

Google Data Analytics Capstone Project

Cyclistic bike-share analysis case study:

How Does a Bike-Share Navigate Speedy Success?

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Context and Approach

About the company

Cyclistic, a bike-share company in Chicago, offers a bike-share program that features more than 5,800 bicycles and 600 docking stations. Cyclistic offers two types of bikes: classic bikes and electric bikes and the bikes can be unlocked from one station and returned to any other stations in the system anytime.

Business task

Identify trends between annual and casual members in order to tailor bespoke marketing strategies aimed to convert casual riders into annual riders.

Dataset and tools used

Monthly csv files containing more than 5 million ride data during the period of 2021 October - 2022 September.

Data was cleaned and summarized in R before it was exported to Tableau for visualization and reporting.

Assumptions

Although there were two types of bikes (electric and classic) offered by the company, there were three types of bikes in the dataset: electric, classic and docked bikes.

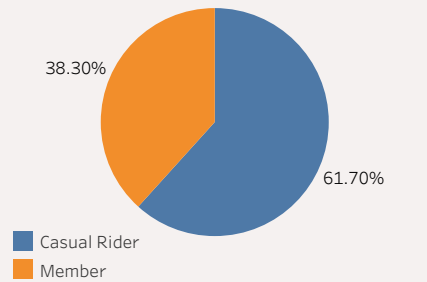
For the purpose of this analysis, these were the 2 key assumptions that I took when approaching the analysis:

- Bikes can be rented through a mobile application or directly at the docking stations.
- Docked bikes are assumed to be rented from the docking station directly, without the use of mobile application.

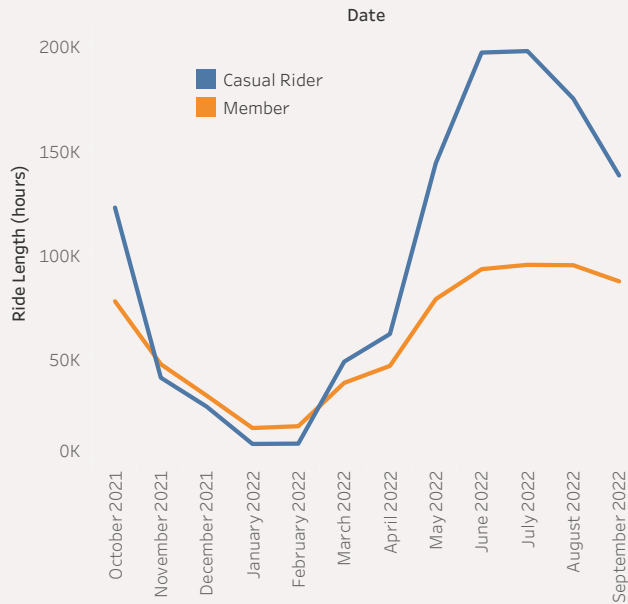
Summary of bike rentals from October 2021 - September 2022

		Day Of Week						
Ride Type		Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Member Type	Casual Rider	51,813	45,739	44,342	50,364	61,619	108,584	90,570
	Docked Bike	44,637	33,719	33,120	37,103	50,297	89,191	79,629
	Electric Bike	42,175	39,166	40,056	43,794	52,653	74,691	61,767
Member	Classic Bike	56,318	63,311	61,274	60,472	56,348	62,814	54,289
	Electric Bike	40,877	46,465	47,526	48,237	46,273	46,118	38,958

