

Aviation Safety Analysis

Presented by: Beth Mwangi

Date: 28th April 2025

Project overview

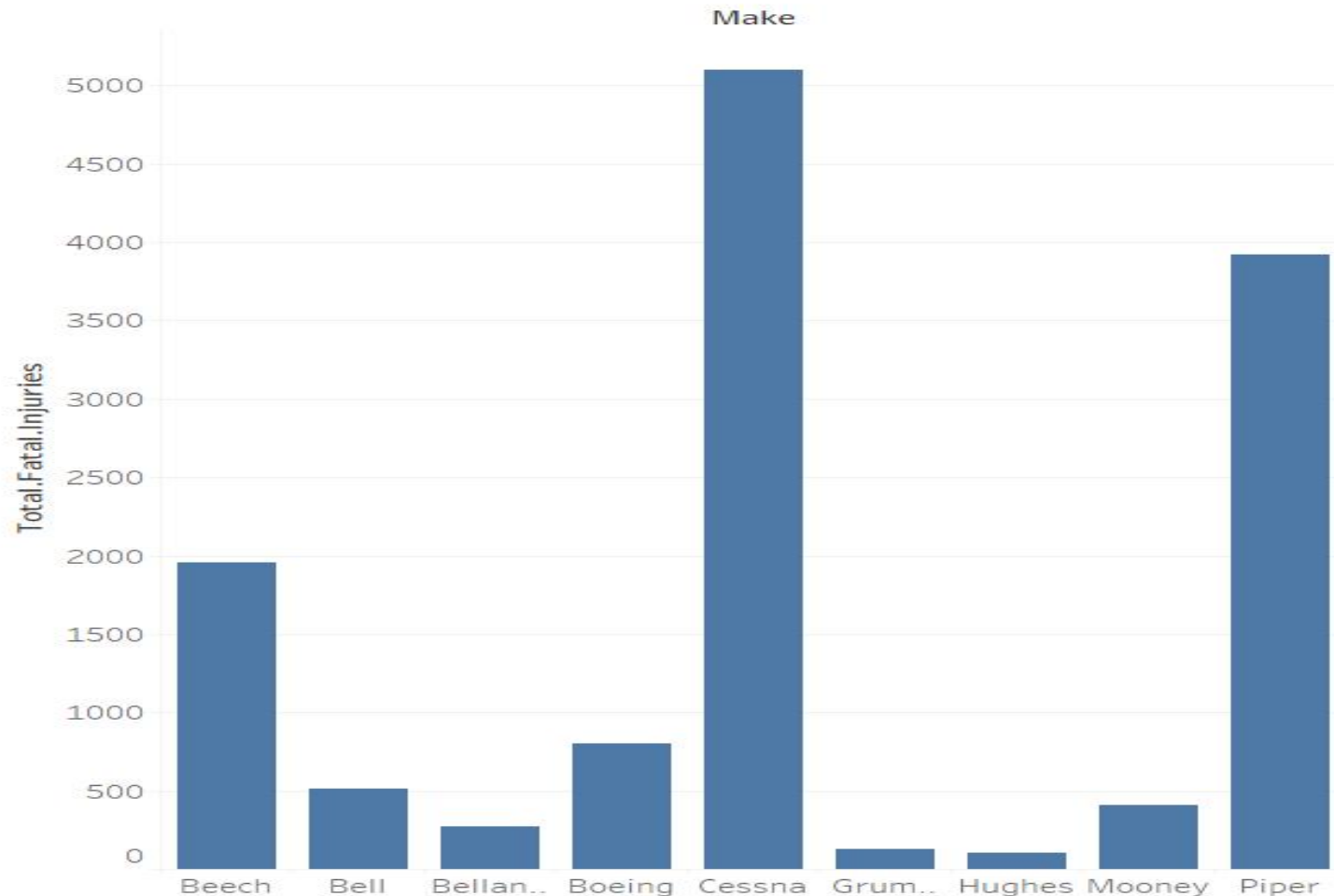
- Analyze Aviation Accident Data from the National Transportation Safety Board(NTSB)
- Time frame is between 1962-2023
- Recommend 3 actionable insights for decision making

Business Problem

- Company expanding into aviation.
- Need to identify low-risk aircraft options for safe investment.
- Deliver actionable insights to inform aircraft purchase decisions.

