PROJECT DIVVY

KNOWING WHEN AND WHERE TO CONVERT CASUAL USERS

Executive Summary

Overall, Divvy achieved stable performance in terms of number of ride over the last 12 months

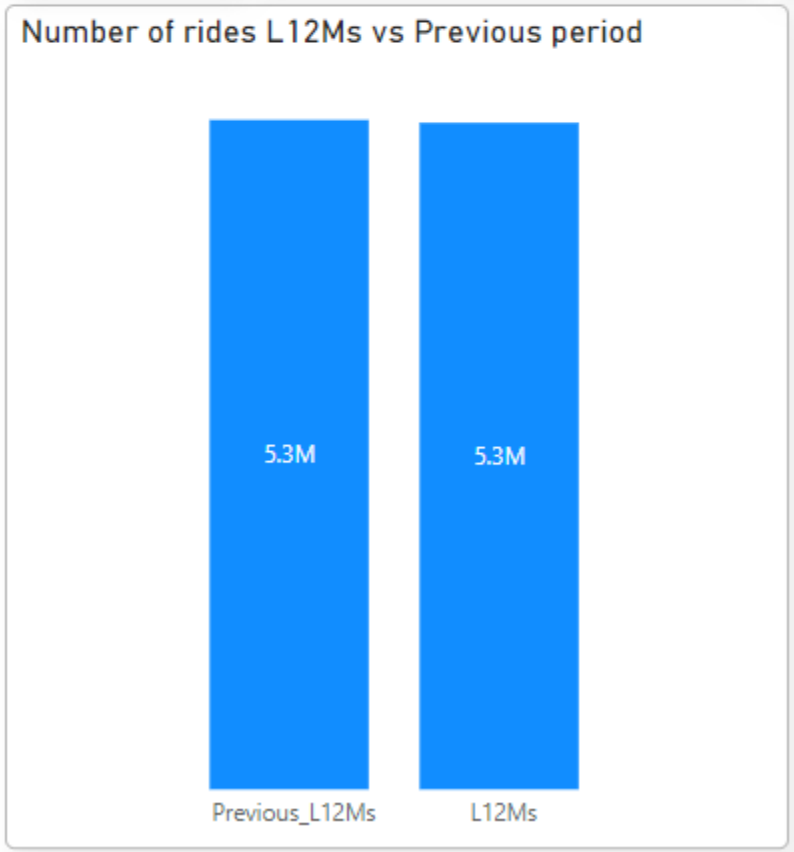
However, electric bike rides, key revenue driver, has seen decline in number of rides and ride length by non-member users (casual users).
Price increase can be seen as a barrier for casual users to take e-bike trips for longer ride and may choose to switch for classic rides.

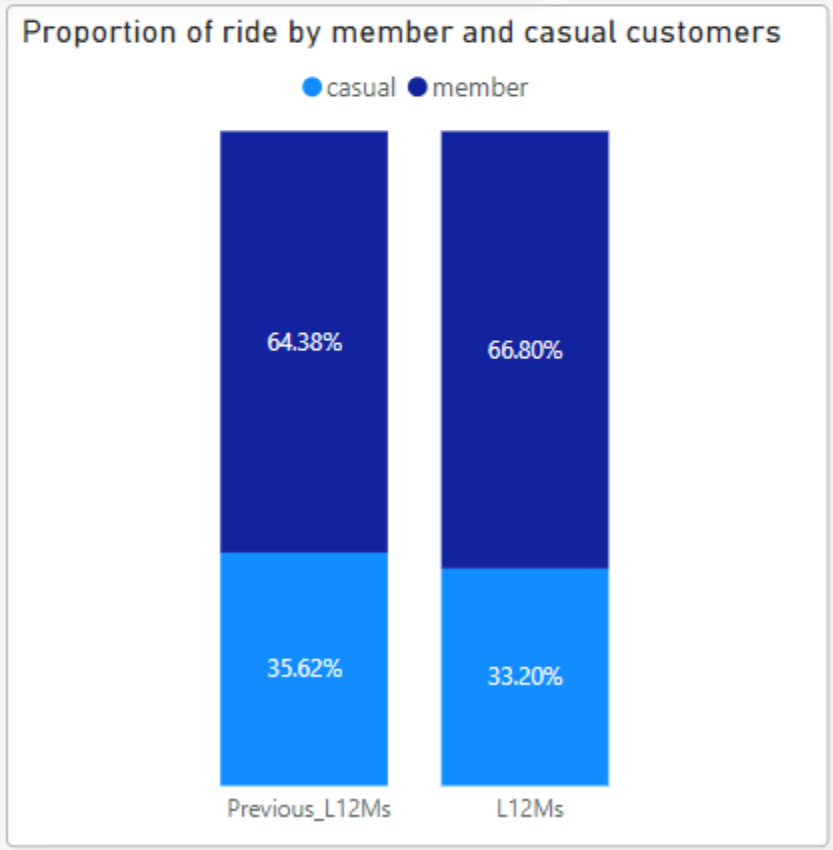
Hence, effective promotion schemes are important to encourage longer rides for casual users.

