Marketing Analytics Nanodegree Program

Build Data Dashboards

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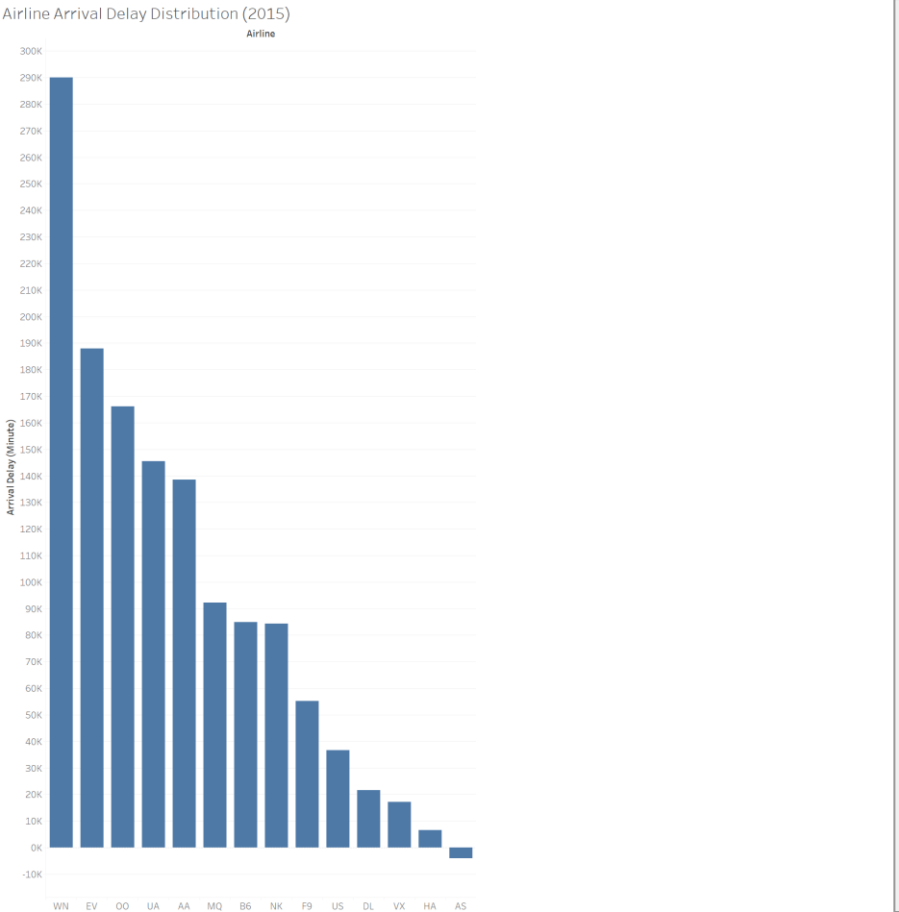
2015 U.S. large Domestic Air Carriers Arrival Delay Distribution



Summary

This bar chart shows the distribution of total arrival delays of large US domestic airlines in 2015.

Design

Since Airline is a categorical variable, bar chart is appropriate to display distribution of its categories. Those categories are also arranged in descending order so that the ranking is obvious.

Insight

Clicking on the chart, it shows that airline WN is the worst (290,000 minutes) in terms of total arrival delays. EV (187,908 minutes) and OO (166,148 minutes) come next. On the other hand, AS is the best that it has 4,007 minutes of early arrival, not arrival delays; HA only has approximately 6,494 minutes of arrival delays and 17,107 minutes for VX.

