Flight Delays and Cancellations

BY __ MAHMOUD ALMASHAD

In the beginning, the tables were merged with knowledge of some internal contents, such as linking the Origin Air Port from Flytes with IATA from the Air Port, and the symbols (A, B, C) were changed with (weather, Air Line Carrier, National Air System), respectively, and the names were also changed. Days of the week are from numbers to days of the week, and some data types such as Origin Air Port and Destination Air Port have also been changed to Geographic Air Port data type.

The main question: What do you explore from the data on the issue of canceled flights in terms of the highest and the impact of airports canceling flights, states and times in which the cancellation process increases and its causes?

The DASHBORD link

https://public.tableau.com/app/profile/mahmoud.almashad/viz/flight-delays_dashboard1/Story1

The type of visuals in "DASHBORD" : **"A vision about canceled flights in the United States"**

The dashboard consists of (a number of worksheets), and the following is an overview of each one, and at the end a quick general summary.

Visuals type 1 : bar chart , It is very suitable for comparing text data values

Relations 1 : % of Total Cancelled , CANCELLATION_REASON

Filter 1 : month , day of week And put a sum of " Cancelled " in the data display

Results 1 : It turns out that the biggest reason for canceling flights every year is "bad weather", with 54% of the total number of canceled flights and a total of 2397 canceled flights due to unsuitable weather during 2015.

Visuals type 2 : Liner form , It is very suitable for easy clarification of these values with the effect of the time factor.

Relations 2 : month , sum of " Cancelled "

Filter 2 : month , day of week

Results 2 : By looking through the time in months during the year, it becomes clear to us that the highest period in which flights are canceled in the United States is of course in the winter season and reaches its peak in February, and when filtering by days of the week it becomes clear to us that Monday stands out as the highest value in more than Once during the year, as the days lead in the months (February, June, August and December), especially the month of February, as it leads by a difference of more than 100 flights!!!!

Visuals type 3 : Geographical distribution of departure airports , It is very suitable for easy viewing of regions geographically.

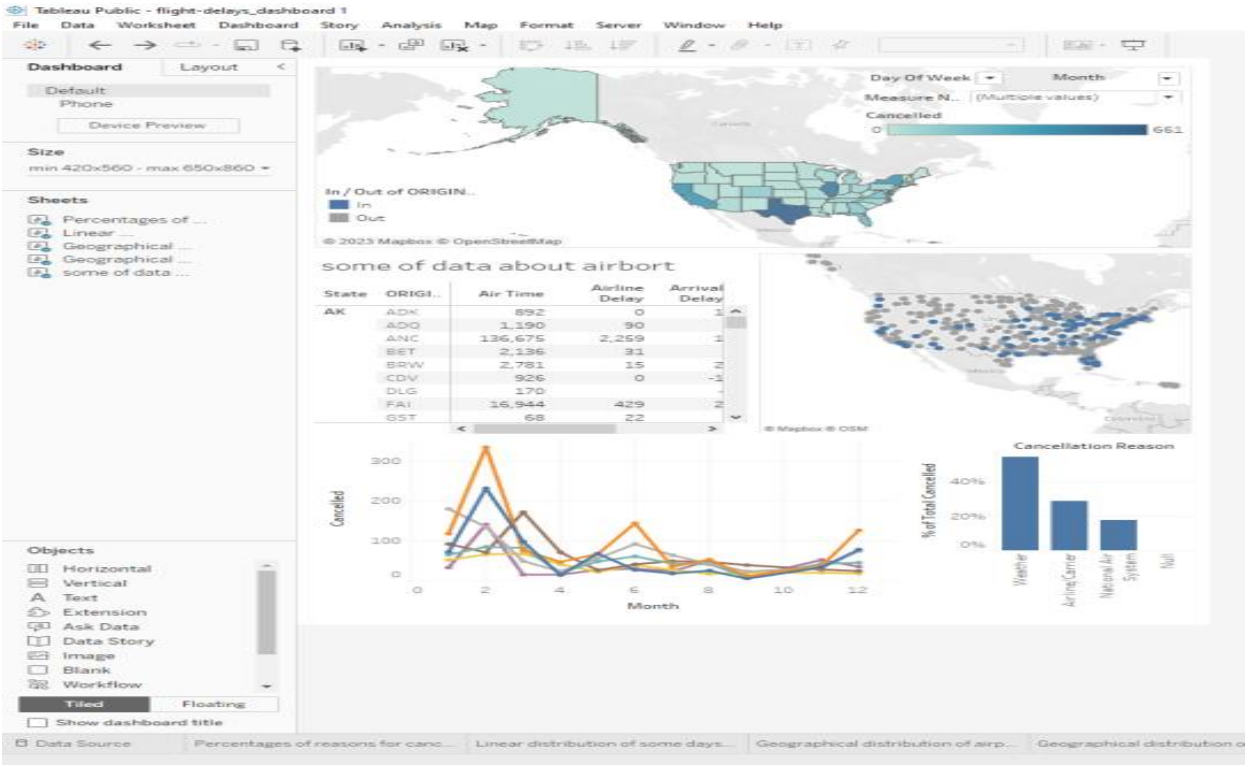
Relations 3 : Latitude and longitude for each airport

