



Capital Bike Share Ridership

MAY 2024

MARINA AND THERESA

Project Overview

Capital Bikeshare is a bike-sharing system in Washington, D.C. operating since 2008, that offers single rides, day passes, and annual memberships.

Analysis

- How does seasonal weather impact ridership?
- How do annual members and casual riders differ regarding bike usage?
- Can a pricing strategy increase total users during the winter months?



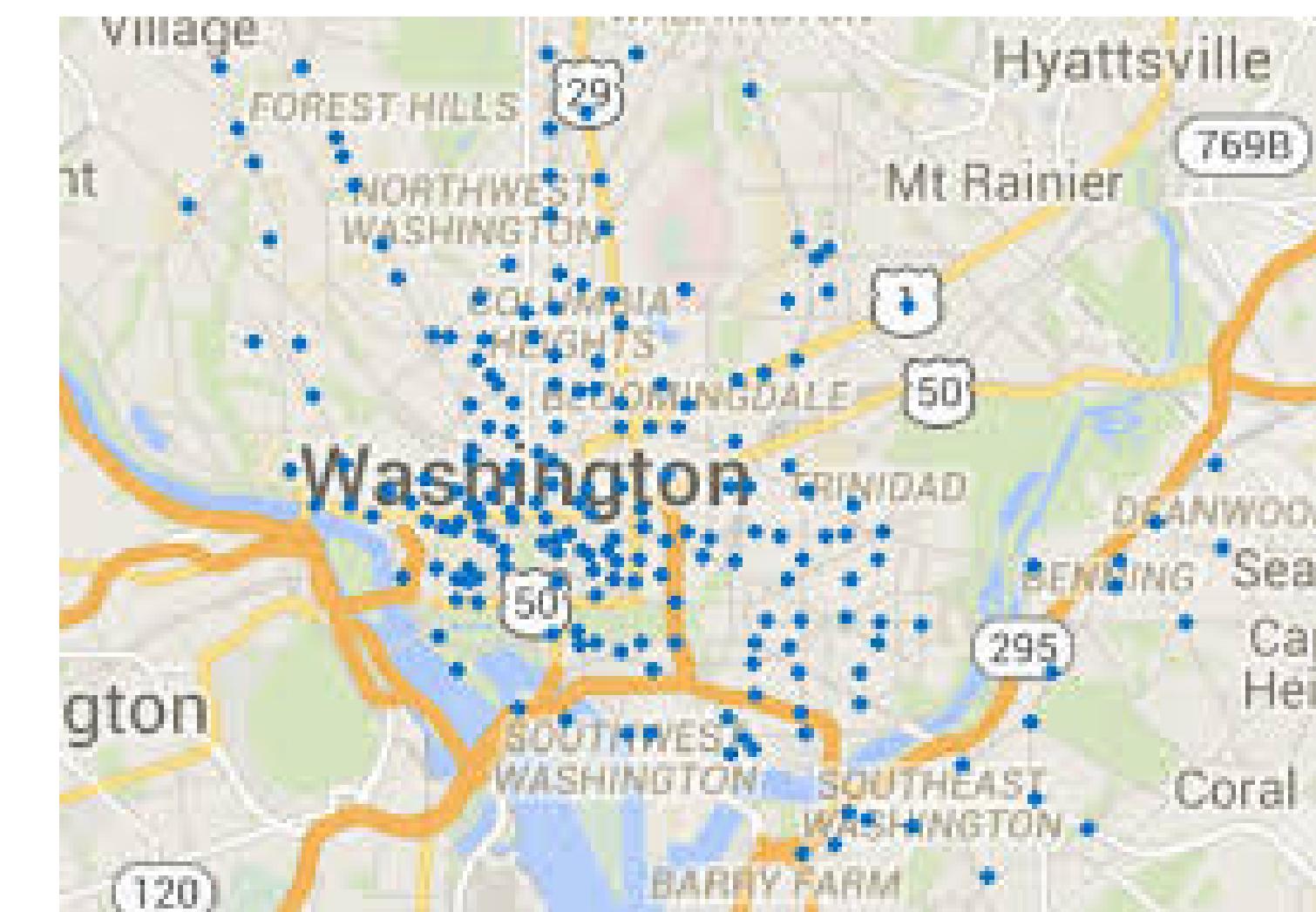
Data Wrangling and Cleaning

Source:

