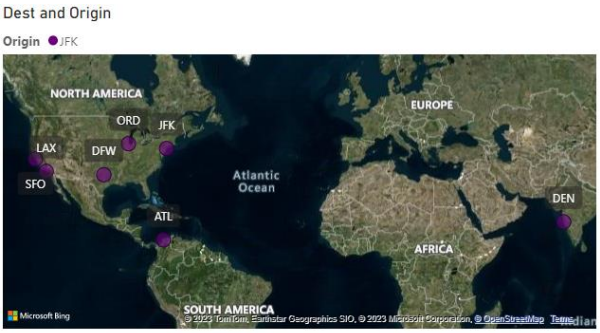
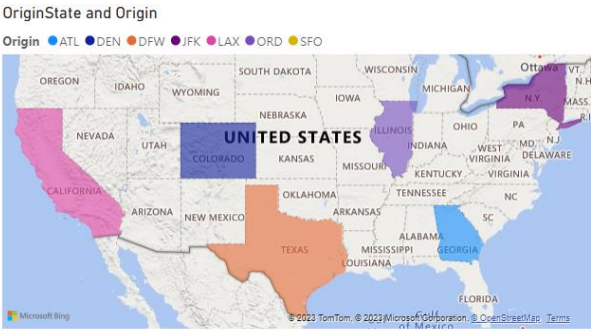
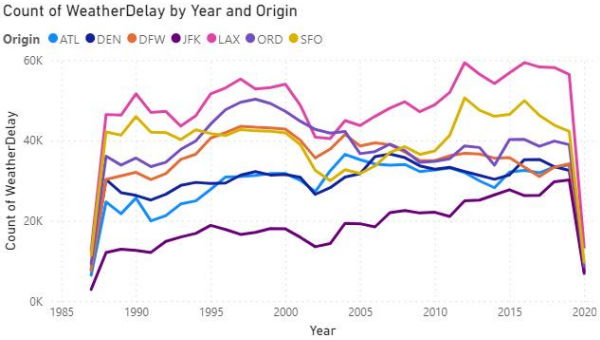
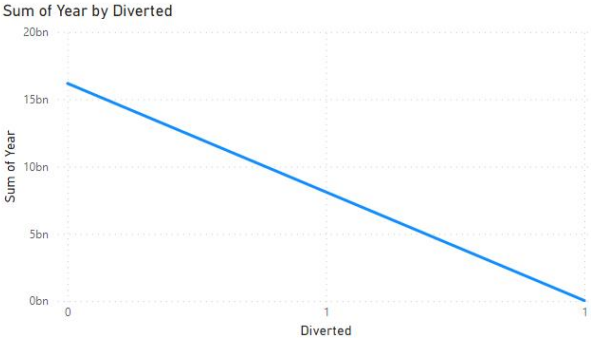
Weather & Map





