IDS 567: Business Data Visualization
Fall 2015

Group Project Description and Requirements

The Bureau of Transportation Statistics (BTS) publishes monthly information about airline on-time flight performance. Included in the monthly datasets is information about every commercial flight under the jurisdiction of the Department of Transportation. The detailed flight data includes information about scheduled flight times, actual flight times, length of departure delays, length of arrival delays, delay types, delay causes, and cancellations. Details about every flight in the monthly BTS are available to every airline – i.e. any airline can evaluate their own on-time performance against every other commercial airline operating in the US.

Your group project will make use of the BTS dataset to implement the visualization practices we discuss in this course. Specifically, each group will be assigned a specific airline to research against all other airlines. Each group will prepare a final deliverable using Tableau that provides a visual overview of the group's airline's performance as well as recommendations for their assigned airline to improve performance based on visual evidence.

Requirements:

Data: Procure Data from here. You are to utilize all 12 monthly files from 2014. Do not use data from any month outside of 2014. Along with the 12 monthly files there are various tables available at the BTS site that contain important lookup information for the BTS data. You will need to utilize those lookup tables where project requirements dictate.

Data Visualizations: You are to prepare visualizations from the BTS data set that describes the on-time performance of your assigned airline. You will do this by preparing visual descriptions of metrics that best describe on-time performance. You should also prepare visualization depictions of any patterns between metrics that help explain on-time performance.

You are also to prepare visualizations of your assigned airline's on-time performance contextualized by information about the on-time performance of other airlines in the BTS data set. In other words, you will use appropriate data visualization practices to compare your assigned airline against the other airlines represented in the BTS datasets.

Dimensions: Your data visualizations should include appropriate depictions of time and geography to better illustrate your airline's on-time performance.

Presentation: Your final presentation should depict your information by minimizing unnecessary text in favor of visual depictions of data that minimize the noise-to-ink ratio.

Schedule of Deliverables:

Week 3: Submit a project plan that describes the following:

1. How you will collect and concatenate the monthly BTS datasets.
2. How you will condition the BTS datasets for use in the group project.
3. How you will explore your airline's data for meaningful patterns and trends.
4. How you will incorporate time and space into your visualizations.

Week 4: Submit a visual description of the key flight delay metrics for your airline from the monthly BTS data sets – especially the Departure Delay Minutes and Arrival Delay Minutes variables. Focus on the distributions of these variables for your airline only.

Week 5: Submit visual descriptions of summaries and aggregates of variables that will help you compare your assigned airline against the other airlines in the monthly BTS datasets. Focus on comparisons between your assigned airline and the other airlines in the monthly BTS datasets.

Weeks 7-8: Final group presentations. All final project deliverables will be due prior to the start of the Week 7 class.