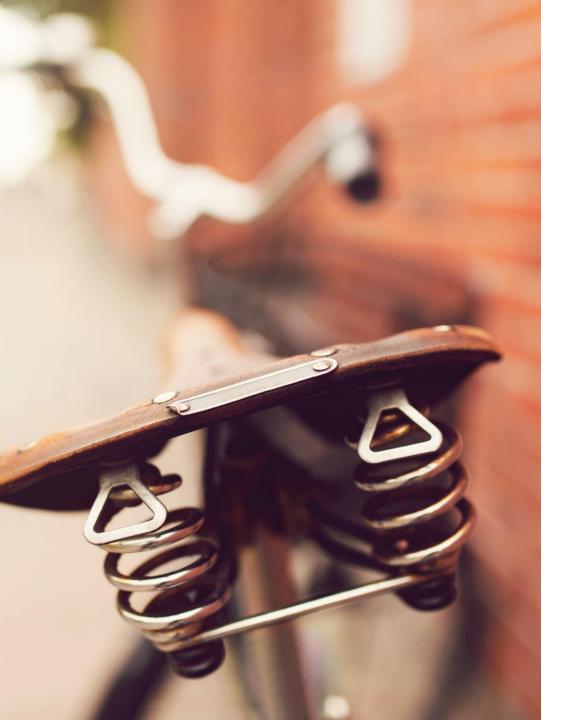


CYCLISTIC BIKE-SHARE ANALYSIS: CASE STUDY

GOOGLE DATA ANALYTICS-CAPSTONE PROJECT BY

SACHIN PILLAI



BACKGROUND: CYCLISTIC

- A bike-share program, based in Chicago, that features 5,824 geo-tracked bicycles and 692 docking stations.
- Cyclistic sets itself apart by also offering reclining bikes, hand tricycles, and cargo bikes, making bike-share more inclusive
- Three Subscription Plans
 - Casual Riders: Two Plans
 - Single- Ride Pass
 - Full Day Pass
 - Annual Membership- Cyclistic Members

AIM



Primary Aim

Convert Casual Riders to Annual Members



Marketing Strategy

Design Marketing Strategy aimed at converting casual riders into annual members



Analytics Tasks

Analyse how annual & casual riders differ?

Analyse why would a casual member buy a membership?

Analyse how digital media could affect marketing strategies?

Data Source

Month wise data

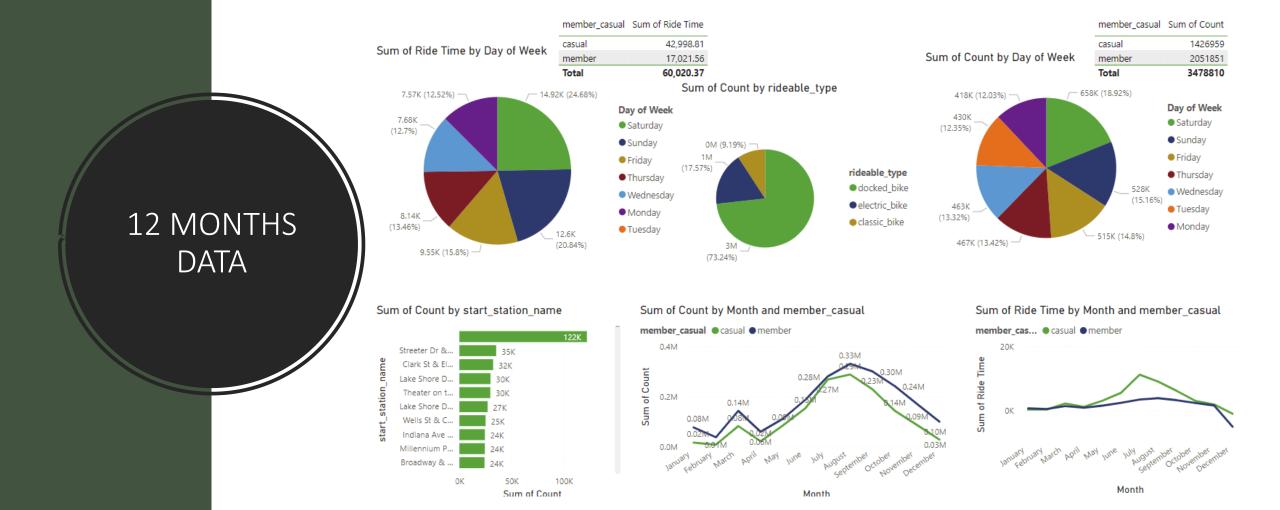
• Apr 20 – Mar 21

Attributes available & derivable

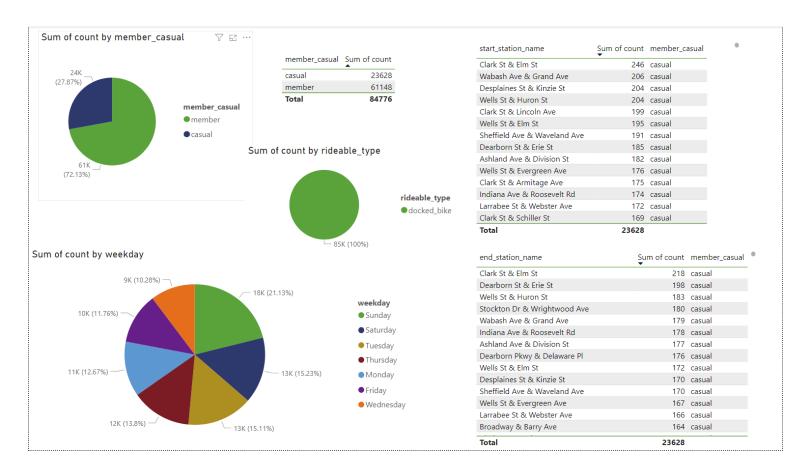
- Ride Type
- Time/Date: Start/End, Ride Length, Day of Week
- Stations: Start & End, Distance
- Type of Membership: Annual/ Casual