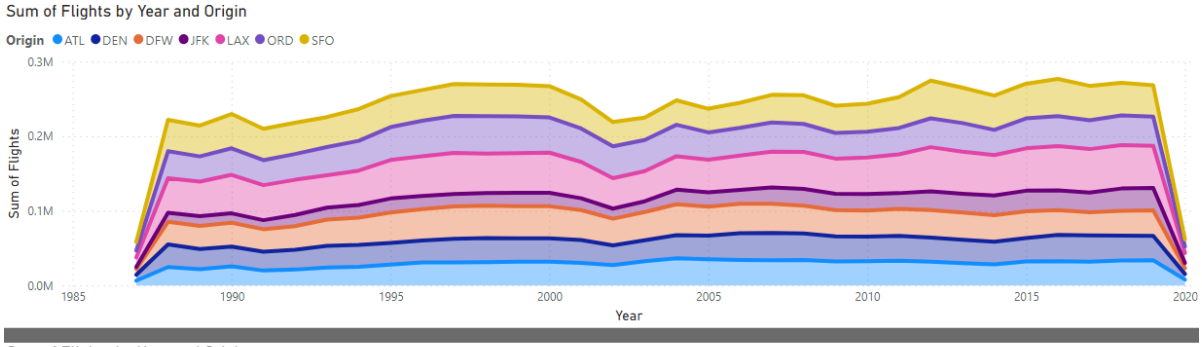


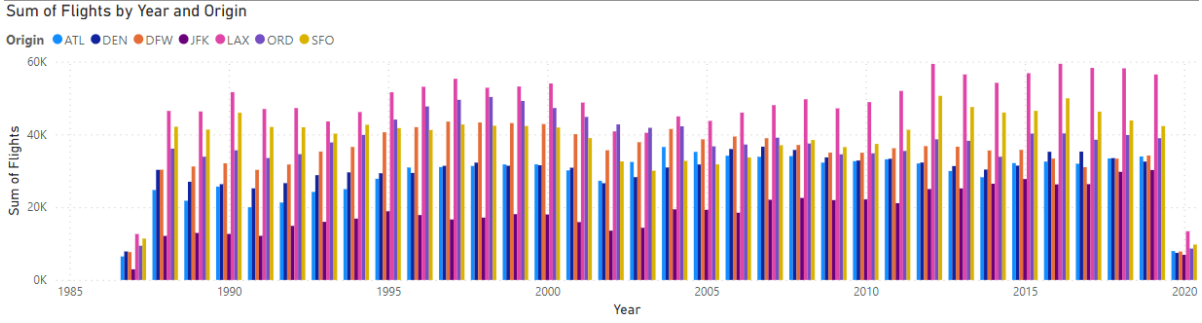


Inference

The dashboard can be used to analyse and monitor airport performance, flight delays due to weather, and the frequency of diverted flights. The visualization of weather delays and flights diverted provides insights into the trends and patterns over time, allowing airport authorities and airlines to take appropriate actions to improve operational efficiency and customer satisfaction. The maps help in visualizing the geographical distribution of airports and identifying areas that require attention.

Total Flights year and origin wise

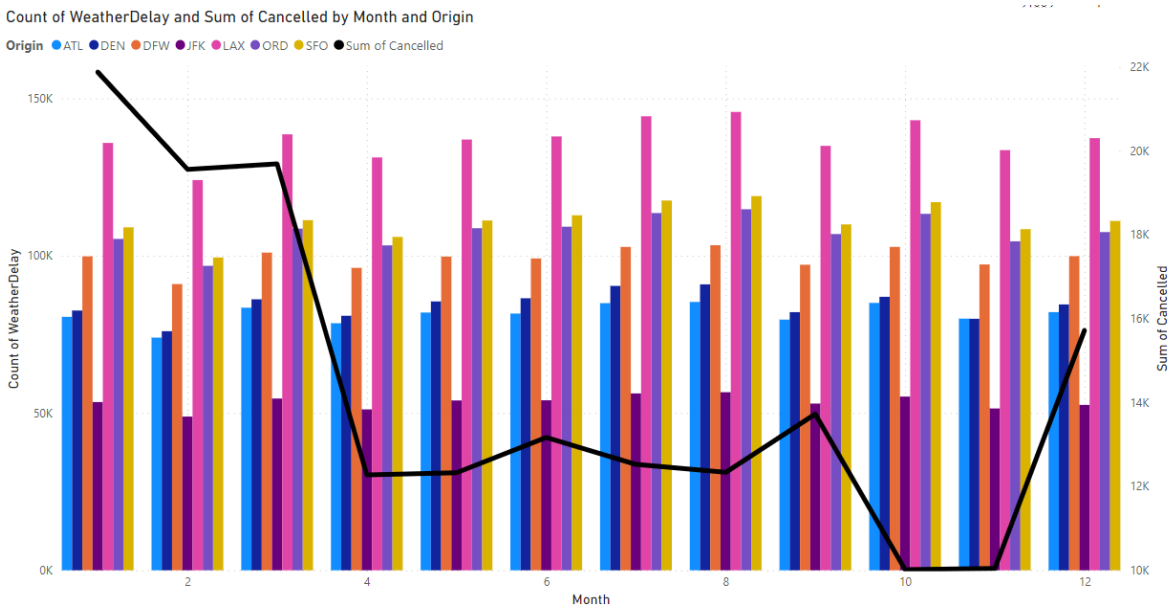




Inference

It can be inferred that the number of flights has steadily increased from 2012 to 2019, with a dip in 2020 due to the COVID-19 pandemic. The stacked area chart shows that the majority of flights originate from LAX, SFO, and ORD airports. The clustered column chart provides a more detailed breakdown of flight origins, showing that LAX has consistently had the highest number of flights each year. Overall, the visualizations suggest that the airline industry has been growing steadily in recent years and that certain airports play a significant role in air travel.

