



[Learn more](#)

Unlocking the Cyclistic Difference:

A Data-Driven Examination of Annual Members & Casual Riders

August 2023

Greg Schlitt

GOALS

1. Overview of Historical Rider Data

We will cover how many riders are using the service and how that changes throughout the year.

2. Examine Key Similarities and Differences

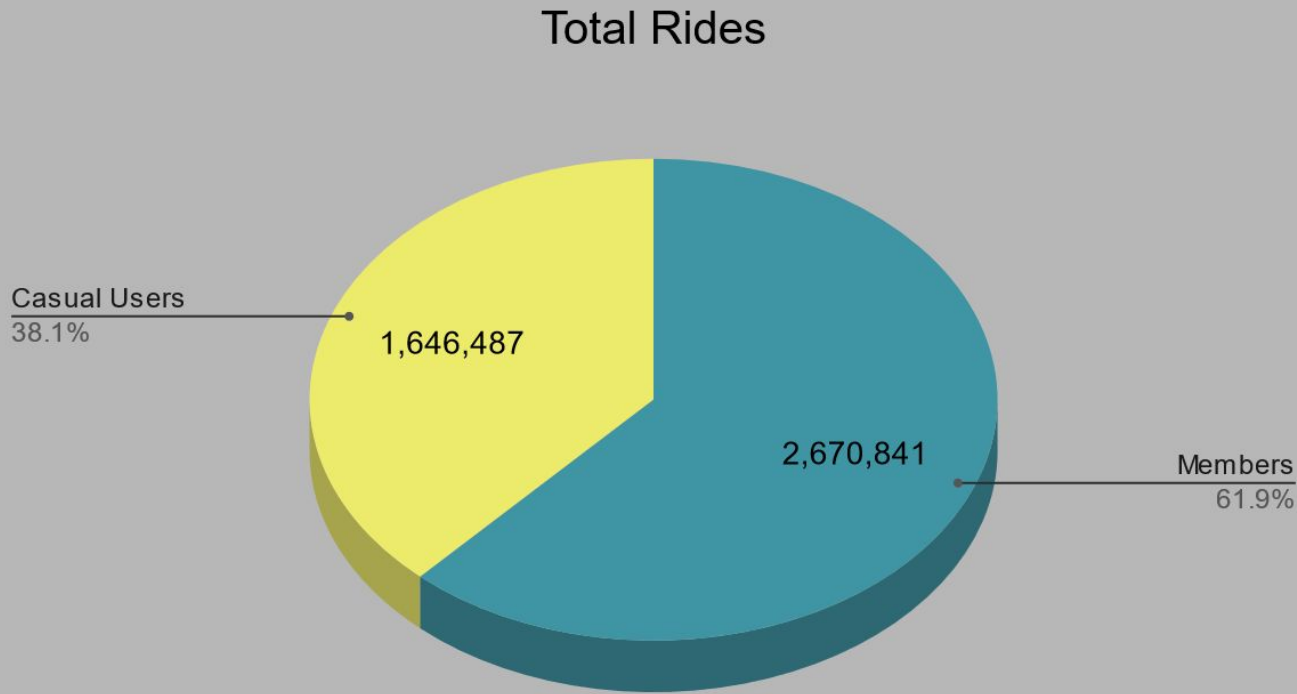
We will help you understand where your riders are starting, ending, and everything in between.

3. Discuss Key Targets for Expansion

We will identify key areas for your marketing plan to focus on based on the data analysis.

OVERVIEW

We analyzed 4,317,328 rides from July 2022 to June 2023



ANALYSIS

Hypothesis:

