

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

by Radek Kříček, March 2023

as part of the Google Data Analytics Professional Certificate Course

Business Task

Cyclistic – a fictional bike-share program in Chicago, IL, US

Change in marketing strategy:

- Until now – building awareness
- New direction – turn casual riders into members
 - casual rider = single-ride or full-day pass
 - member = annual membership
- Reason – members more profitable

Business Task

My task: Answer the first question:

How do annual members and casual riders use
Cyclistic bikes differently?

I will also attempt to answer the following:

- How do the two groups differ and what do they have in common?
- How can this analysis inform Question 2: Why would casual riders buy Cyclistic annual memberships?
- How can this analysis inform Question 3: How can Cyclistic use digital media to influence casual riders to become members?

Description of Data

Data Source & License

- Provided by an actual bicycle sharing service, the Lyft Bikes and Scooters, LLC (“Bikeshare”)
- The City of Chicago permits Bikeshare to make certain Divvy system data owned by the City available to the public, subject to the terms and conditions of a license agreement

Storage, Privacy & Security

- The data contains no private information
- Kept on the analyst's drive

Results

Overall descriptive statistics

Total number of trips: 5,730,652

The mean trip duration: 1,179 sec (19 min, 39 sec)

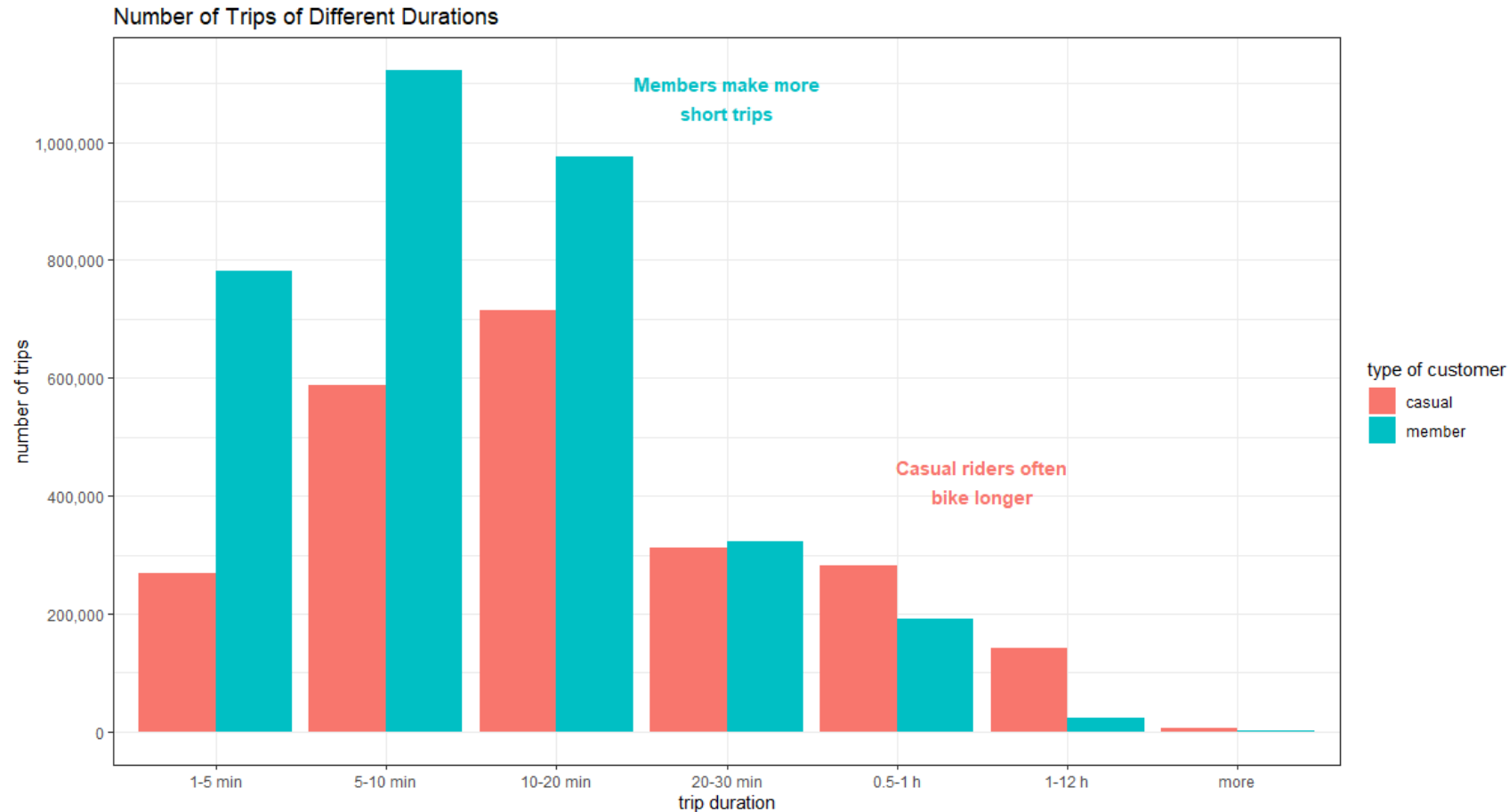
The longest duration of a trip: 2,486,835 sec (28 days, 18 h, 47 min, 15 sec)

