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Data Analyst Nanodegree
Tableau Story Project

2007 Flight Data Analysis

Project URL
https://public.tableau.com/profile/mustafa.olom#!/vizhome/FlightData_12/Story1?publish=yes

Introduction
I am examining the flight data for 1,048,576 flights that occurred in the year 2007. I examine the cancellation and delay times of all airlines and Alaska Air, in particular, and how they compare to the rest of the airline industry. I would have examined more years but Tableau public restricts larger datasets.

Design
A few technical changes I had to make were changing the Origin and Destination to a geographic role as airport code so it could be plotted on the map. I also created a calculated field for the airline that cased the unique carrier code to the name.
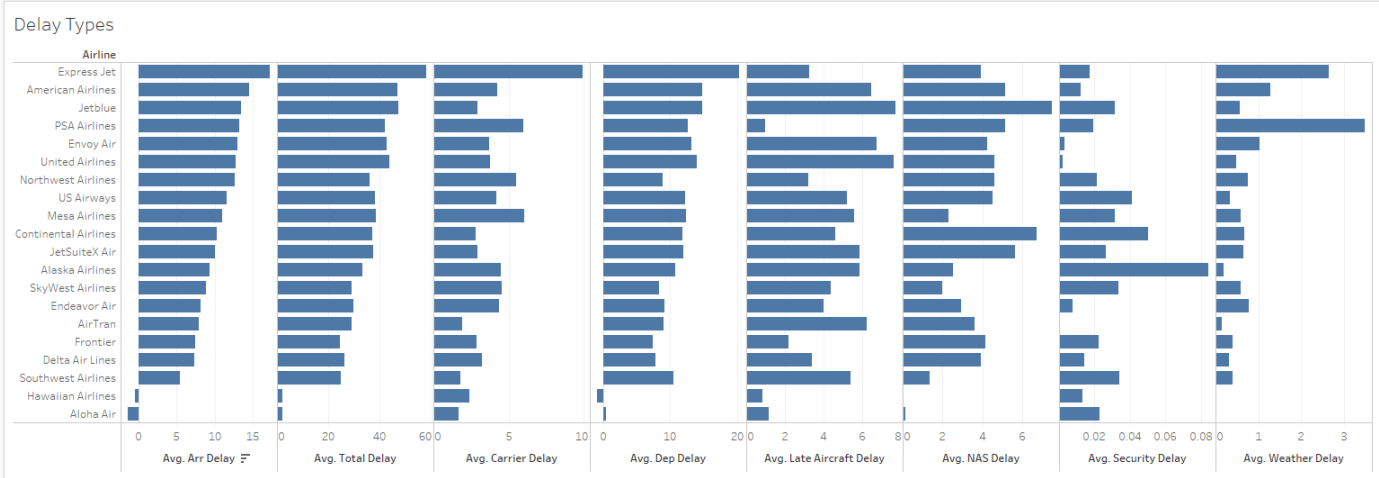
I examined the flight times with bar charts showing the percentage of each type of cancellation. I also an area chart to look at Alaska's cancellations throughout the year in comparison to the rest of the airline industry. I then plot the cancellations on a chart using the airport as a geo location on a map and examine the average delay time by type of delay.

The first dashboard I created (slide 5) shows the average cancellations by month and you can look at in month to month and see where average cancellations are. The second dashboard (slide 6) lets you cross compare average cancellations with total cancellations and their percentages. This is helpful in seeing the breakdown of cancels per airline and you can pick the airline from the drop down.

