DATA VISUALIZATION PROJECT

Insight 1 - Which Usa State has the highest number of flights cancellation?

https://public.tableau.com/profile/veronica1715#!/vizhome/Flightscancelledandinteractivemenureasons/Sheet1?publish=yes

From this map, we can see where the most cancellations occur. It appears that most cancellations happen in Texas (668), Illinois (563) and California (408).
Delaware has the fewest number of cancellations with 0 deleted flights. As represented in the pie-charts on map, the first cause of flight cancellation in Usa is the weather factor.

Insight 2 - Top 10 Usa cities according to flights cancellations and related reasons

https://public.tableau.com/profile/veronica1715#!/vizhome/Filtersmenureasons/Dashboard1?publish=yes

The visualization shows the top ten Usa cities according to flight cancellations, (filtered by total highest number of flights cancellation) in the first graph and their cancellation reasons, in the second graph . As shown in the first chart, Chicago has the highest number of cancellations (541), followed by Dallas-Fort-Worth with a count of 342 cancellations. The top ten ranking sees in tenth position San Francisco with 114 cancelled flights.
The second graph, in the dashboard, illustrates the cancellation reasons: Airline/carrier, Security, Weather.
Analyzing the graph, Chicago has the largest number of cancellations predominantly due to weather reasons which amount to 314, followed by Dallas Fort Worth with an amount of 232. In the last position for number of flights deleted due to weather reason there is Los Angeles with 34 cancellations. Adding up the total number of flights canceled due to bad weather (1193 for this analyzed sample), we can say that the main cause of flight cancellation is the weather factor. The second cause of cancellation of flights is due to airlines, (585 deleted flights) the third and last cause, in this analysis, is due to security issues with an amount of 404 cancellations.

Insight 3 - Which month has the largest number of diverted and canceled flights?/Which city has the most high number of canceled and diverted flights?

https://public.tableau.com/profile/veronica1715#!/vizhome/DivertedCancelledflights/Dashboard1?publish=yes

This dashboard shows the number of diverted and cancelled flights in each month (first graph) and in each city (second graph). In the first line plot, we can see the differences of the

number of flights canceled and diverted over time (over all the year). As reported in the plot, September is the best month to travel with airplane, in fact it registers the lowest amount of cancellations (108) and diverted flights (34). The month that records the largest number of flights deleted is February with a count of 1058. Month of June has the highest number of diverted flights (112).
The second graph, in dashboard, reveals a comparison between diverted and deleted flights in 20 Usa cities. Extending the analysis, it can be stated that this scatter plot indicates a moderate and negative relationship between these two measures. Chicago has the highest number of diverted (63) and cancelled flights (541). As represented in the plot, Seattle has the smallest number of deleted flights (17), instead Boston and Minneapolis have the largest reduction of diverted flights with an amount of 3.

Color is an important tool in designing visualizations because it can encode data and help viewers see the most important information of a graphic. Data can also be encoded using different shapes or size but in general, we can say that color and shape are best used for categorical variables, while the size of the marker can assist in adding quantitative data.
I have chosen less intense colors for this data visualizations such as indigo, black and pastels because red-green palettes could distract the viewers and also because people with colorblindness can not distinguish well between red and green.
In the first visualization, I used a map to represent the State of America and the number of flights cancellation by each country. In addition, the user can click on the legend and choose a cancellation reason interactively, (this will change the small pie charts on map according to user choice) or the user can click on the filter and select or deselect more options and dig into data to better understand the differences of the reason of flights cancellations by state.
In the second dashboard I used a bar chart because it is the most common way to visualize categorical data, also here there is a filter so the user can select or deselect the reasons option. In the third dashboard I used a line plot for the first graph, because a line plot is the best for data that we want analyzing over time; I used also a scatter plot for the second visualization because the scatter chart is most common way to visualize two quantitative variables. In conclusion, I think that focus on simplicity is the best way to communicate findings.