Flight Delay & Cancellation

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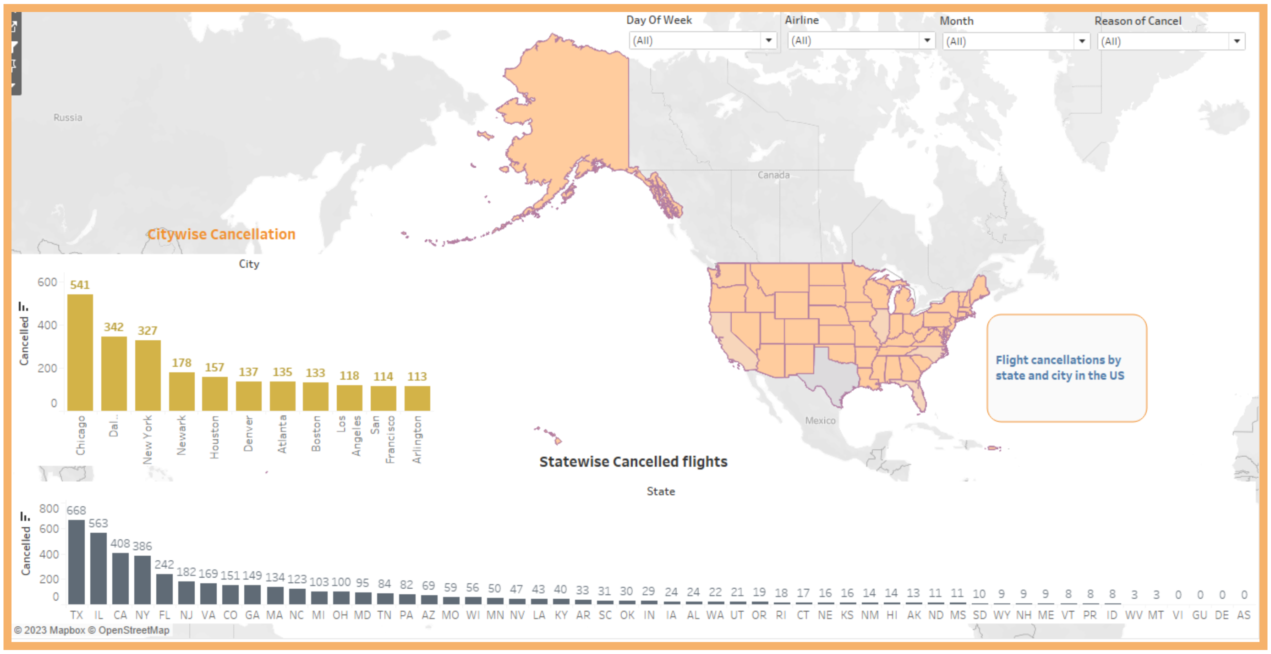
Overview

We have three data sets: flights, airports, and airlines. To examine some insights and potential remedies, we will attempt to uncover the reasons for the delays as well as the cancellation views at the state and city levels. Along with airline delays and airport congestion, there will also be departure and arrival delays. In the Tableau platform, we must join all three data sets.



Goal -1

To visualize state- and city-level flight cancellations in the US

Q2. Which states and cities experience the most flight cancellations?

Link:

https://public.tableau.com/app/profile/somnath.sudarshan.poddar/viz/SomnathPODDAR-FlightDelayTABLEAUVisualisation/FlightdelayCancellations?publish=yes

Summary:

The geographic destination map of the data and the number of cancellations broken down by state and city were both attempted to be visualized. It provided a data visualization that revealed Texas had a high number of cancellations (668), while Chicago had the highest number of cancellations in the cities with 541. The data on the dashboard can be filtered by month, day of the week, airline, and cancellation reasons.

Design:

Along with a bar graph comparing the locations of the various US states and cities, we have utilized a map to illustrate their respective states' geographic locations. When displaying multiple charts, use the dashboard to compare the lengths of the bars in the bar chart to identify the states with the most cancelled trips. When choosing colors for the template, colorblind individuals were taken into account.

