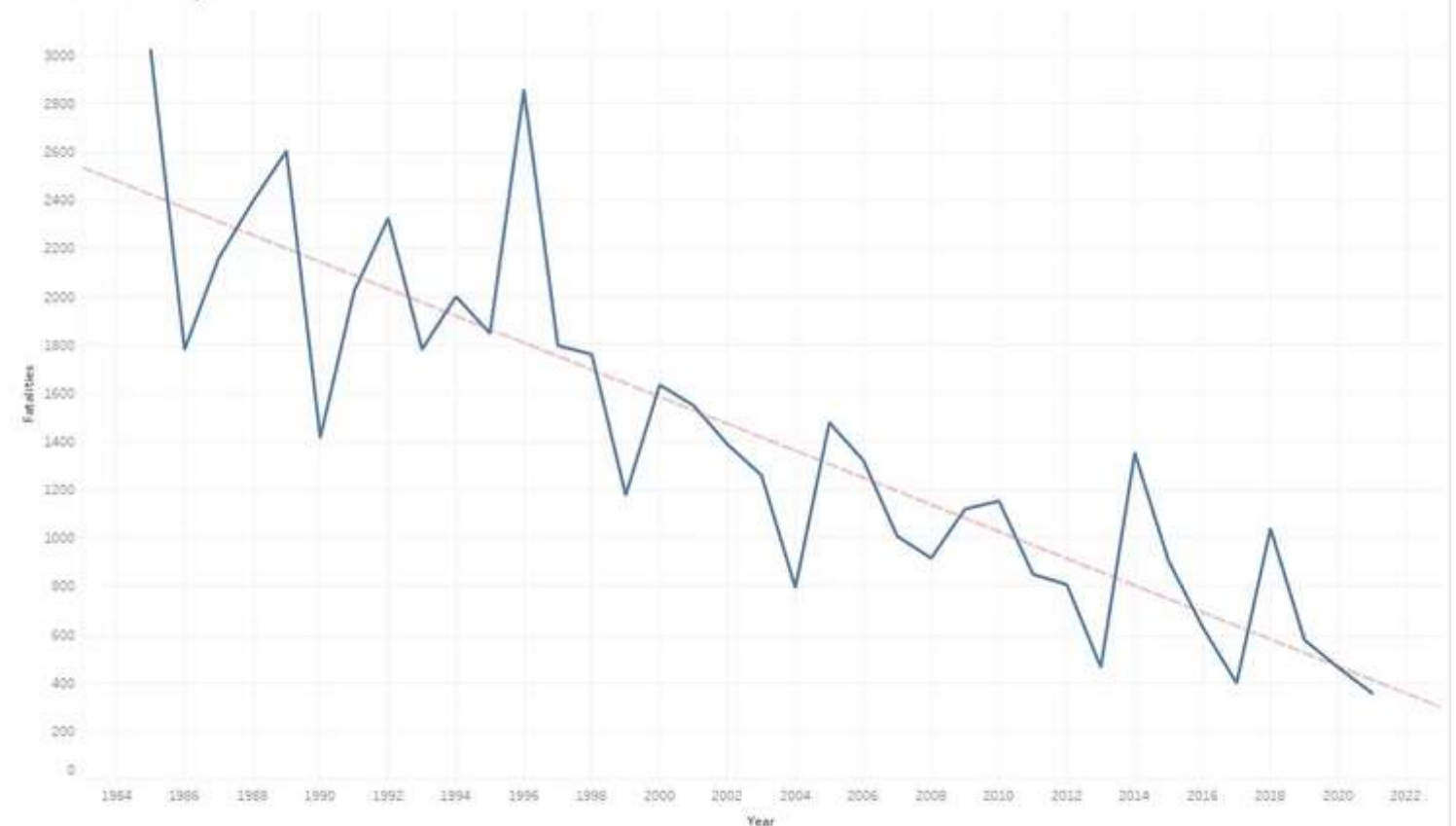Rachel Nelson 👑   2 days ago   2 min read

Is air travel safe?

