



Cyclistic Bike Share Analysis

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Batch – MBE4



Table of CONTENTS

01

Problem
Statement

02

Objective

03

Data Analysis

04

Power BI
Visualisations

05

Insights

06

Growth
Recommendations

07

Conclusion



PROBLEM STATEMENT

Analysing Cyclistic company's data of bike riders to develop a strategy that converts casual riders to annual members and drives sales and marketing activations for the brand.



OBJECTIVE OF THE ANALYSIS



- The objective of the analysis is to dive into Cyclistic company's data through the visualization tool – Power BI.
- Through Power BI, the aim is to create charts detailing out types of riders, busiest routes travelled by riders, busiest days, weeks and hours for riders and the busiest stations booked by the riders.
- These visualizations would help to analyze how to convert casual riders to annual members.

DATA CLEANING



Data cleaning and analysis in Power BI is important to ensure that the data is accurate, consistent and ready for insightful analysis.

- **Import Data:**

Import data from various sources such as Excel, SQL Server, or web sources into Power BI.

- **Inspect Data:**

Review the data to understand its structure, types, and any obvious issues like missing values or inconsistencies.

- **Remove Duplicates:**

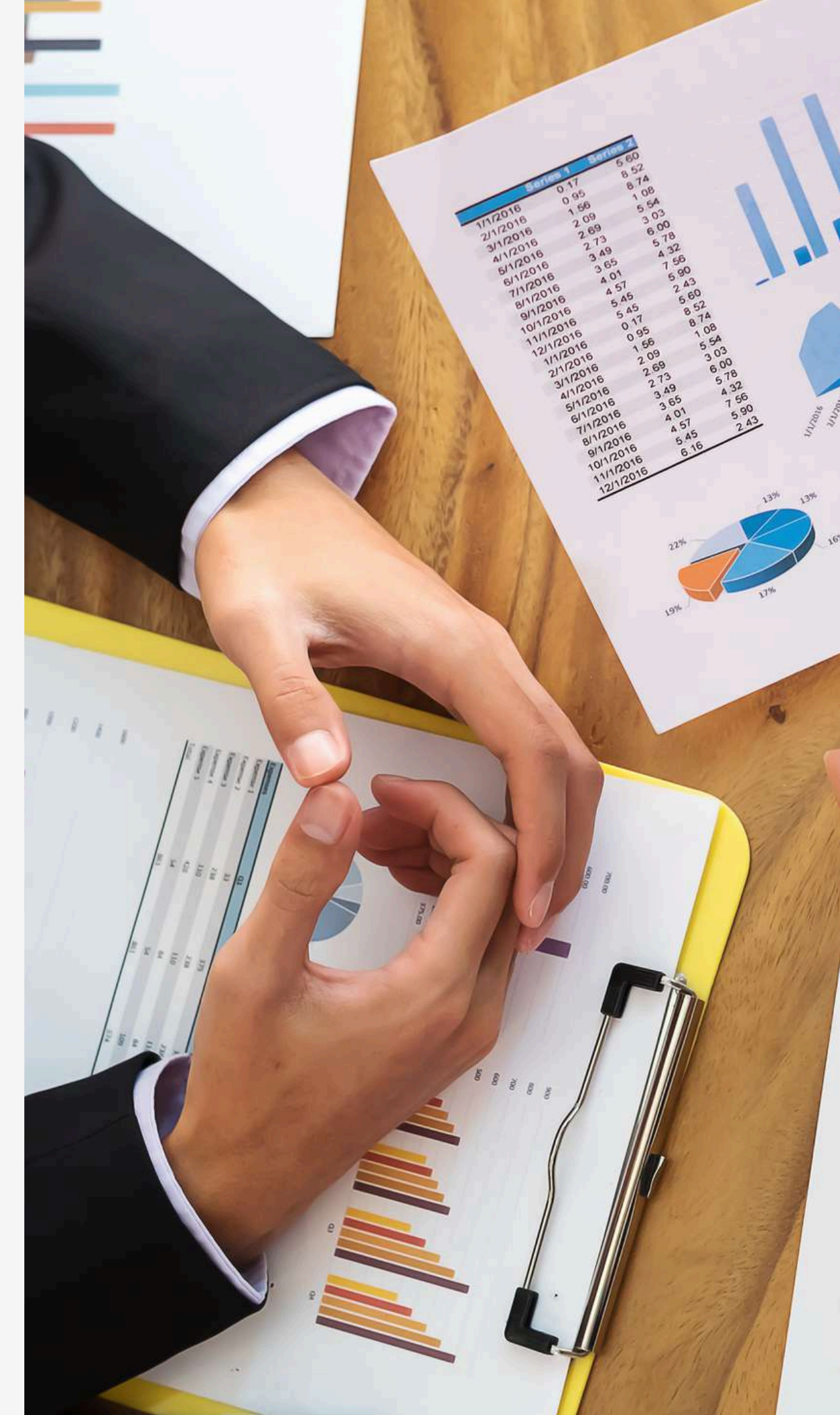
Identify and remove duplicate records to avoid skewing the analysis.

