# Cyclistic Case Study

8/24/22

# Summary

- Cyclistic is a successful bike-sharing company launched in 2016 in Chicago with a fleet of over 5,800 bikes
  - Customers are classified as casual riders, those purchasing single ride or full day passes, and annual members, those who purchase annual memberships
- Historically, Cyclistic's marketing strategy has relied on building general awareness and appealing to broad consumer segments
  - Cyclistic's finance analysts have determined that annual members are more profitable than casual riders
  - Maximizing the number of annual members will be key to future growth and that there is opportunity to convert causal riders into members
- Cyclistic will look to design marketing strategies aimed at converting casual riders into annual members and seeks to better understand
  - How annual members and casual riders use Cyclistic bikes differently
  - Why casual riders would buy Cyclistic annual memberships
  - How Cyclistic can use digital media to influence casual riders to become members

# Objective

- Understand how annual members and casual riders use Cyclistic bikes differently

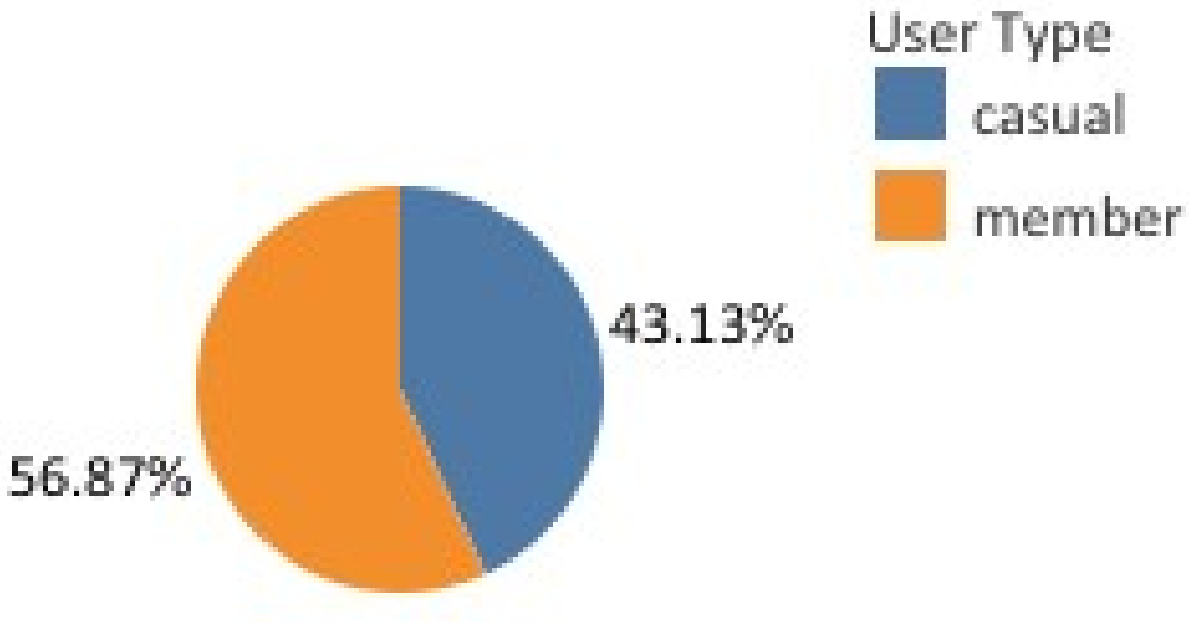
# Data Source

- Data for analysis includes six months of Cyclistic trip data through July 2022[1]
- The data set includes ride observation data as follows: ride ID, bike type, start date/time, end date/time, start station name, start station ID, end station name, end station ID, start latitude, start longitude, end latitude, end longitude, and member type
  - Approximately 14%-15% of observations are missing start or end station name; analysis for this project includes these rides except where analysis relates to start and end station data
- Total observations aggregate to over 2.99 mm
- Due to data privacy issues, riders' personally identifiable information is not disclosed and brings about limitations, such as inability to connect pass purchases to credit card numbers to determine if a casual rider has purchased multiple single passes or if a rider lives in the company's service area

