



Analysis Case Study: Cyclistic Bike-Share

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What is Cyclistic?



Cyclistic

Setting

- Based in Chicago, IL
- Over 692 Stations
- Mostly used for leisure, 30% use them to commute to work

How it Works

- Bikes are unlocked from one stations
- The bikes are returned to any other station in the system

Types of Riders

- **Members** - annual membership
- **Casual Riders** - single-ride passes or full-day passes

Where did the data come
from?



Data

Availability

- Available through this [link](#)
- The data was made available through this [license](#)

Range

- January 2022-December 2022

Limitations

- Data-privacy issues prohibit you from using riders' personally identifiable information.

What is the purpose?



Overview

Business Task

1. Identify trends in how casual riders and annual members **use** the Cyclistic **bikes differently**
2. Analyze which **factors** could **influence** a casual rider's decision **to buy an annual membership**
3. Provide high quality **recommendations** for the marketing team **to convert casual riders into annual members**

Key Stakeholders

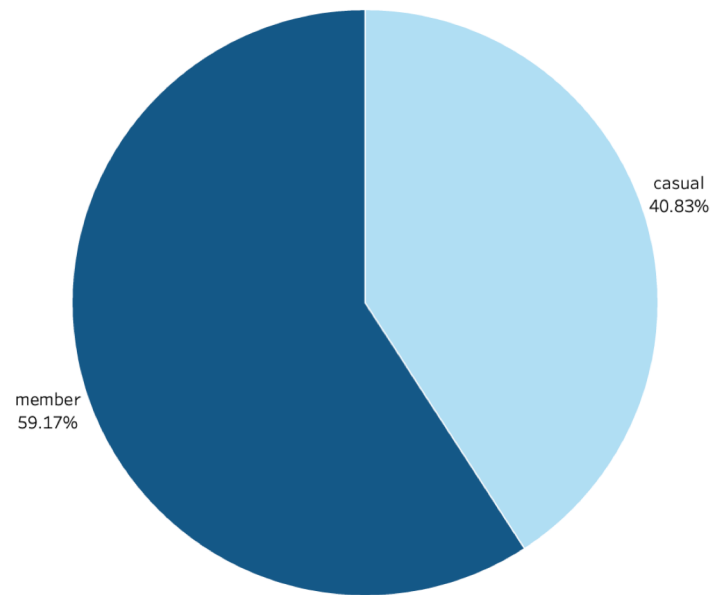
- ▶ Lily Moreno - director of marketing and your manager
- ▶ Cyclistic marketing analytics team
- ▶ Cyclistic executive team

Data and Analysis



Ride Distribution

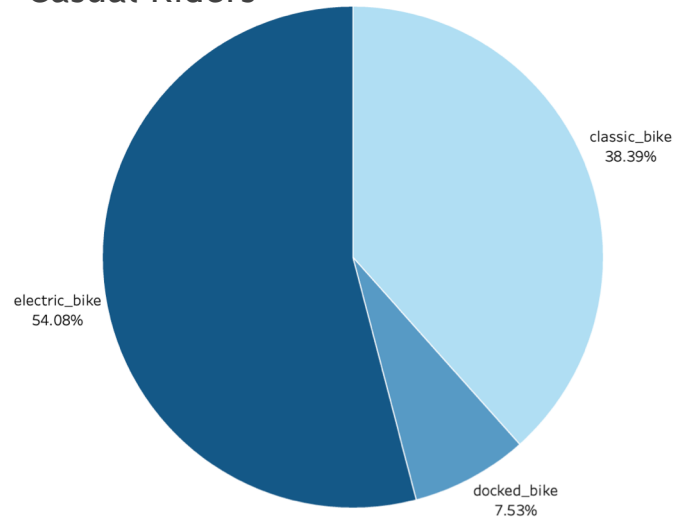
- Members are responsible for the majority of the rides taken during the year