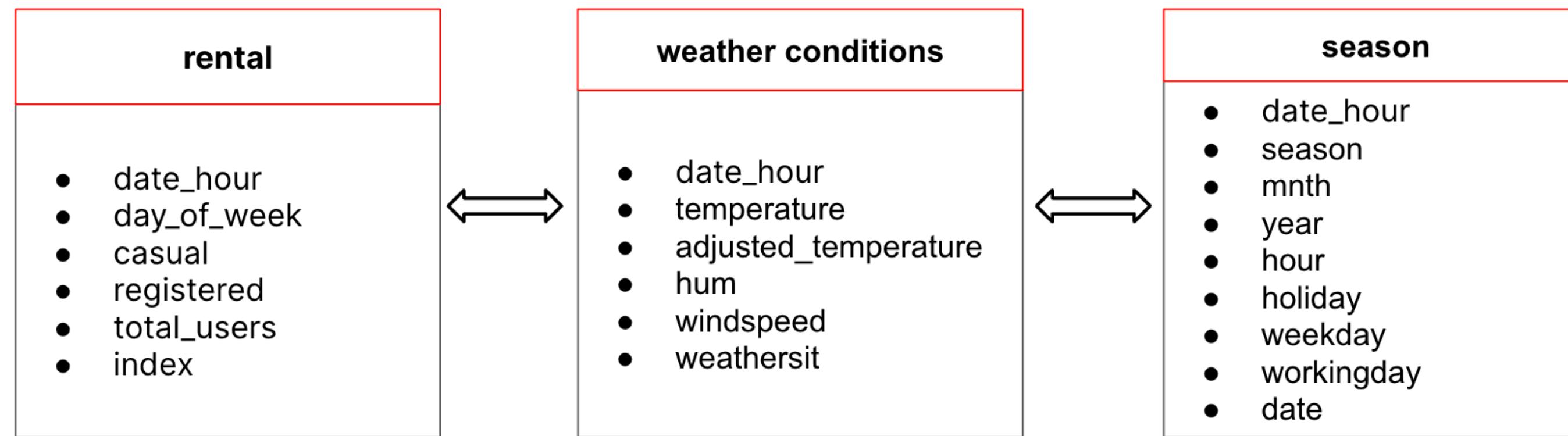
<https://archive.ics.uci.edu/dataset/275/bike+sharing+dataset>

Data from 2011 and 2012 containing information about the use of bikesharing by hour, including weather conditions, holidays and differentiated membership.

- **Method:** Created a jupyter notebook - rename column names, change format for season and year, added new column with days of the week.
- **Technique:** Built-in and custom functions, regex, comprehension, lambda, pivot tables.
Group by, Join, LAG function
- **Modules:** numpy, pandas, plotly, seaborn, mysql.



