

# DSC640-T302

## DSC640-T302 Assignment 3.3 - Airline Safety



July 14, 2024

### Airline Travel Safety

#### Is airline travel safe?

In this blog post, we will examine several different metrics regarding airline travel and explore whether or not airline travel is still a safe way to travel.



Photo by [Ross Parmly](#) on [Unsplash](#)

### Airline Customer Sentiment

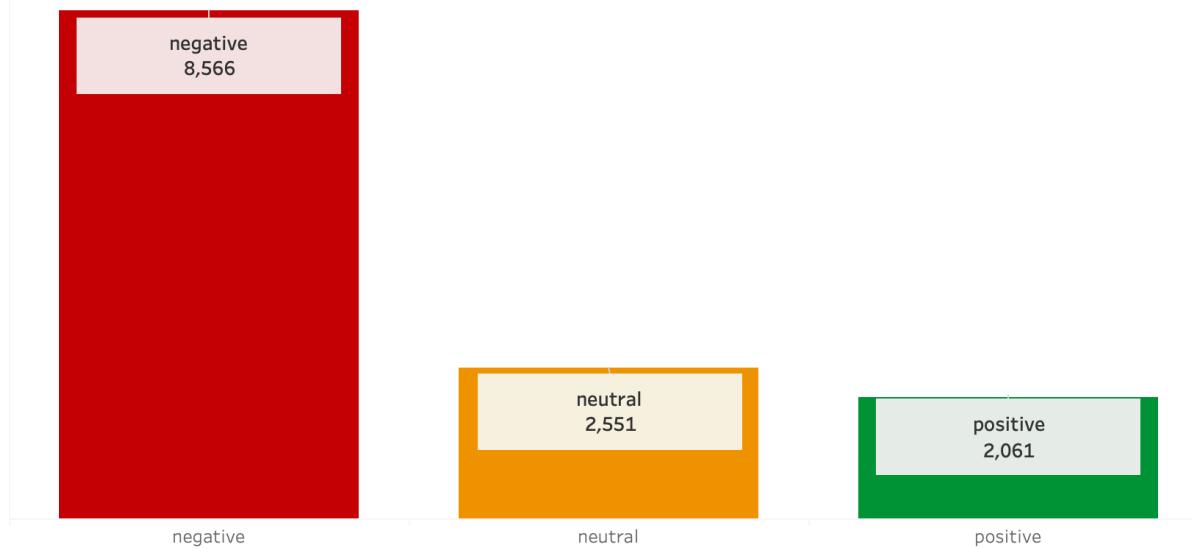
Many have begun questioning the safety of airline travel after hearing about the recent accident involving a [door panel being blown out of a Boeing 737 Max](#). This accident comes on the heels of the crashes involving [Lion Air](#) and [Ethiopian Airlines](#) in 2018 and 2019, which

claimed the lives of 346 people. These accidents have prompted investigations into Boeing and have resulted in a [plea deal](#) that will result in felony charges against the company if it is accepted by a federal judge in Texas. With a large company like Boeing coming under fire for questionable safety practices, it can seem like the entire industry is failing to produce safe airplanes.

These shared experiences on social media often alter public perception and can lead many to come to conclusions that may not be supported by data.

Looking at tweets on X (formerly Twitter) in 2015, we can see that the majority of them were negative. Consumers often take to the internet to air their complaints of negative experiences. It is often a way for them to feel heard and to share their experience.

