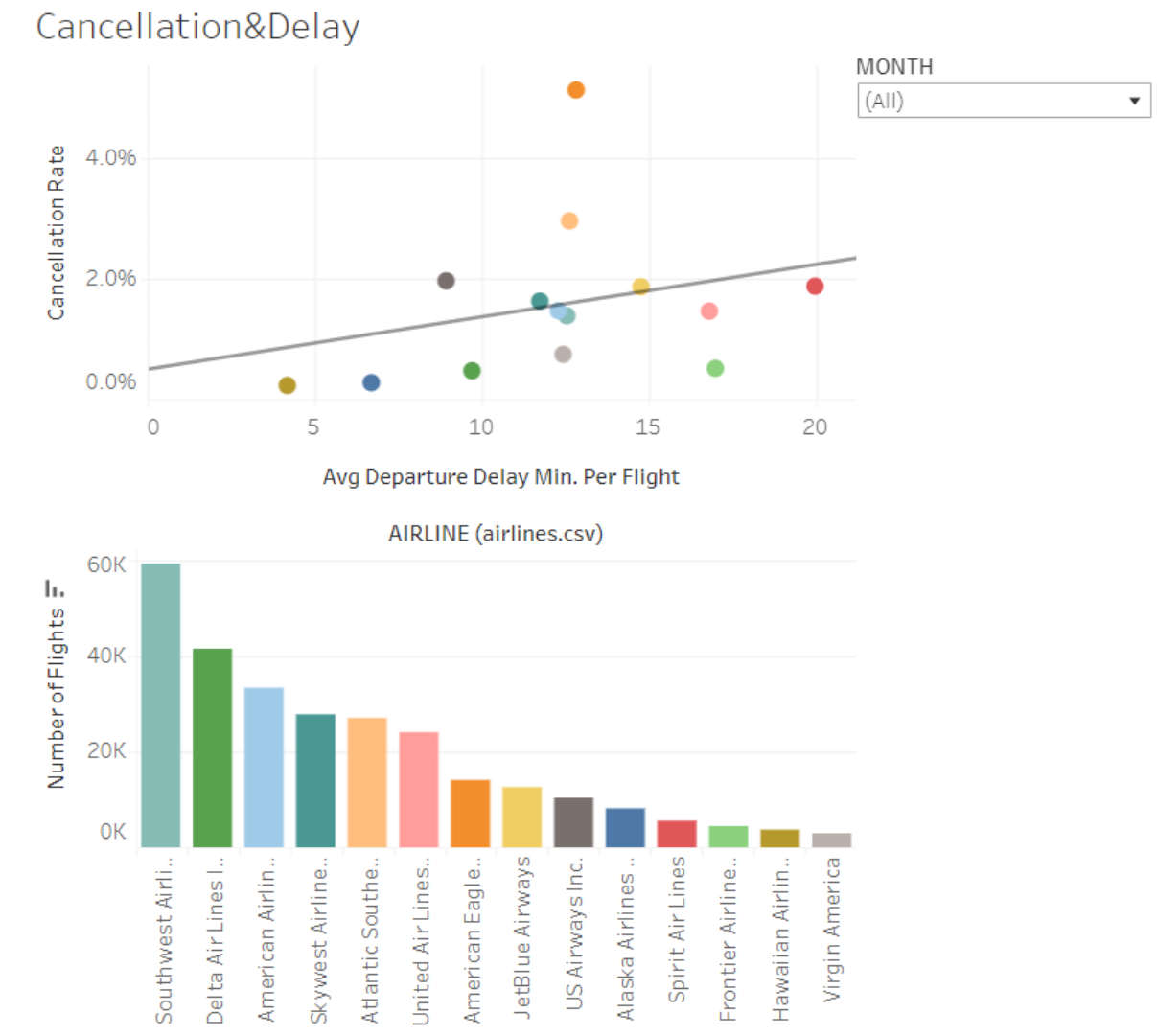
