Kimberly Cable
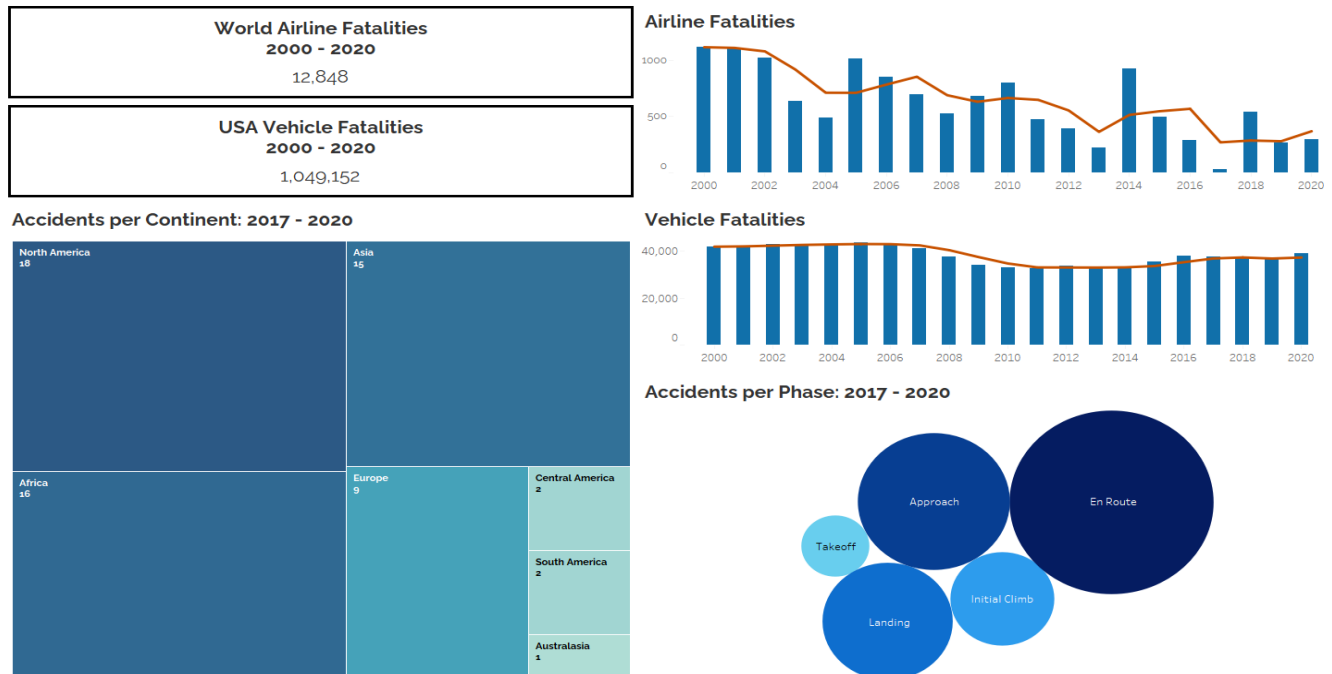**DSC 640: Airline Crashes Dashboard**
Term: Fall, 2022

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.

World Airline Fatalities
2000 - 2020
12,848

USA Vehicle Fatalities
2000 - 2020
1,049,152

Accidents per Continent: 2017 - 2020

North America 18
Asia 15
Africa 16
Europe 9
Central America 2
South America 2
Australasia 1

Airline Fatalities

Vehicle Fatalities

Accidents per Phase: 2017 - 2020

Approach
En Route
Takeoff
Initial Climb
Landing

I wanted to show how airline crashes were very low compared to vehicle crashes and where they occurred. I chose a blue scheme because blue does not invoke terrible images as it is a calming color. The accent color in the moving average is a complementary color to show how the trend is moving.

I started with an overall statistic of the total number of world airline fatalities and United States vehicle fatalities for the last 20 years. Moving left to right, I then move into a more detailed description of the total fatalities with a moving average trend line. The other two graphs are of the number of accidents per continent and per phase. I wanted to show where most of the accidents were occurring for the airlines as this was just for team members and managers.

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.

Ethically, the data I am pulling from changes with time as needed data is created and updated as mistakes are made. My dashboard also shows 4 charts with 20 years' worth of data and 2 with only 4 years which may cause

some confusion. Also, the vehicle data and the airline data come from different sources, and they may not gather their data in the same way. The data is also pulled from summary pages and not the raw data itself.

References:

https://www-fars.nhtsa.dot.gov/Trends/TrendsGeneral.aspx

https://docs.google.com/spreadsheets/d/1SDp7p1y6m7N5xD5_fpOkYOrJvd68V7iy6etXy2cetb8/edit#gid=14489 57446