Entity Relationship Diagram

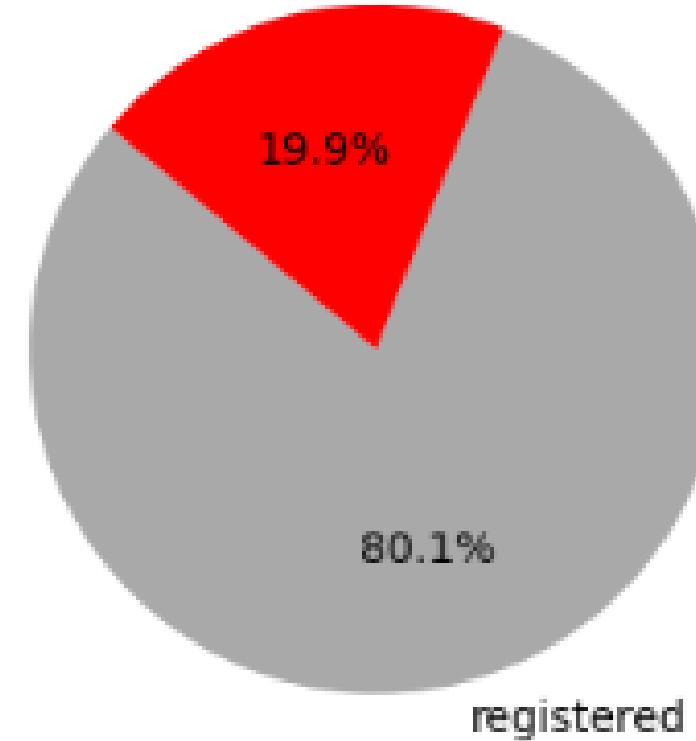


primary key: date_hour

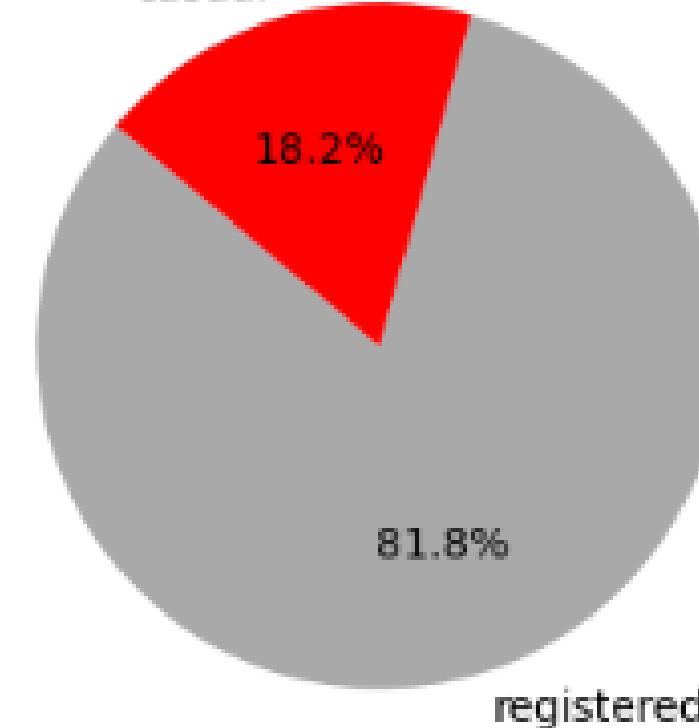


Registered vs casual : 2011 - 2012

Registered vs Casual Users in 2011
casual



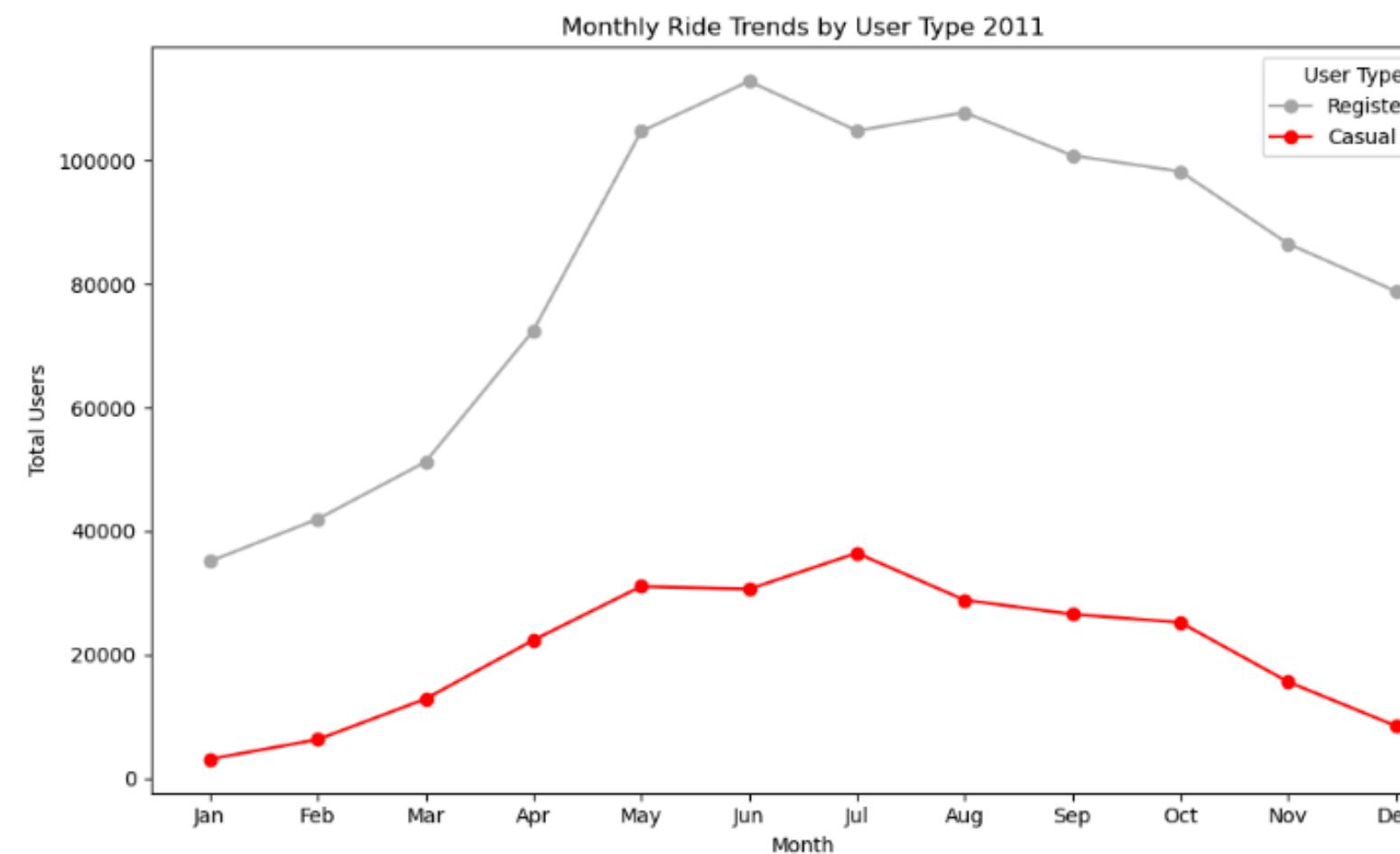
Registered vs Casual Users in 2012
casual