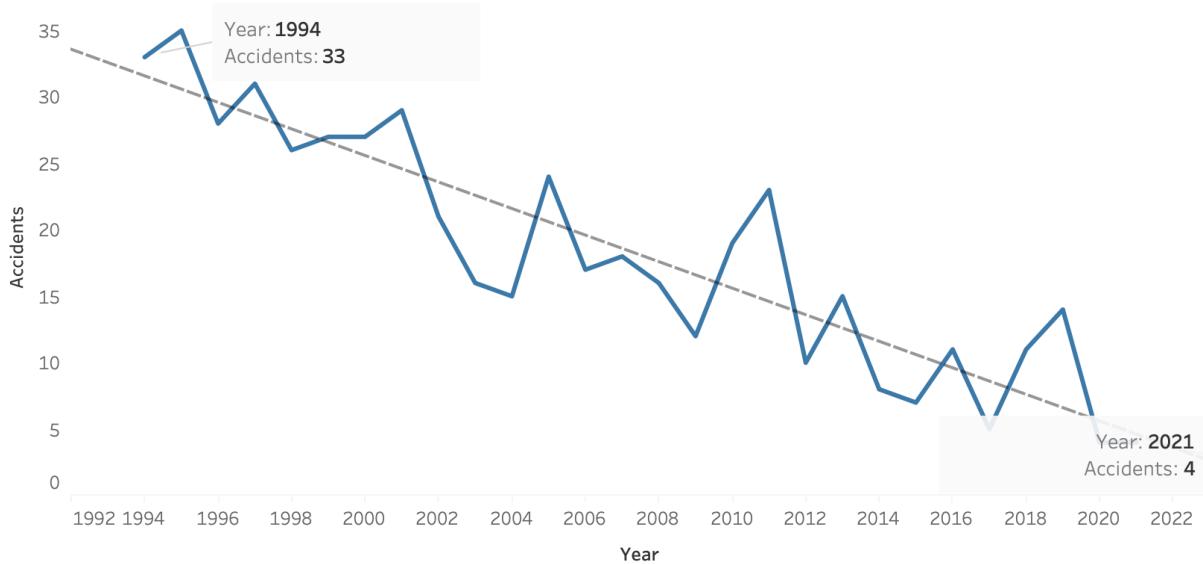
US Airline Customer Sentiment in 2015



With Boeing under investigation and a large social media outcry, is there evidence that airlines are no longer a safe method of travel?

To help answer this, let's look at the number of fatal accidents from 1994-2021

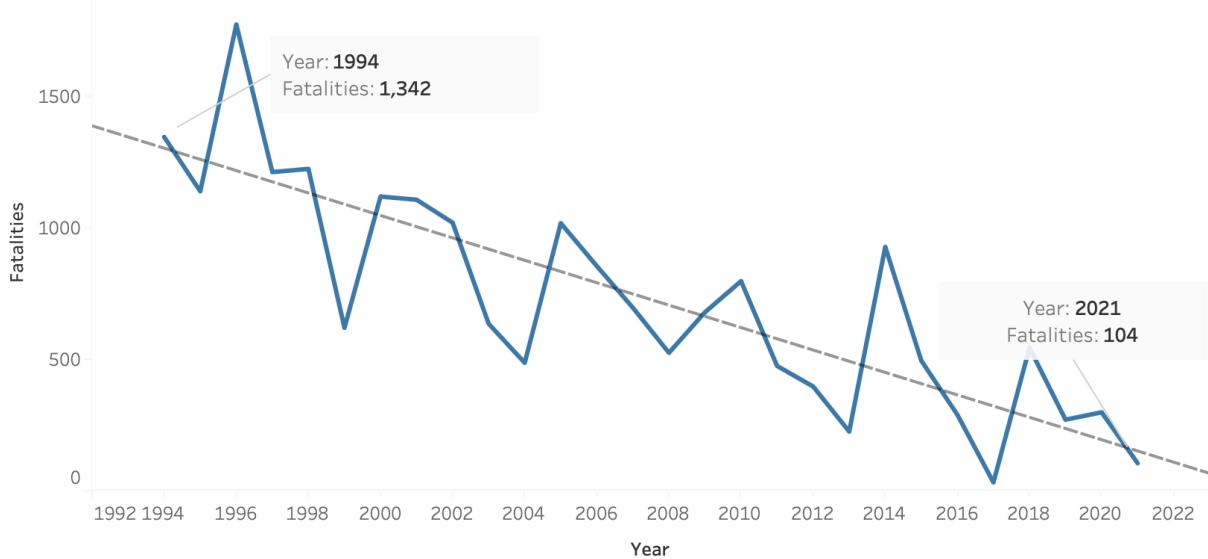
### Fatal Accidents 1994-2021



The blue line represents the number of accidents per year, and the gray dotted line lets us view the trend over time. We can clearly see that overall, the number of fatal accidents is decreasing year over year.

So, the number of accidents is decreasing, but are overall fatalities decreasing as well?