- **Handle Missing Values:**

Deal with missing values by either removing rows with missing data or imputing values based on the context of the data.

- **Filter Data:**

Filter out irrelevant or unnecessary data to focus on the subset that is most pertinent to your analysis.



DATA CLEANING



Correct Data Types:

- Ensure that each column has the correct data type (e.g., dates are recognized as dates, numbers as numbers).

Standardize Data:

- Standardize values where necessary, such as ensuring consistent date formats, or uniform case for text data.

Create New Columns:

- Use calculated columns or measures to create new fields that might be needed for the analysis.

Remove Outliers:

- Identify and handle outliers that may distort the analysis.

Transform Data:

- Apply necessary transformations such as pivoting, unpivoting, splitting columns, or merging datasets.



DATA ANALYSIS



- **Create Relationships:**

Establish relationships between different tables to create a data model.

- **Build Measures and Calculations:**

Create measures and calculated columns using DAX (Data Analysis Expressions) for advanced calculations.

- **Create Visualizations:**

Build various visualizations such as bar charts, line graphs, pie charts, and maps to represent the data.

- **Use Slicers and Filters:**

Add slicers and filters to allow users to interact with the data and focus on specific aspects.

- **Drill Down and Drill Through:**

Implement drill-down and drill-through functionalities to allow deeper exploration of the data.



DATA ANALYSIS



- **Create Dashboards:**

Assemble visualizations into cohesive dashboards for comprehensive insights.

- **Set Up Data Refresh:**

Configure data refresh settings to ensure that your reports and dashboards always display the most up-to-date information.

- **Share Reports:**

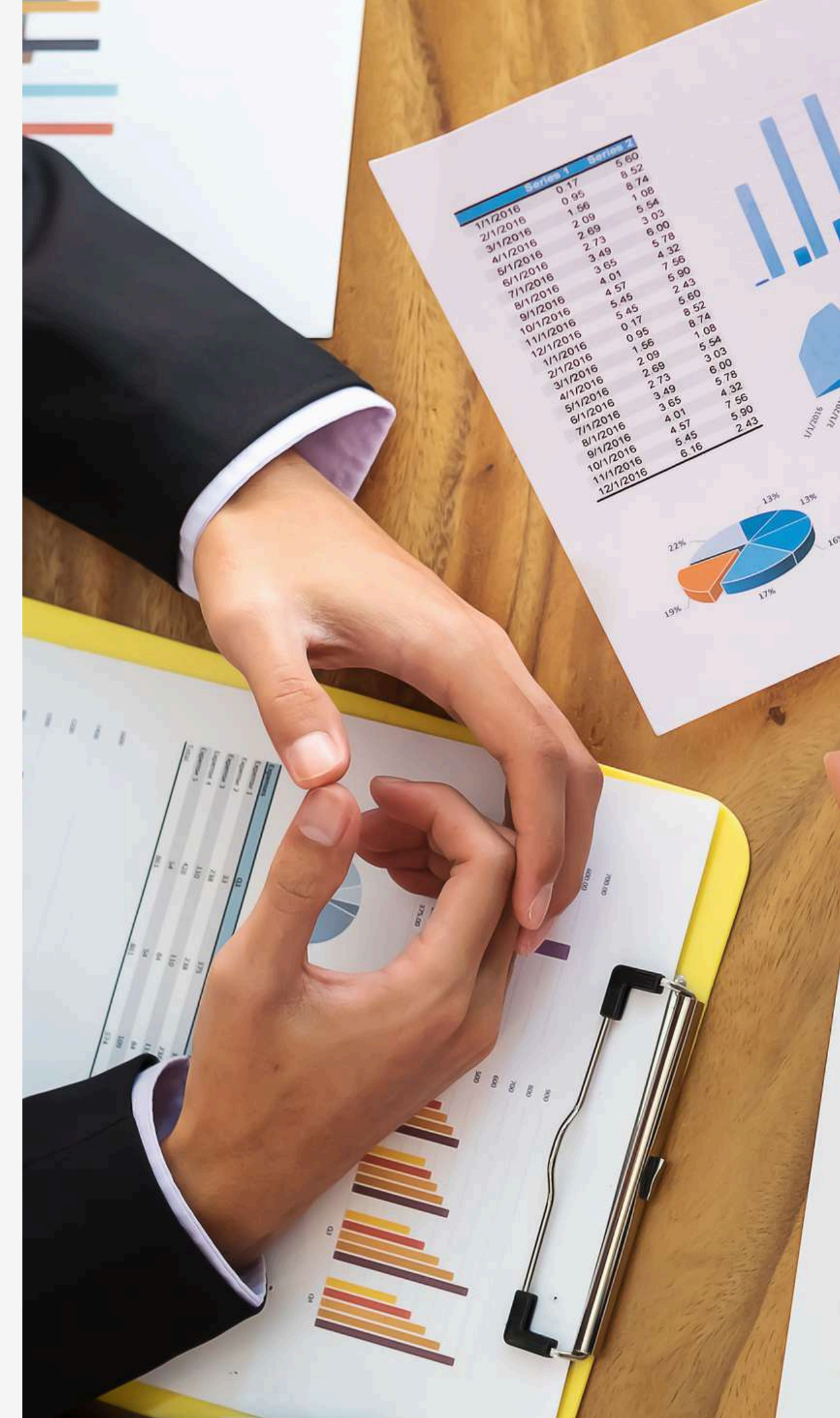
Publish and share reports and dashboards with stakeholders through Power BI Service.

