

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.

Project Task 1: 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.

A 250-word paper summarizing what you did and why you made the decisions you did – why did you choose the visualizations you did? How do you plan to present to your internal team? What were your findings? Ethically what do you need to consider? This paper is for the instructor to understand your thought process and justification of design.

By Breanna Parker

So, for my first graph (top left) I showed the fatalities by year. I wanted to show that, overall, fatalities in airline crashes are decreasing every year so planes are becoming even safer. Next (middle top) I have a graph that shows the number of death via different numbers of transportation methods (train, cars, planes, and buses) by year in the United States. There is an interactive graph below this one where you can select the specific year that you want the data on. However, overall, planes are one of the lowest death rates out the other modes of transportation. The next graph (top right) is of the world and it shows, if you hover over a country, the number of deaths by country, though only for the year 2021, the most recent data

we have. This shows that the United States has very low death rates by airplane. Next, (bottom left), there is a graph that shows the sum of all fatalities by year. These fatalities do not include all airplane fatalities, like it excludes military, but focuses on passenger planes. This graph is also adjusted automatically when you change the year. Lastly, in the bottom right, you can see all fatalities based on the flight type. Passenger fatalities are only half of all fatalities. So, let's say there are only 2 total fatalities on an airplane in the United States in 2021, only one of those was most likely on a passenger flight. Overall, my data shows that planes are one of the most safe modes of travel and it's just getting safer every year, especially in the United States. We need to make sure that all data is accurate and has little to no bias because if we present data that shows how safe planes are when they aren't, then this could cause future liability to the company if someone doesn't make a flight in the future.

References:

<https://github.com/fivethirtyeight/data/blob/master/airline-safety/airline-safety.csv>

https://docs.google.com/spreadsheets/d/1SDp7p1y6m7N5xD5_fpOkYOrJvd68V7iy6etXy2cetb8/edit#gid=1448957446

<https://injuryfacts.nsc.org/home-and-community/safety-topics/deaths-by-transportation-mode/>