### Fatalities 1994-2021

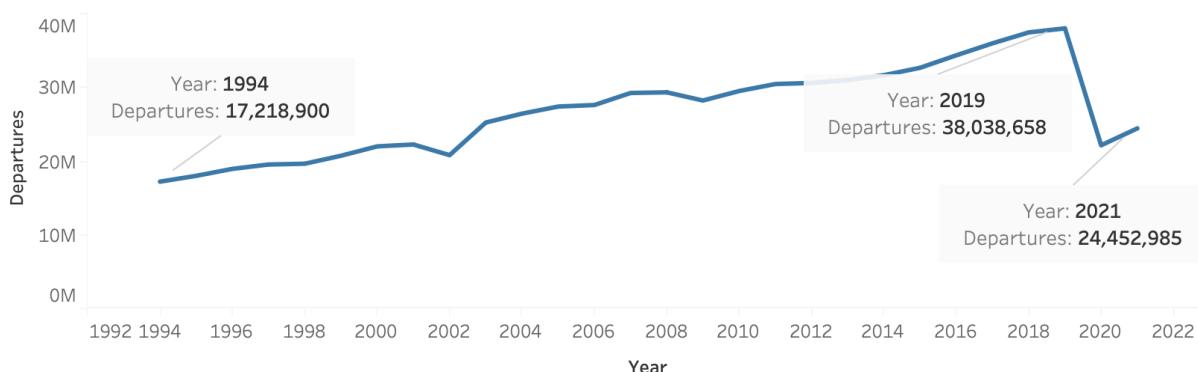


It appears that fatalities have decreased over time as well. We can see a steady trend downward in the overall number of fatalities, despite increases seen in some years.

Well, it would make sense to see a downward trend in fatal accidents and fatalities if everyone

stopped flying, right? Maybe, everyone wised up and there just isn't as many flights occurring as there used to.

### Airline Departures 1994-2021



As it turns out, there has been steady growth in the number of flights over the years. One caveat to point out here is that there is a sharp decline during 2020, which as we all know was an unprecedented time for everyone with the state of the world during the COVID-19 pandemic. Given the restrictions on travel during this time, it makes sense that we would see a sharp decline in the overall number of flights during this time.

However, it is important to note that in 2021, there were still more departures than in 1994, yet there were only 104 deaths compared to the 1,342 that occurred in 1994.

## Conclusion

To summarize, there are a greater number of flights occurring, yet the number of fatal accidents and total fatalities have a general downward trend. There is currently a lot of media attention on Boeing in the media which can magnify the perception that airline travel is unsafe. Furthermore, this can be further magnified by people sharing their poor experiences on social media. However, the data simply does not support the notion that airline travel is unsafe. In fact, it is seemingly getting safer as time goes on.

## References:

BBC News. (2019, October 25). Boeing 737 Max Lion Air crash caused by series of failures. <https://www.bbc.com/news/business-50177788>

Koenig, D., & Richer, A. D. (2024, July 9). Boeing pleads guilty to fraud in 737 Max crashes. What you need to know | AP News. AP News. <https://apnews.com/article/boeing-guilty-plea-fraud-justice-victims-fd309f4cc643637ebd9637fd5864dbb9>

Ries, B., & Picheta, R. (2019, March 14). Boeing under scrutiny after Ethiopian crash. CNN. <https://www.cnn.com/2019/03/14/travel/ethiopian-boeing-crash/index.html>

[www.cnn.com/world/live-news/boeing-737-max-8-ethiopian-airlines-crash-intl/index.html](http://www.cnn.com/world/live-news/boeing-737-max-8-ethiopian-airlines-crash-intl/index.html)

Datasets:

Accidents and Fatalities Per Year: [https://docs.google.com/spreadsheets/d/1SDp7p1y6m7N5xD5\\_fpOkYOrJvd68V7iy6etXy2cetb8/edit?gid=1448957446#gid=1448957446](https://docs.google.com/spreadsheets/d/1SDp7p1y6m7N5xD5_fpOkYOrJvd68V7iy6etXy2cetb8/edit?gid=1448957446#gid=1448957446)

Twitter US Airline Sentiment: <https://www.kaggle.com/datasets/crowdflower/twitter-airline-sentiment>



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