

Bike Sharing



PREPARED BY GROUP 5



The Team

Helping the GoBike analyse their customer data



Sakshi Khadayate

Data Enthusiast
(Love Numbers)



Shubham Bhutada

Critical Thinker
(Questions Everything)



Unnati Ghodki

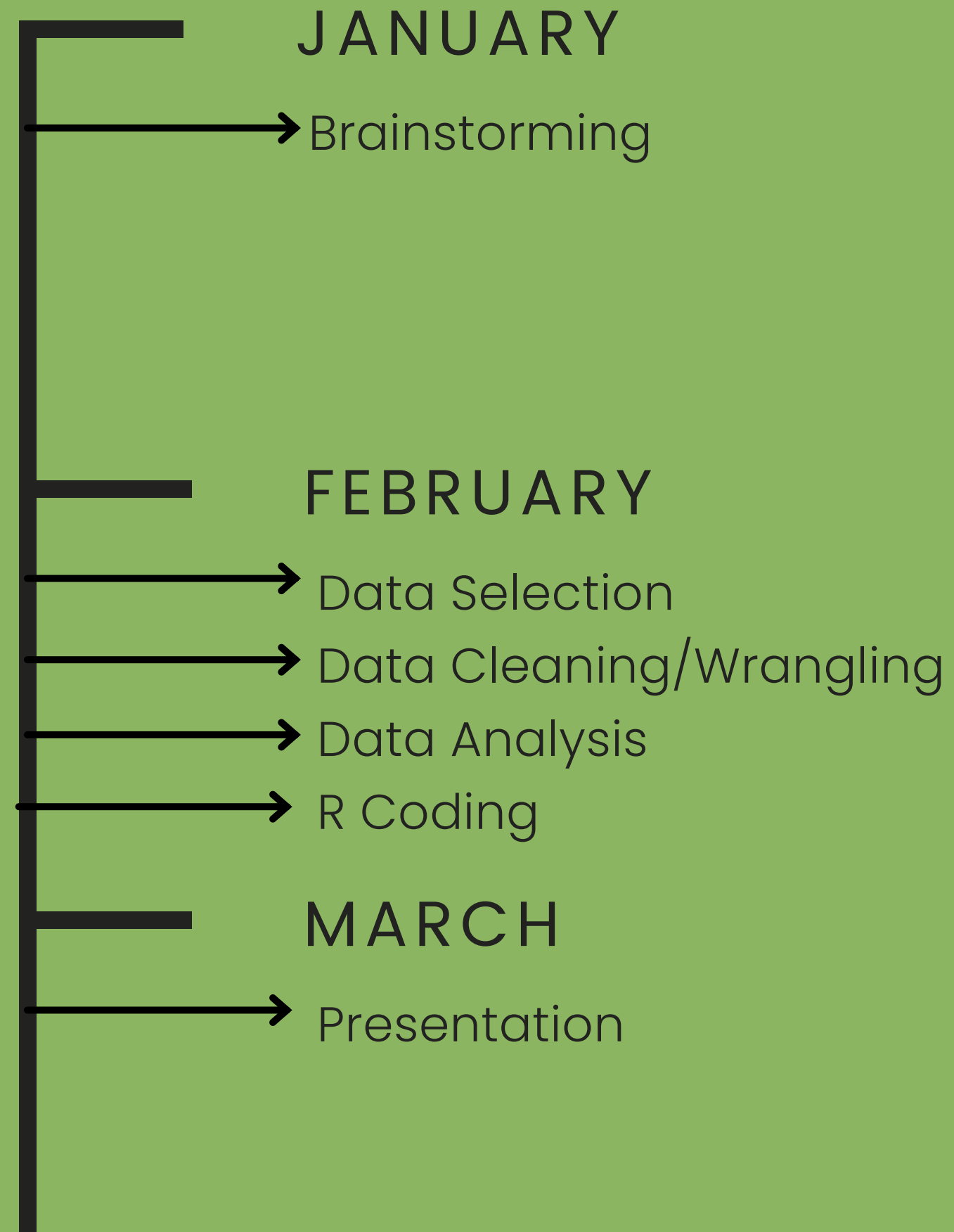
Problem Solver
(Thrives on problems)



Anshita Aishwarya

Vizard
(Love Visualisations)

Project timeline and tasks



About Our Client

40000+ Paying
Customers

GoBike is a bicycle sharing system in the Boston metropolitan area. It offers eligible riders a fun and affordable transportation option

250+ stations
across Boston

3000+ Bikes

Bikes are used on
480+ routes



Data Description

This dataset contains the hourly and daily count of rental bikes between years 2020 and 2021 for Go-Bike company with the corresponding weather and seasonal information.





