US Flight Delays and Cancellation Analysis (2008)

Final Visualizations:

US Flights Cancellations and Delays Story

Before Feedback:

Cancellation_Story

Delay_Story

Summary:

We have seen how December is on average is the month with the highest delays and trips cancellation. The main reason of delays is the late arrival of aircrafts, NAS and carrier delay, while the main reason of cancellation is due to weather and carrier. Hawaiian Airlines has the highest Average delay, while American Eagle Airlines has the highest cancellation ratio. Also, New Jersey has the highest average delay and Iowa state has the highest cancellation ratio.

Design:

To display the delay by: reason, airport and airlines, and the cancellation by reason and airlines, I used bar charts since the variables are categorical and it is easier for the viewer to interpret the findings. Also, I avoided coloring the bars since it is unnecessary step and it will add no information for the viewer. In Delay and cancellation reasons overtime I used line charts to show how the values differ on the time line, and it is more logical to use line charts since time is continues. I also colored each line in a different color, so it is easier for the viewer to distinguish between the different groups. Furthermore, I have used maps to display differences of cancellation and delays over states, because it is easier to locate a location visually in a map rather than looking at its name. Also, after the feedback I added bar charts to help the user to compare between different states that are shown in the map.

Feedback:

Name	Daeya
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Feedback content	• **What do you notice in the visualization?** More than one type of graphs are used to present data related to delay and cancelation of air trips and the patterns and relations with other values like time, state, cause, company...

	• **What questions do you have about the data?** What does NAS stand for? Is this data intended to be provided to any agency, even theoretically, to take any actions upon its analysis? When stating the cancellation rate, did you consider its ratio to the total number of trips or it is absolute number? • **What relationships do you notice?** There are many. For example there is more delays in December, February and June. Which is logical. The main cause for cancellation is weather, although there is no significant difference between it and carrier American eagle has the highest rate of cancellation • **What do you think is the main takeaway from this visualization?** This visualization summarizes some complicated data regarding trips in US. It is mainly trying to show some patterns and relationships. It can be useful for the passengers to choose the best airline, time, and airport. Also, it can be used by the airline companies to assess their performance and improve it. • **Is there something you don't understand in the graphic?** The labels of y axis in some graphs is not very clear. I exact numbers that correspond to each color code in the maps are not clear. I think you can label them or add bar chart for the same data. I have suggestion to put the cause graph before the cause over time graph
Before the feedback	• Wrong label name: Avg. Cancelled • Vague variable name: NAS • Maps are not clear to compare • Some y labels are not clear: ex. Avg. Dep Delay and value
After the feedback	• Avg. Cancelled Changed to Cancelled ratio. • NAS is renamed to National Airspace System. • Bar chart is added to ease the comparison between states. • Renamed y labels to more meaningful names.
Feedback	• Link to questionnaire: https://goo.gl/forms/Ngmvuu7ponWP5IIt1 • Link to photos of mail and response: https://drive.google.com/drive/folders/1J1NvUaNbxM4oHI_71ux1WAF6BLnMEs9V?usp=sharing

Resources: N/A