



CONVERTING CASUAL RIDERS TO MEMBERS

An In-depth Analysis and Strategic Recommendations for Cyclistic.

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01

INTRODUCTION



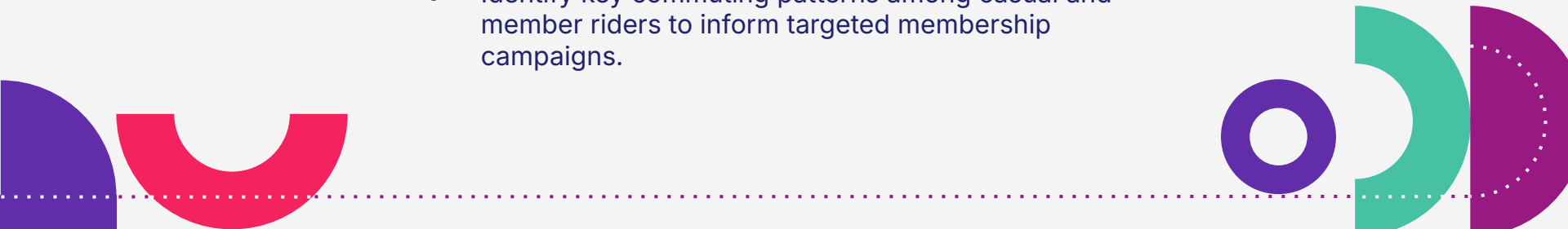


INTRODUCTION

About Cyclistic

Cyclistic, a Chicago bike-share program, aims to convert casual riders into annual members by analyzing their usage patterns to inform targeted marketing strategies.

Project Objectives

- Understand the behavior and preferences of casual vs. member riders.
 - Provide actionable insights to convert casual riders into members.
 - Identify key commuting patterns among casual and member riders to inform targeted membership campaigns.
- 









02

ANALYSIS STEPS



ANALYSIS STEPS

	STEP	DESCRIPTION
	Data Acquisition	Downloaded 12 months of Cyclistic trip data, each month in a separate CSV file.
	Data Preparation	Uploaded CSVs to Google Cloud Storage for use in BigQuery and standardized schemas; removed nulls and irrelevant data.
	Exploratory Data Analysis	Combined data in BigQuery to explore trip duration, start/end points, routes, and usage patterns.
	Statistical Analysis	Conducted Chi-Square tests in RStudio to determine statistical significance of observed differences.
	Result Interpretation	Created visualizations to explore trends. Analyzed statistical results, developing strategies for converting casual riders.
	Further Data Collection	Identified additional data needs to validate theories and refine strategies for ongoing improvements.



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KEY FINDINGS



KEY FINDINGS



COMMUTE PATTERNS HIGHLIGHT MEMBERSHIP OPPORTUNITIES

Members show significantly higher usage during weekdays and morning hours, indicating that commute-focused marketing can effectively drive membership growth.



DISTINCT ROUTE PREFERENCES GUIDE TARGETED MARKETING

Casual and member riders take different routes, suggesting targeted promotions at specific locations to attract and retain each rider group.



LONGER RIDES PRESENT COST-SAVING OPPORTUNITIES

Casual riders take longer rides, offering a chance to highlight the cost benefits of membership for those frequently embarking on extended trips.