Problem Statement

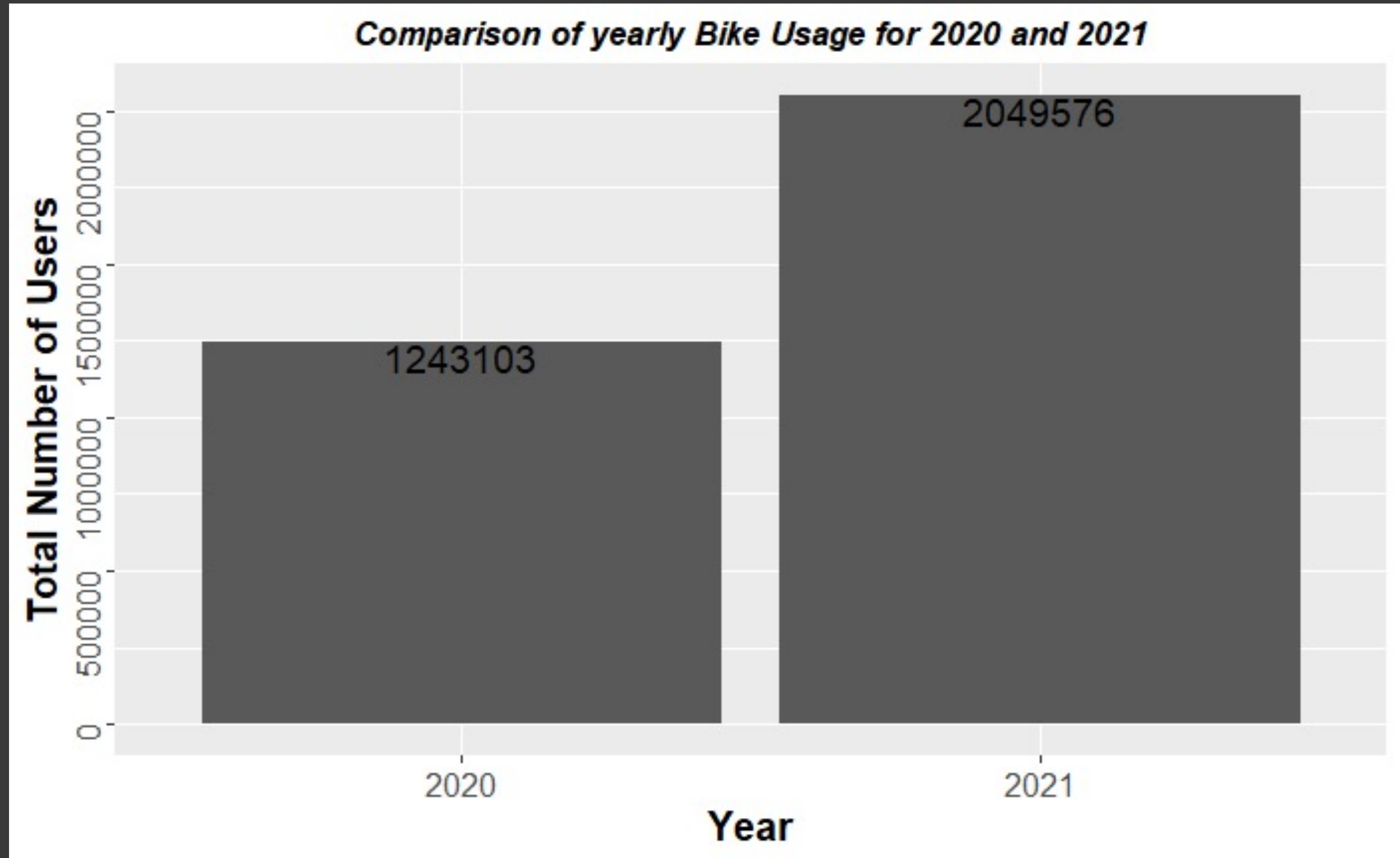


Company wants to improve existing business and make it robust for planning an expansion based on the historical data.



