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2021-9-21
Airline Safety Support

As we've seen time and time again in the news recently, the public belief currently is that airlines pose a serious risk to human life. Stated more clearly, airlines are the most dangerous form of transportation at current time. They're sampling statistics and building up reports on how airline safety trends are sloping downward, and repeatedly make callbacks to other forms of public transportation, specifically automobiles, as an alternate, safer method of getting from place to place. But what does the data actually show with regards to these claims?

We aimed to answer this question leveraging a few datasets: Aviation Safety Network's Airline Safety data, the Bureau of Aircraft Accident Archive's Death Rate per Year data, and lastly the National Highway Traffic Safety Administration (NHTSA)'s National Statistics data. Harnessing the information from these three sources, we created several visualizations seen in our dashboard to address each concern.

First, we examined the overall trend of aircraft fatalities. As we can see from the top left, in actuality, aircraft fatalities peaked around 1940 and again near 1970, however they have consistently decreased in size, as opposed to the media's descriptions of safety decreasing. But perhaps you may think that the *number* of fatal accidents has increased, with a lessened number of fatalities per event. Again on the contrary, as we can see from the "Fatal Accidents in 14 Year Period from 1985-1999 vs. 2000-2014", the overall number of fatal accidents has also decreased.

Second, we examine just how much more safe a passenger is by hopping into a car instead of a plane. Using those easy summarizations on the bottom of our dashboard, we can clearly see that the number of passengers all time in aircraft fatalities is nowhere near the number of automobile fatalities all time. While we could depict aircraft and automobile crashes in different shades of red (both are loss of life, so no real good stat there), the overwhelming difference (more than 5x the value towards automobile deaths) I felt deserves a higher contrast than a slight hue change. Additionally, we can also find a line chart above that discusses this difference as it has changed overtime. While you can see a few small bumps during the time frame of 2010-2020, the rivaling automobile rate came down in 2010, but has jumped to a much higher degree in recent years, again showing that even in recent years, automobiles have suffered a much higher fatality number.

All in all, both univariate analysis of trends in airline fatalities and events over time, as well as bivariate analysis of vehicle vs aircraft fatalities all time and in recent trends have both clearly shown airlines to be the much safer route.