Case Study: Bike Sharing System

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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 data on bike trips from the year 2024 with the following data for each trip:

- Customer 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)

Data Considerations

- The data originates from Divvy's publicly available data.
- Each trip is anonymized.
- Trips that were below 60 seconds in length are excluded.
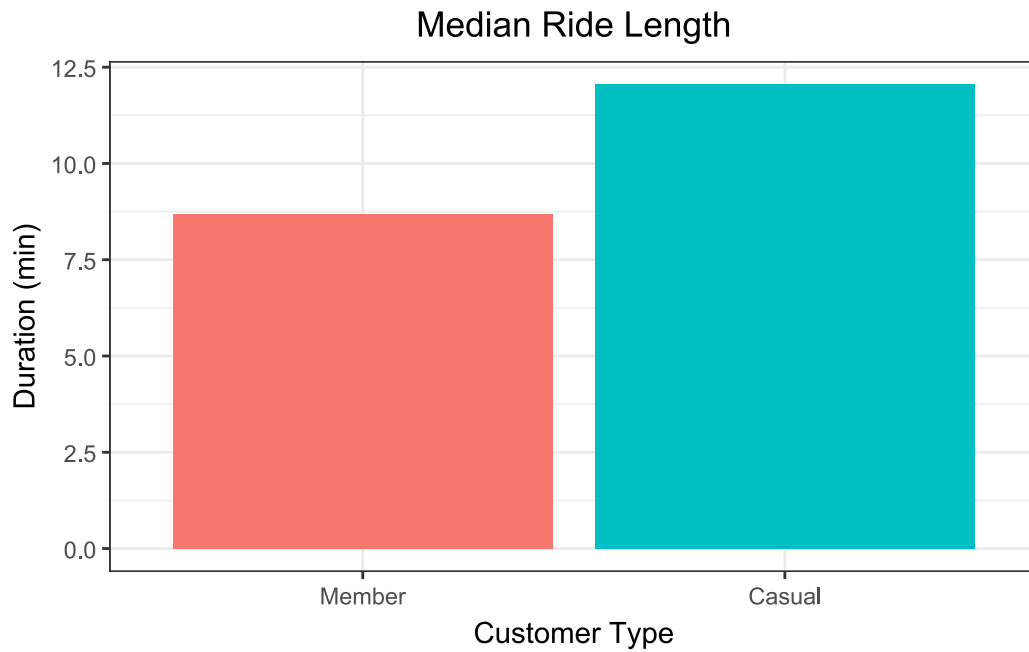 - ‣ These are potentially false starts or users trying to re-dock a bike to ensure it was secure.

Findings

Most rides are taken by members, and member trips are usually shorter than casual rider trips.
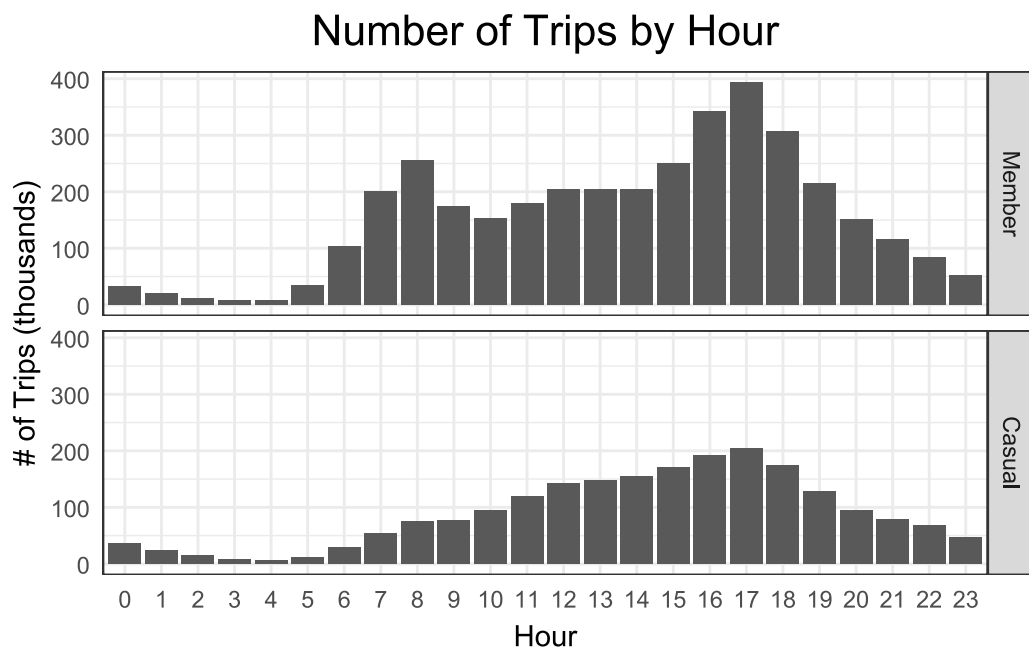
Proportion of Rides by Customer Type