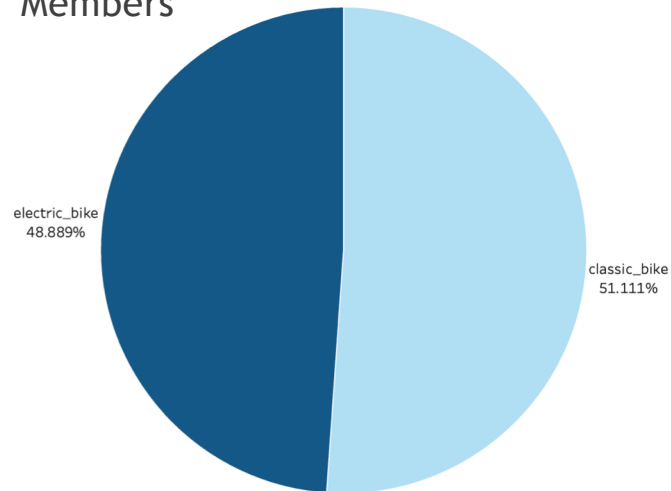
Rideable Type

- ▶ The electric bike is preferred by Casual Riders while the Classic Bike is preferred by Members
- ▶ The Docked Bike is only used by Casual Riders

Casual Riders

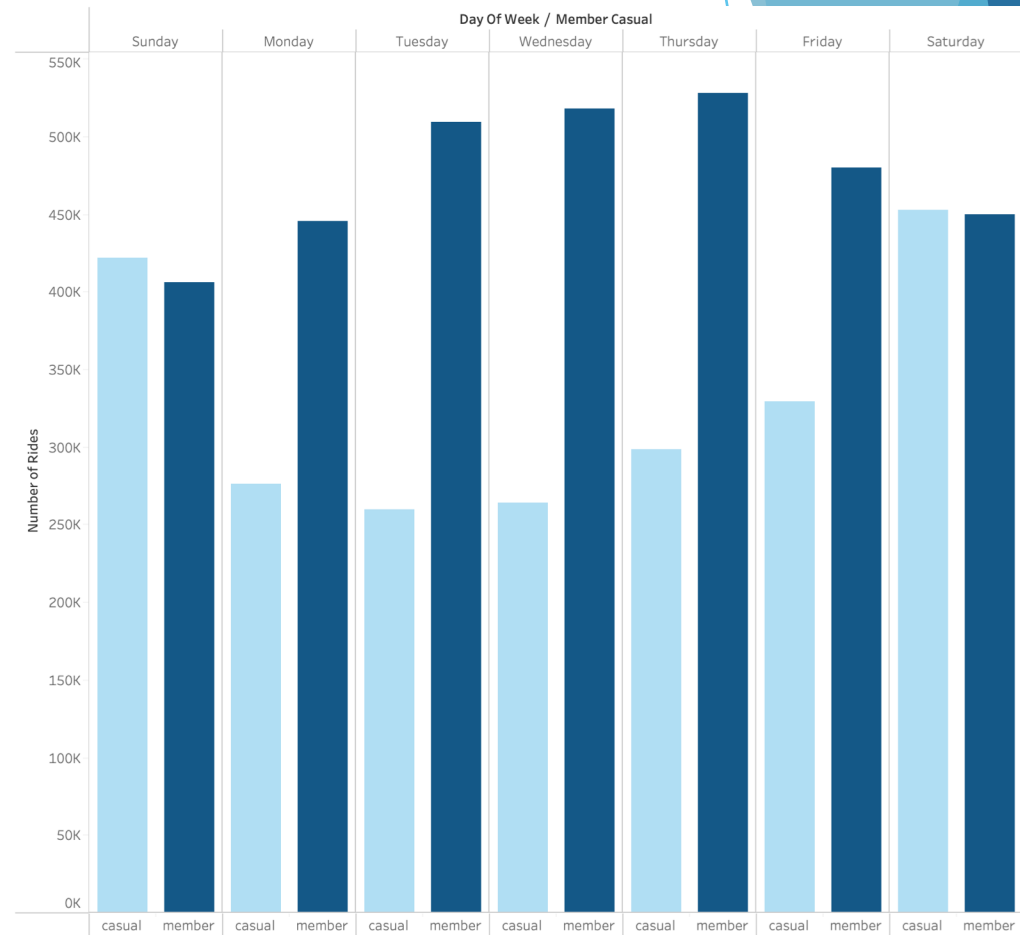


Members



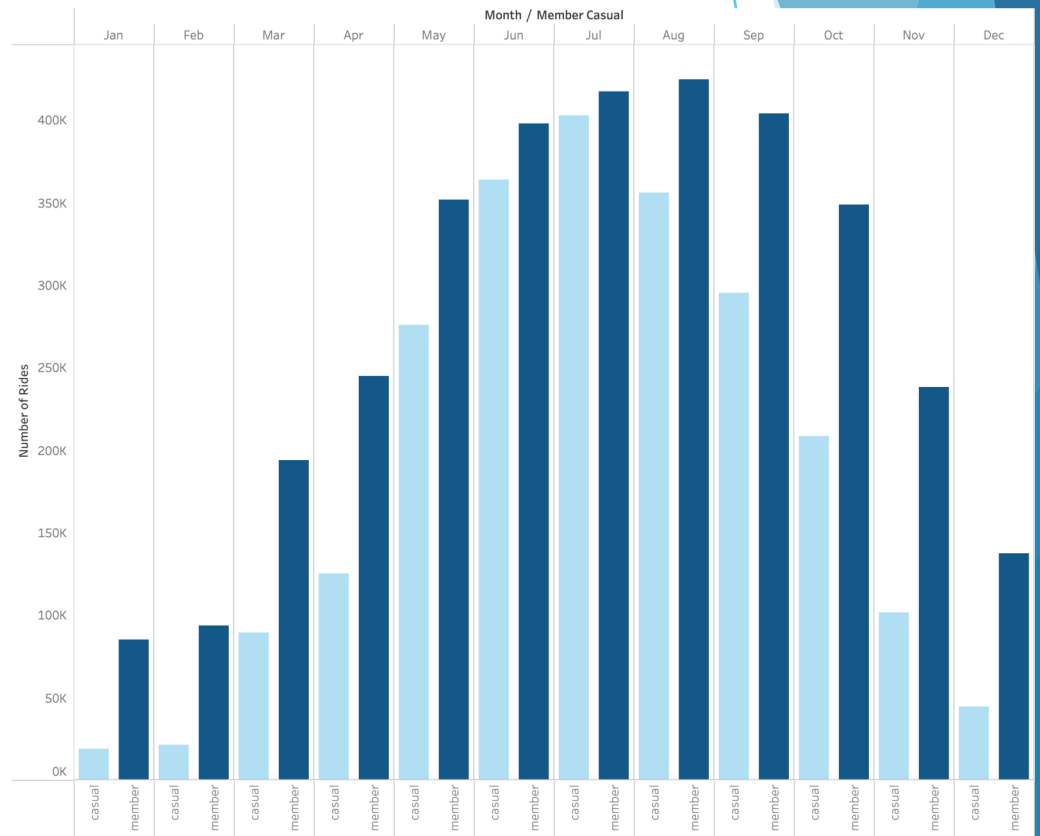
Number of Rides Per Day of the Week

- ▶ The number of rides taken by members is fairly consistent throughout the week
- ▶ **Casual Riders** show a clear increase in the volume of rides during the weekends, suggesting they are mostly done for **leisure purposes**
- ▶ **Members** have a higher volume of rides during the week, suggesting that they are related to **work commute**