Year-Wise Users

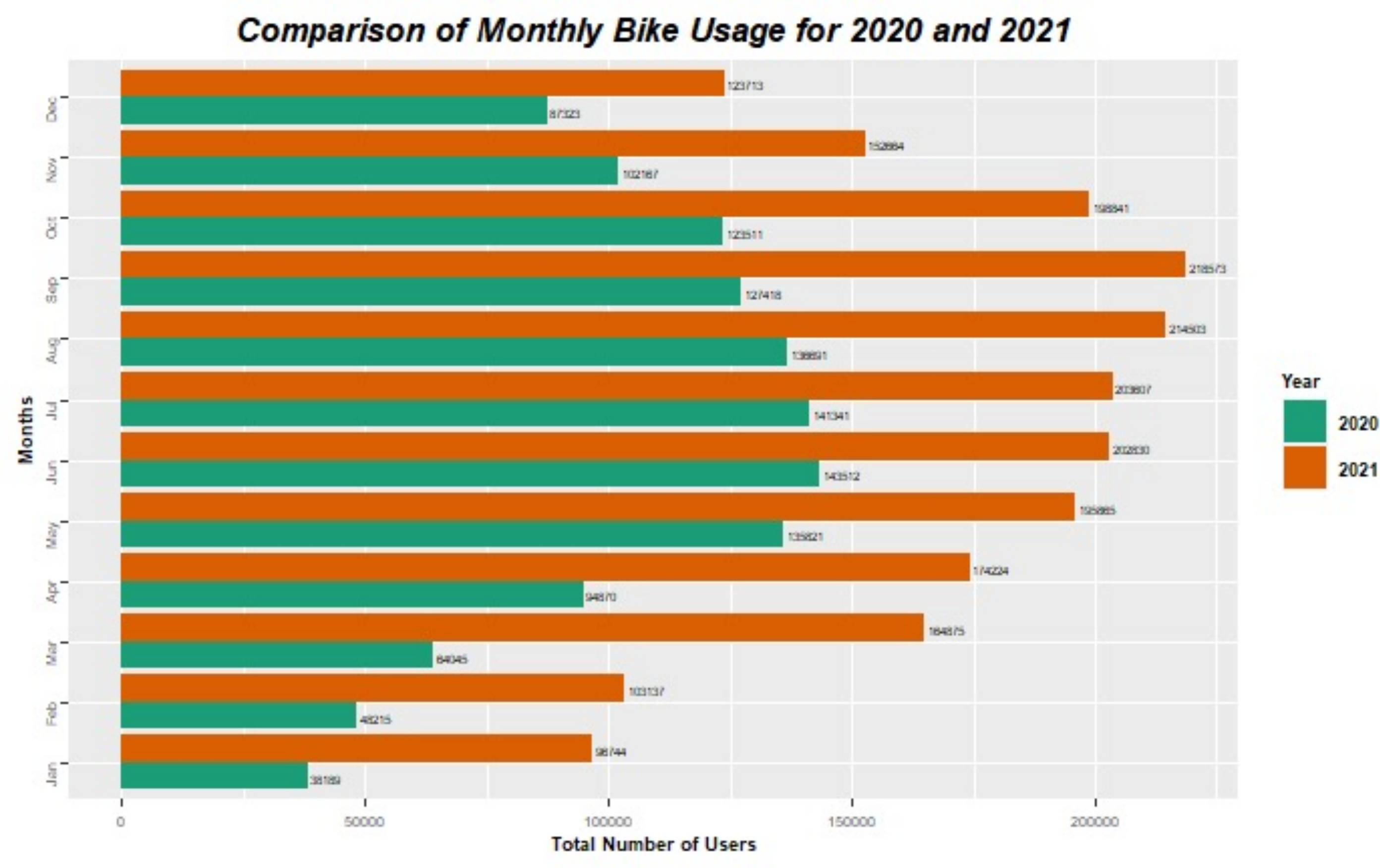
From 2020 to 2021 we see a whopping 65% YOY increase in the number of users (Registered and Unregistered)



