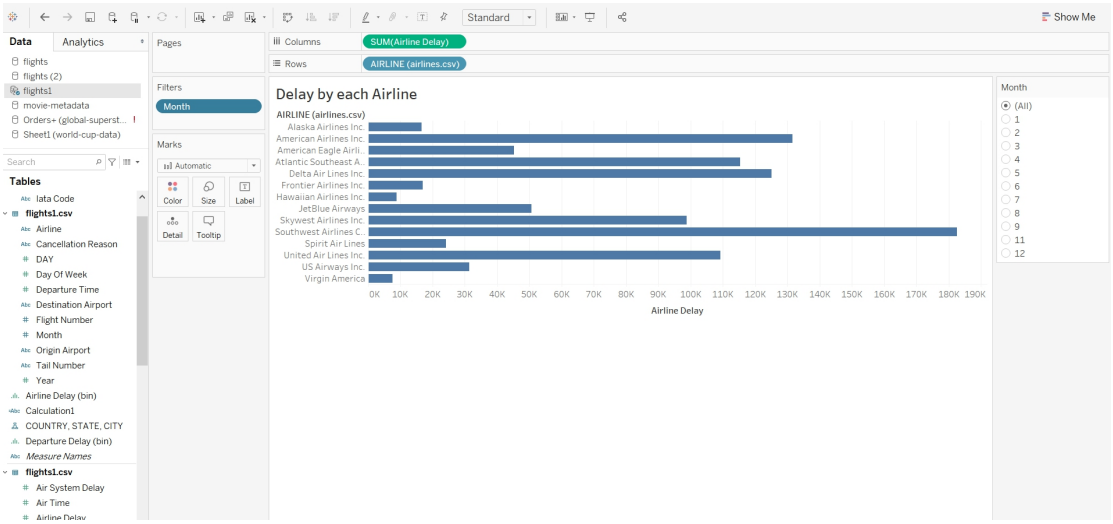
Flight Delays and Cancellations

In the below story, we will analyze the on-time performance of US domestic flights operated by large air carriers in 2015. We aim to provide insights if there is any pattern around the flight delay and cancellation.
We will also analyze different airlines and will generate insights related to the delays caused by each airline.
One of the key findings from the below analysis is how the delay varies around different timings of a day and there is a maximum delay between 1700 hrs to 2200 hours.

1) Delay by each Airline

Filter Month: All



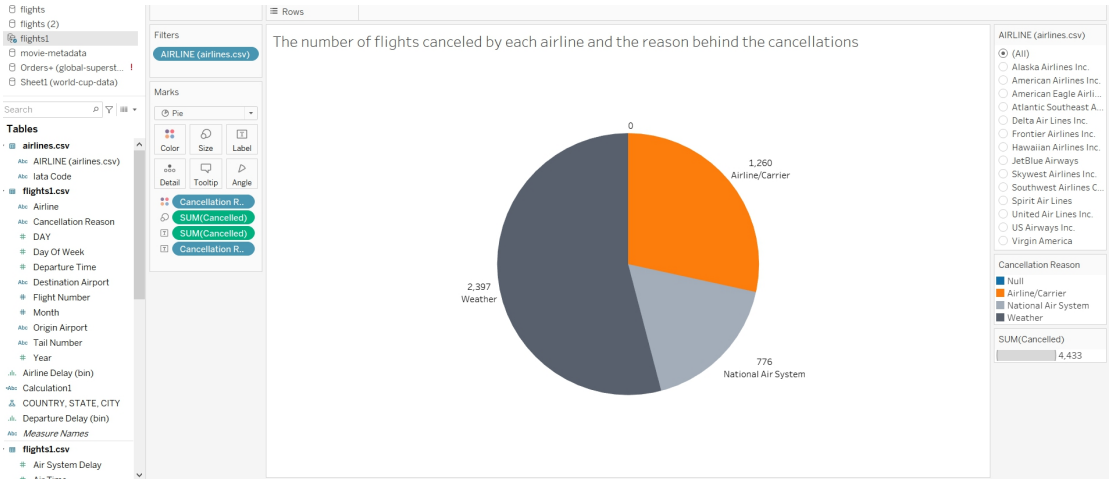
For month -12

Summary:
The above visualization shows the delay caused by each airline.
Here we can also see the variation in the delay by different months of the year.

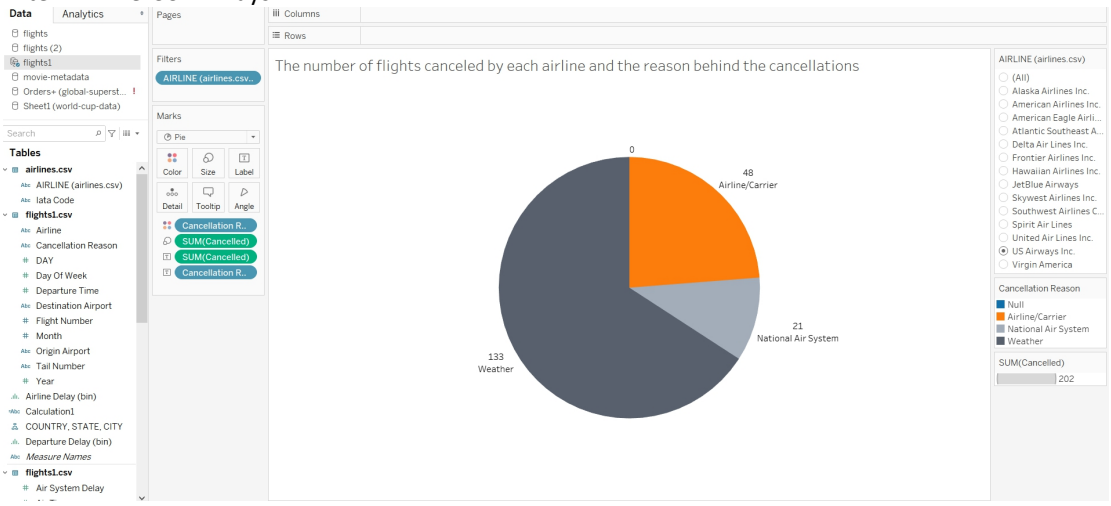
By changing the months, we see that maximum delay is caused by mainly two airlines that is, American Airlines and Southwest Airlines.