Filter 3 : month , day of week , ORIGIN_AIRPORT Set [To differentiate between what is more than 10 canceled flights and what is less, Due to the large number of airports between 0 and 10 and the ease of viewing the data on the map] , sum of " Cancelled " , State Set as a TOOLTIP.

Results 3 : Let us assume that the number of 10 canceled flights is the dividing line to determine which of the airports is more or less than the aforementioned average. It turns out that the largest airport in terms of the number of canceled flights, whatever the reasons, is “ORD” airport, with 405 canceled flights during the year 2015.

To make the presentation more effective, 2 visions have been added, one geographical, but specific to states, which is very important in the dashboard. Another one is added for state data, as well as the airports of each state, then all the information that you would like to inquire about this airport, Looking at this map of the states, we find that the highest canceled state for flights is the state of Taxis, with a value of 661 canceled flights.

Dash board in general and without any filter



In the end, you can do a lot on your own in the dashboard, let's take an example, for example, the state of California

Where it turns out to us that it has more than 20 airports, as it shows us through the rest of the pictures statistics on all those airports, in a more accurate sense for the entire state, with 411 canceled flights,

In terms of the percentage of the reason for the cancellation is the Air Line Carrier, with a rate of more than 50%, unlike most states, although it is a coastal state.

With regard to the months in which cancellations of trips predominate throughout the year, which are close to a certain extent, with a maximum of 15 trips, but very less on average to about 4 canceled trips in the months of September and October.

As for the days of the week, the third day is the most frequent at the top at the end of the half year and the end of the year Where it turns out to us that it has more than 20 airports, as it shows us through the rest of the pictures statistics on all those airports, in a more accurate sense for the entire state, with 411 canceled flights,

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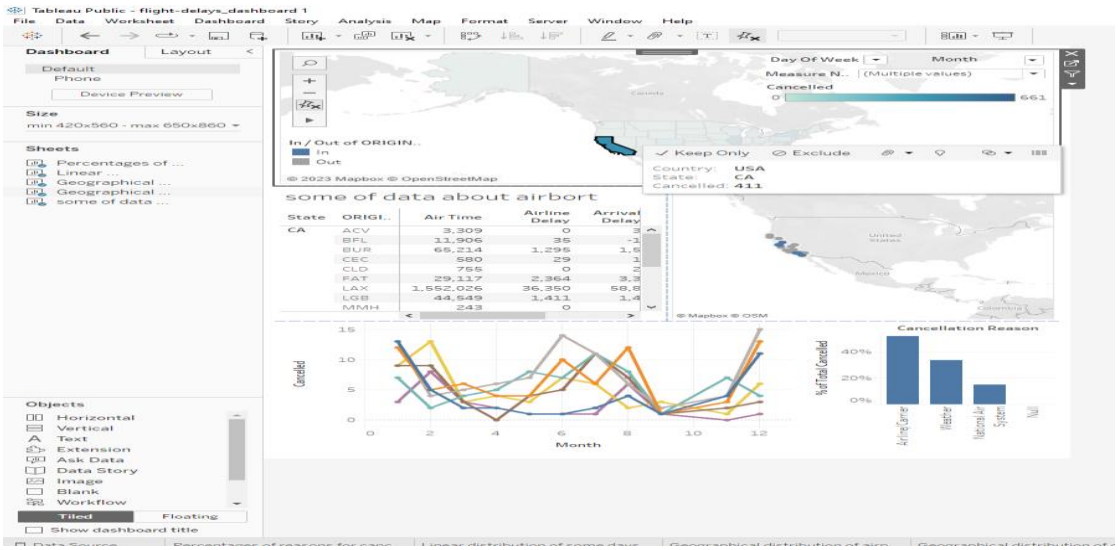


