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Udacity Build a Data Visualization Project – Flight Delays and Cancellations

Data Preparation

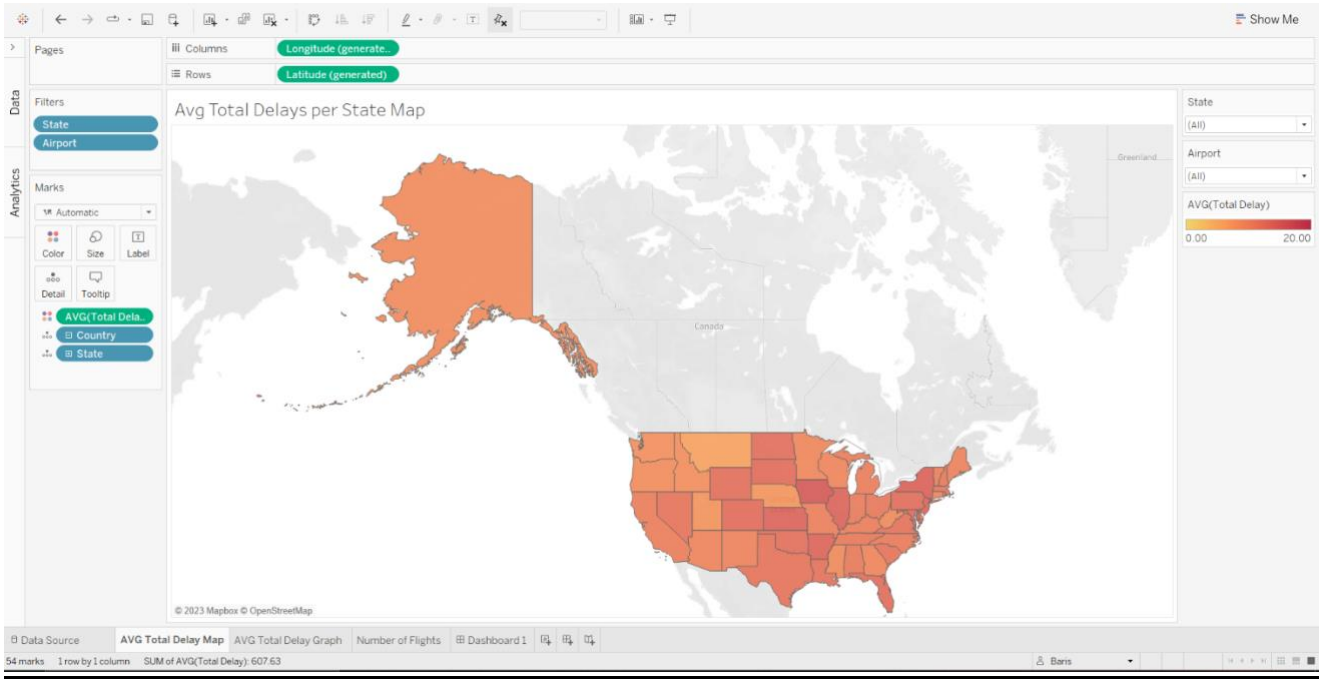
- Added 0's to all blank cells using Find & Replace to calculate total delay in each flight and for further use in calculations.
- Added a total delay column at the Flights spreadsheet to be able to compare differences in total delay between states and airports.
- Connected Flights and Airports spreadsheets in Tableau. For Flights origin_airport is used as the primary key and for Airports iata_code is used as the primary key to relate both tables with each other. Including Airports spreadsheet into the dataset enabled the usage of maps in visualizations since it had the information about the longitude and latitude of the different airports.

Link to Tableau Public:

https://public.tableau.com/app/profile/baris2293/viz/FlightDelaysandCancellations_16751632839370/NumberofCancelled

