Links:

Flight_story_v1:
https://public.tableau.com/views/Flight_story_v1/StoryforFlight?:embed=y&:display_count=yes&publish=yes

Flight_story_final:
https://public.tableau.com/views/Flight_story_final/StoryforFlight?:embed=y&:display_count=yes&publish=yes

Summary

This visualization explores on US flight data in 2018. Goal is to identify the historical problem (ex. delayed, cancelled, diverted) for a carrier in order to further improve on it. Focus on the arrival delay in destination airport because I think most people care about to arrive on time.

Design

I decide to put my charts into a Story template to better link my findings and thought process.

Chart1 (Number comparison): To start with bar chart because this is clear when make comparisons, and put horizontal to show the full label on the left. I use Calculated Field with MAKEDATE function to create a "Date" field, this help me to do the grouping into each quarter more easily for trending analysis. After the feedback, I notice my color of the bar is not distinguishable enough because I was using "Color Blind" Palette which don't have clear color contrast, so I change the color palette to "Tableau 10" that shows more color contrast between bars.

Chart2 (Arr Delay AVG): I choose again the bar chart to make comparison of Average Arrival Delay minutes between different airline carrier. Based on feedback that it is difficult to understand the carrier's IATA code, I pull data from internet to get the match the Carrier code (IATA) to full carrier name, and did a join to link these so my chart can show more clear full carrier name.

Chart3 (Delay category AVG): This chart utilize stacked bar chart to firstly show the composition of the delay by different reasons, and secondly to compare between different carriers.

Chart4 (Map delayed): I utilize the map chart to visualize the average arrival delay by each destination airport, and only limit to United States location to simplify the visualization. The map chart is beneficial to give quick comparison between geographical region, and can sometimes reveal trend/anomalies related to geographical difference. Based on the feedback, I create a slider filter called "Dest: Top Delay" which can allow the user to select the top N delay to show, would be helpful if user want to focus on the top location to dig into first. This utilize the filter by "Parameters" I created.

Chart5 (Map cancelled): Basically same with above, except to substitute the average delayed minutes by the number of cancelled flight.

Chart6 (Small Multiple): This I utilize the line chart to show the trend from Jan to Dec, and put in small multiples format for easier comparison between different carrier and airport origin. The filter is on the right to specify the combination of carrier and airport based on user's interest.

Feedback

1. In chart1, the color between bars are not distinguishable enough, so I adjust the color palette with more color contrast.
2. In Chart2, it is difficult to understand the carrier's IATA code, so I pull data from internet to get the match of Carrier code (IATA) to full carrier name, and did a join to link these so my chart can show more clear full carrier name.
3. In Chart4, users prefer to have easier way to identify the top N record from the map chart, so I create a Parameters within filter of Dest (destination airport) to allow user to select top N average delay minutes.

Resources

Carrier code to name1: **http://aspmhelp.faa.gov/index.php/ASQP:_Carrier_Codes_and_Names**
Carrier code to name2: **http://www.iata.org/publications/Pages/code-search.aspx**
Map by airport code1: **https://community.tableau.com/thread/156711**
Map by airport code2: **https://openflights.org/data.html#airport**
Top N filter using parameters: **https://www.youtube.com/watch?v=UFWrTYSSt5s**