Trips longer than one day: 5,473

2,312,948 trips were done by casual drivers while the majority of 3,417,704 by members

633,216 round trips, 5,097,436 one-way trips

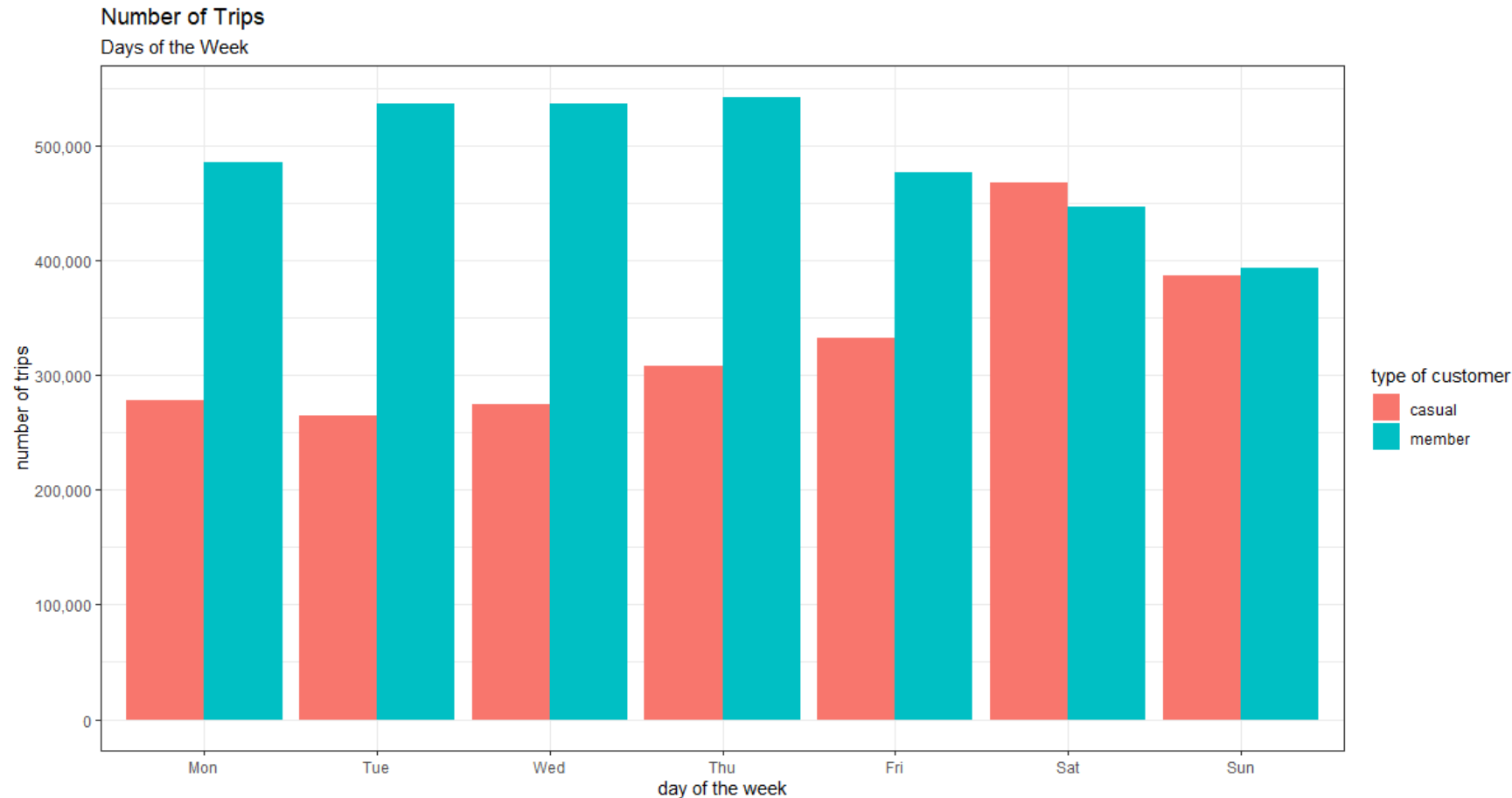
Results



Bigger proportion of casual riders' trips is long.

Probably done for leisure activities.