Resources:

I. **https://www.kaggle.com/datasets/usdot/flight-delays?select=flights.csv**

Goal -2

To Visualise Airport delays due to airline delays

Q2.Which airports suffer the most from weather-related flight delays?

Link:

https://public.tableau.com/app/profile/somnath.sudarshan.poddar/viz/SomnathPODDAR-FlightDelayTABLEAUVisualisation/FlightdelayCancellations?publish=yes

Summary:

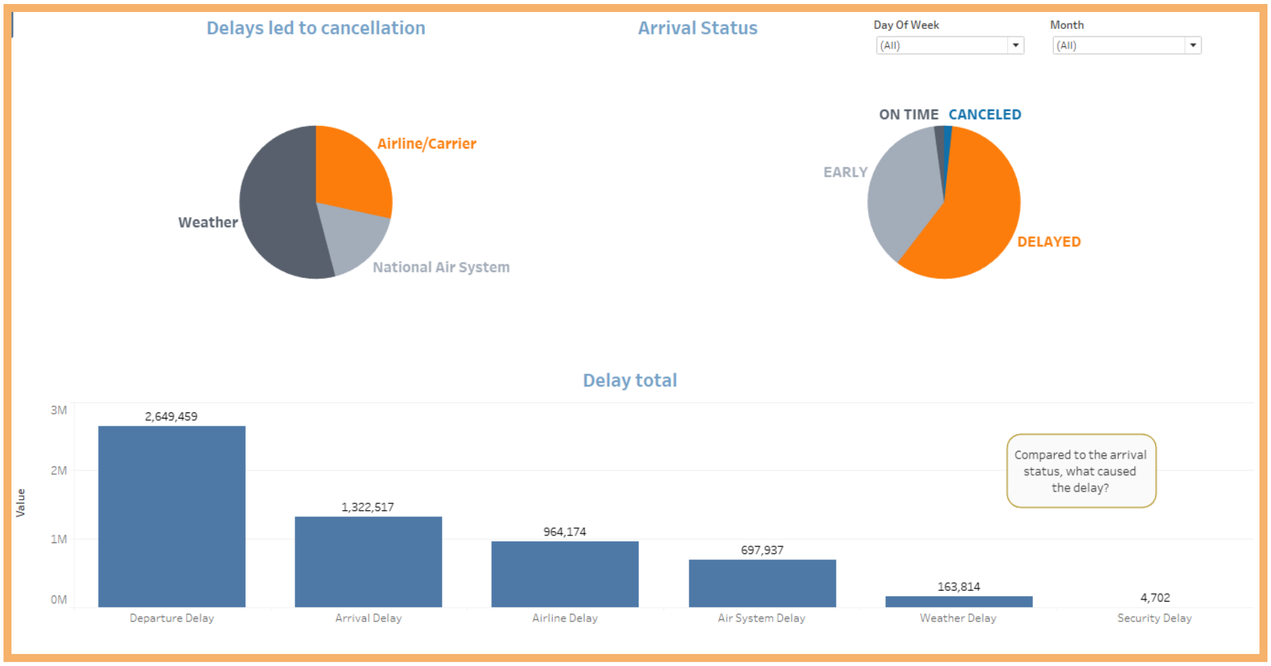
The airports with the greatest flight delays are listed in the above graph, with Chicago Airport leading the pack with 14,789 delays and Dallas Airport coming in second with 12331 delays. American Airlines, with 16.18%, and Southwest Airlines, with 22.45%, are the two airlines that experience the most delays.

Design:

Use the bubble chart because it allows for limited comparisons and displays the largest airport among other airports that has the highest percentage of flight delays. A pie chart is used to display the airline that experiences the most delays, and the color scheme is chosen to be readable by all and take colourblind individuals into consideration.

Resources:

II. https://www.kaggle.com/datasets/usdot/flight-delays?select=flights.csv



Goals -3

To Visualise Delay Factors

Q3. What are the most frequent causes of flight cancellations?