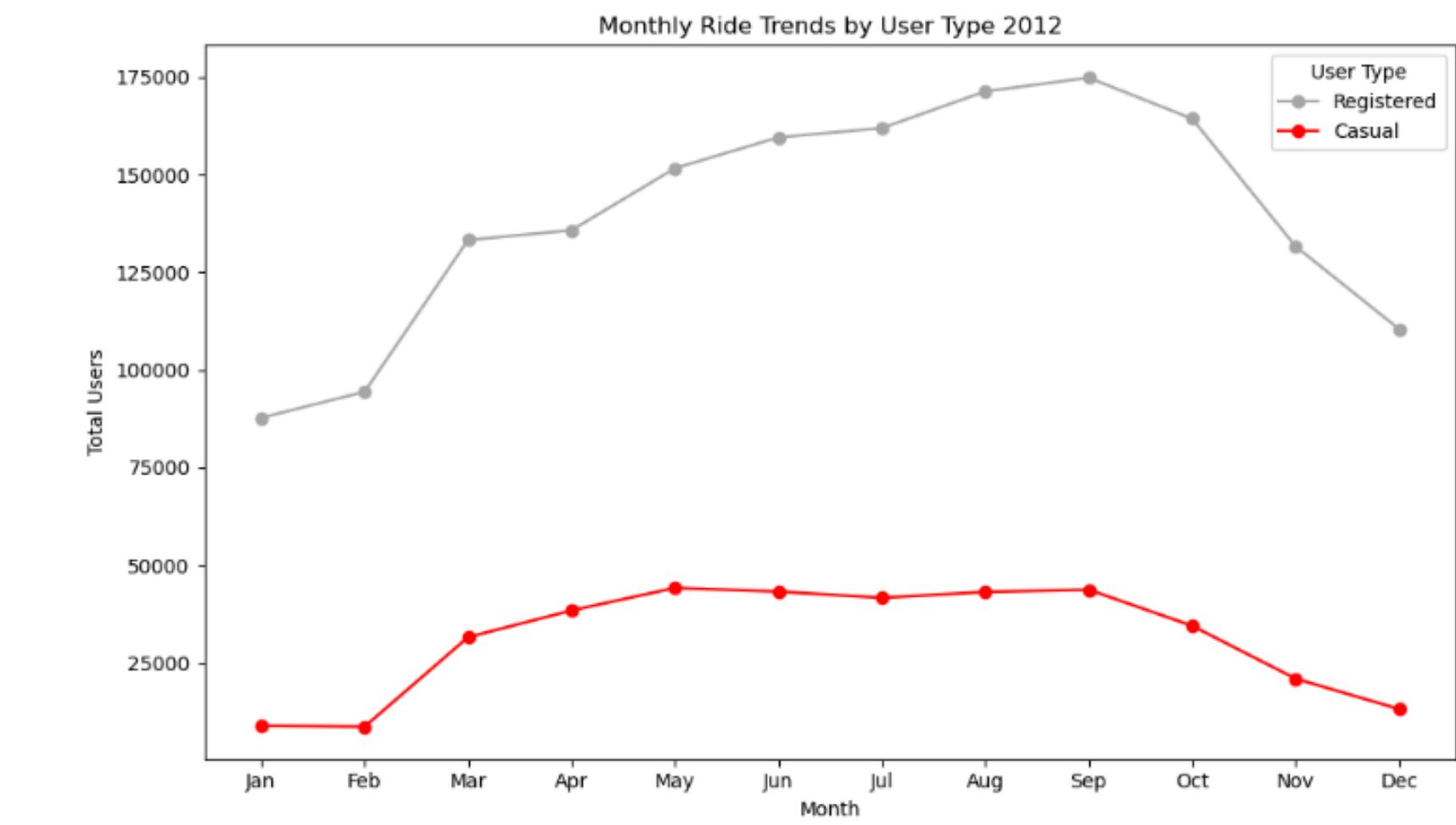
Registered users are increasing between 2011 and 2012



