

On an average day, casual riders use bikes for longer periods and prefer to ride on weekends. August is the month with the highest demand of casual riders.

Use of bikes at Cyclistic

Norma Quiroz¹
nequirozp@gmail.com

Introduction

Customers who select single-ride or full-day passes are referred to as casual riders. Those who purchase annual memberships are Cyclistic members.

The company wants to create a marketing campaign to convert casual riders into members to maximize the number of annual memberships. Therefore, it is essential to understand how casual riders and annual members use bikes differently.

The data are collected by the company Lyft Bikes and Scooters, LLC which operates the City of Chicago's Divvy bicycle-sharing service, and are available to the public at [public use](#) under the license [Divvy Data License Agreement](#).

In this work, the data used for this study correspond to the year 2023, from January to December. The exploratory data analysis was done with R.

Objective

Understand how casual riders and annual member's use cyclistic bikes differently.

Data preprocesing

Since data were collected for the company, the data format is primary, internal, and very well structured. It is not complete as there is missing information.

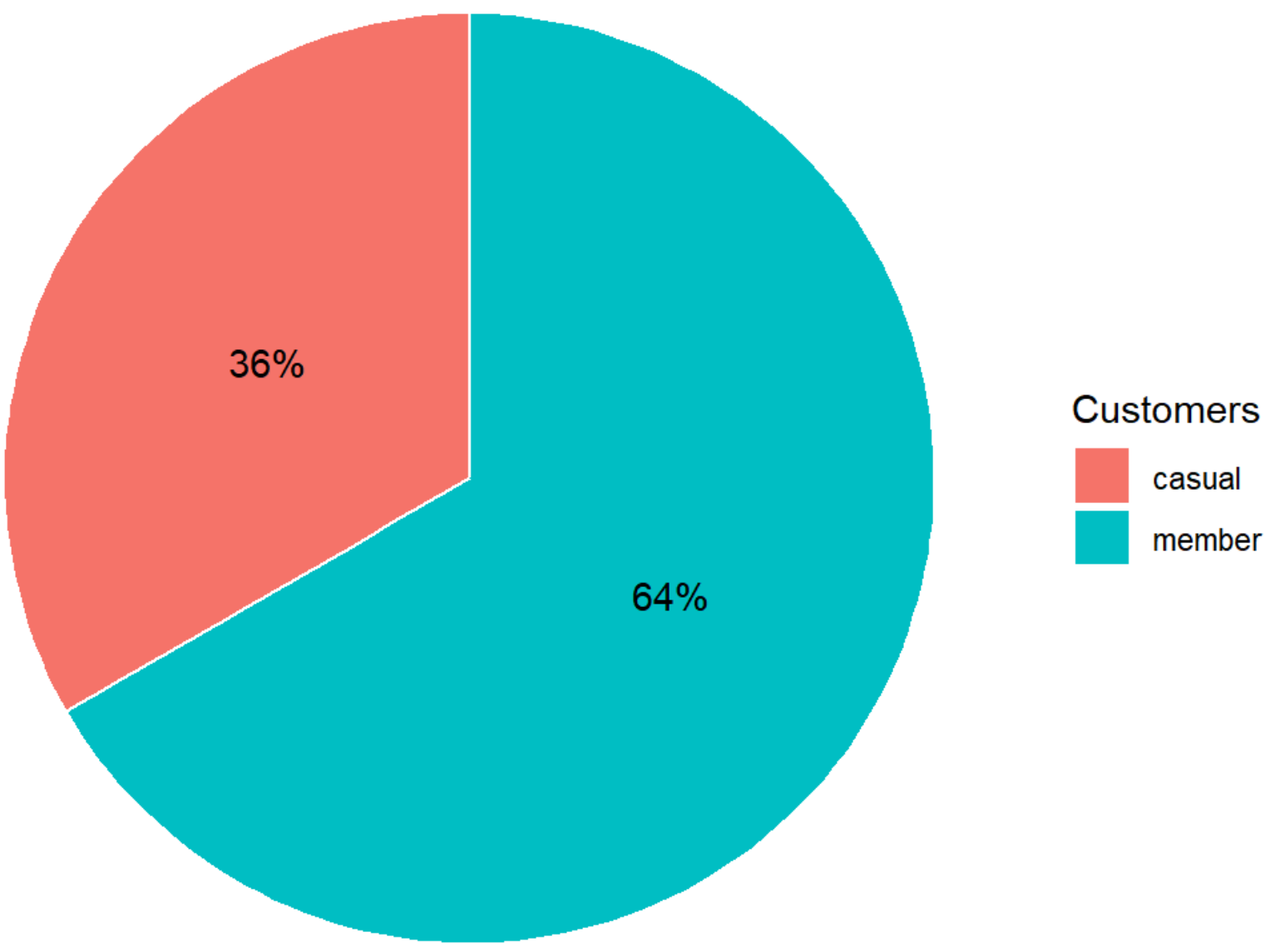
The dataset to analyse consist of 13 attributes for each month and there are several types of data according to the feature. There are also messy strings with a diverse number of characters and some strings have spelling problems. Only 7 attributes satisfy integrity.