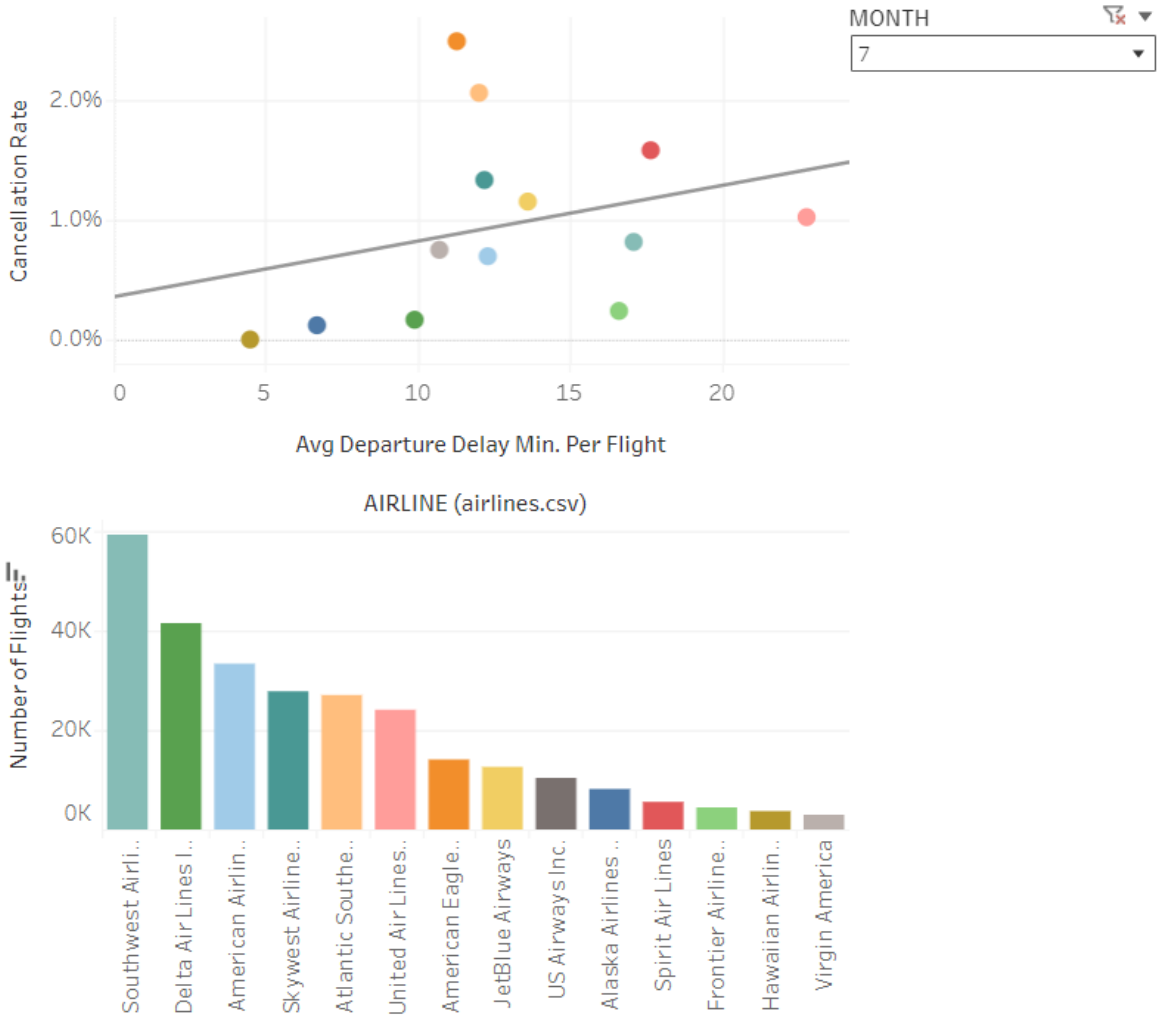
Bilgenur Caliskan