- **Monitor Performance:**

Use performance analyzer to identify and resolve performance bottlenecks in your reports.

- **Document Your Work:**

Document the data cleaning and analysis process to provide transparency and maintainability.





Diving Into The Data





Cyclist Rider Analysis Report For Marketing

Bike Type

All

Rider Type

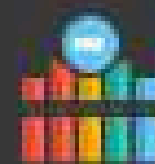
All

Total Rides Per Week In September

Rider Type Casual Member



533K
No. of rides



16.27
Average of Duration



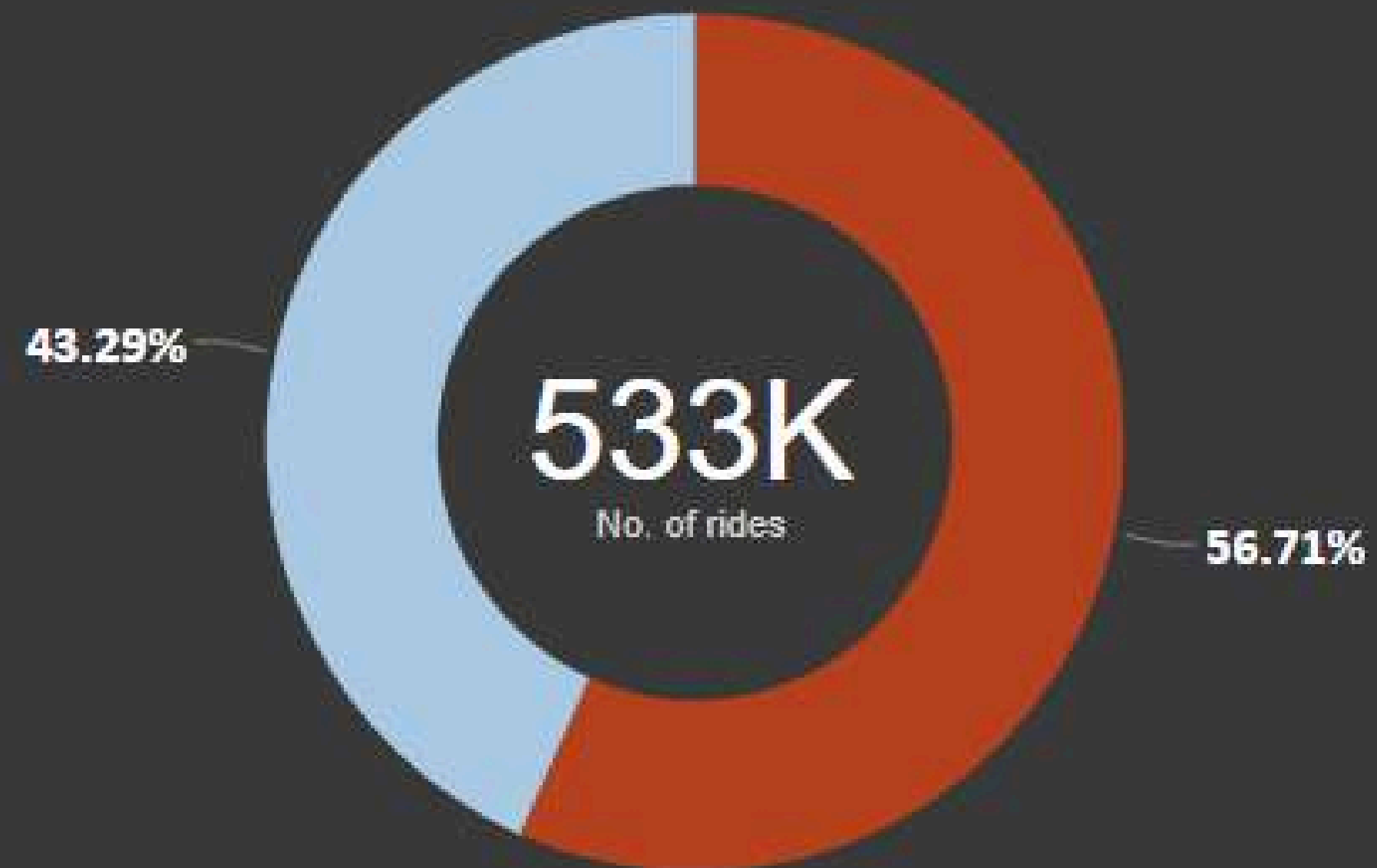
9M
Sum of Duration



59
Max of Duration

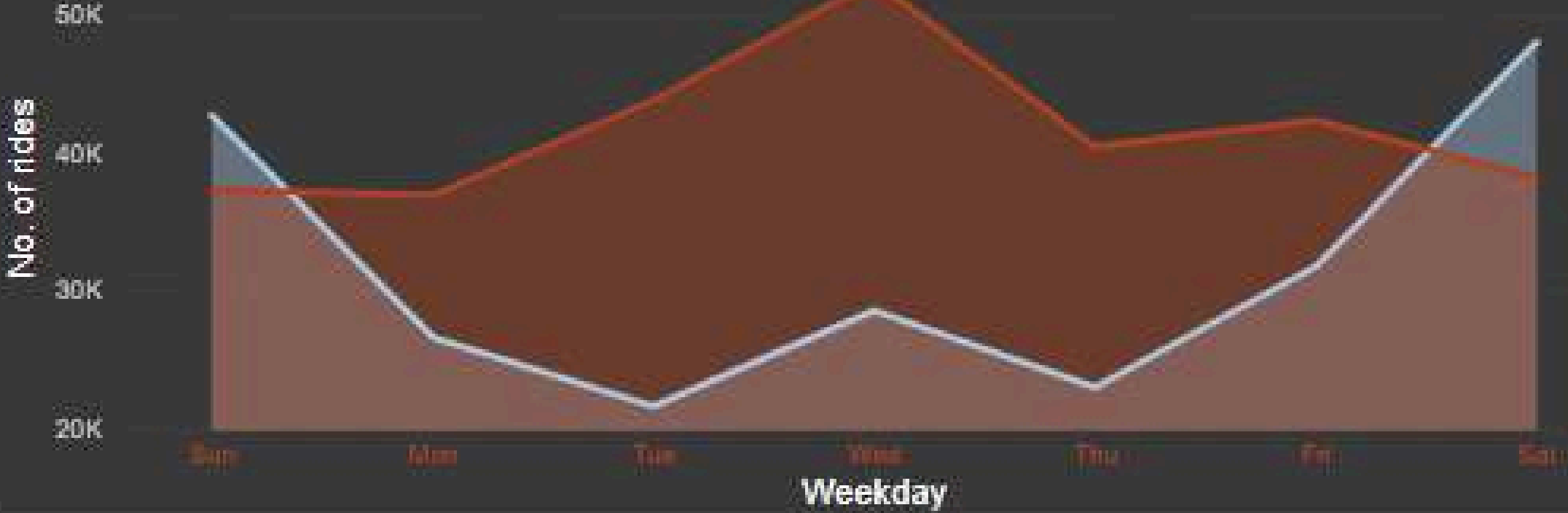
Percentage Of Members V/S Casual Users

Rider Type Member Casual

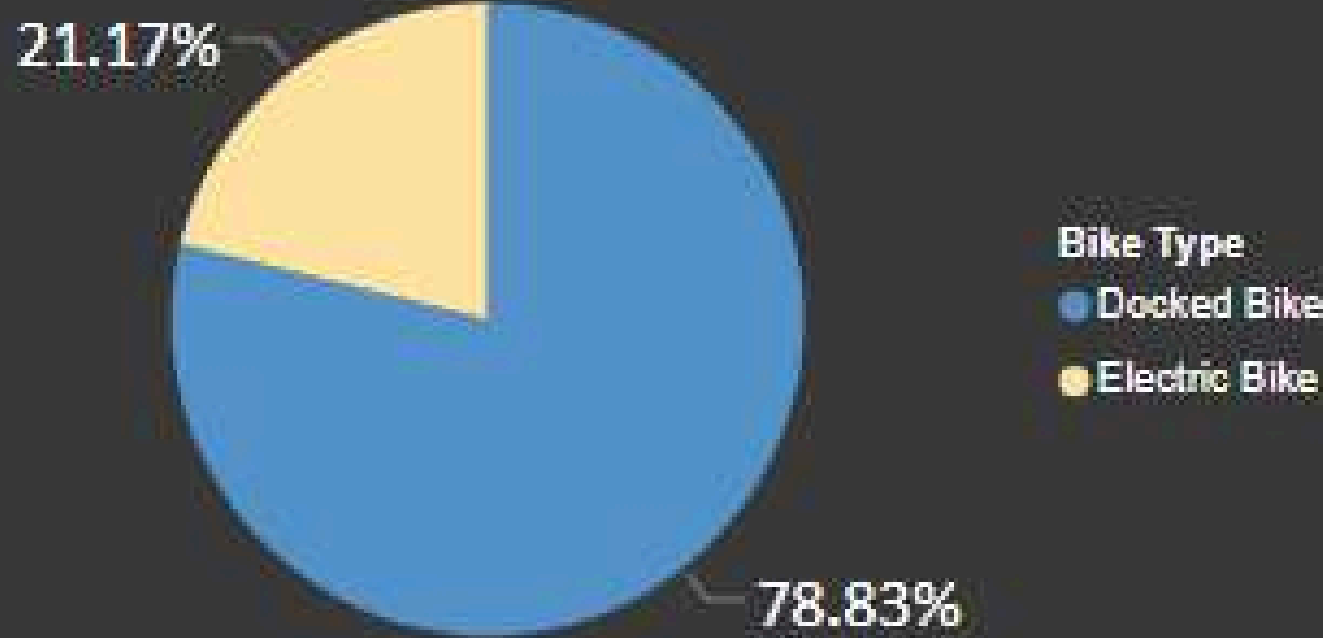


