

Build a Data Dashboard Project

Flight Delays and Cancellations

Telling a Story with Data

Dashboard - Insight 1

Link

https://public.tableau.com/views/USFlightDelaysandCancellations_16640256593310/Dashboard2-Avg_Delayed30minsInsight?:language=en-US&:display_count=n&:origin=viz_share_link

Summary

This dashboard investigates the number and percentage of delayed and on time flights per each airline. I suppose when the average delay time exceeds 30 minutes, it is considered a delayed flight; this assumption came out of looking at averages of different seven delays like we will see in (Visualization 3). Southwest Airlines Co. has the most delayed flights which equals 11563, but this number is tricky to judge on the airline, because the same airline has the most on time flights which equals 47874. So, each airline delay and on time flights percentage is needed to judge these airlines. I found that “Spirit Airlines” has the most percentage of delayed flights that equals 29.12%, while “Hawaiian Airlines” has the lowest percentage of delayed flights that equals 10.07%.

Design

I used stacked bars in the first visualization as I created a “Check Delay” which is a categorical variable that has two available values; delayed and on time. I wanted to put them together inside a stacked bar for each airline to be easier to relate them with each other. In the second visualization, I used text tables because it is appropriate to show the percentage for each airline. I could make it with the “delayed” column only, but I added the “on time” column, so that the reader can relate easily.

Resources N/A

Dashboard - Insight 2

Link

https://public.tableau.com/views/USFlightDelaysandCancellations2/Dashboard1-FlightCancellations?:language=en-US&:display_count=n&:origin=viz_share_link

Summary

In this dashboard, I am interested in flight cancellations. I want to check how they vary with different states or different months. From the first visualization, you can see that Texas state has the most flight cancellations with 668 cancellations followed by Illinois state with 563 cancellations. California came in third place with 408 cancellations. Montana state and West Virginia state have the least number of cancellations, which equals 3. In the second visualization, you can see that February is the month with the most cancellations that equal 1058 followed by January which has 605 cancellations. March came in third place with 553 cancellations. September has the lowest number of cancellations, which equals 108. Weather is the most popular reason for flight cancellations across all months.

Design

I used a map for visualizing the states because it is a known geographical variable which can easily be known by its location on map. Color of the states indicates the number of flight cancellations. I added a filter to check any state the viewer wanted, the choice can be either one, multiple, or all states with the number of cancellation. In the second visualization, I used an area chart to see the sequence of cancellations and different reasons for cancellation over months. I added the filter and highlight to check every cancellation reason alone or combined with other reasons.

Resources

[Data Viz Project Walkthrough DAF Final - YouTube](#)

Insight 3

Link

https://public.tableau.com/views/USFlightDelaysandCancellations3/Whatcausedelay?:language=en-US&:display_count=n&:origin=viz_share_link

Summary

In this visualization, I wanted to know what causes flight delay. There were seven types of delays that I calculated the average of each of them to know which delay has the most effect on total delay. The visualization indicated that the late aircraft delay is the main reason for most of the flights to get delayed, its average value equals 23.74 minutes. It is followed by airline delays that cause an average delay of 18.59 minutes. Average security delay is the most rare reason for delay, as it causes on average only a 0.09 minutes delay.

Design

I used a bar chart because all variables are measure variables. I arranged them descending so that the viewer easily detects the most delay and the least delay.

Resources

[Data Visualisation of Flight delays with Tableau | by Moses Ong | Medium](#)