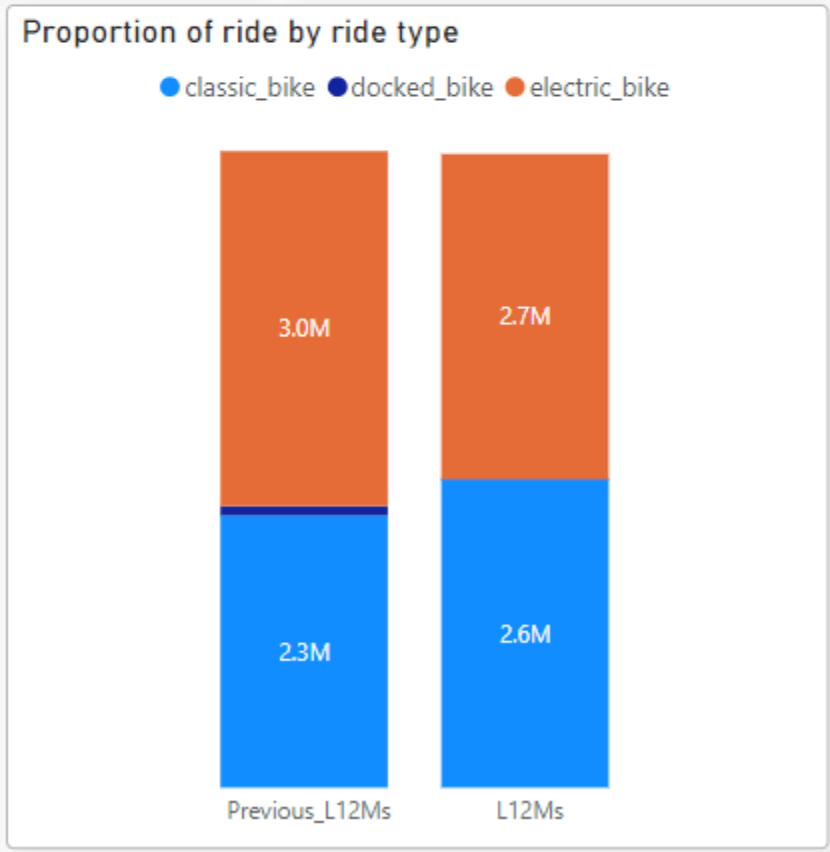
By knowing the right time and right place where casual users want to take bike rides, Divvy can place their promotional campaigns to capture more attentions and convert casual users.

Divvy had **stable performance** over the last 12 months with 5.3 million rides.
Whilst good expansion of 1,000 stations and 16,000 bikes, **the number of e-bike rides had declined 10% over the last 12 months compensating by classic rides.**

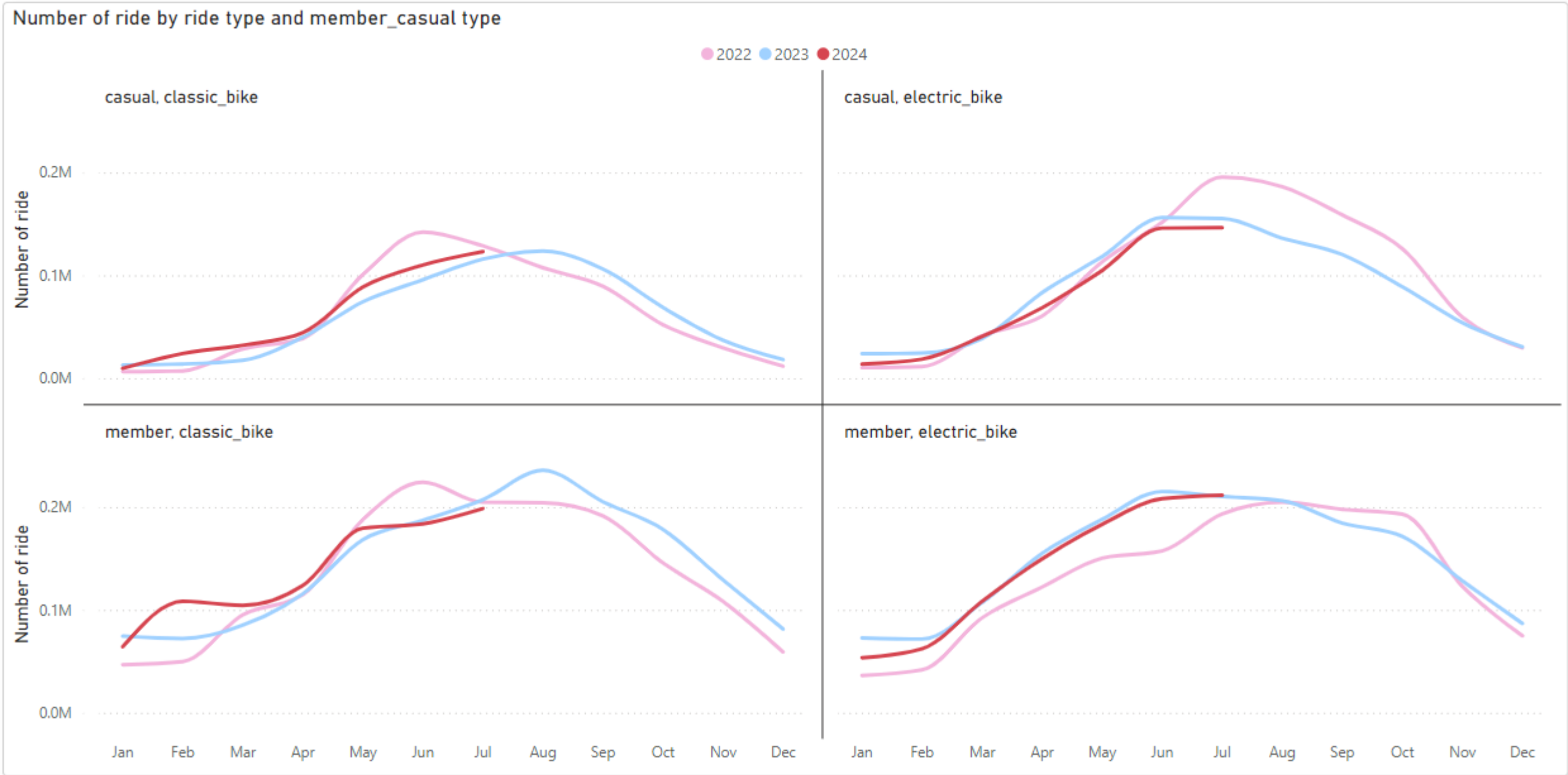
Number of rides L12Ms	Average number of rides per day L12Ms	Number of bikes_Jul'24	Number of stations_ Jul'24
5.31M	14.51K	16K	999