Total Rides Per Day & Rider Type

Rider Type ● Casual ● Member

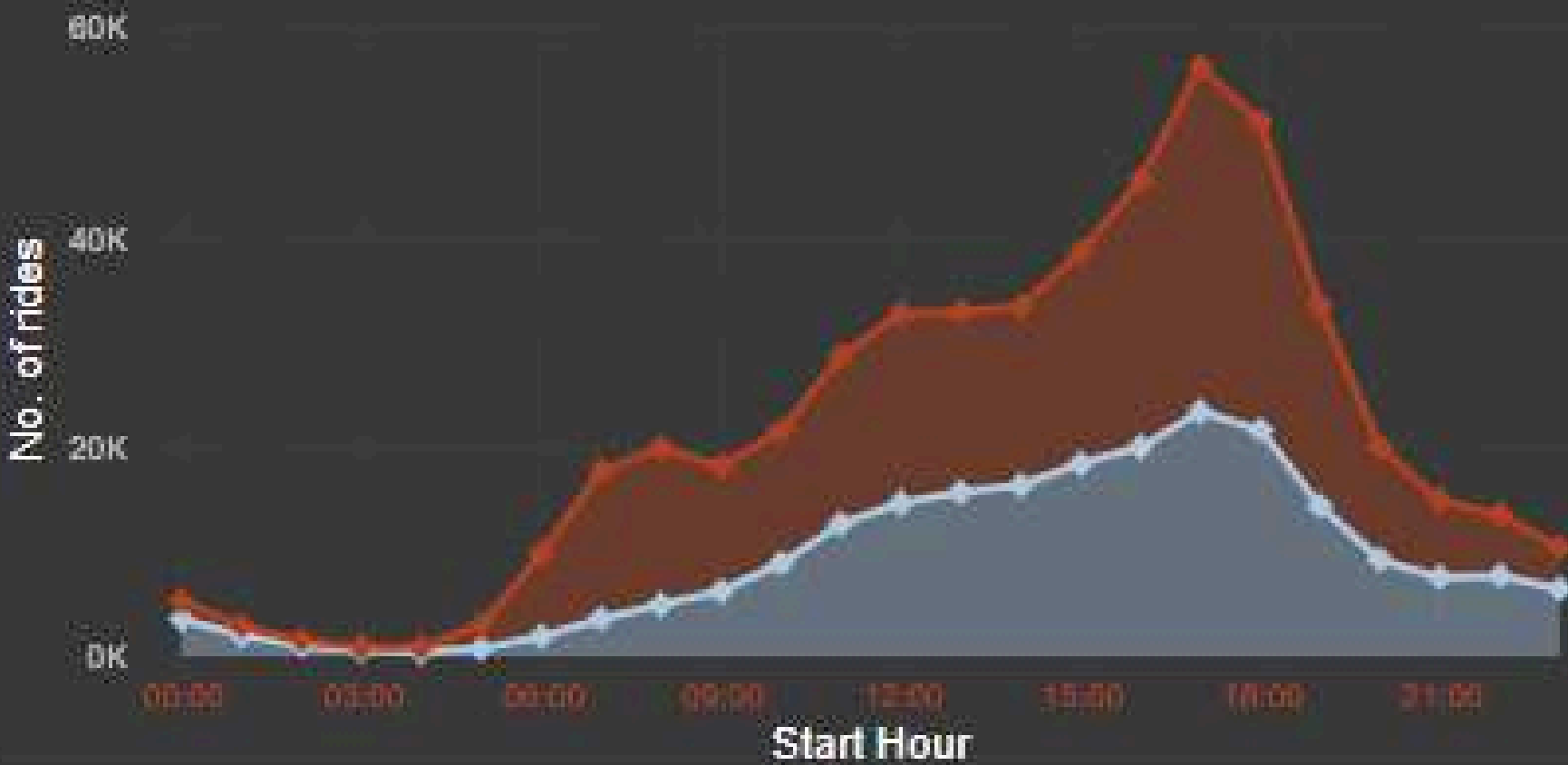


Total Rides By Bike Type



Total Rides By Start Hour & Rider Type

Rider Type ● Casual ● Member



Start Location	No. of rides
Theater on the Lake	5701
Streeter Dr & Grand Ave	5622
Lake Shore Dr & Monroe St	5254
Clark St & Elm St	4863
Michigan Ave & Oak St	4269
Millennium Park	4220
Wells St & Concord Ln	4127
Lake Shore Dr & North Blvd	4125
Clark St & Armitage Ave	3881
Broadway & Barry Ave	3795
Wells St & Elm St	3653
Indiana Ave & Roosevelt Rd	3621
Dearborn St & Erie St	3588
Wells St & Huron St	3520
Clark St & Lincoln Ave	3426
Columbus Dr & Randolph St	3414
Lake Shore Dr & Wellington Ave	3388
Total	513267