Not only that

Let's see, for example, the statistics of a specific airport in that state, let it be (SAN) airport

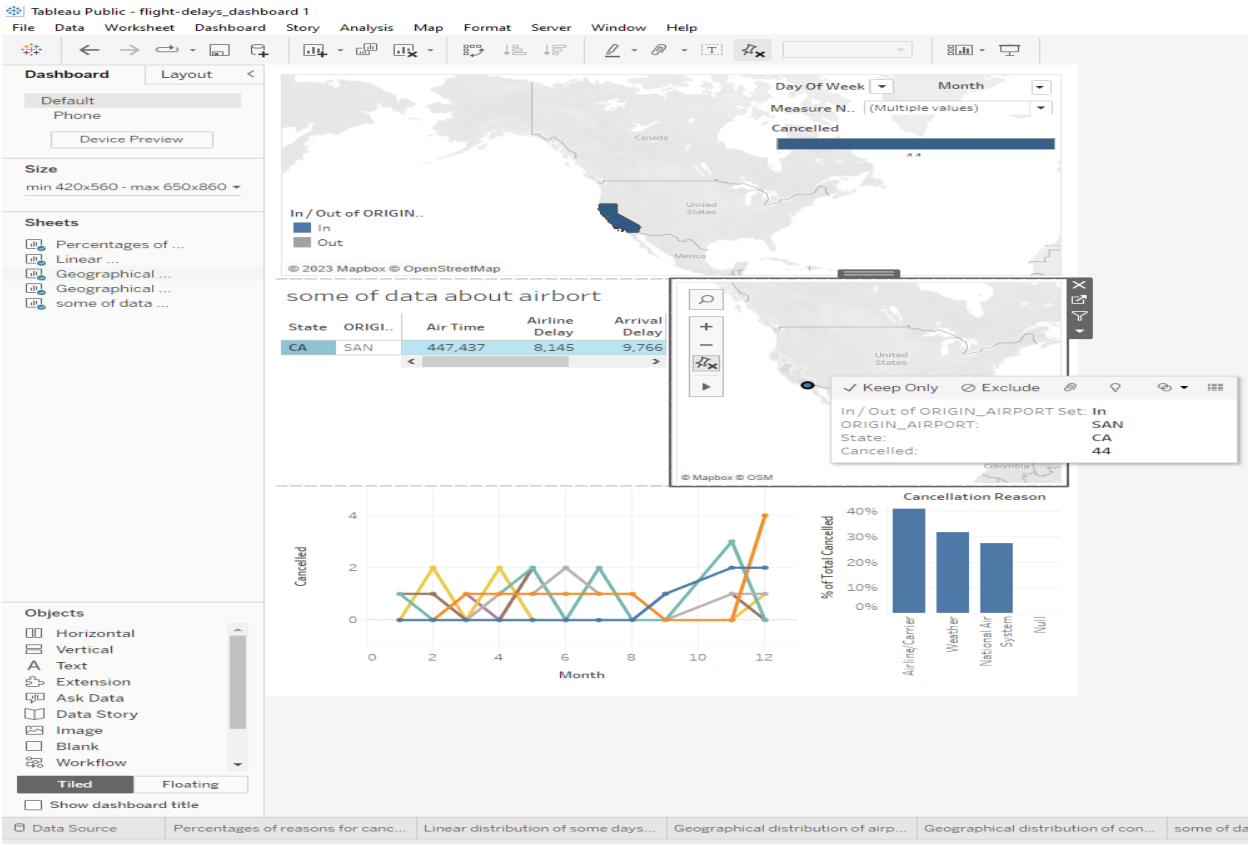
By standing only on the cursor, we see some direct data such as the classification of the airport if it is greater than 10 canceled flights (IN), and we see the name of the Origin Air Port, the state, and finally the number of canceled (44),

And not only that data, but in the data table, all the value numbers are shown to us in a separate table, but a filter was made on it until it arrived at the airport we are dealing with.

We also see the coordinates of the cancellation of flights, so we find that on average from 1 to 2 canceled flights per month, except for the months of November and December, with a value of 3 and 4 flights, respectively.

We see a similarity between the three reasons we have for the reason for cancellation.

So, in the end, we have fulfilled all the conclusions related to the cancellation clause, to a large extent, as requested in the beginning.