As there are multiple airlines, a bar graph is the best selection for comparing different groups. The bar chart represents the share of delay by each airline in the best possible way.

2)Canceled flights Analysis



Filter: Airline-US Airways



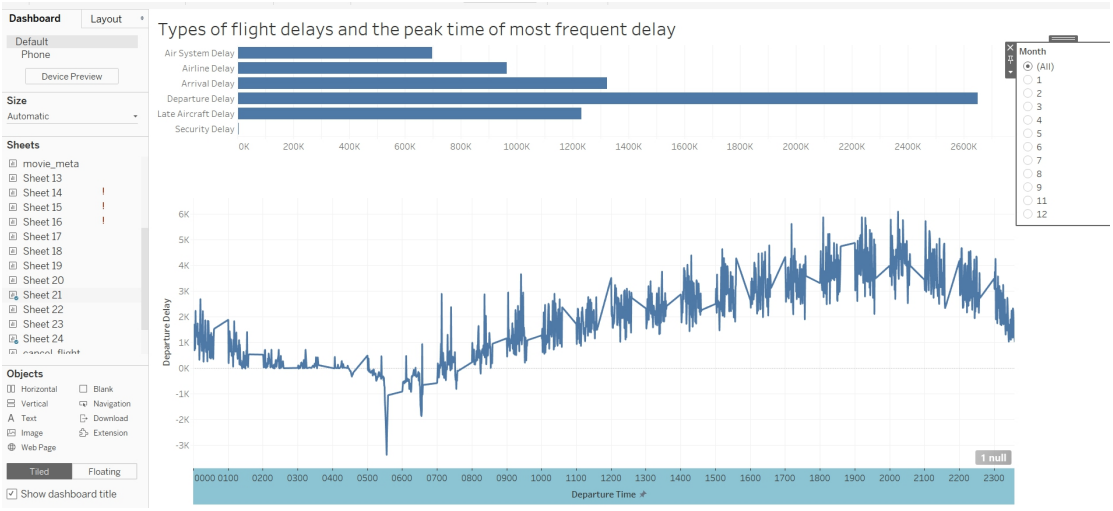
Summary

This visualization gives us the idea about the number of flights that get canceled and the reason for the cancellation. It also provides insights on the variation of cancellations by each month and each airline.
We can conclude that for almost every month and different airlines the weather is the reason for the cancellation of maximum flights.

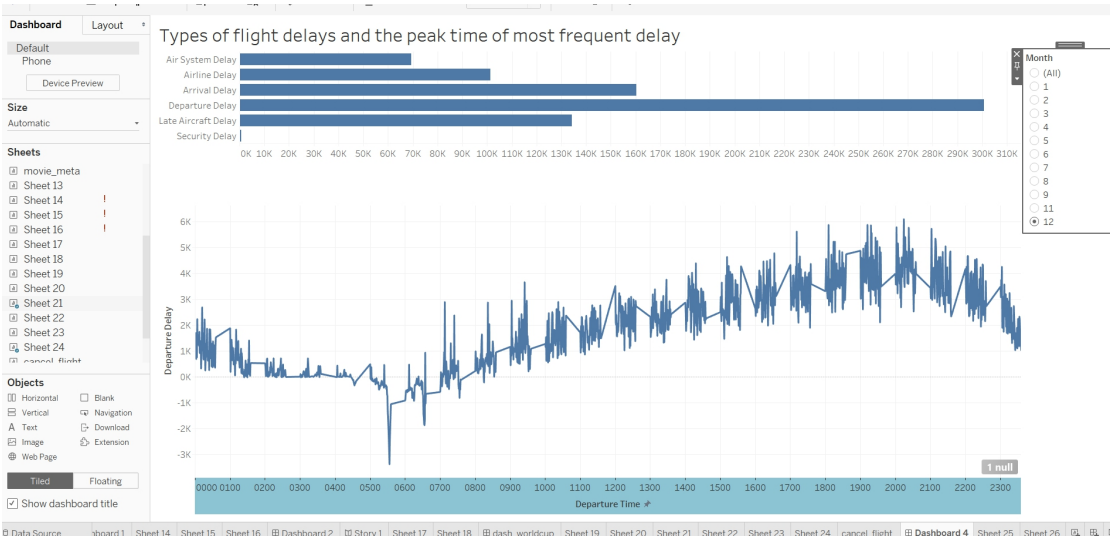
As the reasons for cancellation are limited, hence the pie chart shows each share and the reason clearly.The color palette has been selected by considering the color blindness.
These colors would be easily visible to everyone.

3)Flight Delay Analysis

Month:All



Month-12



The above dashboard gives us insights into flight delays.
The first bar graph gives us the idea that maximum delay is caused by departure delay followed by arrival delay.
Hence, further, we analyze departure delay with departure time with a line graph.
From this graph, we can see that there is a maximum delay between 1700 hrs to 2200 hours.
And the departure delay is minimum between 1 AM to 9 AM.

I selected the line graph because it can easily observe changes over a certain period of time and we can see the exact values from the data.
Here, the graph clearly shows the pattern of delay with departure time.