Cyclistic Bike-Share Usage Analysis

Ask

Business task: How do annual members and casual riders use Cyclistic bikes differently?

Prepare

This data was provided via Cyclistic's historical trip data, using the most recent 12 months of data from December 2024 through November 2025. The dataset is sufficiently large and detailed to support a robust analysis, though it is limited to trip-level behavioral data.

Process

Microsoft Excel was used for this analysis. The saved historical data was converted from csv files to xlsx files and two additional columns were added to the excel files. Those columns were used to calculate the ride length for each bike trip and which day of the week each trip began on.

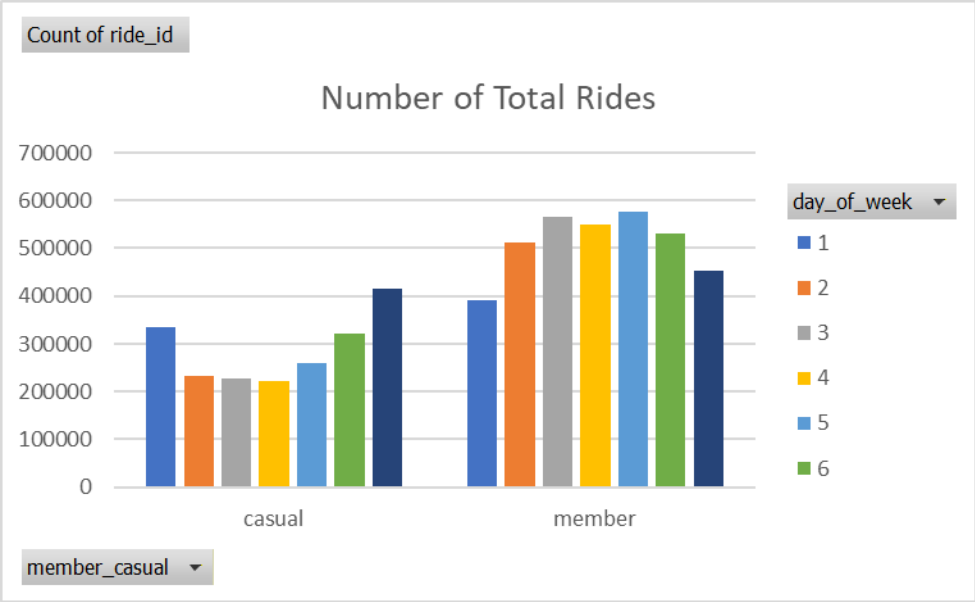
Analyze

For the analysis the average ride length, max ride length, and mode of the starting day were calculated. A pivot table was utilized to compare differences in these calculations between casual riders and annual members. This calculation was first performed for one month in every season, then later combined into the full-year view from the December 2024 through November 2025 data. These are the main findings from my analysis:

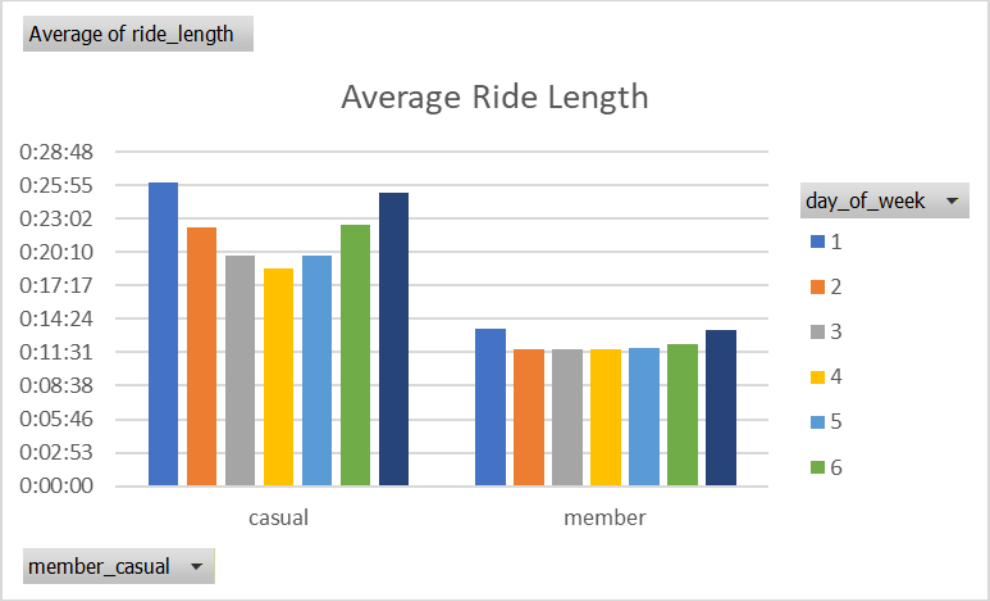
- Casual riders have longer average ride length than members
- Members ride more frequently on weekdays
- Casual riders' usage peaks on weekends
- Members show more consistent usage patterns

Share

This chart compares the total number of rides, in a year, contrasting the difference between casual riders and annual members, each bar represents a day of the week, Sunday through Saturday. On average members take more total rides over the course of a year. Furthermore, casual riders use the bike-share service more on weekends whereas members use the service more on weekdays. This suggests that casual riders use the service for leisure, and members use the service for commuting.

