Project: Create a Tableau Story

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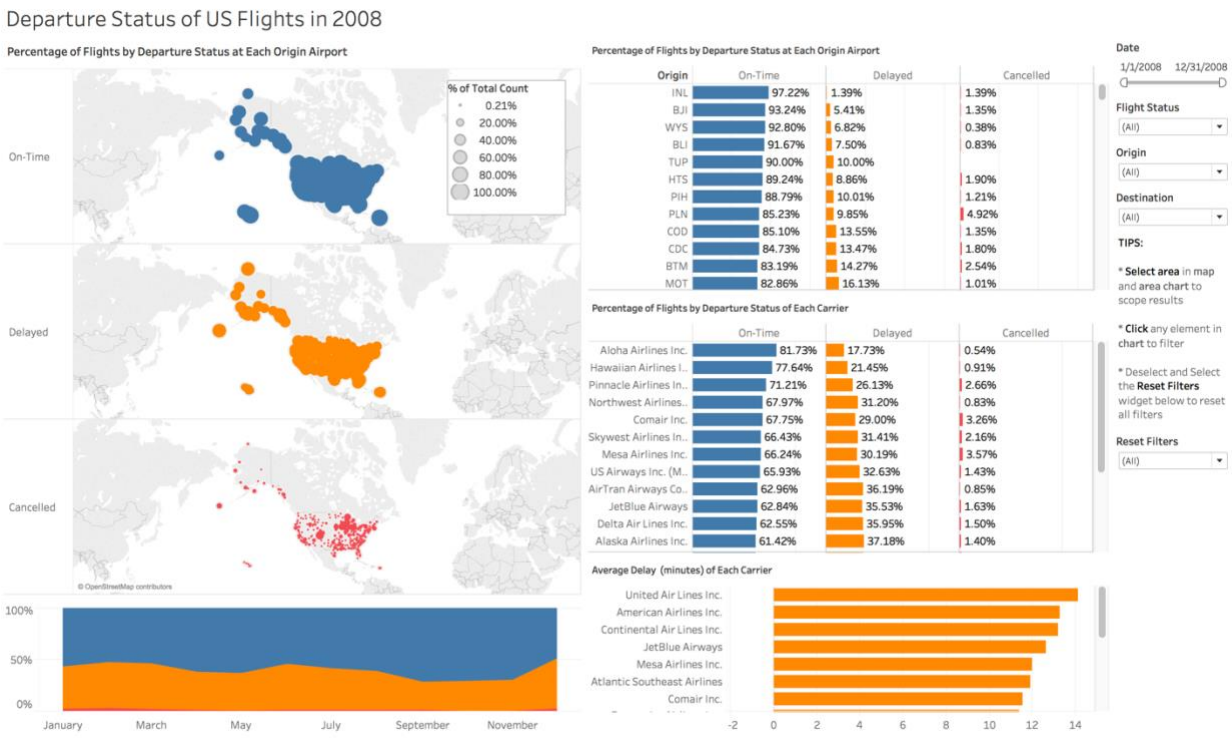

Links

- Final Story
- Dashboard v0.2
- Dashboard v0.1

Summary

This dashboard shows Departure status of US flights in 2008. Overall, more than 50% of US flights were departed on time and regional airports with much smaller number of flights had very high-rate of flights departing on time. However, a rate of delayed flights was increased significantly during a holiday season in December 2008.

Design

This dashboard focuses on presenting the Departure Status of US flights in 2008.

In the initial design, a bubble chart is shown in a map to show a relationship between a number of flights with a particular flight status (On-time/Delayed/Cancelled) at the origin airport where a size of bubbles is varied based on a number of flights and color encoding is used to represent different departure flight status.

Additionally, in the initial design, a line chart and a bar chart are used to represent a trend of departure status in 2018 and a number of flights by departure status of each carrier, respectively.

However, after receiving feedback, the map was updated to show data of each flight status in terms of a percentage of total instead to better communicate this information since a number of departure flights is varied significantly. Tables with bar charts are also provided to show a ratio of flights of each departure flight status of each airport and each carrier, and this information will enable the audience to explore data in this dashboard further.

Additionally, in the final design, a stacked area chart is provided below the maps to present a proportion of each flight status over time in 2018. The audience can also inspect this trend data with various different intervals (quarters/months/weeks/date) by clicking -/+ button when hovering over the time axis. Another visualization that is provided in this dashboard is an average delay of each carrier since this information is crucial for the audience to evaluate a performance of each carrier.

Moreover, filters are also provided in the right panel of this dashboard to enable the audience to filter data based on date range, flight status, origin airports, and destination airports. The audience can also interact with the visualizations to scope results by clicking and selecting elements in the visualizations, and quickly inspect data of a particular element in the visualizations by hovering over it.

To communicate the findings, a Tableau story was created from this dashboard to explain my findings and a filter is applied to the dashboard to support each story point.

Feedback

Feedback for the first dashboard design (Dashboard v0.1)

First impression:

- More flights were on time than not, except December when on time and delayed were almost the same.
- Could not draw any confirmatory conclusions from this visualization.

Questions about the data:

- Was the location the source or destination of the flight?
- Was also hard to see if a location stood out for on time vs delayed, maybe ratios would have helped.
- If I want to travel to say California, which carrier should I have picked? I can click and see Delayed or On-time info from carriers but not both together.
- Does carrier and area matter. Ex: North East has more delays but also more flights so any carrier operating there would have bad numbers, or HA seems to have the best ratio but also, they service only Hawaii.
- Was one carrier the outlier or do all have a similar trend over the year.

Relationships:

- Location was the same density for on time and delayed so those places are serviced the most maybe.
- What stood out was that WN had the most flights but it's pattern (almost half and half) was different from all other carriers.

Suggestions:

- Try a ratio of on-time/total for the location density, maybe even by carrier trends for the month.
- For carriers, try ratio of the number/total flights because it is hard to know which carrier is the best or worst in terms of performance over the total flights they served.
- Could the carrier names be expanded instead of 2 letter acronyms?
- Also, dashboard should say "US flight status data (2018)"

Resources

N/A