

Cyclistic Riders: Differences Between Annual Members and Casual Riders

Presented by: Diane Nicoll

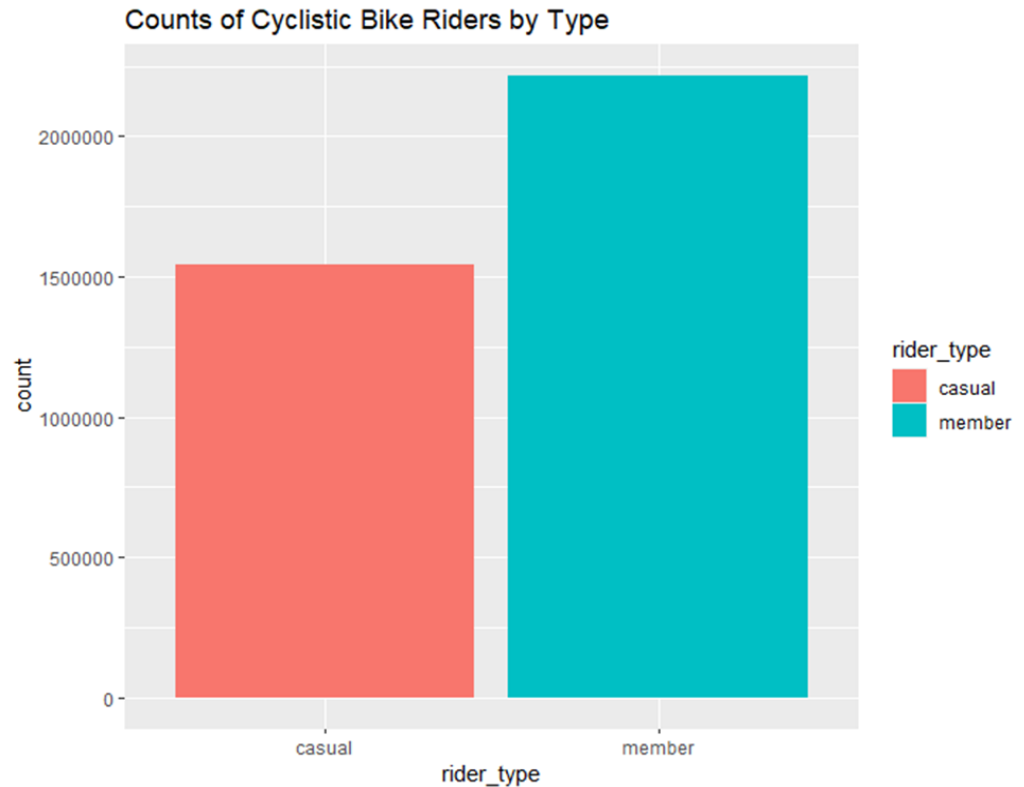
Google Data Analytics Professional Certificate

Business Task

- Analyze how annual members and casual riders use Cyclistic bikes differently
- Provide top three recommendations based on analysis
- Use findings to help guide marketing strategies aimed at converting casual riders into annual members

Data Source

- Publicly available bicycle share data provided by Motivate International Inc.
- *Data spans April 2020-April 2021*
- *3,761,851 bike trips included (after cleaning)*
- *13 columns of data*



Source: Motivate International Inc.

Data Processing

- Data was processed using R
 - *Data was imported into R and merged into one dataset*
 - *Null values were checked for and dropped*
 - *New columns were created for analyses:*
 - 'Ride_length_mins' was created using the `difftime()` function between the 'ended_at' and 'started_at' columns
 - 'Ride_distance_miles' was created using the `distHaversine()` function between start and end latitude and longitude
 - 'Weekday' was created using the `strftime()` function from the 'started_at' column
 - 'Month' was created using the `format()` on the 'started_at' column

Data Processing (cont.)

- *Columns renamed for clarity:*
 - 'Member_casual' was renamed 'rider_type'
 - 'Rideable_type' was renamed 'bike_type'

