Divvy Bike-Share Analysis Case Study

Converting Casual Riders into Annual Members

Analyst: Joyal Susilan

Last Updated: July 22th,2025

Table of contents:

- **Purpose Statement**
- **Tell Your Story (with Data)**
- **Marketing Strategy Recommendations**
- **Conclusion & Appendix**

Objective

Maximize the number of **annual memberships** by understanding how **casual riders** and **subscribers** use **Divvy bikes** differently, and use those insights to design targeted **marketing strategies** that convert casual riders into loyal members.

# Prepare: Understanding the Data

- **Source:** Divvy Bike-Share system, publicly available from Chicago's Open Data Portal
- **Data Range:** January to March (Quarter 1) of both 2019 and 2020
- **Records Used:** Approximately 700,000 plus cleaned ride records
- **Fields:** Ride ID, start/end time and start/end location and its ID, user type (**customer** = casual, **subscriber** = member),Ride length & Day of week .

Process: Cleaning and Organizing Data

- **Standardized** column names and formats across datasets
- **Converted** timestamps to extract ride duration, day of week, and month
- **Removed** nulls, duplicates, and extreme outliers like negative durations and duration more than a day
- **Filtered** dataset to focus on casual vs. subscriber usage trends

User Ride Volume

- **Subscribers** consistently take more rides than casual **customers**

- **Subscribers** show a slight dip in February (likely weather-related), with a moderate increase in March

- **Customers**' rides gradually increase from January to March, indicating seasonal leisure usage


Ride Volume by Rider Type
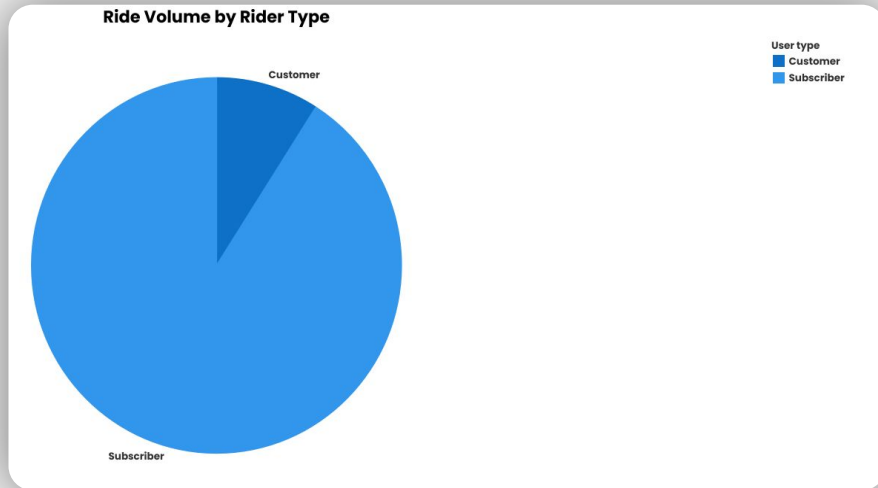
Average Ride Duration