Year-Wise Comparison

The distribution of number of users follows the same trend in both years

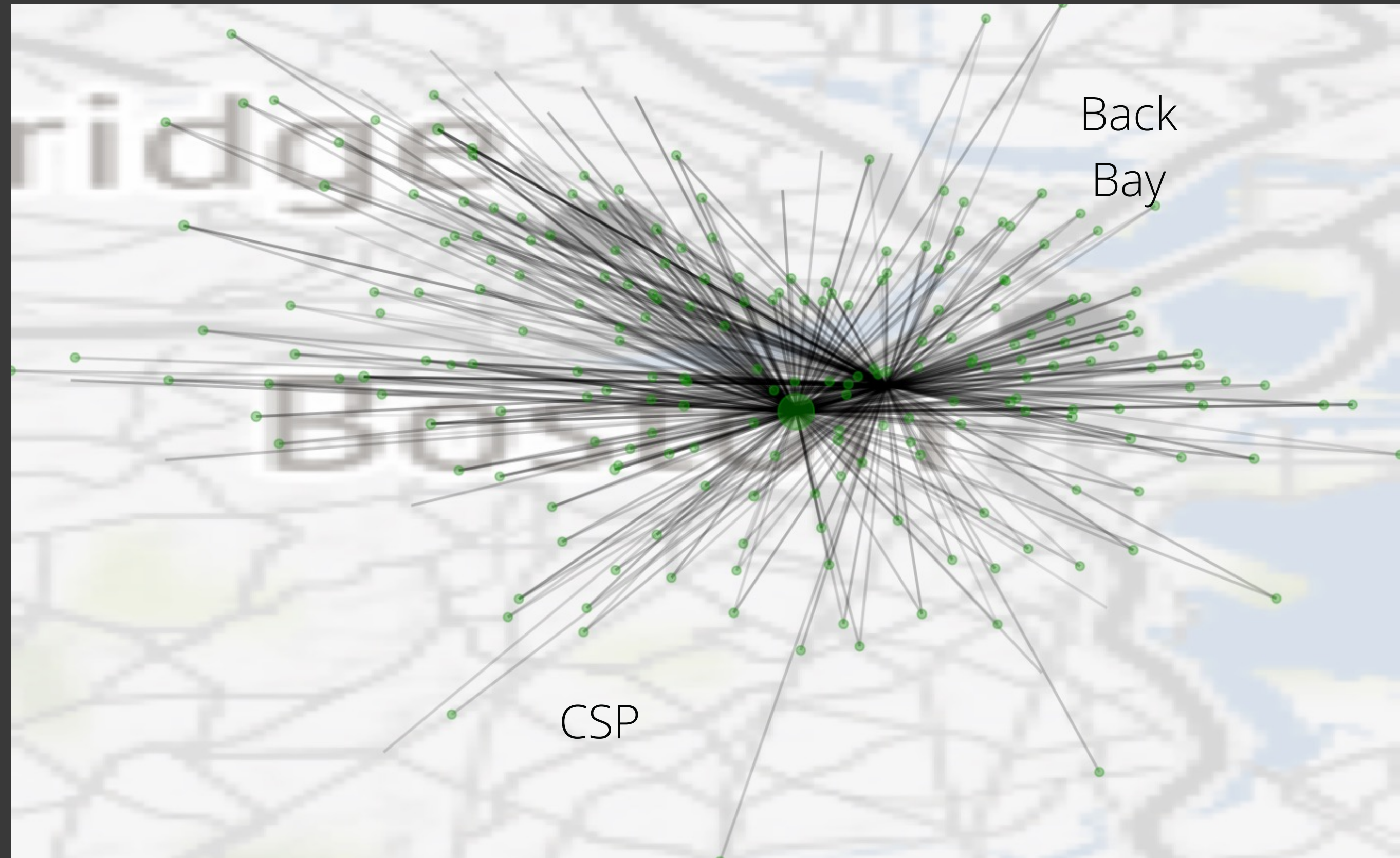
These trends are based on the weather and seasonal changes