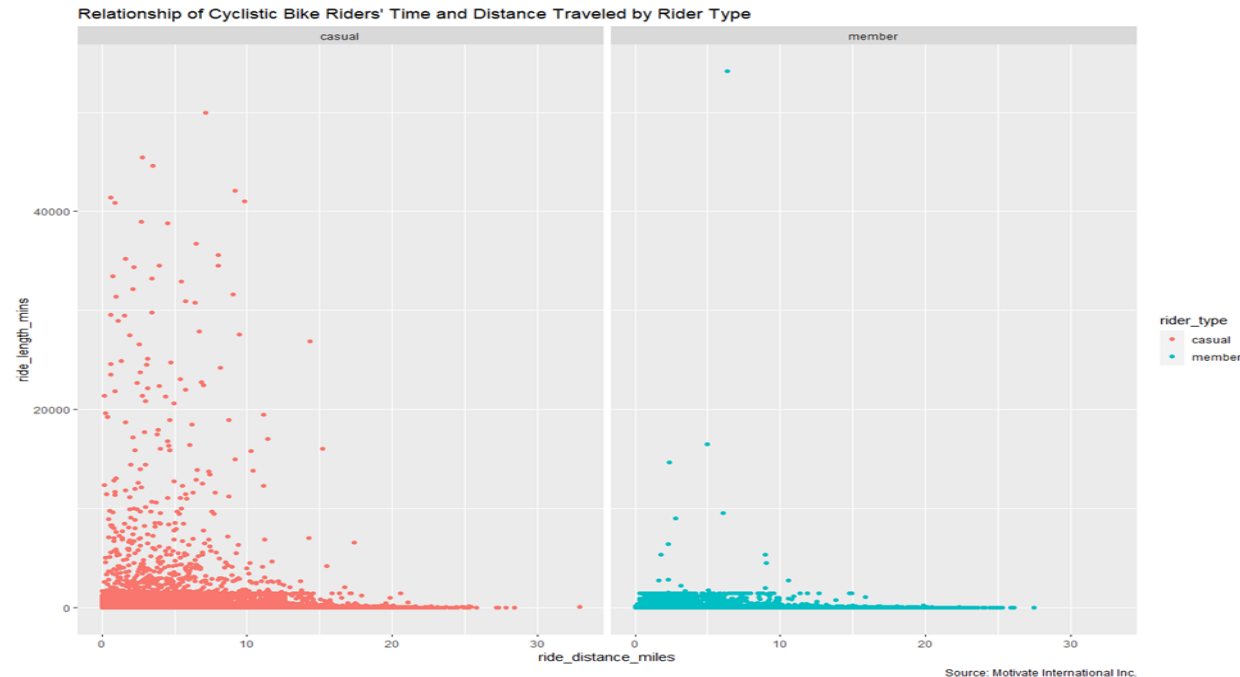
Analysis

- Data was sorted to determine out of range/inaccurate values
 - *Rows with ride length < 0 were filtered out of analysis**
 - *Rows with ride distance < 0 were filtered out of analysis**
- Data was summarized to determine minimum, average, and maximum ride length and distance for annual members and casual riders