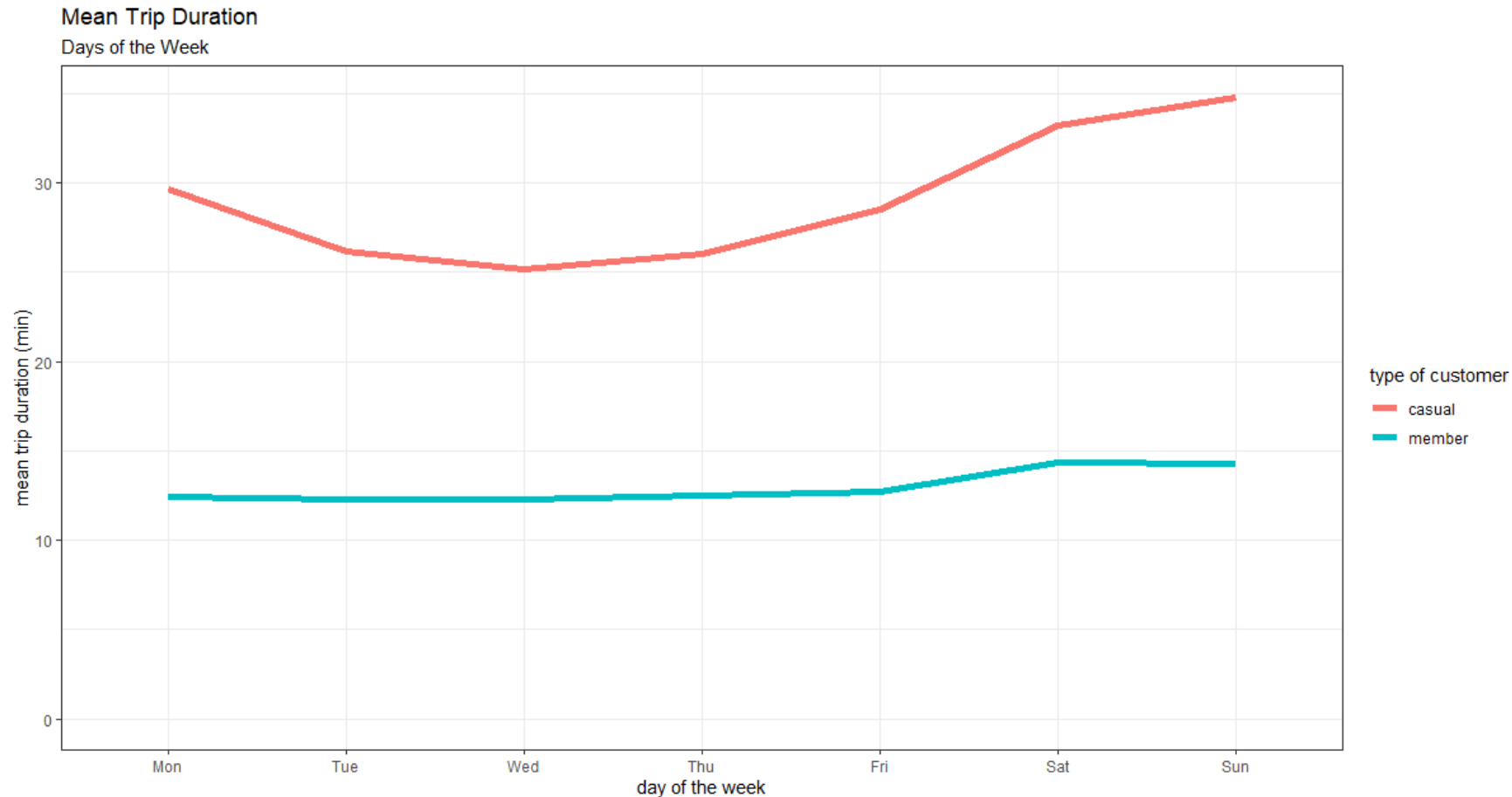
Results



Casual rides
more likely in the
weekend.

But:
Members' rides
drop slightly.

