

Google Data Analytics Capstone Project: Cyclistic bike-share analysis

Business Task

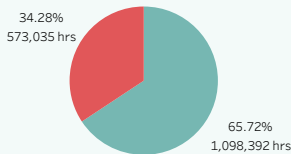
Analyze the annual members and casual rider usage pattern by using the latest 12-month data.

Tools: R for data cleaning, Tableau for data visualization.

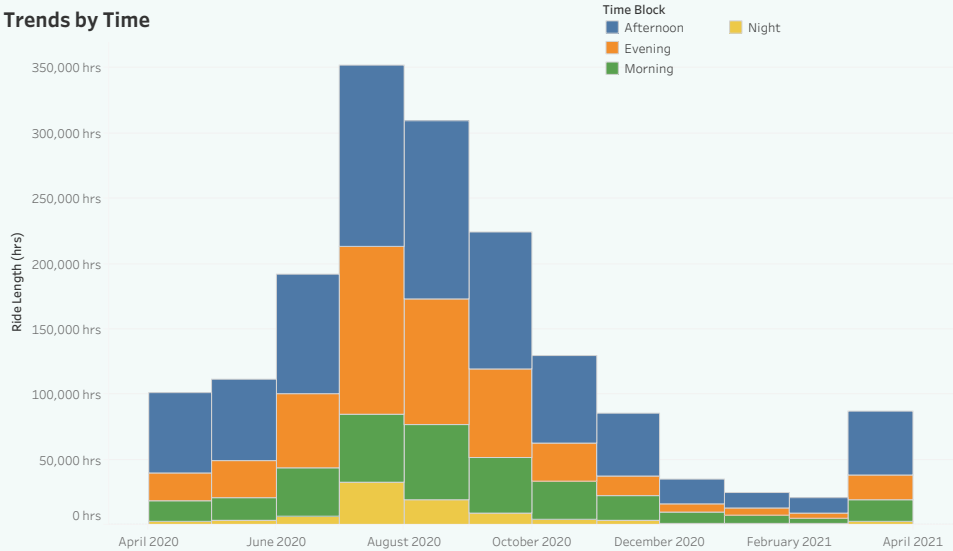
Total Trip Duration Summary

Usertype	Ride Type	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Grand Total
Casual Rider	classic_bike	4,730 hrs	4,085 hrs	3,386 hrs	2,592 hrs	3,443 hrs	9,807 hrs	8,240 hrs	36,281 hrs
	docked_bike	101,882 hrs	90,267 hrs	95,083 hrs	109,467 hrs	137,258 hrs	237,360 hrs	204,215 hrs	975,531 hrs
	electric_bike	9,488 hrs	8,818 hrs	9,858 hrs	10,154 hrs	12,577 hrs	19,977 hrs	15,707 hrs	86,579 hrs
	Total	116,101 hrs	103,170 hrs	108,326 hrs	122,213 hrs	153,277 hrs	267,144 hrs	228,161 hrs	1,098,392 hrs
Member	classic_bike	8,961 hrs	8,709 hrs	8,901 hrs	7,332 hrs	7,741 hrs	9,916 hrs	8,300 hrs	59,860 hrs
	docked_bike	51,525 hrs	55,691 hrs	58,877 hrs	60,185 hrs	62,656 hrs	76,094 hrs	66,455 hrs	431,483 hrs
	electric_bike	10,244 hrs	10,626 hrs	11,978 hrs	11,734 hrs	12,582 hrs	13,634 hrs	10,893 hrs	81,692 hrs
	Total	70,729 hrs	75,027 hrs	79,756 hrs	79,250 hrs	82,980 hrs	99,645 hrs	85,649 hrs	573,035 hrs
Grand Total		186,830 hrs	178,196 hrs	188,083 hrs	201,463 hrs	236,257 hrs	366,789 hrs	313,810 hrs	1,671,427 hrs