There are two worksheat

The other two worksheat link

https://public.tableau.com/app/profile/mahmoud.almashad/viz/Flights-twoWorksheet/airlinewithdelaiesreasons?publish=yes

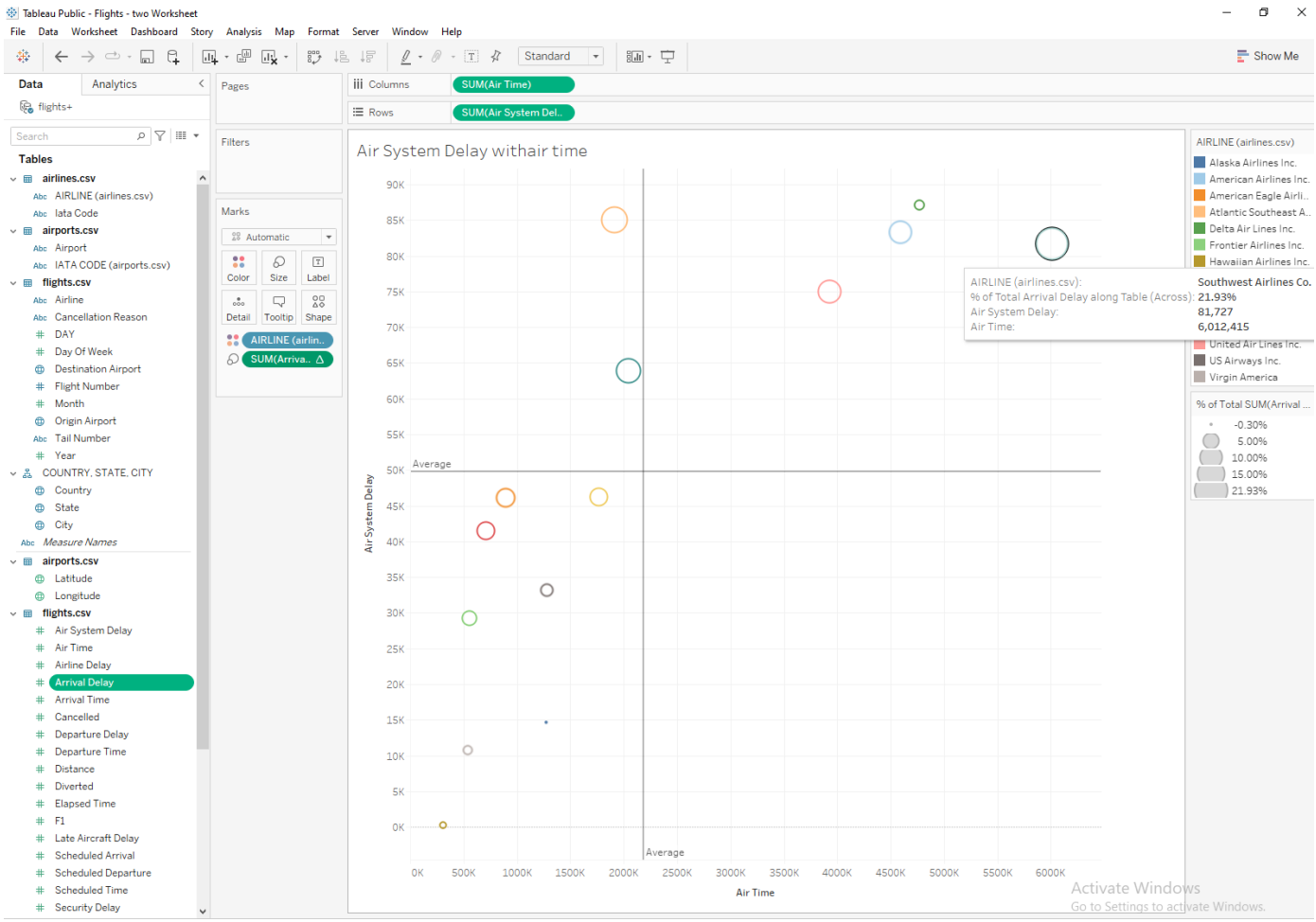
The type of visuals in “worksheet” : “Air System Delay with air time at the United States”

Visuals type 1 : Plot chart, which is really distinguished in comparing numerical statistics for a variable with more than one indication of color and size.