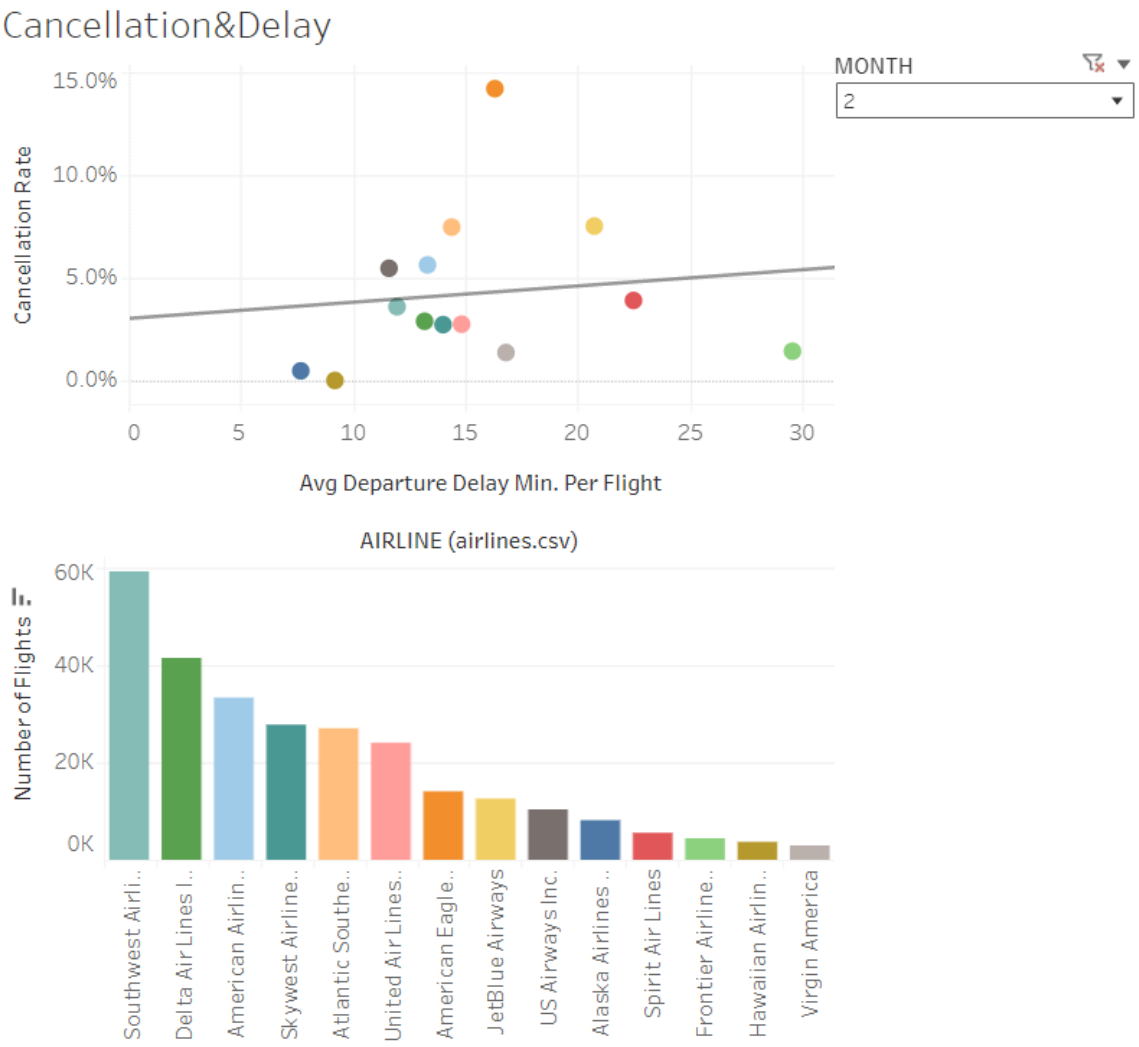
1 . How do Airlines perform?