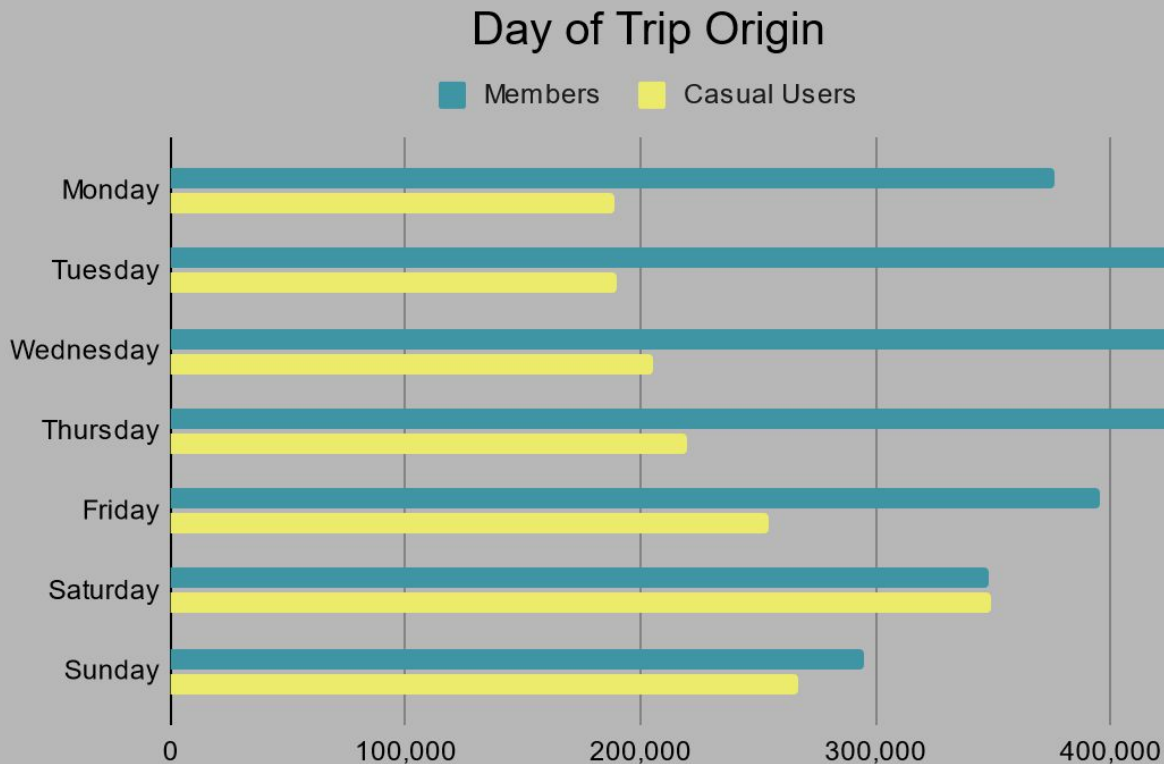
- Members are local residents who use the system for regular transportation for work and errands.
- Casual Users are tourists who use the service to get from hotels to entertainment locations around the city.

Questions we will answer:

1. What is the most common day of the week for each user type?
2. What is the most common trip start time for each user type?
3. How long is the average trip for each user type?
4. Where in the city do most trips start for each user type?
5. What is the average distance for each trip for each user type?
6. Does time of the year play a factor in usage for each user type?
7. What type of bike does each user type rent?

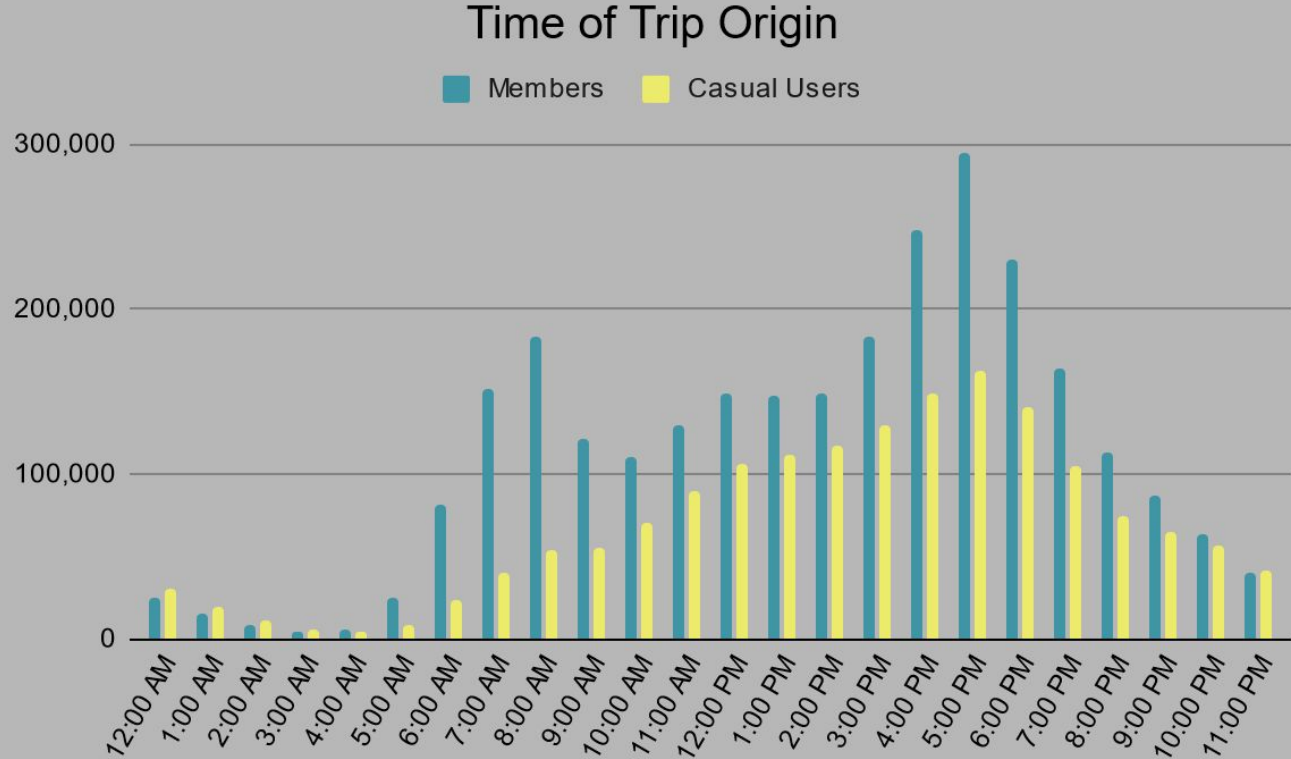
ANALYSIS

What is the most common day of the week for each user type?