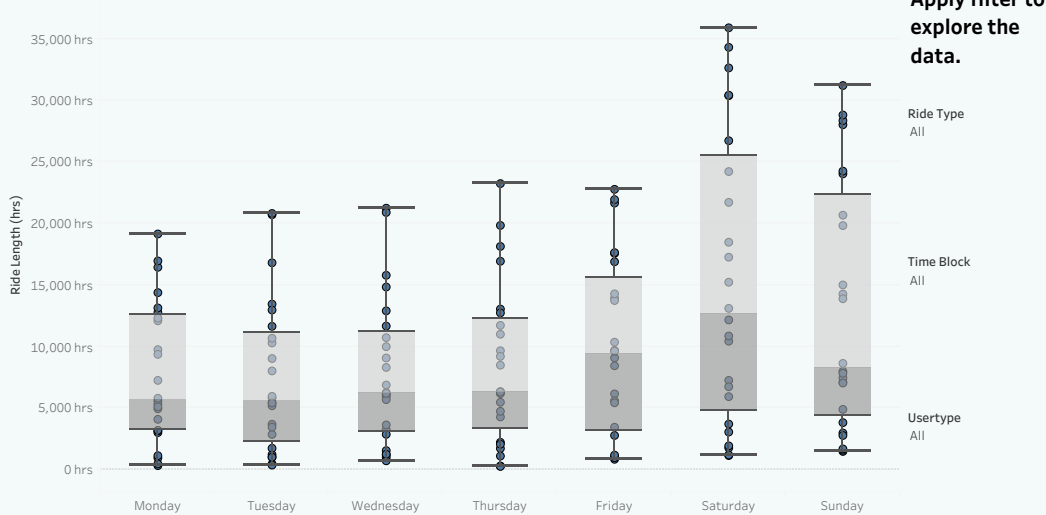
Casual Rider Member



Trends by Time

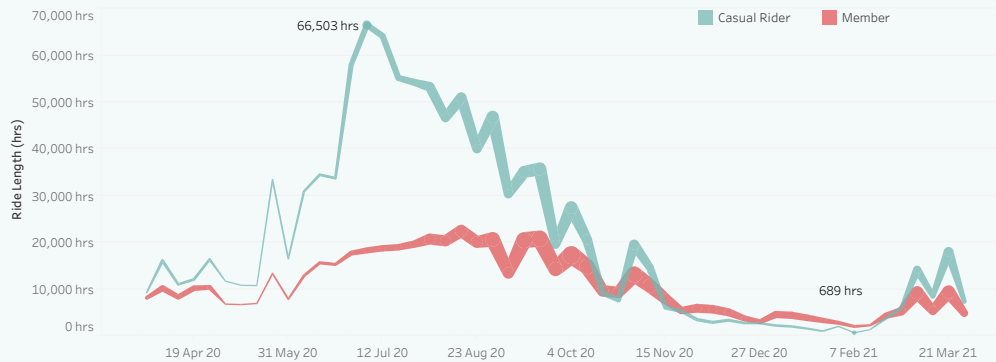
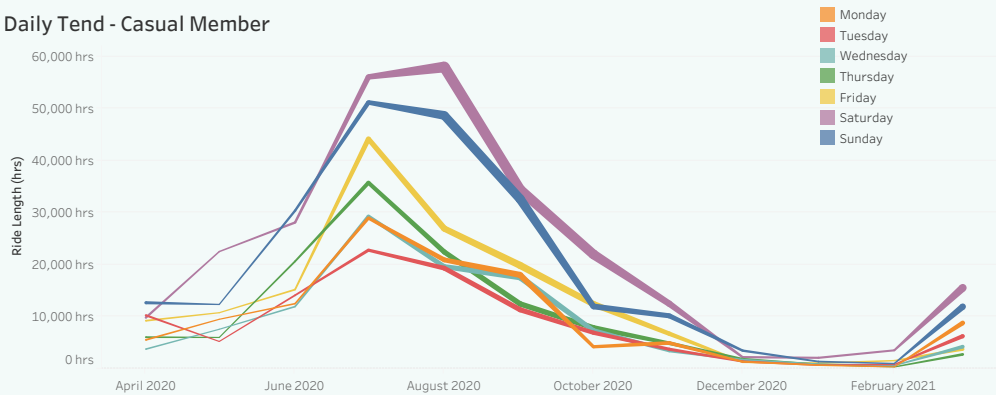