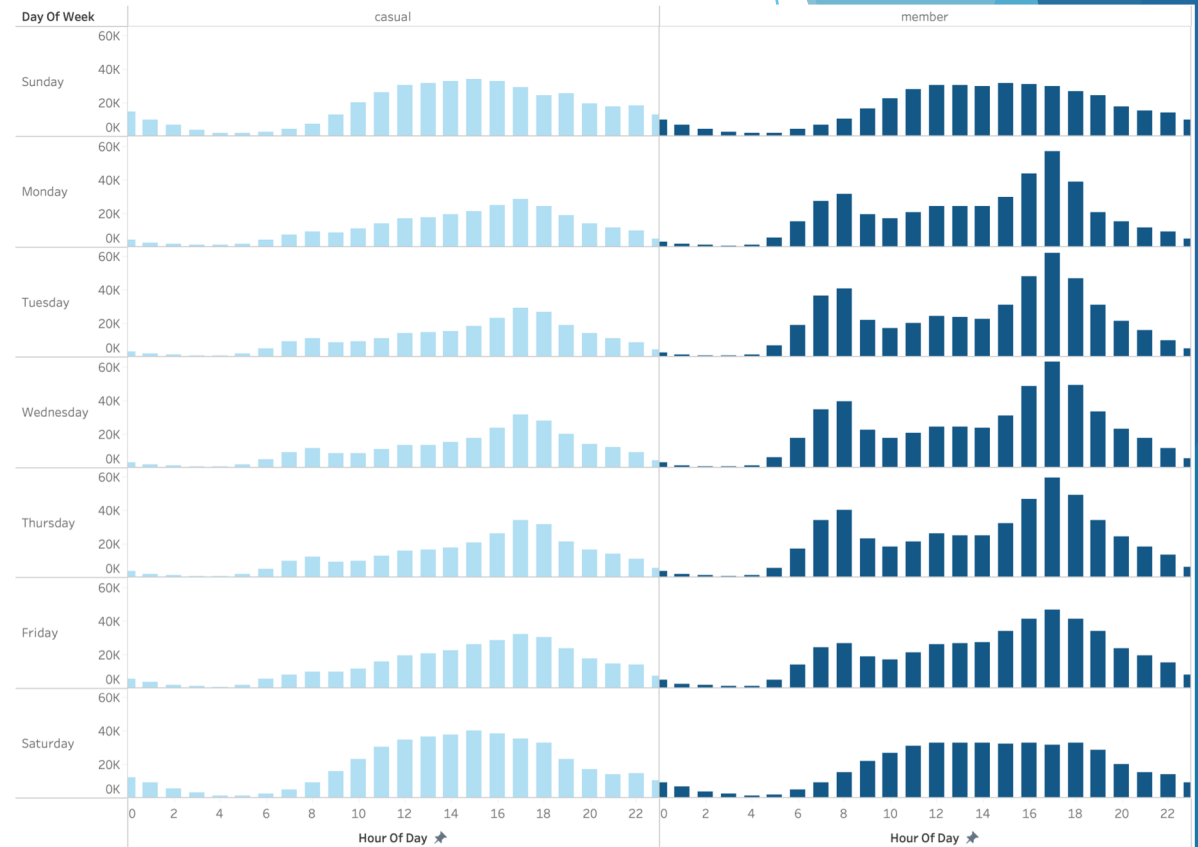
Number of Rides Per Month

- ▶ Significant decrease in the amount of rides from November - April for both types of riders. Possibly due to the winter conditions in the city
- ▶ Increase in the amount of rides for Casual Riders during the summer months (June - August)
- ▶ The amount of rides for Members is fairly consistent from May-October