Link:
https://public.tableau.com/app/profile/bilgenur.caliskan/viz/AirlinePerformance_16583367023640/AirlinePerformance?publish=yes



Cancellation&Delay





Summary:

- From the dashboard we can observe cancellation rate and average minutes for departure delay for each airline, monthly or for all months.
- We can see that Spirit Air Lines stands rightmost with highest average delay minutes and American Eagle uppermost with highest cancellation rate. Those airlines can be counted as bad performing.
- Hawaiian Airlines has the lowest cancellation rate and average delay minutes. However, it had only 3,565 flights.
- Southwest Airlines, with 59,347 flights, is the largest Airline in terms of number of yearly flights.It has an average performance in terms of cancellation and delay. (1.4%, 12.54 mins respectively.) Additionally, from the Tool Tip we can see that it has 0.3% of diverted flight rate.

- We can also see that for summer months and winter months performances can change. For example for July worst delay minutes is United Air Line's (22.77) while for February it is Frontier Airlines'(29.56)

Design:

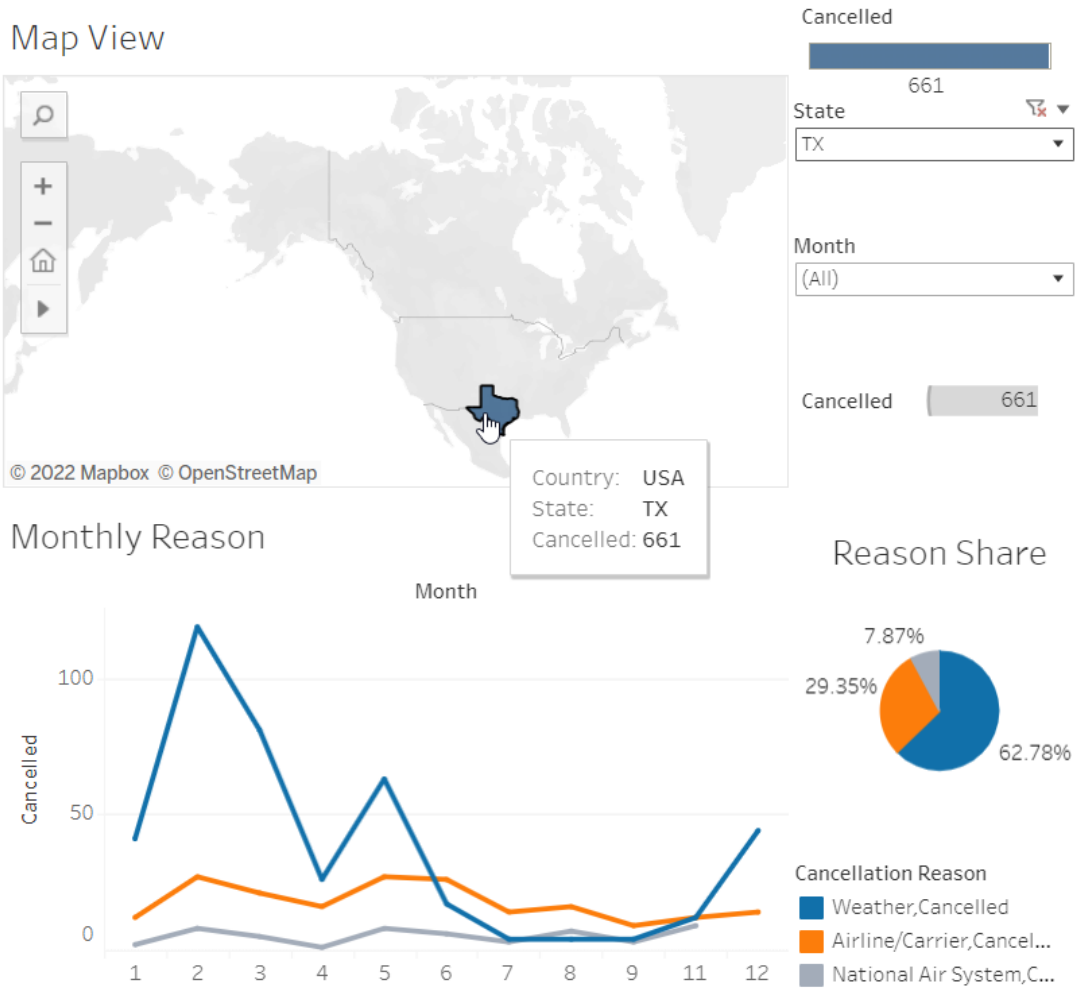
I chose to use a bar chart for the number of flights by airlines because airline is categorical data. Additionally since I wanted to show the relationship between cancellation rate and average departure delay minutes per flight I decided to use a scatter plot.
Since I used a scatter plot I also felt the need to color them both in the bar chart and scatter plot. I used Tableau's Automatic Palette which seemed soft and appropriate for color blindness. Both scatter plot and bar chart have the same coloring.
Compared to the first and second versions that I uploaded I made a change that I removed the color legend because I realized I already show the colors of airlines in the bar chart.