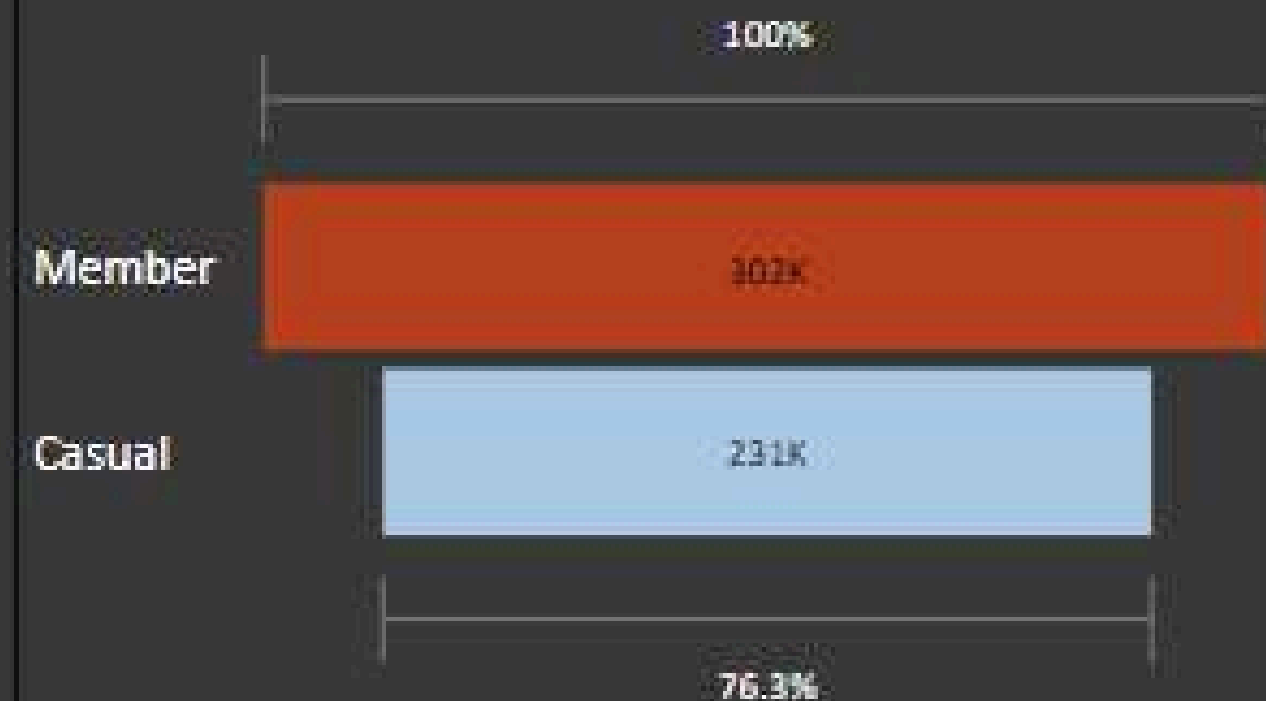
End Location	No. of rides
Streeter Dr & Grand Ave	6188
Theater on the Lake	5974
Lake Shore Dr & Monroe St	5185
Clark St & Elm St	4779
Millennium Park	4533
Michigan Ave & Oak St	4323
Lake Shore Dr & North Blvd	4290
Wells St & Concord Ln	4083
Broadway & Barry Ave	3827
Indiana Ave & Roosevelt Rd	3814
Dearborn St & Erie St	3554
St. Clair St & Erie St	3550
Clark St & Armitage Ave	3532
Clark St & Lincoln Ave	3488
Wells St & Elm St	3444
Lake Shore Dr & Wellington Ave	3412
Wells St & Huron St	3340
Total	500684

