Data Visualization Project

Insight 1

Link: Departure Delay in US Airlines and Airports in 2015

Summary: This is a story containing 3 sheets and a dashboard, sheet 1 views the airlines sorted ascendingly according to average departure delay, we now know each airline's delays on average and which airlines have the most average delay. Sheet 2 views the same thing but for each airport. Sheet 3 views the percentage of delayed flights from the total number of flights for each airport, we see that some airports have a percentage of delayed flights that reaches 6.6%.

Each airport can have flights on different airlines, so when we combine them in the dashboard we can filter by airline and see the airports which have the most average delay and their percentage of delayed flights in that airline, or we can filter by airports and see their percentage of delayed flights and the airlines the flights are on.

We can use visuals as filters to filter for airports and airlines, and we can also use floating filters to filter by month or day.

All this is combined in the story in the final visual, which tells our findings in a narrative way.

Design: I used bar charts as it is the easiest for the eye to see the average departure delay and the percentage of the total for each airline or airport, rather than the heatmaps or stacked bars, I also used one colour (blue) in the dashboard for the charts containing average and another colour (brown) for the chart having percentage in order to notice the difference easily.

Resources: N/A

Insight 2

Link: Cancellation Reason

Summary: This is a pie chart to visualize the reasons for cancelled trips, we have 3 major reasons (Airline/Carrier, Weather, National Air System) which cause cancellation, the pie chart presents them along with each reason's percentage of total and sum of cancellations, we can filter by state or by month, this helps us see the reasons for cancelled trips in each state and which reason occurs more often in the selected state, or we can see which reasons occur more often in a certain month like the weather in IL in September.

Design: I used a pie chart as it is easier than other charts since we have a small number of categories (3), I changed the names of the values from (A, B, C) to actual reasons (Airline/Carrier, Weather, National Air System) in order to be understandable for the reader, I also used Tooltip to provide a quick table calculation (Percentage of total) of each cancellation reason, I used colour blindness friendly palette to colour the chart, I added exterior labels with arrows to be clear for the reader and provide all labels we need without overlapping.

Resources: Dynamic exterior pie chart labels

Insight 3

Link: Number of trips in each state or from specific origin to destination

Summary: This is a map for each state in which the colour represents the number of trips from each state, we find that in total, the largest number of trips (33,000) was from California state while most of the other states were below 1000. We can filter by origin and destination airports to know the number of trips from one airport or going to a certain airport, we can also filter to know the number of trips by month.

Design: I chose a shaded map to be able to compare all states to each other easily, I added the name of the state as a label to know the state without hovering over it.

Resources: N/A