Feedback
The feedback I received was that just having the percentages of cancellations was not enough and that it would be better to look at the percentages in comparison to the overall percent of cancellations so I created that dashboard (slide 6 in my story). I also learned that plotting things visually is not always helpful so for slide 4 I adjusted my bar chart to a table of values so we can see performance in numbers.
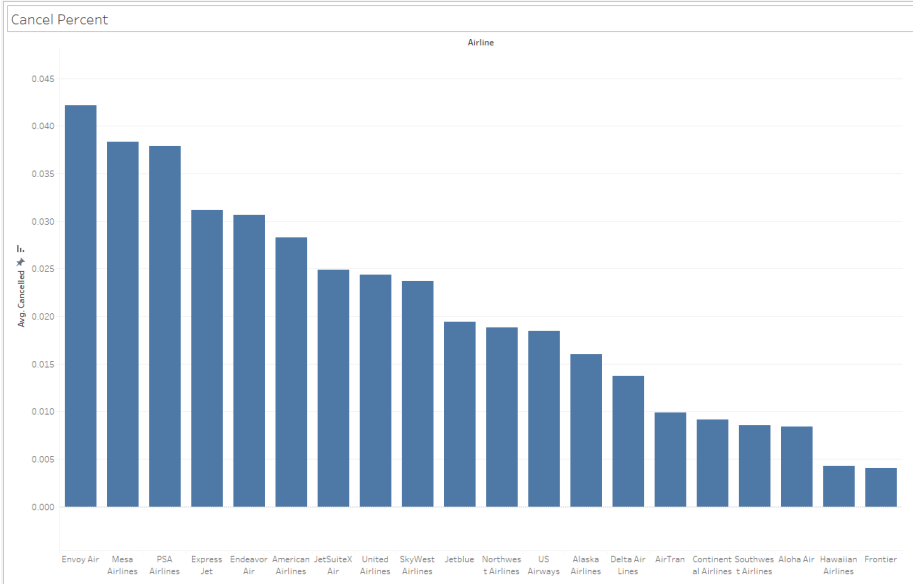
Before:

Delay Types

After:

Delay Types

Airline	Avg. Arr Delay	Avg. Carrier Delay	Avg. Dep Delay	Avg. Late Aircraft Delay	Avg. NAS Delay	Avg. Security Delay	Avg. Weather Delay	Avg. Total Delay
Express Jet	17.20	9.89	20.22	3.25	3.93	0.02	2.66	57.90
Jetblue	13.44	2.94	14.74	7.68	7.49	0.03	0.56	47.27
American Airlines	14.44	4.26	14.72	6.43	5.17	0.01	1.28	46.82
United Airlines	12.75	3.75	13.91	7.59	4.62	0.00	0.48	43.52
Envoy Air	12.99	3.71	13.19	6.73	4.25	0.00	1.04	42.61
PSA Airlines	13.14	5.96	12.61	0.98	5.15	0.02	3.49	41.95
Mesa Airlines	10.96	6.04	12.33	5.57	2.32	0.03	0.59	38.42
US Airways	11.53	4.21	12.15	5.20	4.52	0.04	0.35	38.24
JetSuiteX Air	10.01	2.91	11.88	5.86	5.64	0.03	0.65	37.38
Continental Airlines	10.27	2.80	11.79	4.59	6.74	0.05	0.67	37.06
Northwest Airlines	12.56	5.49	8.93	3.22	4.61	0.02	0.76	35.86
Alaska Airlines	9.26	4.51	10.73	5.82	2.54	0.08	0.20	33.26
Endeavor Air	8.14	4.36	9.11	3.97	2.93	0.01	0.78	29.67
AirTran	7.94	1.91	9.04	6.23	3.60	0.00	0.14	28.96
SkyWest Airlines	8.84	4.57	8.31	4.36	2.00	0.03	0.60	28.99
Delta Air Lines	7.30	3.22	7.85	3.41	3.92	0.01	0.32	26.18
Southwest Airlines	5.47	1.80	10.44	5.36	1.37	0.03	0.40	24.92
Frontier	7.43	2.86	7.41	2.19	4.15	0.02	0.40	24.51
Aloha Air	-1.38	1.68	0.44	1.16	0.13	0.02	0.02	2.09
Hawaiian Airlines	-0.43	2.40	-0.88	0.84	0.02	0.01	0.03	1.99

Before

After