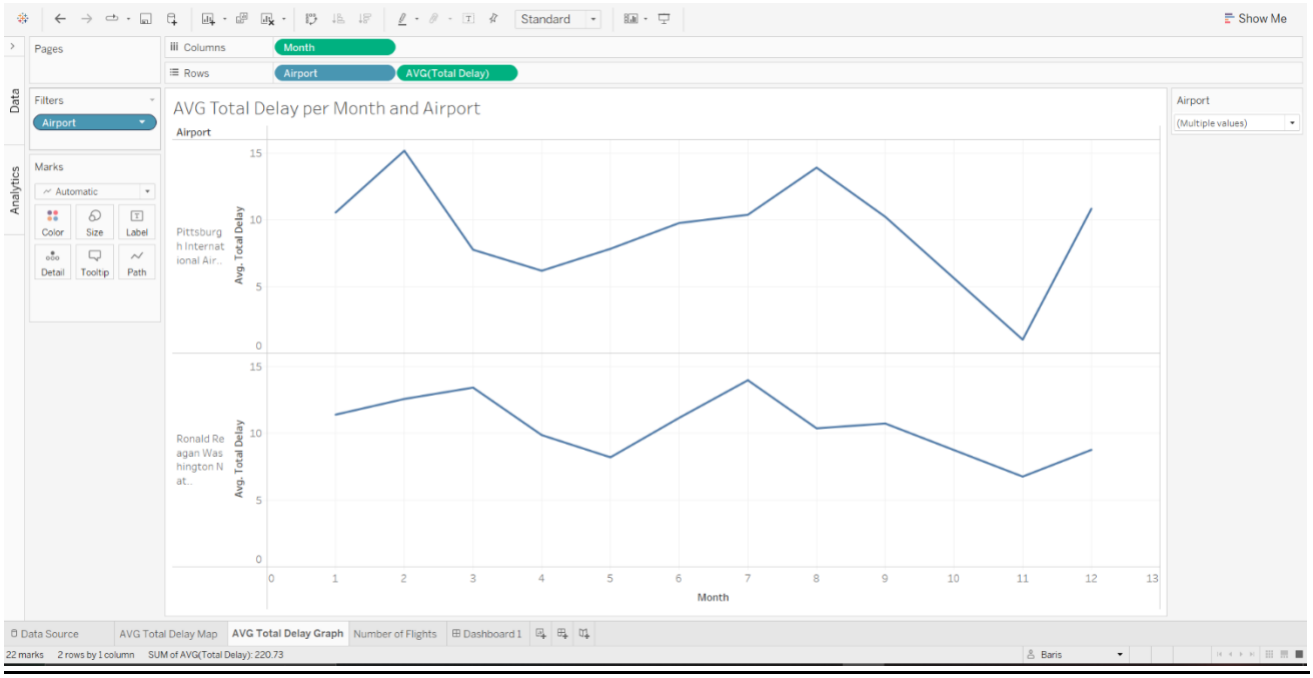
- Please use the above tabs to go over each worksheet and dashboard while viewing online.

Worksheet 1 – AVG Total Delays per State Map



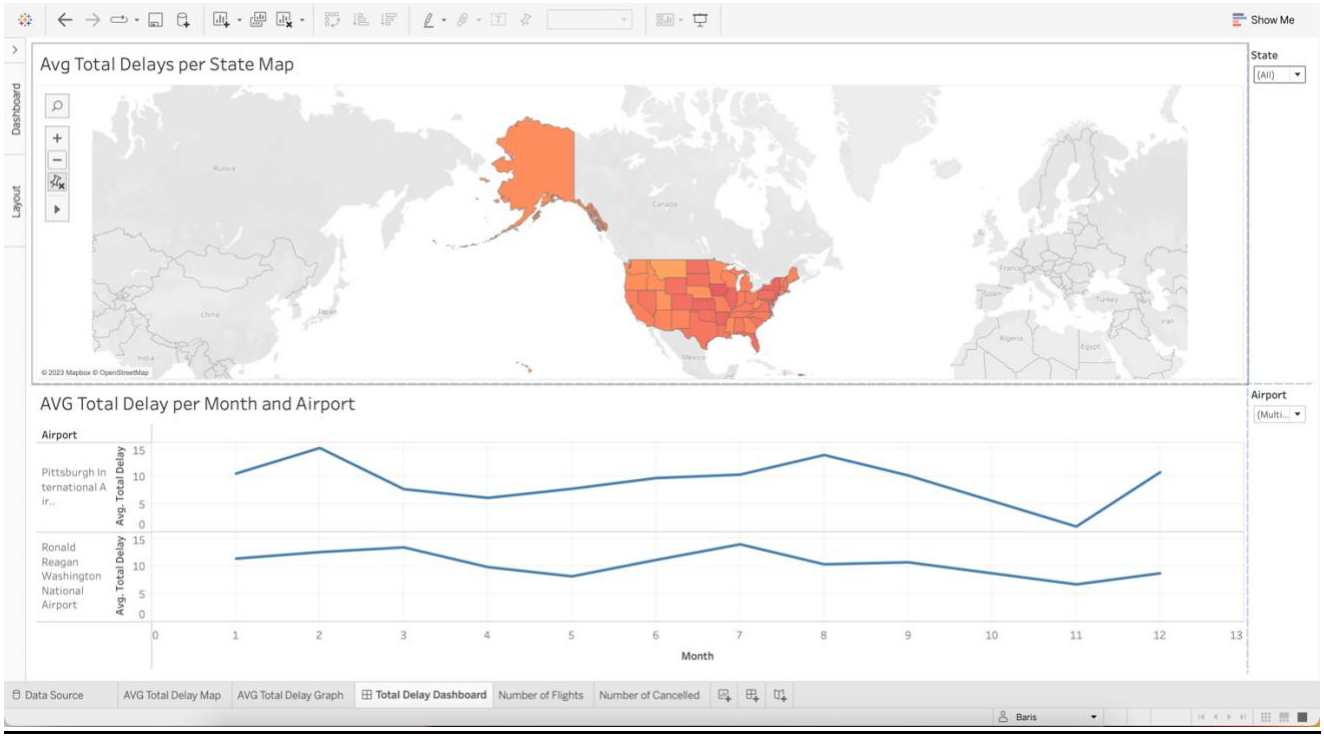
- The map shows the different average total delay times of each state and the higher the average total delay gets the tone of the red gets darker.
- By hovering over each state, the information about the name of the state and the exact average total delay information can be gathered. Each information is added as Detail.
- States and Airports are added as Multiple Values dropdown filter on the right side of the map and users can filter specific states or airports to compare their average delays.
- The range between average delays are customized (0.00 – 20.00) to be able to see the color differences between the highest and lowest point better.