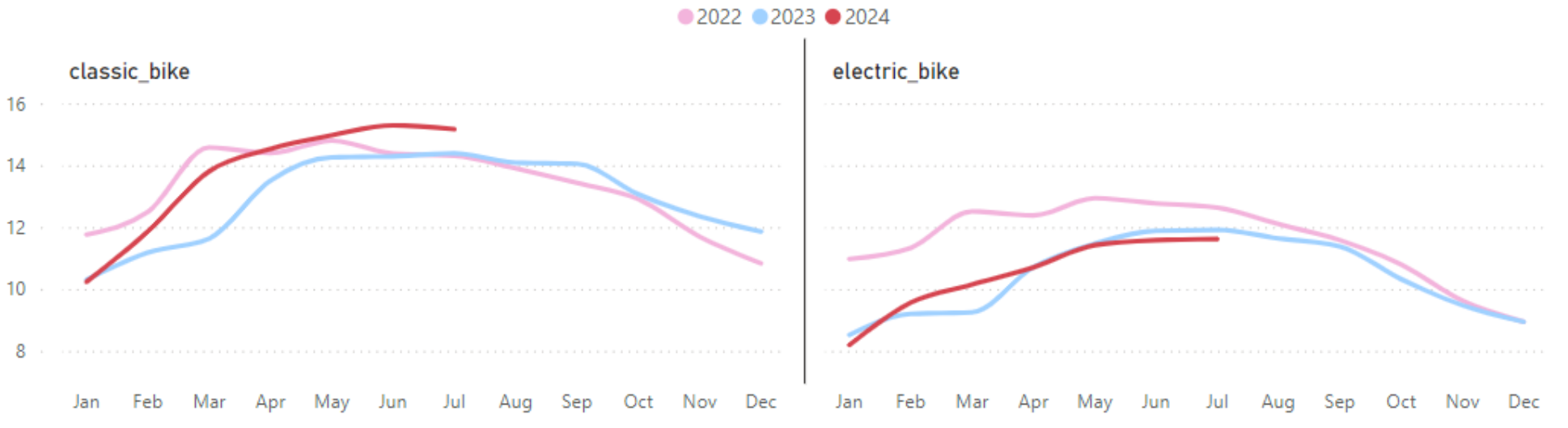


Zooming in, there has been quite **significant decline in the e-bike rides by casual customers** over the last 12 months.
Also, it signals attention that **casual rides has not reached the 2022 peak level** during the high traffic season over last 2 summers of 2023 - 2024.



Considering **length of rides**, casual e-bike rides has seen **strong decline compared to the 2022 level** which can be seen as an effect of price rise.
For a 15-min trip with e-bikes, it costs casual customers **20% more on single ride ticket**, and **37% more on a day pass** which hinder longer e-bike trips for non-members.

Average trip length of casual customer by ride type over year

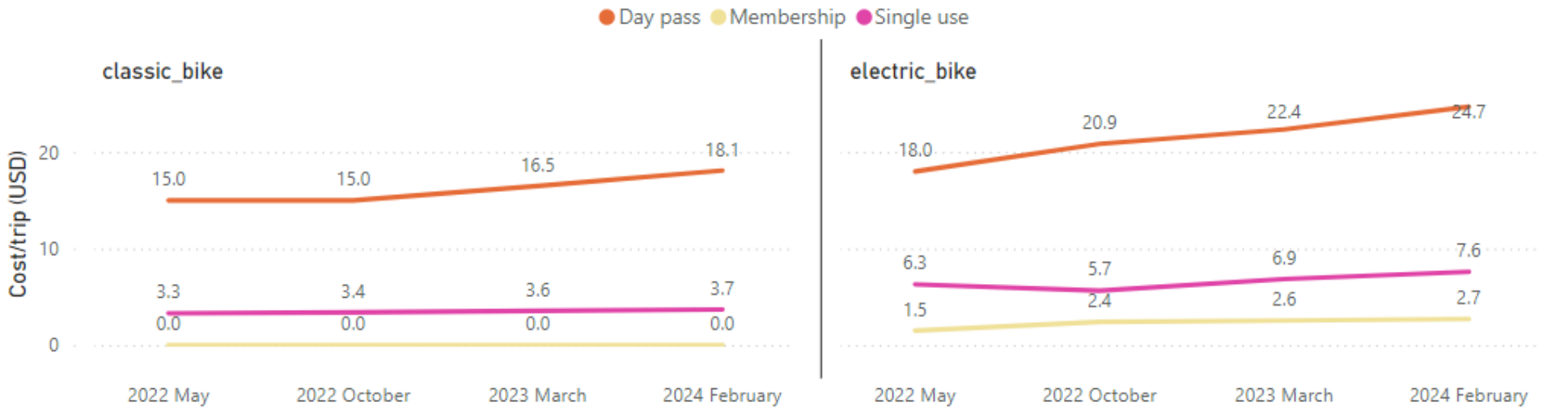


member_casual
- casual
- member

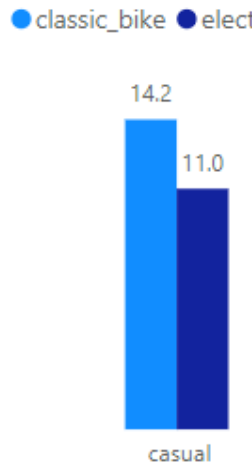
Fixed fee charged by membership type

member_casual	Year	Average of Fee
Membership	2022	114.00
Membership	2023	130.00
Membership	2024	143.00