Top 5 Start Stations Basis Rider Type

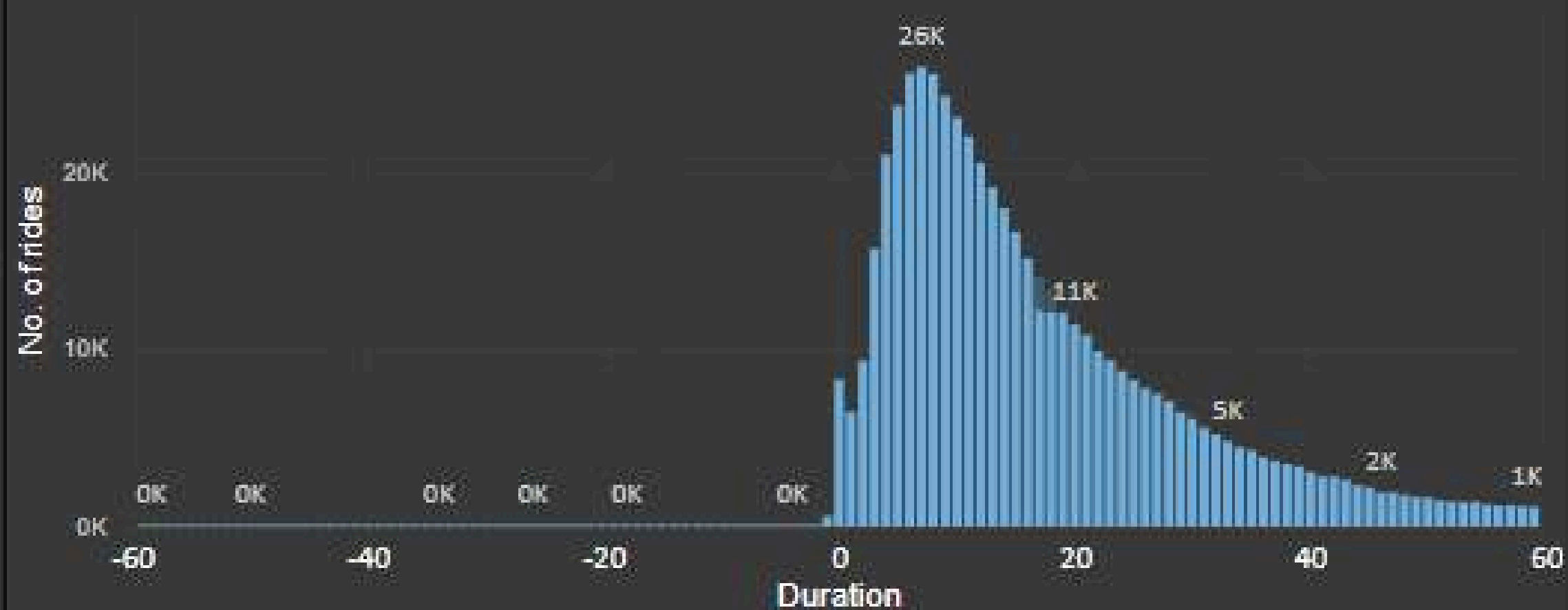
Rider Type ● Casual ● Member



Total Rides by Rider Type



Average Rides Booked Basis Duration



Insights

More than 50 percent riders are member riders (56.71%)

Close to 45 percent riders (43.26%) are casual riders.

Maximum number of members (52,448 members) book rides on Wednesday.

Wednesday brings in about 17 percent of member riders.

Maximum number of casual members (48,011 members) book rides on Saturdays.

Saturday brings in about 21 percent of casual riders.

Shorter duration rides of about 7-10 mins are booked ~~alot~~ more than longer duration rides of 40-45 mins.

Weekends should be specifically invested in targeting non-members (casual members) and converting them into members as casual members are spending more time booking rides over the weekends.

70 percent of docked bikes are used over just a 20 percent of electric bikes.

Frequency of riders booking rides goes on increasing from 9am to 6pm indicating that many people access Cyclist's bikes for commute to and from office.

Riders of both categories (members and casual) tend to book maximum rides at 5pm. This indicates that riders book more rides while going back from office.

We must implement outdoor marketing activities targeting office goers to ensure they book more rides while leaving for work.

76% of total riders are casual riders.

Top 5 start stations include Theater On The Lake, Streeter Dr and Grand Ave, Lakeshore Monroe Dr and Monroe St. , Clark St and Elm St and Michigan Avenue and Oak street.

GROWTH RECOMMENDATIONS

- Casual riders book cycles on weekends. This must be leveraged and weekend-only memberships must be employed to help convert casual riders to permanent riders.
- Cycles are not being used for longer durations. It is important to run product-centric campaigns focusing on the comfort, speed and mileage achieved by the cycles. Pushing electric bikes for such campaigns can also help the brand to showcase its support and initiatives towards environmentalism.
- Expanding the product into regions with not very busy stations (in terms of users) would help to attract a newer audience base.

GROWTH RECOMMENDATIONS

- Promoting seasonal offers (for eg. promoting aggressively in summers and winters over monsoons) can help to tap into a larger audience segment.
- Penetrating and building stations in tier-2 and slightly less urban areas can help the brand connect people and communities across a larger area, also focusing on the fact that bicycles are used more actively by semi-rural areas a lot more than semi-urban and urban areas.
- Promoting cycles as an excellent alternative to heavy traffic, as a good initiative to reduce pollution and a brilliant motive to get into the regular regimen of exercise and good health (especially for working professionals) can help to convert more casual riders to permanent members.

The background features a complex geometric pattern of thin, glowing lines. On the left side, a series of concentric, slightly offset rectangular lines in a vibrant red color create a sense of depth, resembling a tunnel or a series of nested frames. These lines curve and converge towards the center. The rest of the background is a deep, solid blue, with some faint, radiating lines extending from the red structure, giving it a dynamic, almost ethereal feel.

THANK YOU!