Bike Routes Network

The bike stations owned by GoBike are distributed throughout Boston

More than 250 stations are spread across the city



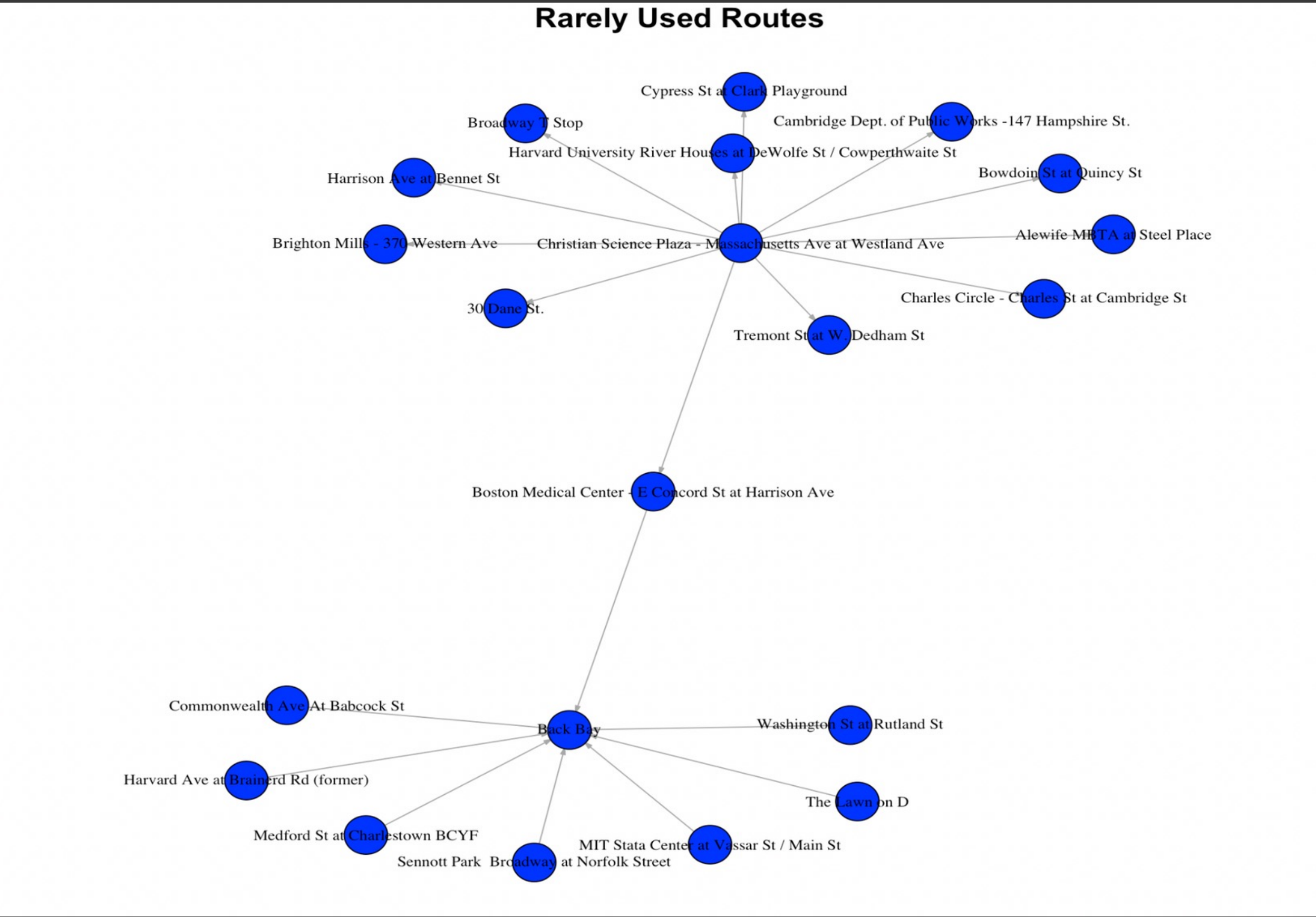
Widely used Routes

Most commonly
used route based
on the number of
people traveling
between these
stations

 More people
Bigger size of the
name

Ames St at Broadway --> Back Bay
699 Mt Auburn St --> Back Bay
Boylston St at Berkeley St --> Back Bay
191 Beacon St --> Back Bay
Honan Library --> Back Bay
175 N Harvard St --> Back Bay
30 Dane St. --> Back Bay
699 Mt Auburn St (former) --> Back Bay
Ames St at Main St --> Back Bay

