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DSC 640: Airline Crashes Dashboard

Term: Winter, 2023

The scenario/Business Problem:

Due to recent unfortunate airline crashes, the media has been promoting statistics stating air is no longer a safe way to travel. The news and media outlets have been bombarding the public with reports and figures about the trends of airline safety and that things are not looking good. What was previously thought as the safest way to travel, especially when compared to automobiles, is now being presented as one of the most dangerous to the public. But are any of these claims based on facts?

You work for an airline on the data science team as a data analyst and are a resident data visualization expert. You have been tasked with helping multiple groups in the organization combat this negative publicity and help tell the airline's side of the story. There is a fear internally about what this type of media coverage will do to airline sales and how it could impact the future of the company. Not only do they need you to help create some internal communications, but you will also be tasked with what is published to the public and the media.

Dashboard:

Your first task is to create an internal dashboard for your peers and data science management team that outlines the facts – what are the stats and what are the trends? Is there any supplemental data that you can use to support that air travel is still in fact the safest? Is there anything politically going on that would cause this type of media attention to be at a peak – remember, this is for an internal review by your peers and management – and will likely spark a lot of discussion for how you approach the next level of discussion with your executive leadership team. Is there anything to show sales are down or are headed that way? Do the safety incidents appear to be in a specific geographic area or by a specific airline every time? Do some analysis of the data you have and look for other sources to see what you can find to help inform your internal team. This project is the first of many building on top of the information you find and will present internally and then externally.

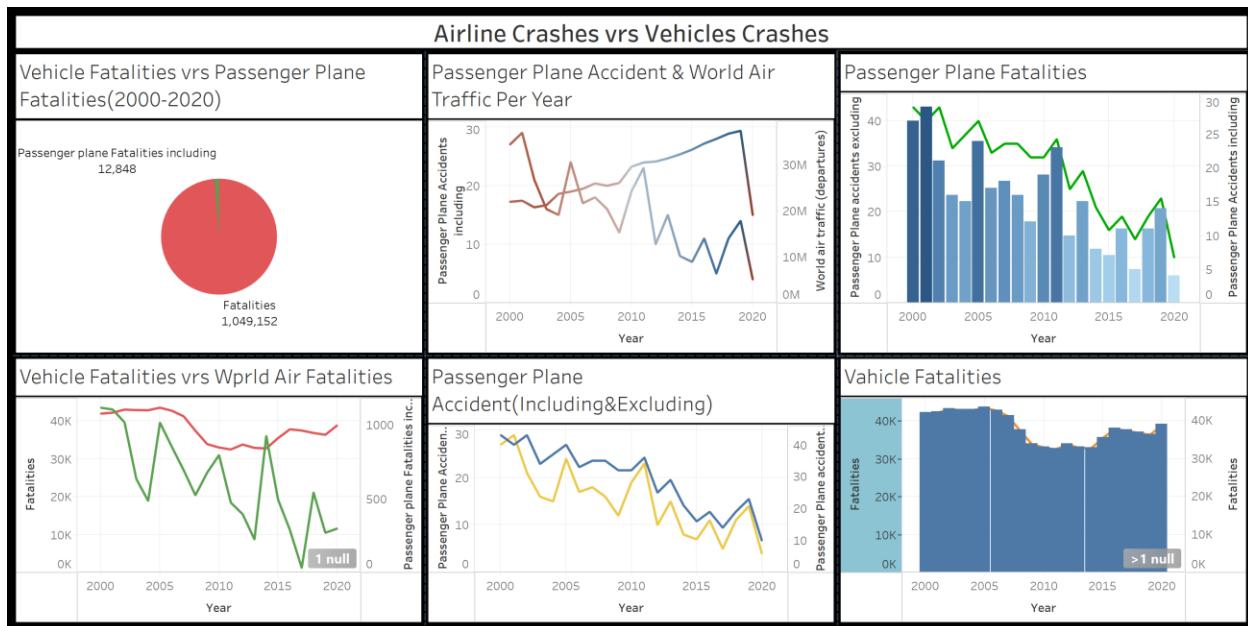


Figure 1: Airline Crashes vs. Vehicles Crashes

In the above Tableau dashboard, I want to show how airline crashes were very low compared to vehicle crashes and where they occurred. I chose a blue, red, yellow, and green schemes because blue does not invoke bad images as it is a calming color. Red color to indicate emphasis is an extra effort and understands how strongly I feel about the topic. Yellow, it is also the most attention-getting and green, which is the most visible color in nature and also the easiest for the human eyes to process.

I started with Pie chart to compare the total number of world airline fatalities and United States vehicle fatalities for the last 20 years. The Pie chart graph is representing the difference between both subject which each segment shows the specific portion of numbers. This shows that you are more likely to get into a car crash than an airline crash. I then wanted to depict the number of accidents per phase and continent just for reference, which in the second bar chart from top, I wanted to show whatever world air traffic increases but the passenger plane accident decreases. On the bottom left, is the number of passenger plane fatalities is facing down while vehicle fatalities are sky high, moreover I've used green and red colors to draw the viewer's attention to it. Bottom- and middle-line chart both including and excluding suicides,

sabotage, hijackings, etc. because I felt the difference was needed. The last bar chart is the vehicle fatalities with around 40k fatalities per year. I put it at the end so that the eyes and the mind of the audience can fully absorb it and the large amount of death does not leave his/her mind.

This dashboard is for my internal team, so I didn't need to put a lot of words into the graphs as they are already familiar with the data and need just an overview of what is going on. This will also implicitly spark conversations about the data and what then needs to be done to change the public's mind about the safety of the airline industry.