Resources:

- https://www.youtube.com/watch?v=9xqHA732LMA
- https://github.com/kev1nch0e/Udacity-Business-Analytics/blob/master/Project%204:%20Build%20Data%20Dashboards/Tableau%20Report.pdf
- https://community.tableau.com/s/question/0D54T00000C5ygpSAB/countif-value-is-greater-than-zero-formula

2. What are the top cancellation reasons for the states in terms of departure?

Link:
https://public.tableau.com/app/profile/bilgenur.caliskan/viz/CancellationReason_16583132141210/Dashboard1?publish=yes



Summary:

- From the pie chart we can see that for all states and all months, the most occured cancellation reason is weather (54.07%). Additionally, by the tool tip cancellation count can be seen. (2,397 for weather)
- From the line chart it is found that for the summer months (6,7,8) the dominating reason is Airline/Carrier.
  February stands out with the dominating cancellation reason of weather. (78.91% share)
- From the map it is found that most cancellations occurred in TX for all months (661) and the dominating reason is weather with 62.37%.

Design:

I decided to use a map because I had geographical data(states) and I wanted to show them o a map. Second, I wanted to use a line chart because I had time data and I wanted to show monthly changes in cancellations and cancellation reasons.
Additionally, I wanted to use a pie chart to show cancellation reason share explicitly both all months and monthly. (monthly can be shown by filtering)

