



# **DATA VISUALIZATION NANODEGREE**

## **Project # 1**

# **Flight Delay in USA**

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## Insights 1: Causes of Flight Delay

After exploring the data, trying out different chart types, playing with the narrative and getting feedback, the best way to communicate the main point was by a simple bar chart. The bar chart shows the Cause of flight Delay.

It appears that the most cause of delay is **Aircraft Delay** and **System Delay**.

<https://public.tableau.com/profile/himanshu.saini31#!/vizhome/FlightDelayUdacityProject1/CausesofflightDelay?publish=yes>

## Insights 2: Most Cancellation by Airline

From this bar chart we can see in which airline the most cancellation occur. It appears that the most cancellation occur in **Southwest Airlines (WN)** and **ExpressJet (EV)**

<https://public.tableau.com/profile/himanshu.saini31#!/vizhome/FlightDelayUdacityProject1/MostCancellationbyAirline>

## Insights 3: Average Departure Delay vs Month

The next chart to be explored is a line chart, which shows the delay time by month of year. A line chart was chosen to present this data so as to show the time relationship month by month.

Here we analyze the most departure delay in which month. It appears that the most departure delay occur in June and December and least departure delay occur in September.

<https://public.tableau.com/profile/himanshu.saini31#!/vizhome/FlightDelayUdacityProject1/AverageDepartureDelayvsMonth?publish=yes>

## Insights 4: Flight Cancellation by state

A map is best suited here as I had to plot state-wise flight cancellations which involves geographical data. I used a sequential blue color wherein the darker the blue color, more is the number of flight cancellations. This type of coloring makes it easier to quickly spot which states have high/low cancellations. I added a month filter so that readers can dig which states have the highest and lowest cancellations in each or a range of the months.

It appears that the most cancellation occur in **California** (33,331) and **Texas** (32,612)

<https://public.tableau.com/profile/himanshu.saini31#!/vizhome/FlightDelayUdacityProject1/FlightCancellationbystate>

## Dashboard:

<https://public.tableau.com/profile/himanshu.saini31#!/vizhome/FlightDelayUdacityProject1/Dashboard>

## Conclusion

The dataset contains information of USA flights delay and performance. Flight delays are an important subject in the literature due to their economical and environmental impacts.

I believe that these charts clearly show:

- The most departure delay occur in June and December and least departure delay occur in September.
- The most cause of delay in USA is Aircraft Delay and System Delay.
- The most cancellation occur in **California** and **Texas** States in USA by **Southwest Airlines** (WN) and **ExpressJet** (EV).

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