

Tableau Final Project

I have chosen the **Flights data set** which contains information on United State flight delays and performance. For analysis purpose, data from Feb, 2013 to Feb, 2018 (5 years) is used.

Following is the url for the **initial version** of my story:

<https://public.tableau.com/profile/vijin#!/vizhome/UdacityProject-Flights-InitialVersion/Story1?publish=yes>

This is the url for the **final version** of my story:

<https://public.tableau.com/profile/vijin#!/vizhome/UdacityProject-Flights/Story1?publish=yes>

Summary

As of 2018, there are 18 carriers that report on-time data and the causes of delay on domestic operations to and from U.S. airports. The airlines report the causes of delay in five broad categories: Air Carrier (e.g. maintenance or crew problems, aircraft cleaning, baggage loading, fueling, etc.), Extreme Weather (e.g. tornado, blizzard or hurricane), National Aviation System (e.g. non-extreme weather conditions, airport operations, heavy traffic volume, and air traffic control), Late-arriving aircraft and Security (e.g. evacuation of a terminal or concourse, re-boarding of aircraft because of security breach, inoperative screening equipment and/or long lines in excess of 29 minutes at screening areas).

Design

Initial Design decisions:

Most of my initial design were based on the existing dimensions and measures which were already present in the file. I used different visualizations like bar chart, stacked bar charts, line graphs, bubble charts and even map graphs.

Changes made

Following are some of the design changes I had made from my initial design:

- Created a hierarchy for Year and month
- Calculated and added new field – Average Arrival delay per flight
- Calculated and added new field – Average Carrier delay per flight
- Calculated and added new field – Average Late Aircraft delay per flight
- Calculated and added new field – Average NAS delay per flight
- Calculated and added new field – Average Security delay per flight
- Calculated and added new field – Average Weather delay per flight
- Calculated and added new field – Carrier Delay Percentage
- Calculated and added new field – Late Aircraft Delay Percentage
- Calculated and added new field – NAS Delay Percentage
- Calculated and added new field – Security Delay Percentage
- Calculated and added new field – Weather Delay Percentage
- Calculated and added new field – Per Arrival flights on Time

In addition to the above changes, Airport dimension was changed from a normal String variable to a Geographic Airport Data type.

The feedback session was an eye-opener as I discussed my graphs with some outsiders (my colleagues at work) and the questions they asked prompted me to make significant changes in my design. Below are some of the visualizations which I made because of this:

- What is the average delay per flight
- Which airports are more efficient

Feedback

So far, I have received 1 feedback directly from Udacity which I am posting below. In addition to this, I received multiple feedback from some of my colleagues.

Feedback from Udacity



mitul2991

3h

Sure! You have done a really good job and here are some pointers:

1. You can put more filter controls or introduce even parameters to make your viz more interactive. Eg: 2nd sheet where all the airports aren't visible so I might just want to look at the top 20-30 airports or even less. A parameter can be handy in that case.
2. Decrease the size of your text blocks cause there is some leftover space.
3. I am not sure but I think calculating avg delay per flight might not be an accurate measure.
4. Lastly, you have used only arrival delays, maybe departure delays can also be analysed.

Cheers!

Feedback from colleagues

- I want to see which airlines have the least/most average delay
- Which airports are the most efficient
- What is the main reason for the delay
- Is there more/less delay in any particular month

Resources

NA