[1] Data sourced from https://divvy-tripdata.s3.amazonaws.com/index.html under the following license https://www.divvybikes.com/data-license-agreement

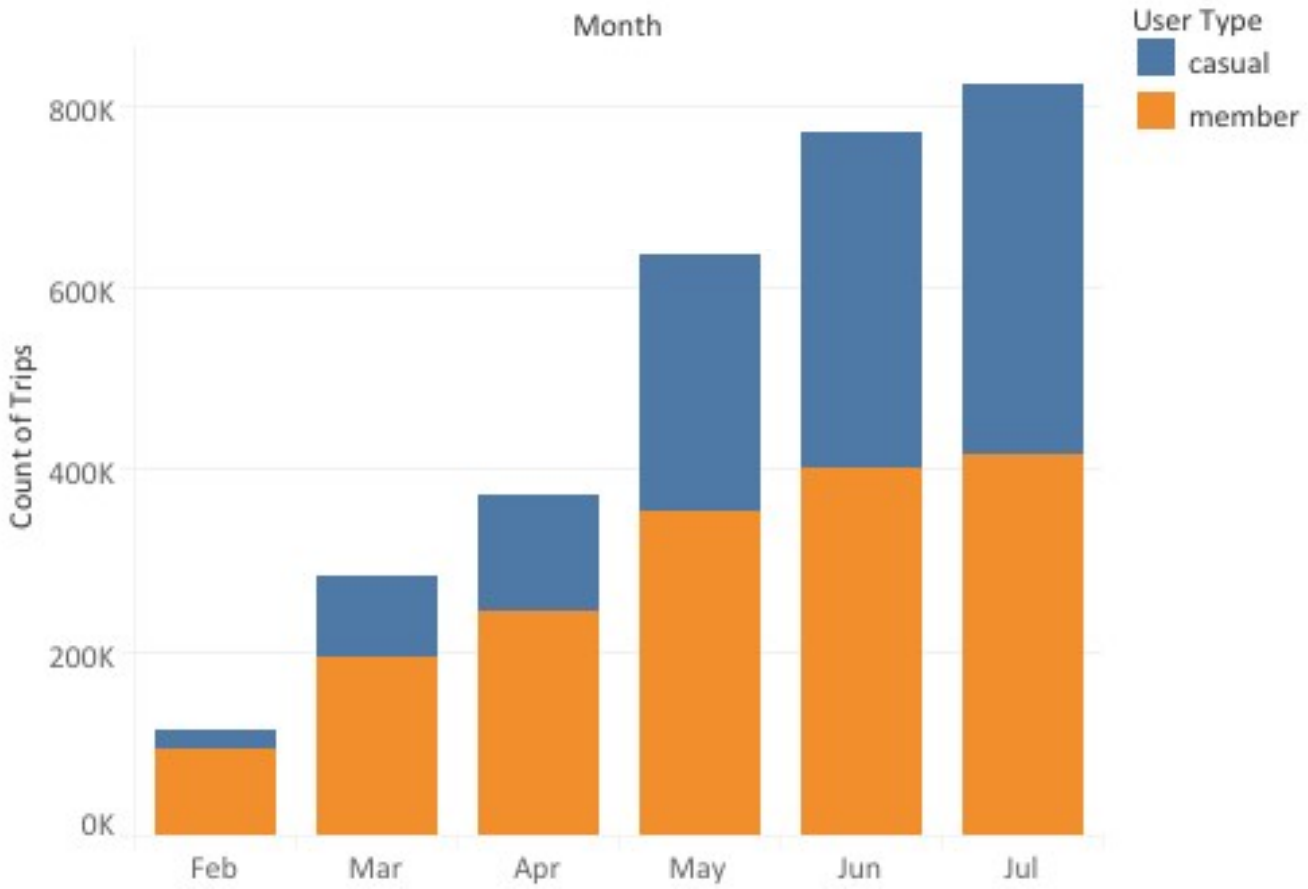
# Trip Composition

Casual user trips account for a large portion of total trips



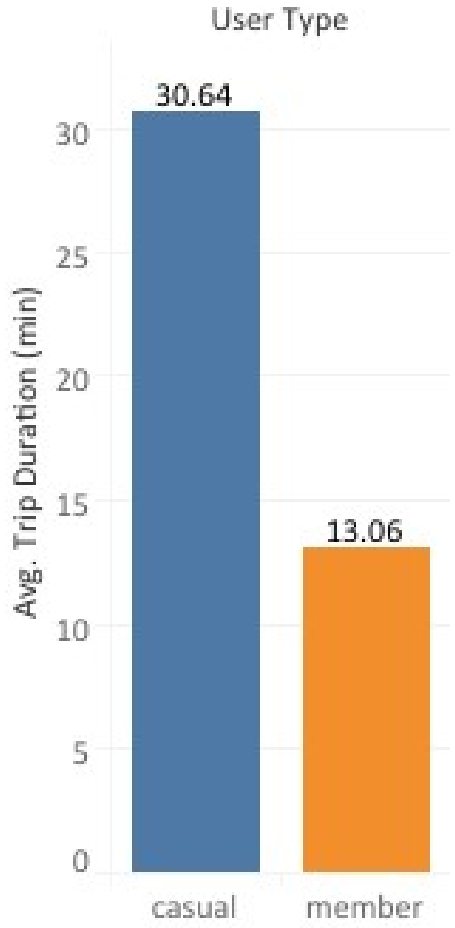