Voids in Data

- Subscription Rates are not available
- Subscriber IDs not available to identify returning casual users for a personalized marketing campaign
- Details of customers not available: age & gender
- Data in multiple cells are missing

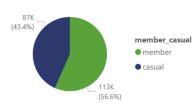






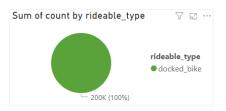


Sum of count by member_casual

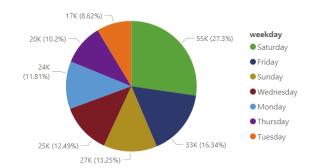


member_casual	Sum of count
---------------	--------------

Total	200274
member	113365
casual	86909



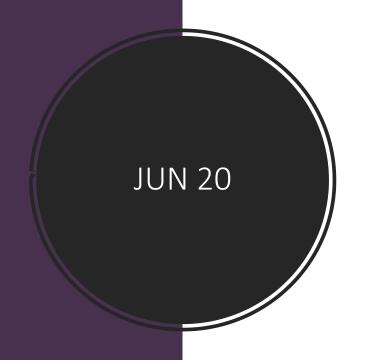
Sum of count by weekday

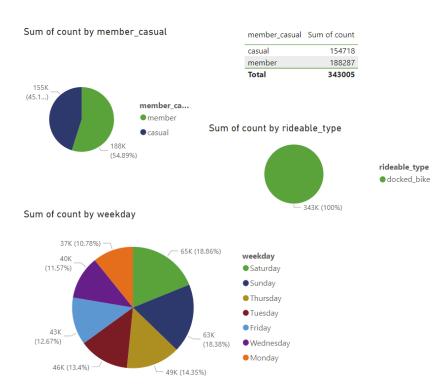


start_station_name	Sum of count	member_casual
2112 W Peterson Ave	32	casual
63rd St Beach	65	casual
900 W Harrison St	110	casual
Aberdeen St & Jackson Blvd	275	casual
Aberdeen St & Monroe St	185	casual
Aberdeen St & Randolph St	139	casual
Ada St & Washington Blvd	165	casual
Adler Planetarium	23	casual
Albany Ave & 26th St	18	casual
Albany Ave & Bloomingdale Ave	86	casual
Albany Ave & Montrose Ave	64	casual
Total	86909	

end_station_name	Sum of count	member_casual
	146	casual
2112 W Peterson Ave	27	casual
63rd St Beach	49	casual
900 W Harrison St	99	casual
Aberdeen St & Jackson Blvd	274	casual
Aberdeen St & Monroe St	196	casual
Aberdeen St & Randolph St	149	casual
Ada St & Washington Blvd	165	casual
Adler Planetarium	27	casual
Albany Ave & 26th St	18	casual
Albany Ave & Bloomingdale Ave	72	casual
Albany Ave & Montrose Ave	84	casual
Archer (Damen) Ave & 37th St	66	casual
Artesian Ave & Hubbard St	29	casual

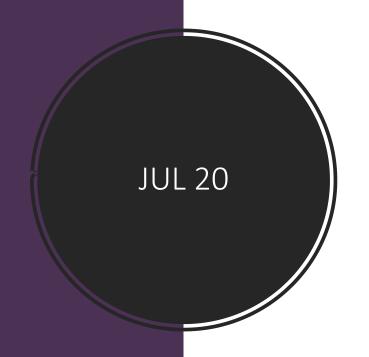
Total 86909



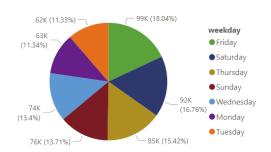


start_station_name	Sum of count	member_casu®
Streeter Dr & Grand Ave	3082	casual
Millennium Park	1808	casual
Lake Shore Dr & Monroe St	1709	casual
Clark St & Elm St	1519	casual
Indiana Ave & Roosevelt Rd	1484	casual
Lake Shore Dr & North Blvd	1420	casual
Buckingham Fountain	1314	casual
Michigan Ave & Lake St	1211	casual
Michigan Ave & Oak St	1176	casual
- Walle St. & Cancard La		cacual
Total	154718	

end_station_name	Sum of count	member_casi
	209	casual
2112 W Peterson Ave	44	casual
63rd St Beach	202	casual
900 W Harrison St	125	casual
Aberdeen St & Jackson Blvd	264	casual
Aberdeen St & Monroe St	163	casual
Aberdeen St & Randolph St	254	casual
Ada St & Washington Blvd	221	casual
Adler Planetarium	309	casual
Albany Ave & 26th St	49	casual
Albany Ave & Bloomingdale Ave	141	casual
Albany Ave & Montrose Ave	80	casual
Archer (Damen) Ave & 37th St	77	cacual
Total	154718	