- **Casual riders** have a longer average ride duration than subscribers

- Suggests casual riders likely use bikes for **leisure trips**

- Subscribers may be using them for **commuting**, hence shorter rides

Average Ride Duration by User type
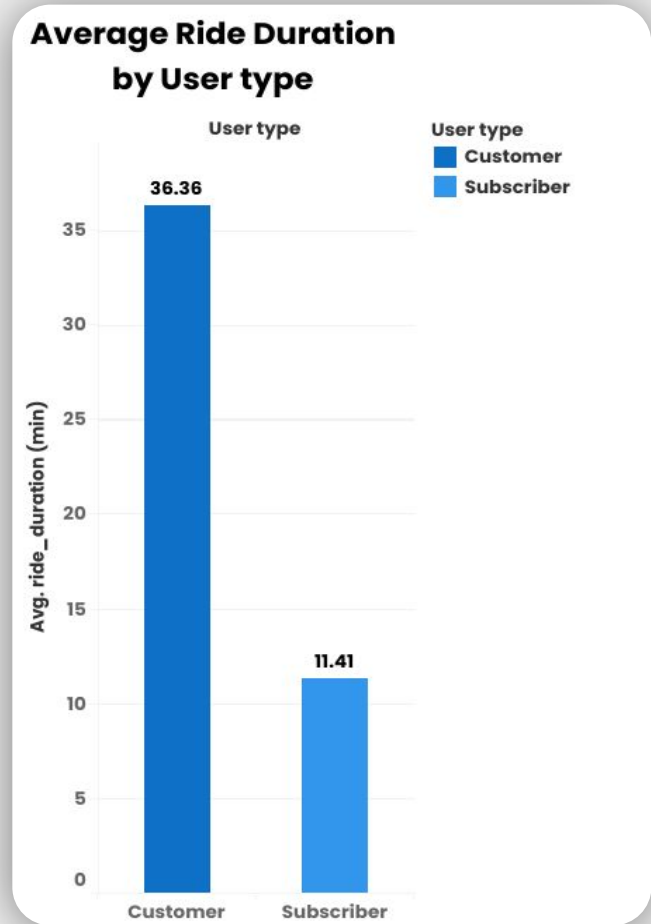
Weekly Ride Patterns

- **Casual Riders:** Peaks on weekends (Saturday & Sunday)

- **Subscribers:** Higher usage on weekdays (especially Tuesday), with a drop on weekends

- Suggests **subscribers** are mostly weekday commuters
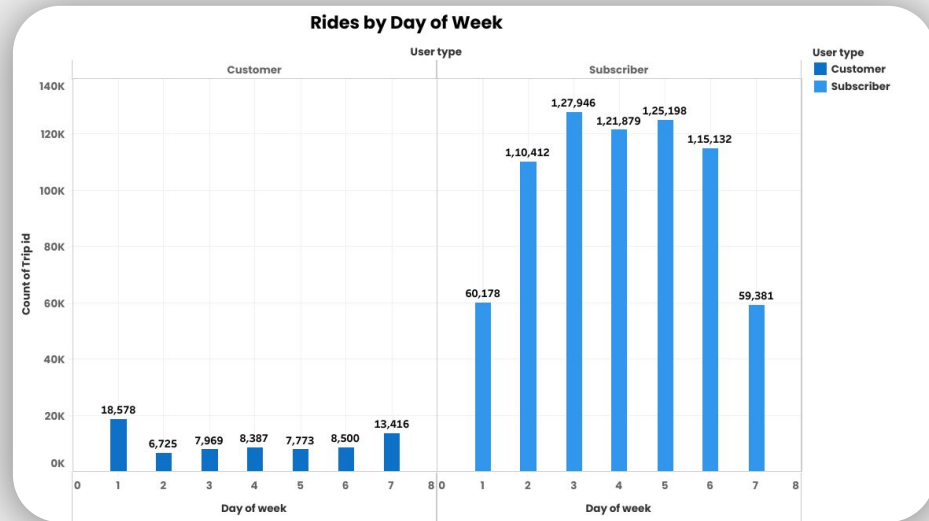
Top Stations by Customer Type

Top five start stations for casual riders (based on frequency):

1. **Michigan Ave & Washington St**

2. **Columbus Dr & Randolph St**

3. **Clinton St & Madison St**

4. **Canal St & Adams St**

5. **Kingsbury St & Kinzie St**

6. **Canal St & Madison St**

7. **Clinton St & Washington Blvd**

These are mostly **tourist-heavy or high-traffic areas**, further confirming casual riders' preference for popular or leisure routes.