Monthly trends by user type



2011

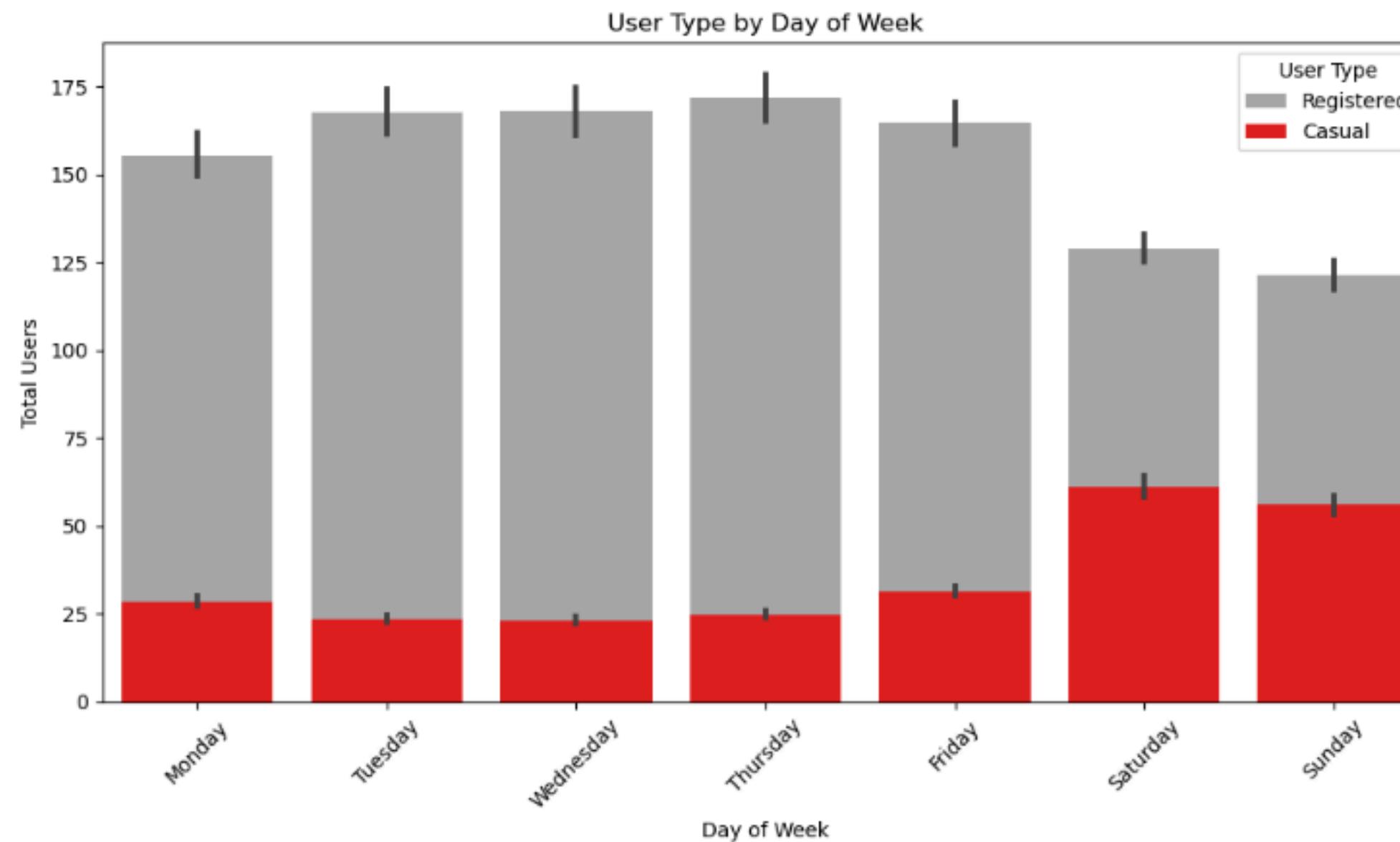


2012

Rides peak in the Summer months, and decline in Winter



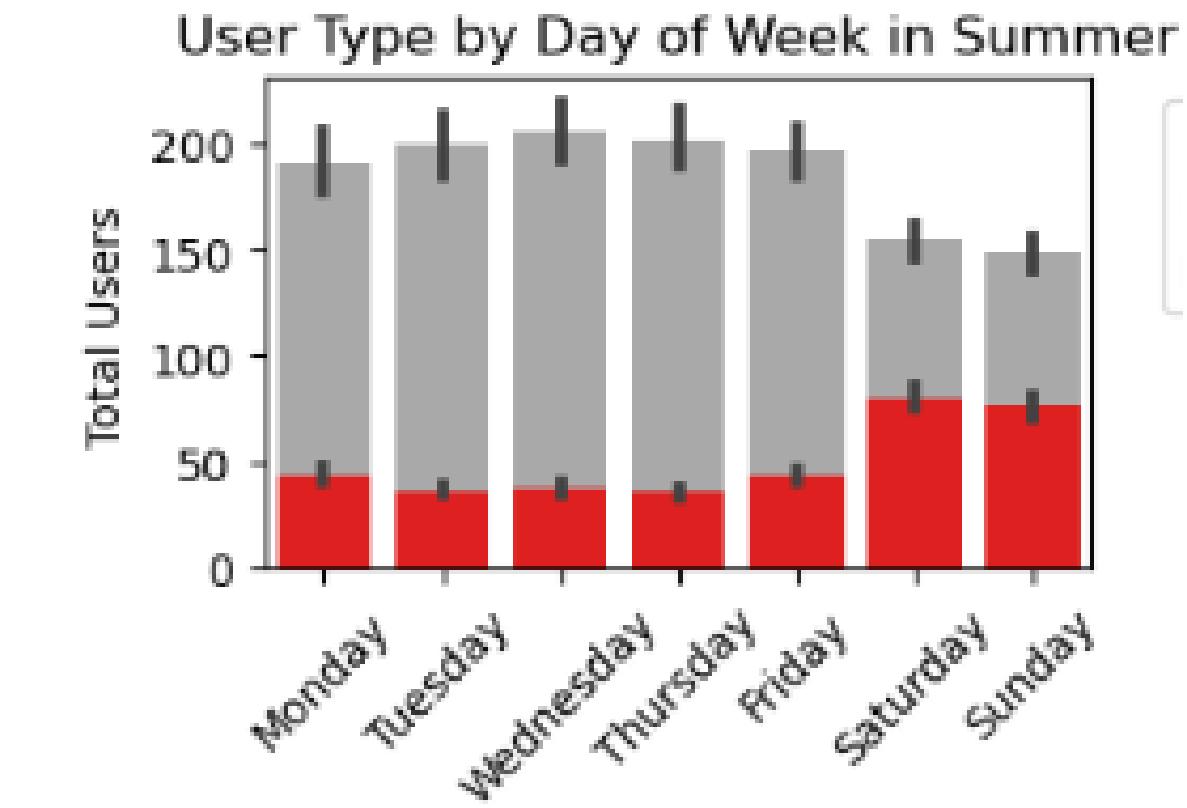
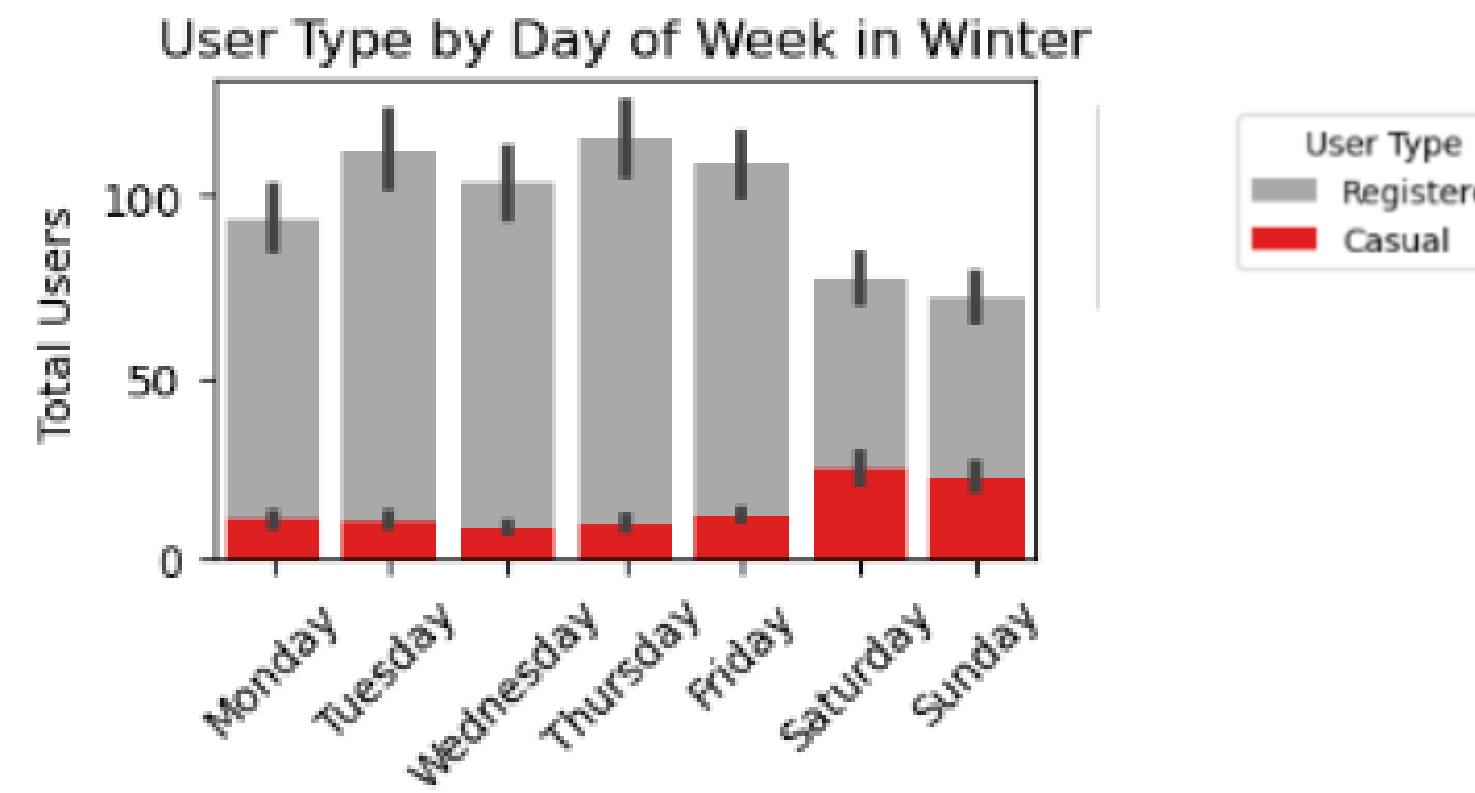
User type by day of the week



Highest ridership between Monday through Friday for commuters



User type by day of the week



Tourists are driving the casual riders in the summer months



Data Summary

Registered Users

Registered users are committed and pay up front for an annual subscription.