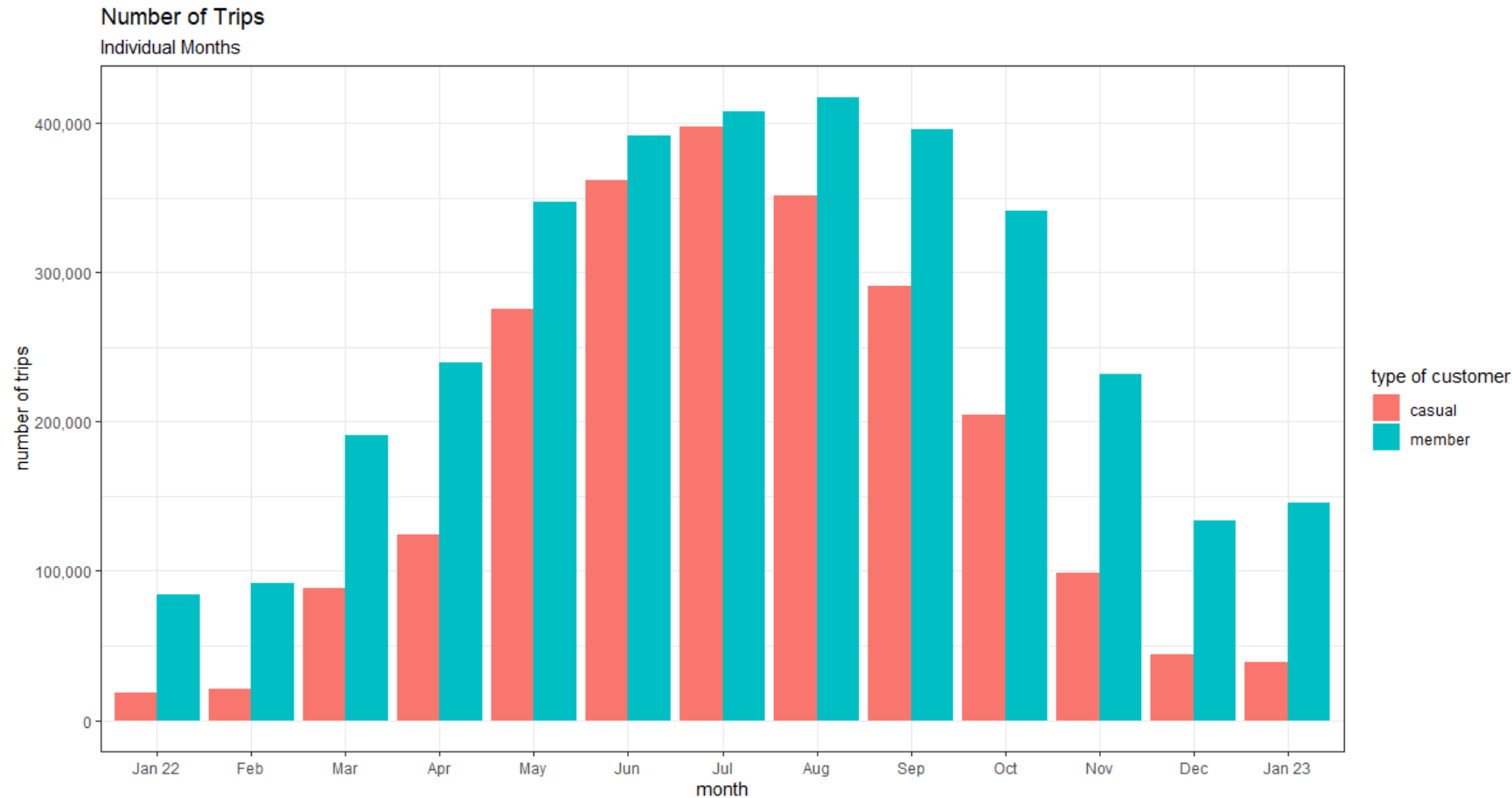
Results



The mean (and also median) trip duration increases in the weekend.

Especially for casual riders.