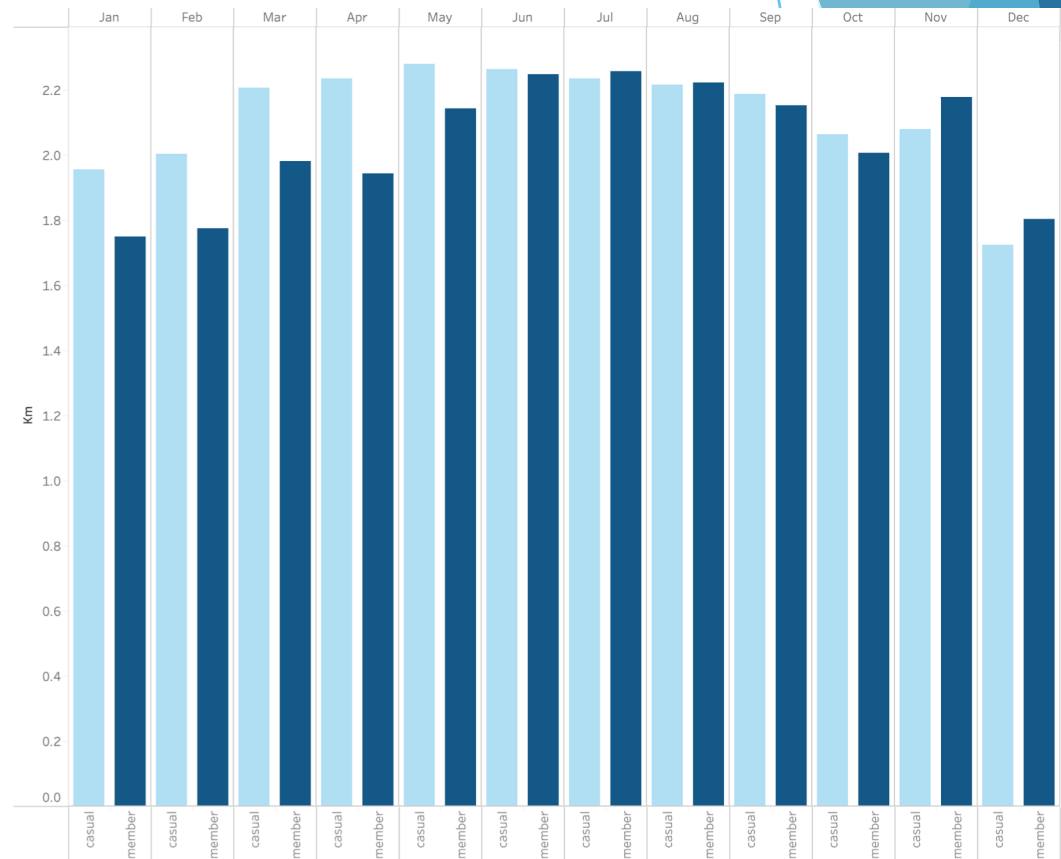
Number of Rides per Hour per Day of the Week

- ▶ For members, there is a clear pattern on weekdays, where the highest peaks occur between 6 a.m. and 9 a.m., as well as between 4 p.m. and 7 p.m.
- ▶ During the weekend, both types of riders have a fairly even distribution of rides between 10 a.m. and 7 p.m.
- ▶ During the week, there is a significant drop in ride volume for Casual Riders with the peaks occurring after 5 p.m.



