

### **Assignment 3.3, Project Task 2: Executive Summary**

Scott Breitbach

DSC640: Data Presentation & Visualization

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In my scenario, I work for Southwest Airlines and am presenting to the Executive Team. Because the Team is already well informed on the recent cluster of incidents within the aviation and subsequent media fallout (which is the reason for the meeting), I jumped right into the safety data for our industry.

I start with the relative safety of airline travel as compared to other modes of travel. The first compares based on fatalities per billion kilometers traveled. The following two charts show similar comparisons using different criteria: fatalities per billion hours traveled and fatalities per billion trips. While the first chart tends to be the standard for illustrating and comparing safety between industries, the reason I show all three is to encourage discussions around the ethical implications of and meaning behind the different ways to compare the data. While both kilometers traveled and hours traveled put aviation in a very favorable light, we don't fare as well when looking at number of trips so the fact that people travel less frequently by air would have to be taken into consideration. Note that the horizontal bar charts help to allow easy reading of the modes of transport and the wide format also helps the bar for Motorcycle category to fit on the page. Also, the category order is kept consistent for easy comparison.

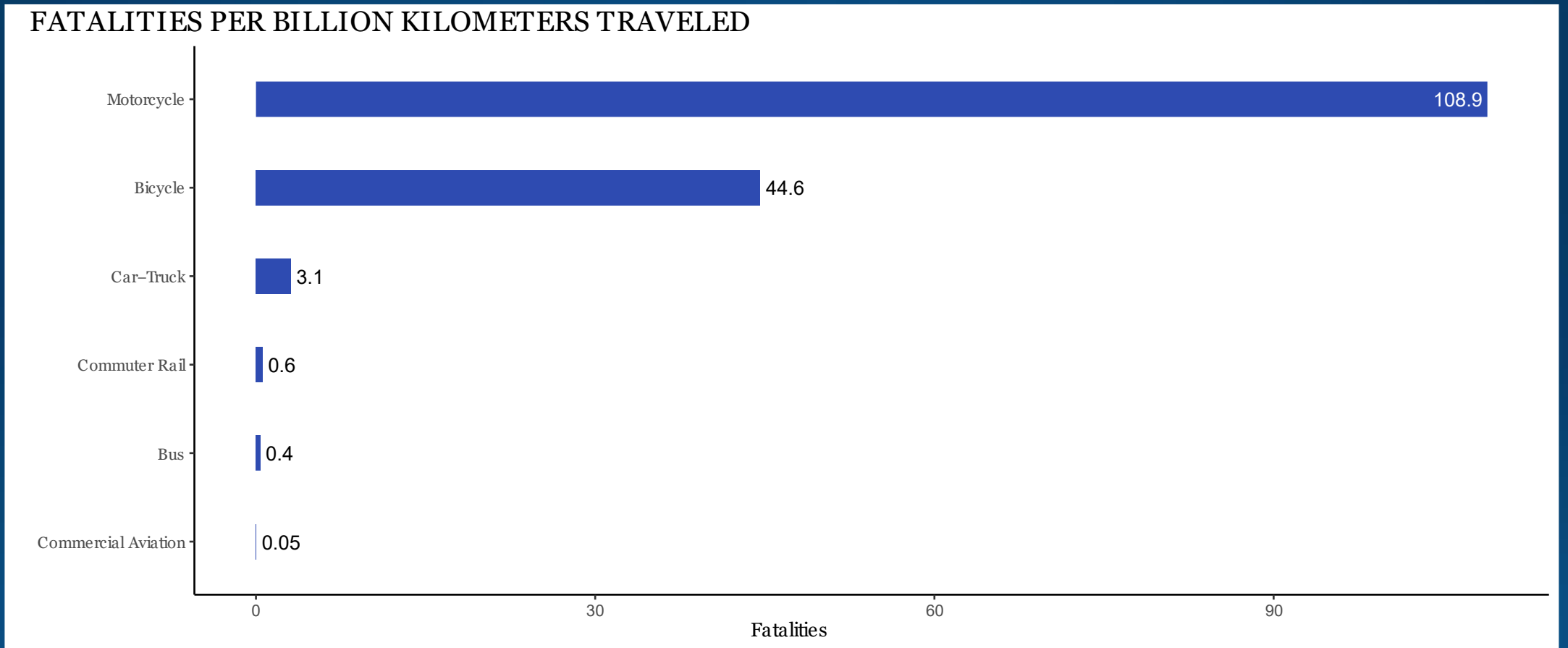
Following this, I have a couple of slides showing how the combination of a long trend of decreasing accidents coupled with the ever-increasing trajectory of number of flights per year, equates to an incredibly low risk of accidents per flight taken. Note that for all of these bar charts I have chosen Southwest blue for the bars and Southwest red for the running average, with consistent fonts / themes to make them easy to follow.

