packages installed and data sets loaded.



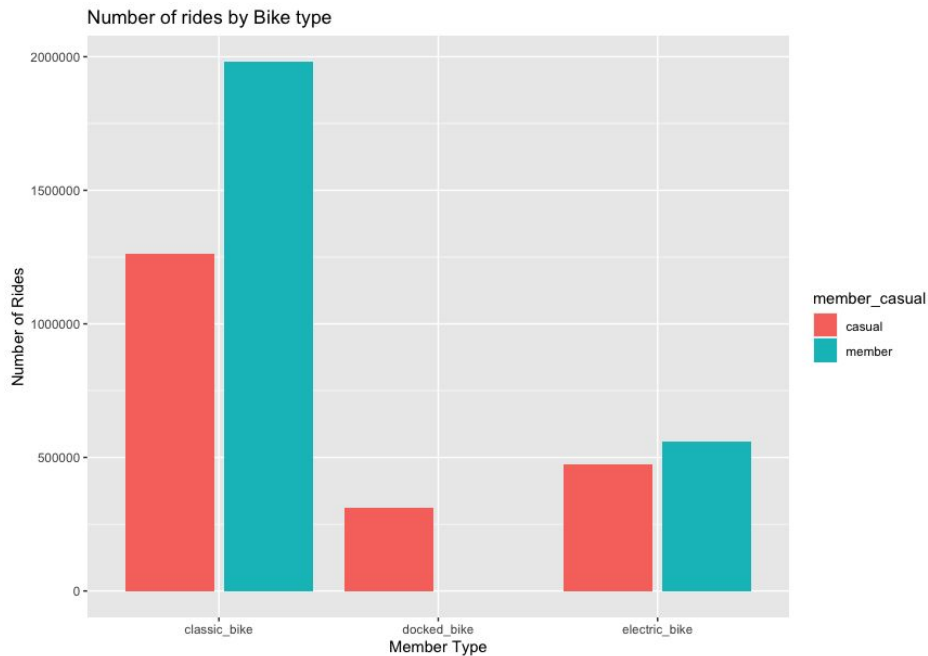
# Data Cleaning and Transforming Steps

- All 12 months' data combined to make a single data frame.
- New columns extracted for week day, month, day, year, and date from the existing started\_at column.
- A new column, ride\_length, was created by subtracting ended\_at and started\_at, and its data type was changed to numeric.
- Null and negative values were deleted.
- Latitude and longitude type columns removed from the main data frame, and a sub-data frame created to visualize them separately.
- A new column, ride\_routes, was created by combining started\_station\_at and end ended\_station\_at column.
- Sorted by month (January) and week name (Monday) of month and week\_days column.



# Analysis

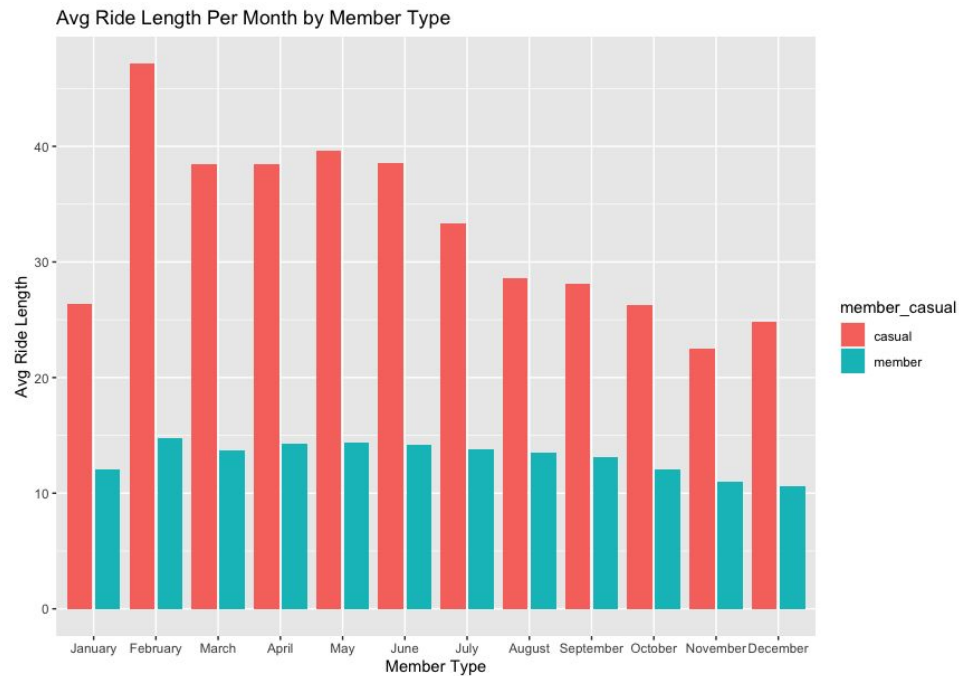
Most popular rideable bike type is classic bike by both type member. On the other hand docked type bike is being used by annual member is almost zero.





