

Case Study: Bike Sharing System

Winston Koh

Background

- ▶ Cyclistic is a fictional bike-share company in Chicago (based on the real-life Divvy bike-share program).
- ▶ Casual riders are customers who purchase single-ride or full-day passes.
- ▶ Members are customers who purchase annual memberships.

Problem

- ▶ Annual members are much more profitable than casual riders.
- ▶ Maximizing the number of annual members will be key to future growth.
- ▶ We want to design a marketing strategy to convert casual riders into members.

Questions of Interest

1. How do annual members and casual riders use Cyclistic bikes differently?
2. Why would casual riders buy Cyclistic annual memberships?
3. How can Cyclistic use digital media to influence casual riders to become members?

Data

We have publicly available, anonymized data from Divvy for the year 2024. Each trip has the following data:

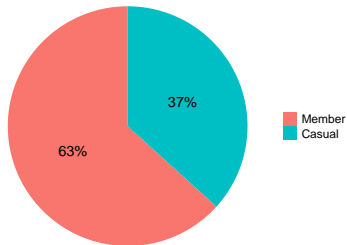
- ▶ Rider type (Casual or Member)
- ▶ Trip start date + time and end date + time
- ▶ Trip start location and end location
- ▶ Ride type (Electric bike, Classic bike, or Electric scooter)

Findings

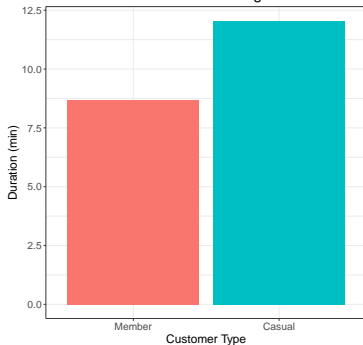
Most rides are taken by members, and member trips are usually shorter than casual rider trips.

Proportion of Rides by Customer Type

Total # of Rides = 5,859,845

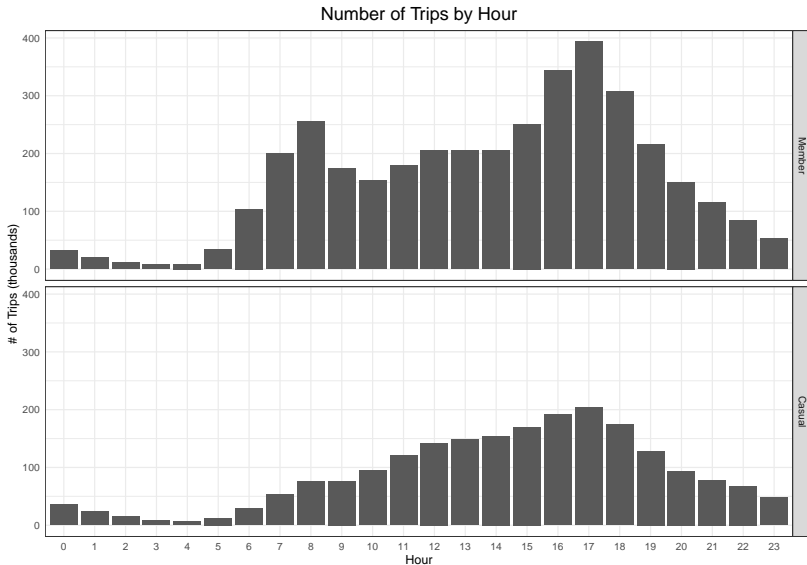


Median Ride Length



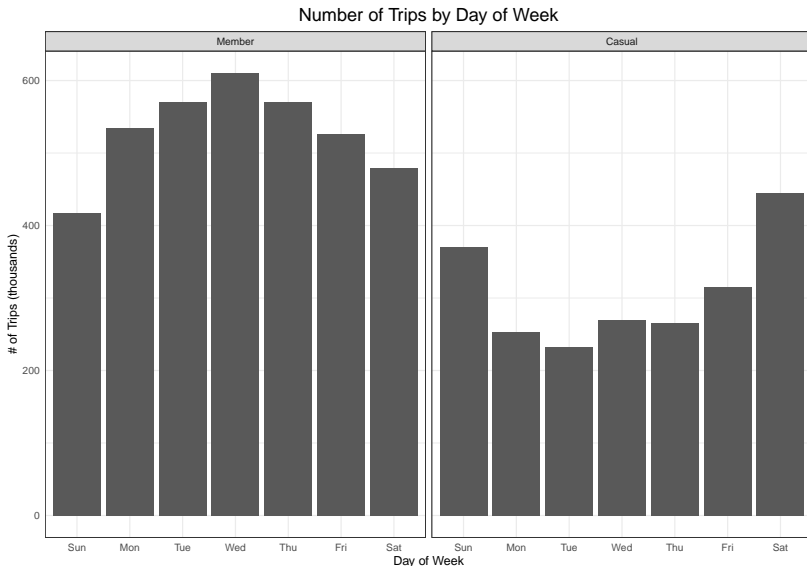
Trips by Hour

Both member and casual rider trips peak in the afternoon, though members have a small peak in the morning.