Cost/ride for each 15 mins trip

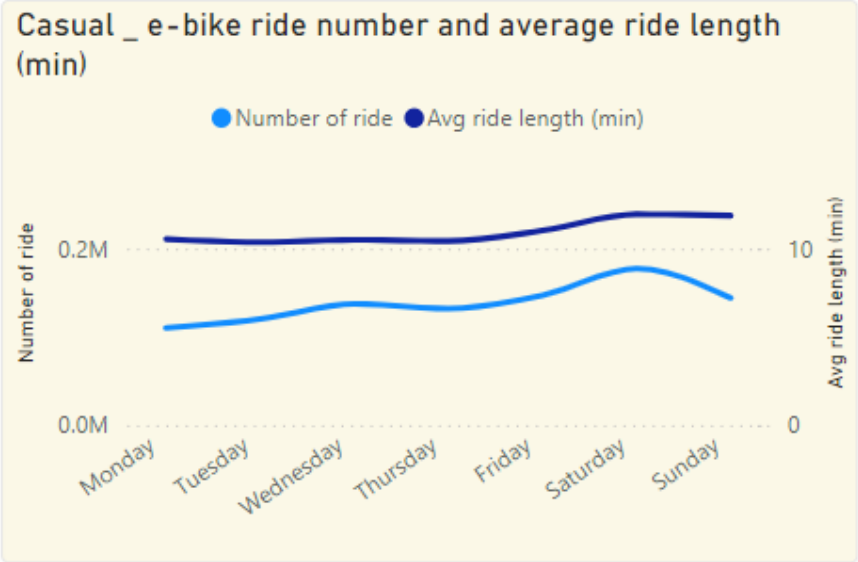


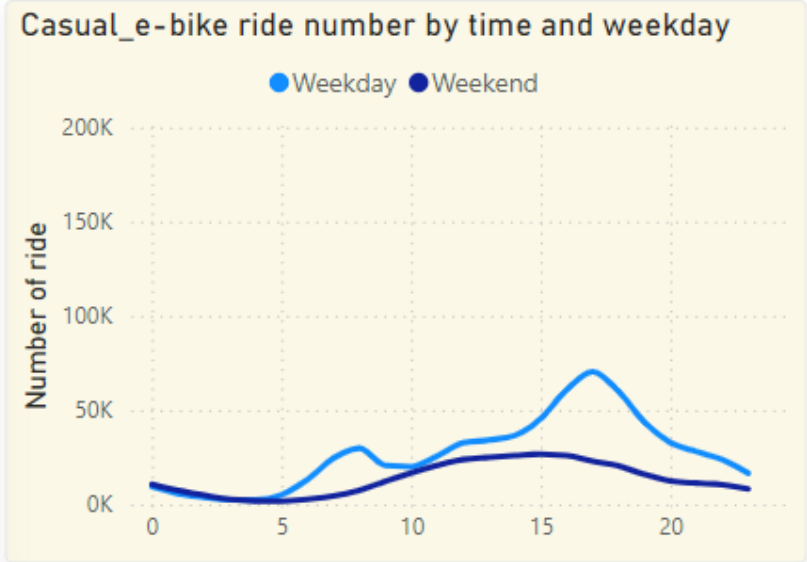
Average trip length (mins) by member and ride type