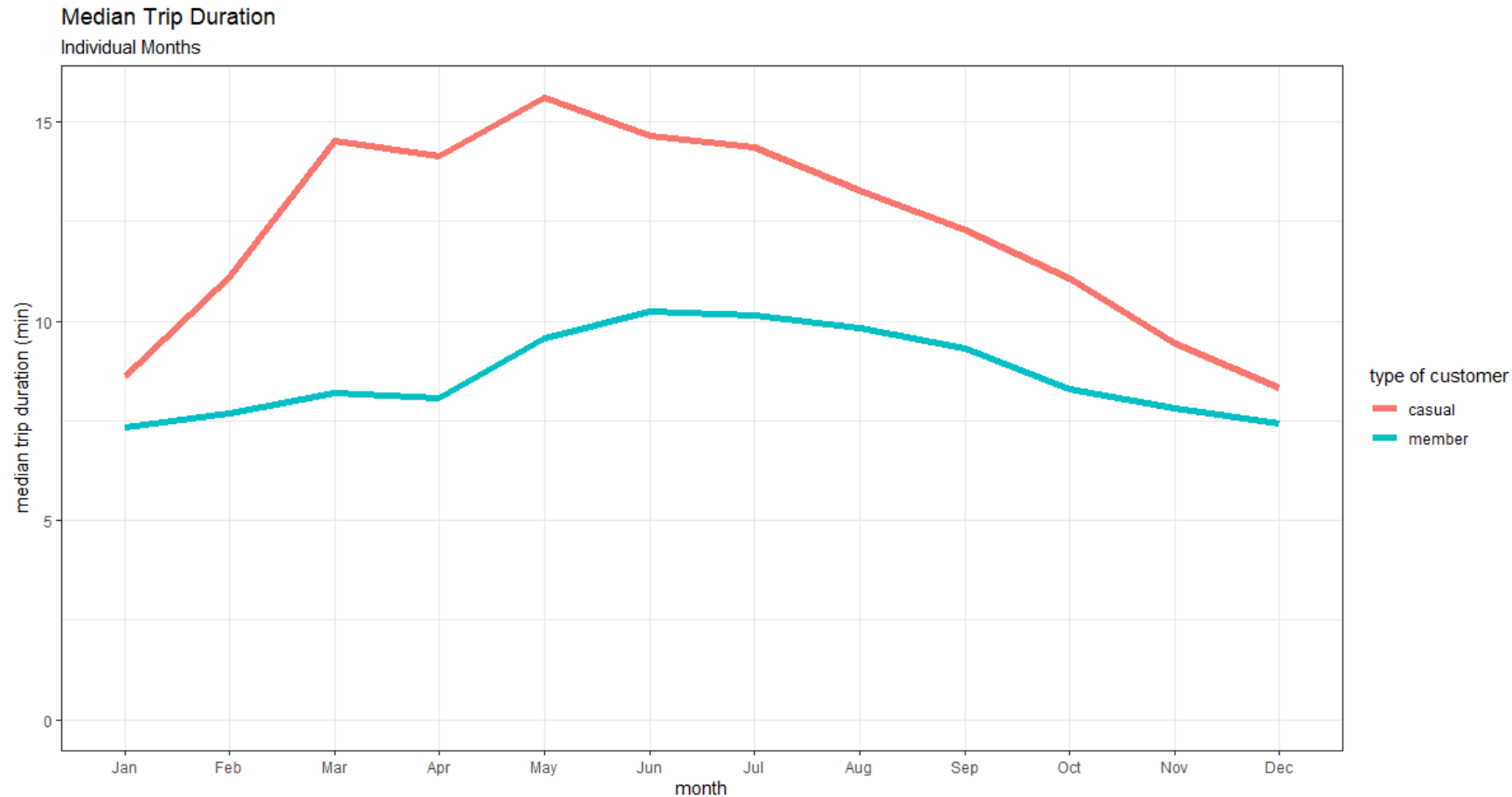
Results



Both groups prefer summer months.

Winter drop is smaller in the case of members.

