

# Omar Hafez

## Project 4 - Flight Delays and Cancellations

### Insight 1:

#### Dashboard:

“Most Affected States by Flight Cancellations”

The first insight is a dashboard that consists of 3 worksheets to investigate flights cancellations.

#### Worksheet 1:

“Number of Cancellations by State”

The map illustrates the number of flights cancellations and differentiating the with color. At first glance we can see that Texas had the highest number of cancellations at 661 cancelled flights which is 14.91% of the all cancelled flights. Followed by Illinois, California, New York. The state of West Virginia had only 1 cancelled flight in 2015.

#### Worksheet 2:

“Reasons for Cancellations”

The pie chart shows the reasons of cancellations in percentage. On the dashboard, clicking on Texas will show that over 62% of cancelled flights was because of the weather. Whereas clicking on California will show that over 51% of flights were cancelled because of the Airline/Carrier. Clicking on weather portion on the pie chart will show that all states had been affected by the weather. However, national air system was not affecting several states such as, Alaska, Hawaii, and West Virginia

### **Worksheet 3:**

#### **“Cancellations Per Airline”**

For this worksheet I used a bar chart to show the number of cancelled flights per airline and added the color for the reasons of cancellations. We can easily see that Southwest Airlines had the weather being the reason to cancel most of their flights. Whereas for Atlantic Southeast Airlines, it was because of national air system.

### **Overall:**

On the dashboard, 3 of the 4 most affected states (Texas, Illinois, New York) had the weather being the most frequent reason for cancelled flights except for California, which had Airline/Carrier being the most frequent. Cancelled flights from these 4 states contributed to more than 45% of all cancelled flights in 2015.

### **Link 1:**

<https://public.tableau.com/profile/omar.hafez#!/vizhome/OmarHafez-Project4/MostAffectedStatesbyFlightsCancellations?publish=yes>

## **Insight 2**

### **Worksheet:**

#### **“Arrival/Departure Delays Per Airline”**

I used a scatter plot to show the percentage of arrival and departure delay for all airlines. From the graph, there isn't much differences for all airlines. Where Alaska Airlines having the least amount of delays and Southwest Airlines Having the amount of delays in percentage. The big difference is with Delta Air Lines where they have much higher departure delay compared to arrival delay.

### **Link 2:**

**<https://public.tableau.com/profile/omar.hafez#!/vizhome/OmarHafez-Project4/ArrivalDepartureDelaysPerAirline>**

### **Insight 3:**

#### **Worksheet:**

“Airline frequency trends over time in 2015”

This line chart shows the number of flights for all airlines per month. Where Southwest Airlines had the highest number with a big difference of more than 1000 flights. For most airlines, we see a drop in February and then a rise in March. Also, there is a second rise in July. US Airways didn't have any flights after July because it merged with American Airlines. Which explains why American Airlines had almost 2000 more flights in 1 month.

#### **Link 3:**

<https://public.tableau.com/profile/omar.hafez#!/vizhome/OmarHafez-Project4/Airlinefrequencytrendsovertimein2015>