The map illustrates that while there are still accidents occurring, any larger accidents have occurred outside of the North American regions where we operate. Couple this with Southwest's spotless track record and this should demonstrate safety to our customers.

# Safety in the Aviation Industry

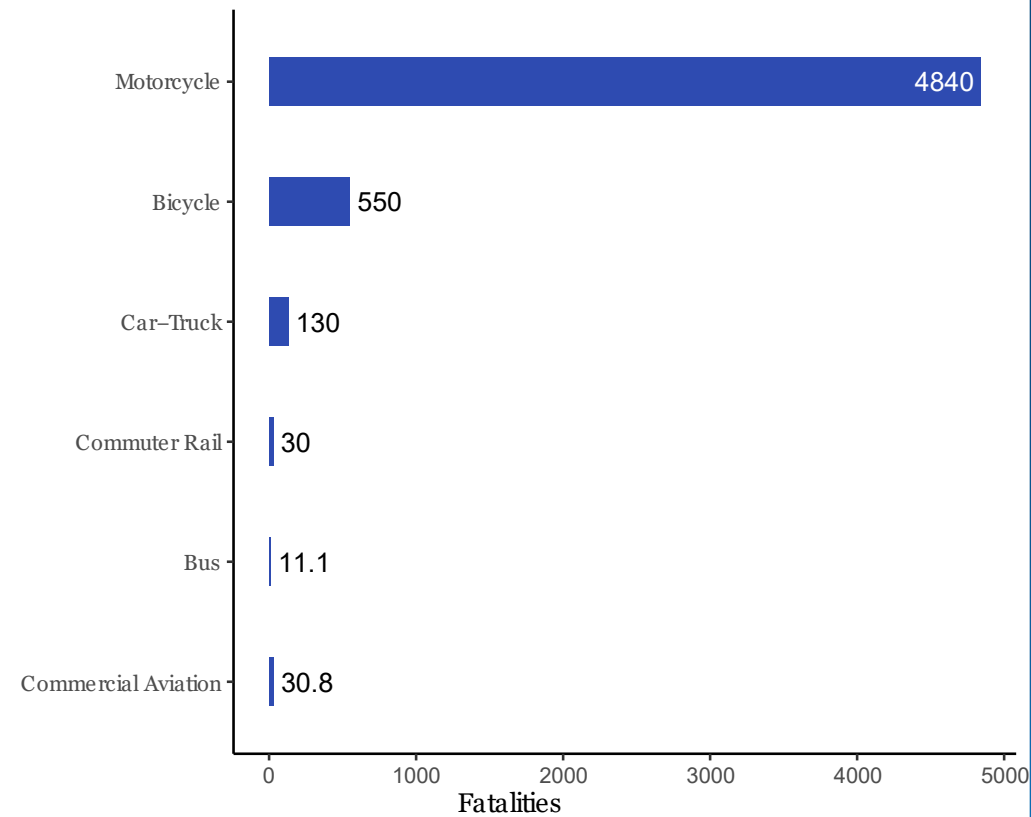
A look at airline safety considering recent incidents

