

Aircraft Risk Analysis

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Summary

Analysis of aviation accident data by National Transportation Safety Board(NTSB) reveal which aircraft are the lowest risk for the company.

- Trend analysis over the 74-year period shows improvement of safety measures since overall injuries have decreased even though the number of injured people has decreased too.
- Certain models and makes have consistently lower injury rates such as Boeing 737 aircraft.
- Factors such as number of engines in a plane has shown not to be quite impactful on injuries.

Outline

- Business Problem
- Data
- Results
- Conclusions

Business Problem

- Identify the lowest-risk aircraft to support the company's entry into the aviation industry.
- Provide actionable insights to guide the head of the new aviation division in purchasing decisions.

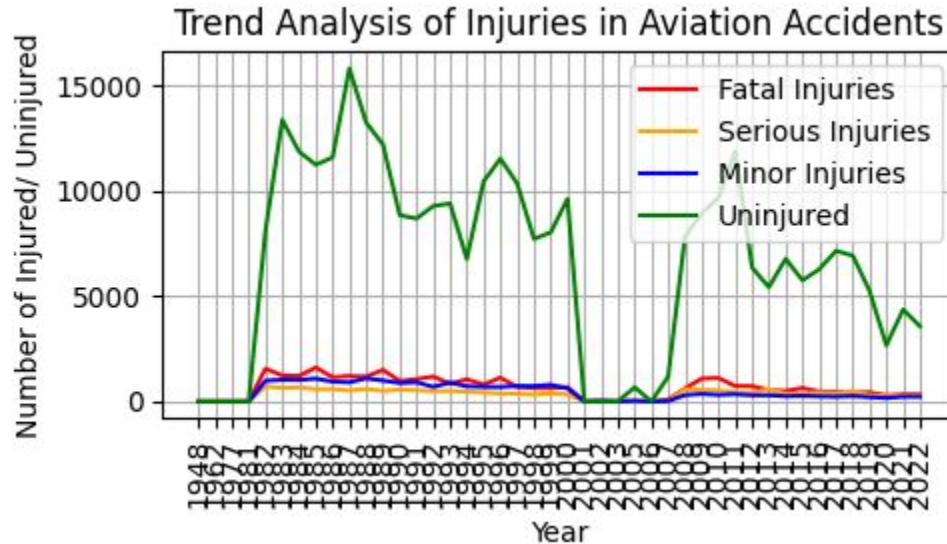


Data

- Aviation accident data by NTSB for over 80,000 accident entries from 1948 to 2022.
- The important entries used are aircraft models, makes, engine type, number of engines, injuries(fatal, serious, minor, uninjured), etc.

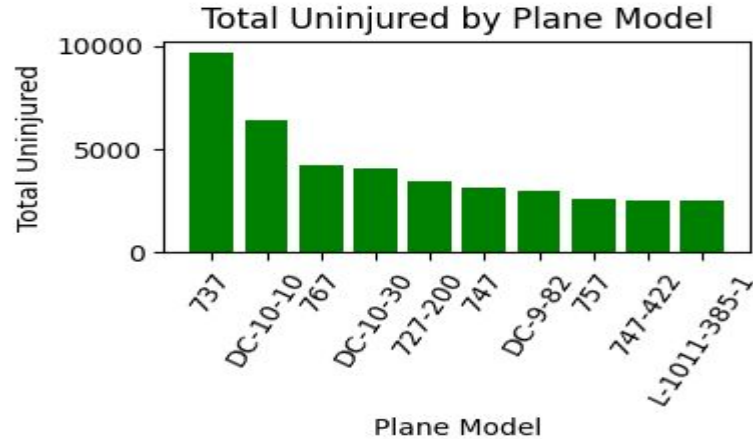
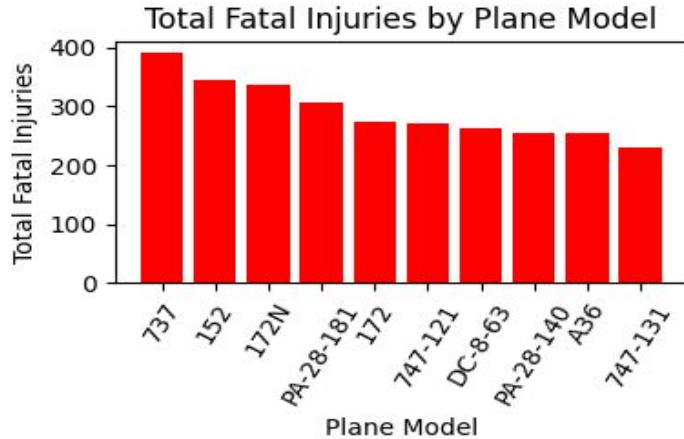
Data

Here is the distribution of injuries over the 74-year period worth of aviation accidents:



Results

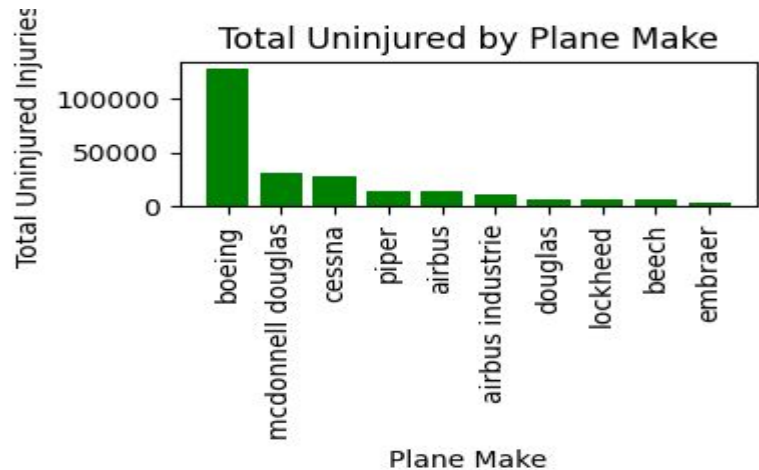
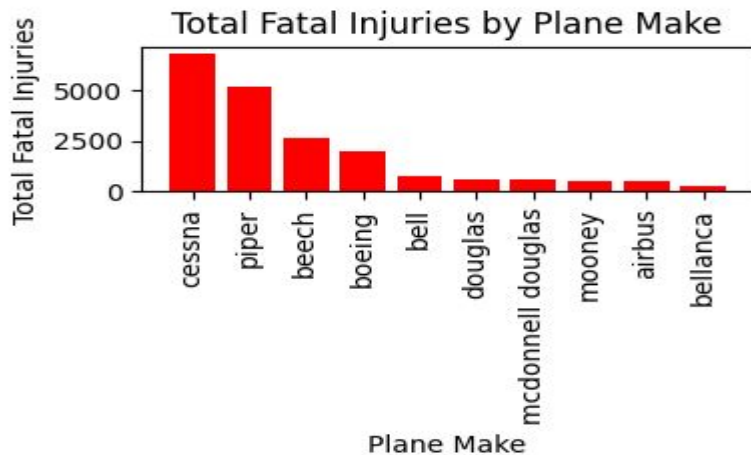
Injuries by model:



Even though model 737 has shown to have the most fatal injuries, it has also shown to have the highest number of uninjured over time.

Results

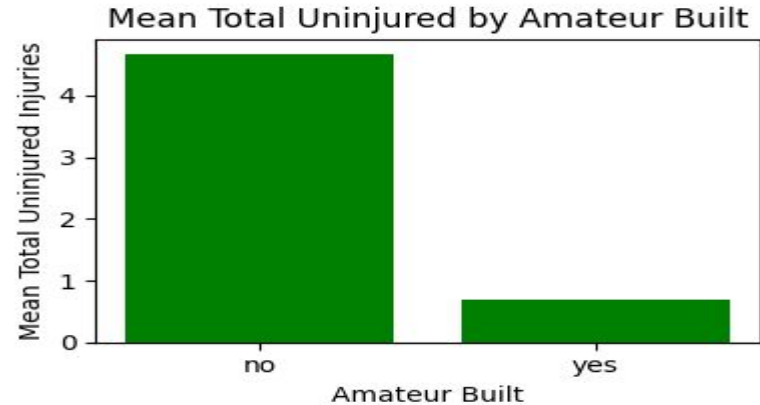
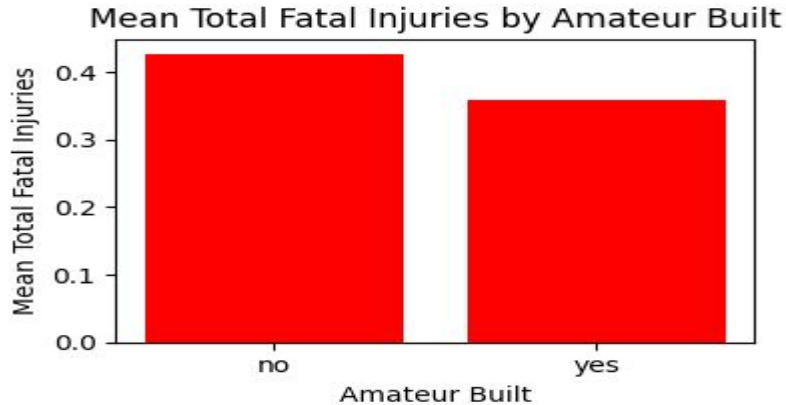
Injuries by make:



Boeing make has the most number of uninjured and it also has moderate numbers of fatal, serious and minor injuries. Mcdonnell douglas portrayed the same too.

Results

Injuries by amateur built:



Non-amateur-built aircraft have better safety records, despite a higher number of incidents due to increased usage.

Conclusions and Recommendations

- Newer aircraft models tend to have better safety features and improved designs.
- Focus on acquiring non-amateur built aircrafts.
- Model 737 has proven to be the most used and has the highest number of uninjured.
- Aircraft makes such as Boeing and McDonnell Douglas have proven to be safe as shown by their number of injuries in the different classes.

Thank You!

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