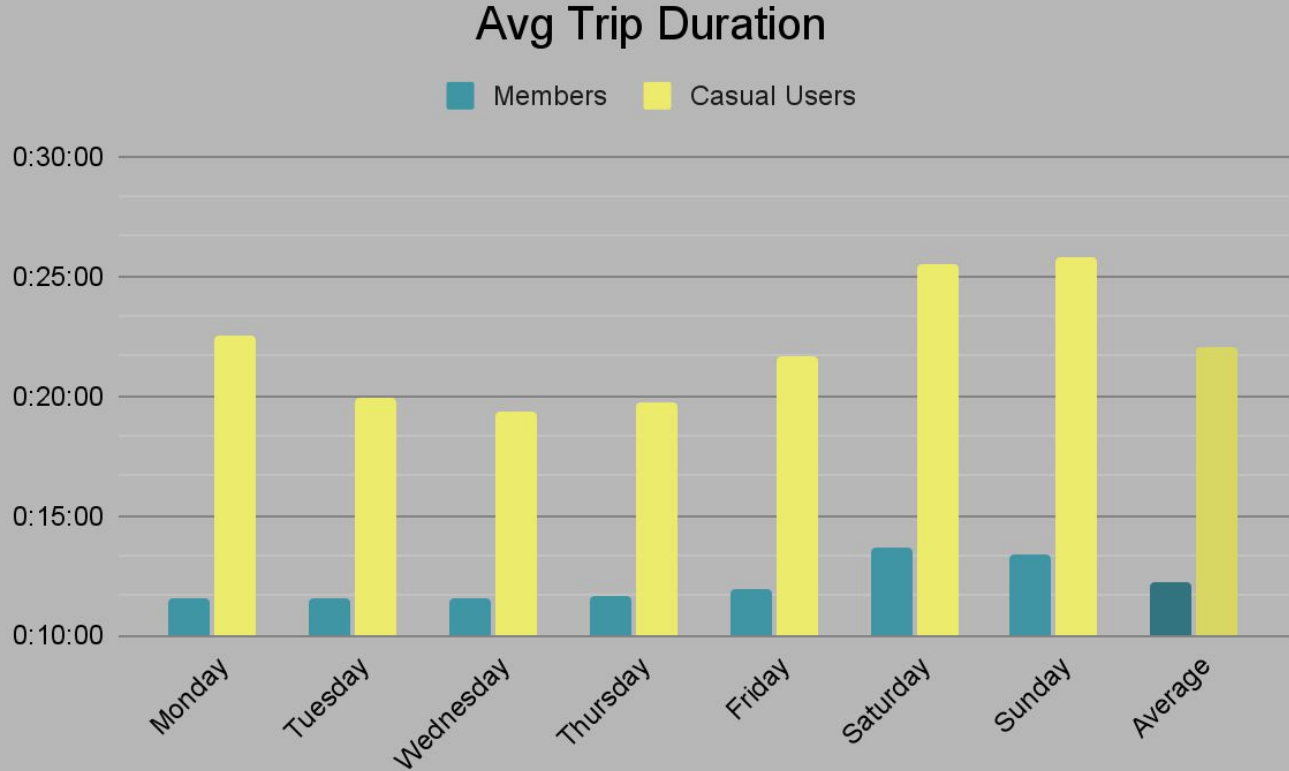
ANALYSIS

What is the most common trip start time for each user type?



ANALYSIS

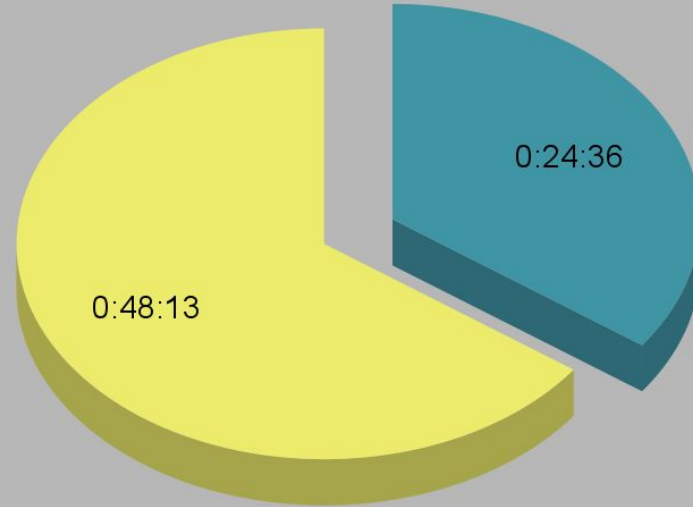
How long is the average trip for each user type?



