

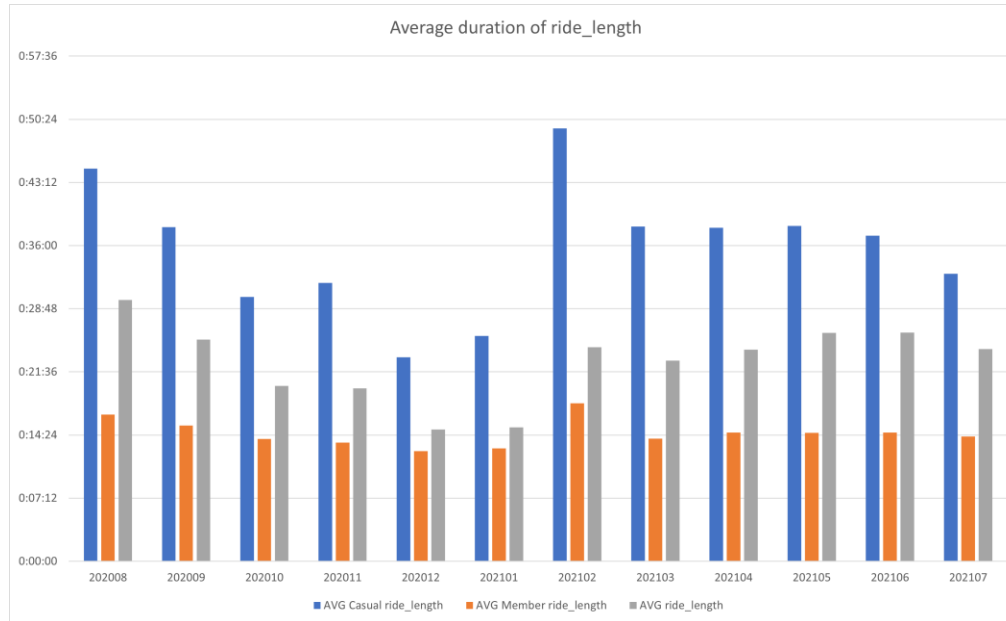
Deliverables:

1. Clear statement of the business task
 - a. I will be looking for differences in annual members and casual riders of the Cyclistic bikes in order to provide data for insight for the following two questions.
 - i. Why would casual riders buy Cyclistic annual memberships?
 - ii. How can Cyclistic use digital media to influence casual riders to become members?
2. A description of all data sources used
 - a. Excel data files got obtained from a publicly available data storage provided by Motivate International Inc. Data
 - b. Each file contains bicycling records for one month
3. Documentation of any cleaning or manipulation of data
 - a. Downloaded August 2020 – 2021 July divvy trip data onto personal desktop.
 - b. Unzipped files, renamed files, organized files to .xls, zipped, and extracted files.
 - c. Created two new columns in all the spreadsheets
 - i. ride_length
 1. calculated by subtracting the “started_at” from the column “ended_at”
 2. reformatted column to HH:MM:SS format
 - ii. day_of_week
 1. calculated by using “WEEKDAY” command. 1 = Sunday and 7 = Saturday
 - d. Cleaning data/Sort/Filter
 - i. Checking for duplicates using the “Remove Duplicates”
 - ii. Sorted data through the started_at date.
4. A summary of your analysis & 5. Supporting visualizations and key findings



