Google Project

- Process, analysis summary and recommendations

Objectives

- The goal of this analysis project is to find data-driven answers to relevant questions regarding the future of cyclistic bike share company.
- I will point out the difference between casuals and members and try to find out what would take to casuals become subscribers.

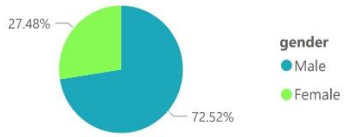
Metadata and process

- The datasets was provided by a real bike rental company and organized by google.
- The 2019 data was divided in four files by quarter of the year.
- I decided to use Power Bi to simplify the process of cleaning, analyzing, and creating visualizations. When I finished the certificate last year, I tried using R Studio, but I couldn’t finish it due to ram limitations.

- Looking the data deeper we see some issues, first: The file with the second quarter of the year have only 7 trips registered, with 3 of them not having crucial information for the analysis like gender and user type.
- Considering this issue and the fact that the first quarter have a low volume of trips when compared to the third and fourth quarter, I decided to use only the data from the second semester.
- To get the dataset ready to analyze I made some adjustments:

1. I divided the data and time from the fields related to the start and finish of the trips. Now we have specific fields for them.
2. After that I used the finish time and start time to get the trip duration in total minutes. With this is easier to get the mean.
3. I excluded rows with blank fields in "usertype" and gender.