My analysis is concentrated more on temporal behavior, therefore I work only with 4 attributes: "rideable_type", "started_at", "ended_at" and "member_casuals". These columns are reliable, original, and comprehensive as they contain the needed information to address the objective.

Analysis and Results

1. How many users are throughout the year 2023?

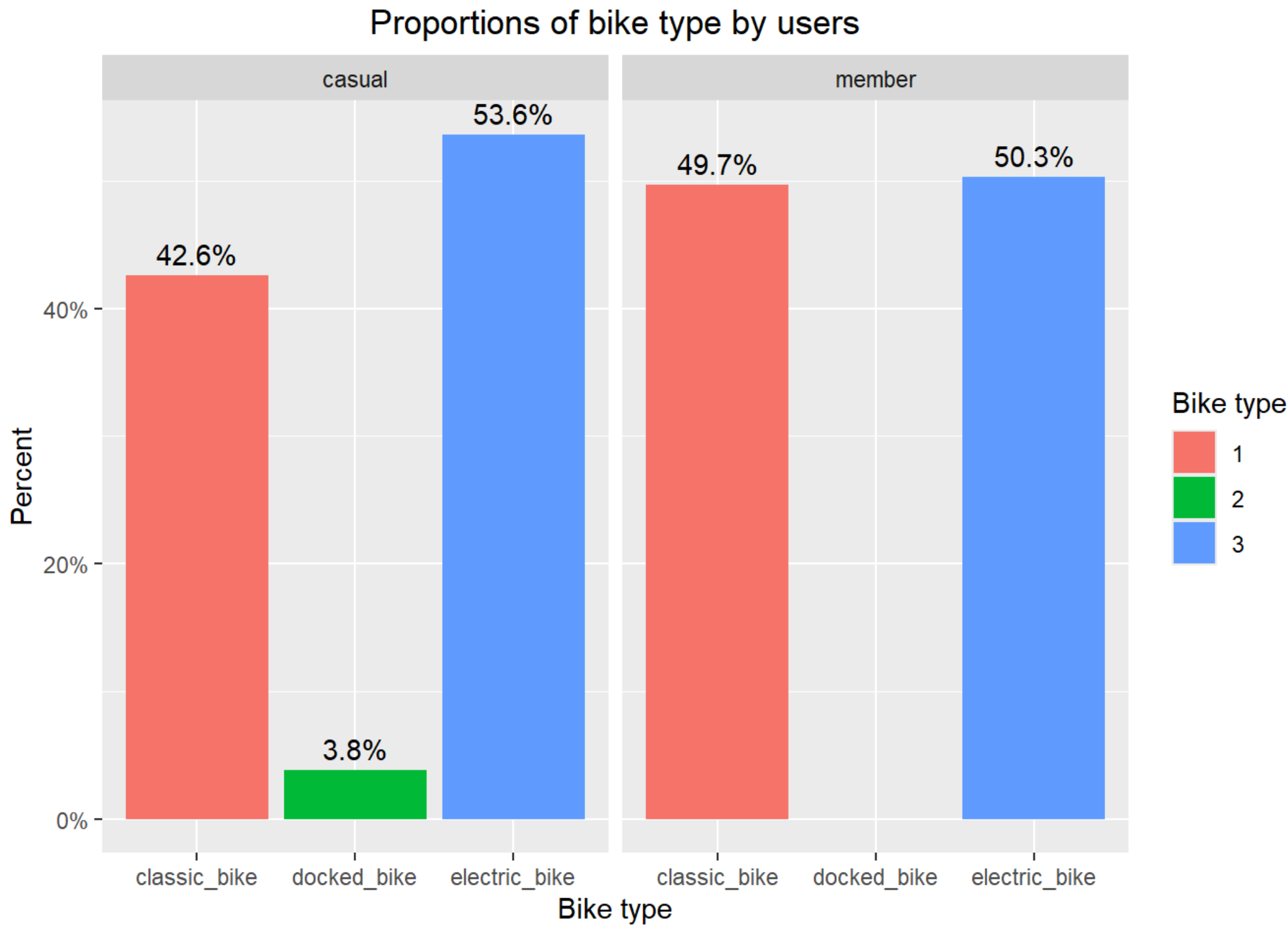
Percentage of customers in year 2023
(Total number of users = 5 719 877)