Worksheet 2 – AVG Total Delay per Month and Airport Graph



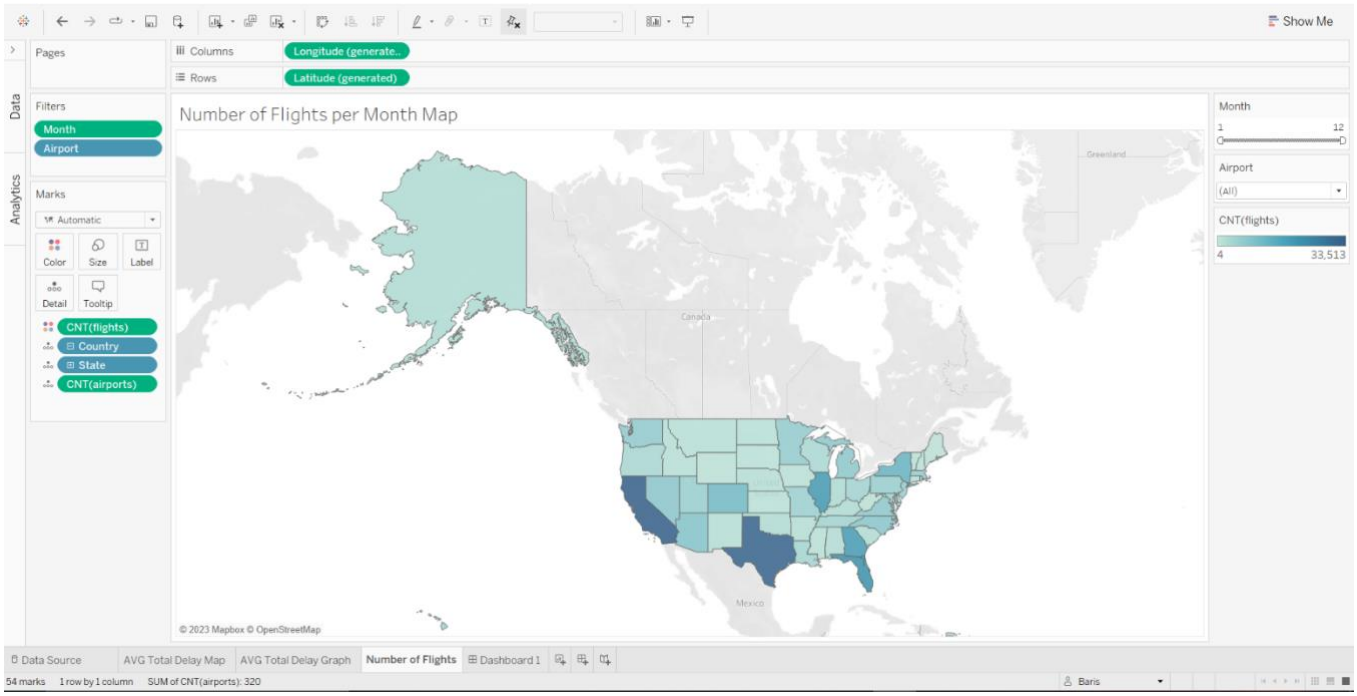
- The graph shows the average total delays graph to different months. With this graph users can see and compare the different delay trends for each airport.
- By hovering over each month, the exact average total delay information can be gathered.
- Airports are added as a filter so users can choose each airport that they want to compare and see the trends in average total delays.
- For the above example Pittsburg International Airport and Ronald Reagan Washington airport are filtered.