Summary



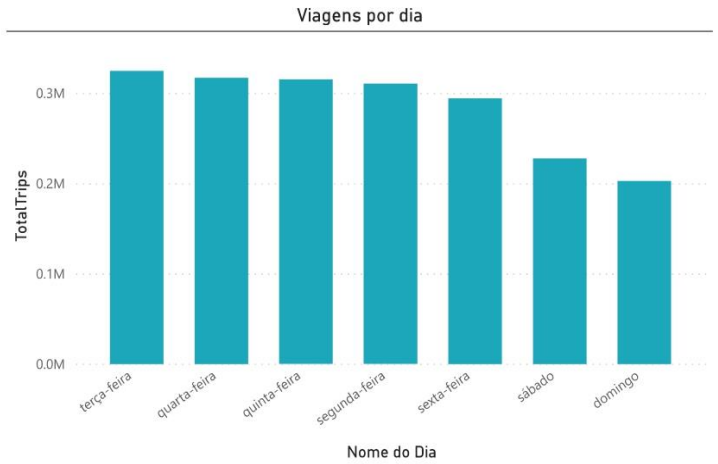
2M
Número de Viagens

19.63
Duração Média(minutos)

34.44
Average of Idade

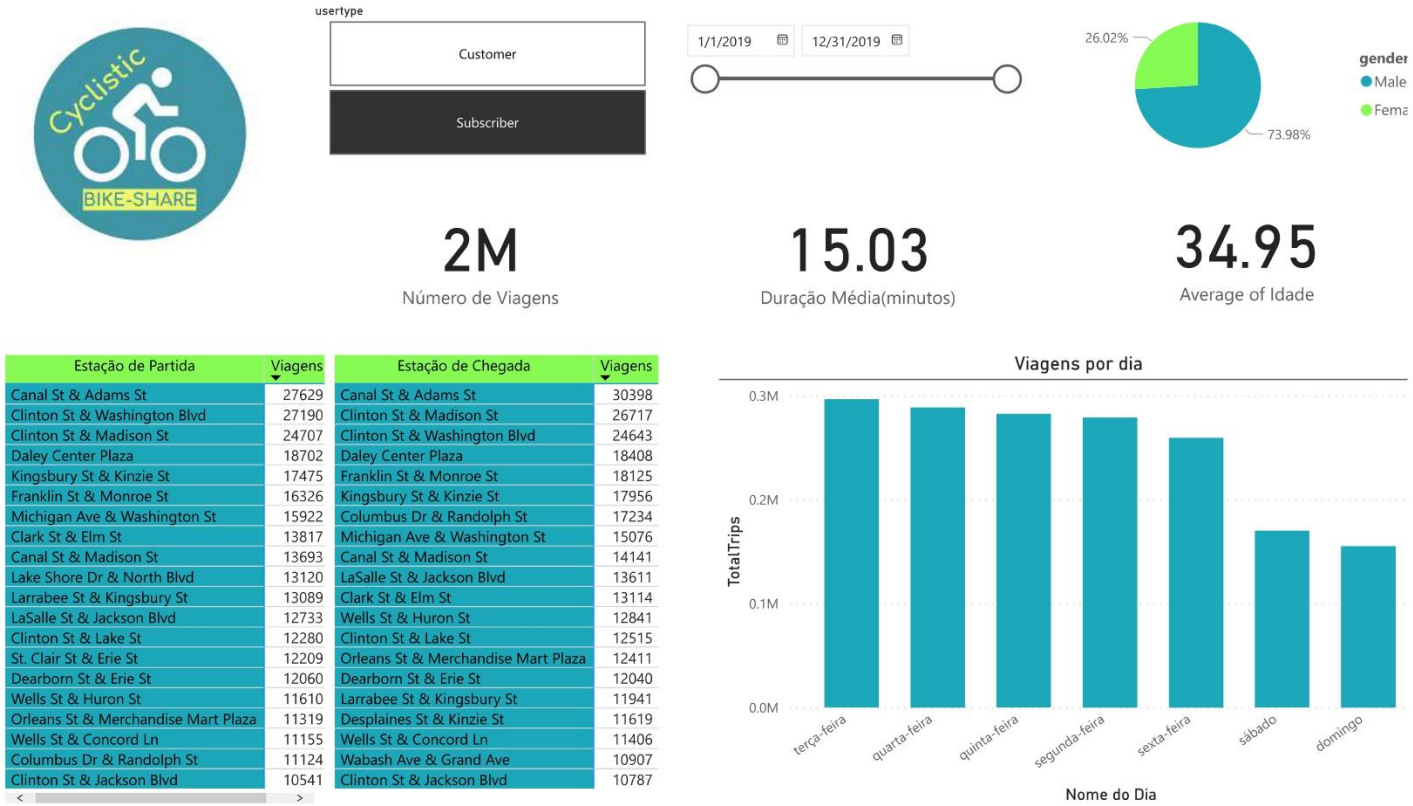
Estação de Partida	Viagens
Canal St & Adams St	28694
Clinton St & Washington Blvd	28179
Clinton St & Madison St	25852
Streeter Dr & Grand Ave	23721
Lake Shore Dr & North Blvd	20094
Daley Center Plaza	19540
Michigan Ave & Washington St	18612
Kingsbury St & Kinzie St	18553
Franklin St & Monroe St	17345
Theater on the Lake	15653
Clark St & Elm St	15341
Michigan Ave & Oak St	14966
Canal St & Madison St	14356
Larrabee St & Kingsbury St	13766
St. Clair St & Erie St	13590
Dearborn St & Erie St	13397
LaSalle St & Jackson Blvd	13197
Millennium Park	13177
Clinton St & Lake St	12914
Wells St & Huron St	12659

Estação de Chegada	Viagens
Canal St & Adams St	31750
Clinton St & Madison St	28181
Clinton St & Washington Blvd	25647
Streeter Dr & Grand Ave	21640
Daley Center Plaza	19501
Franklin St & Monroe St	19413
Kingsbury St & Kinzie St	19315
Columbus Dr & Randolph St	19154
Michigan Ave & Washington St	17850
Lake Shore Dr & North Blvd	15647
Canal St & Madison St	15002
Clark St & Elm St	14530
Theater on the Lake	14408
Michigan Ave & Oak St	14318
LaSalle St & Jackson Blvd	14315
Wells St & Huron St	14143
Dearborn St & Erie St	13693
Lake Shore Dr & Monroe St	13464
Orleans St & Merchandise Mart Plaza	13307
Clinton St & Lake St	13110



- Over 2 millions trips in 2019.
- 72% of trips was done by a male.
- 34,4 is the average age.
- A large concentration of trips during the workdays.
- The trips had an average of 19,63 minutes.
- Top 15 stations well distributed in the areas of Chicago.

Specific Look: Subscribers



Estação de Partida	Viagens
Canal St & Adams St	27629
Clinton St & Washington Blvd	27190
Clinton St & Madison St	24707
Daley Center Plaza	18702
Kingsbury St & Kinzie St	17475
Franklin St & Monroe St	16326
Michigan Ave & Washington St	15922
Clark St & Elm St	13817
Canal St & Madison St	13693
Lake Shore Dr & North Blvd	13120
Larrabee St & Kingsbury St	13089
LaSalle St & Jackson Blvd	12733
Clinton St & Lake St	12280
St. Clair St & Erie St	12209
Dearborn St & Erie St	12060
Wells St & Huron St	11610
Orleans St & Merchandise Mart Plaza	11319
Wells St & Concord Ln	11155
Columbus Dr & Randolph St	11124
Clinton St & Jackson Blvd	10541