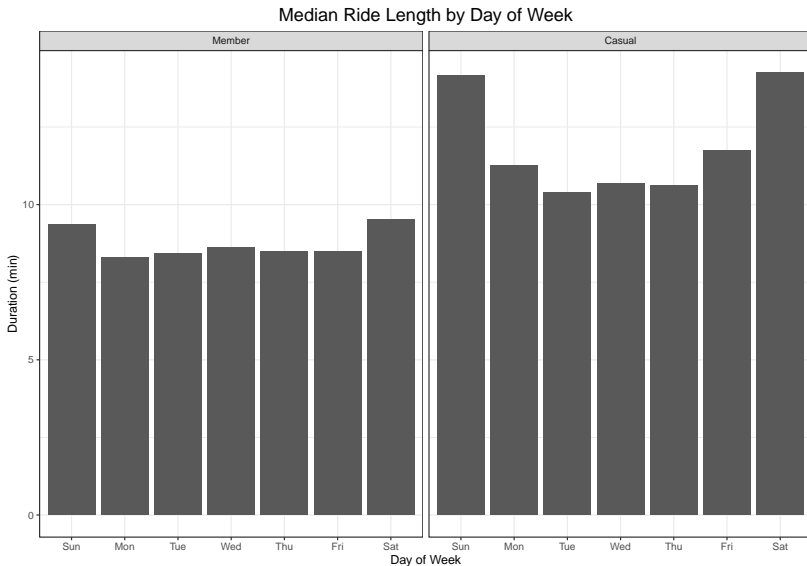


Trips by Day of Week

Members take more trips during weekdays, while casual riders take more trips during weekends.

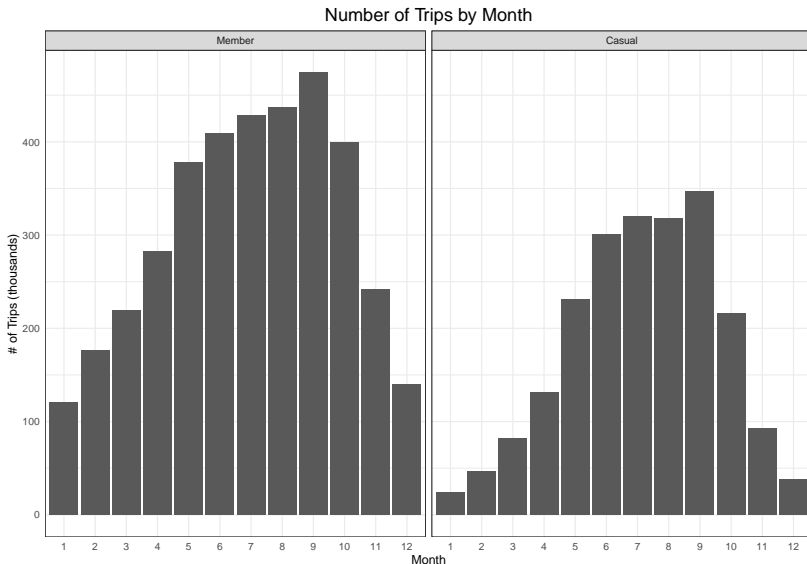


Member trip durations are relatively constant throughout the week, while casual rider trip durations are longer on the weekends.

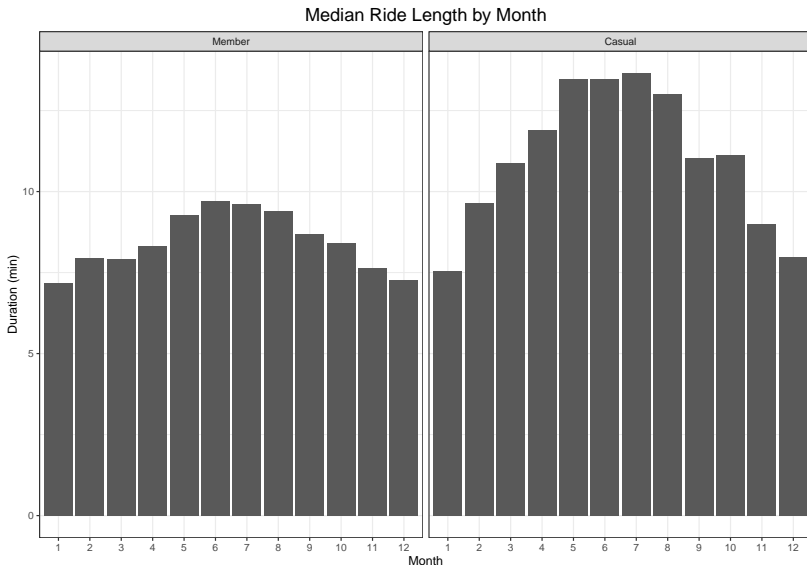


Trips by Month

Trips are more frequent in the warmer months for both members and casual riders.