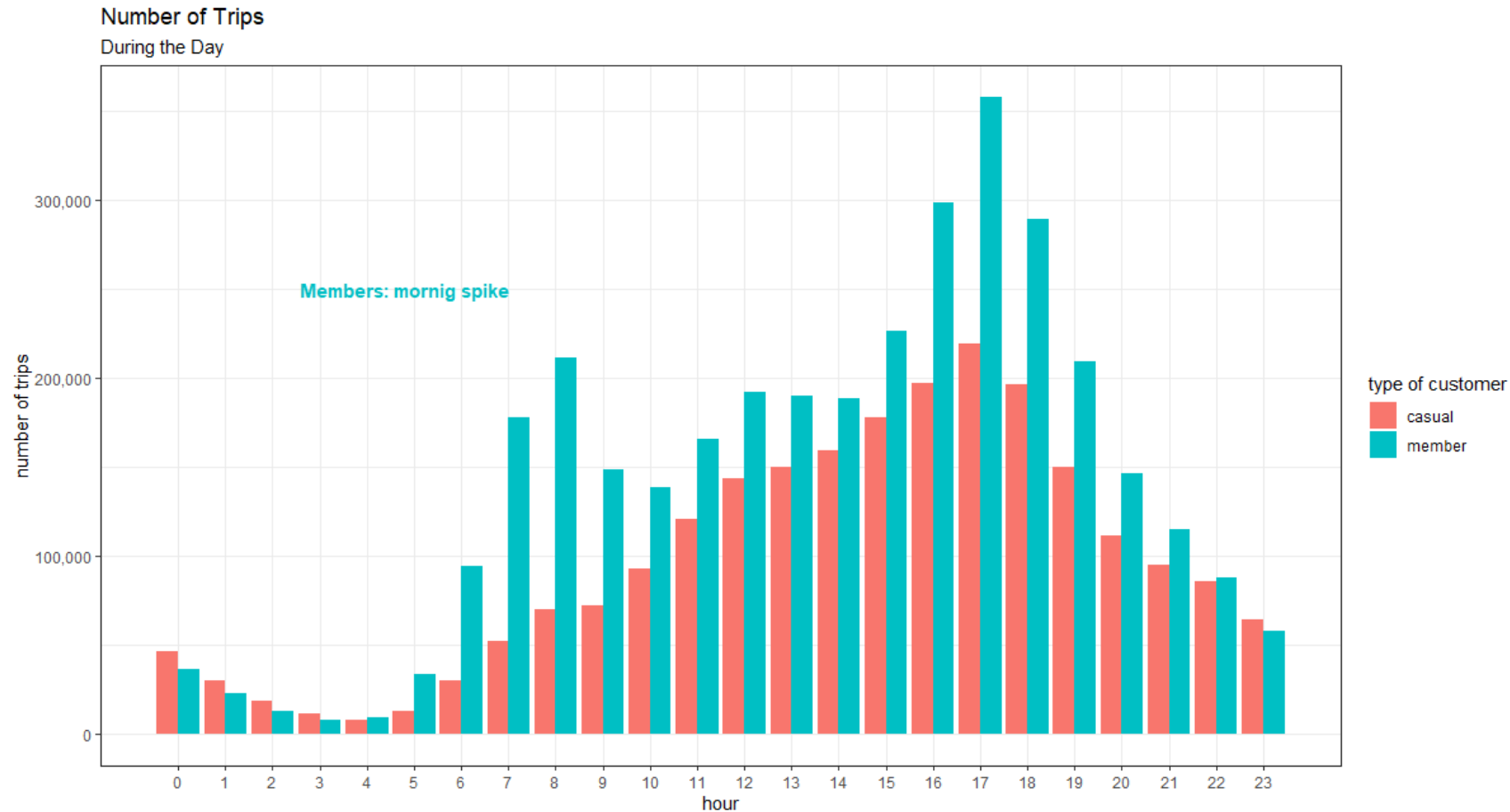
Results



Median trip duration for summer months significantly longer.

Especially for casual riders.