Winter Months (Dec - Feb)

There is opportunity for market penetration during the winter months.

Daily Commuters

Billboard marketing in subway stations will attract commuters to use a bike instead.



Pricing Strategy

	<u>Single ride</u>	<u>Day Pass</u>	<u>Capital Bikeshare</u>	
	\$0.05/min	\$8/day	\$95/year	
Bike unlocks	\$1	Free	Free	Free
Classic bike prices	\$.05/min	45 min free, then \$0.05/min	45 min free, then \$0.05/min	45 min free, then \$0.05/min
Ebike prices	\$0.15/min	\$0.10/min	\$0.10/min	\$0.10/min

Santa to Spring Campaign

\$80/year**

Free

45 min free, then
\$0.05/min

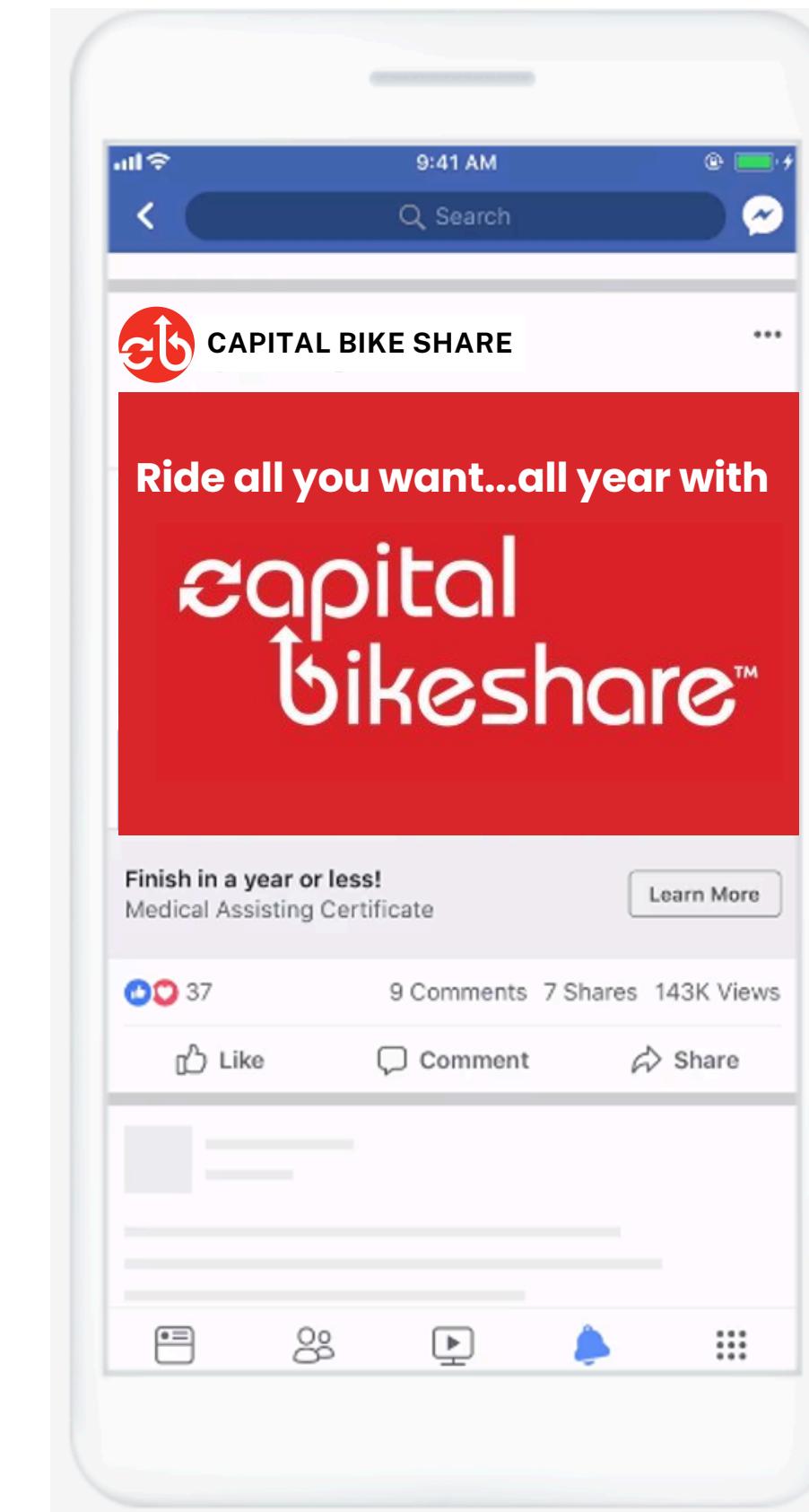
\$0.10/min

**January and
February are free

Focus is on registered users, to sign up for an annual membership in the Winter months



