Tableau visualizations

Data analyst: Abraham Cedeño

Date: 11th October 2022

In this document, I will use tableau to answer the S.M.A.R.T questions I created when I started the data analysis.

**Data category 1 - Bike preferences**

**SMART Question one:** “What was the percentual distribution of bike preferences among casual and member riders in the last 12 months?”

**Answer:** I used SQL to query the data I needed and then used tableau to obtain the following visualizations.

**Visualizations for SMART question #1**

Chart, pie chart

Description automatically generated

**Data category 2 - Trips start day and time**

**SMART Question two:** “On which days of the week have our members used more often the services in the last 12 months?”

**Answer:** I used SQL to query the data I needed and then used tableau to obtain the following visualizations.

**Query for SMART question #2**

SELECT COUNT (day\_of\_week) AS Trips\_per\_day\_casual\_riders, day\_of\_week, member\_casual

FROM `capstone-1-abraham.Trip\_data\_v3.BikeTrips\_todos\_v2`

GROUP BY

day\_of\_week, member\_casual

Order by

member\_casual,

CASE

WHEN Day\_of\_week = 'Sunday' THEN 7

WHEN Day\_of\_week = 'Monday' THEN 1

WHEN Day\_of\_week = 'Tuesday' THEN 2

WHEN Day\_of\_week = 'Wednesday' THEN 3

WHEN Day\_of\_week = 'Thursday' THEN 4

WHEN Day\_of\_week = 'Friday' THEN 5

WHEN Day\_of\_week = 'Saturday' THEN 6

END

**Visualizations for SMART question #2Chart, pie chart

Description automatically generated**

Chart, bar chart

Description automatically generated

**SMART Question three:** “At which times of the day have our members used more often the services in the last 12 months?”