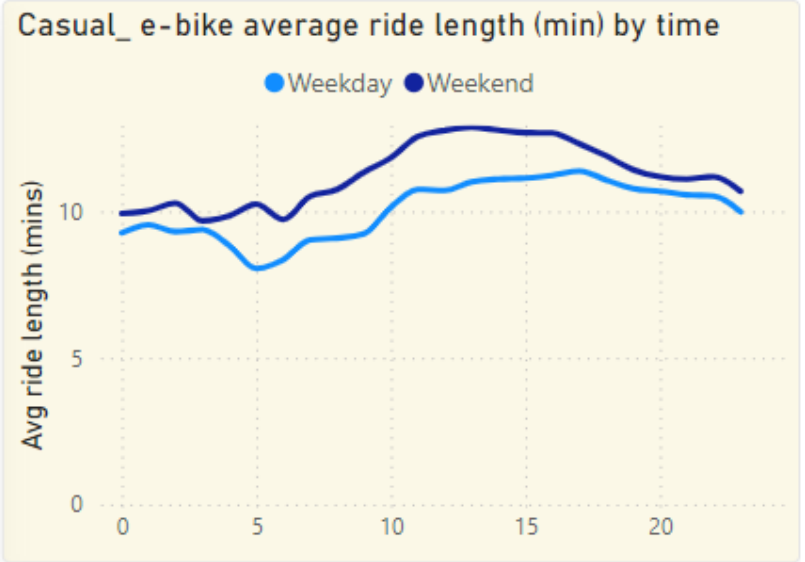


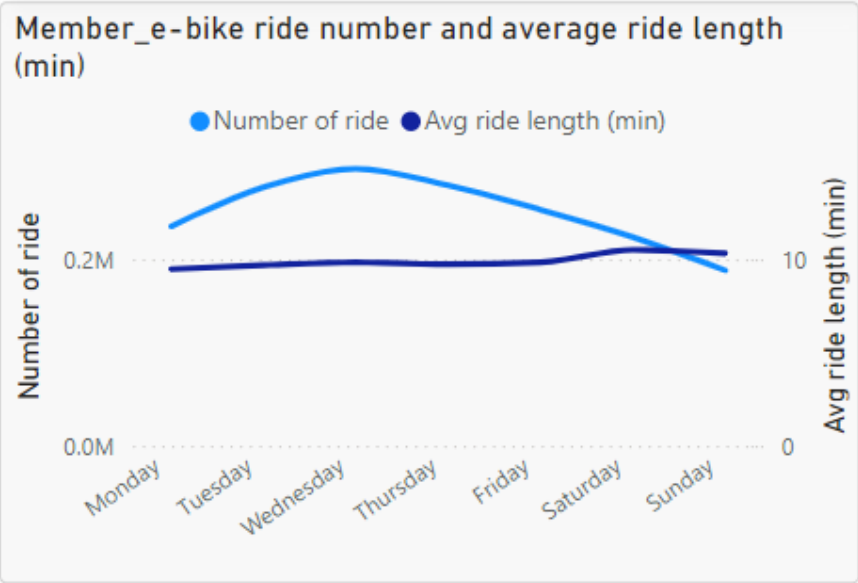
While members use the service mostly during weekday for their commute, casual customers show the exploratory interest in which they often take weekend rides.

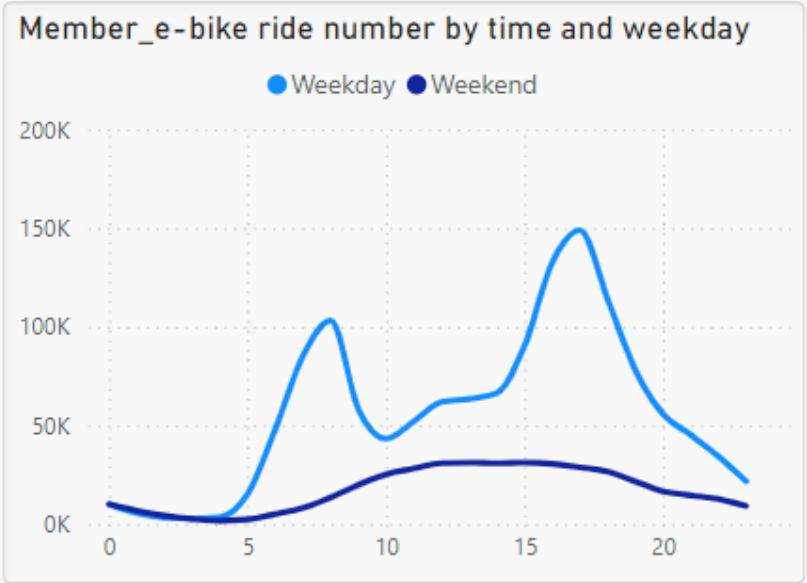
7-9AM & 4-6PM during weekday and **11AM-6PM during weekend are the good promotional time zone** to encourage casual customers to take more e-bike trips.

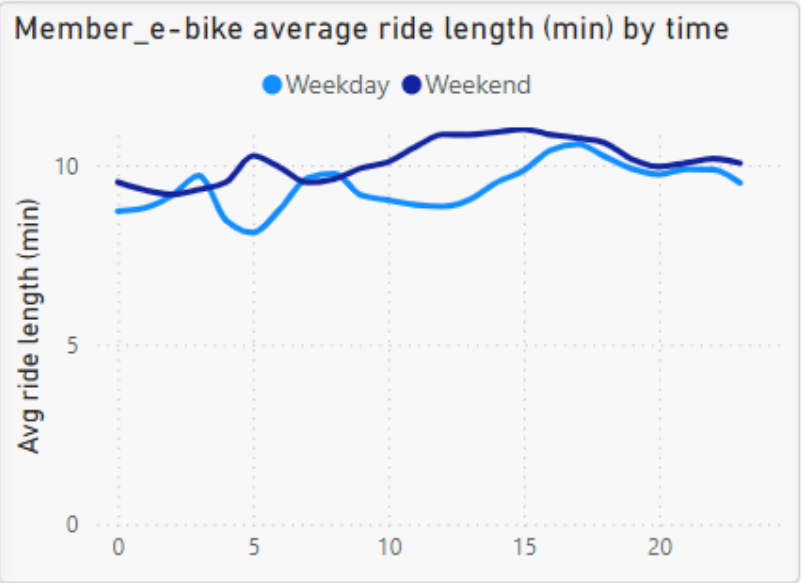












For effective promotion campaigns to convert casual customers, knowing where these casual customers get on and off the bikes is crucial.
During weekday, **7AM-9AM time zone in West Loop, River North, Lake View, and Lincoln Park** are the focus.
For weekend, **Lake View and Lincoln Park are the key areas for promotional activities during 11AM - 3PM**