** These rows indicate bicycle testing and maintenance by Cyclistic employees*

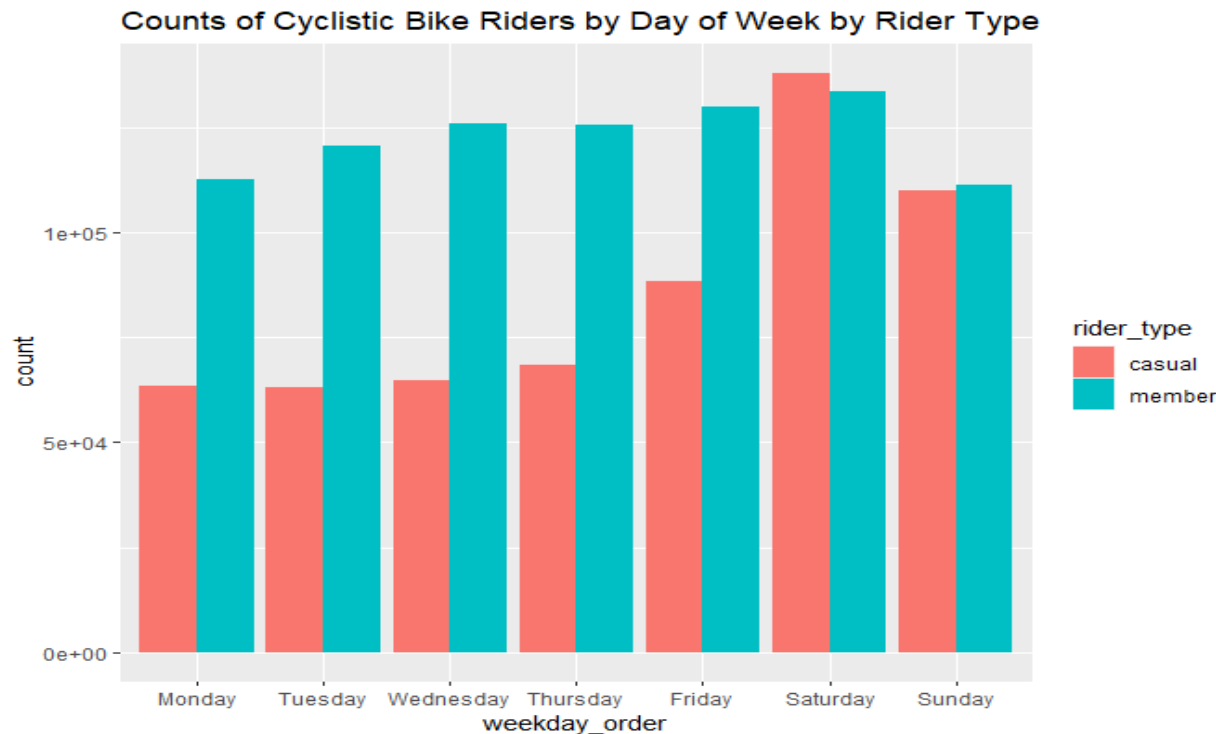
Key Findings

- Average time spent riding (in minutes) and distance traveled (in miles) was similar for casual riders and annual members, but casual riders displayed a greater spread in time spent riding
- *This may be due to casual riders using Cyclistic bikes more for leisure where frequent and longer stops may be more common*



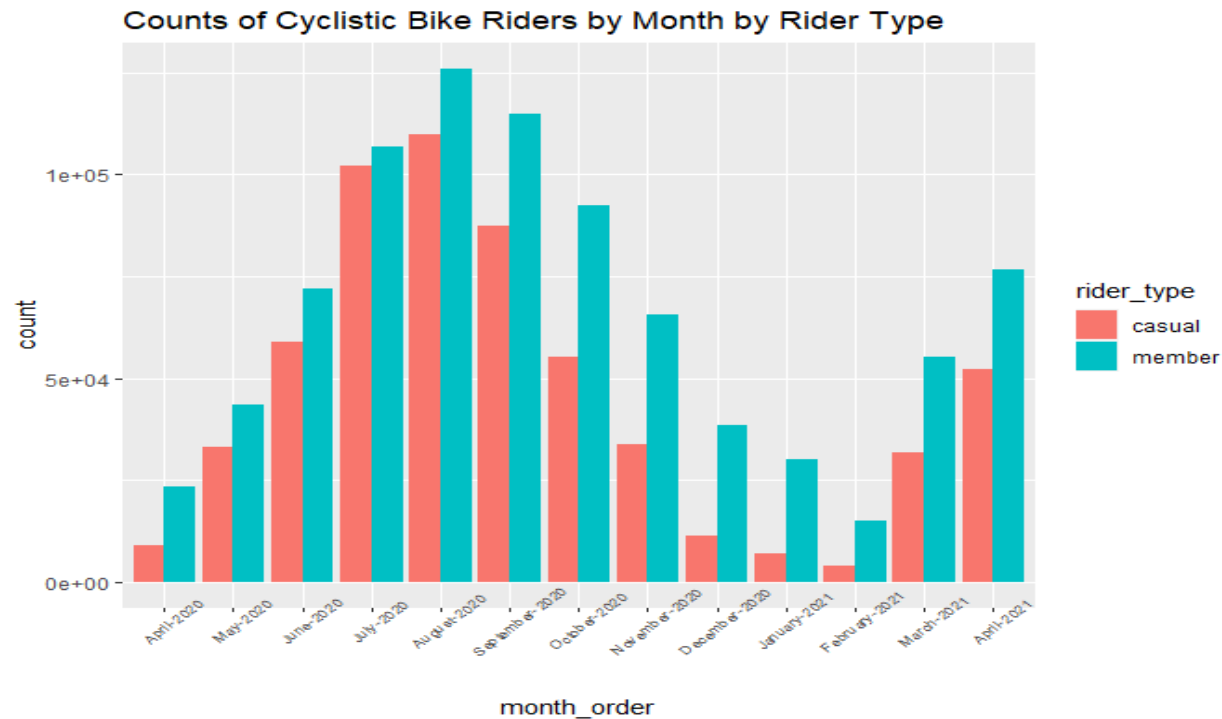
Key Findings (cont.)

Casual riders are most likely to use Cyclistic bikes on the weekend (Friday-Sunday), whereas annual members' use remains relatively stable throughout the week



Key Findings (cont.)