Day Trend Analysis

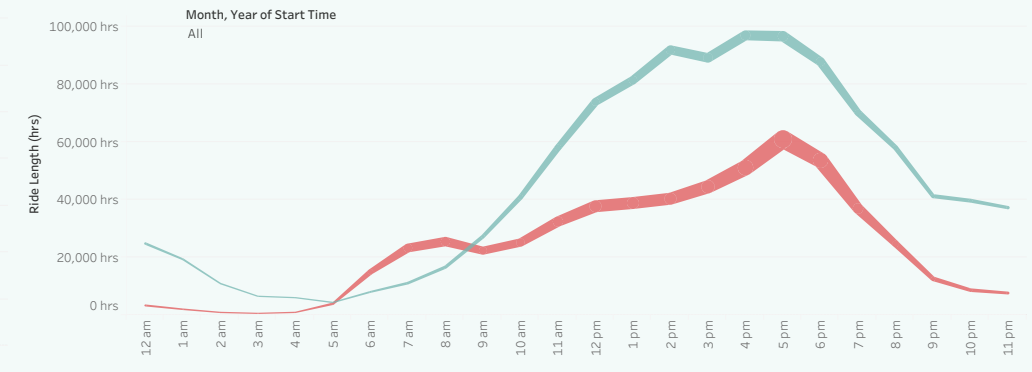
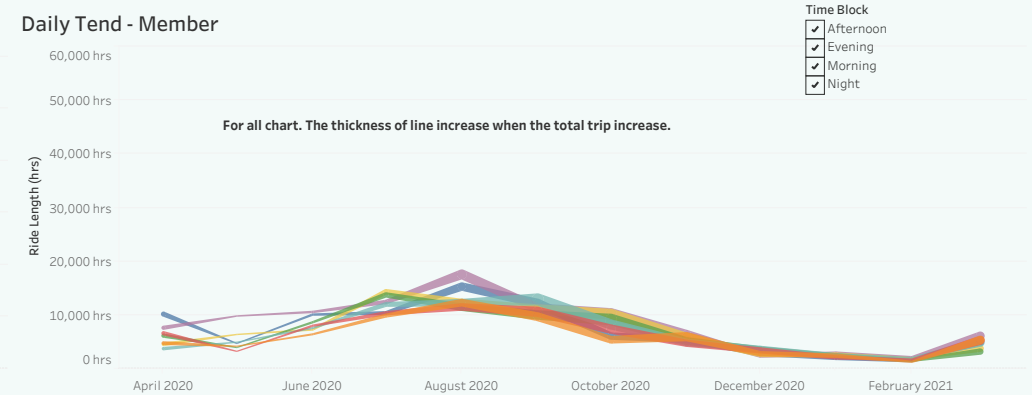


Type of User - Total Trip Durations (hrs) Analysis

Daily Tend - Casual Member



Daily Tend - Member



Summary

The total trip duration for casual riders and annual members is affected by season. The temperature is very low during the winter season, fewer people are willing to go out and people who need to travel daily for work will choose to take other public transport, this had caused the total trip duration are the lowest among another season.

The annual member display two peak period which is at 7 a.m and 5 p.m indicate they are most likely office workers. The casual rider peak period is 4 p.m and 5 p.m. The top 20 station visit by casual riders mostly are tourist locations, the casual riders most likely are a couple, students, retirees, tourists, and family.

Over the years, we see a significant divergence of total trip duration from May to September for two groups of users. This has shown their usage pattern significantly due to their preference and it is more clear when we look into total trip duration on every single hour within the day.

Based on the casual rider’s monthly total trips durations, the best odds to launch the new marketing campaign is between April to May. Also, consider different price strategies like seasonal passes to increase the conversion rate. The best would be if the marketing team can run a survey to collect the data from current casual riders, understand what kind of features or benefits they look for when considering subscribe annual members.

Top 20 Station visit by Casual Rider

From Station Name	Rank	Ride Length
Millennium Park	1	25,072 hrs
Streeter Dr & Grand Ave	2	23,391 hrs
Lake Shore Dr & Monroe St	3	19,497 hrs
Indiana Ave & Roosevelt Rd	4	13,552 hrs
Michigan Ave & Washington St	5	13,076 hrs
Buckingham Fountain	6	12,932 hrs
Michigan Ave & Lake St	7	12,899 hrs
Michigan Ave & Oak St	8	12,266 hrs
Wabash Ave & Grand Ave	9	11,903 hrs
Lake Shore Dr & North Blvd	10	10,545 hrs
Theater on the Lake	15	9,652 hrs
Michigan Ave & 8th St	11	10,141 hrs
State St & Randolph St	12	10,074 hrs
Wabash Ave & Roosevelt Rd	13	9,896 hrs
Fairbanks Ct & Grand Ave	14	9,759 hrs
Columbus Dr & Randolph St	16	8,616 hrs
Wabash Ave & Wacker Pl	17	7,924 hrs
State St & Kinzie St	18	7,767 hrs
Clark St & Lincoln Ave	19	7,413 hrs
Shore Dr & 55th St	20	7,233 hrs