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Course : DSC 640 – T301

**Graphical user interface, timeline

Description automatically generated**

**Summary**

As a part of exercise to present findings and statistics to counter on going media trial, I have made 7 observations out of which 6 are being captured in the dashboard and consequent power point presentation for the executive committee.

**Approach**

I started with data exploration to understand present facts. I referred core dataset from “Aviation Safety” along with two supplemental source “Transtats”.

In the process of data exploration and visualization, I was trying to understand following points:

1. What is the trend of air fatalities / accidents over last 20 years?
2. What are the various categories / mode / nature /location of the flights?
3. What is the actual volume of flights to compare, and bench mark the fatality percentage?
4. Most importantly, frequency/severity in comparison to other means like road travel.

**Observation 1: By Nature**

Looked into fatalities between year 2003 – 2021 and found that other than passenger carrier, there are other nature of the flights like Cargo/Training/ Charter/ Ferry had more than 50% fatalities. There are 386 fatalities where Cargo/Training/Charter/Ferry contributes to 220 such fatalities.

**Observation 2 : By Flight Phase**

En-route and Approach phase have maximum accidents.

**Observation 3 : By Recent Years**

There is an average 500+ air fatalities with significant spike in year 2003,2005,2006 and 2014. However, with the time I would say due to improvement in technology and safety protocol recent years did not touch 500 marks instead they are well below it.

**Observation 4 : Flight Volume**

There is an average **10 millions**+ per year flights in US region alone (domestic & International combined). I consider it an important data point to factor for air fatality ratio.

**Observation 5 : Worst Accidents**

Considering top 100 most worst air accidents between 1996 to 2020 , trend suggests recent years are showing very few (under 200) as compare to worst being 1402 in year 1996.

**Observation 6 : Air vs Road Accidents**

Considering same benchmark between 1995 to 2020 road accidents trend is showing 35K annual road accidents in US alone In comparison to Air accidents remains well under 200-400 range. This is the most important trend to suggest Air travel is comparatively safer and getting better with the time.

**What is Next**

My assumption is air travel is becoming more safer with the time, I think technology and safety protocols are playing major role. To validate my theory, I would like to explore more in this area especially data points (if available)

**Reference**

**Main Dataset**

<https://aviation-safety.net/statistics/>

**Supplemental Datasets**

<https://www.transtats.bts.gov/Data_Elements.aspx?Data=1>

**Article**

<https://www.iata.org/en/pressroom/pr/2021-03-25-01/>