Recent airline crashes, such as the one which happened in Houston, have people wondering "*is it still safe to fly?*" While the media has been promoting that taking a plane is no longer a safe way to travel, and continues to bombard the public with reports and figures about the trends of airline safety, we have to ask ourselves, how much of this information is true? Taking a plane has been one of the safest way to travel, especially when compared to automobiles, but is now being presented as one of the most dangerous to the public. **But are any of these claims based on facts?**

The facts

Using statistical data from the Bureau of Aircraft, let's start by taking a look at the # of accidents year over year. The chart below shows that the number of accidents in 2020 (92) are less than 1/3rd of the # of accidents that happened back in 1985 (296). This year over year trend confirms that the # of crashes themselves have decreased year over year
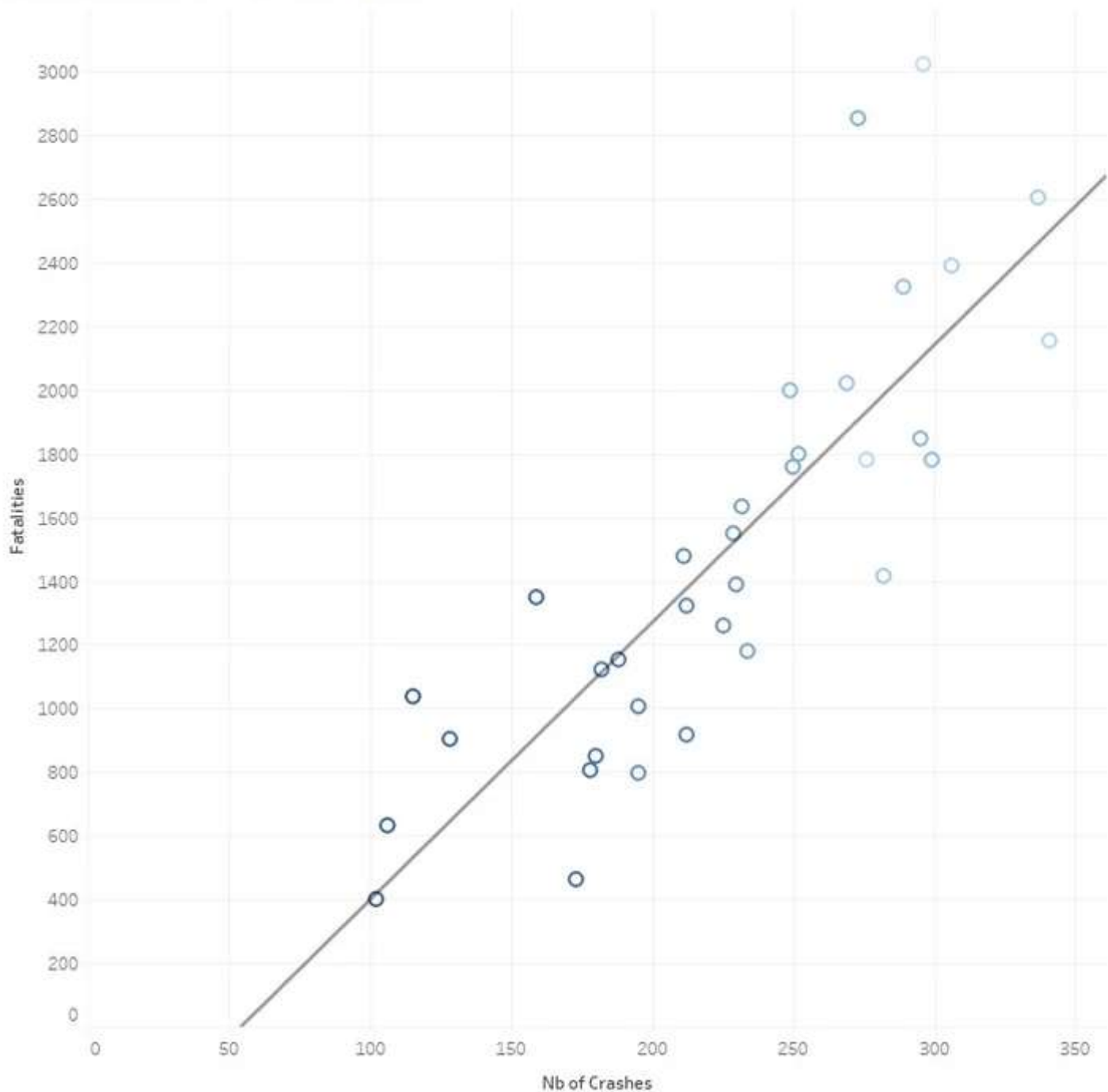