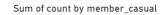


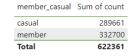
start_station_name	Sum of count	member_casual
Streeter Dr & Grand Ave	7029	casual
Lake Shore Dr & Monroe St	4575	casual
Millennium Park	4382	casual
Indiana Ave & Roosevelt Rd	3208	casual
Lake Shore Dr & North Blvd	3151	casual
Theater on the Lake	3121	casual
Buckingham Fountain	2680	casual
Michigan Ave & Lake St	2678	casual
Michigan Ave & Oak St	2502	casual
Michigan Ave & 8th St	2500	casual
Michigan Ave & Washington St	2480	casual
Clark St & Flm St	2141	casual
Total	269296	

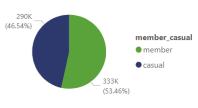
end_station_name	Sum of count	member_casual
	521	casual
2112 W Peterson Ave	46	casual
63rd St Beach	371	casual
900 W Harrison St	150	casual
Aberdeen St & Jackson Blvd	372	casual
Aberdeen St & Monroe St	250	casual
Aberdeen St & Randolph St	417	casual
Ada St & Washington Blvd	395	casual
Adler Planetarium	1455	casual
Albany Ave & 26th St	45	casual
Albany Ave & Bloomingdale Ave	273	casual
Albany Ave & Montrose Ave	95	casual
Archer (Damen) Ave & 37th St	106	casual
Total	269296	

Total 269296

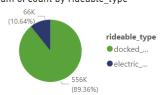




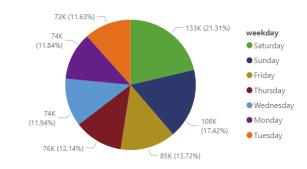




Sum of count by rideable_type



Sum of count by weekday

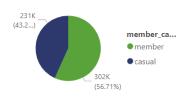


start_station_name	Sum of count ▼	member_casual
Streeter Dr & Grand Ave	7151	casual
Theater on the Lake	4696	casual
Lake Shore Dr & Monroe St	4581	casual
Millennium Park	3894	casual
Michigan Ave & Oak St	3595	casual
Lake Shore Dr & North Blvd	3518	casual
	3260	casual
Indiana Ave & Roosevelt Rd	2807	casual
Lake Shore Dr & Wellington Ave	2399	casual
Clark St & Lincoln Ave	2376	casual
Lake Shore Dr & Belmont Ave	2337	casual
Michigan Ave & Lake St	2321	casual
Total	289661	'

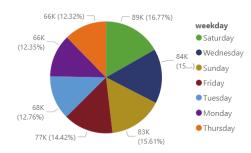
end_station_name	Sum of count ▼	member_casual
Streeter Dr & Grand Ave	8189	casual
Theater on the Lake	5320	casual
	4898	casual
Lake Shore Dr & Monroe St	4566	casual
Millennium Park	3984	casual
Michigan Ave & Oak St	3756	casual
Lake Shore Dr & North Blvd	3754	casual
Indiana Ave & Roosevelt Rd	2882	casual
Clark St & Lincoln Ave	2435	casual
Lake Shore Dr & Wellington Ave	2418	casual
Lake Shore Dr & Belmont Ave	2372	casual
Wells St & Concord Ln	2251	casual
Michigan Ave & Lake St	2208	casual
Clark St & Elm St	2199	casual
Total	289661	



Sum of count by member_casual

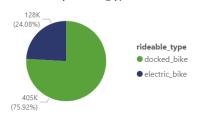


Sum of count by weekday



member_casual Sum of count casual 230692 member 302266 Total 532958

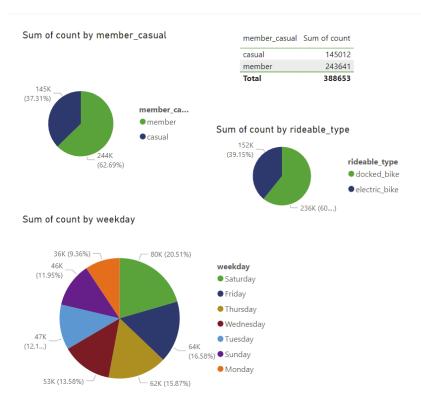
Sum of count by rideable_type



start_station_name	Sum of count	member_casual
	8705	casual
Streeter Dr & Grand Ave	4078	casual
Lake Shore Dr & Monroe St	3646	casual
Millennium Park	3479	casual
Theater on the Lake	3053	casual
Michigan Ave & Oak St	2819	casual
Shedd Aquarium	2153	casual
Indiana Ave & Roosevelt Rd	2134	casual
Lake Shore Dr & North Blvd	2100	casual
Michigan Ave & Lake St	2041	casual
Clark St & Elm St	1938	casual
Wells St & Concord Ln	1778	casual
Total	230692	

ım of count	member_casual
11239	casual
50	casual
215	casual
288	casual
318	casual
247	casual
361	casual
257	casual
1143	casual
27	casual
237	casual
125	casual
	casual
230692	
	247 361 257 1143 27 237 125 60