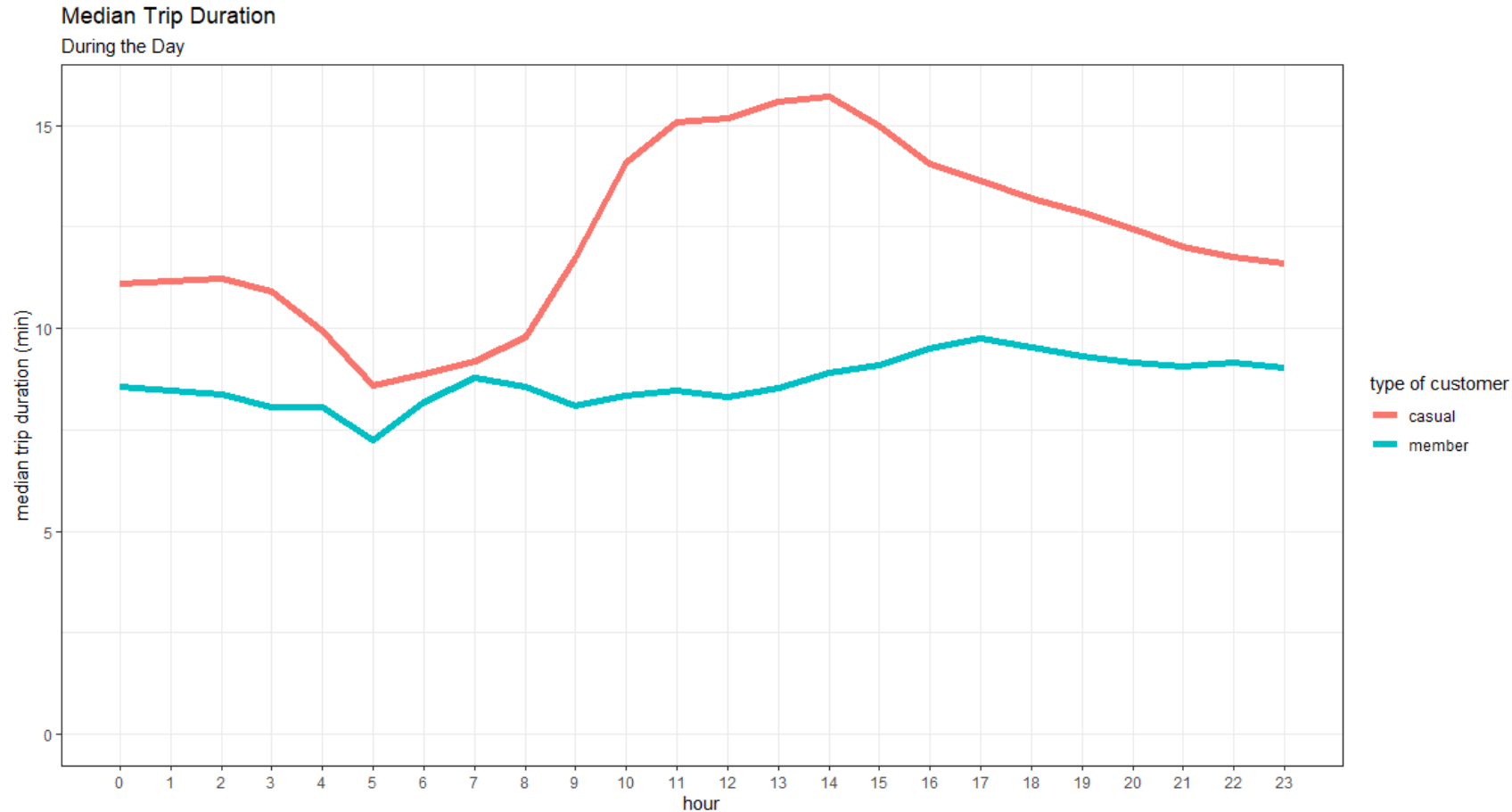
Results



Members seem to use bikes for errands and going to work.

Both groups enjoy afternoon bike trips.

Results

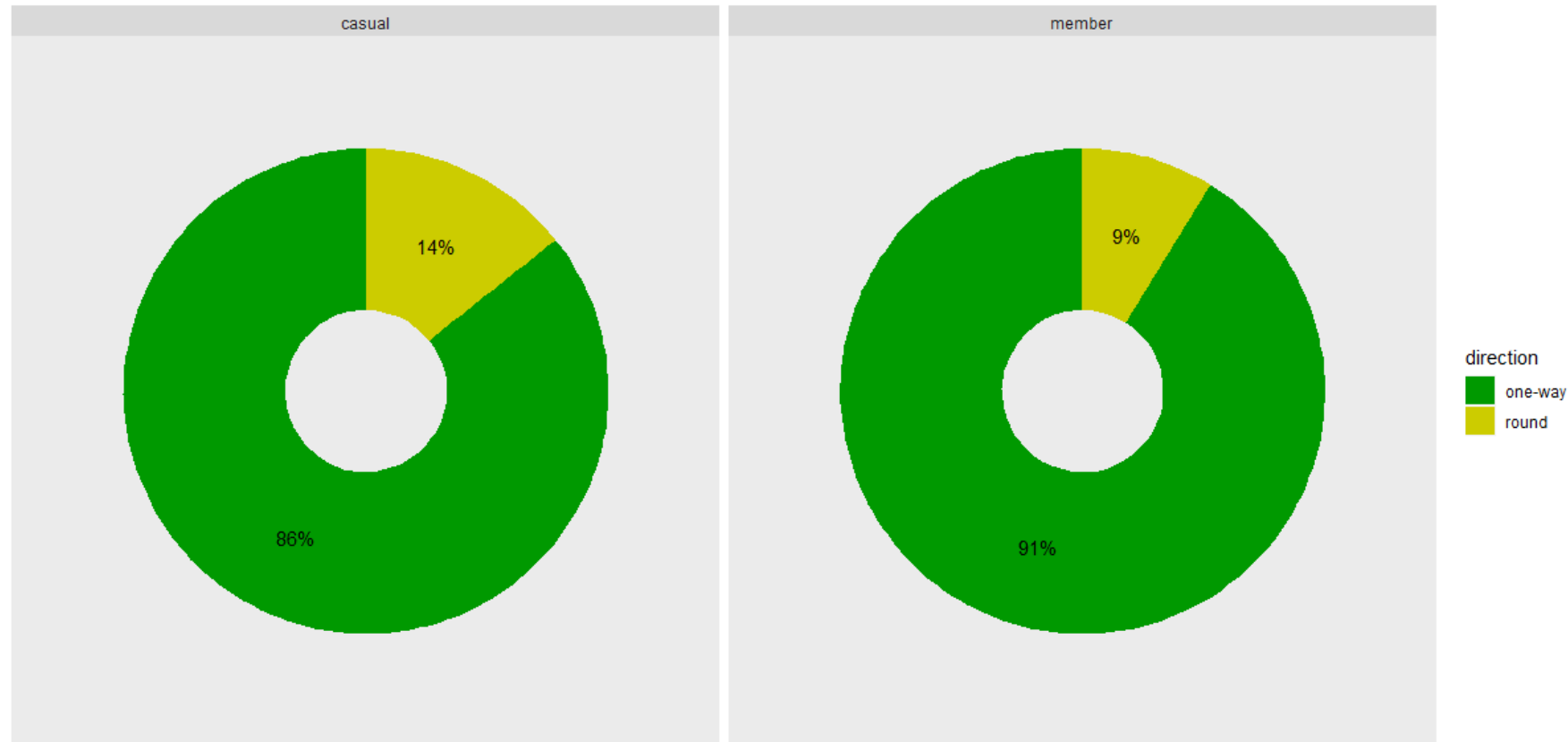


Afternoon trips of casual riders tend to be longer.

Bigger fraction of leisure trips?