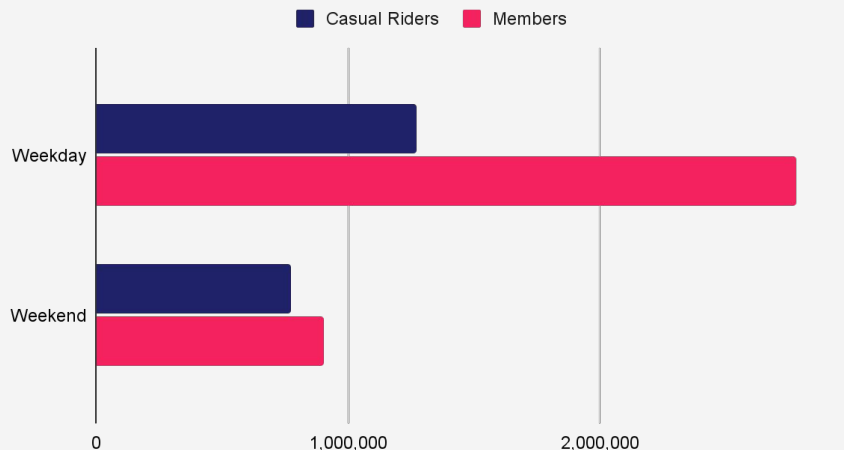


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INSIGHTS

INSIGHTS: DAY OF WEEK

Weekday vs Weekend Bike Usage by Rider Group



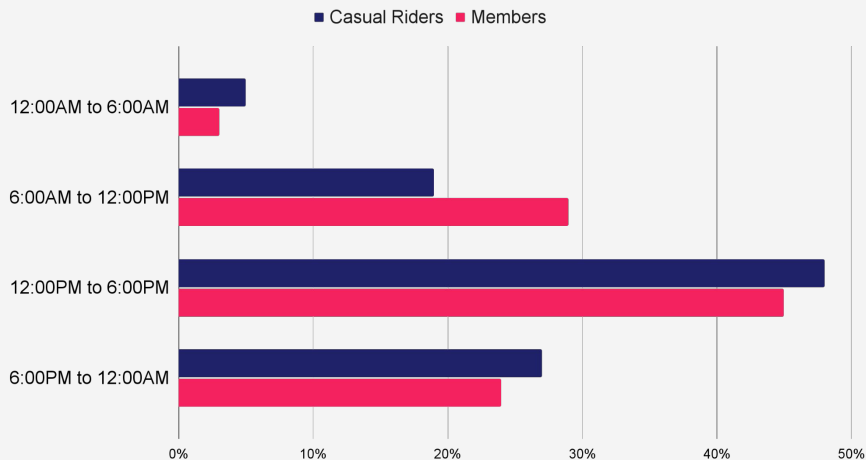
WEEKDAY COMMUTES DOMINATE USAGE

- **Data:** Trips taken by day of week for casual vs. member riders.
- **Statistical Test:** Chi-Square Test confirms a strong preference for weekday riding across both groups.
- **Recommended Action:** Focus on converting casual riders to members by targeting weekday commuters with tailored promotions.

INSIGHTS: TIME OF DAY

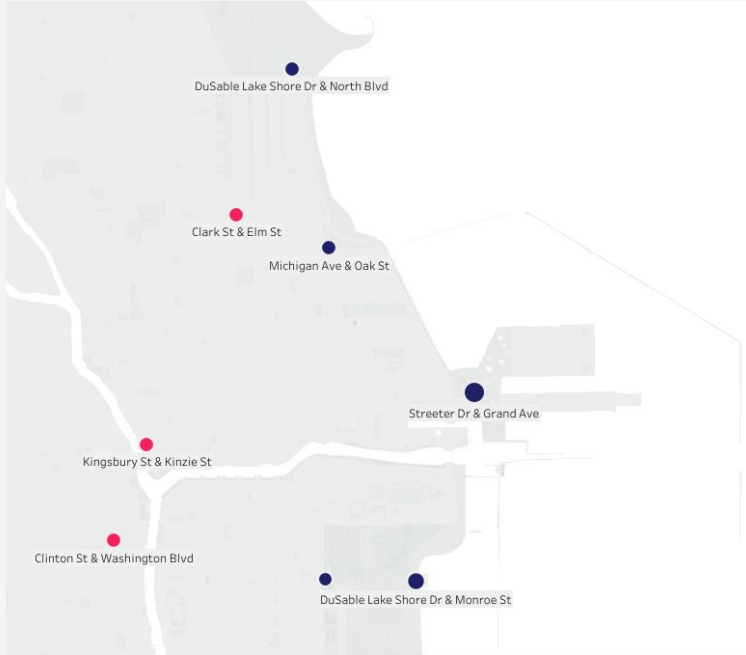
PEAK HOURS SHAPE RIDING TRENDS

Rides by Hour by Rider Group



- **Data:** Trips taken by hour for casual vs. member riders.
- **Statistical Test:** Chi-Square Test shows significant time-of-day preferences for both casual and member riders, with members having higher utilization during commute hours.
- **Recommended Action:** Develop morning commute-focused campaigns to highlight the convenience of membership for regular riders.