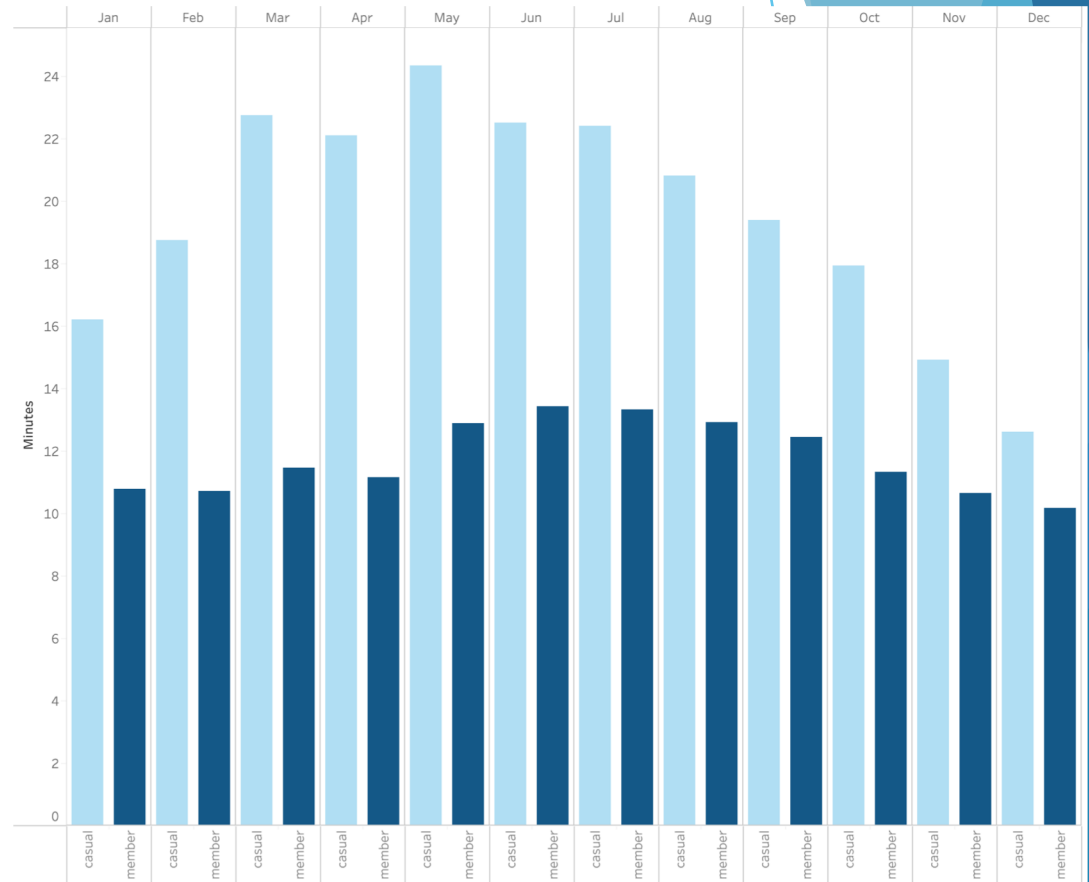
Average Distance Traveled per Month

- ▶ Members have a greater average distance traveled in July, August, November, and December
- ▶ The average distance traveled is pretty consistent throughout the year for both types of riders



Average Ride Length per Month

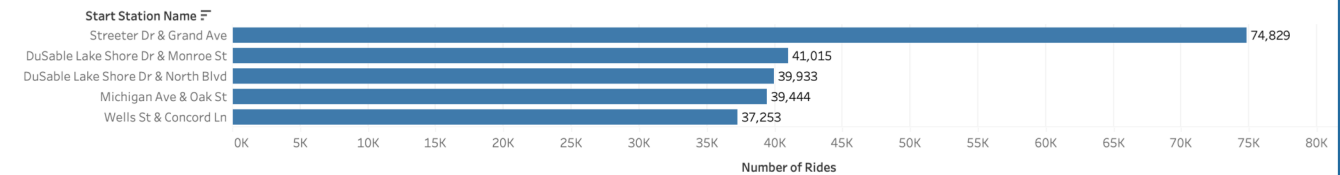
- ▶ The ride length in minutes is considerably higher for Casual Riders throughout the year
- ▶ The ride length for Members is consistent throughout the year
- ▶ The ride length for Casual Riders is lower during the winter months
- ▶ Considering that the distance traveled between both types of riders is pretty similar, but there is such a significant difference between the ride length, it can be deduced that, in general, Casual Riders go slower, which is consistent with leisure rides



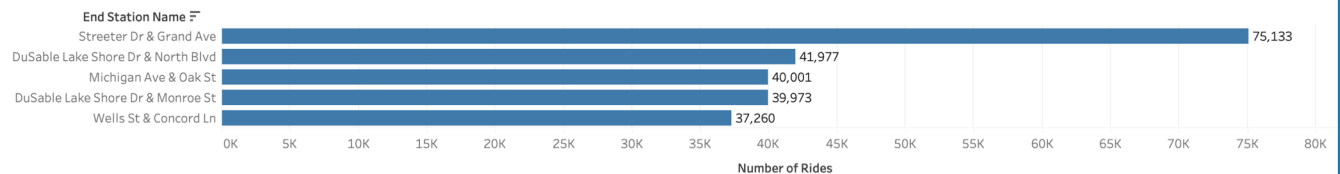
Top 5 Most Popular Stations

- ▶ The top 5 most popular start and end stations are the same ones but in different order
- ▶ There is a clear preference for the station with the name “Streeter Dr & Grand Ave”