Relations 1 : Air System Delay , Air Time

Filter 1 : AIRLINE (airlines.csv) , % Arrival Delay

Results 1 : It turns out, for example, that Southwest Airlines achieved the largest flight time during the year, more than 6 million flight minutes, with a delay of approximately 82,000 minutes, approximately 0.1%, and the highest is in delay as well.



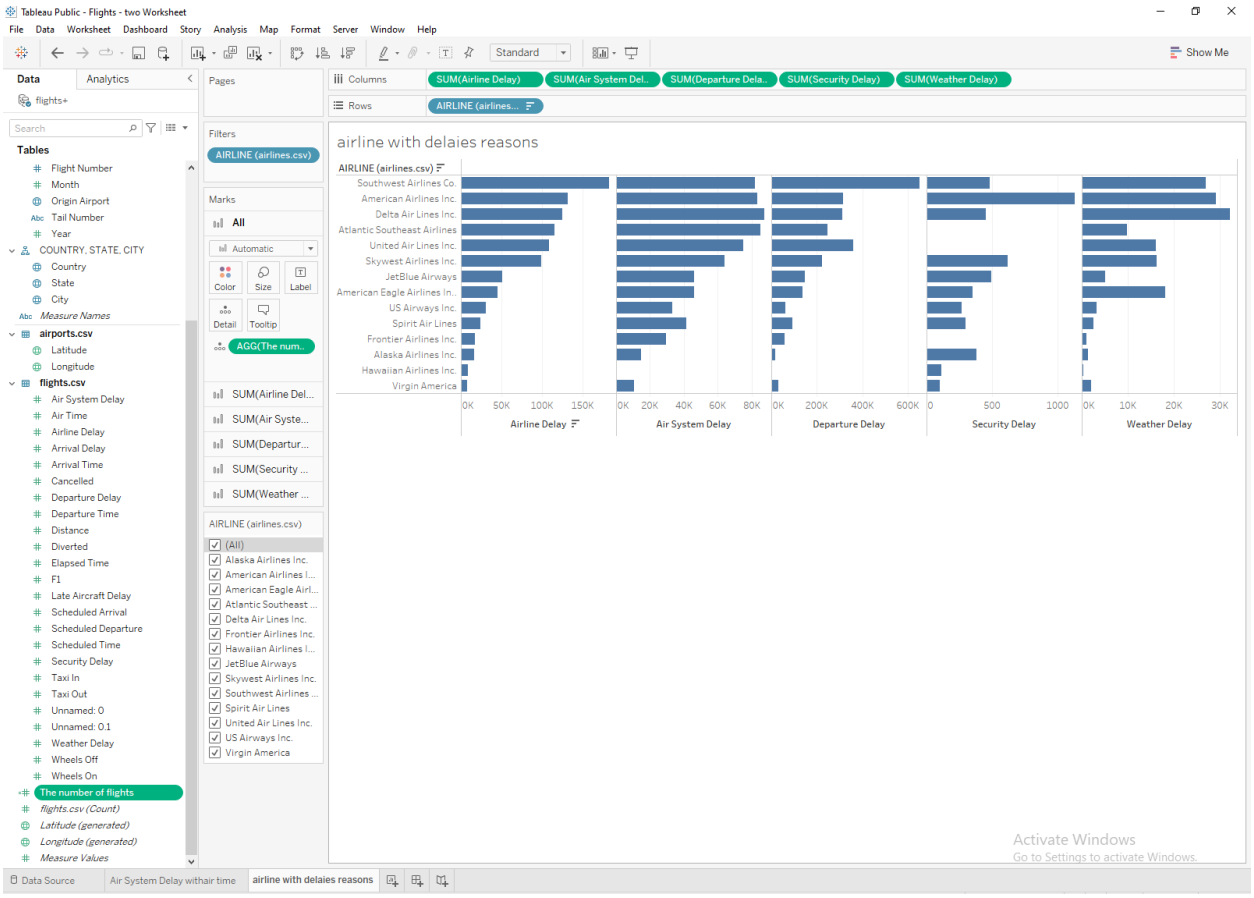
The type of visuals in “worksheet” : “airline with delaies reasons at the United States”

Visuals type 2 : bar chart , It is very suitable for comparing text data values

Relations 2 : AIRLINE (airlines.csv) , the reasons for the delay

Filter 2 : AIRLINE (airlines.csv) , The number of flights

Results 2 : It turns out, for example, that Southwest Airlines has the largest number of flights during the year, with more than 59,000 flights, including, for example, 27,000 minutes of delay due to weather.



Resources: (N/A).