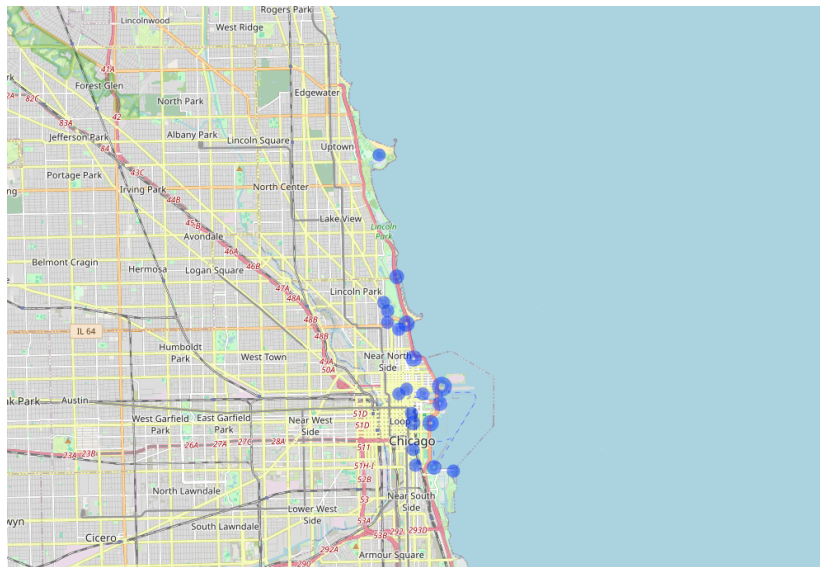


Casual rider trips are much longer in the warmer months compared to the colder months. This difference is much smaller for members.

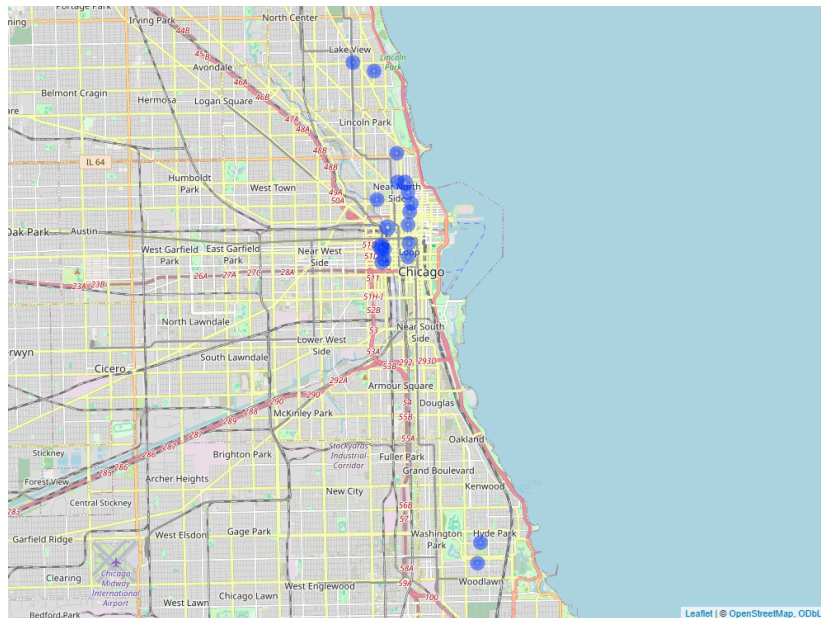


Trips by Destination

The 20 most frequent destinations of casual rider trips are recreational areas by the waterfront.



The 20 most frequent destinations of member trips include the downtown area, transit centers, and The University of Chicago.



Summary

Data suggests that casual riders tend to take trips mainly for leisure while members tend to take trips for daily commuting.

- ▶ Casual riders occur more frequently and tend to be longer during weekends and warmer months. The most common destinations are recreational areas on the waterfront.
- ▶ Member trips occur more frequently during weekdays, and have a spike in the morning hours. Trips are shorter and more consistent in duration compared to casual rider trips. The most common destinations are in the downtown area.

Recommendations

- ▶ Convince casual riders to daily bike commuters by emphasizing the benefits of commuting by bike instead of by other forms of transportation.
 - ▶ e.g., Widespread availability, cost, speed, healthy physical activity
- ▶ Create promotional deals for members for leisure activities and destinations
 - ▶ e.g., The aquarium, museums, restaurants