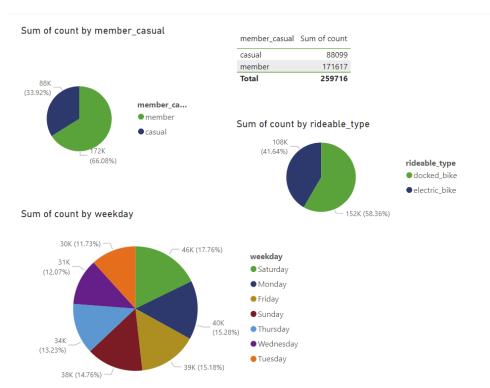


start_station_name	Sum of count	member_casual
	<u> </u>	
		casual
Lake Shore Dr & Monroe St	2117	
Millennium Park		casual
Streeter Dr & Grand Ave	1746	casual
Michigan Ave & Oak St	1342	casual
Shedd Aquarium	1336	casual
Clark St & Elm St	1255	casual
Theater on the Lake	1243	casual
Indiana Ave & Roosevelt Rd	1173	casual
Michigan Ave & Lake St	1143	casual
Michigan Ave & Washington St	1052	casual
Clark St & Lincoln Ave	1048	casual
Wells St & Concord Ln	1036	casual
Clark St & Armitage Ave	1022	casual
Total	145012	
end_station_name	Sum of count	member_casual
	16588	casual
Millennium Park	16588 2177	
Millennium Park Lake Shore Dr & Monroe St		casual
THE STATE OF THE S	2177 2137	casual
Lake Shore Dr & Monroe St	2177 2137 1808	casual casual
Lake Shore Dr & Monroe St Streeter Dr & Grand Ave	2177 2137 1808	casual casual casual casual
Lake Shore Dr & Monroe St Streeter Dr & Grand Ave Theater on the Lake	2177 2137 1808 1404 1369	casual casual casual casual
Lake Shore Dr & Monroe St Streeter Dr & Grand Ave Theater on the Lake Michigan Ave & Oak St	2177 2137 1808 1404 1369 1200	casual casual casual casual
Lake Shore Dr & Monroe St Streeter Dr & Grand Ave Theater on the Lake Michigan Ave & Oak St Lake Shore Dr & North Blvd	2177 2137 1808 1404 1369 1200	casual casual casual casual casual casual
Lake Shore Dr & Monroe St Streeter Dr & Grand Ave Theater on the Lake Michigan Ave & Oak St Lake Shore Dr & North Blvd Indiana Ave & Roosevelt Rd	2177 2137 1808 1404 1369 1200 1134 1129	casual casual casual casual casual casual casual casual
Lake Shore Dr & Monroe St Streeter Dr & Grand Ave Theater on the Lake Michigan Ave & Oak St Lake Shore Dr & North Blvd Indiana Ave & Roosevelt Rd Clark St & Elm St	2177 2137 1808 1404 1369 1200 1134 1129 1108	casual
Lake Shore Dr & Monroe St Streeter Dr & Grand Ave Theater on the Lake Michigan Ave & Oak St Lake Shore Dr & North Blvd Indiana Ave & Roosevelt Rd Clark St & Elm St Clark St & Lincoln Ave	2177 2137 1808 1404 1369 1200 1134 1129 1108	casual

145012

Total





start_station_name	Sum of count	member_casual	0
	9357	casual	
Lake Shore Dr & Monroe St	1320	casual	
Millennium Park	1153	casual	
Streeter Dr & Grand Ave	897	casual	
Theater on the Lake	841	casual	
Michigan Ave & Oak St	823	casual	
Indiana Ave & Roosevelt Rd	729	casual	
Shedd Aquarium	709	casual	
Clark St & Elm St	657	casual	
Lake Shore Dr & North Blvd	648	casual	
Michigan Ave & Lake St	635	casual	
Michigan Ave & Washington St	603	casual	
Clark St & Armitage Ave	567	casual	
Michigan Ave & 8th St	558	casual	
Total	88099		

end_station_name	Sum of count	member_casual
	11214	casual
Lake Shore Dr & Monroe St	1265	casual
Millennium Park	1262	casual
Theater on the Lake	975	casual
Streeter Dr & Grand Ave	928	casual
Michigan Ave & Oak St	890	casual
Indiana Ave & Roosevelt Rd	724	casual
Lake Shore Dr & North Blvd	707	casual
Michigan Ave & Lake St	657	casual
Michigan Ave & Washington St	629	casual
Clark St & Elm St	596	casual
Wabash Ave & Grand Ave	551	casual
Total	88099	