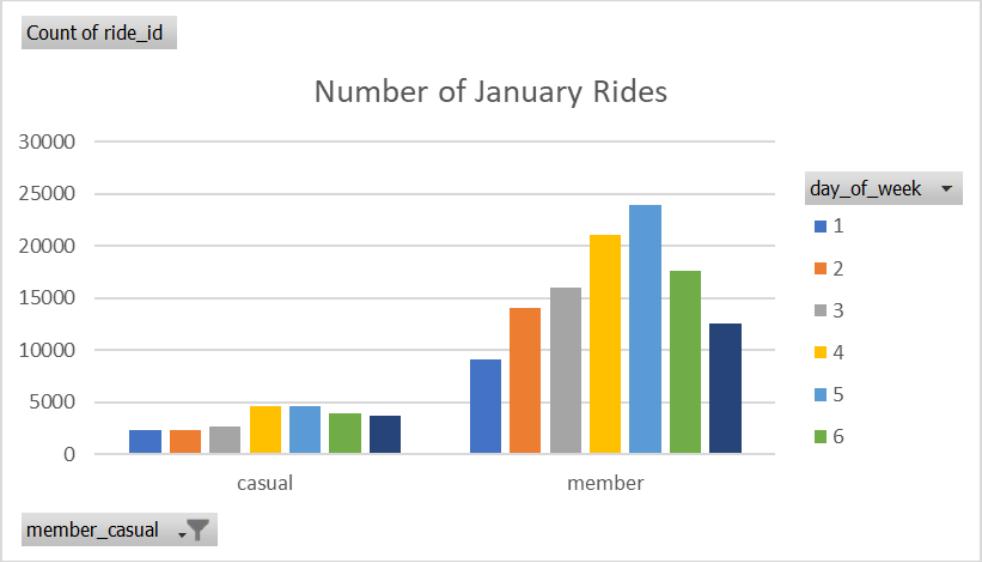


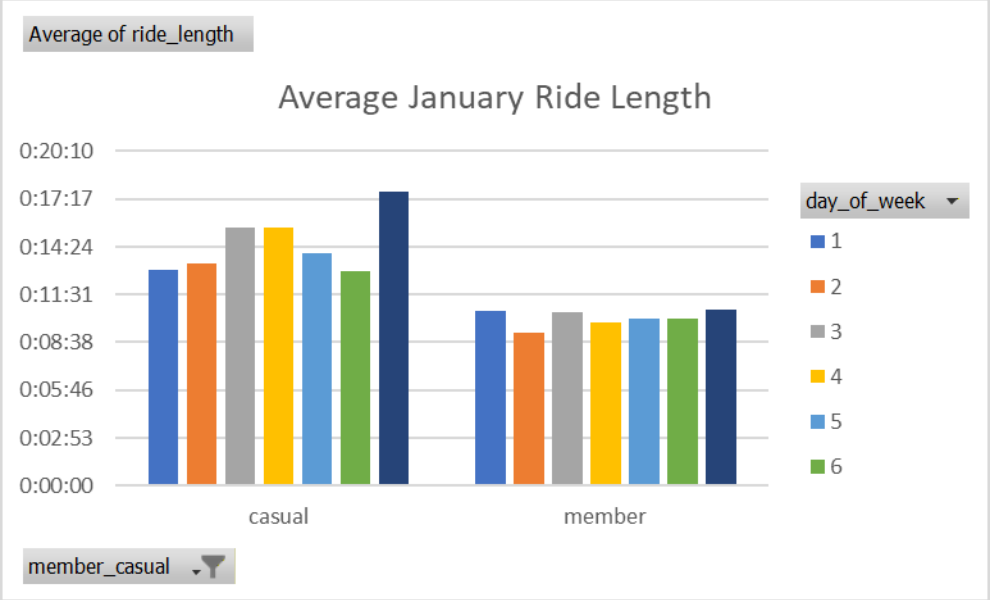
This next chart also contrasts a difference between casual riders and members; however, it measures the average ride length of all rides in the same one-year time period. This analysis highlights a clear behavioral difference between casual riders and members; the casual riders tend to make their individual journeys longer than the annual members. This suggests that once a casual rider has committed to using the bike-share service, they want their rides to be long enough to justify the expense.



These two charts together paint a picture for the key difference between casual riders and annual members. Casual riders take fewer trips, but the trips they do take are longer and they tend to be on weekends. In contrast, annual members take shorter trips but more of them during weekdays. All this suggests that casual riders use Cyclistic for leisure and pleasure during the weekends whereas members use Cyclistic mostly for business, in this case commuting on weekdays.

These differences persist throughout the whole year, but they are most pronounced in the winter months. These next two charts use the same metrics for measurement as the full-year charts; however, they are only for the winter month of January.





In these January charts the overall trend is the same as in the year-long view; but, the number of casual rides shows a significant decrease in this cold month. These charts show a clear behavioral difference in the winter months, now the numbers of casual rides have flattened out, no longer having jumps on the weekends. This suggests that casual riders use this service less in the winter mainly because they do not participate in leisurely outdoor activities during the cold winter months.

All these points in aggregate suggest that casual riders use the Cyclistic bike-share service in a leisurely way on the weekends mainly in the warmer months, and members use this service in a more consistent way during weekdays for shorter trips that are likely related to commuting.

Act

The following recommendations are based solely on the observed differences in usage patterns between casual riders and annual members:

1. Cyclistic could market to casual riders to inform them of the option that many annual members partake in, to use this service not just for leisure, but also for weekday commuting.
2. Cyclistic could test incentives to casual riders who use the service on the weekend to entice them to ride on weekdays. For example: cheaper weekday rides for a limited time after a weekend purchase.
3. Cyclistic could use more advertising during the strong summer months, and possible discounts during the weaker winter months to help retain customers for the stronger summer months.