**REPORT**

**VISUALIZATION: INSIGHT 1**  
  
**QUESTION**: What are the top five states with the highest number of air system delays, and how do their counts compare to those of other states?  
 **URL:**   
<https://public.tableau.com/app/profile/isioma8174/viz/FlightsDelayedDuetoAirSystem_16773758841010/FlightsAndAirSystemDelay_MapChart?publish=yes>

**CHART TYPE**: The Map displays the delay caused by the Air System the top 5 regions affected.  
  
The reason the Map charts is used is because it is best suited and compatible for displaying Geographic information. The visual elements such as colors, shapes, and markers that represent data points on map help to quickly and easily identify trends and pattern in the data based on location.   
  
 **SUMMARY**: Analysis of flights delayed due to air system for different regions.   
The top five states affected by the Air System Delay is identified as California (87,484), Texas (76, 977), Florida (54,151), Illinois (82,048), and New York (65,055). The legend which contains the measures shows the difference using color and tool tip. The darker the dimension indicates the higher the count, and compared to other counts, the lighter the blue color, the lower the Air system count delays.  
  
An air system delay is a type of delay that is caused by problems within the air transportation system, such as congestion, air traffic control issues, or inclement weather.

The fact that Texas had the highest sum of air system delays, followed closely by California, suggests that these two states may have more congested air transportation systems than the other states listed. Florida, Illinois, and New York also experienced a significant sum of air system delays, but to a lesser extent than Texas and California.

The reasons for these differences in air system delays between states may be complex and could be influenced by factors such as the volume of air traffic in the region., the weather patterns, the infrastructure and capacity of airports and air traffic control systems, and other local factors. Therefore, it would be necessary to conduct further analysis to identify the specific factors contributing to air system delays in each state.

**VISUALIZATION: INSIGHT 2  
  
  
QUESTION:** How does the weather delay vary across different airports? **URL:**[**https://public.tableau.com/app/profile/isioma8174/viz/FlightsDelayedDuetoAirSystem\_16773758841010/AirportWeatherDelayAnalysis\_BarChart?publish=yes**](https://public.tableau.com/app/profile/isioma8174/viz/FlightsDelayedDuetoAirSystem_16773758841010/AirportWeatherDelayAnalysis_BarChart?publish=yes)

**CHART TYPE:** The bar chart is recommended for comparing the top 10 fields across different airports with the average weather delay.

**SUMMARY:** Airport weather delay analysis.Based on the data used for the airport and average weather delay, it can be inferred that airports with higher average delay times have more weather-related flights delays than those with lower average delay times. Below are some specific observations:

* Sawyer International has the highest average weather delay time of 167.8, indicating that it experiences the most weather-related flight delays among the airports listed.
* Key West International has an average weather delay time of 73.1, which is significantly lower than Sawyer international’s average. However, it still experiences a moderate amount of weather-related flight delays.
* Waterloo Regional, Aberdeen Regional, and Central Nebraska Regional all have average weather delay times ranging from 40.7 to 47.0, indicating that they experience a moderate amount of weather-related flight delays.
* Manhattan Regional Airport, Flagstaff Pulliam, Bert Mooney, Daytona Beach International, and Abilene Regional all have average weather delay times ranging from 25.9 to 35.3, indicating that they experience relatively few weather-related flight delays.  
    
  Overall, the weather delay times suggest that some of these airports may be more prone to weather-related disruptions than others. However, other factors, such as airport size, location, and the types of flights served, may also play a role in determining the number of weather-related flight delays at each airport.

**VISUALIZATION: INSIGHT 3  
  
QUESTION:** Are there significant delays in departure and arrival times for certain days of the week, and if so, what are the reasons behind them?

**URL**:   
[**https://public.tableau.com/app/profile/isioma8174/viz/FlightsDelayedDuetoAirSystem\_16773758841010/EffectofDelayonArrivalandDepartureofflight\_LineChart?publish=yes**](https://public.tableau.com/app/profile/isioma8174/viz/FlightsDelayedDuetoAirSystem_16773758841010/EffectofDelayonArrivalandDepartureofflight_LineChart?publish=yes)

**CHART TYPE:** The line chart shows the departure and arrival delay time for each day of the week.   
  
**SUMMARY**: Effect of delay on arrival and departure of flights  
From the data used for the visualization, it appears that the days with the highest arrival delays are Day 1 (261,935), Day 4 (241,768), and Day 2 (195,727), while the day with the lowest arrival delay is Day 6 (81,214).

In terms of departure delays, the day with the highest delay is Day 1 )455,860), followed by Day 7 (387,776) and Day 4 (407,252). The day with the lowest departure delay is again Day 6 (273,264).

It is also worth knowing that the magnitude of the difference between the delays varies across the days of the week. For example, the difference between arrival and departure delays is smallest for Day 5 (only a difference of 1,319) and largest for Day 1 (a difference of 193,925).   
  
In conclusion, except for day week 6 where the difference is relatively the same compared to other days, this data suggests that airline passengers may experience more delays or longer travel times on certain days of the week than others, and that the causes of these delays may differ between arrival and departure

**FLIGHTS DELAY VISUALIZATION DASHBOARD**  
**URL:**   
[**https://public.tableau.com/app/profile/isioma8174/viz/FlightsDelayedDuetoAirSystem\_16773758841010/DATAVISUALIZATIONFORFLIGHTDELAY\_DASHBOARD?publish=yes**](https://public.tableau.com/app/profile/isioma8174/viz/FlightsDelayedDuetoAirSystem_16773758841010/DATAVISUALIZATIONFORFLIGHTDELAY_DASHBOARD?publish=yes)

**SUMMARY:** The dashboard displays the different visual from the sheets in tableau created to show the impact of delays on flight.