Flights visualization

As usual, the weather is the most common reason for cancellations and delays of flights.

According to our cancellation dashboard (the link is cancellation reason | Tableau Public), From the first visualization which includes at least 10 cancellations, TX (Texas) state had the most cancellation in the USA in 2015. And Chicago city of IL state had the most cancellation all over other cities in the USA. The weather caused 54% of the cancellation in the USA in 2015. Southwest Airlines Co. had the most cancellation in the USA. So that takes us to the importance of weather forecasting, so these airlines and in these cities should care about weather forecasting.

design choices:

- **Bar char**t used for multi-classification of **categorical data**, and when that data includes **geographical data** (country, states, cities (as hierarchies)), so I merged a **map** to the dashboard, and I add the total cancellation to the marked **size** wherein the bigger size, the more number of flight cancellations. And to show the **percentage** and **focus** on the reason, I employed a **pie chart**. I employed a **color-blind palette** so everyone can see the difference. I added many **filters (states, cities, airlines, and reasons)** so that readers can dig which **states, cities, airlines** have the highest and lowest cancellations and the most common reason and its percentage. I employed colors in the dashboard to Illustrates the reason for the cancellation.

And as expected the most cancellation occurred in February and January as the visualization shows (the link: cancellation over months | Tableau Public).

design choices:

- **Line chart** used for **time series** to show the cancellation over months as it is easier to perceive trend over time on line charts. I employed a color-blind palette so everyone can see the difference. I added the **reason filter** so that readers can detect which reason was raised over months. and the total of all reasons is the month's trend.

And this visualization shows the sum of cancellations over days of the week (the link: cancellation over days of week | Tableau Public).

design choices:

- **bar chart** used for multi-classification of **categorical data**. I employed a color-blind palette so everyone can see the difference. I added the **reason filter** so that readers can detect which reason was raised mostly on each day of the week.

Delay of the flights might be multifactorial and the visualization shows that there is a correlation between arrival delay and air system delay, and between departure delay and both airline delay and late aircraft delay. (the link: delay reasons | Tableau Public).

design choices:

- **scatter chart** used correlation between two numerical data, to show the correlation between arrival delay and air system delay, and between departure delay and both airline delay and late aircraft delay. I employed a color-blind palette so everyone can see the difference. I added the **airline filter** so that readers can dig in each **airline** and its delay reasons.