# Seasonality

Bike usage is significantly higher in the Summer than Winter



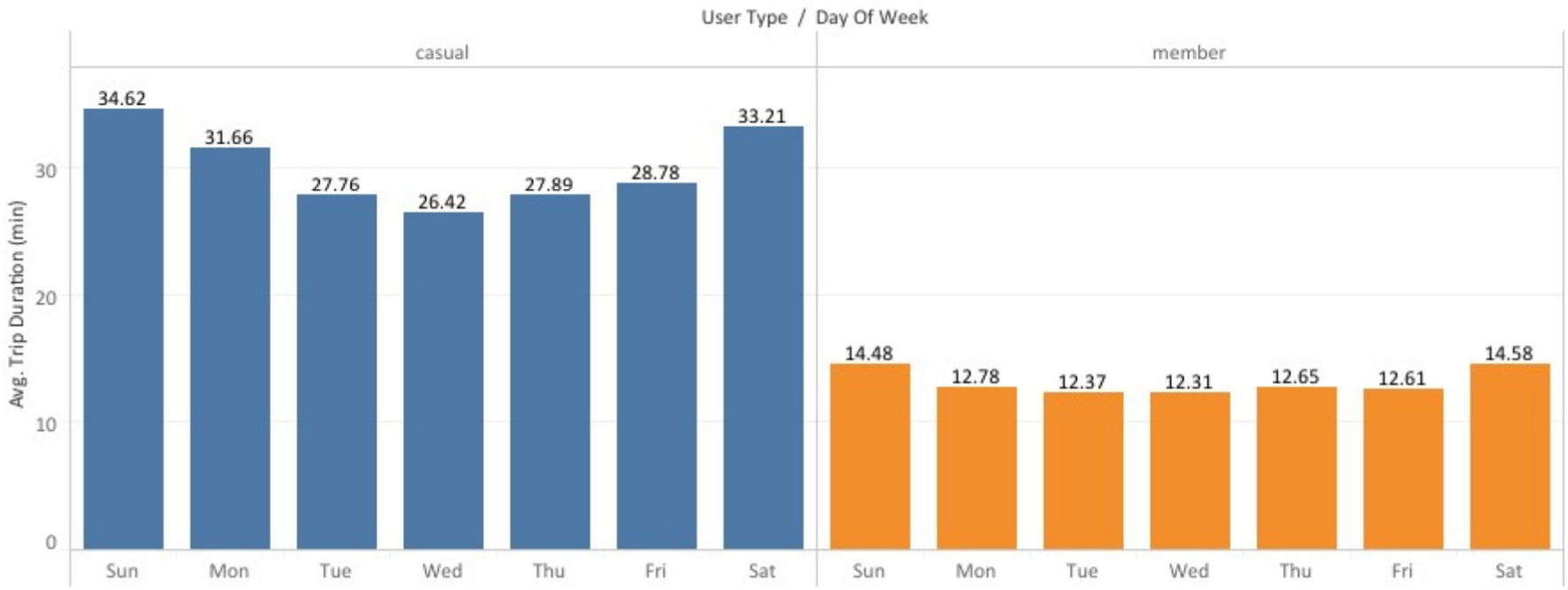
# Average Trip Duration

Avg trip duration for casual user trips is more than double that of member trips



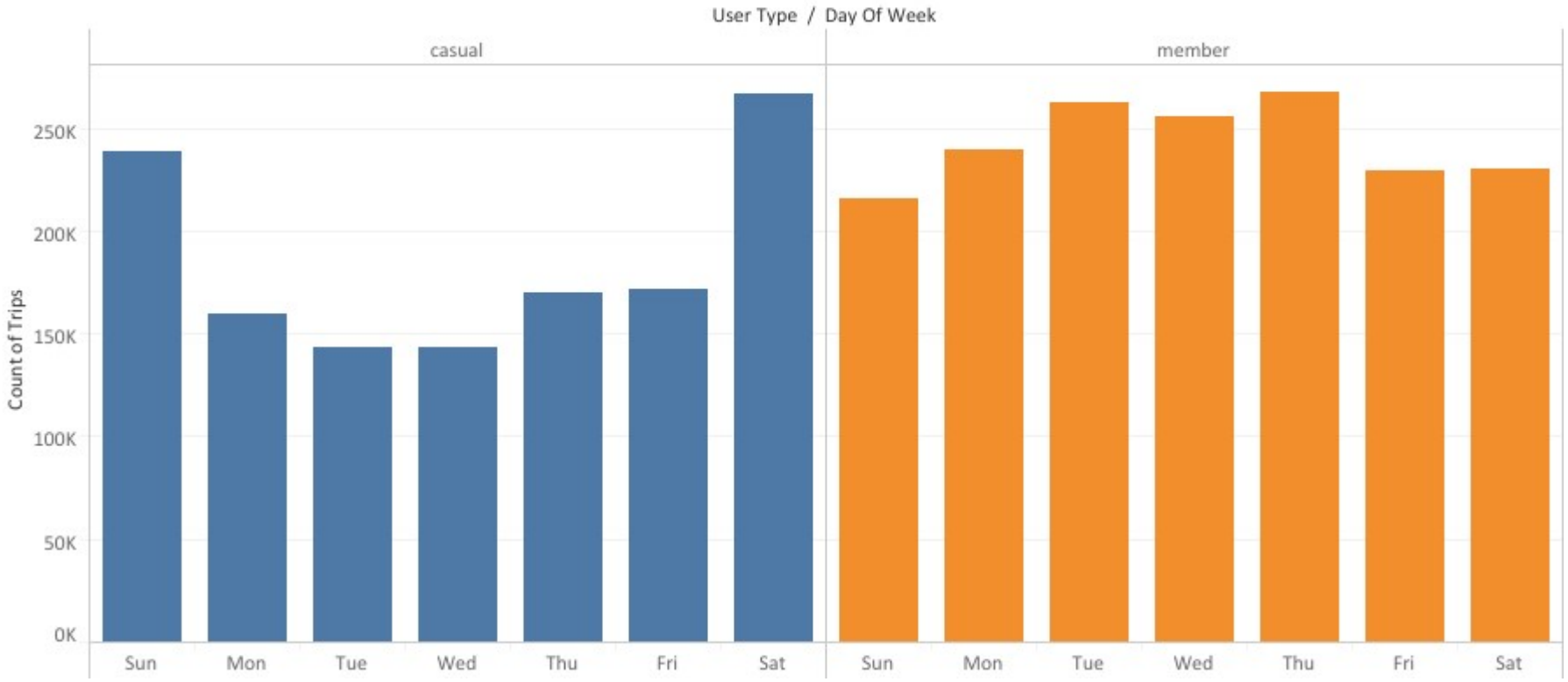
# Daily Average Trip Duration

Avg duration for members is shorter than casual users on all days



# Daily Trips

Casual users take more trips on the weekend relative to members



# Top Start Stations

Start station popularity differs between casual users and members with three stations in the top ten overlapping