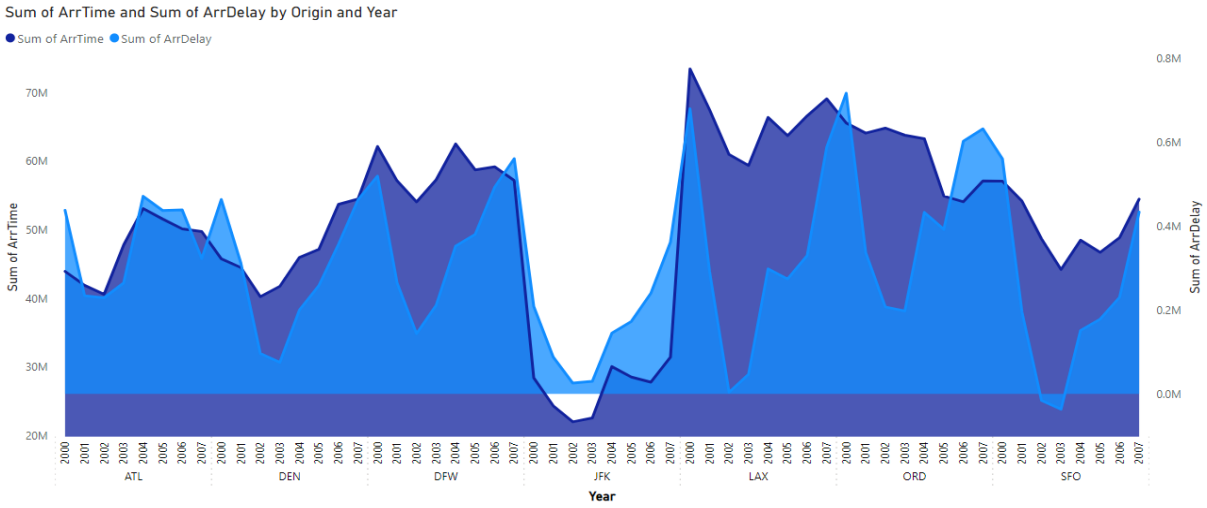
Weather Delay and Cancelled Flights

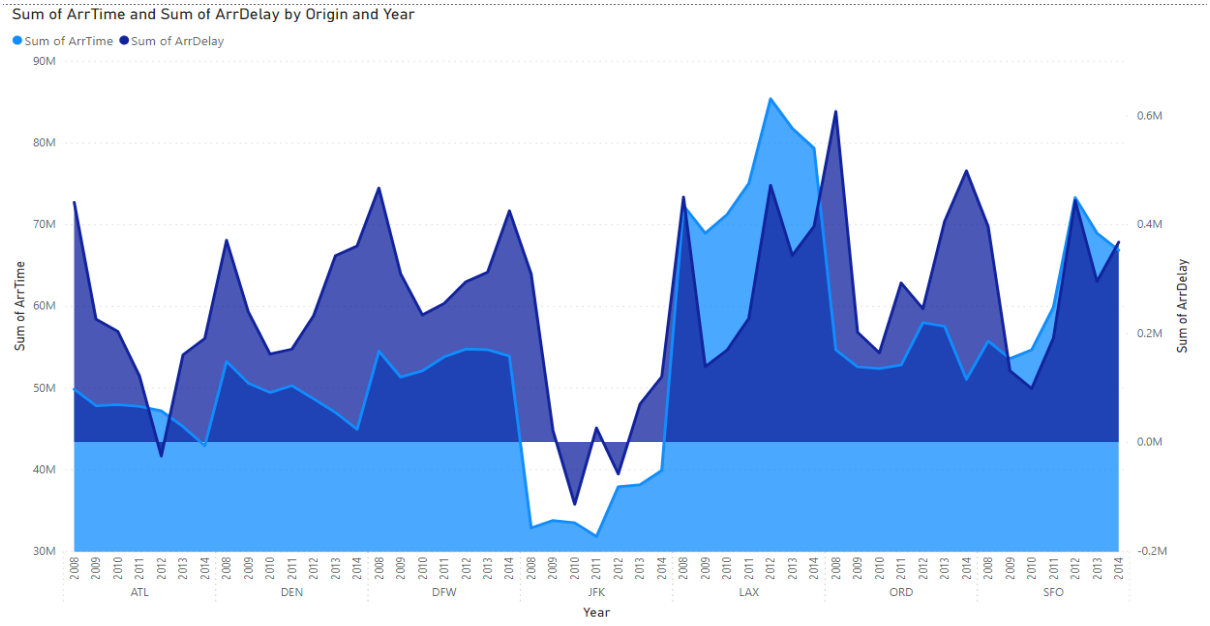


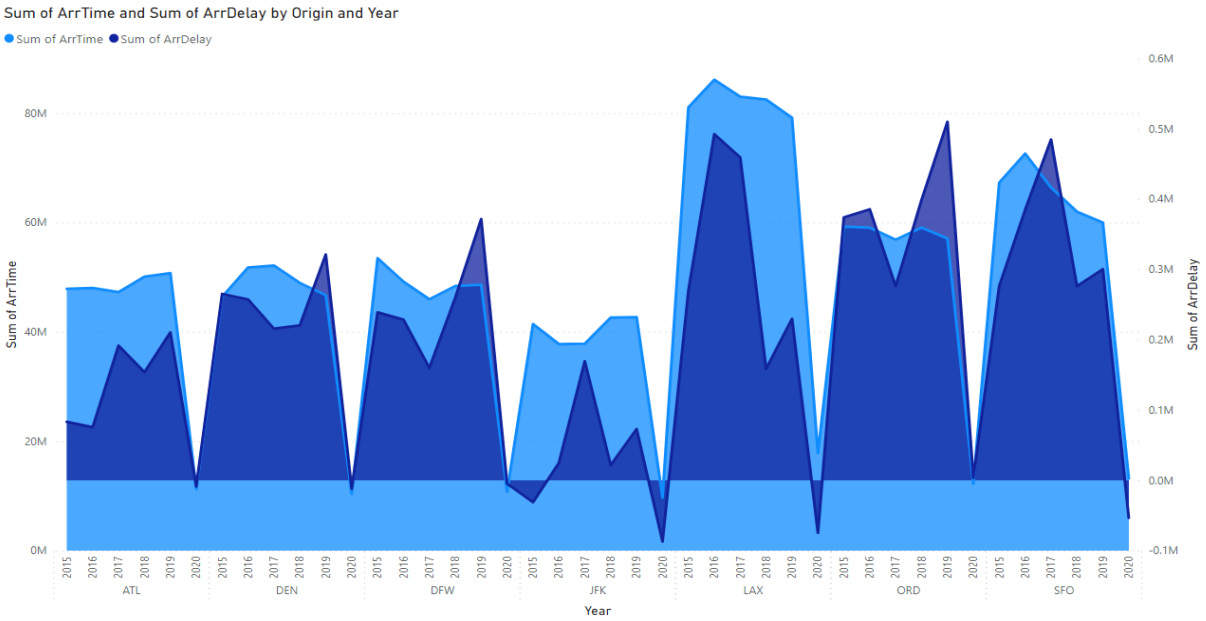
Inference

Based on the line and clustered column chart in this dashboard, we can infer that weather delays and cancelled flights tend to be highest during the winter months, particularly in December, January and February. The origin airport also appears to play a role in the frequency of these issues, with certain airports experiencing higher numbers of weather delays and cancelled flights than others. The clustered column chart shows the total number of cancelled flights for each month and origin airport, while the line chart shows the count of weather delays for each month and origin airport. By analysing this dashboard, airlines and airports can gain insights into the timing and location of weather-related disruptions and adjust their operations accordingly to minimize their impact.