2. Which is the percentage of casual and permanent members in that year?

- From the total of customers, 64% (3 660 698) are members and 36% (2 059 179) are casuals.

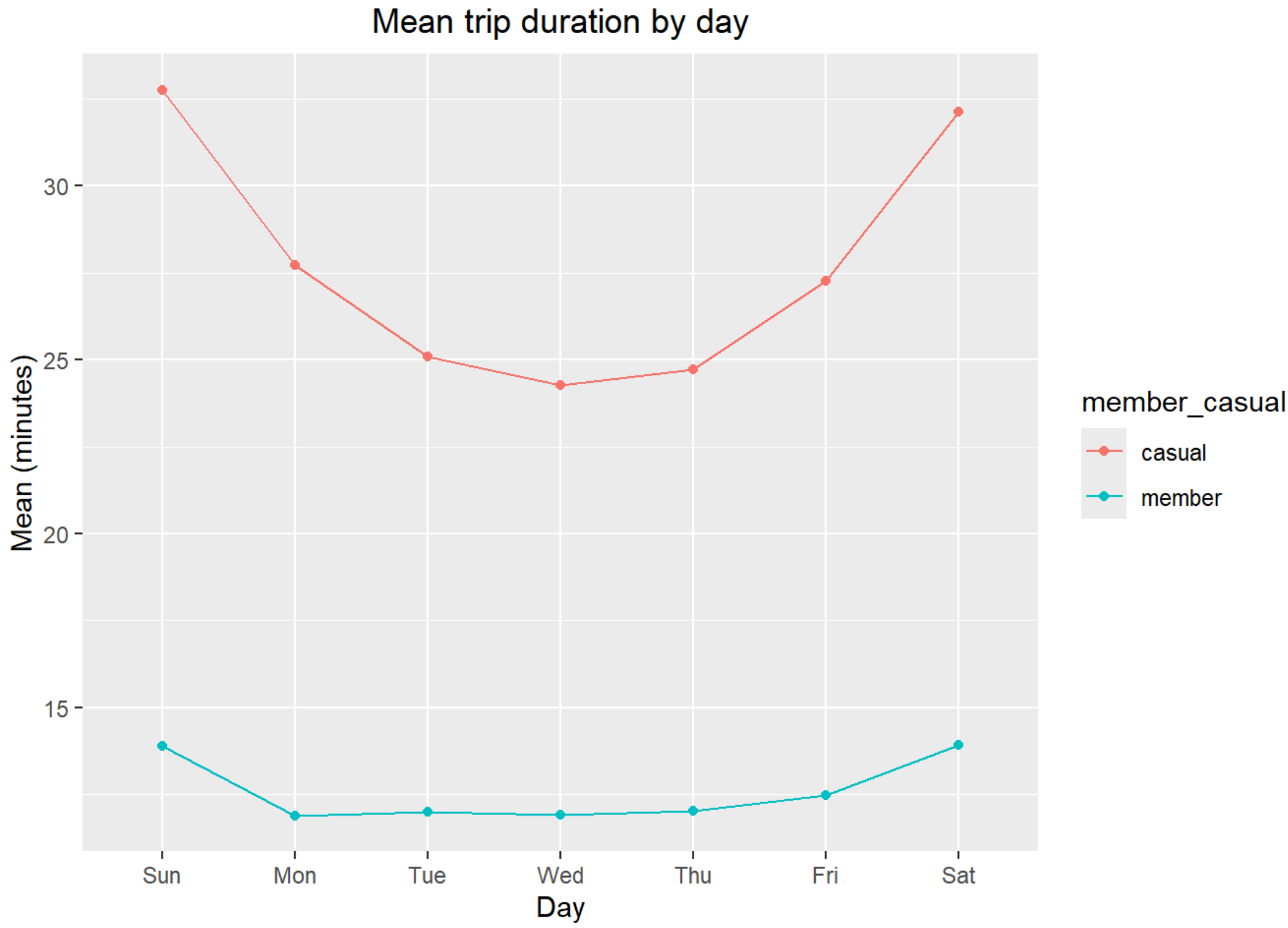
3. What kind of bike is preferred by users?



