

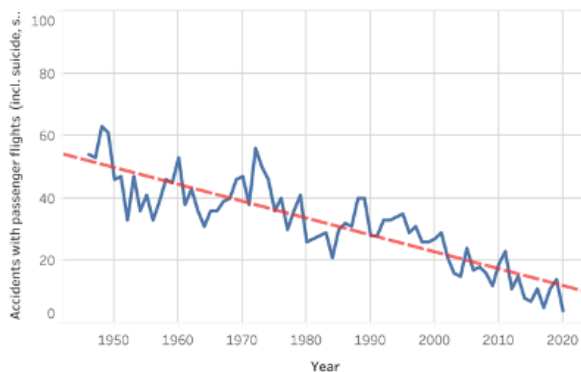
Safety of Airline Industry

How safe are airplanes?

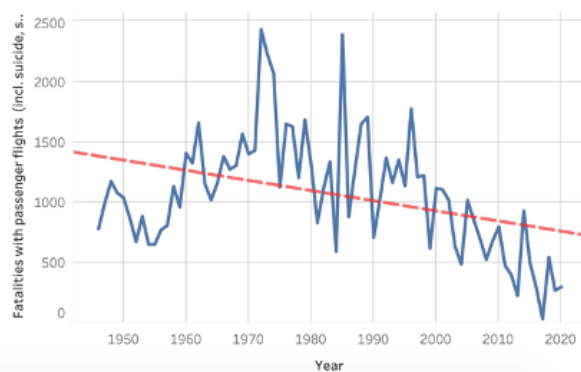
Air flight has been conceptualized in many forms throughout the ages both in myth and in practice. Some experiments resulted in great disasters such as: 1937's Hindenburg explosion, and 1986's Challenger explosion, and the Greek myth of Icarus and the burning of his wings as he flew too close to the sun. Others ended in great achievement challenging the very limits of humankind's ingenuity: the Wright Brothers FLYER 1, Pilot Chuck Yeager and his plane Bell X-1's breaking of the sound barrier, NASA's Apollo 11 and the landing of a man on the moon, and the modern day Marvel mythology of Iron Man and the "Why not a pilot without a plane" (Iron Man 1, Timestamp 1 Hour 13 Mins). Humankind has always looked to the stars and imagined more, this wonder, of the possibilities of the sky's, is what separates us from the animals.

For the past century the field of aviation has revolutionized the way we think of the world around us and has opened up borders beyond most imaginations during the turn of the 20th century when the Wright Brothers were imagining the airplane. Today's airline industry employs over 11,000,000 people and executes over 100,000 flights a day, with upwards of 500,000+ commuters at any given time. Air flight is no longer the dreams of a young child looking to the stars, it is now as common as driving a car. As history has shown, with innovation comes risks. As demand for flights has grown so have the safety measures to meet that demand. One can see such growth in data. Over the past 75 years flight accidents have decreased from 60 a year to less than 20 worldwide and the number of fatalities have been cut in half. This is displayed in the graph below.

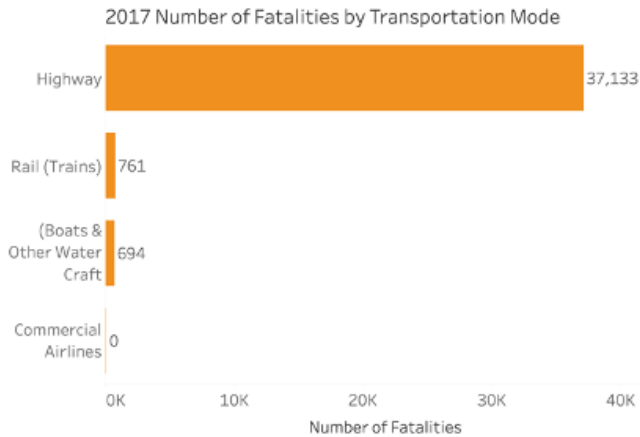
Number of Airline Accidents with Passenger flights only
from 1945 - 2020



Number of Airline Fatalities with Passenger Flights only
from 1945 - 2020



2017 transportation casualty figures show that individuals are far more likely to die on a highway, train or boat than in an airplane.