On-Time Performance



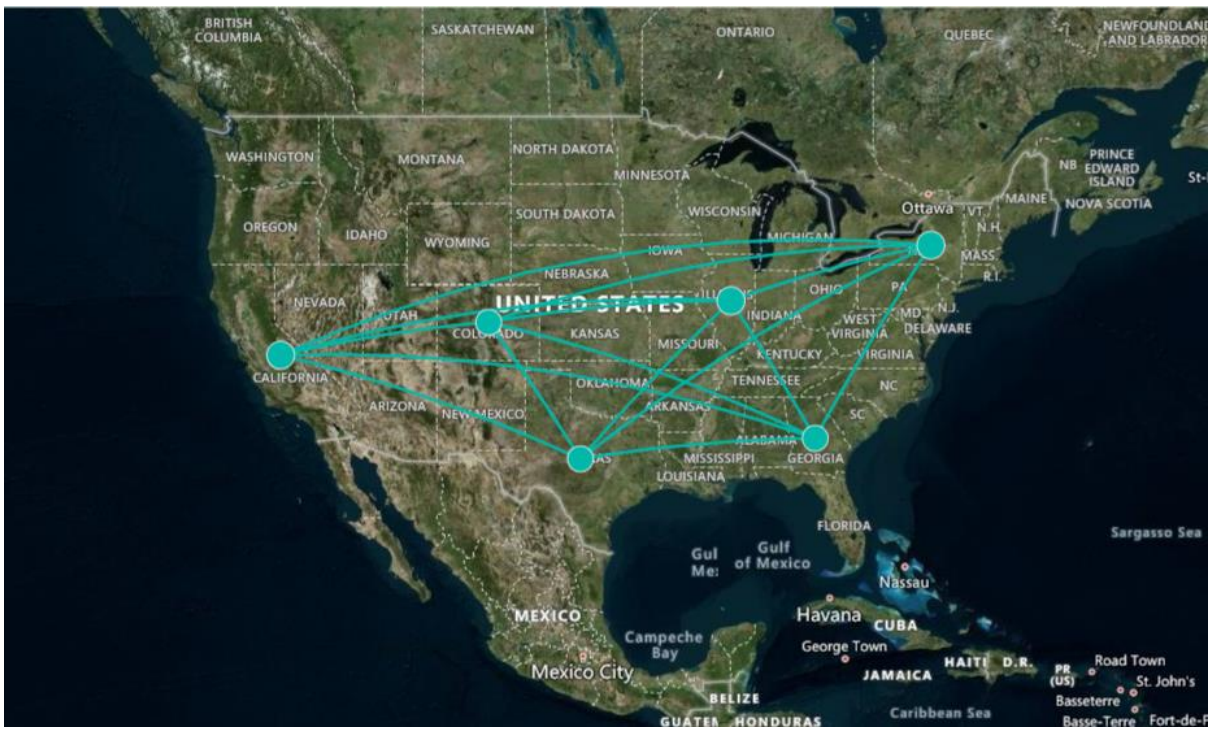




Inference

The dashboard examines the on-time performance of major US airports, focusing on weather delays, cancellations, and arrival delays. The analysis reveals that JFK consistently experienced the fewest weather-related flight delays and cancellations, while LAX had the most. JFK also had the shortest arrival delay from 2000 to 2014. However, Covid-19's impact on the industry made it difficult to forecast trends for the years 2015 to 2020. Overall, the dashboard's area charts provide a clear visualization of each airport's on-time performance over time, highlighting the disparities between airports and the effects of external factors on the industry.