Link:

https://public.tableau.com/app/profile/somnath.sudarshan.poddar/viz/SomnathPODDAR-FlightDelayTABLEAUVisualisation/FlightdelayCancellations?publish=yes

Summary:

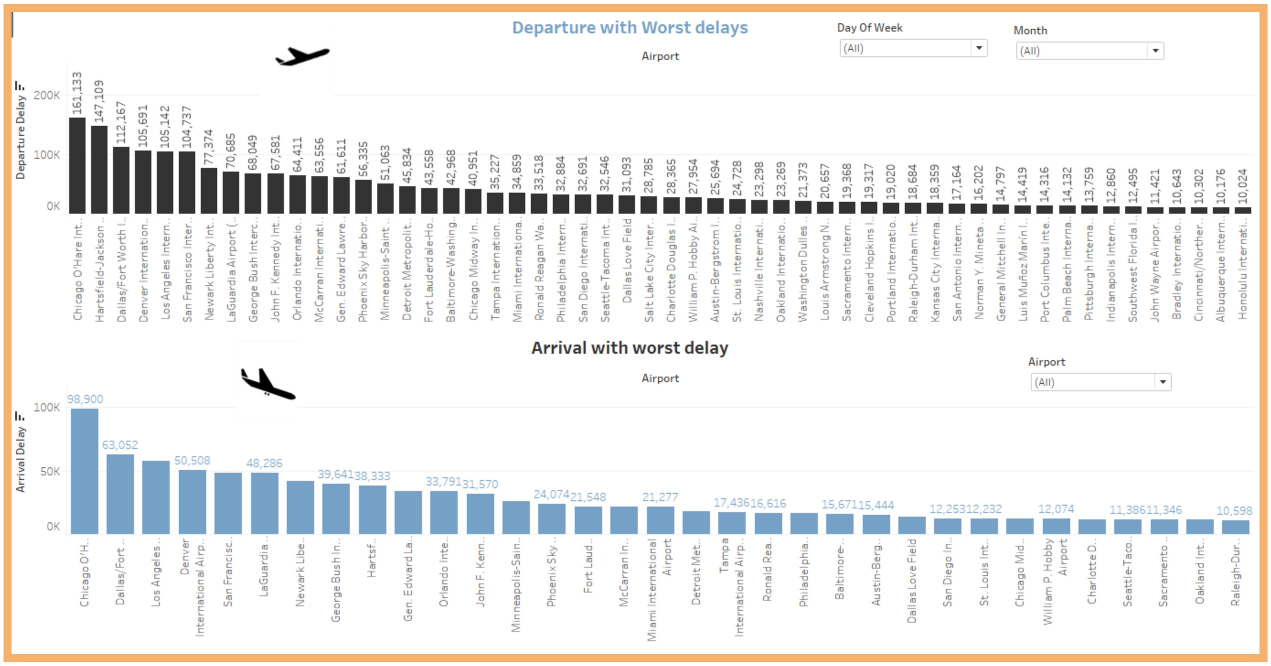
The aforementioned graph outlined the frequent causes of flight cancellations. If one were to concentrate on these causes, the weather would come out on top with 2397 cancelled flights, followed by airline problems with 1260 flights. Here, we can see that the difference is quite significant and that the weather has a significant impact on flight cancellations.

Design:

Use a pie chart instead of a comparison table because it allows for more accurate comparisons, identifies the person with the greatest number of cancellations (the circle is separated into cancellation reasons), and takes colorblind users' needs into account.

Resources:

III. **https://www.kaggle.com/datasets/usdot/flight-delays?select=flights.csv**



Goals -4

To display the status of monthly arrival and departure delays

Q3. What months experience a high volume of arrival and departure delays?

Link:

https://public.tableau.com/app/profile/somnath.sudarshan.poddar/viz/SomnathPODDAR-FlightDelayTABLEAUVisualisation/FlightdelayCancellations?publish=yes

Summary:

The aforementioned graphic depicted a monthly visualization of arrivals and departures at various airports. Both the weekdays and the month can be filtered. This shows us when there is greater traffic, which requires attention for reducing congestion and building a new airport to reroute traffic.

Design:

To compare with related airports, use a bar chart for both arrivals and departures. This is a useful comparison image that uses sorted data to make it simple to see traffic congestion. Colors are becoming more accessible to everyone and taking colorblind individuals into account.

Resources:

IV. **https://www.kaggle.com/datasets/usdot/flight-delays?select=flights.csv**