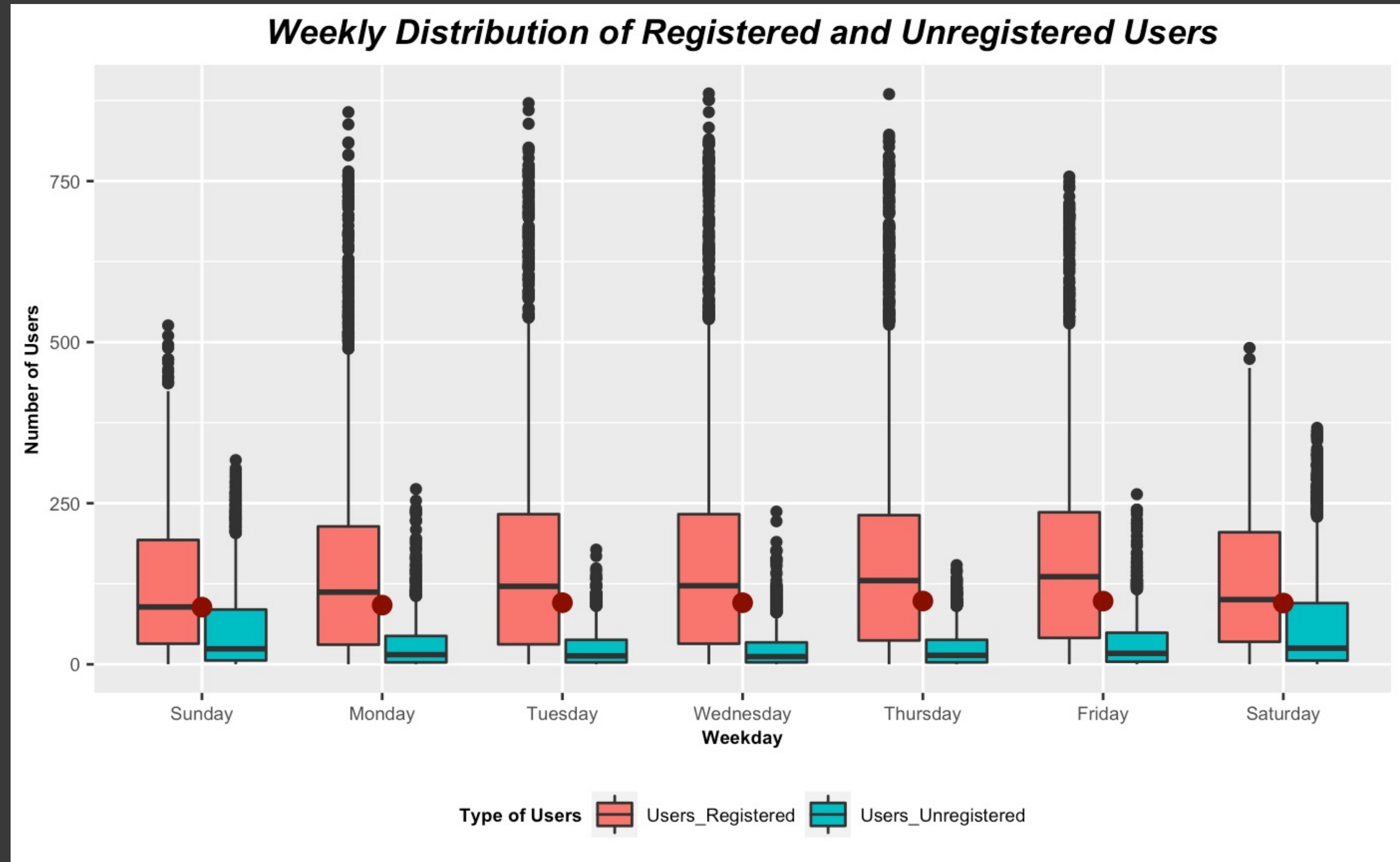
Least Used Routes



Weekday-Wise Usage

Weekdays show a huge number of users and weekends are comparatively slow for business.

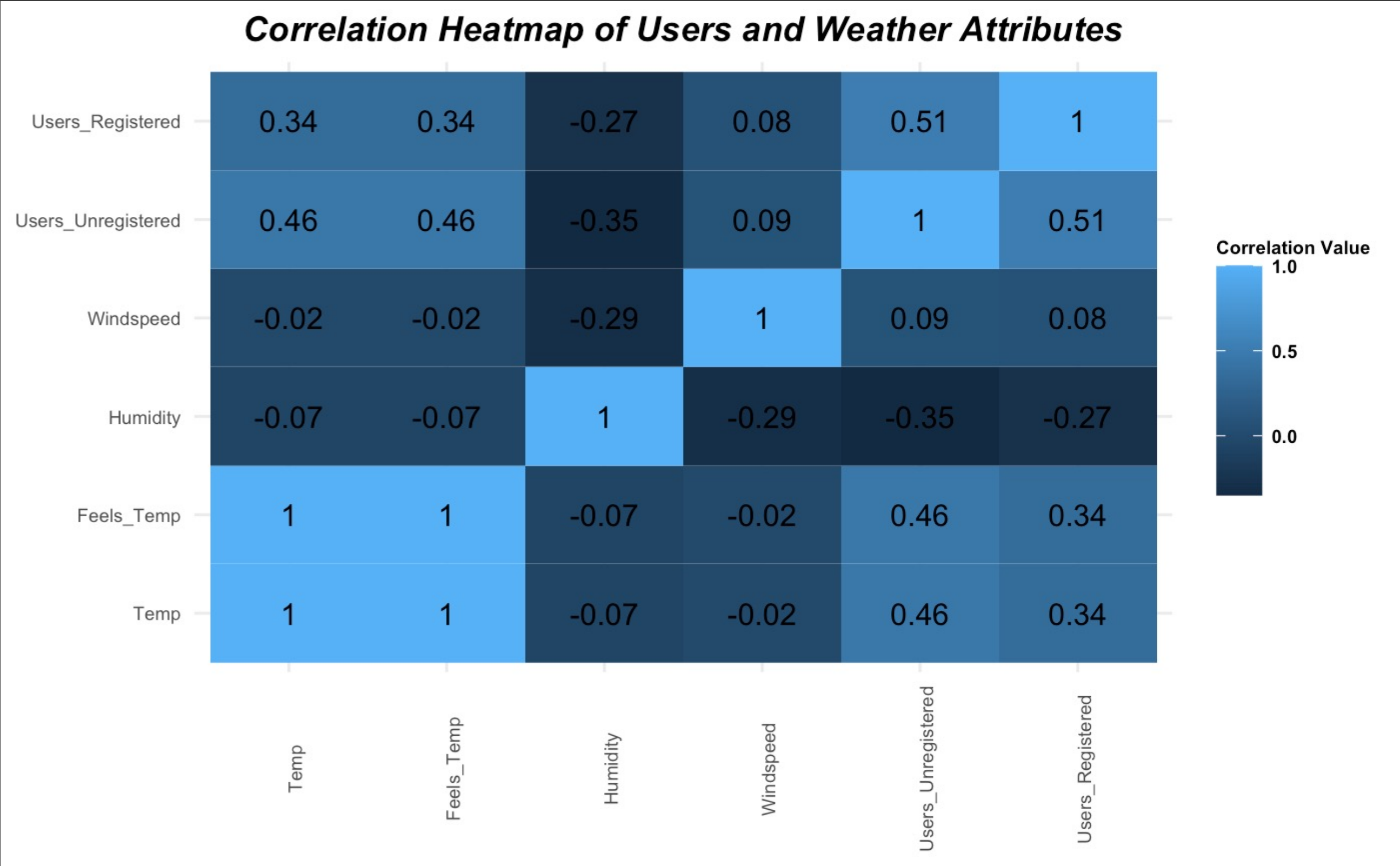
Why do you think there are outliers????