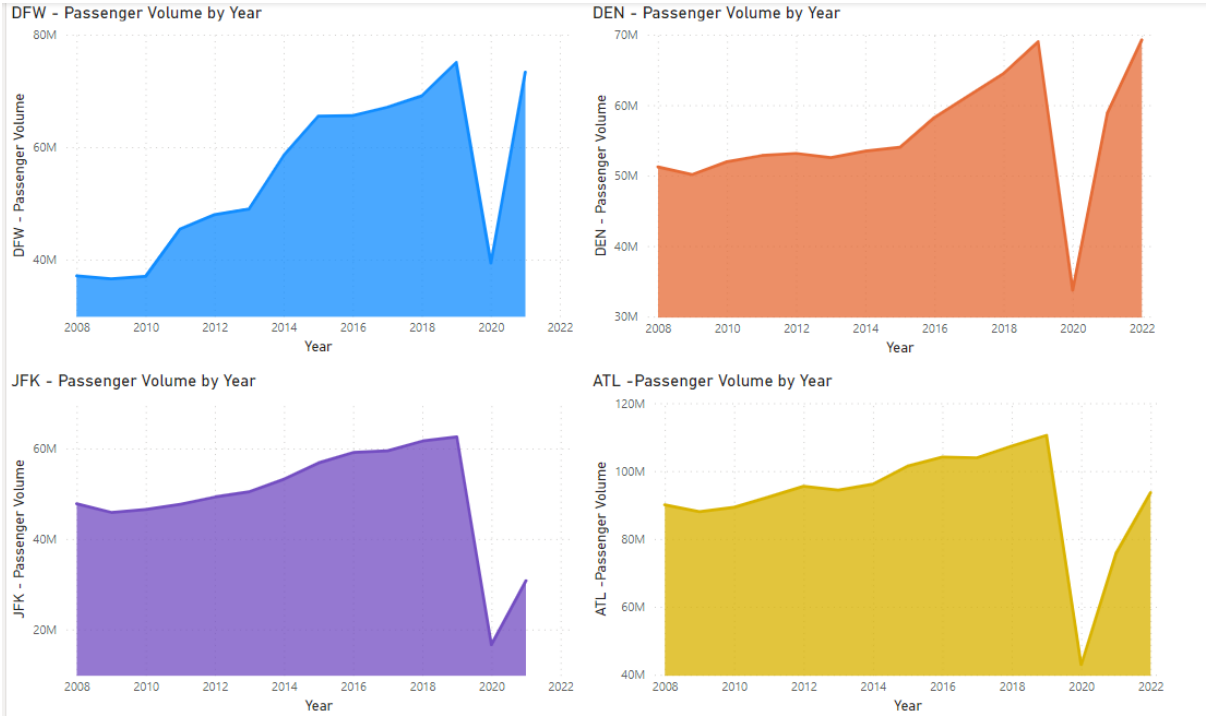
Connectivity Map

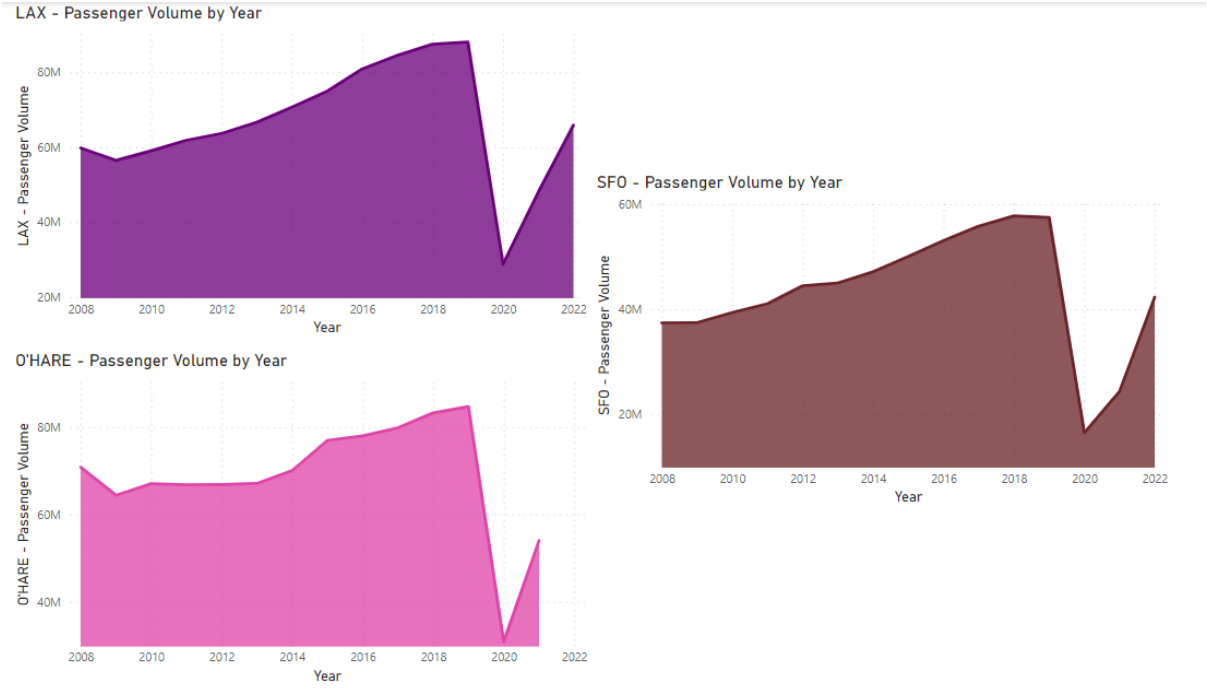


Inference

The map visualization in this dashboard shows the top 7 busiest airports in the United States, highlighting their excellent connectivity to both domestic and international destinations. The Hartsfield-Jackson International Airport in Atlanta, Los Angeles International Airport (LAX), JFK International Airport in New York, and O'Hare International Airport in Chicago is prominently featured on the map, along with their major airline partners and the number of destinations served. The map also includes information on the number of daily flights operated by major airlines, such as Delta, between their hub airports, highlighting the significant connectivity within the United States. Overall, this map demonstrates the importance of these major airports in connecting people and goods across the country and around the world.