ANALYSIS

Round Trip: When a rider starts and ends at the same station.

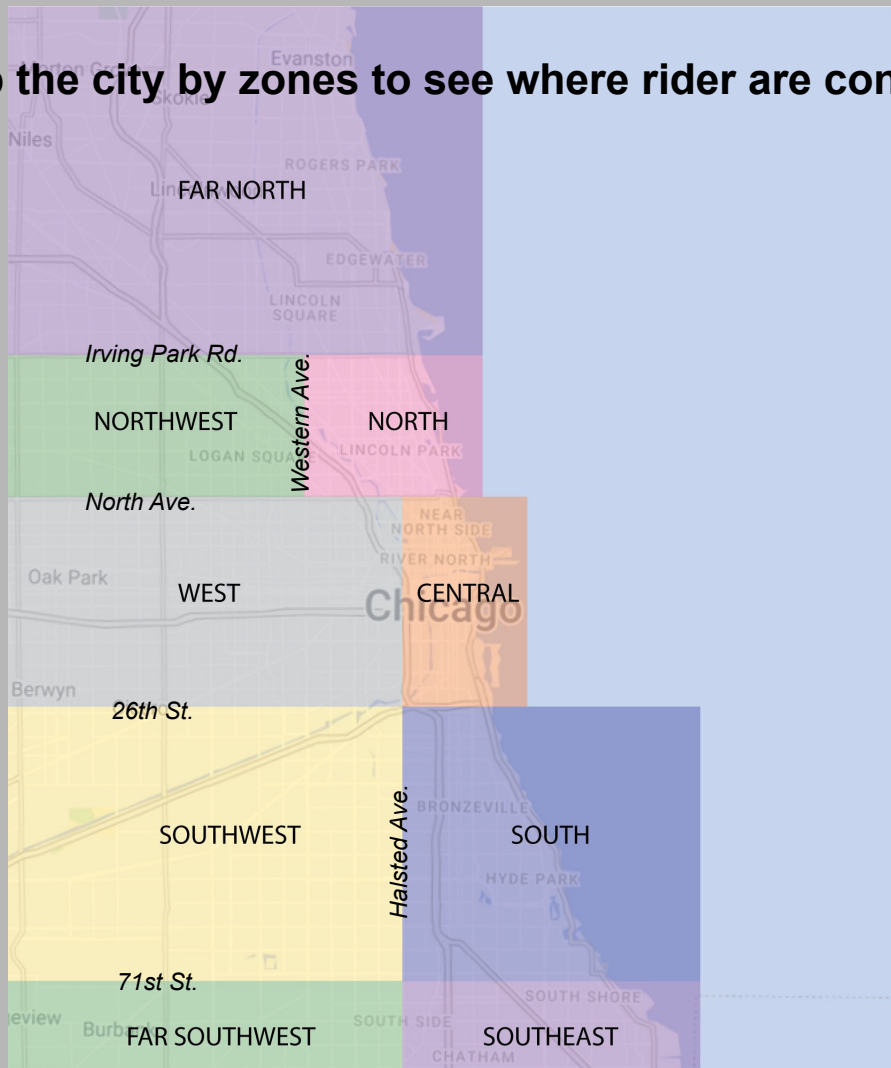
Round Trips (Avg Time & Total Trips)



● Members (48,686) ● Casual Riders (90,675)