INSIGHTS: START / END POINTS



Geographic map of most popular start points by rider group type.

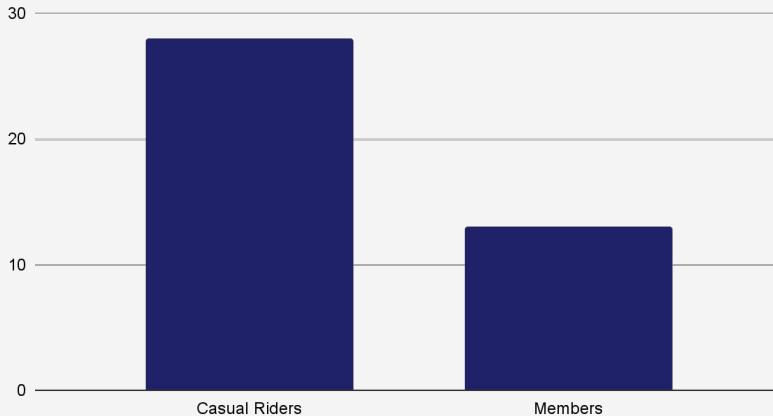
KEY LOCATIONS DRIVE RIDER BEHAVIOR

- **Data:** Top 10 start and end points for casual vs. member riders.
- **Statistical Test:** Chi-Square Tests confirm significant differences in start and end point preferences between rider groups.
- **Recommended Action:** Identify key attractions near these popular start and end points to refine promotional strategies.

● Casual Riders ● Members

INSIGHTS: RIDE DURATION

Average Ride Duration in Minutes by Rider Group

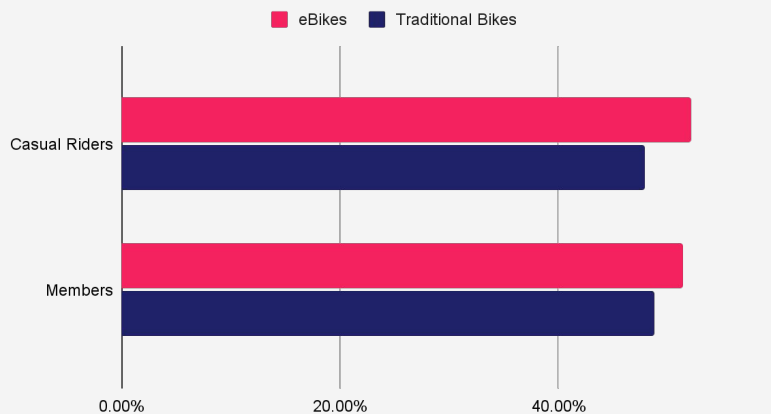


CASUAL RIDERS HAVE SIGNIFICANTLY LONGER RIDES.

- **Data:** Average ride duration for casual vs. member riders.
- **Statistical Test:** Z-Test (Z-Score: 10272.23, P-Value: 0)
- **Recommended Action:** Survey current members to understand the appeal of traditional bikes for shorter commutes versus longer rides.