Passenger Volume

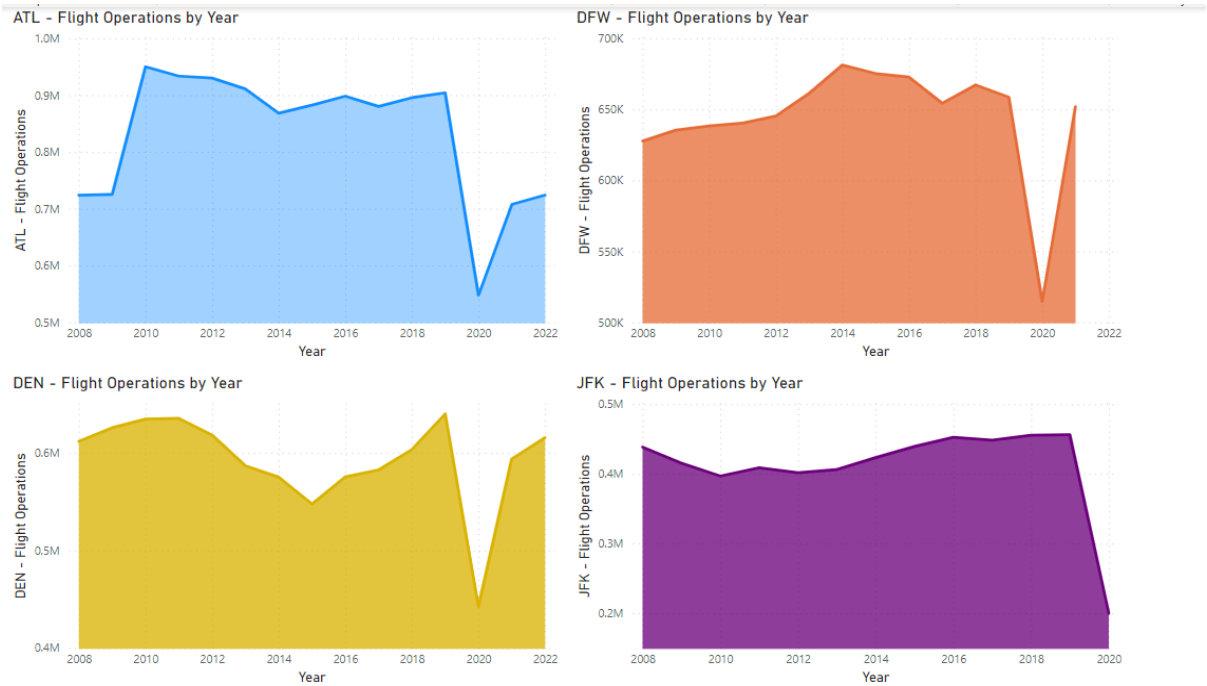


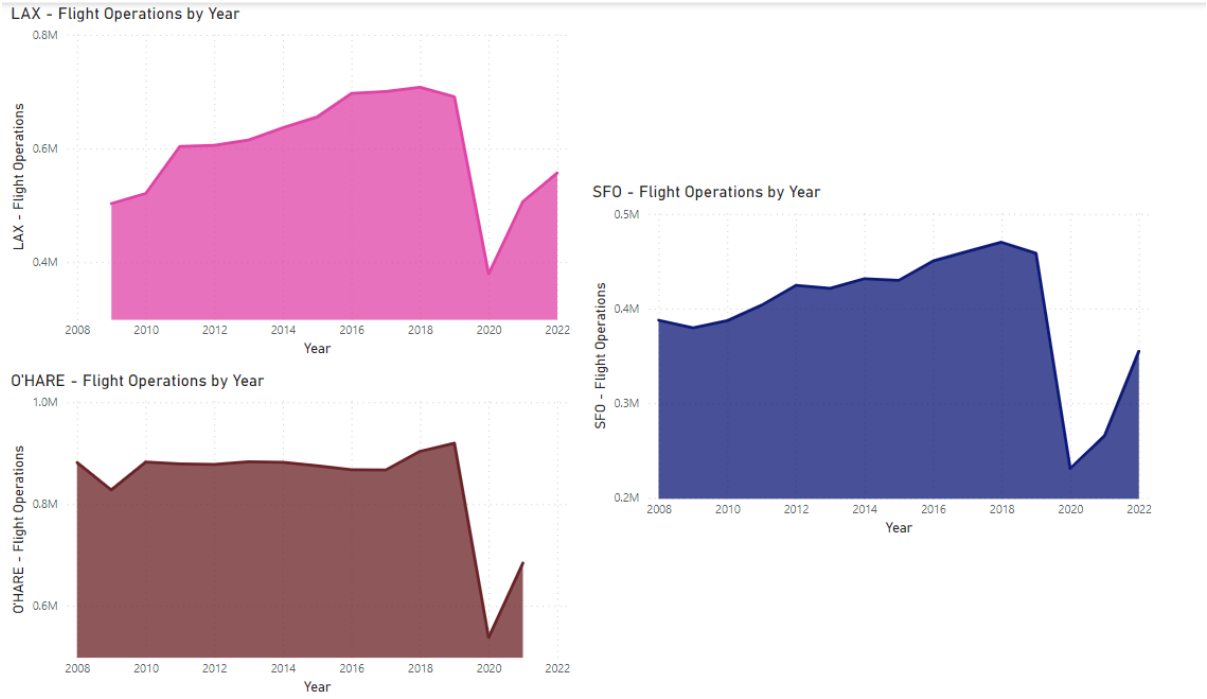


Inference

The area chart in the dashboard visualizes passenger volume information for seven major American airports from 2008 to 2022. It shows that only DFW experienced an erratic growth pattern, while the other airports showed steady and consistent expansion. The COVID-19 pandemic had a significant impact on passenger numbers, leading to a considerable drop in 2019-20 across all airports. SFO Airport was particularly affected, while ATL managed the situation better, with a smaller decrease in passenger numbers. The area chart emphasizes the importance of strategic planning to deal with external factors like pandemics that can have a severe impact on the aviation industry.