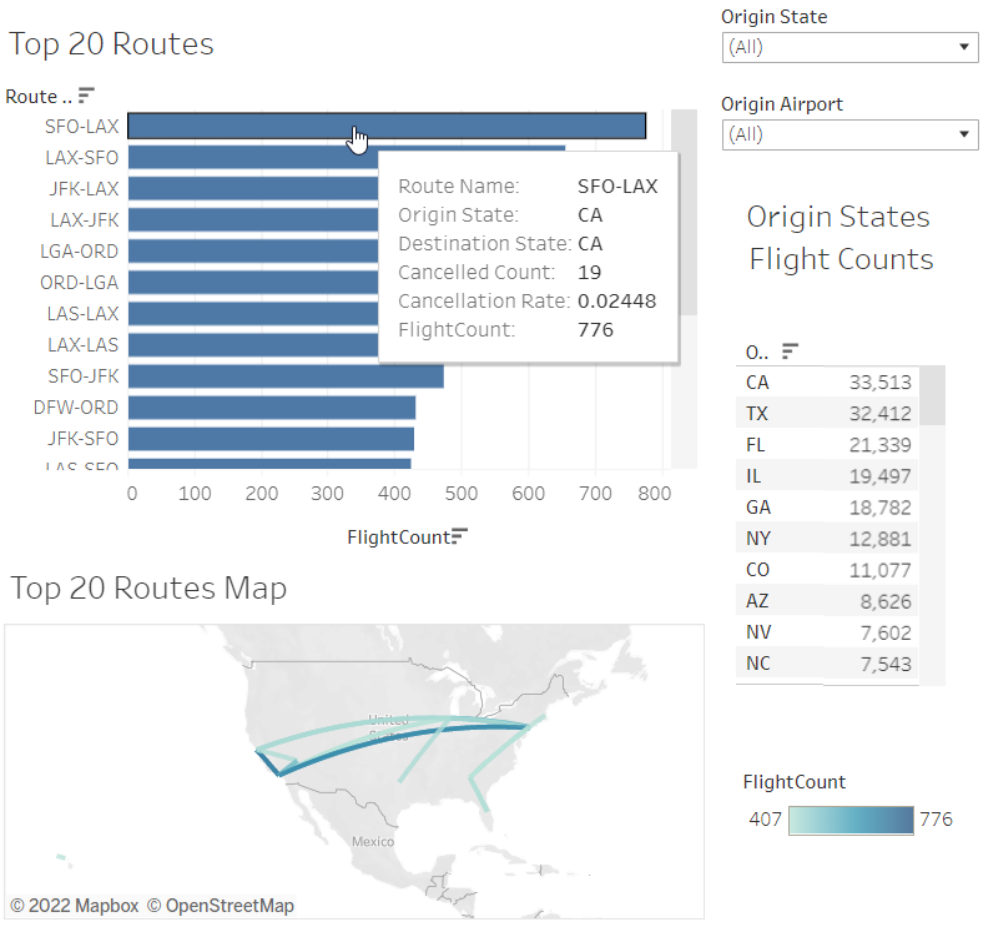
For the map I preferred Blue-Teal Palette by Tableau for its smooth transition and safety for color blindness.
For pie chart and line chart I chose to use a different palette (Color Blind) since it is the cancellation reasons we are looking for rather than states. (States can still be chosen by filtering.)
Compared to the first version I submitted I made a color change in scatter and pie charts, I realized by the feedback that the coloring was not appropriate for color blindness.

