Airlines travel safety analysis

June 01, 2023

Analyzing Airline Safety: Trends and Patterns

Introduction:

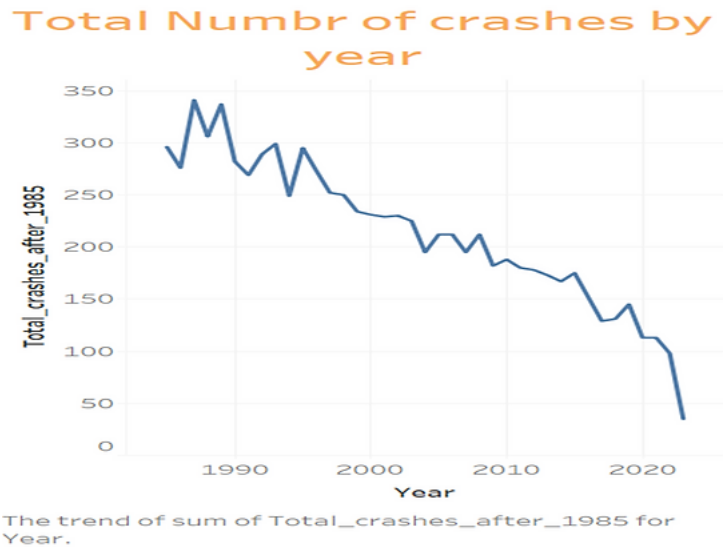
Airline safety concerns have been a topic of discussion in the media, often leading to claims of increasing danger compared to automobiles. In this blog post, we will analyze airline crash and fatality data to gain insights into airline safety trends. By comparing data from the years 1985-1999 and the post-2000 era, we aim to determine patterns and trends in airline safety.

Data Collection:

To ensure reliable and available data, we gathered information from reputable sources. Our focus was on the periods from 1985 to 1999 and post-2000. It was important for us to consider the reliability and accuracy of the data to draw meaningful conclusions.

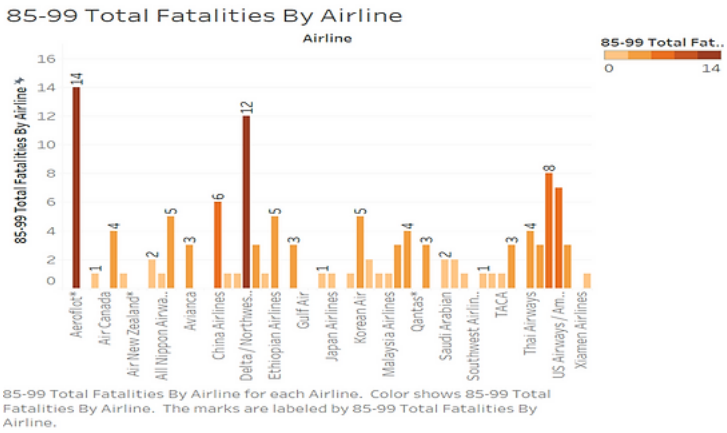
Visualizations:

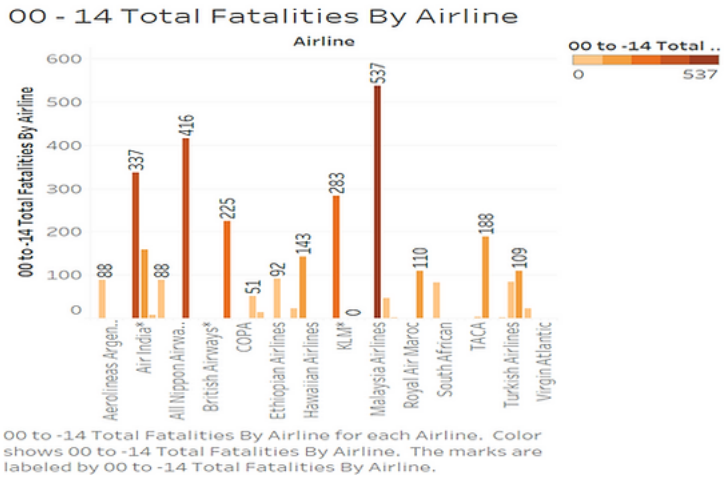
Line Chart - Number of Crashes Over Time:



From the line chart sourced from https://www.baaa-acro.com/statistics, we observe a gradual reduction in the number of crashes from 1995 to 2022. This indicates an improvement in airline safety over time. The visualization showcases the positive trend, highlighting the industry's commitment to enhancing safety protocols.