Flight Operations

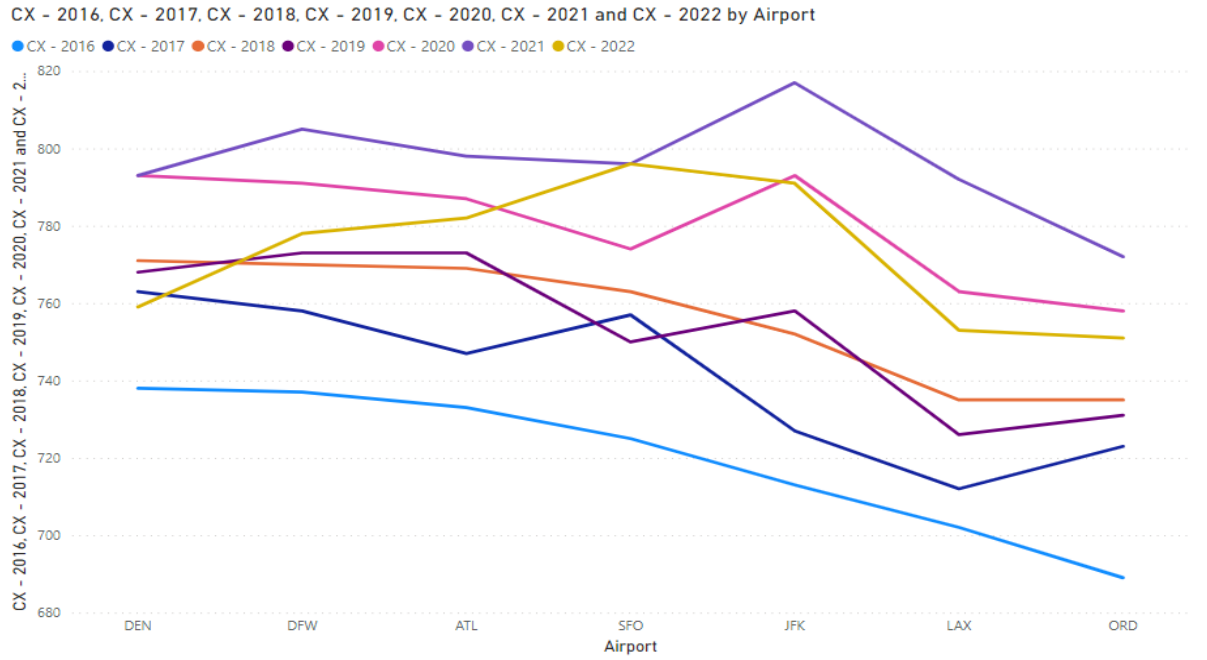


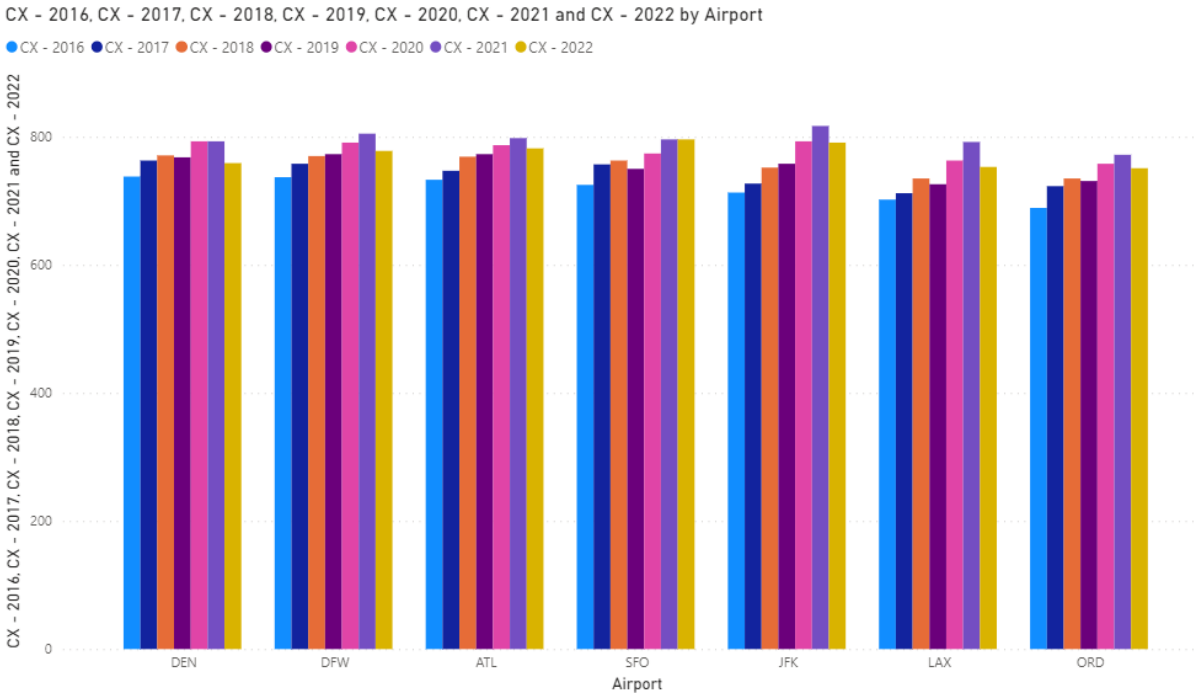


Inference

The area chart visualization shows a clear correlation between passenger volume and flight operations for the 7 major US airports. The chart demonstrates that all airports experienced a dip in flight operations during the COVID-19 pandemic. Additionally, ATL and DEN witnessed a drop in operations during 2014-15. The chart highlights that ATL has been the busiest airport among the seven, with the highest rise in flight operations after 2019. These insights emphasize the importance of understanding the relationship between passenger volume and flight operations and the impact of external factors on the aviation industry.

Customer Experience





Inference

For the line chart, the visualization shows the trend in customer satisfaction scores for the 7 major US airports from 2016 to 2022. It can be observed that all airports have shown improvements in customer satisfaction over the years, with JFK and SFO maintaining consistently high scores. ATL has been consistently ranked as the highest in customer satisfaction, while ORD has shown some improvement in recent years. LAX and DEN have shown fluctuations in scores.

For the bar chart, the visualization shows the customer satisfaction scores for the 7 major US airports in 2022. It can be observed that ATL has the highest score of 798, followed by JFK with 817, and SFO with 796. DFW has a score of 805, DEN with 793, ORD with 772, and LAX with 792. This suggests that although all airports have shown improvements in customer satisfaction over the years, there are still differences in their current levels of customer satisfaction.