- Members prefer electric and classic bikes approximately in the same proportion. On the other hand, members are not interested into docked bikes.

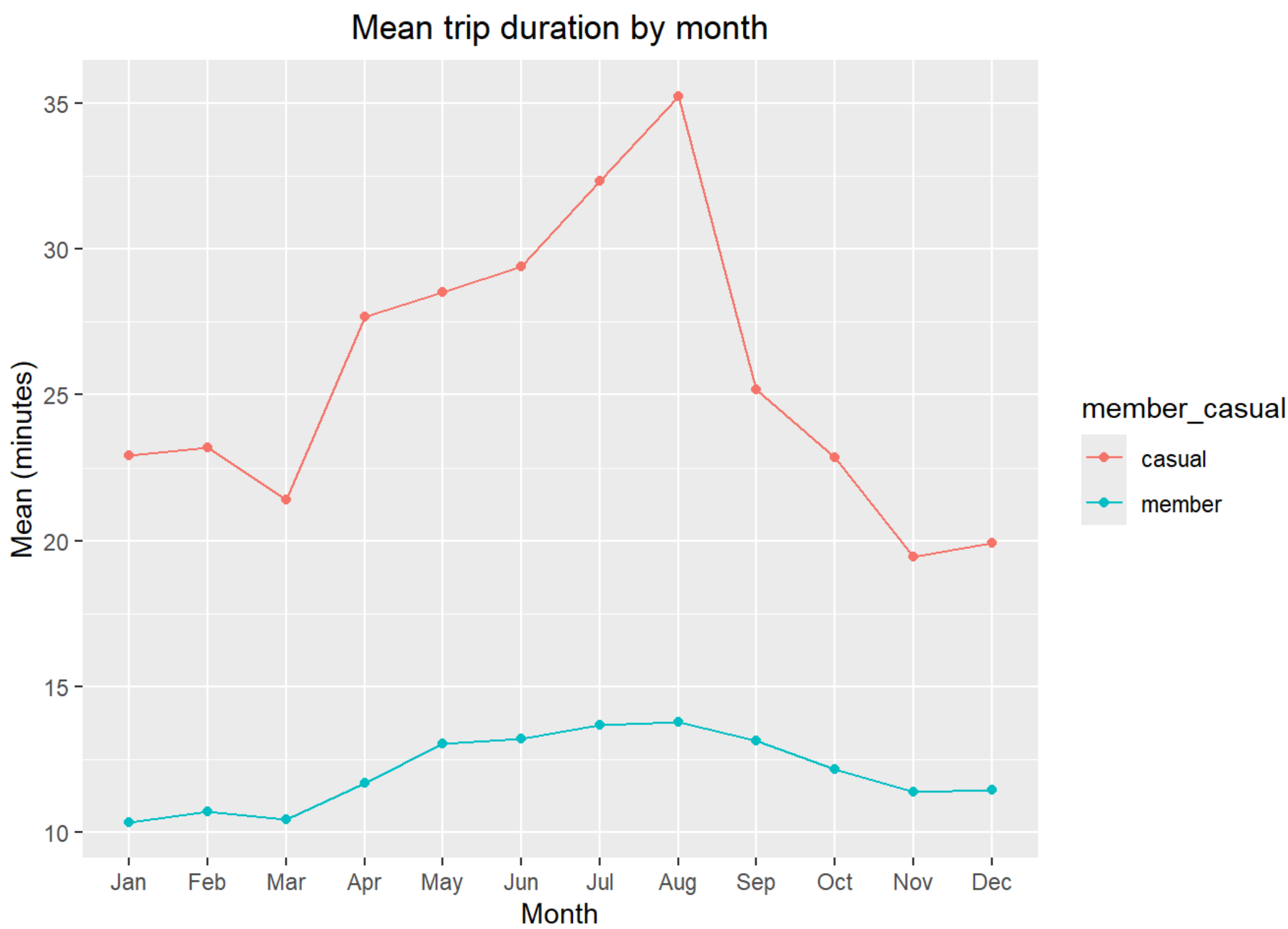
- Casual members have a highest preference for electric bikes but they also prefer classic bikes, there is a small preference of 3.8 % for docked bikes.