Estação de Chegada	Viagens
Canal St & Adams St	30398
Clinton St & Madison St	26717
Clinton St & Washington Blvd	24643
Daley Center Plaza	18408
Franklin St & Monroe St	18125
Kingsbury St & Kinzie St	17956
Columbus Dr & Randolph St	17234
Michigan Ave & Washington St	15076
Canal St & Madison St	14141
LaSalle St & Jackson Blvd	13611
Clark St & Elm St	13114
Wells St & Huron St	12841
Clinton St & Lake St	12515
Orleans St & Merchandise Mart Plaza	12411
Dearborn St & Erie St	12040
Larrabee St & Kingsbury St	11941
Desplaines St & Kinzie St	11619
Wells St & Concord Ln	11406
Wabash Ave & Grand Ave	10907
Clinton St & Jackson Blvd	10787

- 87% of all trips was made by a subscriber
- Subscribers tend to do more trips with less duration (average of 15 minutes).
- When compared with the overall summary, the concentration of trips maintain in the workdays.
- Sunday and Saturday represents a major drop in total trips.
- Top stations stays almost the same when compared with the full analysis.
- Almost no change in the gender and age numbers. (Something easy to expect considering most of the data set are from subscriber trips).

- Looking further into the list of top stations is easy to notice that most of the top 10 are in central areas of Chicago.
- Two stations that claimed the top 3 in both lists (start station and end station) are Clinton Street &Washington Boulevard joined by Clinton Street & Madison Street, both near the second busiest rail station in Chicago, the Ogilvie Transportation Center, responsible for commuting three major lines and CTA buses.
- The top one considering start and end is in Canal Street & Adams Street, located near the busiest rail station of Chicago, the Chicago Union Station, responsible for commuting trains, subways and buses.

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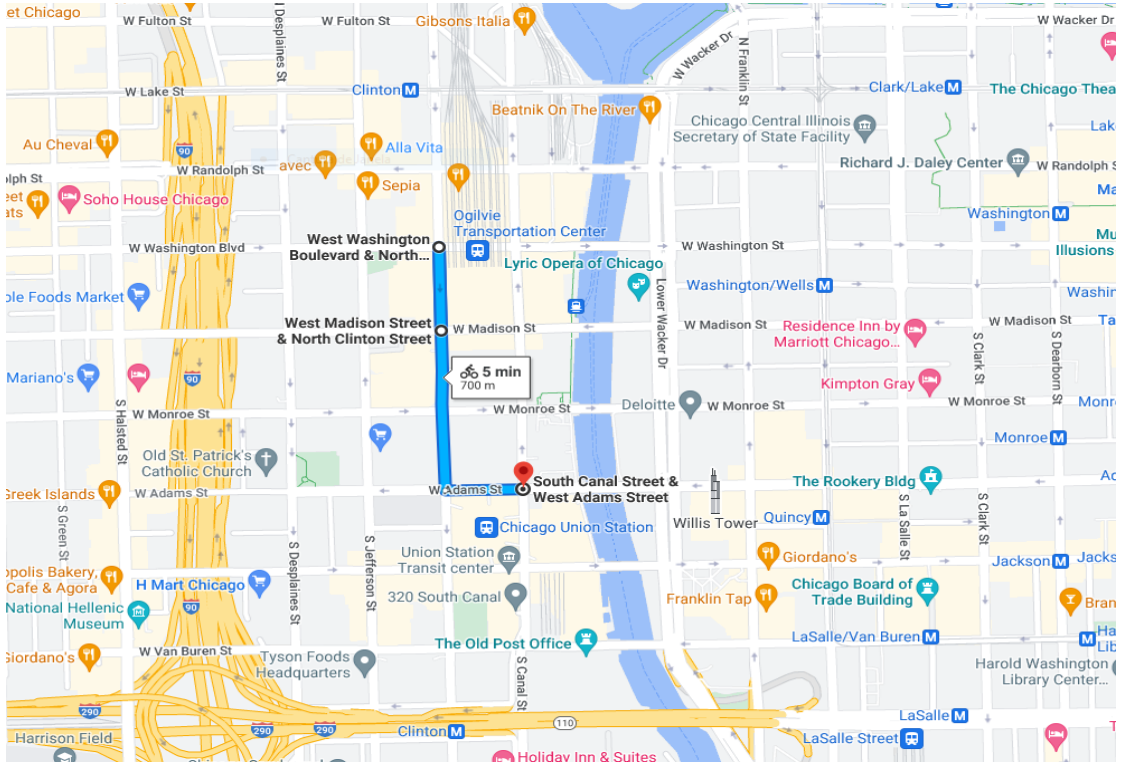
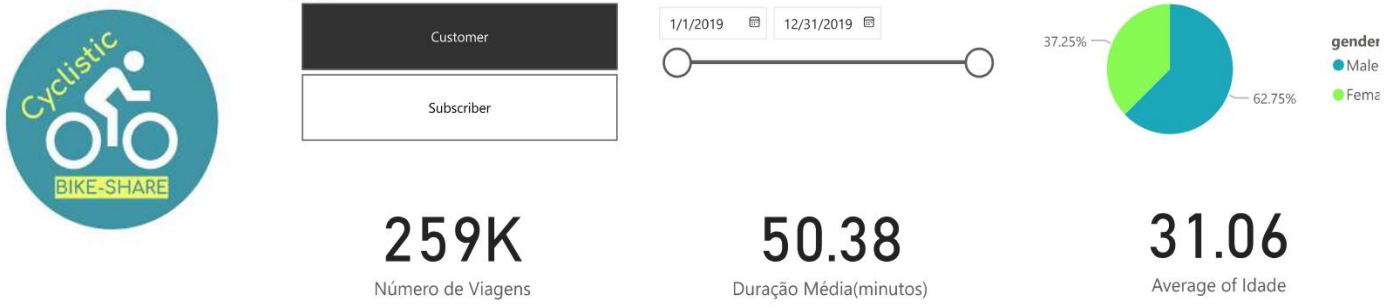
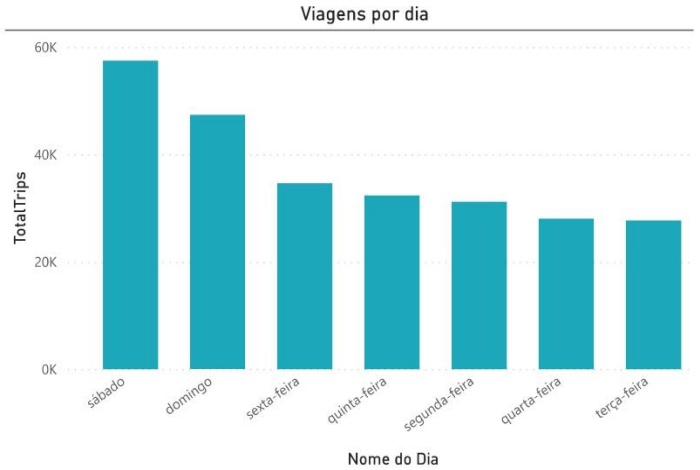


