**Cyclistic Bike-Share Analysis**

**Problem**

Cyclistic, a bike-share company, aims to convert casual riders into annual members. The goal of this project is to analyze the riding patterns of casual and annual members to identify behavioral differences and provide data-driven insights that can inform marketing strategies.

**Data and Tools**

The analysis was performed using historical ride data from Cyclistic, which included details like ride duration, user type, and ride start and end times. SQL, Python, and R were used for data cleaning, transformation, and exploration. Data was imported into SQLite for structured queries and analysis.

**Solution**

The analysis focused on key factors, such as ride duration, peak riding hours, and ride patterns by day of the week.

**Key Findings:**

1. **Ride Duration**: Casual riders tend to take longer trips, averaging 28.25 minutes per ride, compared to 12.53 minutes for annual members. This suggests casual riders use the service more for leisure, while annual members use it for shorter, likely commuting trips.

2. **Peak Riding Hours**: Annual members primarily ride during commuting hours (7-9 AM and 5-7 PM), while casual riders are most active during afternoons and early evenings, especially on weekends. This presents an opportunity to target weekend promotional offers to casual users.

3. **Rideable Type Preferences**: Electric bikes are highly popular among both groups, but casual riders use them more frequently. Notably, casual riders often leave electric bikes in non-designated spots, implying a different usage pattern compared to classic and docked bikes, which are typically returned to designated stations.

4. **Ride Patterns by Day**: Casual riders are most active on weekends, while annual members maintain steady usage during weekdays, indicating they rely on Cyclistic bikes for daily commuting. Marketing efforts should emphasize weekday promotions for members and weekend events for casual riders.

5. **Popular Stations**: Casual riders prefer stations near tourist destinations and recreational spots, while members frequently use stations located in business districts.

**Conclusion**

By understanding the distinct behaviors of casual riders and annual members, Cyclistic can tailor its marketing strategies to each group. For casual riders, offering weekend discounts and focusing on electric bike accessibility could boost membership conversions. For annual members, improving bike availability during peak commuting hours and at popular stations will enhance their daily usage experience.