ANALYSIS

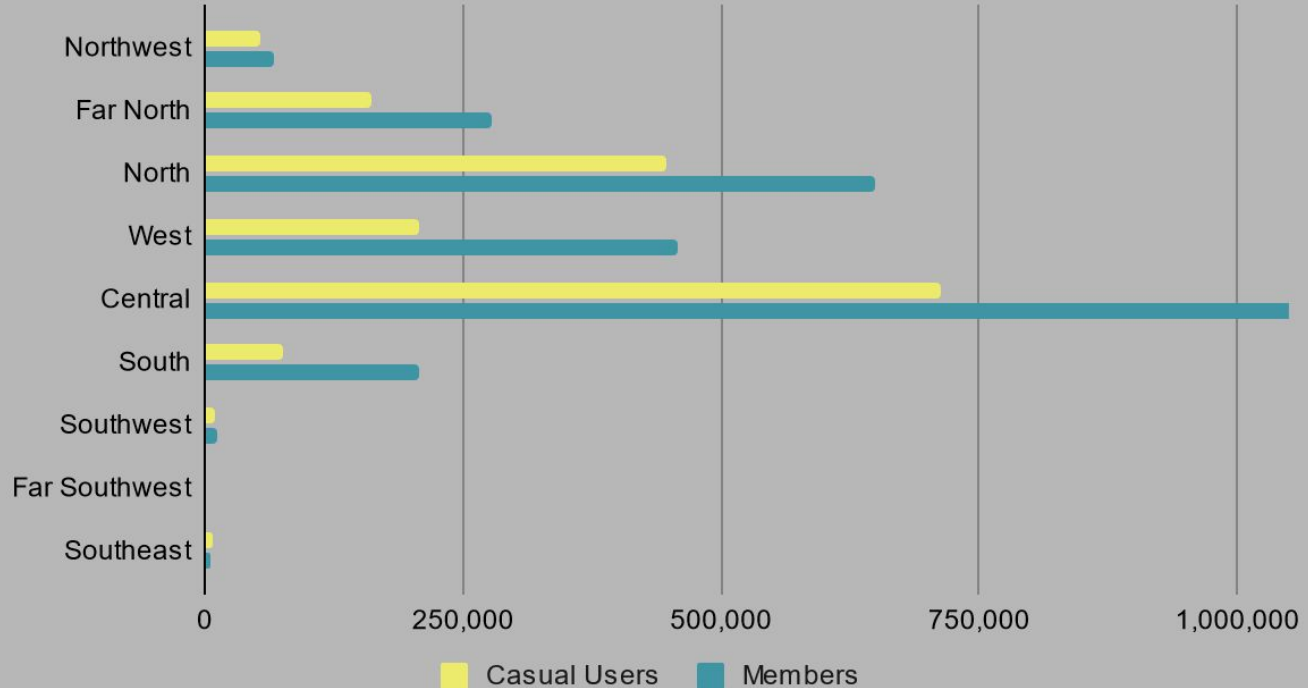
We broke up the city by zones to see where rider are concentrated:



ANALYSIS

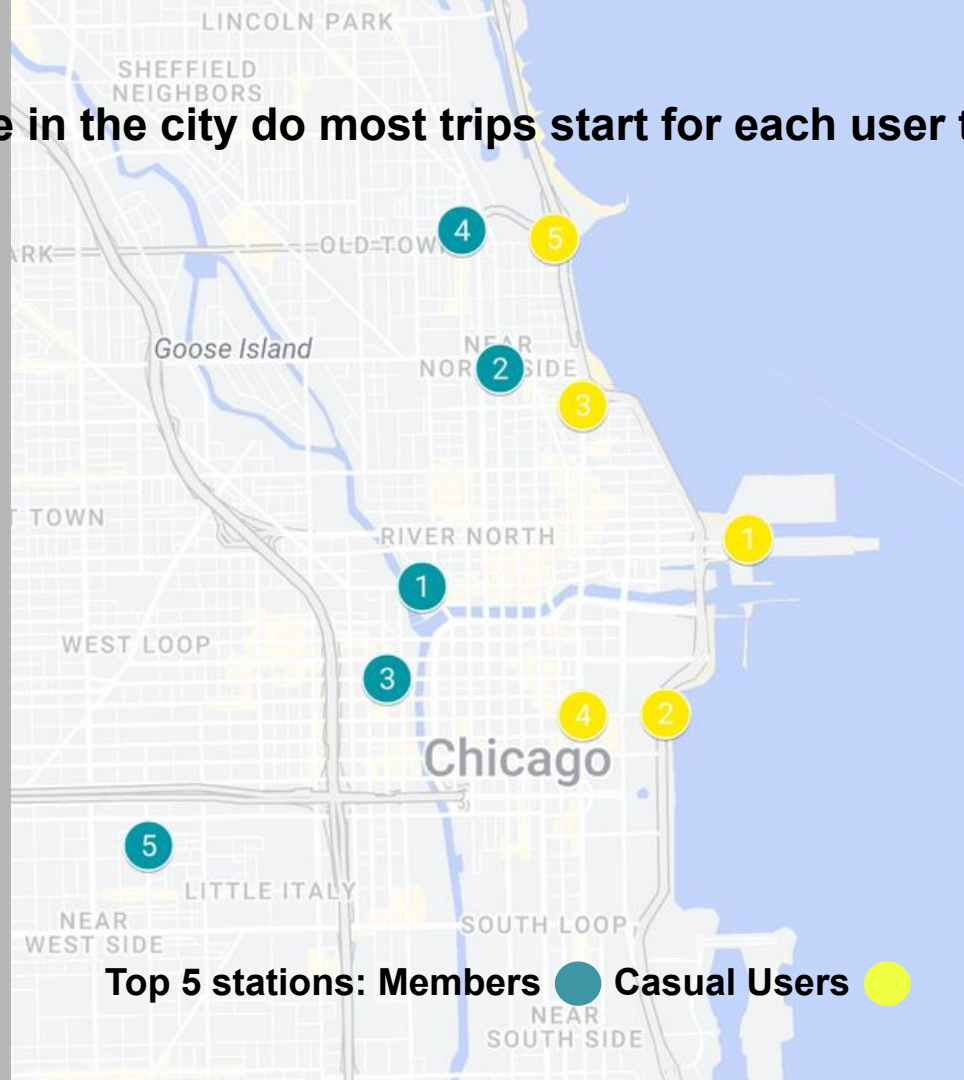
Where in the city do most trips start for each user type?