| Rank | Start Station | Casual Trips |
|---|---|---|
| 1 | Streeter Dr & Grand Ave | 34,775 |
| 2 | DuSable Lake Shore Dr & Monroe St | 19,134 |
| 3 | Michigan Ave & Oak St | 15,418 |
| 4 | DuSable Lake Shore Dr & North Blvd | 15,080 |
| 5 | Millennium Park | 14,861 |
| 6 | Theater on the Lake | 11,708 |
| 7 | Shedd Aquarium | 11,225 |
| 8 | Wells St & Concord Ln | 9,275 |
| 9 | Dusable Harbor | 8,751 |
| 10 | Clark St & Armitage Ave | 8,068 |

| Rank | Start Station | Member Trips |
|---|---|---|
| 1 | Kingsbury St & Kinzie St | 13,257 |
| 2 | Wells St & Concord Ln | 11,294 |
| 3 | Clark St & Elm St | 11,151 |
| 4 | Wells St & Elm St | 10,117 |
| 5 | Clinton St & Washington Blvd | 10,096 |
| 6 | University Ave & 57th St | 10,077 |
| 7 | DuSable Lake Shore Dr & North Blvd | 9,843 |
| 8 | Streeter Dr & Grand Ave | 9,797 |
| 9 | Clinton St & Madison St | 9,736 |
| 10 | Ellis Ave & 60th St | 9,561 |

# Top End Stations

End station popularity differs between casual users and members with two stations in the top ten overlapping

| Rank | End Station | Casual Trips |
|---|---|---|
| 1 | Streeter Dr & Grand Ave | 35,737 |
| 2 | DuSable Lake Shore Dr & Monroe St | 17,985 |
| 3 | DuSable Lake Shore Dr & North Blvd | 17,093 |
| 4 | Michigan Ave & Oak St | 16,102 |
| 5 | Millennium Park | 15,273 |
| 6 | Theater on the Lake | 12,293 |
| 7 | Shedd Aquarium | 10,608 |
| 8 | Wells St & Concord Ln | 8,883 |
| 9 | Dusable Harbor | 8,343 |
| 10 | Clark St & Armitage Ave | 8,193 |

| Rank | End Station | Member Trips |
|---|---|---|
| 1 | Kingsbury St & Kinzie St | 12,995 |
| 2 | Wells St & Concord Ln | 11,597 |
| 3 | Clark St & Elm St | 11,452 |
| 4 | University Ave & 57th St | 10,524 |
| 5 | Clinton St & Washington Blvd | 10,459 |
| 6 | Clinton St & Madison St | 10,138 |
| 7 | DuSable Lake Shore Dr & North Blvd | 9,757 |
| 8 | Wells St & Elm St | 9,757 |
| 9 | Ellis Ave & 60th St | 9,377 |
| 10 | Broadway & Barry Ave | 9,146 |

# Conclusions

- Bike sharing is a seasonal business with significantly more trips taken in the summer than winter, regardless of user type
- Casual users contribute 43% of total rides
- Differences exist in the usage patterns of casual users and members
  - Casual users take longer trips on average
  - Casual users have relatively higher weekend usage while members have higher weekday usage
  - Top start and end stations for casual users and members differ significantly

# Recommendations

- Based on current analysis, broad recommendations for action include:
  - marketing during the summer or warmer months when usage is high and users are more likely to think they will use the service more frequently, making membership more attractive
  - targeting casual users who use the service on weekdays and for trip durations more similar to members (i.e. relatively shorter average trip durations)
  - targeting casual users who are using start and end stations that are popular among member users, as this may indicate the stations are used for routine, repeated activity, such as commuting for work

# Limitations & Further Research

- Limitations to the data however means additional information and research should be considered
  - User level research, including user level data and surveying casual users to better understand frequency of use, use case and motivations for use
    - Lack of individual user data limits the ability to specifically target users that may be more likely to convert to members
  - Research on station information to better understand popularity of stations and potential to target users of specific stations or stations that meet similar criteria that could indicate users that are good candidates for membership
- As an alternative to converting casual users to traditional membership, Cyclistic could also consider structuring new membership option(s) based on casual user usage patterns