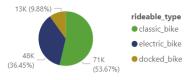


Sum of count by member_casual

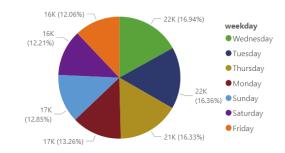


Total	131573
member	101493
casual	30080
member_casual	Sum of count

Sum of count by rideable_type

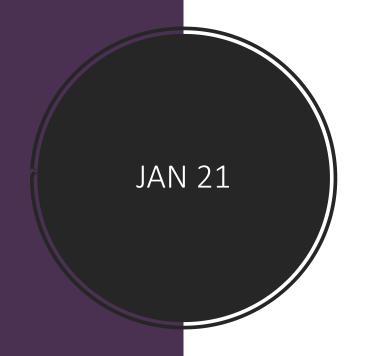


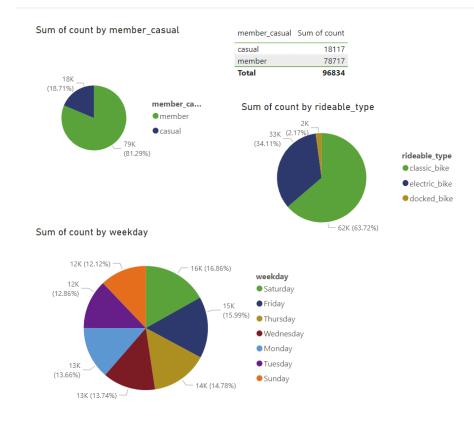
Sum of count by weekday



start_station_name	Sum of count	member_casu
	3564	casual
Lake Shore Dr & Monroe St	448	casual
Millennium Park	266	casual
Clark St & Elm St	256	casual
Indiana Ave & Roosevelt Rd	242	casual
Wells St & Elm St	239	casual
Wells St & Huron St	234	casual
Michigan Ave & Washington St	223	casual
Streeter Dr & Grand Ave	200	casual
Michigan Ave & Lake St	196	casual
Wells St & Concord Ln	191	casual
Clark St & Armitage Ave	189	casual
Dusable Harbor	187	casual
Total	30080	•

end_station_name	Sum of count	member_casu
	4282	casual
Lake Shore Dr & Monroe St	422	casual
Millennium Park	326	casual
Clark St & Elm St	301	casual
Michigan Ave & Washington St	251	casual
Indiana Ave & Roosevelt Rd	245	casual
Wells St & Elm St	228	casual
Wells St & Concord Ln	217	casual
Michigan Ave & Oak St	211	casual
Streeter Dr & Grand Ave	209	casual
Broadway & Barry Ave	203	casual
Clark St & Grace St	184	casual
Fairbanks Ct & Grand Ave	182	casual
Total	30080	

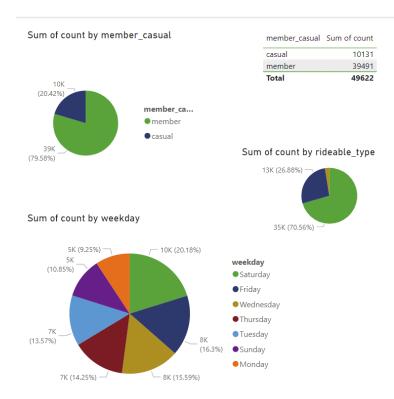




start_station_name	Sum of count	member_casua
	2201	casual
Lake Shore Dr & Monroe St	196	casual
Clark St & Elm St	152	casual
Wells St & Elm St	150	casual
Ellis Ave & 60th St	135	casual
Wells St & Huron St	135	casual
Millennium Park	130	casual
Michigan Ave & Washington St	123	casual
Clark St & Grace St	116	casual
Dearborn St & Erie St	112	casual
Franklin St & Illinois St	112	casual
Wells St & Concord Ln	112	casual
Kingsbury St & Kinzie St	109	casual
Total	18117	

end_station_name	Sum of count	member_casual
	2719	casual
Millennium Park	179	casual
Lake Shore Dr & Monroe St	161	casual
Clark St & Elm St	157	casual
Wells St & Elm St	155	casual
Ellis Ave & 60th St	129	casual
Michigan Ave & Lake St	124	casual
Bissell St & Armitage Ave	120	casual
Fairbanks Ct & Grand Ave	118	casual
Wells St & Concord Ln	113	casual
Dearborn St & Erie St	112	casual
Wabash Ave & Grand Ave	108	casual
Clark St & Drummond Pl	105	casual
Total	18117	





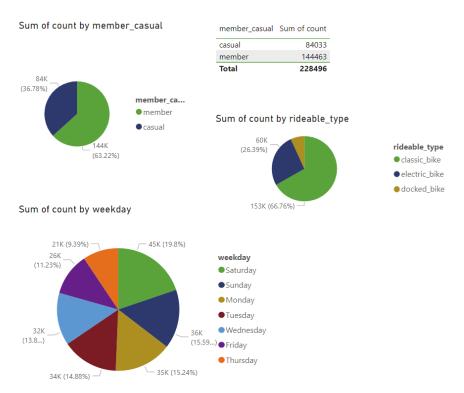
start_station_name	Sum of count	member_casual
	912	casual
Millennium Park	122	casual
Lake Shore Dr & Monroe St	109	casual
Clark St & Elm St	94	casual
Shedd Aquarium	94	casual
Wells St & Elm St	87	casual
Streeter Dr & Grand Ave	83	casual
Broadway & Waveland Ave	78	casual
Columbus Dr & Randolph St	73	casual
Wabash Ave & Grand Ave	73	casual
Kingsbury St & Kinzie St	71	casual
Michigan Ave & Washington St	69	casual
Dearborn St & Erie St	67	casual
Indiana Ave & Roosevelt Rd	67	casual
Total	10131	

end_station_name	Sum of count	member_casual
	1244	casual
Millennium Park	123	casual
Clark St & Elm St	105	casual
Streeter Dr & Grand Ave	103	casual
Lake Shore Dr & Monroe St	97	casual
Indiana Ave & Roosevelt Rd	87	casual
Wells St & Elm St	86	casual
Broadway & Waveland Ave	75	casual
Theater on the Lake	74	casual
Daley Center Plaza	72	casual
Shedd Aquarium	69	casual
Michigan Ave & Washington St	65	casual
Total	10131	