Zone Origination by User



ANALYSIS

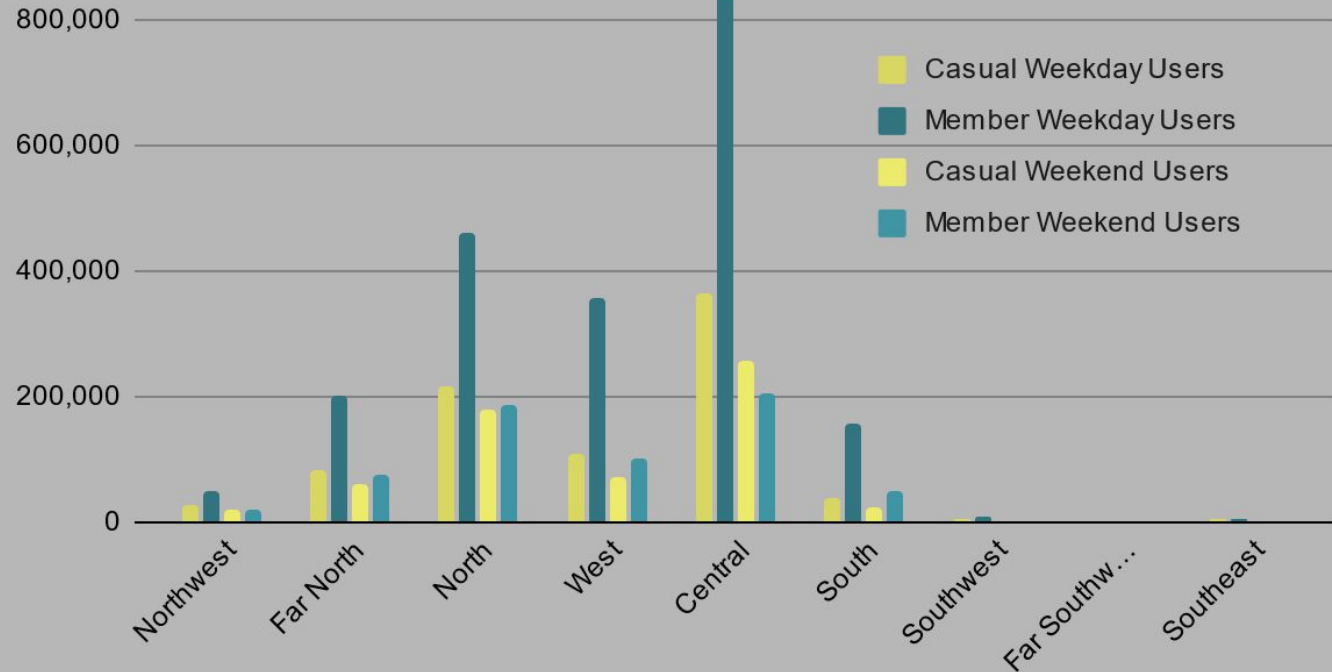
Where in the city do most trips start for each user type?



