

# Cyclistic Bike-Share Analysis

## Understanding Differences Between Annual Members and Casual Riders

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## 1. Business Task

Cyclistic wants to increase its annual membership base. To do this, the marketing team needs to understand how annual members and casual riders differ in their bike usage patterns. Insights from this analysis will guide strategies to convert casual riders into annual members.

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## 2. Data Cleaning

### Data Cleaning & Manipulation:

- Removed incomplete records (missing values)
- Converted trip duration to minutes
- Calculated trip distance using Haversine formula
- Created additional variables:
  - day\_of\_week (Saturday to Friday)
  - trip\_distance (km)

Data was cleaned to ensure accuracy and to prepare for meaningful analysis.

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## 3. Summary of Analysis

### Key Insights:

- **Members:** Travel longer distances, spend less time per trip, take more trips overall → utilitarian/commute usage
- **Casual Riders:** Spend more time per trip, cover shorter distances → leisure-oriented usage
- **Both Groups:** Are more active on weekends, especially Saturday and Sunday

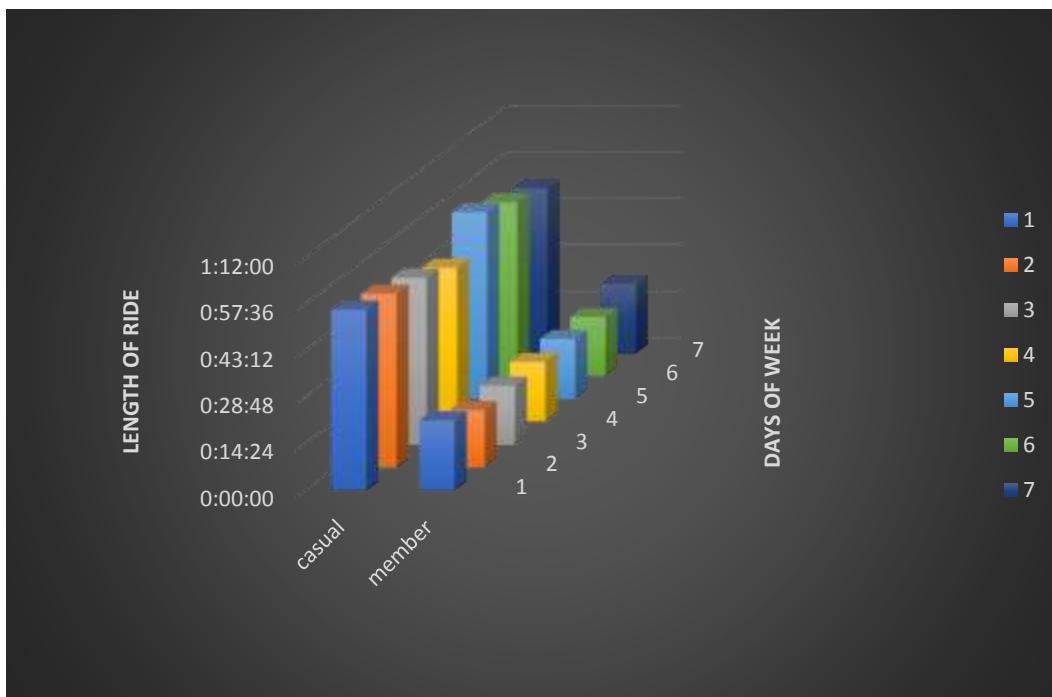
### Optional Table Example:

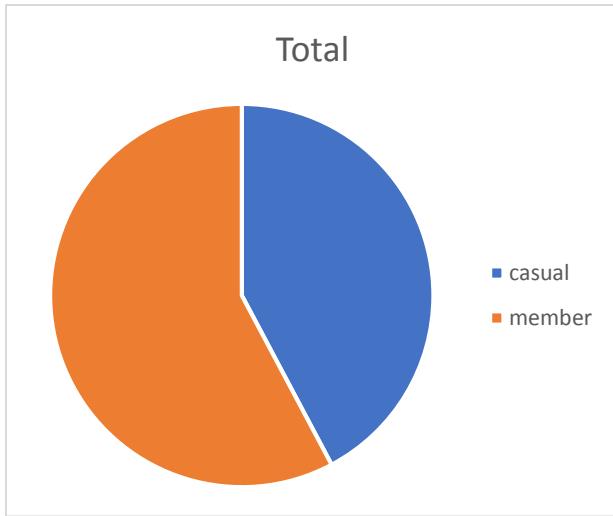
Row Labels	Average of ride_length
casual	0:53:23
member	0:19:30
<b>Grand Total</b>	<b>0:33:48</b>

## 4. Supporting Visualizations

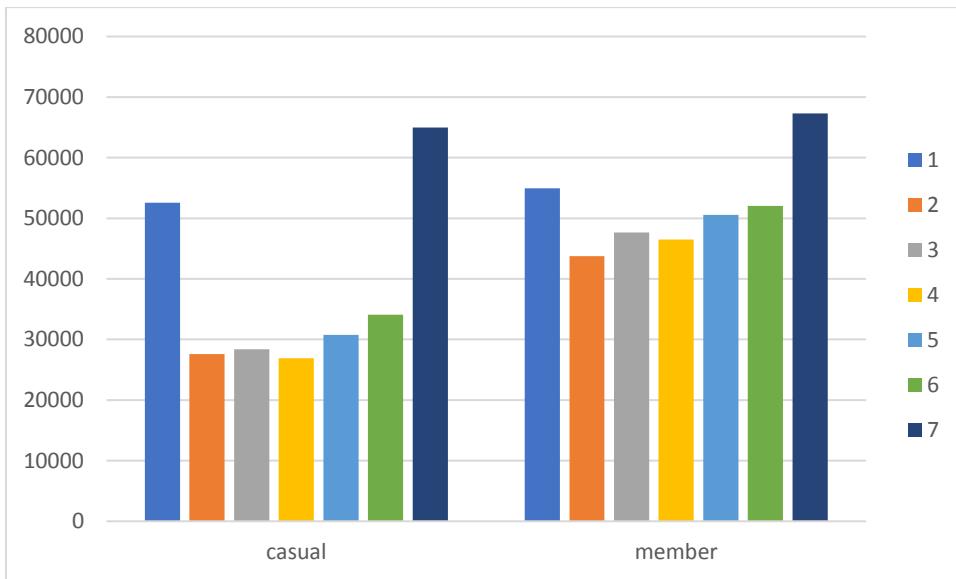
### Key Findings:

- Members are efficient riders: shorter time, longer distance, more frequent trips
- Casual riders are leisure riders: spend more time, shorter distances, weekend-heavy usage
- Data indicates clear opportunities for targeted marketing to convert casual riders





Row Labels	Sum of distance
casual	2549735847
member	3487531178
<b>Grand Total</b>	<b>6037267025</b>



Count of ride_id							Grand Total	
	sun	mon	tue	wed	thu	fri	sat	
casual	52549	27601	28402	26911	30760	34076	64956	265255
member	54927	43765	47642	46502	50586	52066	67312	362800
<b>Grand Total</b>	<b>107476</b>	<b>71366</b>	<b>76044</b>	<b>73413</b>	<b>81346</b>	<b>86142</b>	<b>132268</b>	<b>628055</b>

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## **5. Top 3 Recommendations**

1. **Incentivize casual riders to become annual members**
    - Target weekend usage with promotions or multi-ride discounts
  2. **Reward members for longer trips**
    - Implement loyalty programs or bonus points for long trips to boost engagement
  3. **Target marketing campaigns based on usage patterns**
    - Focus on peak casual rider activity (weekends) through digital channels to maximize conversion
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## **6. Conclusion**

This analysis highlights clear differences in bike usage between annual members and casual riders. By leveraging these insights, Cyclistic can design targeted marketing strategies, encourage more casual riders to convert to members, and increase overall revenue from annual memberships.