Top 5 Most Popular Start Stations



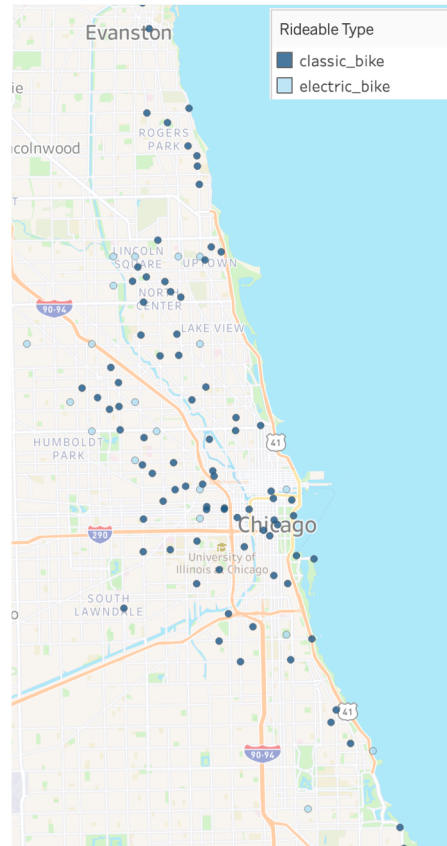
Top 5 Most Popular End Stations



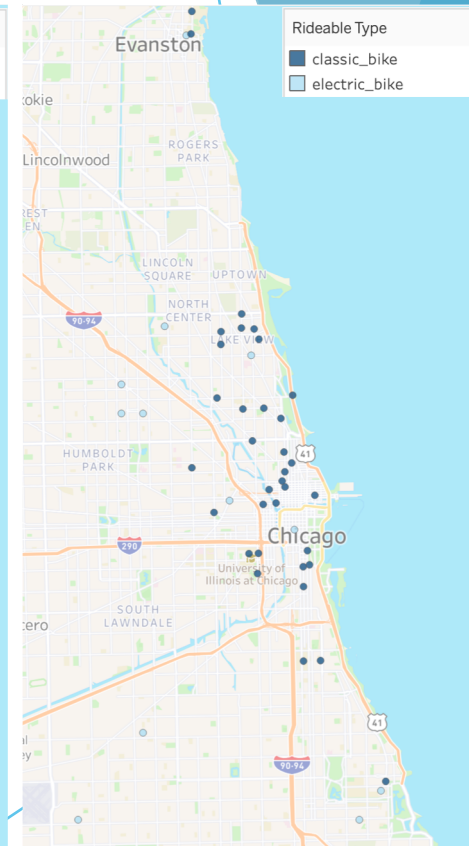
Geography of Rides

- ▶ Members utilize a significantly larger number of stations that record a minimum of 75 rides each
- ▶ Electric bicycles are predominantly employed for rides in the city's outskirts.
- ▶ Most of the stations that record a minimum of 75 rides for Casual Riders are located downtown and near the bay

Members



Casual Riders



What did we learn?



Key Insights

- ▶ Members account for the biggest proportion of rides (59.17% compared to 40.83%)
- ▶ Throughout the entire year, the amount of rides taken by Members is greater
- ▶ On weekdays, members exhibit a distinct pattern during the hours with the highest ride volume.
- ▶ The average ride distance covered for both types of rides is very similar and consistent throughout the year
- ▶ There are more riders in the afternoon than there are in the mornings
- ▶ The month of the year is an important factor that impacts the amount of rides and the duration of the rides

Conclusions and differences between riders

- ▶ Members prefer to ride during the week while Casual Riders show a clear preference for riding during the weekends
- ▶ While the average distance traveled was similar, there was a clear difference between the ride length of Casual Riders and Members, with Casual Riders exhibiting significantly higher ride lengths. This is consistent with leisure activity performed by Casual Riders
- ▶ Members use the bikes in more fixed routines, reflected by the amount of start stations that have at least 75 rides, while Casual Riders show more distinct activities.
- ▶ Casual Riders mostly use the stations located within the city's center and bay areas, while Members show a more scattered distribution throughout the city.
- ▶ Members prefer casual bikes while Casual Riders prefer electric bikes.
- ▶ Casual riders are the only ones using the docked bikes.

What can I do with this information?



Recommendations & Actionable Steps

- ▶ Offer different types of memberships. Since casual riders prefer riding on the weekends, and there is a significant difference in the amount of rides taken during the winter months compared to the rest of the year, monthly memberships or weekend-only annual memberships could help attract a larger amount of Members.
- ▶ Since the most popular start and end stations are known, marketing ads and campaigns could be targeted to these stations via billboards or posters.
- ▶ Financial incentives via coupons or discounts could be provided for the usage of electric bikes if the rider has an annual membership. This would be a great incentive for casual riders to join since they already prefer electric bikes, and it could be an incentive for current members to transition to electric bikes.