Results

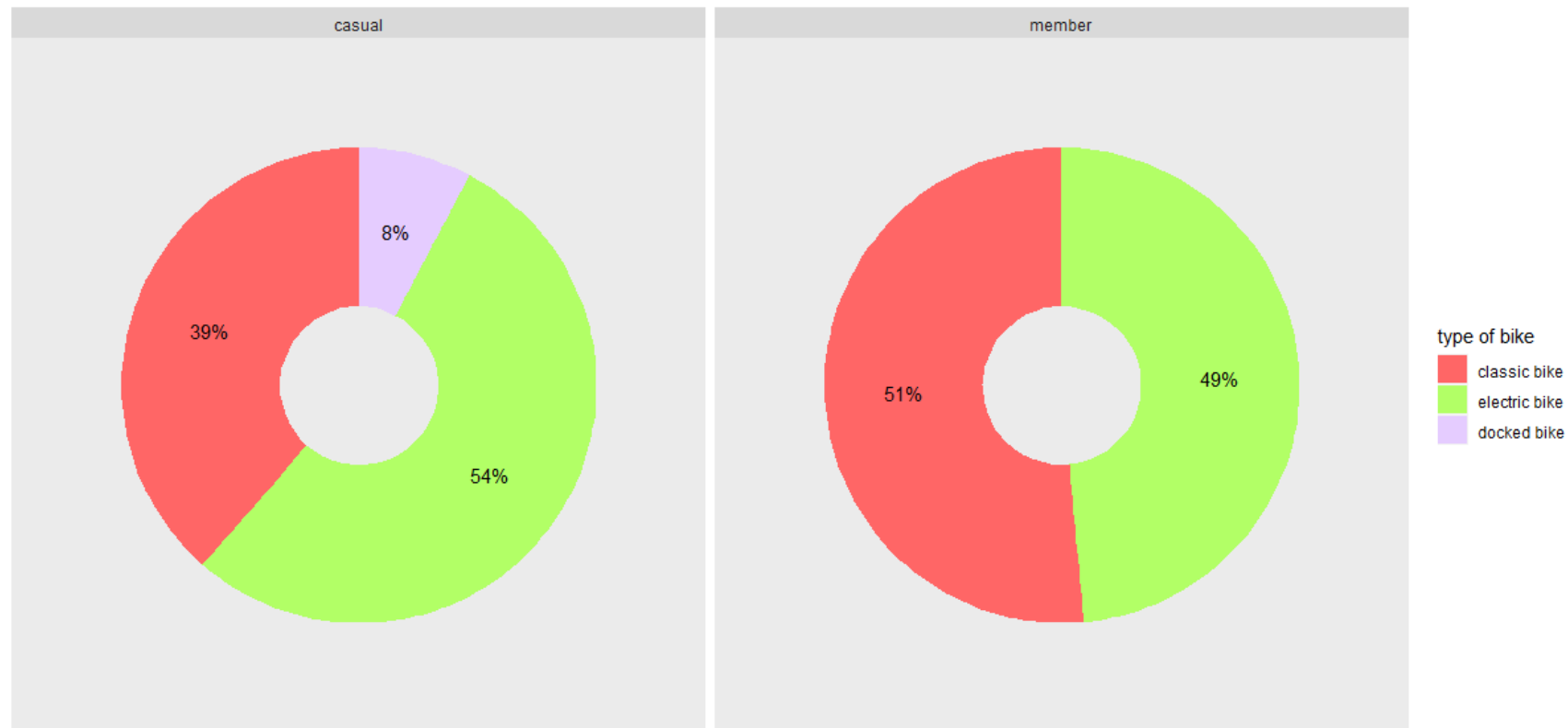
Proportion of one-way and round trips



Casual riders make round trips a bit more often.

Results

Proportion of bike types



Many casual riders prefer electric bikes.

TOP 3 Recommendations

Some casual riders use bikes for shorter trips like members, likely for commuting.

Show the (financial) benefits of using this option regularly.

Many casual riders use bikes for leisure activities.

Motivate them to do regular exercise with our bikes.

Show them they can do exercise also when going to work!

Many casual riders prefer electric bikes.

Make sure these will be available for commuting (peak hours, busy stations) and communicate it.

Next steps

Informing Questions 2 and 3:

Question 2: Why would casual riders buy Cyclistic annual memberships?

TOP 3 recommendations:

- (financial) benefits of using Cyclistic to go to work regularly
- to exercise regularly
- if they can rely on enough bikes (including electric) being available

Question 3: How can Cyclistic use digital media to influence casual riders to become member

TOP 3 recommendations:

- explain the benefits of membership based on the motivations above

Next steps

Further research:

Use the most frequently used stations for advertisement and make sure enough bikes are available there

Collect data on the age of casual riders to advise social media campaigns

Ask about the motivation and preferences of users (reason for the trip, which other benefits would be welcomed, preferred way of payment etc.)