Airline Flight Data Analysis & Visualization using Tableau

Project Description

This project analyzes flight data from 2015 for airlines and airports, with destination and arrivals. The dataset allows use of visualization to reveal various insights. Follow the story line within the public workbook as it tells a narrative of air flight cancellations and reasons. Hopefully the information can be used to improve the efficient of domestic air flights due to cancellations.

Dashboard

Link:
https://public.tableau.com/app/profile/carlos.m.clarke/viz/Flight_Project_16500283678160/FlightStory?publish=yes

Summary
Within the dashboard there's a map and a bar chart that display's flight cancellations by state. You clearly can see that Texas has the highest overall number of flights cancelled (668) and Illinois (563) is second on the list. The smallest state of Delaware calculated the fewest cancellations (0). There are other states with very low volumes as well, such as West Virginia and Montana. Volume may be predicated by the size of the airport.

Design
For the map within the dashboard, I choose a blue and orange color palette that would bring out the highest to lowest cancellation by state, by not being too overbearing. The map can also be filtered by day of week to see if this plays a role in which states had high to low cancellations during this period. This scheme really works to show the contrast among the states. The states are also displayed with a bar chart using a blue color with the ability to filter by state. The color coordination works well with both chart types.

Resources:
N/A

Insight (1): Cancellations by Airline

Link (*Note: The worksheet is part of the story***):**
https://public.tableau.com/app/profile/carlos.m.clarke/viz/Flight_Project_16500283678160/FlightStory?publish=yes

Summary
For this insight you can clearly see the highest number of flights cancelled (818) came by the Southwest Airlines Co. On the other hand, the lowest number of flights cancelled (8) came by the Hawaiian Airlines Co. This is a huge difference across the trend that we see in the bar chart.

Design
The design for this visualization utilized a bar chart with count labels for each airline to illustrate an effective comparison of cancellations. Instead of using multiple colors for the chart, and causing any distractions, solid blue was chosen for all airlines.

Resources:
N/A

Insight (2): Cancellations by Month

Link (*Note: The worksheet is part of the story***):**
https://public.tableau.com/app/profile/carlos.m.clarke/viz/Flight_Project_16500283678160/FlightStory?publish=yes

Summary
This insight shows a month over month trend of cancellations by Month, with February (1,058) having the highest number of flight cancellations and September (108) having the lowest number of flight cancellations.

Design
This insight uses a treemap chart which captures each month by cancellations. This a great way to compare the data to see what month contributes the highest to lowest cancelled flights. The color scheme of blue and orange provides a distinguished pattern for each month.

Resource
N/A

Insight (3): Cancellation Reasons

Link (*Note: The worksheet is part of the story***):**
https://public.tableau.com/app/profile/carlos.m.clarke/viz/Flight_Project_16500283678160/FlightStory?publish=yes

Summary
For this insight, you can clearly see that the highest reason of cancellation was due to the Weather (2,397), then the actual Airline/Carrier (1,260) and finally the National Air System (776).

Design
The packed bubble chart was used to display the contrast of the three cancellation reasons. This chart really highlights the volume of each cancellation reason. The color palette of "Color Blind" was used for the chart to display a rich scheme for anyone viewing the visualization.

Resource
The original dataset didn't provide the actual cancellation reasons. The coded values were A, B, C, D respectively. A calculated field had to be created with the correct translated values based on information from Kaggle, site location of https://www.kaggle.com/usdot/flight-delays/data