Specific Look: Customers



Estação de Partida	Viagens
Streeter Dr & Grand Ave	14524
Lake Shore Dr & North Blvd	6974
Michigan Ave & Oak St	6156
Lake Shore Dr & Monroe St	6132
Millennium Park	5604
Theater on the Lake	5135
Shedd Aquarium	3534
Michigan Ave & Washington St	2690
Adler Planetarium	2407
Wabash Ave & Grand Ave	2339
Clark St & Armitage Ave	2307
Dusable Harbor	2247
Michigan Ave & 8th St	2208
Montrose Harbor	2105
Clark St & Lincoln Ave	2017
Lake Shore Dr & Ohio St	1969
Lake Shore Dr & Belmont Ave	1839
McClurg Ct & Illinois St	1829
Indiana Ave & Roosevelt Rd	1755
Fairbanks Ct & Grand Ave	1748

Estação de Chegada	Viagens
Streeter Dr & Grand Ave	12051
Lake Shore Dr & Monroe St	6865
Michigan Ave & Oak St	5447
Lake Shore Dr & North Blvd	5153
Millennium Park	4830
Theater on the Lake	3934
Shedd Aquarium	3529
Michigan Ave & Washington St	2774
Adler Planetarium	2599
Clark St & Armitage Ave	2408
Dusable Harbor	2374
Michigan Ave & 8th St	2322
Montrose Harbor	2246
Wabash Ave & Grand Ave	2096
Clark St & Lincoln Ave	1968
McClurg Ct & Illinois St	1959
Columbus Dr & Randolph St	1920
Fairbanks Ct & Grand Ave	1895
Lake Shore Dr & Ohio St	1861
Michigan Ave & Jackson Blvd	1782



- Only 13% of total trips was done by a non-subscriber (customer/casual).
- When we look at the average duration, we see a huge difference when compared with subscribers and with the overall summary.
- We see a concentration of trips on the weekends, especially Saturdays.
- Looking at the list of stations is visible a change of profile, we start seeing parks, aquariums, planetaries.
- The average age drops a little and we see a more balanced gender graph, with 62% of trips being made by a man.