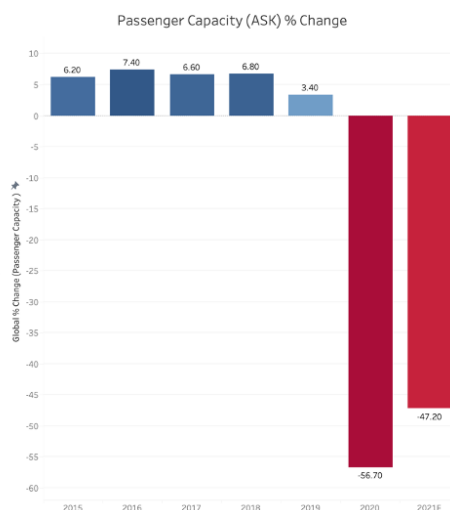
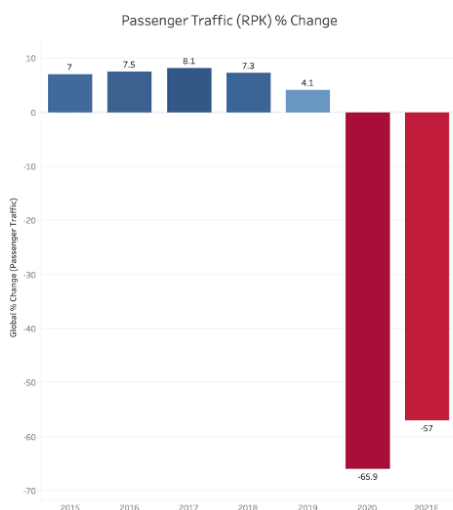
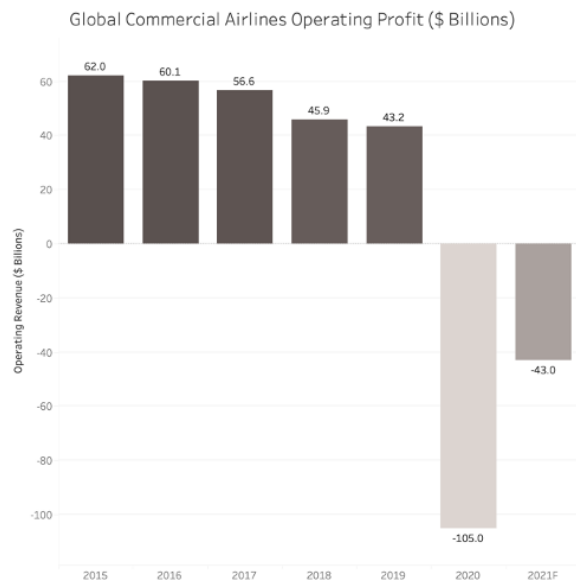


There are over 5,000 airlines that are registered and meet the standards of ICAO(International Civil Aviation Organization) codes. With over 30 million flights every year that travel around the world, the chances of something catastrophic happening is relatively rare. For example, between 2012-2016, there was a 1 in 3.37 billion chance of dying in a commercial plane crash. During the same period, there was a 1 in 320 million chance of being on a commercial airline flight experiencing a fatal accident(*Plane crash*

statistics: What are your chances of dying on a flight? 2020). It is safe to say flying is still the safest way to travel.

Impact of COVID-19 on Travel Industry

COVID-19 has deeply impacted our world and has called into question the safety of flying and has put the entire worldwide industry on edge of collapse. The airline industry was no different and the travel sector's profitability took a massive hit due to the global pandemic in 2020. As shown in the graph below, the International Air Travel Association (IATA) expects net airline losses to be upwards of \$43 billion in 2021. This is an improvement on the net industry loss of \$105 billion in 2020.



The spread of COVID-19 and travel restrictions, including quarantines have lowered demand as well. The air traffic decreased by 65% in 2020 and as of April 2021 the IATA expects air traffic to be down by about 57% in 2021. This is an improvement over 2020s dismal returns. Passenger capacity is also predicted to be down by 47% in 2021, which is an improvement over 56% in 2020. This

data can be seen in the charts. Airline for Americas, an American trade association and lobbying group based in Washington reported in their August edition of "Emerging from Pandemic" that bookings are improving but demand for corporate and long-haul international travel are lagging. As companies increase their COVID-19 safety protocols including

the implementation of mask mandates and social distancing the average commuter satisfaction increases. As can be seen in two nationally recognized surveys, traveler satisfaction has reached an all-time high in the U.S (Heimlich, *Impact of covid-19: Data updates*).

One of the most common questions asked by air travelers is, "Is it safe to travel during the global pandemic?". The first comprehensive research comes from the Harvard University School of Public Health where they found that having multiple layers of protection against COVID-19 such as getting vaccinated and wearing masks make being on an airplane as safe as if, not substantially more safe, than other routine activities like grocery shopping or frequenting a local restaurant (*Aviation public health initiative (aphi)* 2021).

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