ANALYSIS

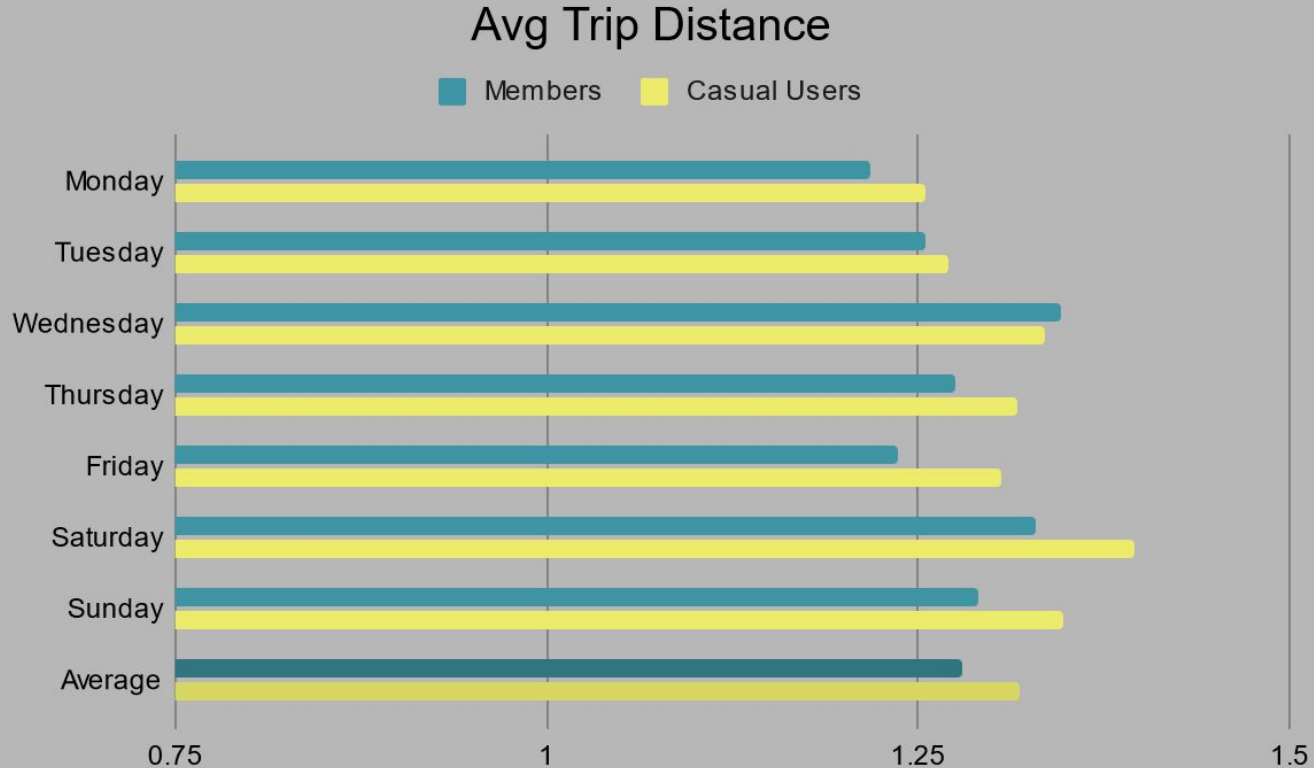
Where in the city do most trips start for each user type?

Weekday vs. Weekend by User Type and City Zone



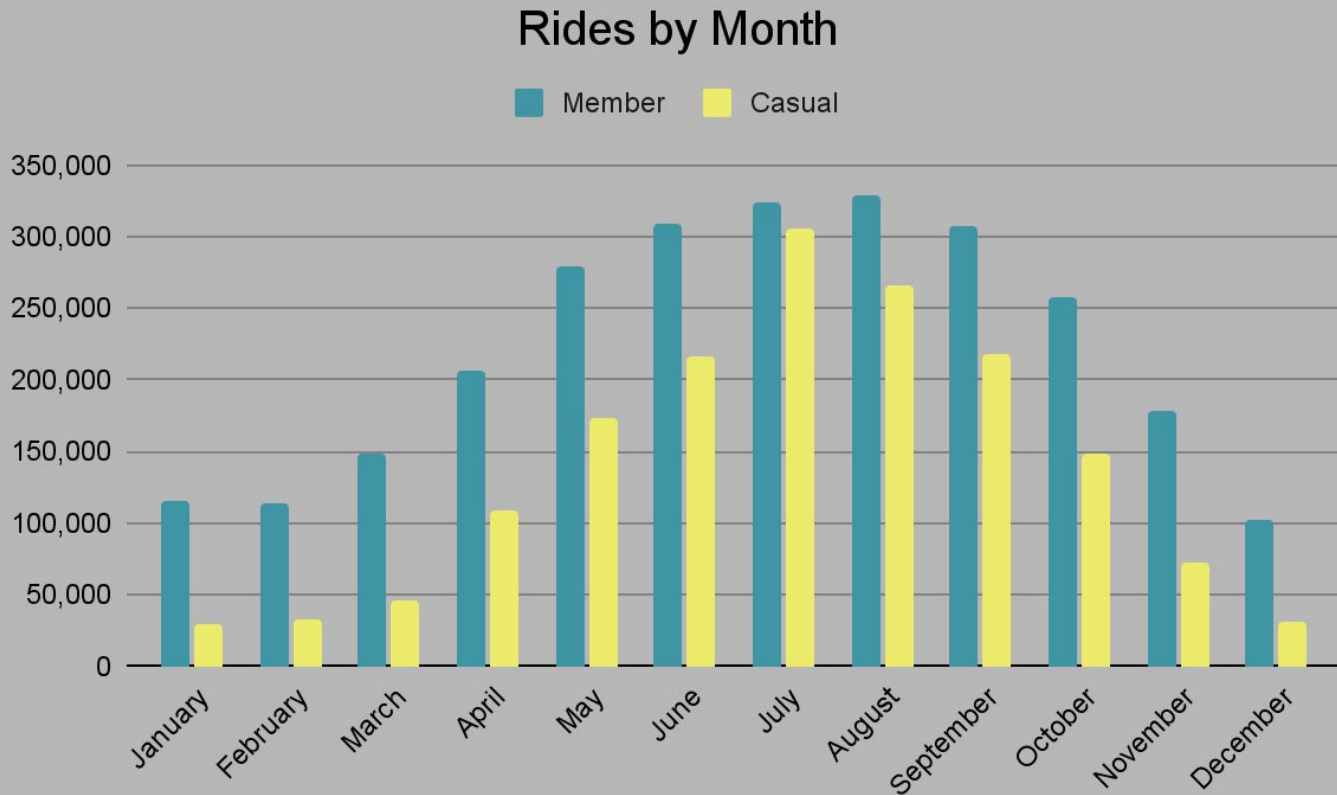
ANALYSIS

What is the average distance for each trip for each user type?



