

Airline Safety – Project Task 4

As a part of Project Task 4, the Airline safety Infographic, I have tried creating some new simplified visuals with new datasets as well as reused couple of visuals from previous weeks for variety of measures. We will get into the details further as we look at the different aspects of the data for the Air Travel and Road Travel, brief comparison with other modes of transport with help of supporting data.

First we look at the **Worldwide Airline data from Safety aspects** e.g. in terms of **Number of Incidents**, **Fatal Accidents** and **Total number of fatalities** in the period 1985 to 1999 and compare the corresponding numbers for the 2000 to 2014. With the help of **Bar charts**, we can see the clear trends of significant decrease in these incidents, fatal accidents and fatality counts which are good indicators about improved safety worldwide, in terms of Air travel.

Then, we looked at the new chart for **US Fatalities statistics for the year 2019 for different modes of transports** like Air, Road, Rail, Water and Other modes (all consisting of passenger, freight and commercial etc.) and used **Donut chart** to compare the percentage share of each transportation mode. We can notice around 94% of the total fatalities are via Road transportation mode whereas Air travel constitutes under 2%.

Also, comparison between **US fatalities rate per 100M miles of travel via Air and Road transportation modes during years 1994 – 2019** using **Line chart** which gives clear view about safety aspects of Air travel. We can see while the Air travel within US has gotten increasingly safer as we scan through the data from 1994 – 2019. The fatalities rates for the Air travel are down from 4.36 back in 1994 to rate of 0.04 in 2019 with a peak of around 7 around 2001. In contrast, Road travel fatalities rate is still lingering

around 1.11 in 2019 per 100M miles of road travel which was at 1.73 per 100M miles of road travel back in 1994.

Finally I have tried adding new aspects like **Revenue Passenger Miles** and the **Operating Revenue** for the US Airlines.

- 1) Revenue passenger miles for Domestic, International and the Overall Total statistics have seen steady increase from 2000 to 2019 and is evident from the **Line chart** giving the simple to understand view.
- 2) Operating Revenue (in USD) chart gives us a view for Domestic as well as International and other segments of air travel. The **Area charts** representation gives us the clear picture that revenues have grown from 2000 to 2019 in fairly steady manner.

This is a major ***booster to Air Travel that despite the increased travel operations / travel coverage vindicated with increase in revenue, the adverse and fatal incidents have greatly decreased in the past 25 – 30 years***. So, we can safely conclude that Air Travel has become increasingly safer based on variety of parameters like safety incident and fatalities for world airlines, US fatality rates comparison for Air and Road transport, fatalities counts share for the different modes of transportation, Revenue Passenger Miles and Airline Operating revenue.

References:

- 1) fivethirtyeight/data. (n.d.). GitHub. <https://github.com/fivethirtyeight/data/tree/master/airline-safety>
- 2) Fatality Analysis Reporting System (FARS), FHTSA. <https://www-fars.nhtsa.dot.gov/Trends/TrendsGeneral.aspx>
- 3) <https://www.bts.gov/content/us-air-carrier-safety-data> (scraped the necessary data)
- 4) <https://www.iihs.org/topics/fatality-statistics/detail/state-by-state> (data formatted in useful excel file)
- 5) <https://www.bts.gov/content/transportation-fatalities-mode>