Dashboard 1 – Total Delay Dashboard



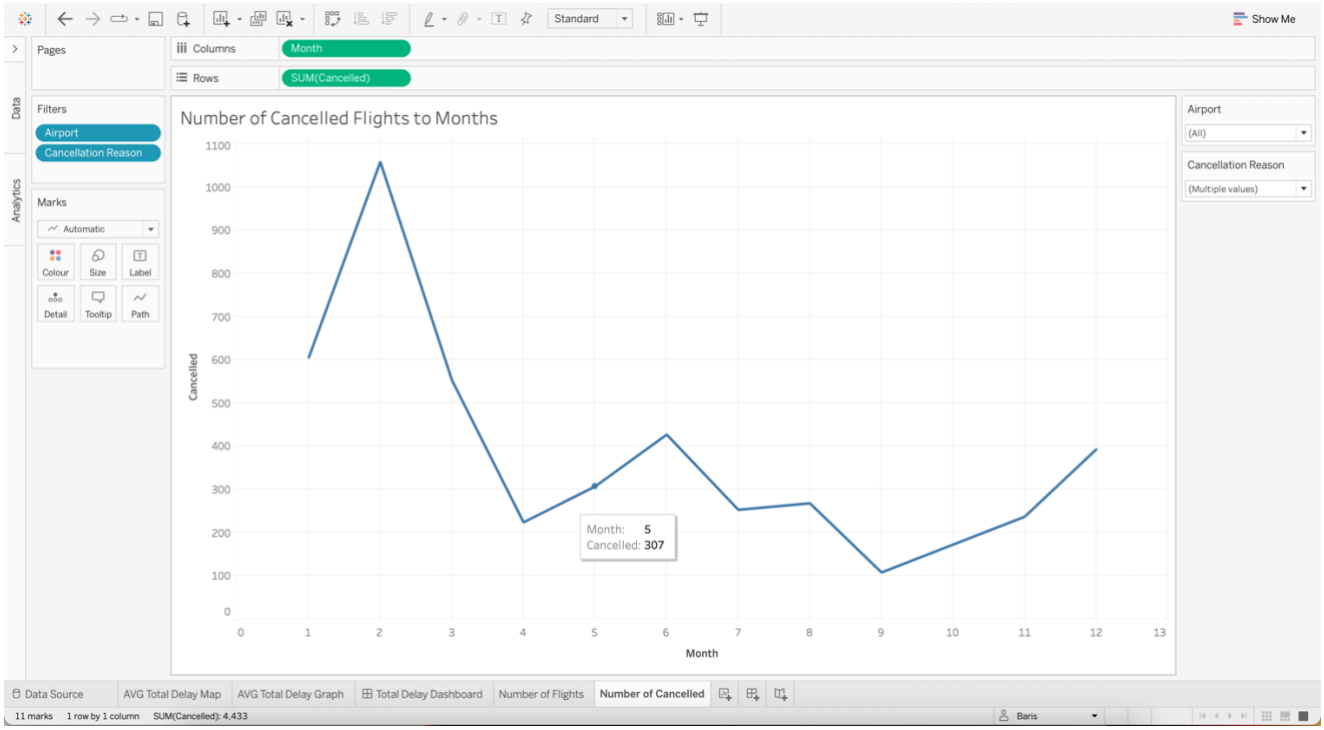
- The dashboard summarizes the information about the average total delays in each state and each airport.

Worksheet 3 – Number of Flights per Month Map



- The above map shows the number (count function) of flights from each state. As the number of flights increases, the tone of blue becomes darker.
- By hovering over each state, the information about the exact number of flights from that state and the count of airports in that state can be gathered (count of airports are added as a detail).
- The months are added as a range of values slider filter so that the users can select a specific range of months to see the number of flights in that specific period.
- Airports are also added as a multiple values dropdown filter so that the users can view the number of flights from specific airports.
- The range for number of flights are left as automatic intentionally so that the range and map colors change when the month slider is adjusted.

Worksheet 4 – Number of Cancelled Flights to Month Graph



- The above graph shows the number of cancelled flights to months for all states and for all airports. From the graph users can see the trends at the number of cancelled flights (e.g. For overall, there is much more cancellation during winter months than summer months.)
- The filters for airports and cancellation reasons are also added as filters so that the users can filter each airport or cancellation reason.