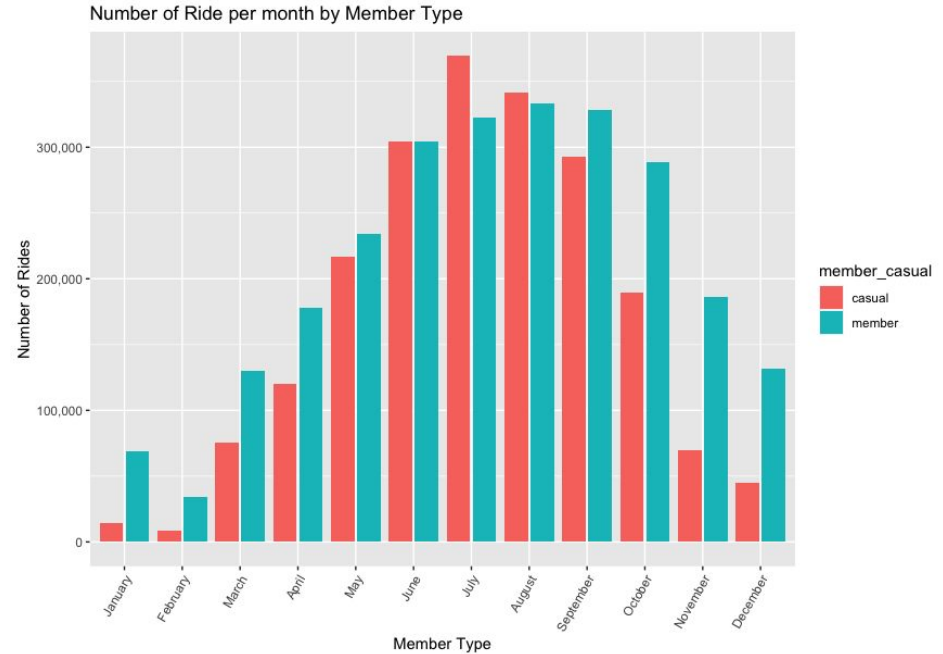
# Analysis

There are 55.4% Annual member and 44.6% Casual member. Whilst the annual member ride percentage is higher, the average ride length per month of casual member is much higher than the annual type member.