Total # of Rides = 5,859,845

63%   37%

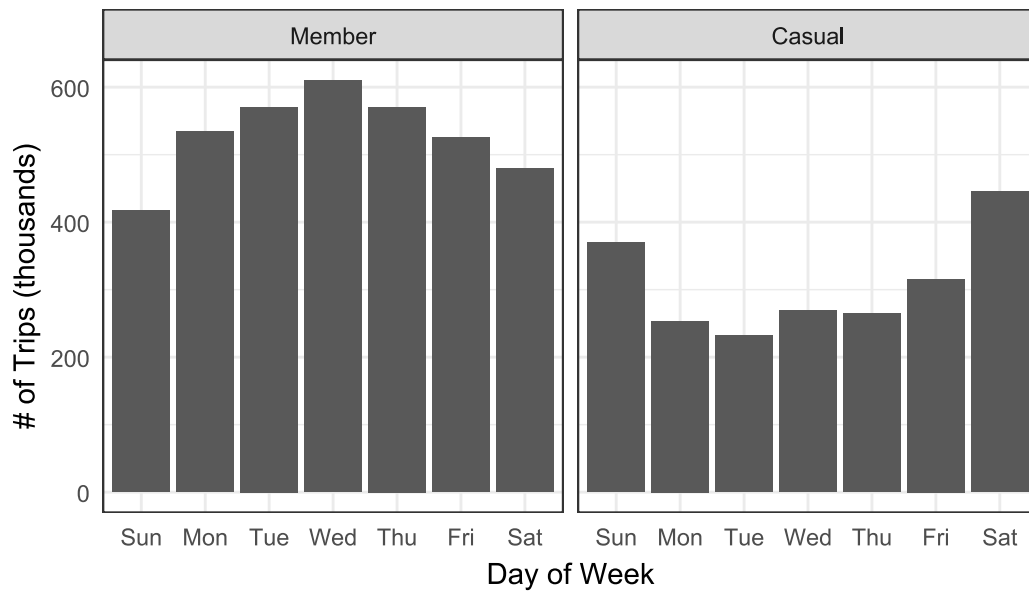■ Member
■ Casual

Median Ride Length
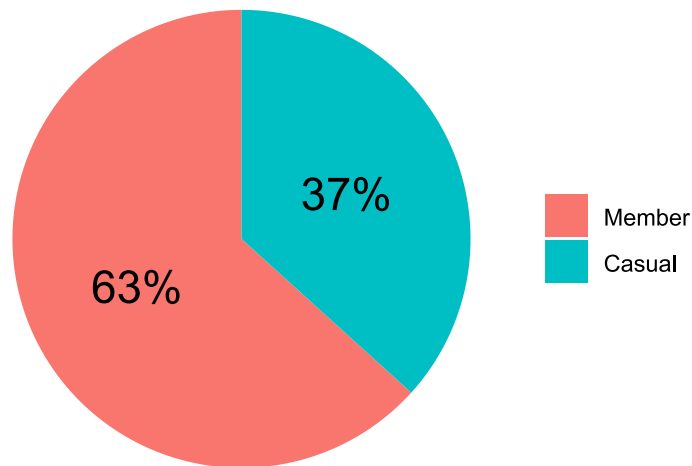
Trips by Hour

Both member and casual rider trips peak in the afternoon, though members have a small peak in the morning.
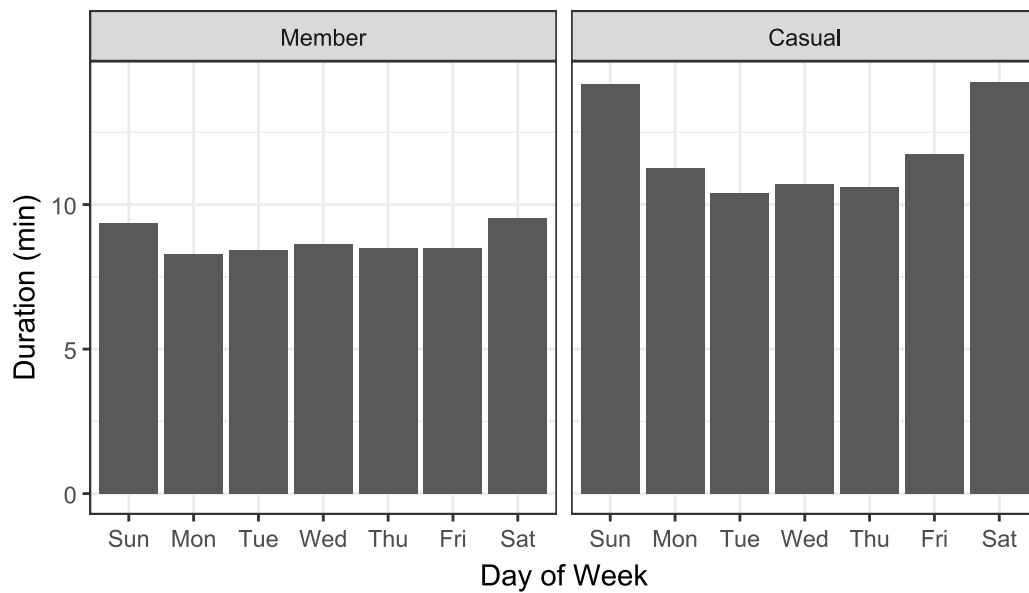
Number of Trips by Hour