Air Travel Fatalility Rates Per Year

Although the number of crashes have decreased, **how does that impact the number of fatalities**? The number of crashes is strongly correlated to the number of fatalities, so the less crashes, the less fatalities! The correlation coefficient is .85 for crashes compared to fatalities. The correlation coefficient is a statistical
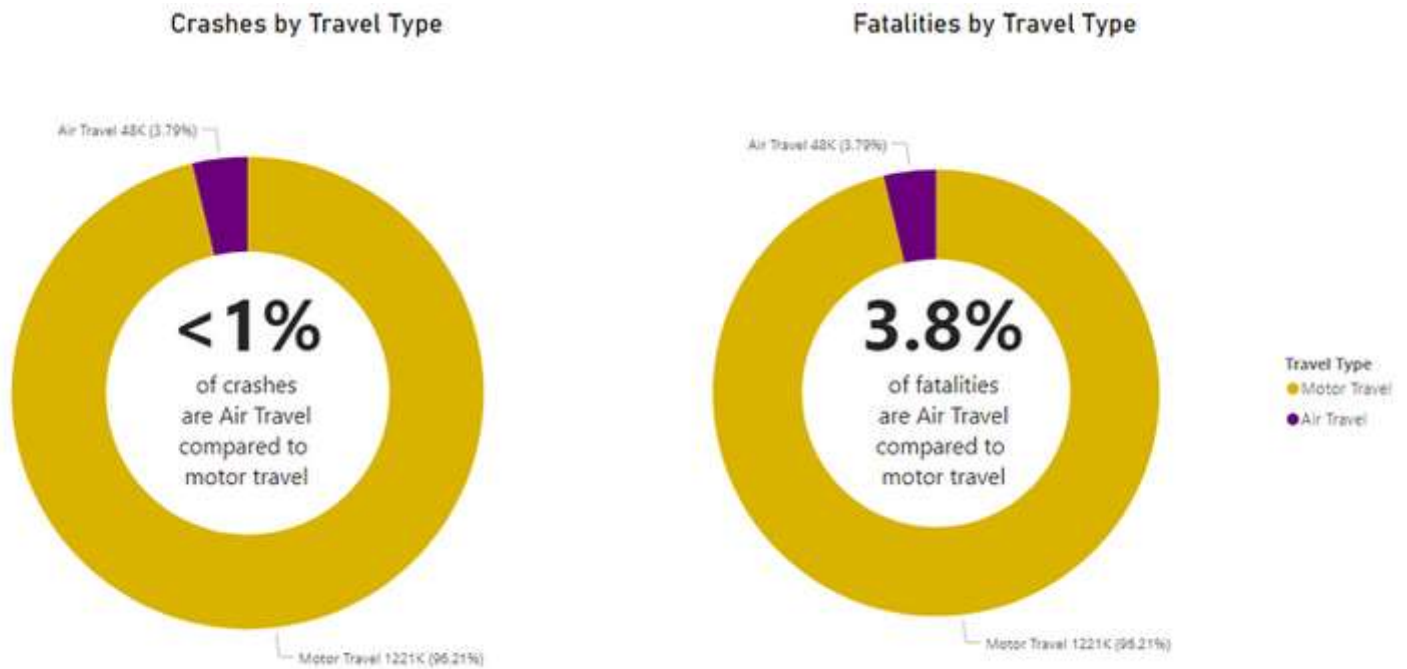
measure of the strength of the relationship between the relative movements of two variables. The closer to 1 or -1, the stronger the correlation.
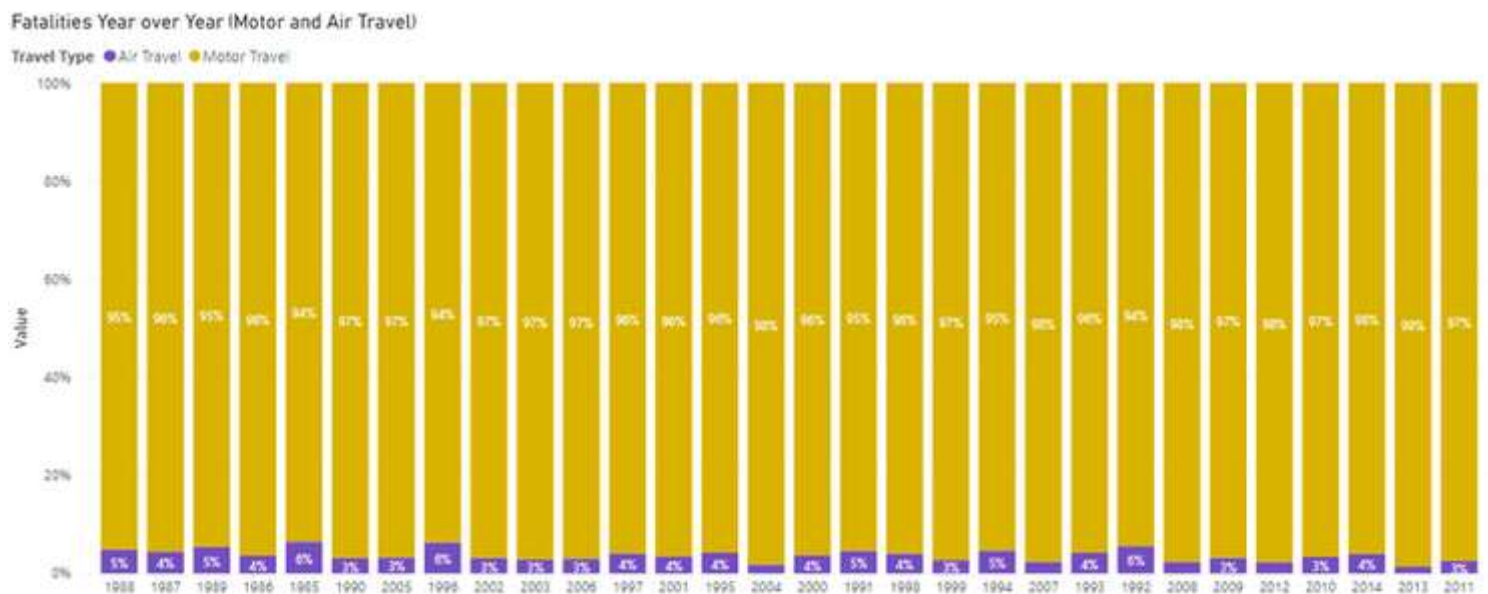
Air Travel Crashes and Fatalities

