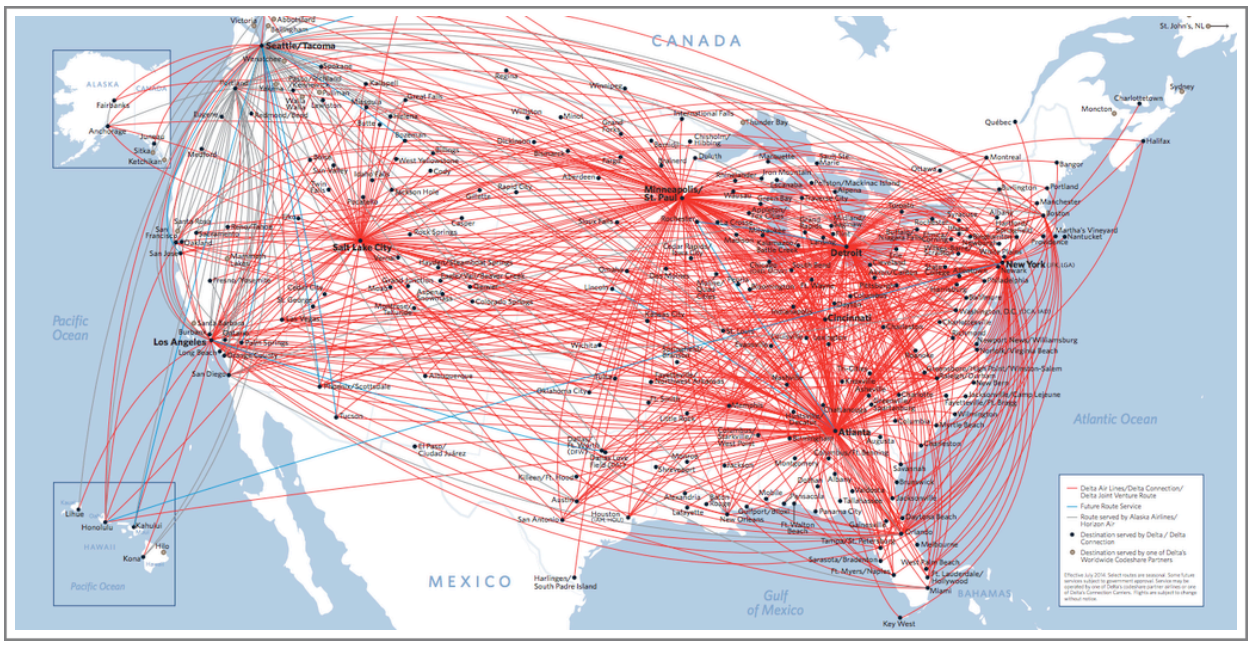
Flights in the USA

Telling the Story with Data



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Final Project - Build Data Dashboards

Flights in the USA

Telling the Story with Data

Why do flights get cancelled in 2015?

- **Link:** https://public.tableau.com/views/CancellationReasons_16551463972450/CancellationReasons?:language=en-US&publish=yes&:display_count=n&:origin=viz_share_link

- **Summary** : In the Dashboard there are 2 graphs, one bar chart and a scatter chart with lines. In the box plot we can see the three reasons why flights got cancelled in 2015 in the US, and how many flights got cancelled for those reasons. The scatter plot shows us a comparison of the 3 causes (Weather, Airline/Carrier, National Air System) and how many cancellations they generated by month.
  What we can gather from these two charts is that weather causes the most cancellations of all, almost twice as many as Airline/Carrier, and 50% more than Airline/Carrier and NAS combined. Furthermore, we can see that the months with the most cancellations are December through March, with weather being the leading cause. This can certainly be attributed to the low temperatures and precipitation these months entail in the country.

- **Design**: I decided to change the color of both charts to make it easier to identify each reason, specially in the scatter plot, and for colors to match across reasons and charts. I used a line chart because I wanted to plot the different reasons continuous data over time, and it also helps to demonstrate the relationship between the time of the year and the number of cancellations. Bar chart allows the reader to easily compare the difference in values of the number of cancellation per reason.

- **Resources**: N/A

Airlines - Which ones are the most used?

- **Link:** https://public.tableau.com/views/AirlineUsage/AirlineUsage?:language=en-US&publish=yes&:display_count=n&:origin=viz_share_link

- **Summary**: This Dashboard shows 1 colored pie charts and a bar chart. Both pie charts represent similar information, one indicates the number of flights each airline flew in 2015, while the other tells us the share of arrival status each airline had.
  We cannot identify a relationship between the number of flights and the punctuality. The airlines with the most flights are Southwest, Delta, and American Airlines; with Delta, Alaskan, and Hawaiian Airlines being the most punctual, while Spirit, Frontier, and American Eagle having the most delays and cancellations.

- **Design**: I decided to change the color of both charts to make it easier to identify each airline and arrival status. The box chart uses a pallet of colorblind-friendly colors, while the pie chart cannot due to the amount of options and color availability of the colorblind pallet. I chose a pie chart due to it's ability to represent each airline's flights as a slice of the total amount of flights. This allows the reader to see how the flights are shared by the airlines. The stacked bar chart helps the reader quickly identify the part to whole relationship among each airline, and see the share of each arrival status for the total flights of each airline.

- **Resources**: N/A

Which are the busiest states, cities, and airports?

- **Link:** https://public.tableau.com/views/FlightsMapUSA/Whatarethebestworstspotstodepartfrom?:language=en-US&publish=yes&:display_count=n&:origin=viz_share_link

- **Summary** : This Story shows us 4 different charts, one "heat" state map of the United States, a bar charts, and a dashboard with 2 bar charts. The heat map first shows where people flight out of the most, the first box chart shows us the top 5 states with the most departing flights, and the dashboard shows us the number of departing flights at the top 2 airports, and their cities, from each state of the top 5 states.
  We can see that the top states are California, Texas, Florida, Illinois, and Georgia. We can also observe that while Texas and California have the most flights, they have a more spread out distribution along cities and airports due to the number of big cities in them; while states like Georgia and Illinois are more concentrated in their big cities (i.e. Atlanta and Chicago), with Atlanta's Hartsfield-Jackson Airport having the most outbound flights of all airports. There doesn't seem to bee a clear-cut difference between the airports, although it is surprising that Hartsfield-Jackson Airport has the least delays even though it has the most outbound-flights of all.

- **Design**: I believe that the way this story is designed, allows us to dig deeper with each slide, going from a country vision, to a state/city granular level. I decided to add the cities of each airport to the last box chart, to also show in detail of where the busy airports are situated within that state.
  I used a Map because I wanted to plot geographical in the United States, and what better than a visual representation of the country with each state delimited. I used a sequential blue-teal color pallet for the states, where the darker the blue color, the more number of flight and viceversa. This type of coloring makes it easier to detect which states have high/low number of flights for each arrival status.
  The bar chart helps the reader quickly compare the quantity, ratio, frequency, and difference in values for the total and each status from each state and airport. As with the stacked bar chart in the Airlines dashboard, the chart here helps the reader quickly comprehend the part to whole relationship among each airport, and see the share of each arrival status for the total flights of each airport.

- **Resources**: N/A