# Fatalities by Mode of Transport

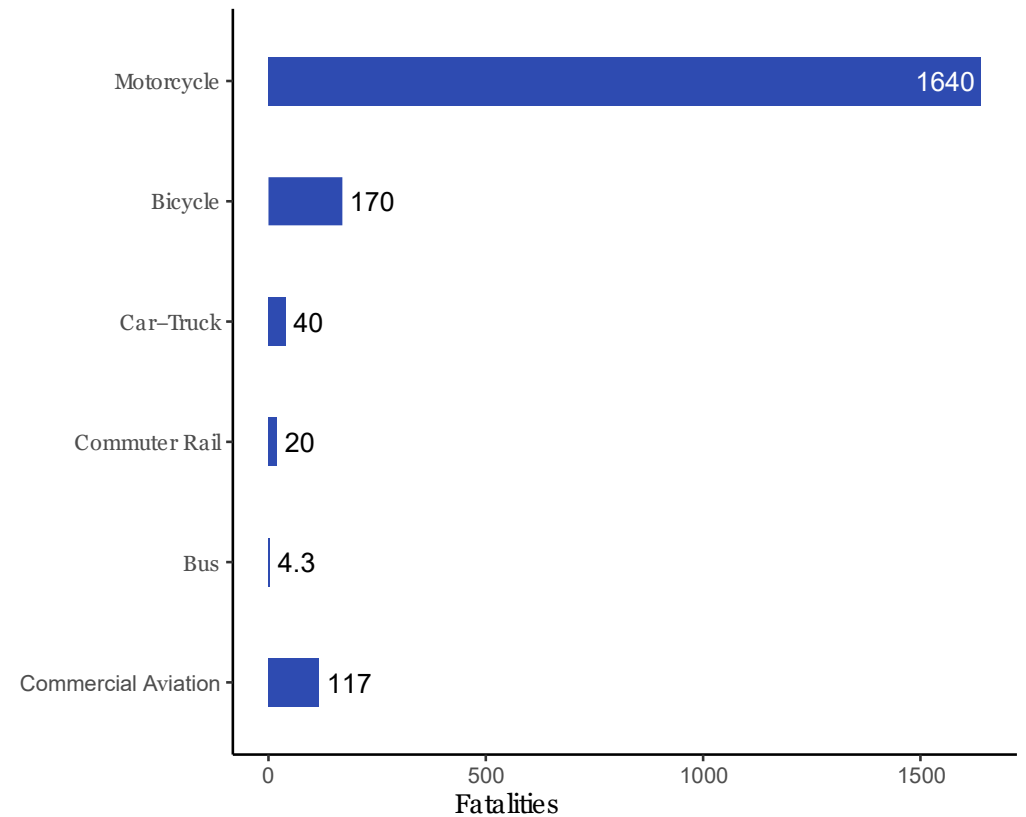


# Fatalities by Mode of Transport (cont.)

FATALITIES PER BILLION HOURS TRAVELED



