Airline Safety – Project Task 2

As a part of Project Task 2, the Dashboard created for the Airline safety analysis has 6 different measures. (For this study purpose and with the available data, Southwest Airlines data has been outlined.) As we look at the different aspects of the data from Airline accidents / fatalities and comparative Motor vehicle accidents / fatalities datasets, we can get an idea that Airline travel is relatively much safer as compared to the other mode of transport – ground transport / motor vehicle travel in this case. We get into the details in the further discussion.

First up – the trends comparison between Airlines fatalities and Road transportation fatalities between 1994 through 2019. As we can see, there were 531 fatalities at the peak in the year 2001. But we can see there is clear downward journey in those number since then and it stands at 4 fatalities in 2019. The road transport numbers showcase that the highest fatalities were 43,510 in 2005 and though there was some decrease, it has stayed around 36,000 in 2019.

When it comes to Fatalities rate per 100 Million miles of travel, air travel had a serious year in 2001 with rate of 7.28. However, it has steadily managed the safety since then with fatality rate of near 0 (0.04) in 2019. Compared to this, we can see that road travel fatality rate was highest around 1.73 in 1994 and it has slightly come down to 1.11 in 2019, which is still much higher as compared to Air travel.

Considering some additional data support with respect to world-wide airlines safety below. There are very few airlines with lowest total fatalities at 0, between 1985 through 2014 – Southwest airline being one of them. Moreover, Southwest airline is also amongst the Top 5 airlines in terms of kilometers flown per week at 3.27 Billion kms. These are the main highlights

for the Airline. Additionally, if we look at the number of airline fatalities between 1985 – 1999, it stood at 6,295 and it went down by more than 50% to 3,109 between 2000 – 2014, which is a key indicator of much improved safety. Considering the other statistics – the number of incidents between 1985 to 1999 stands at 402 whereas it goes down to 231 incidents between 2000 to 2014, which shows the huge improvement. Similar trend is observed in the Fatal accident counts which goes down from 122 accidents between 1985 – 1999 to 37 accidents between 2000 – 2014.

I have chosen Line plots for the initial two visuals as these help see the clear and easy to understand trend line for all types of audiences and helps verify the safety improvements in Air travel and relatively higher fatalities in Road travel. Also, Bar plots for the comparison purposes for the other graphs from world-wide airline data seems to work well for conveying the comparison study and statistics. Bar graph also provide a good relative measure between various features considerations like fatalities, incidents and fatal accidents (Airplane travel) for all sections of audience.

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)