4. Which customers use bikes for more time?



- Members use bikes on workdays, with an average trip duration of around 12 minutes, and a few more minutes on weekends.

- The use of bikes by casual customers is not uniform. They spend more time on bikes during weekends and less on Wednesdays. In any case, casual users spend more time on bike trips than members.

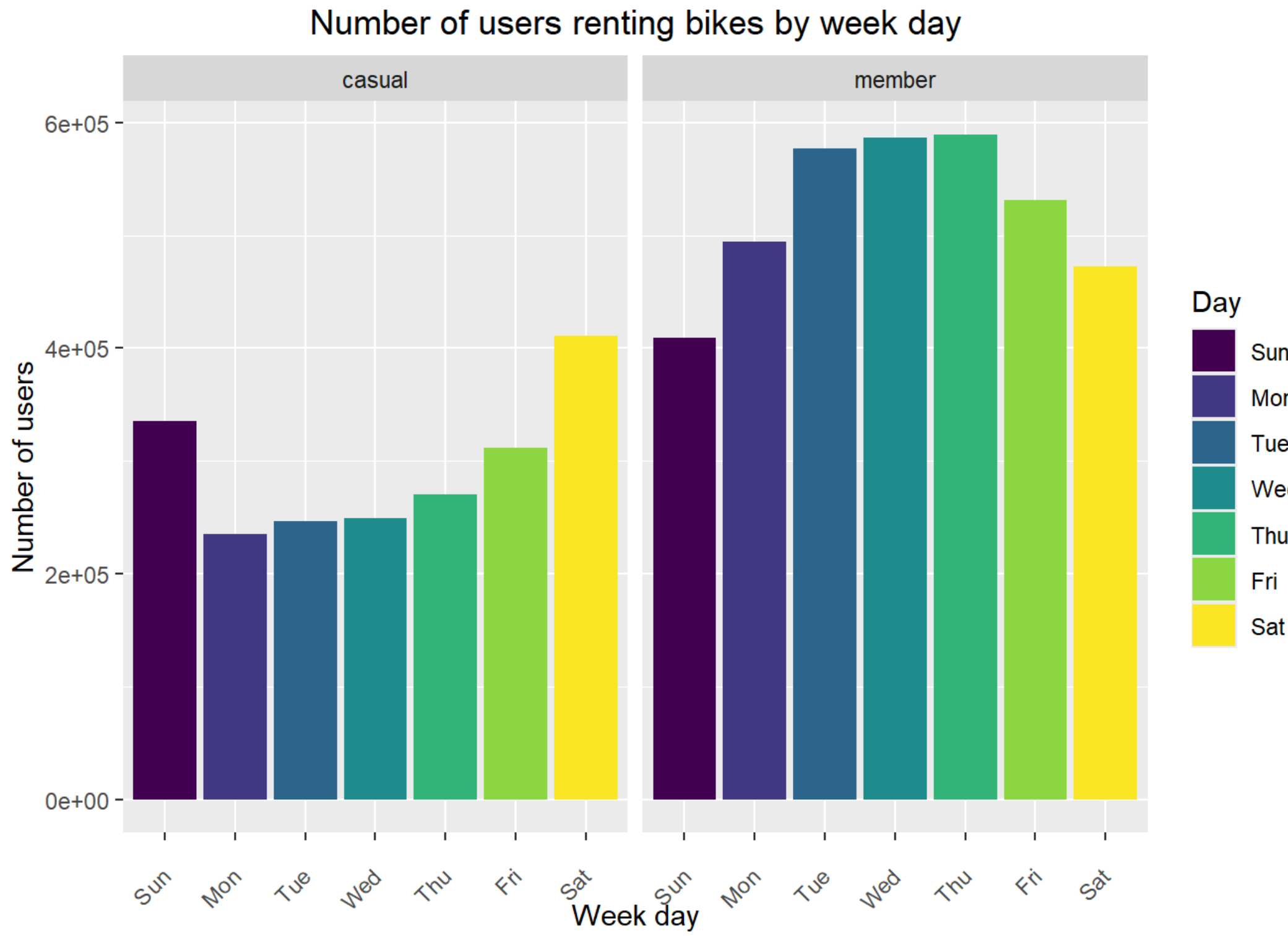


- Members' bike usage time shows a gradual increase during spring, reaches its highest values in summer, and then decreases smoothly toward winter.