Day of week

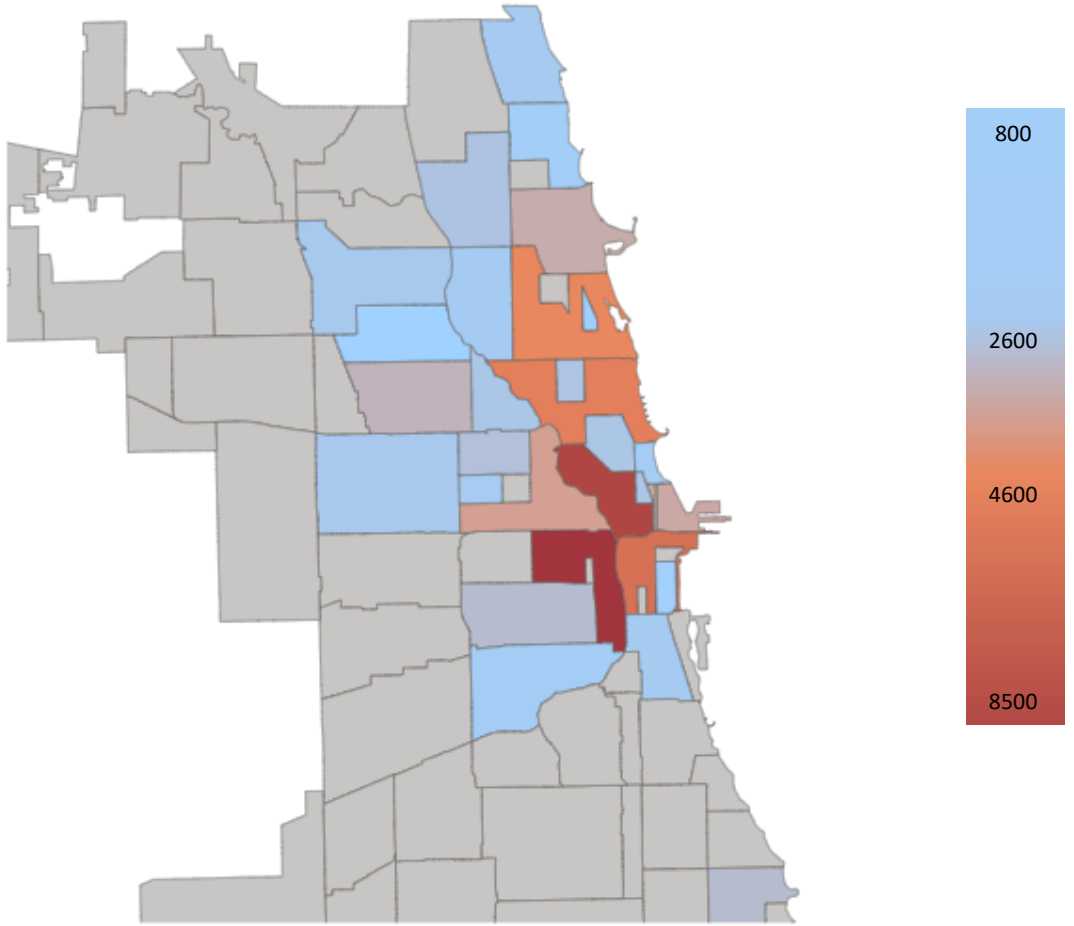
Monday | Tuesday | Wednesday | Thursday | Friday | Saturday | Sunday