rideable_type classic_bike electric_bike

docked_bike

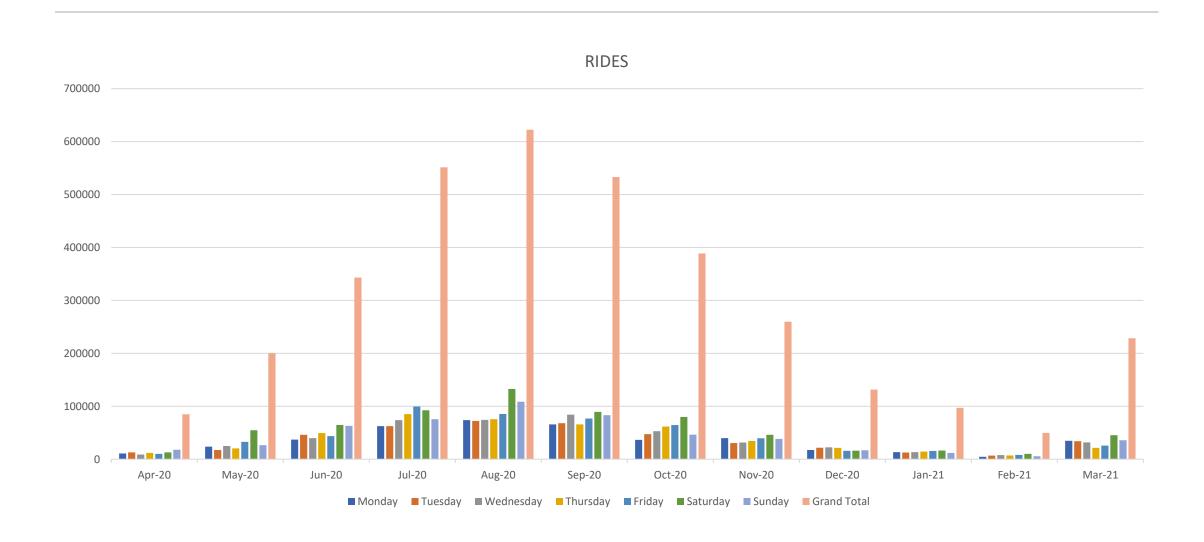




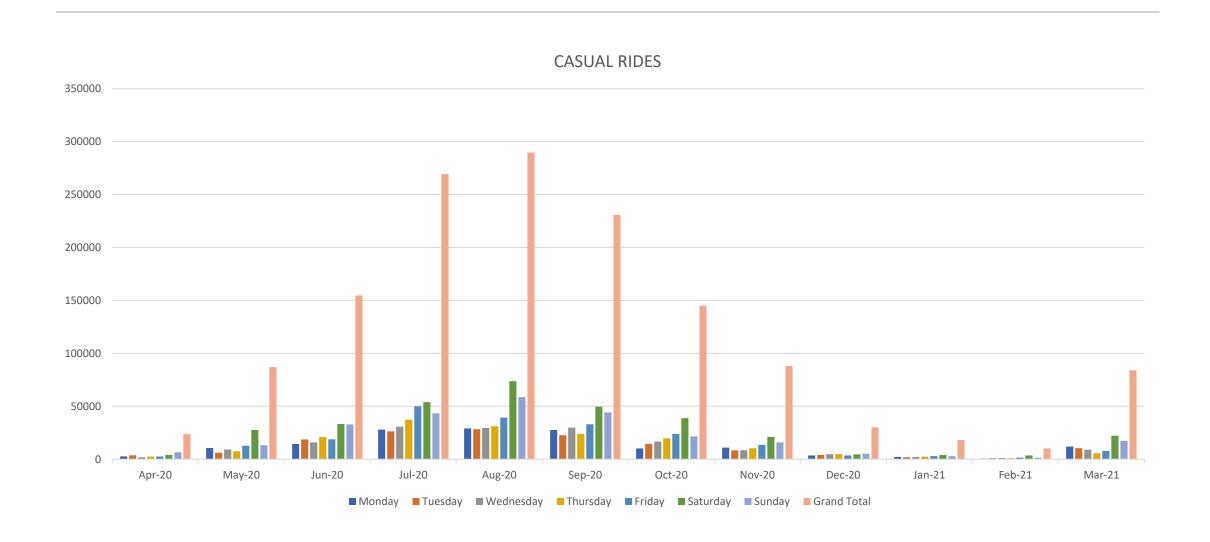
start_station_name	Sum of count	member_casual
	5165	casual
Lake Shore Dr & Monroe St	1887	casual
Streeter Dr & Grand Ave	1504	casual
Millennium Park	1431	casual
Shedd Aquarium	1056	casual
Michigan Ave & Oak St	873	casual
Indiana Ave & Roosevelt Rd	823	casual
Theater on the Lake	785	casual
Michigan Ave & Washington St	705	casual
Michigan Ave & Lake St	677	casual
Lake Shore Dr & North Blvd	660	casual
Clark St & Elm St	612	casual
Wells St & Elm St	600	casual
Columbus Dr & Randolph St	581	casual
Wabash Ave & Grand Ave	573	casual
Total	84033	
Total end_station_name	0.000	member_casual
	Sum of count	member_casual
	Sum of count 6291	
end_station_name	Sum of count 6291 1785	casual
end_station_name Lake Shore Dr & Monroe St	Sum of count 6291 1785 1532	casual casual
end_station_name Lake Shore Dr & Monroe St Streeter Dr & Grand Ave	Sum of count 6291 1785 1532 1505	casual casual
end_station_name Lake Shore Dr & Monroe St Streeter Dr & Grand Ave Millennium Park	Sum of count 6291 1785 1532 1505 1018	casual casual casual casual
end_station_name Lake Shore Dr & Monroe St Streeter Dr & Grand Ave Millennium Park Michigan Ave & Oak St	Sum of count 6291 1785 1532 1505 1018 920	casual casual casual casual casual
end_station_name Lake Shore Dr & Monroe St Streeter Dr & Grand Ave Millennium Park Michigan Ave & Oak St Shedd Aquarium	6291 1785 1532 1505 1018 920 889	casual casual casual casual casual casual
end_station_name Lake Shore Dr & Monroe St Streeter Dr & Grand Ave Millennium Park Michigan Ave & Oak St Shedd Aquarium Theater on the Lake	6291 1785 1532 1505 1018 920 889 849	casual casual casual casual casual casual casual
end_station_name Lake Shore Dr & Monroe St Streeter Dr & Grand Ave Millennium Park Michigan Ave & Oak St Shedd Aquarium Theater on the Lake Indiana Ave & Roosevelt Rd	\$um of count 6291 1785 1532 1505 1018 920 889 849 758	casual casual casual casual casual casual casual casual casual
end_station_name Lake Shore Dr & Monroe St Streeter Dr & Grand Ave Millennium Park Michigan Ave & Oak St Shedd Aquarium Theater on the Lake Indiana Ave & Roosevelt Rd Lake Shore Dr & North Blvd	\$um of count 6291 1785 1532 1505 1018 920 889 849 758 686	casual
end_station_name Lake Shore Dr & Monroe St Streeter Dr & Grand Ave Millennium Park Michigan Ave & Oak St Shedd Aquarium Theater on the Lake Indiana Ave & Roosevelt Rd Lake Shore Dr & North Blvd Michigan Ave & Washington St	\$um of count 6291 1785 1532 1505 1018 920 889 849 758 686 648	casual

