# Case study: How does a bike-share navigate speedy success?

# Business Task

- Cyclistic's growth relies on **maximizing annual memberships**

- Annual members are **more profitable** than casual riders

- Goal: **Convert casual riders into annual members**

- Task: **Analyze usage differences** between members & casual riders to guide marketing strategy

# Key Stakeholders

- **Lily Moreno (Director of Marketing):** Leads campaigns, goal is to grow memberships

- **Marketing Analytics Team:** Analyzes trip data, delivers insights for strategy

- **Cyclistic Executive Team:** Approves recommendations, focused on profitability and long-term growth

# Data Preparation

- Data Source: **Cyclistic historical trip data (past 12 months)**

- Data includes trip start/end times, stations, rider type, bike type, etc.

- Organization: Cleaned & stored in spreadsheets/SQL for analysis

- Data Integrity: Checked for accuracy, completeness, and credibility (ROCCC framework)

# Data Cleaning & Processing

- Removed duplicates, errors, and extreme outliers (e.g., rides <1 min or 24h+)

- Created new fields:
  - **Ride Length** = end time – start time

  - **Day of Week** = weekday of trip start

- Standardized formats across files (dates, column names, rider type)

- Documented cleaning steps for transparency & reproducibility

# Data Analysis Overview

- Combined trip data into a **full-year dataset**

- Conducted **descriptive analysis** (averages, counts, min/max)

- Built **pivot tables** to compare members vs. casual riders

- Explored usage by:

  - **Ride length**

  - **Day of week**

  - **Season**

  - **Popular stations**

# Key Insights

- Casual riders:
  - Take longer rides on average
  - More active on weekends & summer months
  - Frequently use tourist/leisure stations
- Annual members:
  - Take shorter, more frequent rides
  - Heaviest usage on weekdays (commuting pattern)
  - Concentrated around work hubs & residential stations
- Suggests different motivations:
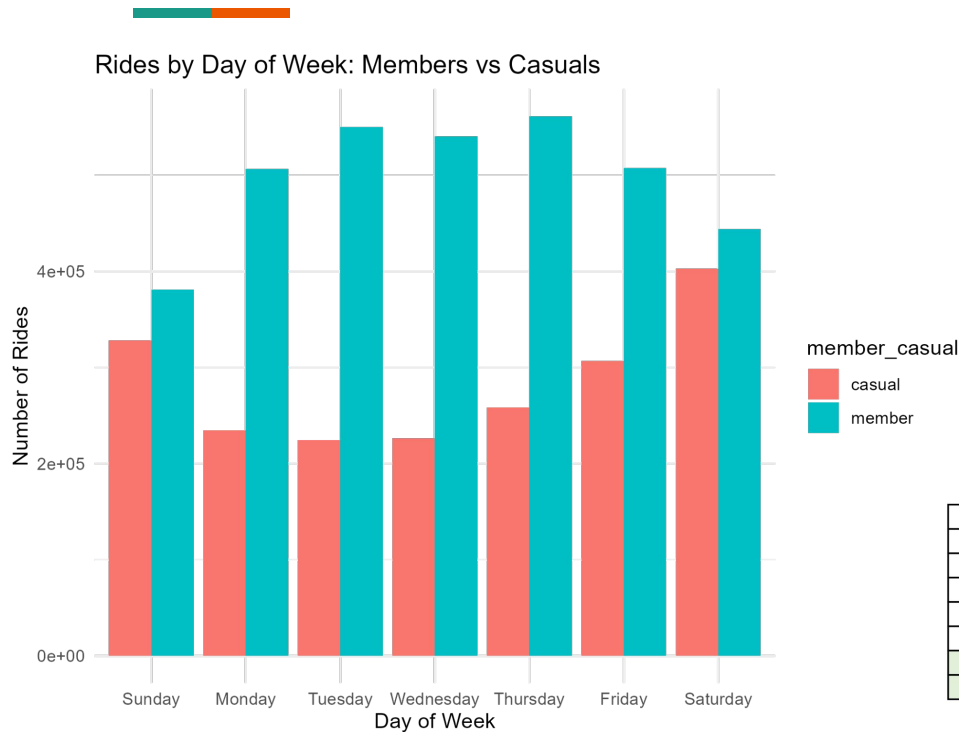  - Casuals = *Leisure & tourism*
  - Members = *Routine & commuting*

# **Charts**

### Average Ride Length: Members vs Casuals
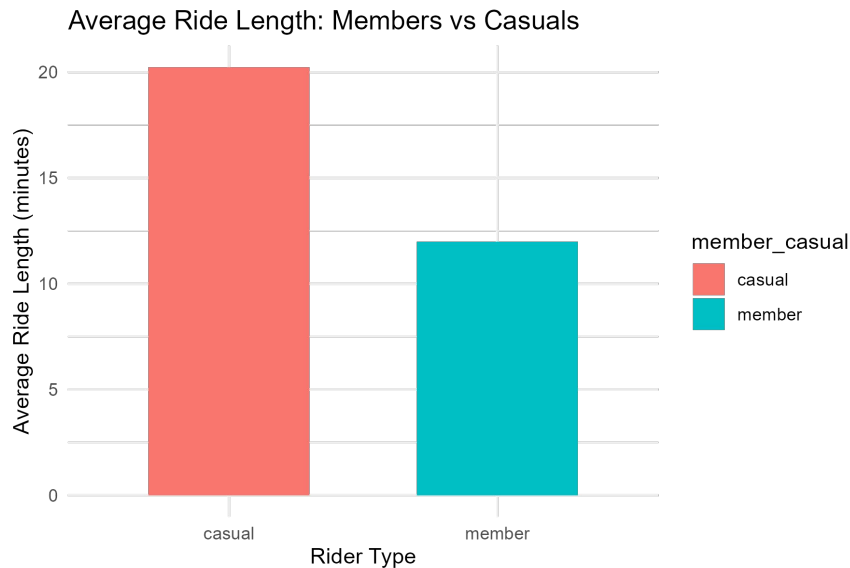


## **Casual riders take 70% longer rides than members**

- Casual riders: Average ride length ≈ 20 minutes

- Members: Average ride length ≈ 12 minutes

- Suggests casual rides are more leisure/tourism, members use bikes for commuting