Time
time_hr
7 9

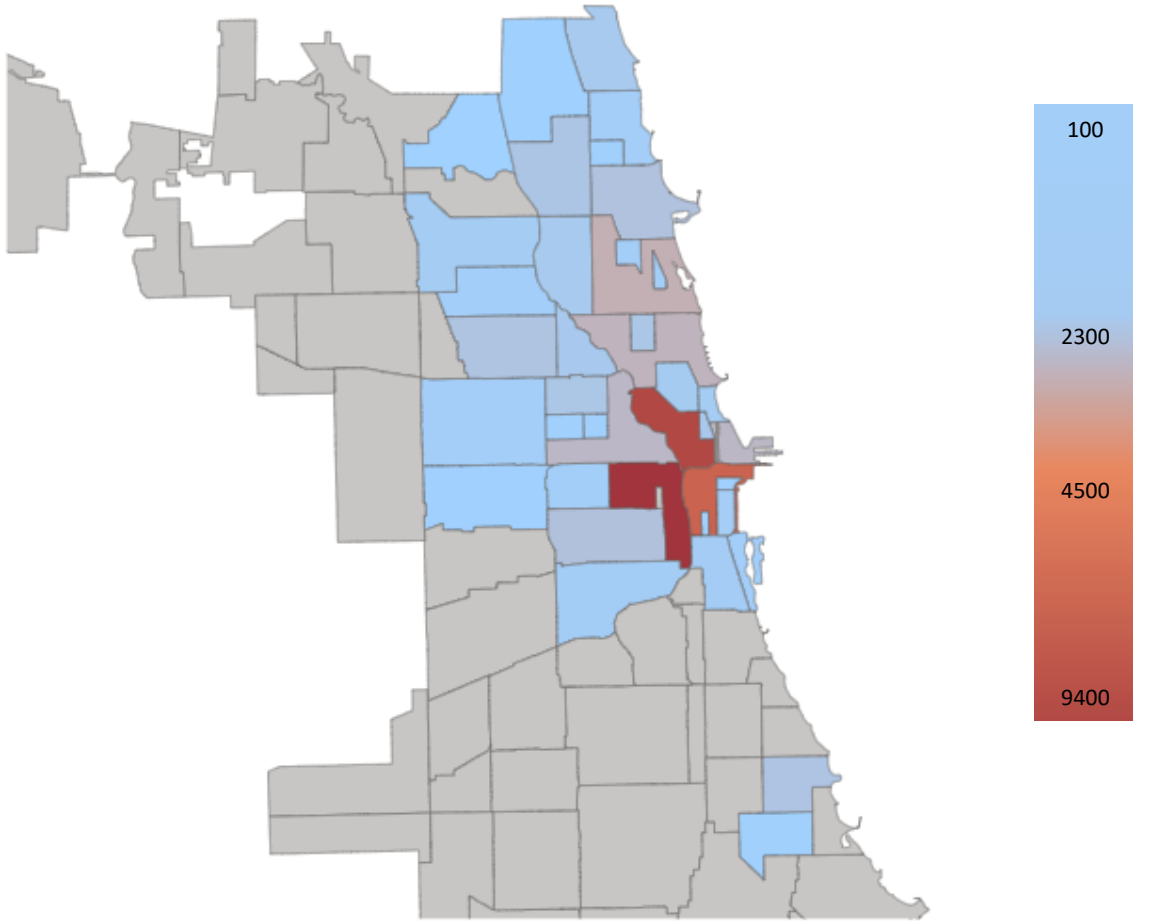
member_casual
- casual
- member

rideable_type
- classic_bike
- electric_bike

Start _Most popular areas (50% of rides)



End locations_corresponding with start locations



For effective promotion campaigns to convert casual customers, knowing where these casual customers get on and off the bikes is crucial.
During weekday, **7AM-9AM time zone in West Loop, River North, Lake View, and Lincoln Park** are the focus.
For weekend, **Lake View and Lincoln Park are the key areas for promotional activities during 11AM - 3PM**