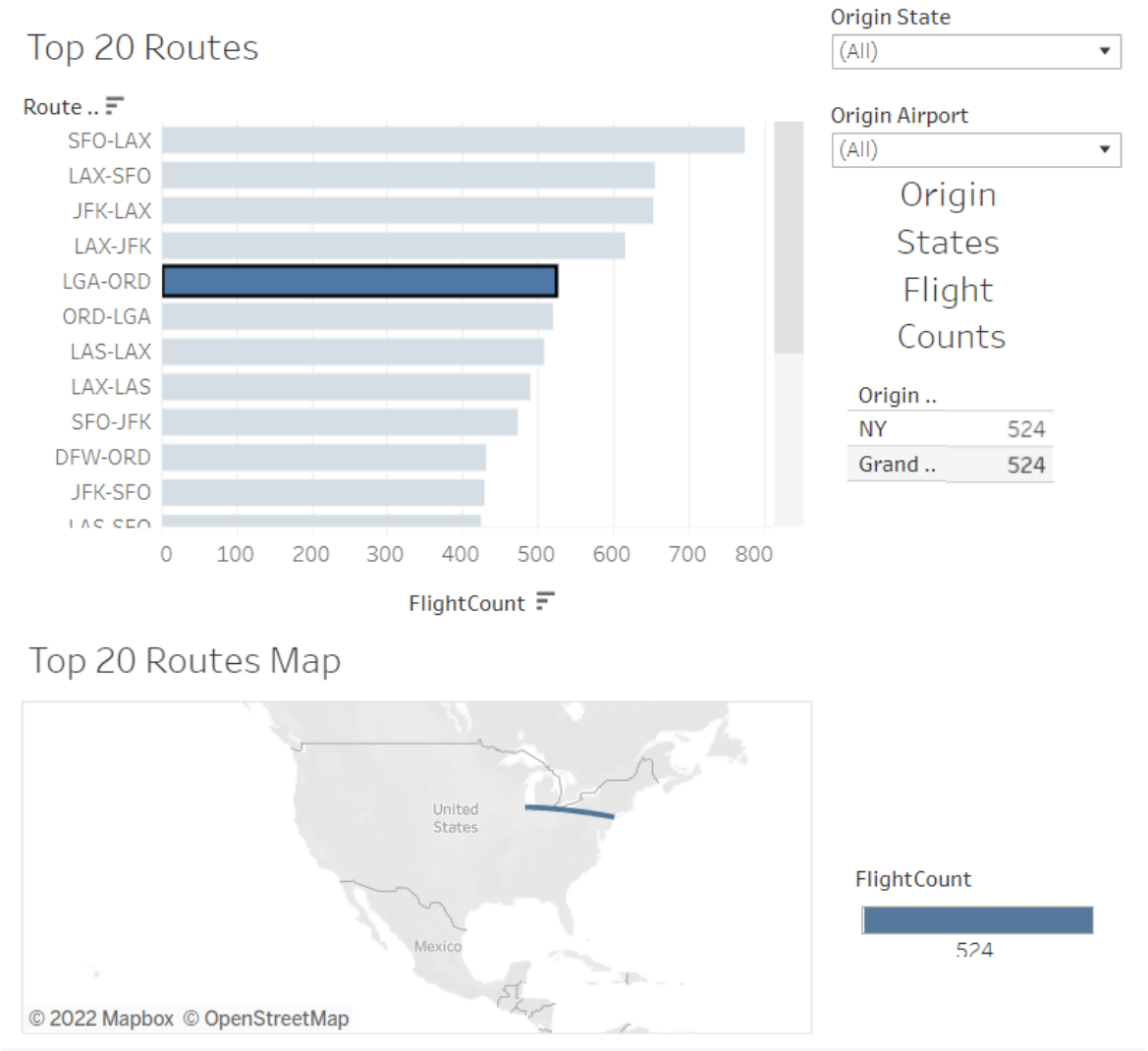
Resources:

- https://m-soro.github.io/Business-Analytics/Data-Visualization/L5-Project-Build-Data-Dashboard/index.html#my-project

3. Which routes and which states(in terms of departure) have the most flights?

Link:
https://public.tableau.com/app/profile/bilgenur.caliskan/viz/TopRoutes/Dashboard1?publish=yes





Summary:

- From the bar chart we can spot the top 20 routes, the route having the most flights is SFO-LAX with 776 flights. We can also see routes' canceled flight count, cancellation rate, origin state and destination state by tool tip.
  The most popular route has a 2.45% cancellation rate.
- By clicking a route on the bar chart we can also see the route on the map.
- Additionally, without any filtering we can see the most and least popular states of departure in terms of flight count from the table at the right side.
  CA is most popular with 33,513 flights and AS and DE are the least popular with only 4 flights.

Design:

Since I had categorical data with routes I decided to make a bar chart in the first place.

For the bar chart I did not choose different colors since by clicking on routes it also filters for the map.

Also, I had geographical data(states) and I wanted to show them on a map.

Without any filter on, routes on the map would seem complicated with a single color so I decided to use an automatic design palette. Also by the legend besides the map one can also spot how popular a route is.

Resources:

- https://www.theinformationlab.co.uk/2020/09/14/how-to-create-an-origin-destination-map-in-tableau/
- https://help.tableau.com/current/pro/desktop/en-us/functions_functions_spatial.htm