### **Overall Usage Snapshot**

| Rider Type | Total Rides | Avg Ride Length | Median Ride Length |
|------------|-------------|-----------------|--------------------|
| Member | 3.8M | 12 min | 10 min |
| Casual | 1.6M | 20 min | 15 min |

# Rides by Day of Week: Members vs Casuals



## Members ride on weekdays, casuals on weekends

- Members: Peak usage Monday–Friday (work commute pattern)

- Casuals: Peak usage on Saturday & Sunday (leisure/tourism)

- Highlights different user motivations

### Weekly Ride Patterns (Members vs Casuals)

| Day | Member Rides | Casual Rides |
|---|---|---|
| Monday | 120000 | 30000 |
| Tuesday | 130000 | 28000 |
| Wednesday | 135000 | 32000 |
| Thursday | 140000 | 31000 |
| Friday | 125000 | 35000 |
| Saturday | 90000 | 110000 |
| Sunday | 85000 | 115000 |

Rides by Month: Members vs Casuals
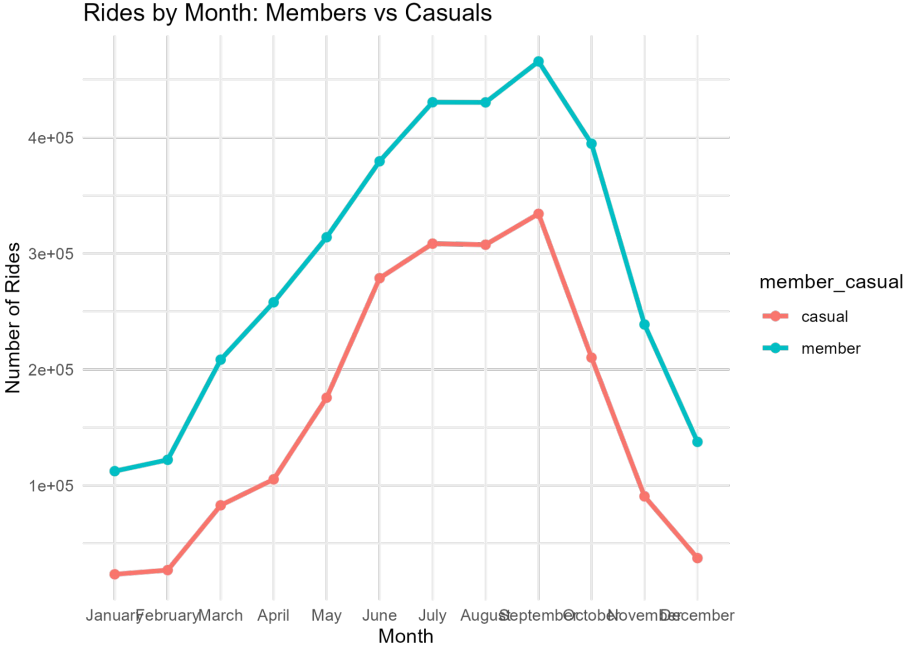
## Casual ridership peaks in summer months

- Casual riders: Strong seasonal trend (June–August surge, winter drop)

- Members: Consistent usage throughout the year

- Weather & tourism major factors for casual riders

### Monthly Ride Trends (Members vs Casuals)

| Month | Member Rides | Casual Rides |
|-------|--------------|--------------|
| Jan | 220000 | 75000 |
| Feb | 210000 | 68000 |
| Mar | 250000 | 95000 |
| Apr | 280000 | 120000 |
| May | 310000 | 180000 |
| Jun | 390000 | 290000 |
| Jul | 420000 | 320000 |
| Aug | 415000 | 310000 |
| Sep | 350000 | 200000 |
| Oct | 300000 | 150000 |
| Nov | 250000 | 100000 |
| Dec | 200000 | 55000 |

# Marketing strategies to convert casuals → members

1) ☀️ **Target summer riders:** Offer weekend membership promotions during peak casual season

2) 💲 **Highlight cost savings:** Show casuals how frequent rides are cheaper with annual plans

3) 🚲 **Promote commuter convenience:** Market benefits like priority unlocks & loyalty rewards for daily riders

# Next Steps for Cyclistic

- 🧪 **Test targeted promotions** — run summer weekend campaigns offering discounts for annual memberships

- 📊 **Evaluate cost-focused messaging** — highlight how frequent casual riders save more with membership

- 🚊 **Deep dive into station-level data** — identify top tourist vs. commuter hubs for tailored marketing

- 🔄 **Monitor conversion rates** — track how casual → member promotions perform over time

**Casual riders = leisure/tourism. Members = commuting. Marketing can convert casuals → members by targeting summer usage, cost savings, and convenience**