Insight 1 Explore the location of airports and their delay time

link: https://public.tableau.com/profile/donghuai.li#!/vizhome/insight1_15949455103090/delayairports

From this group of map we can see 4 parts. The above two shows the information of ten most average delay per flight in airports. The top left shows the location of these airports. We can treat them as two parts: one part is in the Alaska, and the other part is in the middle and south america. Then we can check airports' name and their average delay time in the top right barplot. The Gustavus Airport has highest average delay time over 19 minutes per flight.

The bottom two graph shows the information of Least delay U.S. airports. These airports more likely to locate in north part of america. The Canyonlands Field has lowest average delay time which is -22 minutes. The negetive arrival delay means flights arrival before the expect arrival time.

Insight 2 Explor delay time associate with day of week and different months

link: https://public.tableau.com/profile/donghuai.li#!/vizhome/insight1_15949455103090/delayintimes

From the time we try to find characterastics of delay time.

First, the top left graph shows in the Friday we have lowest delay, while in Sunday we have a highest delay time. From the intuition thought, we can make a hypothesis that delay time is higher in the weekend days than Monday to Friday and we will examine later.

The bottom left graph shows we have highest delay time in June (9.8 minutes) and lowest delay time in September(-0.7 minutes).

In the left graph, we check the hypothesis made before. From the comparison of in/out of weekend delay time among months, we have several conclusions to made. First, the weekend days have much more delay time then weekdays' in December, January and February. Second, the weekend day have much less delay time then weekdays' in September. The rest of months they have similiar delay time to each other.

Insight 3 Explore delay time with different Airlines

link:
https://public.tableau.com/profile/donghuai.li#!/vizhome/insight1_15949455103090/delayamongairlines?publish=yes

Last, we trying to find the airline with delay time. As we can see, there are two graphs. The left one is the average arrival delay time among airlines. Sprint Air lines have a highest delay time of 15 minutes, the Alaska Airlines have lowest delay time of -0.49 minutes. The right graph shows the standard deviation of arrival delay time in each airline. The relative huge standard deviation of delay time implies that the huge fluctuate in actual arrival delay. And the bottom graph shows the delay time variation among months in Alaska Airline. We can see the delay time vary greatly in months. Also, you can change the displayed airline in the filter on the right corner to check other airline's delay time.

Design

In the graph 1: the delay with airports. I use the red dot to mark airports with most delay, and green dot to mark airports with least delay. The information from red and green help reader get the information of good & bad.

In the graph 2, I marked weekend as blue and left other days in gray to highlight the weekend. Also, I use the same palette in the analysis of weekend's delay among months to help reader notice the difference better. In the left bottom graph, the delay time in months, I used light blue to mark the maximum and minimum of delay time to show the impressive fluctuate delay time.

Resources

N/A