DSC 640: Data Presentation and Visualization

Christopher M. Anderson

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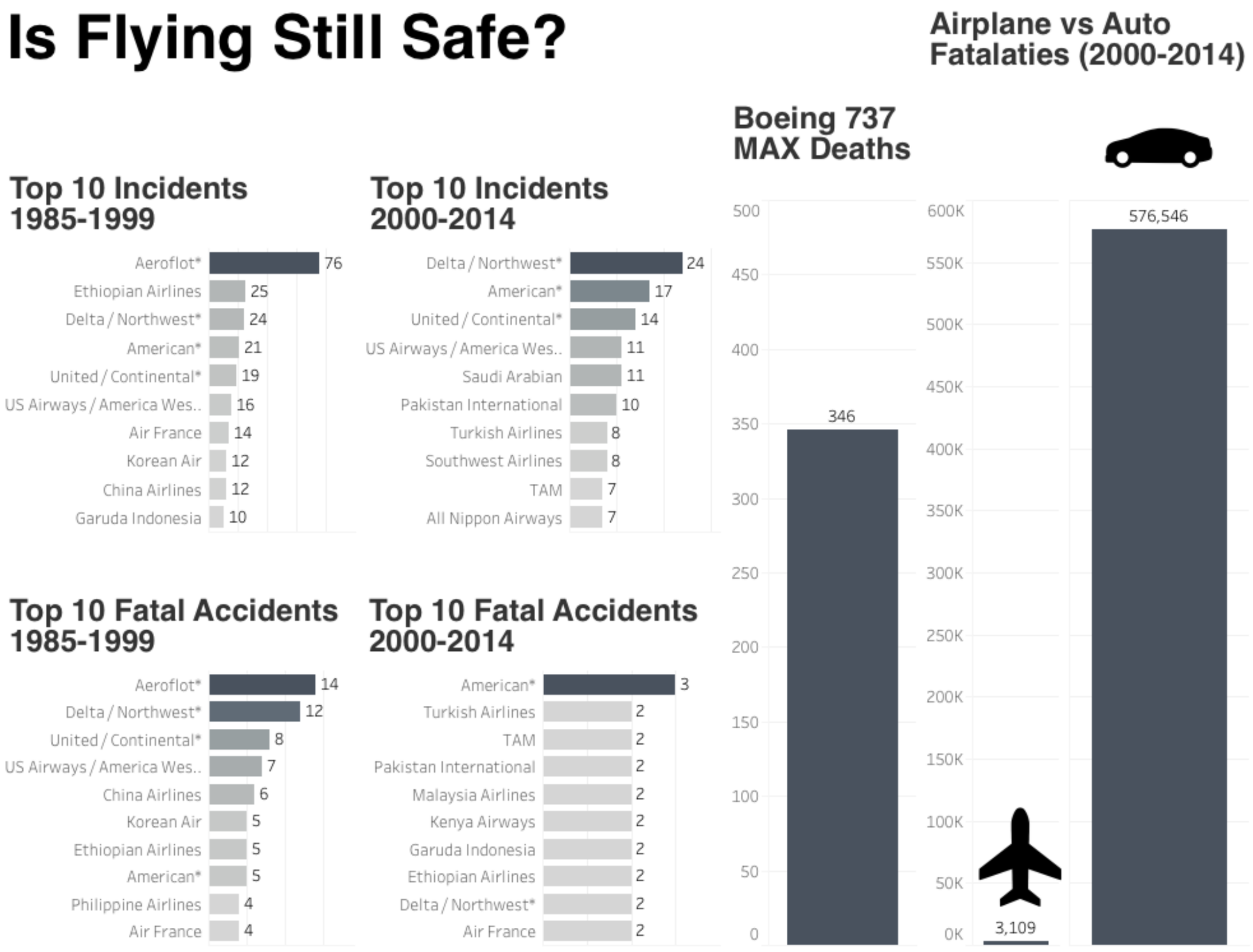
1.3 Project Task 1: Dashboard



Summary

What I wanted to do with the dashboard was build the information out from the airline safety dataset and present that data (30 years worth of airline incident, accident, and fatality information) and see if I could find any trends looking at the data in two different chunks of time, each of 15 years. Regarding the more recent events of Boeing's 737 MAX aircraft and its MCAS problems, I wanted to highlight the issues with that particular aircraft. Last, I wanted to do a quick comparison of the fatality data from the airlines and that of automobiles, using a supplemental data set from the NHSTA.

Visualizations

I plan to present to the internal group with just raw, factual information. The first grouping of visualizations I chose to use are there to show — if any — correlation could be made to airline incidents and accidents from 1985-1999 and 2000-2014. The goal was to see if the same exact airlines made the list of the top 10 for each 15 year chunk, and also to see if anything else stood out.

Another visual I wanted to specifically use was a quick chart showing the deaths from Boeing's 737 MAX aircraft. The fatalities from this particular aircraft came from two different flights less than six months apart, each from different airlines. Their common bond is the flaw in the aircraft's hardware and software system (MCAS) that automatically control the pitch of the aircraft if it detects a stall position. Not long after the second crash of a 737 MAX aircraft, the entire fleet was grounded.

The last visual, and the primary graphic, is one that compares total fatalities from flying and from driving. The difference is striking.

Findings

Based upon the findings, despite recent fears of flying, with the exception of a faulty hardware and software system on one particular aircraft (Boeing's 737 MAX), traveling by plane is still extremely safe compared to other methods of travel.

Airlines that had incidents or fatal crashes in the past are not necessarily prone to have them happen again. Also, the data shows that the number of incidents and fatalities over 30 years have dropped quite a bit, and they are not particular to one geographic location, though there is evidence that airlines from developing countries are more prone to incidents, accidents, and fatalities.

Comparing the fatalities of airline travelers and those in automobiles provides a rather telling statistic: between the years of 2000 and 2014, the total number of fatalities from airline and auto crashes was 579,655. Of that number, airline fatalities make up **half of one percent** of that total.

Flying continues to be one of the safest methods of getting from one location to another.