Trips by Day of Week

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

Number of Trips by Day of Week

Member trip durations are relatively constant throughout the week, while casual rider trip durations are longer on the weekends.
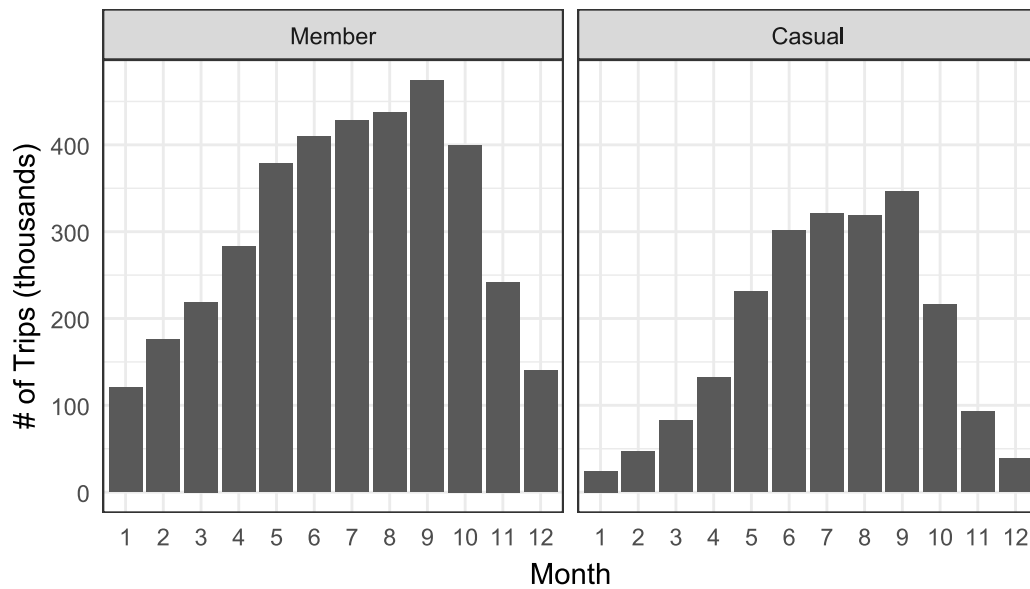
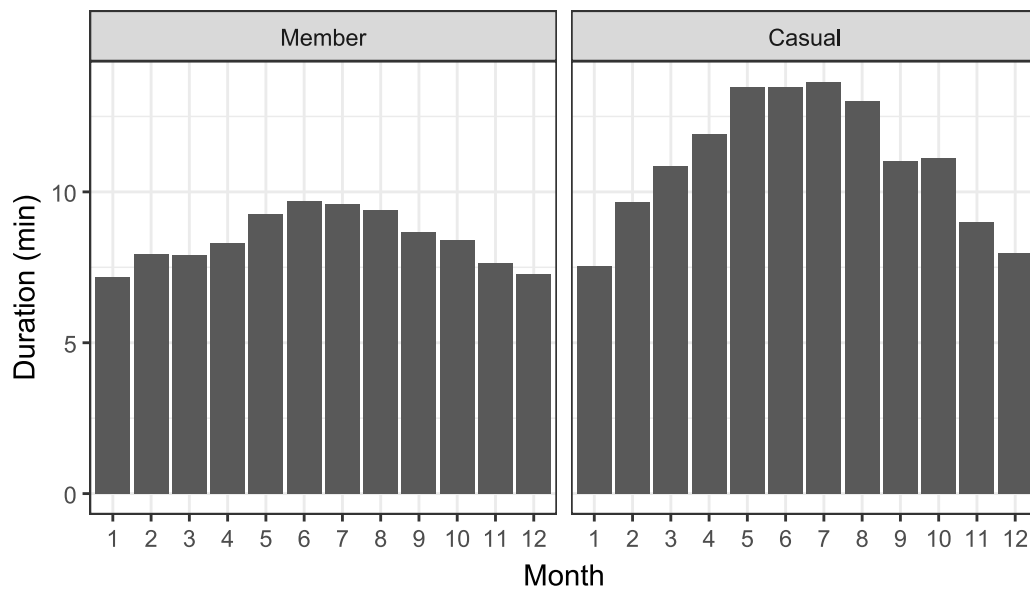# Median Ride Length by Day of Week