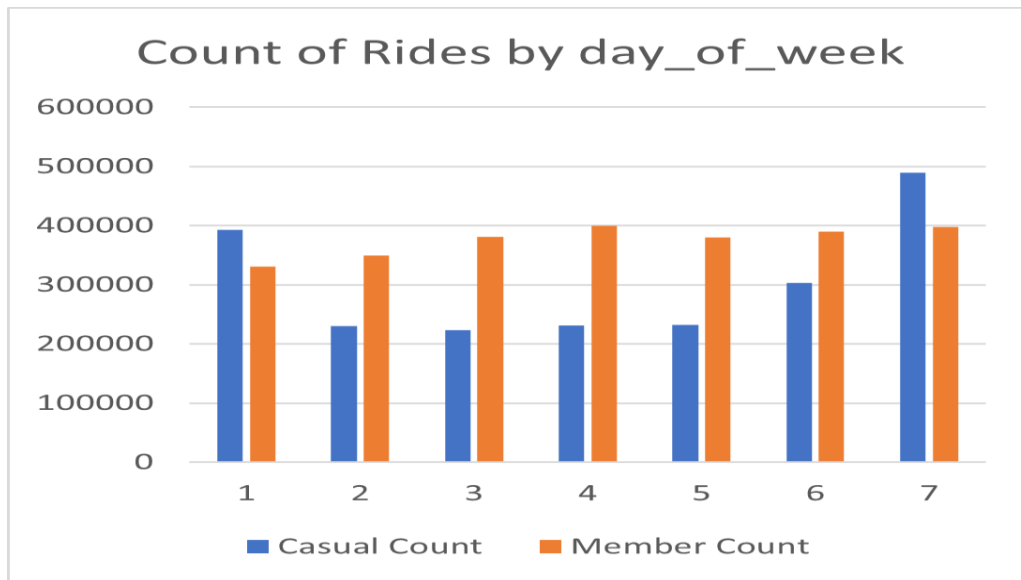
We have a visualization of the count of bike rides taken by casual and member riders spread out by the past 12 months. We see big dips in the count around 202011 – 202103. These months include some of the biggest holidays: thanksgiving, Christmas, new years, and valentines day which can have some affect on the count due to people spending time with family. Looking at the timeline of the city of Chicago health-orders, the city was in phase 4 of covid during the start of this time-period. Things started slowly

reopening. However, around mid-November 2020 and late January 2021 there was a stay-at home-advisory sent out due to the rapid rise of COVID-19 cases which can potentially explain the dip we see in 202011-202103. During mid-May, a couple of factors such as, restrictions on bars and restaurants get lifted, more people getting vaccinated, and COVID cases dropping, can potentially attribute to the increase of rides. From 202008 – 202105, we see more member counts to casual counts. This starts changing to more casual counts around 202105 – 202107. I speculate this may be due to the warming climate and more casual riders willing to ride in Chicago. The cold months of the city of Chicago is December 2 to March 9, with an average daily high temperature below 43 degrees. This cold may deter riders on both sides to find other more protected forms of transportation.



We have here the average duration of ride_length throughout the whole months. Even while the whole covid situation was going on, we don't see too wide of duration drop off especially for the member group.

The differences between casual riders and member riders is that casual riders seem to ride at least twice as long as member riders. Seeing that member riders are more consistent durations as well, it seems like members ride to commute back and forth to places such as work, gym, etc. Casual riders seem to ride for leisure which can explain the longer duration.



1 = Sunday, 7 = Saturday

We see here that the member count is relatively consistent throughout the weeks which can mean the same people are riding the bikes in a consistent day to day basis. For the casual members, we have relatively low usage Monday – Thursday and a ramp in usage on Friday – Sunday with the most rides on Saturday. This lines up with our theory that casual riders ride for leisure when they have time on Friday – Sunday. If we want to convert casual riders to members, I would suggest focusing on the casual riders on Monday – Thursday, because we see a stable amount of counts meaning this group of people may potentially be riding for commuting purposes. Or we can make a package called the weekend deal that includes fri – sun to have a mid level between casual and the members.

6. Your top three recommendations based on your analysis

- 1) Create different membership options
 - Weekend memberships, weekday memberships
 - Can tailor to the needs of the wide amount of casual riders that are using single-use and day passes
 - There may be Monday-Friday casual riders that don't think the annual membership is worth it because they don't ride on the weekends. Creating a separate tier membership or them maybe a good choice
- 2) Give an option to opt out on winter months
 - The count of riders in the winter are small for casual and members. This may be holding riders back from getting memberships. So we are missing out on membership passes due to these 3 months. We are operating poorly in these months anyways so better to take the member profits from the other months than potentially losing member profits completely.
- 3) Offer discounted prices in the winter months to boost sales/deep check the durability and condition of bikes
 - It is better to get some cashflow rather than none in these months

- Since bikes are not used as much here, it will be good to check the condition of the bikes to prevent malfunctions and accidents with bikers.