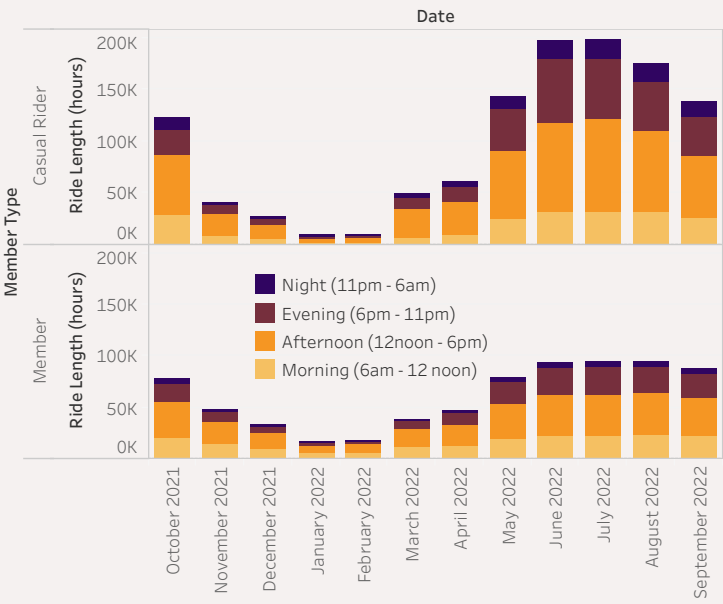
Membership Breakdown



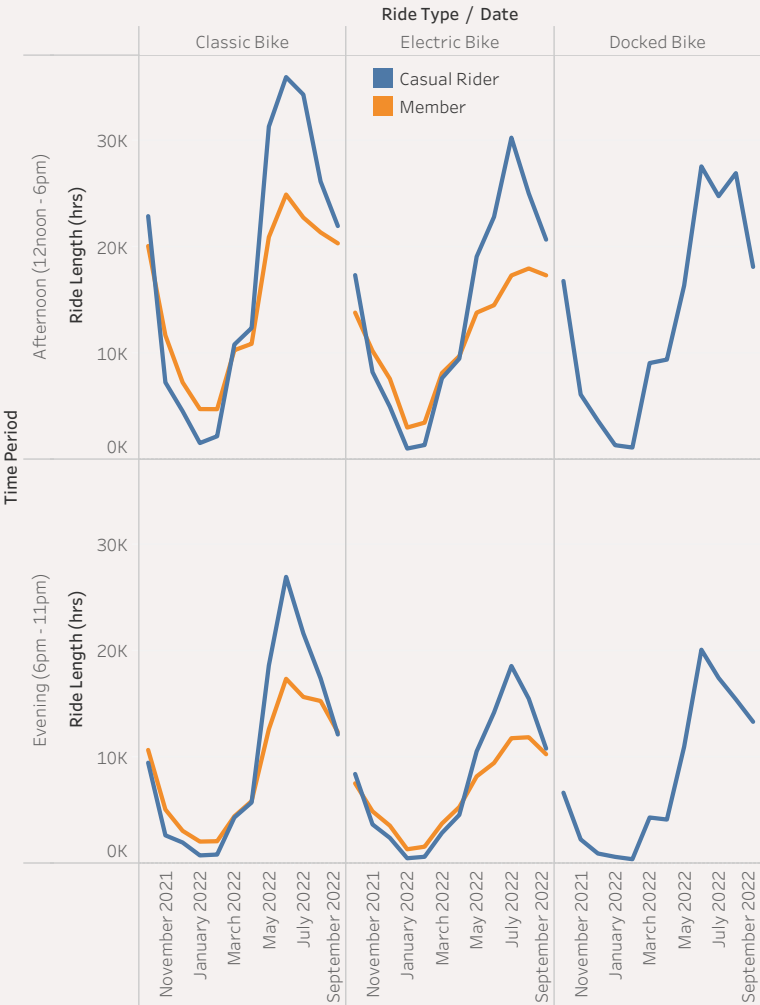
More rentals by members (casual riders) in winter (summer) months



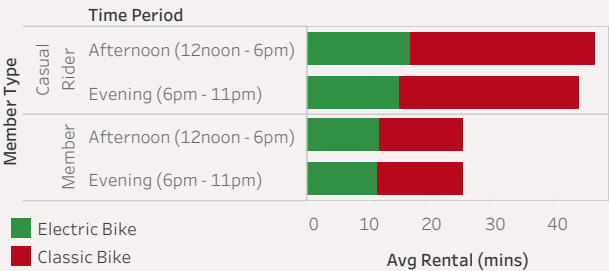
65-75% of rental times occur during afternoon and evenings for casual riders



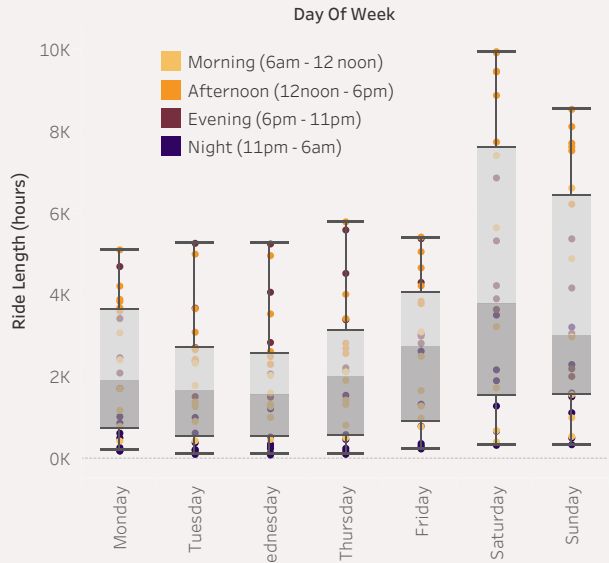
Casual riders rode 30-50% more than members in the afternoon and evenings during summer months