Trips by Month

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

Number of Trips by Month

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

Median Ride Length by Month

Trips by Destination

The 20 most frequent destinations of casual rider trips are recreational areas by the waterfront.
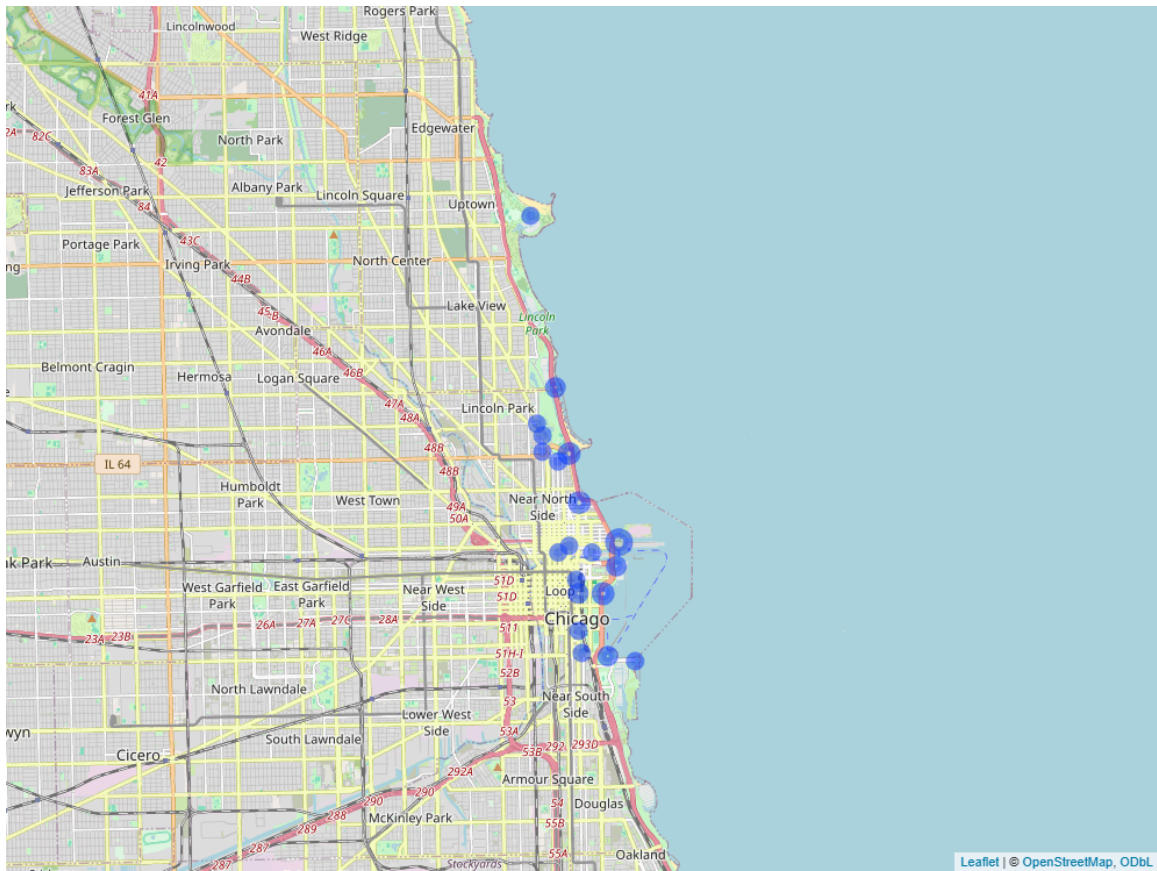
Figure 1: Map of 20 most frequent destinations for casual riders

