

Data Visualization Project

Build Data Dashboards

Flight Delays and Cancellations

This data comes from a Kaggle dataset, it tracks the on-time performance of US domestic flights operated by large air carriers in 2015. You can find the data set on the link below.

[US Domestic Flights Kaggle Dataset](#)

Insight #1

Which airlines and airports with worst delays?

Note: I created a new field named “All Delays” in which I summed all types of delays in one field.

- **Bar Chart** was used for multi-classification of categorical data.
- Both airlines and airports horizontal charts can be used as a filter for each other in order to easily detecting of delays in them.
- We discover from the shown bar that Southwest Airlines Co. has the worst delays with 1,820,495 followed by American Airlines Inc. with 1,111,722.
- In Airports, Chicago O’Hare International Airport comes in the 1st place with total delays of 601,455 followed by Hartsfield-Jackson Atlanta International Airport with 514,869.
- You can find the insight in this link:
[Airlines & Airports with Worst Delays](#)

Insight #2

What causes delays and what are the states with the most cancellations?

- **Both Map and Bar Chart** are used for multi-classification of geographical data for easily detecting states cancellations and determine states with most cancellations.
- **Pie Chart** is used to show the percentage and focus on the reason of cancellation.

- I used color-blind palette so everyone can see the difference.
- Map, Bar Chart and Pie Chart are all can be used as a filter so the reader can easily discover on U.S. map which states with the highest and lowest cancellations and what was the most common cause for cancellation. And from Pie Chart we can detect states cancellations according to the cause.
- This shows that TX(Texas) had the most cancellation with 668, followed by IL(Illinois) by 563, and in 3rd place CA(California) by 408.
- The most common reason for all states cancellations in 2015 was due to weather by more than 50%.
- You can find the insight in this link:
[States Cancellation Sum & Cancellation Reasons](#)

Insight #3

What was cancellations and its reasons over months of 2015?

- **Line Chart** was used for time series to show the cancellation over months of 2015 as it is easier to perceive trend over time on line charts.
- I used color-blind palette in reasons so everyone can see the difference of reasons over months of the year 2015.
- I added the 'state' filter in order to easily linking between state's cancellations over months of 2015 and its reasons.
- According to the previous insight, We discovered that TX(Texas) most cancellations was in February by 120 due to weather, followed by IL(Illinois) also in February by 85 and again due to weather conditions.
- February was the most cancellation month by 782 followed by January by 375 and they were due weather conditions.
- You can find the insight in this link:
[Cancellations Reasons over Months](#)

Resources : [Udacity](#)