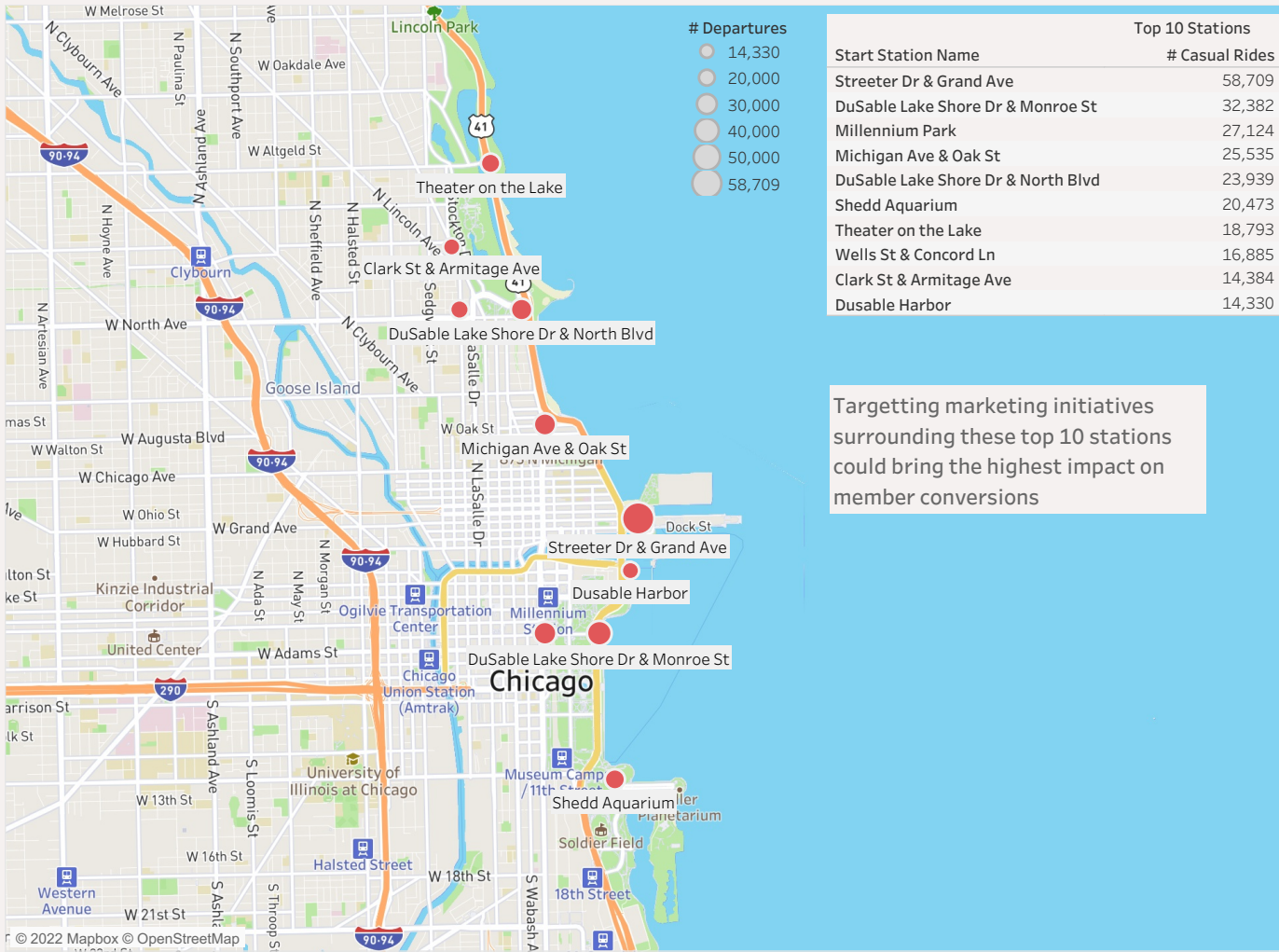
Classic bike’s average rental duration for casual riders is about 2 times more than that of members



Rental of classic bikes by casual riders tend to concentrate during weekends



Top 10 stations which casual riders begin their trips from concentrates within city centre and tourist attractions



Summary and Recommendations

Key findings

- 1) 60-70% of rentals for members occur during morning and afternoon, with an average rental duration of 11 minutes, indicating that they are likely office workers who use the bikes for commuting to work.
- 2) Top 10 starting station for casual riders are around the city centers or tourist attractions with 65-75% of rentals happening during afternoon and evening timings. Casual riders could constitute a mix of office workers, tourist and students.
- 3) Rental activity for casual riders start to pick up during summer months when there are likely more tourist visiting the city or that residents start to head out more due to warmer temperatures.
- 4) Across the last 12 months, total number of hours rented by members showed that activity throughout weekdays and weekends tend to be relatively consistent. However, casual members rental activity favours a preference of weekends over weekdays.

Way forward

- 1) Launch campaigns closer to summer months when casual rider activity picks up
--> Annual membership early sign up discounts or referral discounts.
- 2) Target marketing campaigns around top 10 locations that are frequent by casual riders.
--> Explore possible partnerships campaigns with tourist attractions venues.
- 3) Design an easy onboarding process for casual riders who are renting docked bikes.
--> Highlight cost-savings on membership plan when riders are attempting to rent bikes at the dock stations.