The 20 most frequent destinations of member trips include the downtown area, transit centers, and The University of Chicago.
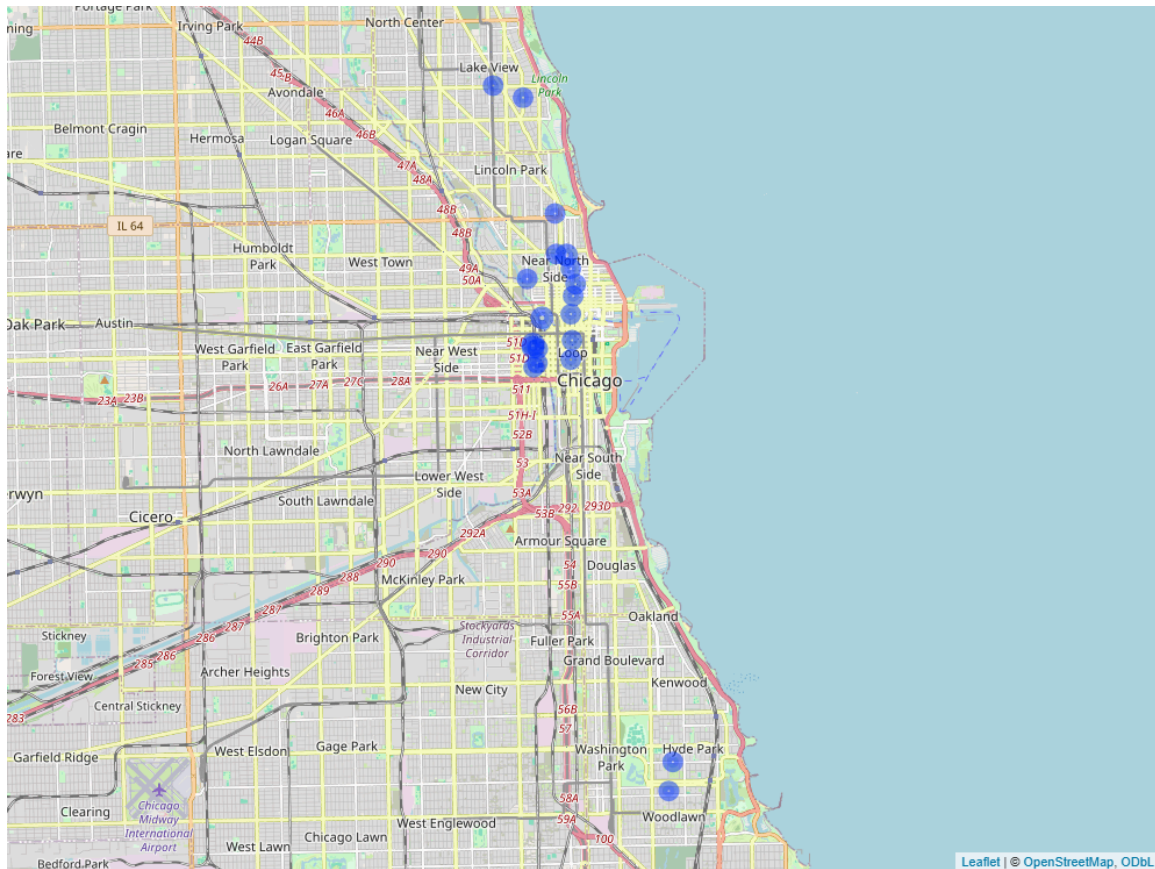
Figure 2: Map of 20 most frequent destinations for members

Summary

- Casual riders tend to take longer bike trips (especially on weekends and during the warmer months) to recreational areas on the waterfront.
- Members tend to take shorter, more consistently long trips to the downtown area.
- This suggests that casual riders tend to take trips for leisure while members tend to take trips for daily commuting.

Recommendations

- Collect more data to confirm this hypothesis.
  - ‣ Analyzing customer demographic data that could help us better understand our customers.
  - ‣ Conducting a survey would allow us to directly address our business question.
- Use digital media to to convert casual riders to use our bike-sharing service for commuting and regular use.
  - ‣ Emphasize benefits of commuting by bike (widespread availability, speed, etc.) compared to (or in addition to) other forms of transportation.