Marketing Strategy



With a daily ridership of 474,000 per day, advertising on the train and on Facebook will convert commuters to bikers



Challenges and biggest mistake:

- Working in two different environments for the first time : understanding how to leverage the functionality of each of them throughout the analysis.
- Limited insights within the data set - missing some relevant information like: duration of the rides or use by location.

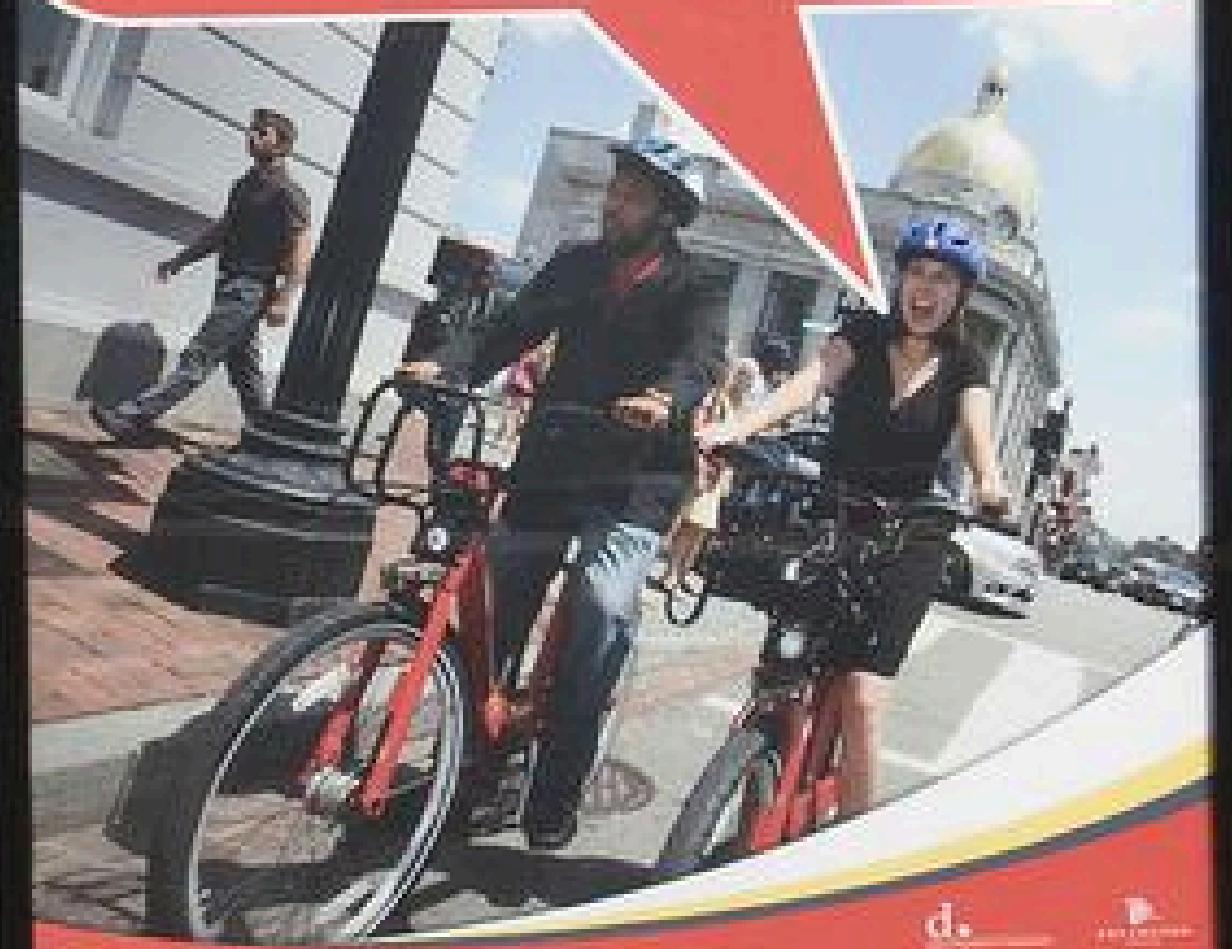


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capital bikeshare®

**Take one
and go!**

57 daily memberships*



www.capitalbikeshare.com

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Thank you!