Now that we have determined that year over year results show that air travel has not become more dangerous than it was in 1985, let's compare it motor vehicle safety, using data from the Insurance Institute for Highway Safety (IIHS).
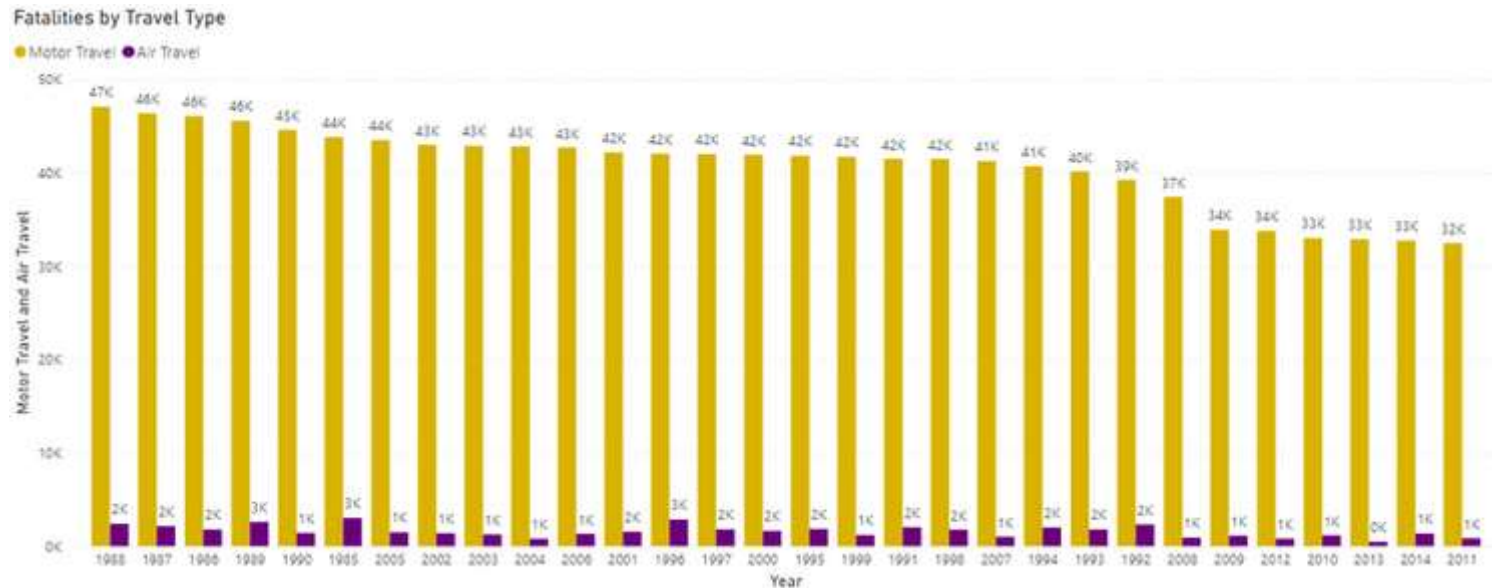
When combining crash and fatality data from 1985-2011, we can see that air travel results in <1% of total crashes and 3.8 % of total fatalities.