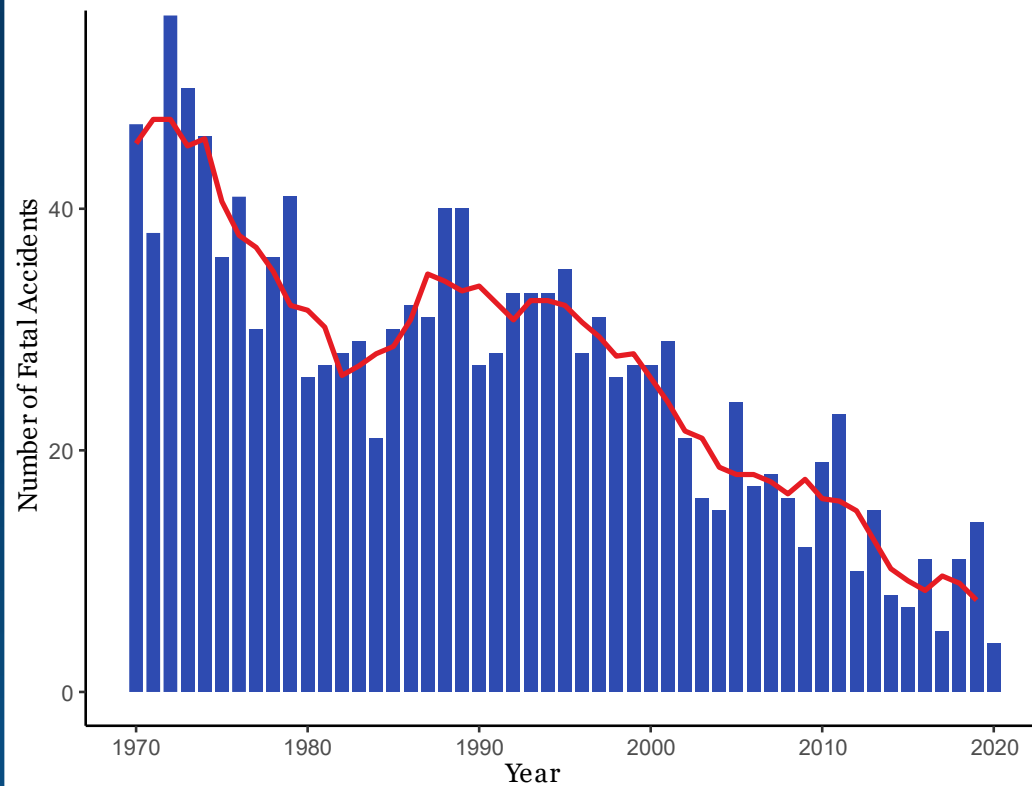
FATALITIES PER BILLION TRIPS



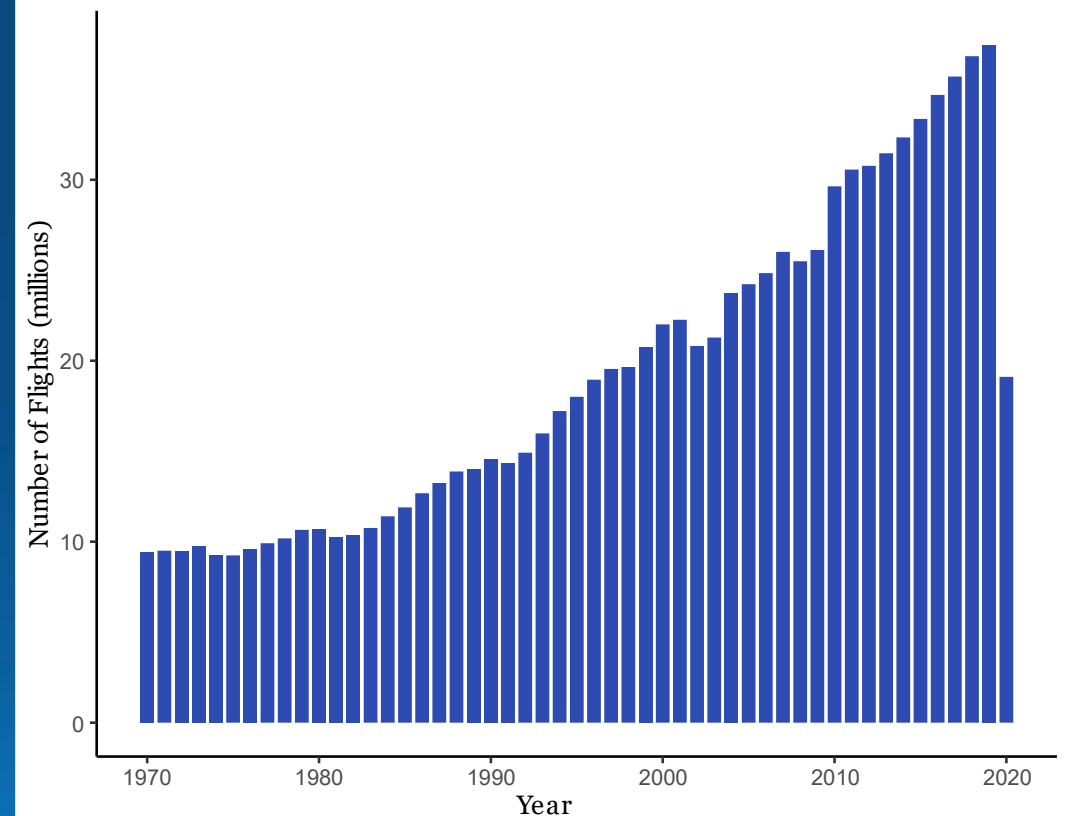
# Decreasing Accidents + Increasing Flights