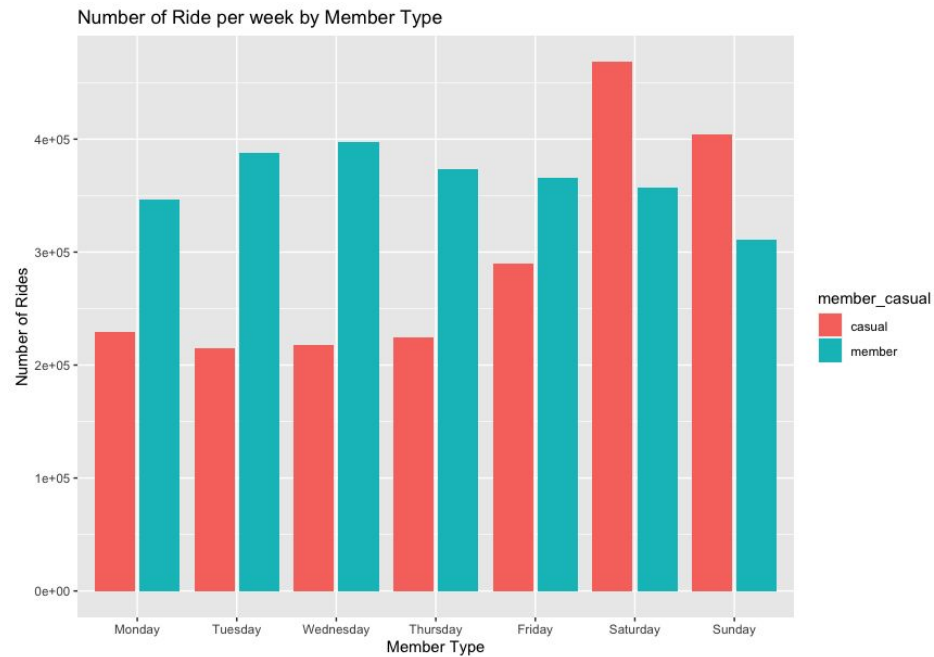
# Analysis

Peak season for casual riders is summer, and it started from may and took peak in July and continued till october. On the other hand for both type member the off season is Winter and lowest number of ride taken in February.



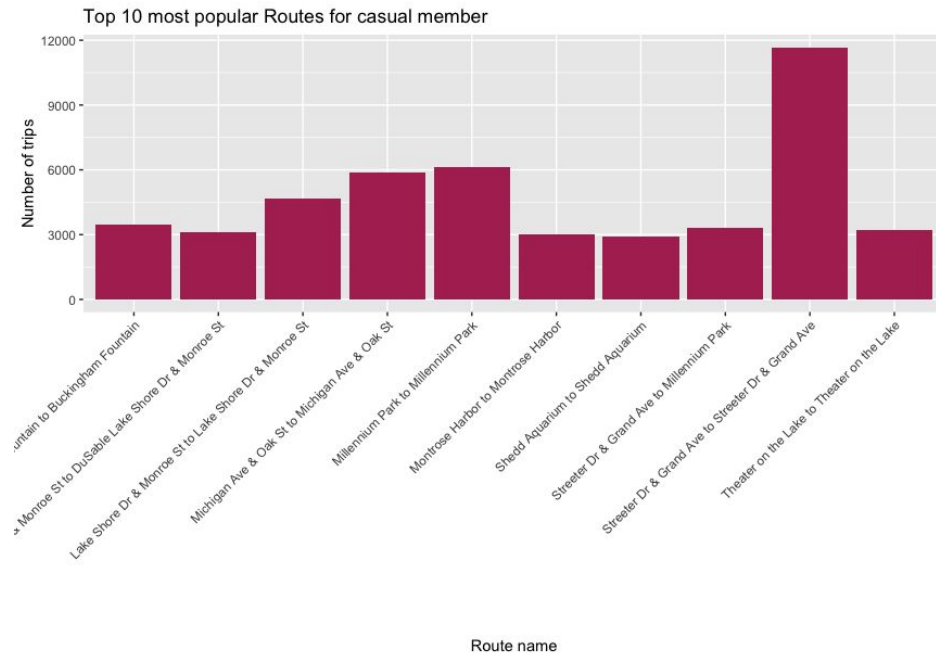
# Analysis

Whilst for annual member rides on weekdays looks all similar but for casual riders it looks they ride mostly on Saturday and Sunday.



# Analysis

Most popular start and end station for casual riders is Streeter Dr & Grand Ave.



# Conclusion

To capitalize on the high weekend ride counts of casual members, Cyclistic could launch promotional campaigns specifically targeting those days. To boost weekday ridership, the company could offer new membership discounts at the most frequently used start and end stations. Additionally, Cyclistic could introduce seasonal memberships with discounts during the low-riding seasons of winter and spring, and offer incentives such as free 7-day memberships to entice casual riders to take advantage of membership benefits.



\* Casual member has high number of rides count on Saturday and Sunday, Cyclistic company can make promotional campaign targeting on those days. As casual members has low rides on weekdays they can do promotion like new membership discount on weekdays at mostly used start and end stations.

\* Cyclistic company can also make seasonal membership and providing discount on low riding season such as winter and spring. They can use promotion like free 7days membership so that casual riders get interested on taking membership benefits.

\* As the number ride is low in electric bike , they can make targeted membership promotion on electric bike so that most frequent casual members gets interested in taking the membership also riding the electric bike. They could provide bonuses and coupons to encourage them.