**Answer:** I used SQL to query the data I needed and then used tableau to obtain the following visualizations.

**Query for SMART question #3**

SELECT started\_time\_UTC, COUNT(started\_time\_UTC) AS Count\_of\_trips

FROM `capstone-1-abraham.Trip\_data\_v3.BikeTrips\_todos\_v2`

GROUP BY started\_time\_UTC

ORDER BY started\_time\_UTC

**Visualizations for SMART question #3**

Chart

Description automatically generated

Chart, line chart

Description automatically generated

**Data category 3 - Trips end day and time**

**SMART Question four: “**What was the average trip duration of our members in the last 12 months?

**SMART Question five: “**What was the average trip duration of our casual riders in the last 12 months?”

**Answer:** I used SQL to query the data I needed and then used tableau to obtain the following visualizations.

**Query for SMART question #4 and #5**

SELECT ride\_length, COUNT(ride\_length) AS Conteo\_ridelength, member\_casual

FROM `capstone-1-abraham.Trip\_data\_v3.BikeTrips\_todos\_v2`

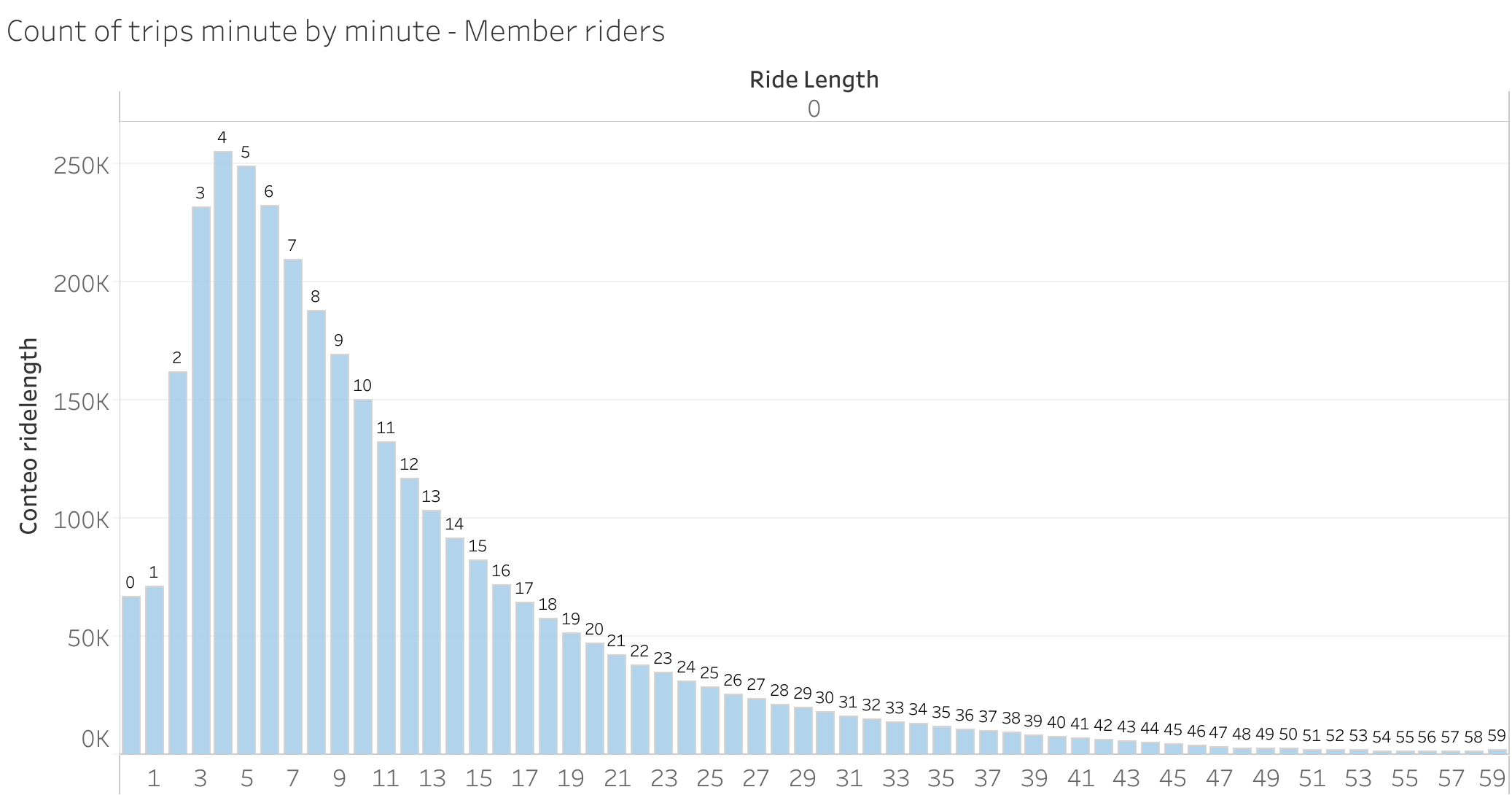
GROUP BY ride\_length,member\_casual

ORDER BY ride\_length,member\_casual

**Visualizations**

**Chart, histogram

Description automatically generated**

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**Data category 4 – Start stations**

**SMART Question six:** “On which stations did the member riders start their rides more often in the last 12 months?”

**Answer:** I used SQL to query the data I needed and then used tableau to obtain the following visualizations.

**Queries for SMART question #6**

**Query #1**

SELECT COUNT (cleaned\_start\_station\_name) AS Number\_of\_trips, cleaned\_start\_station\_name AS start\_station\_of\_member\_riders, member\_casual

FROM `capstone-1-abraham.Trip\_data\_v3.BikeTrips\_todos\_v2`

WHERE member\_casual = 'casual'

GROUP BY

cleaned\_start\_station\_name, member\_casual

Order by

COUNT (cleaned\_start\_station\_name) DESC

LIMIT 11

**Query #2**

SELECT COUNT (cleaned\_start\_station\_name) AS Number\_of\_trips, cleaned\_start\_station\_name AS start\_station\_of\_member\_riders, member\_casual

FROM `capstone-1-abraham.Trip\_data\_v3.BikeTrips\_todos\_v2`

WHERE member\_casual = 'member'