Top 7 Start Stations by User type Customer
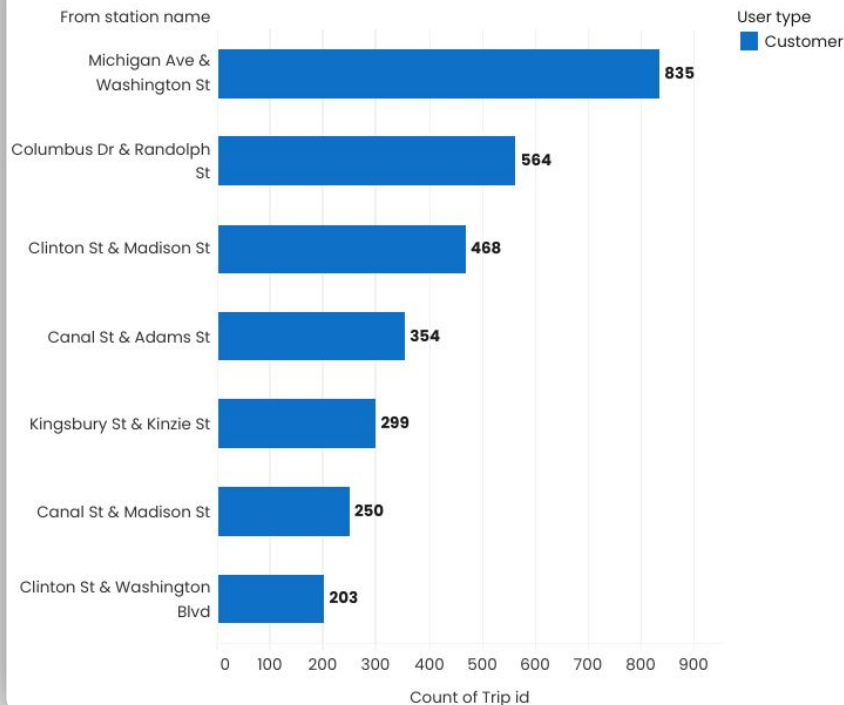
Act: Recommendations

Strategy #1: Weekend Loyalty Offers

- Target **casual riders on weekends** with **"3-weekend pass = 1 free"** or discounted trial memberships

- Promote through **email, push notifications,** and **in-app offers**

Strategy #2: Commute-Focused Membership Trials

- Highlight benefits of annual memberships for **weekday commuting** (e.g., cost savings, convenience)

- Offer **1-month free trials** to casual users during weekday campaigns

Strategy #3: Location-Based Campaigns

- Focus on marketing in top **casual start stations**

- Use **QR codes on docking stations,** geo-targeted ads near tourist hubs

Strategy #4: Duration-Based Membership Nudges

- If a casual rider exceeds a certain ride time or frequency, trigger a **prompt suggesting membership benefits**

Conclusions

This analysis reveals **clear behavioral differences** between casual riders and subscribers, notably:

- **When** and **how long** they ride
- **Where** they typically start their rides

These insights directly inform **targeted marketing strategies** to convert casual riders—already aware and engaged—into profitable annual members. With the right messaging and campaigns, Cyclistic can significantly boost its membership base and long-term revenue.

*Regular evaluation** is crucial to maintain the success of these strategies over time.

* Without regular checks, strategies may fail. Keep updating to stay effective.

Appendix

References & Sources

- **Cleaned Dataset (by Joyal susilan):**

  [https://www.kaggle.com/datasets/joyalsusilan/divvy-bike-trips-q1-20192020]

- **Dataset Overview:**

  [https://www.kaggle.com/code/joyalsusilan/cleaned-divvy-data-overview]

- **Original Data Source:**

  [https://divvybikes.com/system-data]

- **Data Visualization Dashboard:**

  [https://public.tableau.com/views/Divvy_Bikes_17529226015460/Dashboard2?:language=en-US&:sid=&:redirect=auth&:display_count=n&:origin=viz_share_link]

Note: The dataset was cleaned and prepared by the Joyal Susilan using public data provided by the City of Chicago. The original data is freely available for public and educational use.

Thank You