PASSENGER FLIGHTS WITH FATAL ACCIDENTS EACH YEAR

With 5-year running average



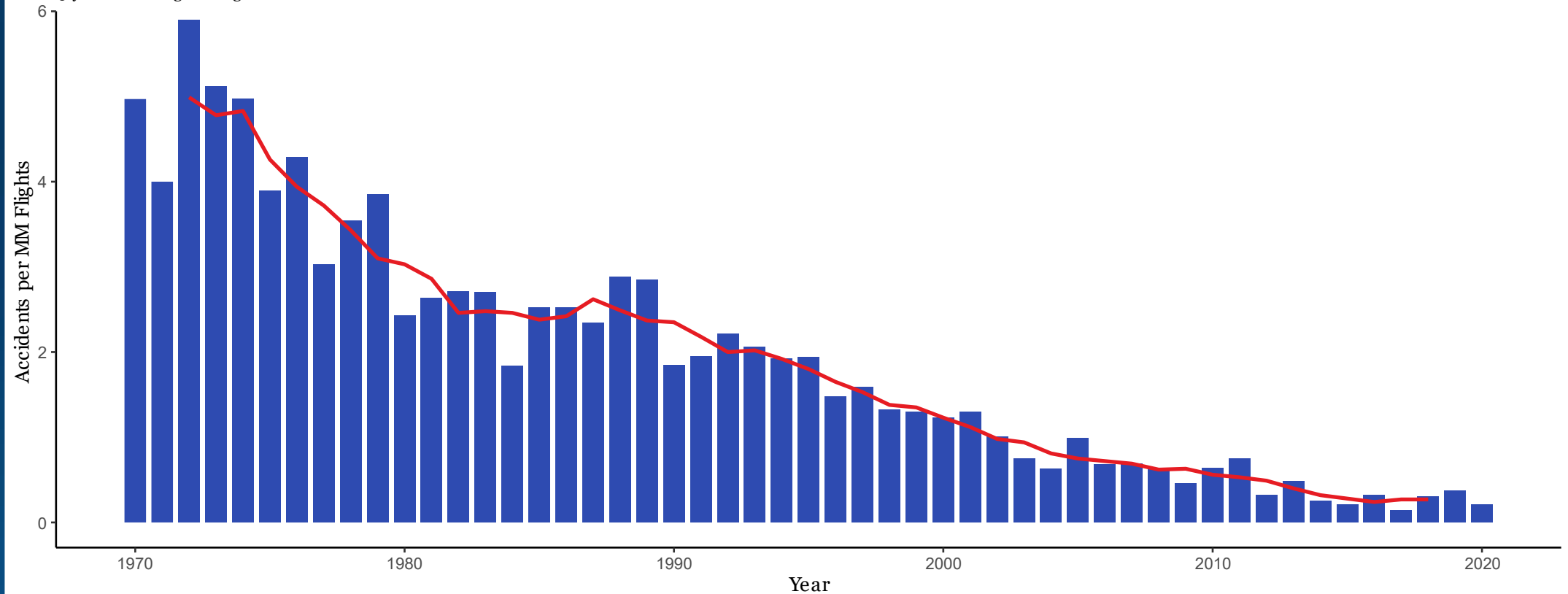
NUMBER OF FLIGHTS PER YEAR



# = Lower Risk per Flight

FATAL ACCIDENTS PER MILLION FLIGHTS EACH YEAR

With 5-year running average



# Accidents with $\geq 19$ Passengers: last 10 years



# Southwest Airlines

Great track record:

- ZERO passenger deaths from aviation accidents



# Sources

- <https://www.bus.com/blog/safest-mode-of-transportation/>
- [http://www.numberwatch.co.uk/risks\\_of\\_travel.htm](http://www.numberwatch.co.uk/risks_of_travel.htm)
- <https://aviation-safety.net/>
- <http://www.planecrashinfo.com/accidents.htm>
- [http://www.airsafe.com/ten\\_faq.htm](http://www.airsafe.com/ten_faq.htm)

Safe Travels!