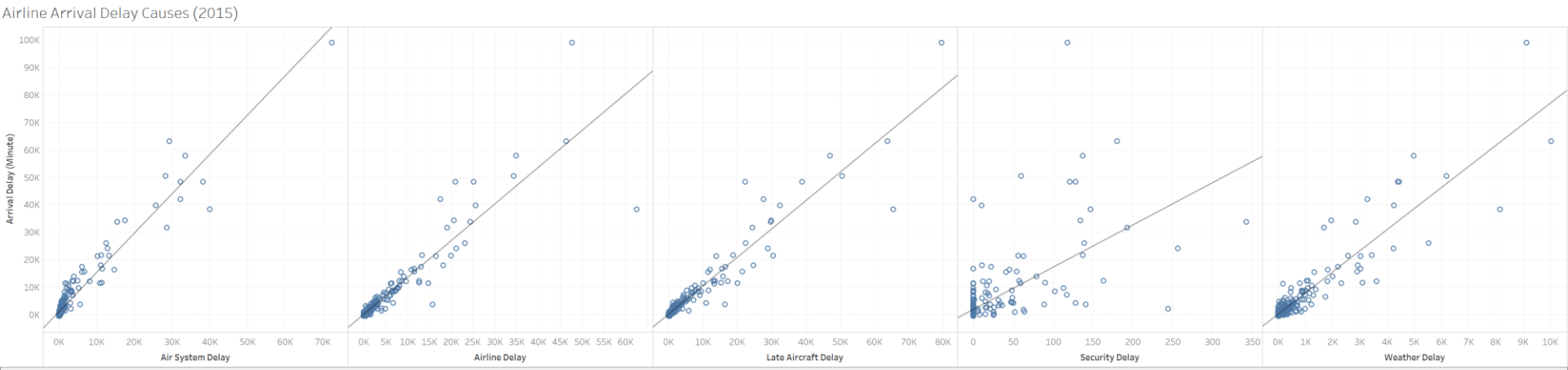
Link

https://public.tableau.com/profile/chris5448#!/vizhome/AirlineArrivalDelayDistribution/AirlineArrivalDelayDistribution2015?publish=yes

Resources

N/A

Correlations between US large Domestic Air Carriers Arrival Delay and underlying Delay Causes (2015)



Summary

The above scatter plots show the correlations between airline arrival delays and causes (air system, airline, late aircraft, security and weather).

Design

Since arrival delays and causes are quantitative variables, scatter plot is appropriate for displaying their correlations.

Insight

Clicking on all the trend lines above, every P-value is less than 0.0001, so all the correlations are significant at the 0.05 level. The R-Squared values for the first, second, third and fifth scatter plots (from left to right) are greater than 0.7, so these correlations are strong. Yet, the correlation (about 0.39) of the fourth one is greater than 0.3 and less than 0.7, so its correlation is moderate.

Link

https://public.tableau.com/profile/chris5448#!/vizhome/AirlineArrivalDelayCauses/AirlineArrivalDelayCauses2015?publish=yes

Resources

N/A

2015 U.S. Airport Performance

Summary

The dashboard (click the link below) shows U.S. airport performance in terms of airline arrival delays in 2015.

Design

The dashboard is a combination of a geographical map and a bar plot. The map is an ideal choice to show the distribution of arrival delays of US airports in this context. Airports spotted in the map are addressed by the intense of color , so their performance can be distinguished. The bar plot here can clearly show the distribution ranking besides the arrival delays of each airport. A filter on month is added so that airport performance over the months can be reflected on the map and the bar plot simultaneously. Airport names are added to the Tooltip of the map, so that the name of the airport can be shown besides the state and city when clicking on the map. State and city names are added to the Tooltip of the bar plot, so state and city names are reflected besides arrival delays when clicking on the bar plot.

Insight

According to the dashboard, Chicago O'Hare International Airport is the worst (98,900 minutes) in terms of airline arrival delays; Dallas Fort Worth International Airport (63,052 minutes) and Los Angeles International Airport (57,835 minutes) come next. On the other hand, Gillette-Campbell County (-471 minutes) is the best which means that airlines arrive ahead of schedule in general. Evansville Regional Airport (-450 minutes) and Toledo Express Airport (-436) come next.

Link

https://public.tableau.com/profile/chris5448#!/vizhome/USAirportPerformance/AirportPerformance2015?publish=yes

Resources

N/A