Correlation Heatmap

As we can see, number of users (both registered and unregistered) is positively correlated with the temp.

As the temp goes up, more users tend to go biking.

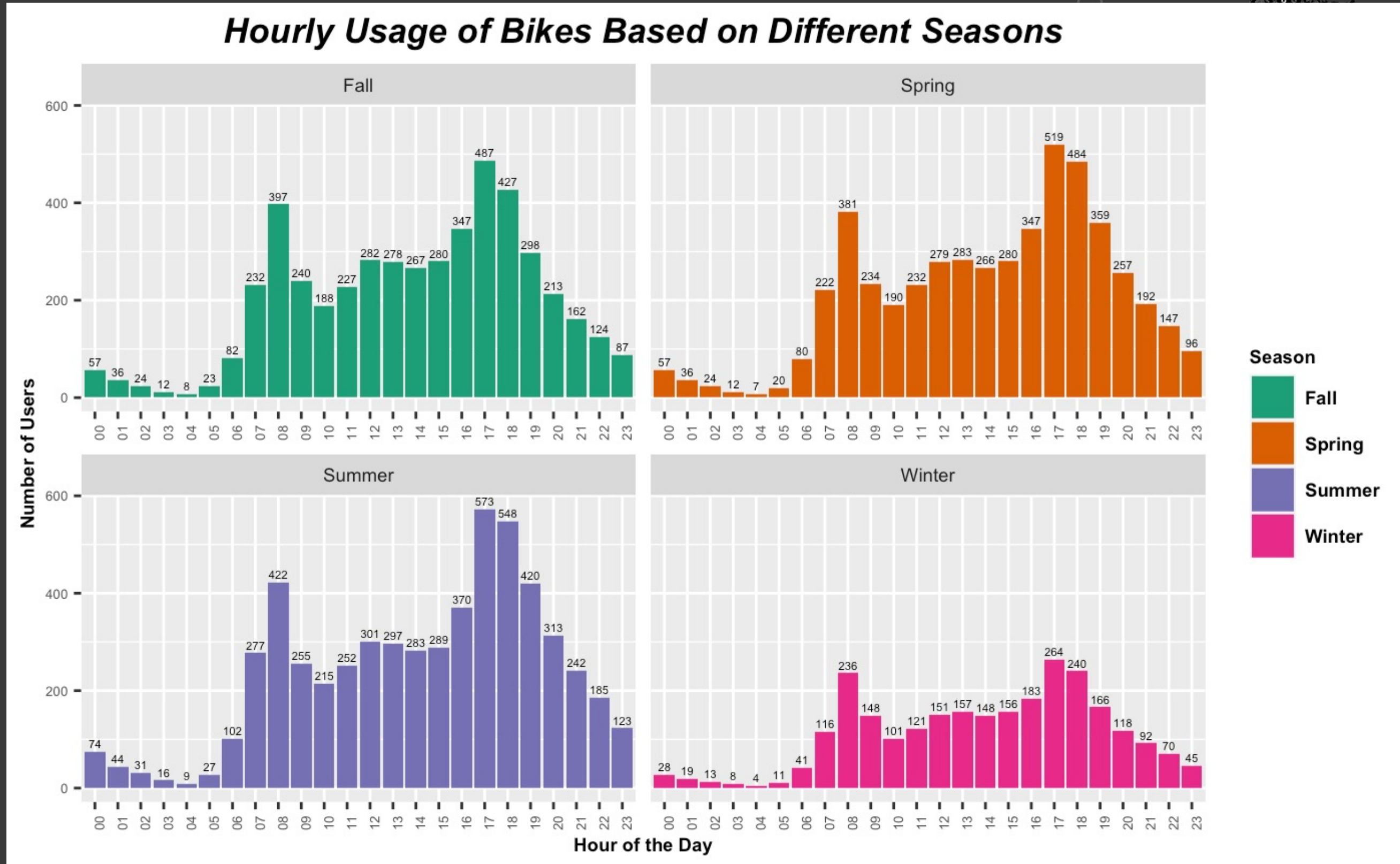


Season wise hourly trends



This plot tells us the total number of users across all stations at different hours of the day.