Total

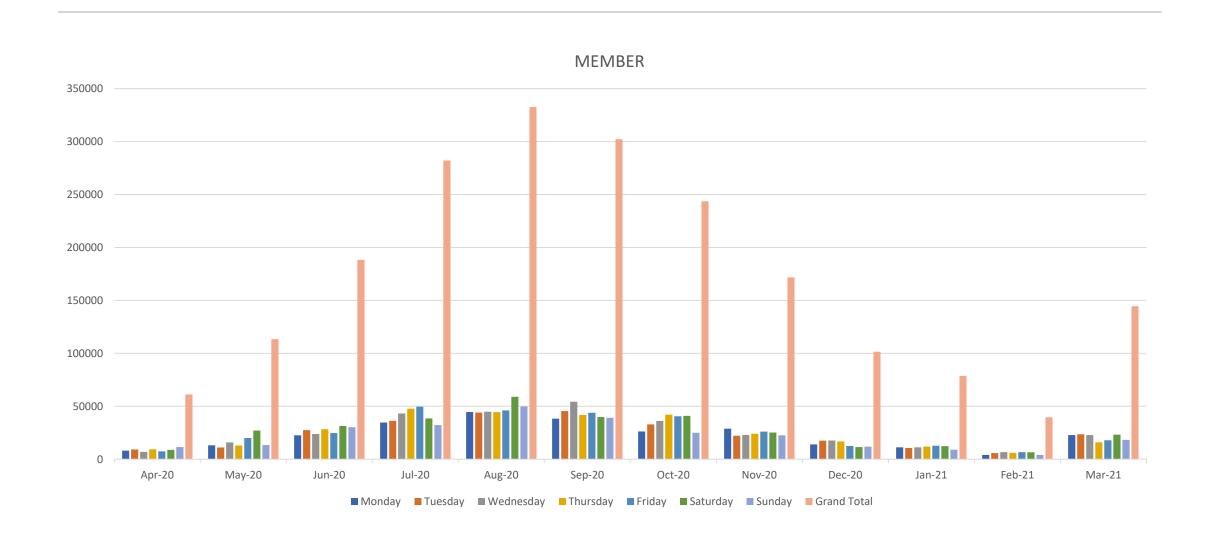
TOTAL RIDES: TRIPS



CASUAL RIDES: TRIPS



MEMBER RIDES: TRIPS

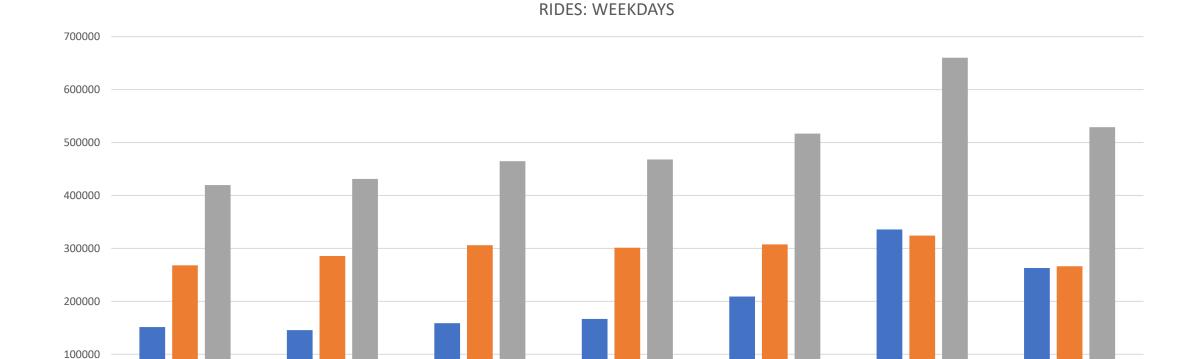


WEEKDAY/WEEKEND: TREND

Monday

Tuesday

Wednesday



Thursday

■ Casual ■ Member ■ Total

Friday

Saturday

Sunday

POPULAR START & **END** STATIONS: CASUAL RIDERS

START STN	NUMBER OF RIDES	END STATION	NUMBER OF RIDES
Streeter Dr & Grand Ave	25770	Streeter Dr & Grand Ave	28015
Lake Shore Dr & Monroe St	20588	Millennium Park	20149
Millennium Park	19460	Lake Shore Dr & Monroe St	20041
Theater on the Lake	13739	Theater on the Lake	15441
Indiana Ave & Roosevelt Rd	13390	Michigan Ave & Oak St	13718
Michigan Ave & Oak St	13130	Indiana Ave & Roosevelt Rd	13636
Lake Shore Dr & North Blvd	11497	Lake Shore Dr & North Blvd	13437
Michigan Ave & Lake St	9228	Michigan Ave & Lake St	7046
Clark St & Elm St	7025	Clark St & Elm St	6540
Shedd Aquarium	5348	Buckingham Fountain	4597
Buckingham Fountain	4684	Clark St & Lincoln Ave	4222
Clark St & Lincoln Ave	3280	Wells St & Concord Ln	3253
Michigan Ave & 8th St	2500	Michigan Ave & 8th St	2438
Lake Shore Dr & Wellington Ave	2399	Lake Shore Dr & Wellington Ave	2418
Lake Shore Dr & Belmont Ave	2337	Lake Shore Dr & Belmont Ave	2372
Michigan Ave & Washington St	2103	Michigan Ave & Washington St	1566
Wells St & Concord Ln	1363	Fairbanks Ct & Grand Ave	1305
Wells St & Huron St	1235	Shedd Aquarium	989
Wabash Ave & Grand Ave	976	Wells St & Huron St	838
Wells St & Elm St	671	Wabash Ave & Grand Ave	826
Larrabee St & Webster Ave	640	Dearborn Pkwy & Delaware Pl	809
Stockton Dr & Wrightwood Ave	629	Larrabee St & Webster Ave	704
Dearborn St & Erie St	297	Wabash Ave & Roosevelt Rd	660
Desplaines St & Kinzie St	204	Wells St & Elm St	641
Sheffield Ave & Waveland Ave	191	Dearborn St & Erie St	310
Ashland Ave & Division St	182	Broadway & Barry Ave	203
Wells St & Evergreen Ave	176	Stockton Dr & Wrightwood Ave	180