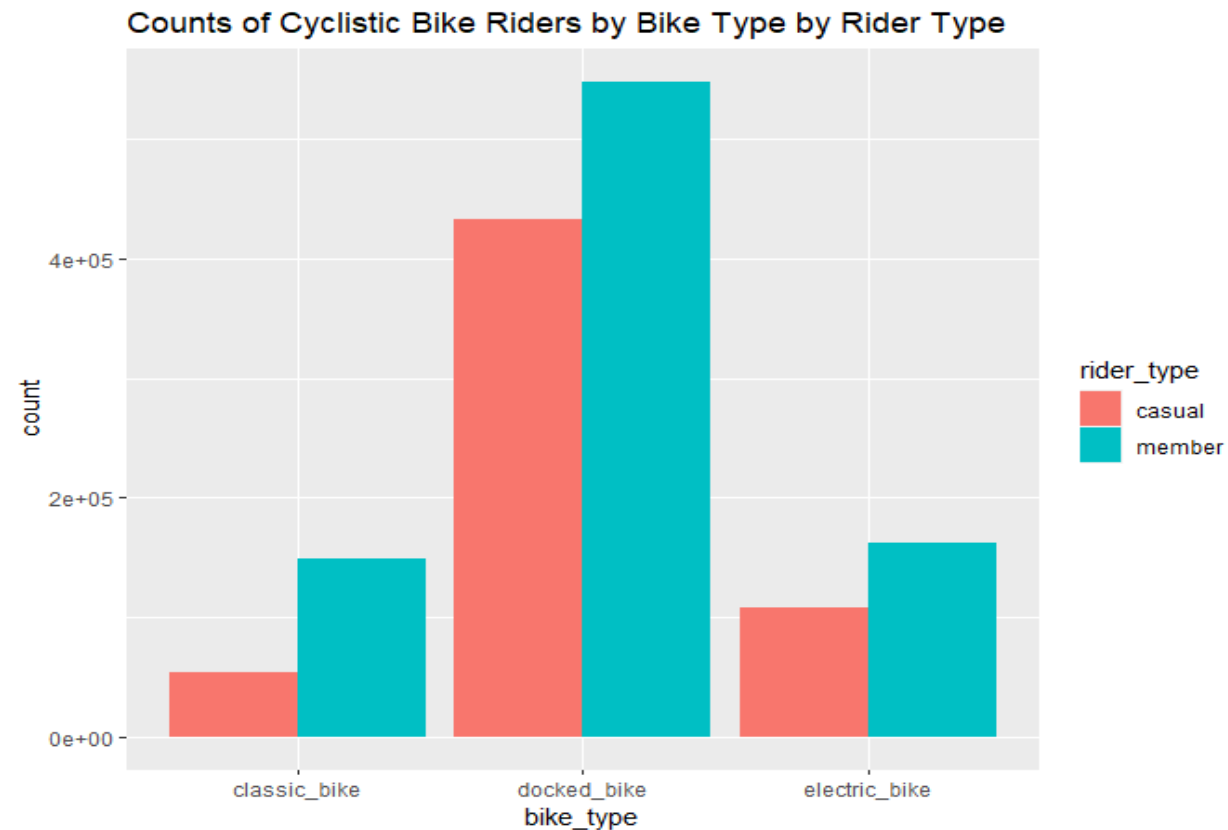
All rider types exhibit a cyclic yearly use pattern of Cyclistic bikes, peaking in the summer and decreasing in the winter, but casual riders have exhibited a greater decrease in use of Cyclistic bikes since September 2020



Source: Motivate International Inc.

Key Findings (cont.)

Docked bikes are the most popular Cyclistic bike by both rider types



Source: Motivate International Inc.

Recommendations

- Promote Cyclistic bikes as an efficient mode of work transportation
- *Casual riders appear to use Cyclistic bikes primarily on the weekend—presumably for leisure—so a marketing campaign advertising the convenience and affordability of bike commuting may convert casual riders to annual membership*
- *Consider having current annual members who bike commute as spokespeople for authenticity*
- Target casual riders in fall and winter months when their use of Cyclistic bikes naturally decreases
- *Well-timed marketing campaign to increase overall revenue and convert to annual membership*
- Offer Cyclistic competitions and perks to engage riders and encourage annual membership conversion
- *Competition and engagement examples:*
 - Prizes for top miles ridden each month
 - Accolades (virtual or otherwise) for completing Cyclistic-sponsored events
- *Perk examples:*
 - Discounts at local bike stores for helmets, clothing, shoes
 - Cyclistic members-only social events and rides

Next Steps

- Conduct surveys on casual riders to better understand why they have not signed up for an annual membership
 - *Use survey findings to inform marketing strategy to convert existing casual riders to annual membership*
- Consider offering an introductory rate for new annual members to convert casual riders
 - *For example, the first month of annual membership could be offered at a reduced fee*
- Collect individual-rider data to identify new casual riders and market the annual membership to those individuals

Next Steps (cont.)

- Collect data on cost of casual riders and annual members for Cyclistic, including bicycle maintenance fees
 - *Use findings to determine if annual members are more profitable than casual riders, as Cyclistic assumes*
- When fleet increases are needed, add docked bikes at most popular stations, as these bikes are favored most by both rider types