ANALYSIS

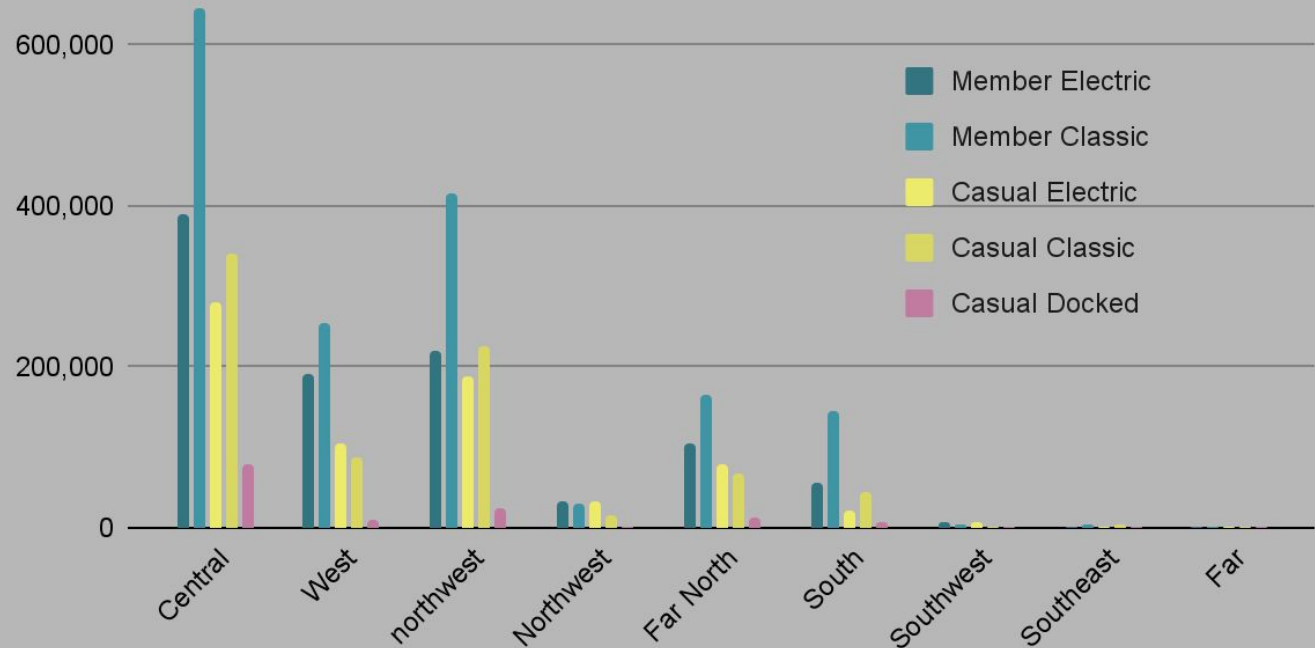
Does time of the year play a factor in usage for each user type?



ANALYSIS

What type of bike does each user type rent?

Bike Type by User and Zone



ANALYSIS

Conclusion:

- Data suggests Members use service as weekly transportation to/from work and for recreational on weekends.
- Casual Riders are more likely to rent in high tourist areas, use for longer periods of time, and return to the original station.

TARGETS

Key Targets for Marketing Plan:

- Geographically:
 - Areas south of 26th Street are severely underused.
 - Campaigns targeting this area will increase overall ridership.
- Conversion:
 - Target casual riders with Weekend Membership option.
- Tourists:
 - Offer a Weekly Pass option for tourists.

APPENDIX

Data sources:

- CSV files for each month provided by Motivate International Inc. via Amazon AWS Server

<https://divvy-tripdata.s3.amazonaws.com/index.html>

Data Cleaning and Manipulation:

- Imported to BigQuery and created a single table for all 12 months
 - Result: 5,779,444 records
- Clean dataset by:
 - Removing all records with NULL values (1,370,355 records removed).
 - Create 'trip_time' column.
 - Create 'trip_duration' column to account for trips that bridge two days.
 - Create 'start_day' column.
 - Create 'start_time' column.
 - Create 'start_date' column.
 - Create 'month' column.
 - Create 'trip_distance' column.
 - Create 'start_zone' column by breaking up area by lat/lon coordinates into 9 zones.
 - Create 'end_zone' column in the same manner.
 - Excluded all trips under 1 minute in length (91,761 records removed).