Crashes by Travel Type

<1%
of crashes
are Air Travel
compared to
motor travel

Air Travel 48K (3.79%)

Motor Travel 1221K (96.21%)

Fatalities by Travel Type

3.8%
of fatalities
are Air Travel
compared to
motor travel

Air Travel 48K (3.79%)

Motor Travel 1221K (96.21%)

Travel Type
● Motor Travel
● Air Travel

Showing the fatality data and breaking it out, year over year, it's apparent that air travel consistently remains the cause of 6% or less of fatalities when combining motor and air fatalities.

Fatalities Year over Year (Motor and Air Travel)

Travel Type ● Air Travel ● Motor Travel

The fatalities by travel type show that year over year, that 6% remains to be typically 1-3k fatalities compared to 32-47K fatalities occurring in motor travel.

Fatalities by Travel Type

Conclusion

Because airplane accidents are rare, media coverage of such occasions are high. Everyone's eyes are on the television when these events happen, which may lead to a misperception that airplane travel is less safe. However, data shows that airplane fatalities are less common than motor fatalities. ***Air has been, and remains the safest way to travel.***

Resources:
airline-safety - Downloaded from: Aviation Safety Network
Motor Crashes - Downloaded from: https://www.iihs.org/topics/fatality-statistics
U.S. Air Carrier Safety Data - Downloaded from: https://www.bts.gov/content/us-air-carrier-safety-dat
Crashes Per Year/Fatalities Per Year - Downloaded from: Statistics, Bureau of Aircraft

GitHub Repository:
https://github.com/RachelONelson/airline-safety