Day of week

Monday | Tuesday | Wednesday | Thursday | Friday | Saturday | Sunday

Time

time_hr

11 15

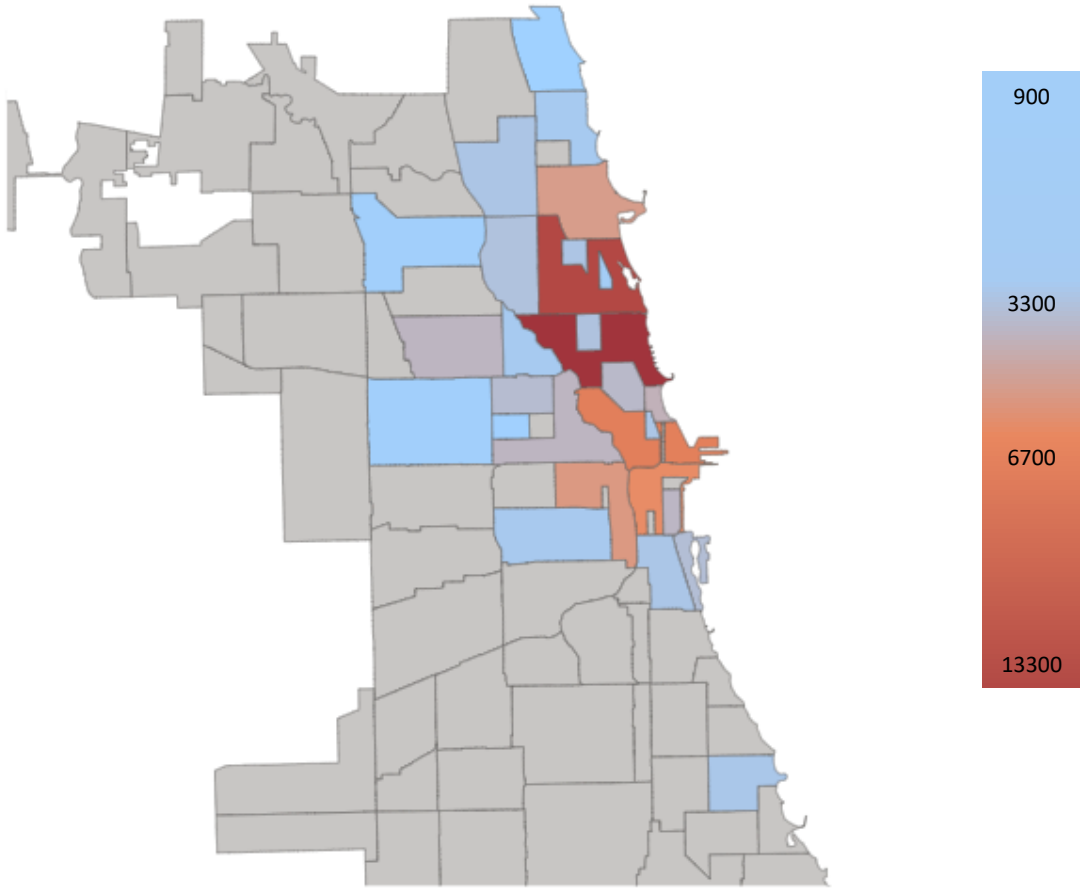
member_casual

- casual
- member

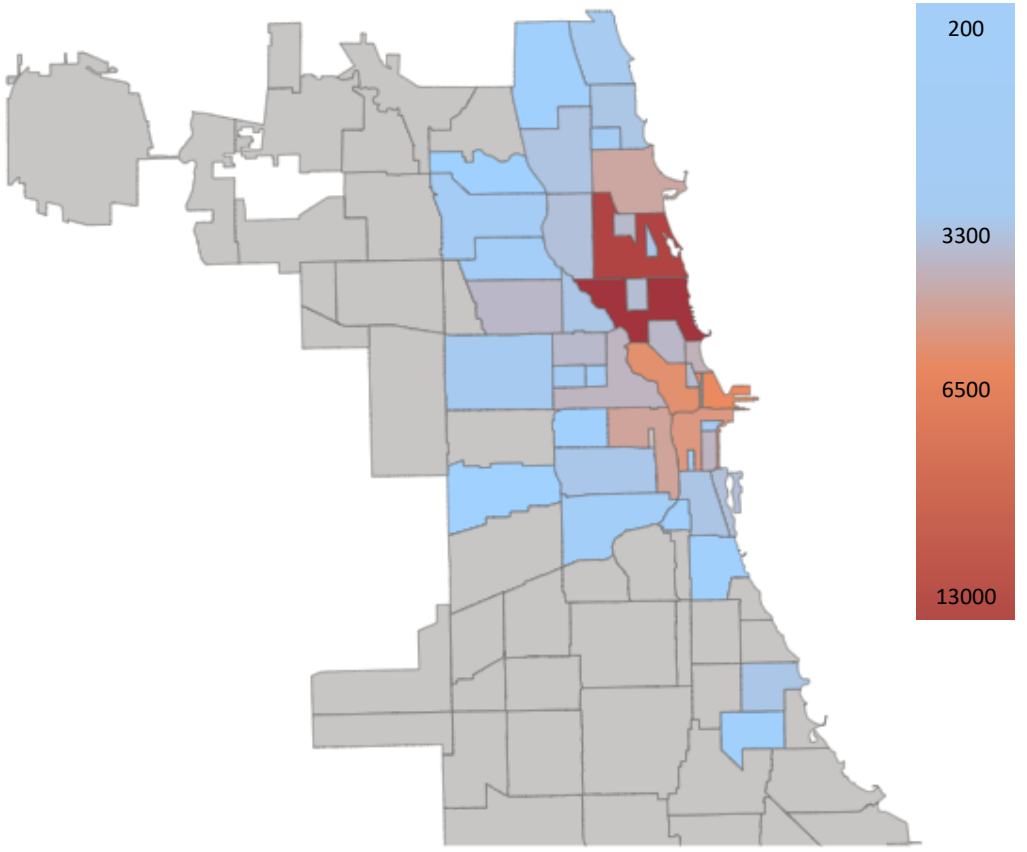
rideable_type

- classic_bike
- electric_bike

Start _Most popular areas (50% of rides)



End locations_corresponding with start locations



THE END

Divvy price data

Timeline	Ridable_type	member_casual	Fee	Extra min	15 min trip charge	30 min trip charge	10 min trip charge
May-22	classic_bike	Day pass	15	0.2	15	15	15
May-22	classic_bike	Membership	109.00	0.10	0	0	0
May-22	classic_bike	Single use	3.3	0.15	3.3	3.3	3.3
May-22	electric_bike	Day pass	15	0.2	18	21	17
May-22	electric_bike	Membership	109.00	0.10	1.5	3	1
May-22	electric_bike	Single use	3.3	0.2	6.3	9.3	5.3
Oct-22	classic_bike	Day pass	15	0.39	15	15	15
Oct-22	classic_bike	Membership	119.00	0.16	0	0	0
Oct-22	classic_bike	Single use	1	0.16	3.4	5.8	2.6
Oct-22	electric_bike	Day pass	15	0.39	20.85	26.7	18.9
Oct-22	electric_bike	Membership	119.00	0.16	2.4	4.8	1.6
Oct-22	electric_bike	Single use	1	0.31	5.65	10.3	4.1
Mar-23	classic_bike	Day pass	16.5	0.39	16.5	16.5	16.5
Mar-23	classic_bike	Membership	130.00	0.17	0	0	0
Mar-23	classic_bike	Single use	1	0.17	3.55	6.1	2.7
Mar-23	electric_bike	Day pass	16.5	0.39	22.35	28.2	20.4
Mar-23	electric_bike	Membership	130.00	0.17	2.55	5.1	1.7
Mar-23	electric_bike	Single use	1	0.39	6.85	12.7	4.9
Feb-24	classic_bike	Day pass	18.1	0.18	18.1	18.1	18.1
Feb-24	classic_bike	Membership	143.00	0.18	0	0	0
Feb-24	classic_bike	Single use	1	0.18	3.7	6.4	2.8
Feb-24	electric_bike	Day pass	18.1	0.44	24.7	31.3	22.5
Feb-24	electric_bike	Membership	143.00	0.18	2.7	5.4	1.8
Feb-24	electric_bike	Single use	1	0.44	7.6	14.2	5.4

About project:

This is an end-to-end data analysis portfolio project:

- Data set: The dataset is collected via the public bike rides data from Divvy website, together with other datasets of geographic areas and bike stations from open data portal of The City of Chicago
- Analysis process:
  - Data collection
  - Data cleaning
  - Data exploratory
  - Data visualization
  - Insights presentation

For detailed notebook on the project, please visit my Github repositories via this link

About me:

My name is Tam Lai (aka Stacy). I currently pivoting into data analytics fields. Graduated with a Bachelor degree in International Economics Business, I had more than 3 years working in variety industries of international trade advisory, retail intelligence, and finance industry where I have the chance to sharpen my business acumen and data analysis skills through multiple real business challenges.

With all these experiences, it has always dawn on me the importance of making informed business decisions whether for advising clients or changing internal processes. I find it fascinating that data is all everywhere and if used correctly, it produces so much meaningful insights that can be transformed into actions.

On the quest of learning deeper about data analysis, I have built my own portfolio projects focusing on using Python, SQL, and Power BI to make use of the great power of data. These projects are uploaded here on my Github repositories here.