Ellis Ave & 60th St	135	Ashland Ave & Division St	177
Clark St & Grace St	116	Desplaines St & Kinzie St	170
Franklin St & Illinois St	112	Ellis Ave & 60th St	129
Broadway & Waveland Ave	78	Bissell St & Armitage Ave	120
Columbus Dr & Randolph St	73	Broadway & Waveland Ave	75
Kingsbury St & Kinzie St	71	Daley Center Plaza	72
Grand Total	163627	Grand Total	167097

TEN MOST POPULAR STATIONS

Station Name	Number of Trips
Streeter Dr & Grand Ave	53785
Lake Shore Dr & Monroe St	40629
Millennium Park	39609
Theater on the Lake	29180
Indiana Ave & Roosevelt Rd	27026
Michigan Ave & Oak St	26848
Lake Shore Dr & North Blvd	24934
Michigan Ave & Lake St	16274
Clark St & Elm St	13565
Buckingham Fountain	9281

INFERENCES



Types of Bikes

Only Docked Bikes available in Apr, May & Jun 2020

Electric Bikes introduced in Jul 20 (840 casual vs 1095 member), highest in Oct 20 (65k casual vs 90k members)

Electric bikes are relatively more popular among casual riders



Members

Members trips are higher than casual throughout the year, however, casual users ride length is higher

Percentage of casual trips increases in summers: 48.8% in Jul 2020



Pattern of Usage

Usage increases in summer months due to weather conditions

Casual users: predominantly during weekends- leisure purposes

Member usage pattern is constant throughout the week: office goers

RECOMMENDATIONS



Costing Strategy

Make member pricing scheme more lucrative without altering casual rider rates

Subsidize low usage in winter: Two month free on a 12 month subscription

Pre booking of bikes for members



Targeted Campaign

Marketing team to target area in vicinity of the ten most popular docking stations

More bikes to be made available at popular stations



Go Green/Healthy Initiative

A go green/healthy theme to promote weekday usage

Tie up with employers for corporate schemes

THANK YOU