- As I said earlier is clear a change of profile when we look the top stations, especially when put on the map.
- The top station, in both lists, by a good margin is Streeter Dr & Grande Ave (the red mark on the map), It is located near Navy Pier, one of the most visited attractions in the entire Midwest, the second-most visited tourist locations in Chicago, drawing over nine million visitors with your 50 acres of parks, gardens, shops, restaurants.
- When we link the Streeter station with more top stations, is easy to see a pattern on the map, It seems that customers like to rent bikes to enjoy cycling on the lake shore, visiting parks and other attractions.

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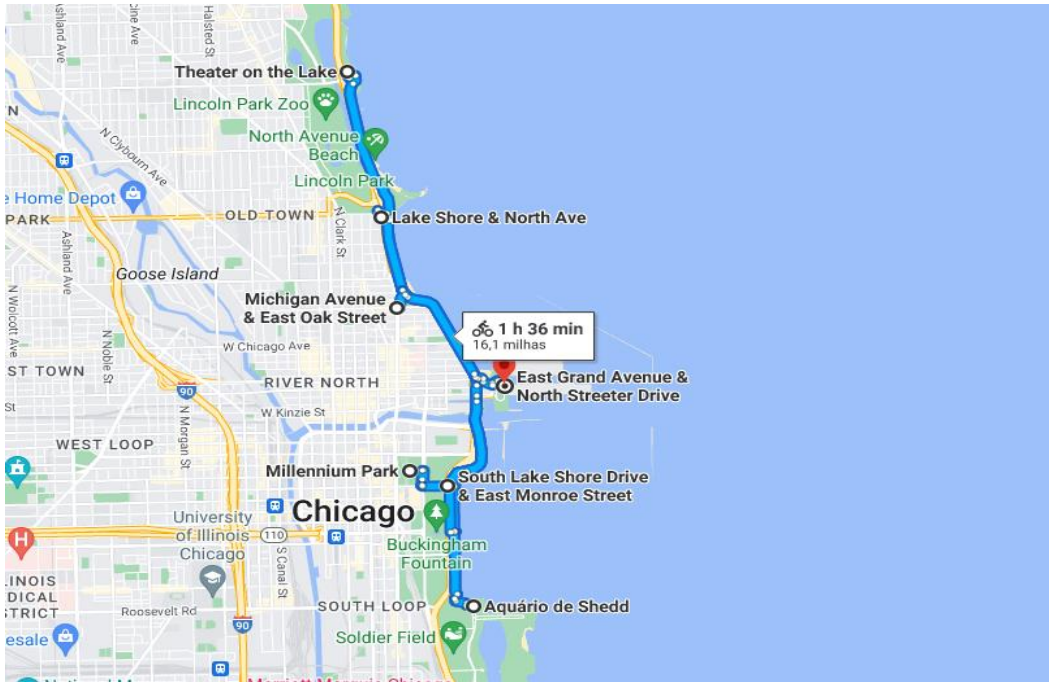

Conclusions

- After understanding all the data and information presented on each slide, now is possible to highlight the differences between customers and subscribers.
- The major one is related to the way the bikes are being used.
- Subscribers use mostly Monday to Friday as an alternative to get, using the top three stations as an example, from a high movement rail station to their work, and vice versa, usually in trips that don’t surpass 20 minutes of locomotion.
- Most of them subscribed to Cyclistic thinking in Practicality and time-saving for their routine. Have a more professional focus.

- On the other hand, Customers are completely different:
- First, they rent bikes to enjoy the weekend, go to parks, and exercise, they have a huge focus is on leisure.
- Considering the high duration time for customers, around 50 minutes on average, we can say that they travel long distances on a series of paths surrounding the lake shore and their parks.
- We don’t receive the rental information for non-subscribers, but looking at the large difference between the trips durations is possible to claim that customers rents for hour with a fixed price, and the average of 50 minutes shows that most of them settles for only an hour.

Recommendations

1. Ad campaign showing the benefits of using bikes in your day-to-day, focus on the time-saving and health aspect of cycling, with emphasis on adults between 25 and 40 years.
2. Some kind of activation in the most rented places for costumers, places like Streeter Dr, lake shore, etc.
3. A subscription option that gives some type of benefit for people that use it in certain areas like parks and near the lake shore. Maybe offering a second bike with a discount, more time available with less money, a free rental once a month, a family pack, and other features to attract this niche.