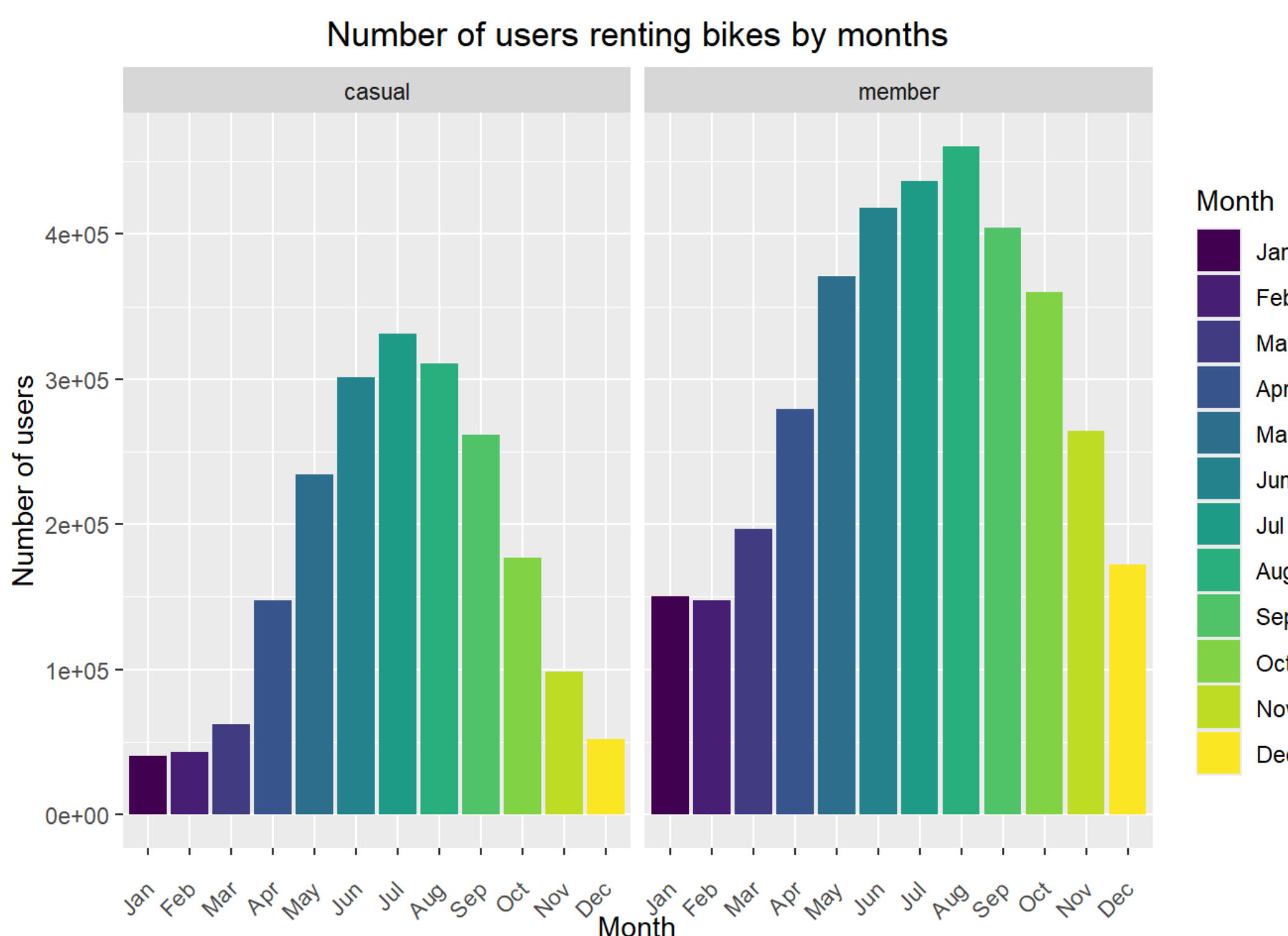
- For customers the increase is more abrupt, peaking in August and then decreasing rapidly in the following months.

5. How many customers use bikes by weekdays and months?

- There are more casual customers using bikes during weekends, specially on Saturdays.

