DSC 640
Project Task 1: Supporting Documentation to Dashboard
Mary Donovan Martello

I structured and filled the dashboard to first examine any trends in airline accidents and fatalities so that the airline can respond directly to media reports that air is no longer safe to travel. I supplemented the airline accident and fatalities data with data about U.S. only airline incidents (as compared to worldwide crashes) as the travel for most U.S. citizens is likely local U.S. travel. I also used supplemental data on U.S. vehicle crashes and fatalities as the alternative to airline travel in the U.S. is mostly vehicle travel.

The dashboard story begins with a statistic of the airline industry supporting 10 million jobs in the U.S. The importance of airline travel to the U.S. economy is important to emphasize and I used a simple card to convey a single statistic to emphasize the point without further clutter. The dashboard story continues with using line charts to show the time trend of worldwide airline accidents and fatalities. The trend for both accidents and fatalities is a decrease in incidents. Thus, the media reports of recent accidents must be in perspective of the trend of safer airline travel as compared to recent past history. I used a line chart with two lines on it to again show the downward trend of global and U.S. airline fatalities, and included both global and U.S. statistics on the same line chart to emphasize how much lower the U.S. airline fatalities are compared to global airline fatalities. The line chart accomplished both the time trend information and the comparison between two different data sets information.

The dashboard story then turns to comparing vehicle travel to airline travel. I used a bar chart instead of a line chart to show that vehicle crash statistics are fairly consistent or flat as the bar chart demonstrates the lack of change better than the line chart (which shows changes over time better). Finally, I used both a line chart and a table next to it to demonstrate the same data of comparing the rate of fatalities per 10 million miles traveled by airline vs auto. The line chart does demonstrate that the vehicle fatality rate is definitely higher for the same number of miles traveled as airline travel, but because the rate statistic is close to zero and/or zero for the air data I thought the table with the simple two columns of numbers helped demonstrate the difference in the two rates. The comparison of the value of three-digit numbers versus one- or zero-digit numbers can be seen easily in the chart.

I used text boxes to explicitly state the messages intended by the charts.

I chose the colors of grey and green to address any color-blindness by the viewers. Power BI has a color-blindness friendly theme and I used that theme to help any color-blinded viewers. I thought the titles were harder to read in grey vs black, and therefore changed the font to have more boldness in the title to address that.

Sources:
https://aviation-safety.net/
https://www.airlines.org/dataset/annual-results-u-s-airlines-2/#
https://www.airlines.org/data/
https://www.airlines.org/dataset/safety-record-of-u-s-air-carriers/#
https://one.nhtsa.gov/Data/Fatality-Analysis-Reporting-System-(FARS))

GitHub repository: https://github.com/MaryDonovanMartello/DSC640