GROUP BY

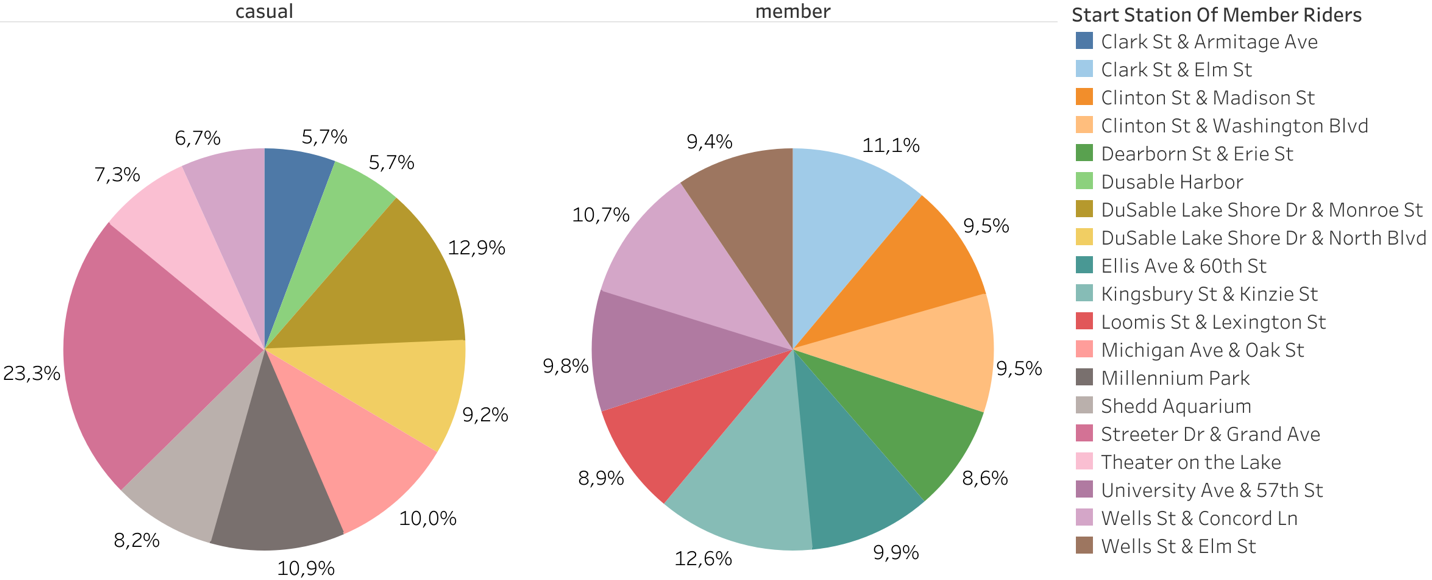
cleaned\_start\_station\_name, member\_casual

Order by

COUNT (cleaned\_start\_station\_name) DESC

LIMIT 11

**Visualizations**



**Data category 5 – End stations**

**SMART Question seven:** “On which stations did the member riders finish their rides more often in the last 12 months?

**Answer:** I used SQL to query the data I needed and then used tableau to obtain the following visualizations.

**Queries for SMART question #7**

**Query #1**

SELECT COUNT (cleaned\_end\_station\_name) AS Number\_of\_trips, cleaned\_end\_station\_name AS end\_station\_of\_member\_riders, member\_casual

FROM `capstone-1-abraham.Trip\_data\_v3.BikeTrips\_todos\_v2`

WHERE member\_casual = 'casual'

GROUP BY

cleaned\_end\_station\_name, member\_casual

Order by

COUNT (cleaned\_end\_station\_name) DESC

LIMIT 11

**Query #2**

SELECT COUNT (cleaned\_end\_station\_name) AS Number\_of\_trips, cleaned\_end\_station\_name AS end\_station\_of\_member\_riders, member\_casual

FROM `capstone-1-abraham.Trip\_data\_v3.BikeTrips\_todos\_v2`

WHERE member\_casual = 'member'

GROUP BY

cleaned\_end\_station\_name, member\_casual

Order by

COUNT (cleaned\_end\_station\_name) DESC

LIMIT 11

**Visualizations**

Chart, pie chart

Description automatically generated

**Data category 6 – Start latitude and longitude**

**SMART Question eight:** “What was the distribution of rides starting point per longitude for both casual and member riders in the last 12 months?”

**SMART Question nine:** “What was the distribution of rides starting point per latitude for both casual and member riders in the last 12 months?”

**Answer:** I used SQL to query the data I needed and then used tableau to obtain the following visualizations.

**Queries for SMART question #8 and #9**

**Queries for SMART question #7**

SELECT start\_lat AS start\_lat, COUNT(start\_lat) AS Conteo\_geographic\_pos, start\_lng AS start\_lng, member\_casual

FROM `capstone-1-abraham.Trip\_data\_v1.BikeTrips\_2021\_11\_04\_v31`

GROUP BY start\_lat,start\_lng, member\_casual

ORDER BY start\_lat,start\_lng, member\_casual

With every single file

**Visualizations**

Map

Description automatically generated with medium confidence

**Data category 7 – End latitude and longitude**

**SMART Question ten:** “What was the distribution of rides ending point per longitude for both casual and member riders in the last 12 months?”

**SMART Question eleven: “**What was the distribution of rides ending point per latitude for both casual and member riders in the last 12 months?”

**Answer:** I used SQL to query the data I needed and then used tableau to obtain the following visualizations.

**Queries for SMART question #10 and #11**

**Visualizations**

A picture containing map

Description automatically generated