Bar Chart - Fatality Comparison:

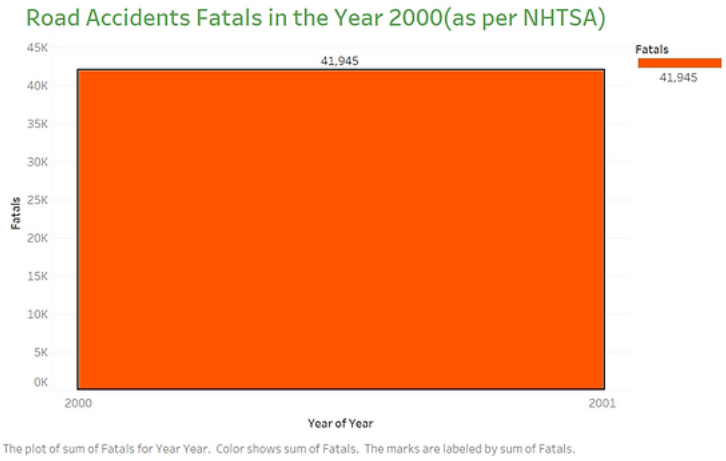




The bar chart presents a comparison of the number of fatalities per airline between the years 1985-1999 and the post-2000 era. We observe that during the period from 1985 to 1999, the number of fatalities per airline is relatively lower. This can be attributed to factors such as lower flight frequency, fewer miles flown, and a smaller number of people flown during that time.

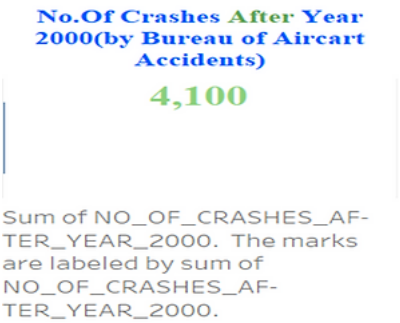
In 2000 to 2014 , the Bar chart provides insights into specific airlines with a higher number of fatalities, indicating potential concerns regarding safety standards. It's important to consider the increasing frequency of flights and the number of people flown over time, which may have an impact on the fatality rate from 2000 to the present day.

Comparison with Road Accidents:



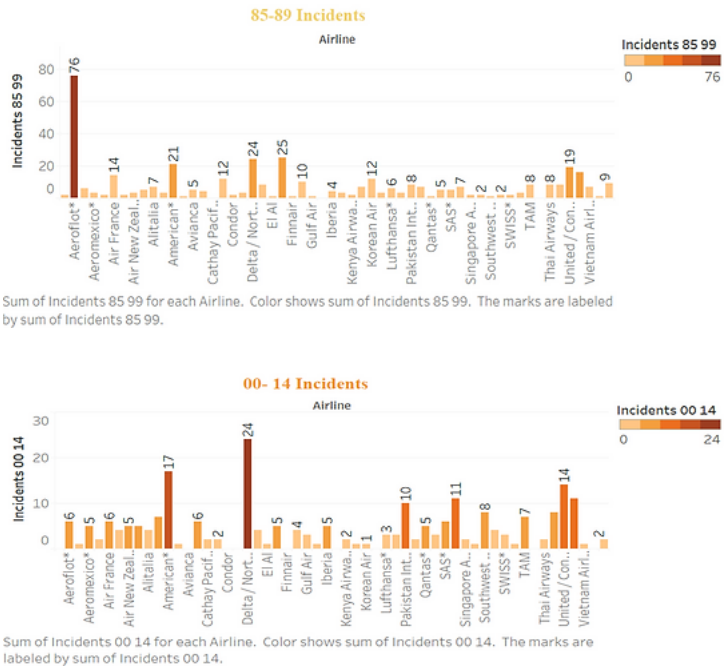
This visualization highlights the fact that fatalities can occur in any mode of transportation, including road travel. In the year 2000, for instance, there were 41,945 fatalities due to road accidents. This comparison aims to emphasize that safety risks exist across different transportation modes, encouraging a comprehensive approach to ensuring the safety of travelers.

Metrics Visualization - Decrease in Crashes:



These visualizations showcases the decrease in the number of crashes from the period of 1985-1999 to 2000-2014.
This suggests that measures taken to improve airline safety and enhance aircraft quality have had a positive impact. Advancements in safety protocols, technology, and industry regulations have contributed to making air travel safer.

Airline Incident Visualizations:



These visualizations focus on the number of incidents during two distinct periods: 1985-1999 and 2000-2014. By examining the data displayed in these visualizations, we can gain insights into the relative safety records of different airlines and identify any notable patterns or trends. This information can inform decision-making processes related to air travel.

Ethical Considerations:

Throughout the analysis, we respected the privacy and sensitivity of the data, using it solely for research purposes. We emphasized transparency and accuracy in reporting the findings to promote trustworthiness. Additionally, we provided clear communication regarding the limitations and scope of the analysis to ensure responsible data interpretation.

Conclusion:

Based on the analysis of airline crash and fatality data, we can conclude that airline safety has improved over time. The data does not entirely support claims of increasing danger compared to automobiles. It is important to acknowledge the efforts made by the airline industry in prioritizing passenger safety. By continuing to invest in safety measures, the industry can provide a secure and confident travel experience for passengers worldwide.

Data Source:-

https://github.com/fivethirtyeight/data/tree/master/airline-safety

https://www.nhtsa.gov/nhtsa-datasets-and-apis

https://www.baaa-acro.com/statistics

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