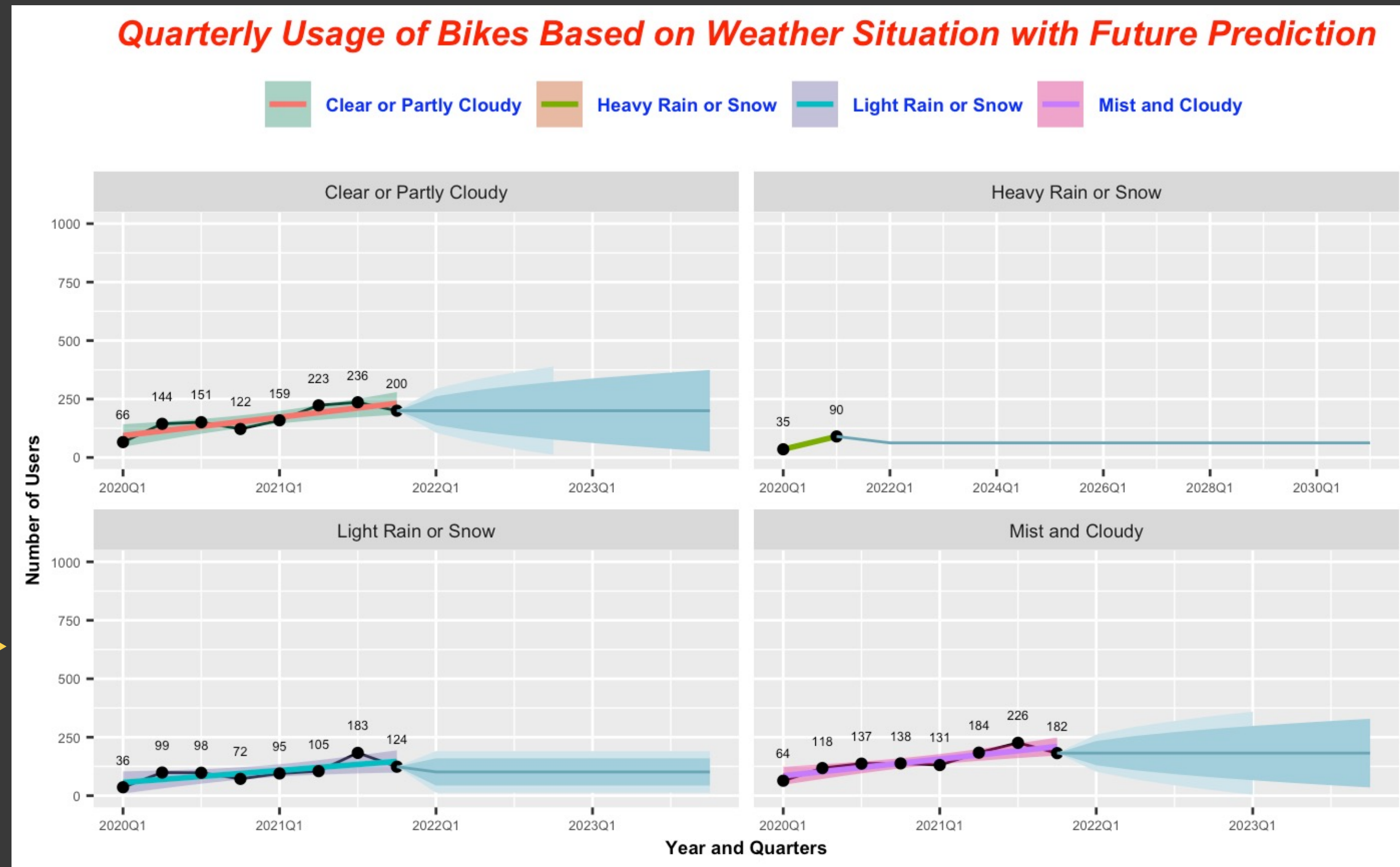
The peaks at 5-7 pm in all seasons is usually because of the users returning from offices and schools/colleges.



Weather Situation and Forecast

Based on analysis of number of users in different weather situations, following weather situations are most favorable for business:

- Clean or partly cloudy
- Mist and cloudy



Conclusion

- YOY Growth of 65%
- Most connected stations: CSP and BackBay
- Best season for business: Summer followed by Spring
- Weekdays are comparatively busier
- Strongly related factors: Temp and No of users
- busiest hours are irrespective of season
- Weather is important. No of users increases in warmer weather



Suggestions for Improvement



Increase Number of bikes at a station from where customers travel to different stations more frequently

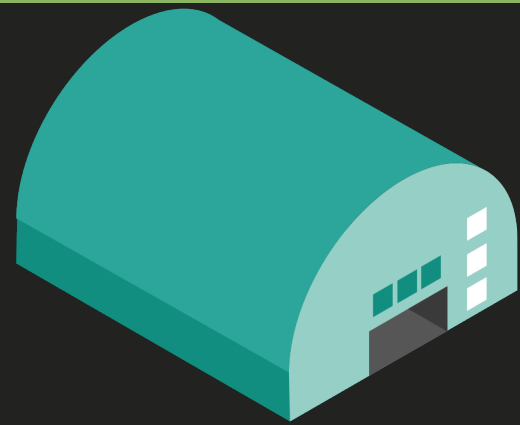


Increase maintenance cycles at sations near sea port



Start rewarding loyal customers on least used routes

Suggestions Continued...



During heavy rains and snow, keep a very limited number of bikes out on stations and perform maintenance at warehouses



Restock the bikes at the stations between 12am to 4am as these are the least busy hours irrespective of seasons

Questions