INSIGHTS: BIKE TYPE PREFERENCE

Bike Type Preferences in % by Rider Group

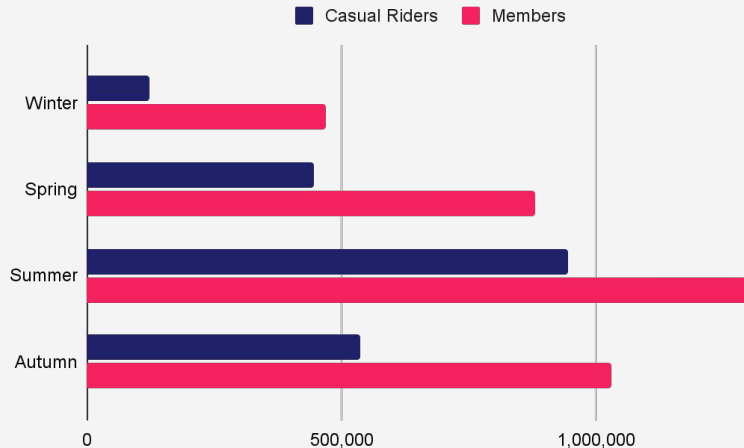


RIDERS SLIGHTLY PREFER ELECTRIC BIKES

- **Data:** Bike rides by bike type for casual vs. member riders.
- **Statistical Test:** Chi-Square Test confirms strong preference for eBikes in both groups, but with minimal difference between them.
- **Recommended Action:** Track bike usage among new members and analyze commuter routes for additional differentiators.

INSIGHTS: MONTH OF YEAR

Seasonal Bike Usage by Rider Group



RIDING PEAKS IN WARMER MONTHS

- **Data:** Trips taken by month of year for casual vs. member riders.
- **Statistical Test:** Chi-Square Test indicates strong seasonal preferences for both casual and member riders.
- **Recommended Action:** Monitor seasonal trends and adjust marketing efforts based on weather patterns and rider behavior.



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ACTIONS TO TAKE



ACTIONS TO TAKE



TARGET BUSINESSES FOR EMPLOYEE MEMBERSHIP

Collaborate with companies to offer sponsored membership plans to employees, enhancing accessibility and boosting membership



HIGHLIGHT COST-SAVINGS FOR LONGER RIDES

Highlight the cost benefits of membership for casual riders who frequently take longer trips through personalized app notifications.



TARGET COMMUTERS WITH REAL-TIME TRAFFIC ADS

Use real-time traffic data to trigger ads on platforms like Spotify and YouTube, promoting biking over driving during peak hours.



GEO-TARGET PROMOTIONS AT HIGH-TRAFFIC ROUTES

Focus ads on congested traffic routes and key start/end points to reach commuters where they travel most.



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NEXT STEPS



The slide features several decorative geometric shapes: a purple triangle in the top-left corner, a yellow circle in the top-left, a yellow circle in the top-right, a pink circle in the top-right, a purple semi-circle in the bottom-left, a pink semi-circle in the bottom-left, a purple circle in the bottom-right, a teal semi-circle in the bottom-right, and a purple semi-circle in the bottom-right.

NEXT STEPS

Identify additional data needed to validate theories and refine strategies.

- **Survey Commuters on Membership Drivers:** Collect data on commuting habits and bike preferences from current members to inform membership plans.
- **Map Key Commuter Routes:** Identify high-traffic commuting routes and start/end points to guide targeted marketing and business partnerships.
- **Monitor Traffic-Triggered Campaigns:** Track effectiveness of real-time traffic ads.
- **Analyze Business Hubs Near Routes:** Pinpoint businesses near popular routes to support partnership outreach for employee membership plans.
- **Evaluate Peak Membership Sign-Ups:** Analyze sign-up data during commuting hours to optimize the timing of promotional campaigns.



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CONCLUSION



CONCLUSION

SUMMARY OF ANALYSIS

- Key insights into the differences between casual and member riders reveal significant findings in ride duration, bike type preference, start/end points, routes, time of day, weekday vs. weekend usage, and seasonal trends.

RECOMMENDATIONS

- Focus on converting commuters into members by partnering with businesses for employee membership plans and deploying real-time traffic-triggered marketing.
- Implement personalized marketing, highlight electric bikes, utilize popular locations, promote route benefits, synchronize campaigns with peak usage times, and focus on seasonal promotions.



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REFERENCES



REFERENCES

Below are the data sets used in this analysis, SQL queries used for data cleaning and EDA, and RMD files which contain R scripts used in the analysis:

DATA SET

- [Cyclistic ride data sets](#)

SQL QUERIES

- [SQL queries used in analysis](#)

SQL SUMMARY RESULTS CSV FILES

- [SQL summary result file for use in RMD notebook](#)

RMD FILE

- [RMD notebook used in analysis](#)