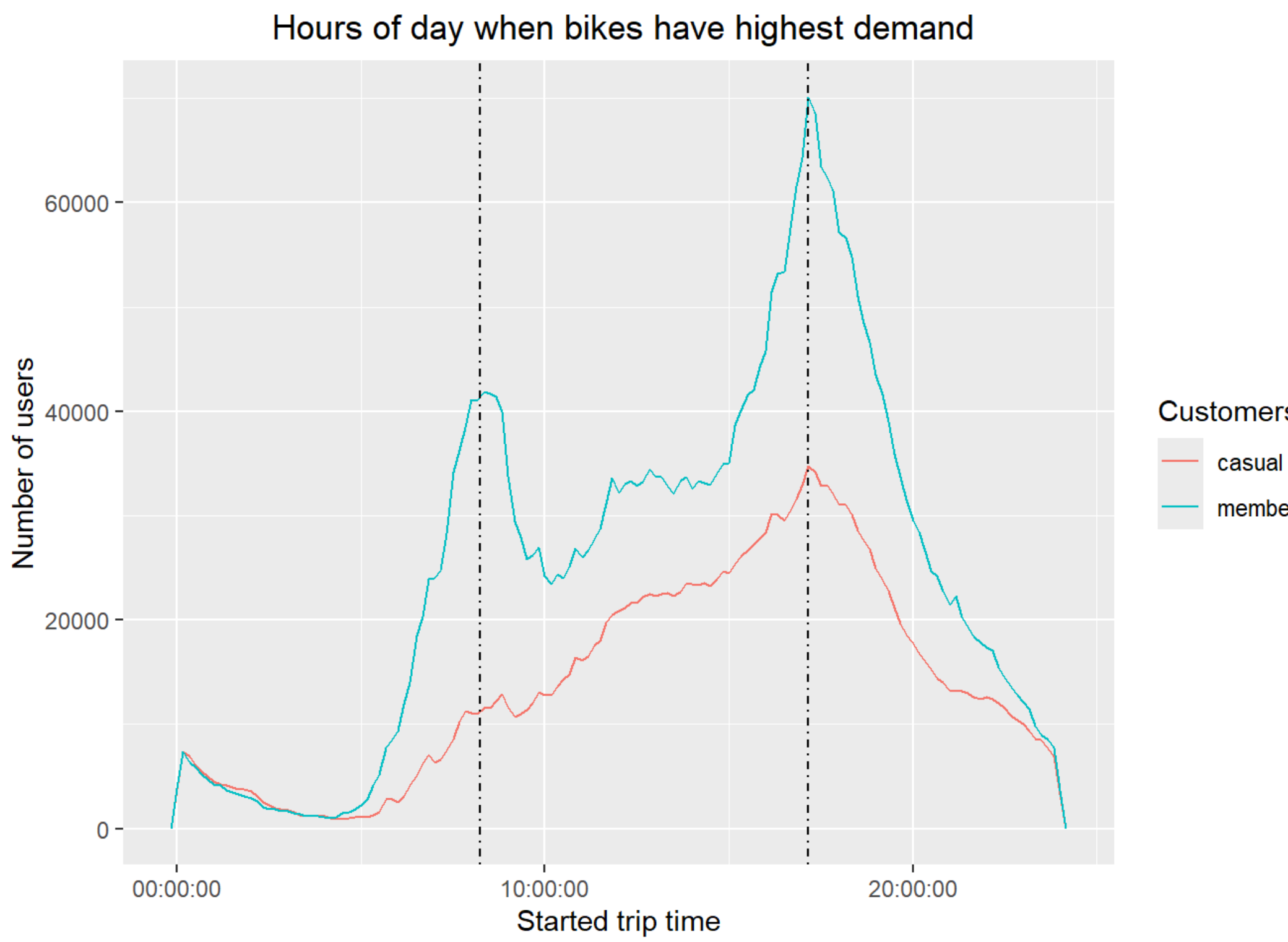


- The number of members using bikes during work days is bigger compared to the number of bikes used on weekends.



Along the year, January and February are the months with low demand. From March, number of users start to grow up, and June, July and August are the months with major demand for both kind of customers.

6. What is the time of day when bike usage is the highest?



- The peak hours of highest demand of bikes is around 17:00:00 hrs for both kind of customers.

Recommendations:

To implement an anual subscription for casual customers:

- Invite casual customers that use bikes for more than 30 minutes to take an anual promotion that allows them to use bikes for more time.
- Implement an anual promotion on trips during weekends for casual riders.

References

- [Posterdown_betterport](#)