Analysis 1 - Identifying Safest Aircraft Manufacturers

10 safest aircraft manufacturers



- In this analysis, we focused on the makes that has lowest fatalities based on the historical data from NTSB.

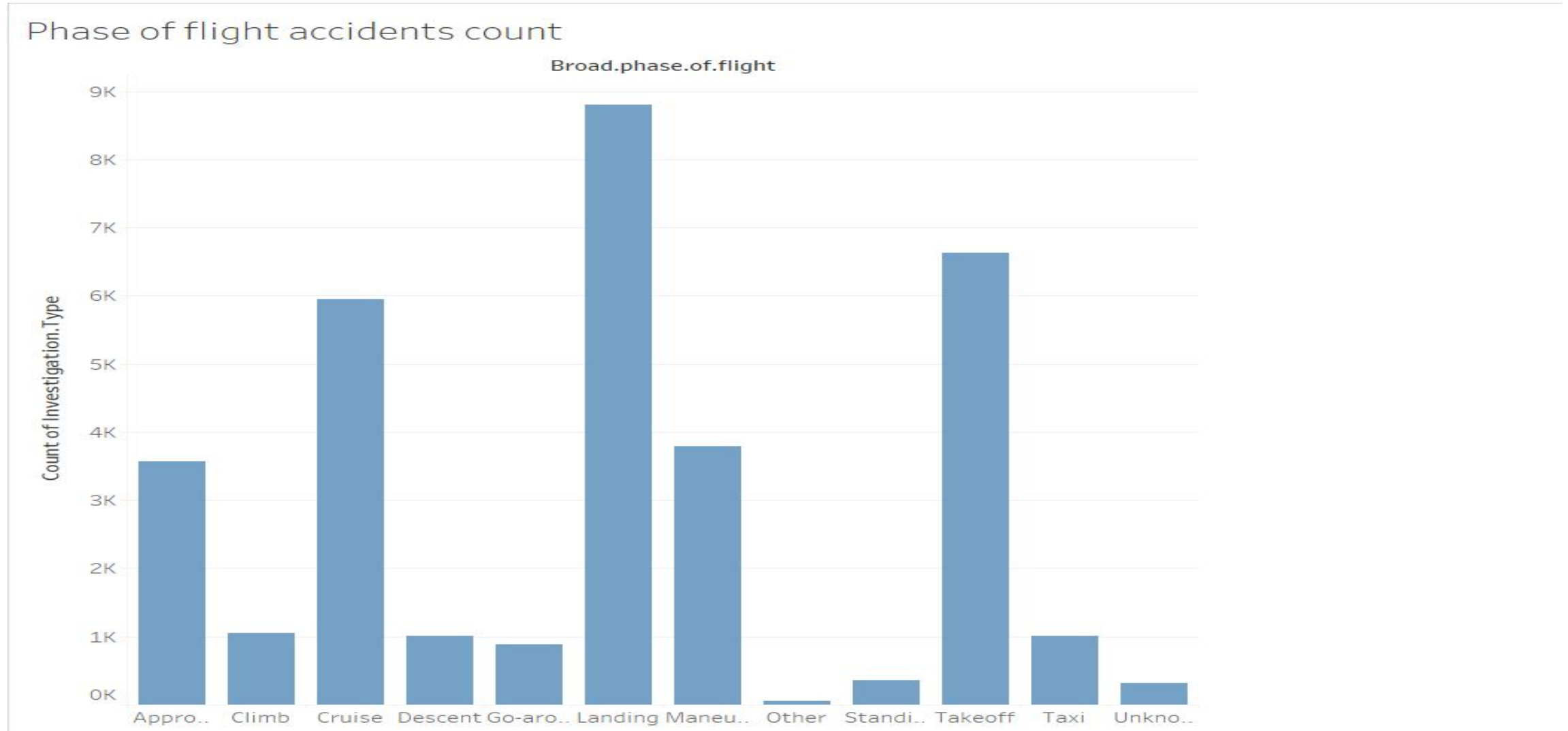
Findings:

- We found that the safest top 10 aircraft manufacturers were:

Hughes, Grum, Mooney, Bellan, Bell, Boeing, Beech, Piper and Cesna

- They have proven to be the most common makes with the lowest fatalities
- We recommend that the company should consider purchasing aircrafts of this Make's since they are safer.

Analysis 2: Risk by phase of flight

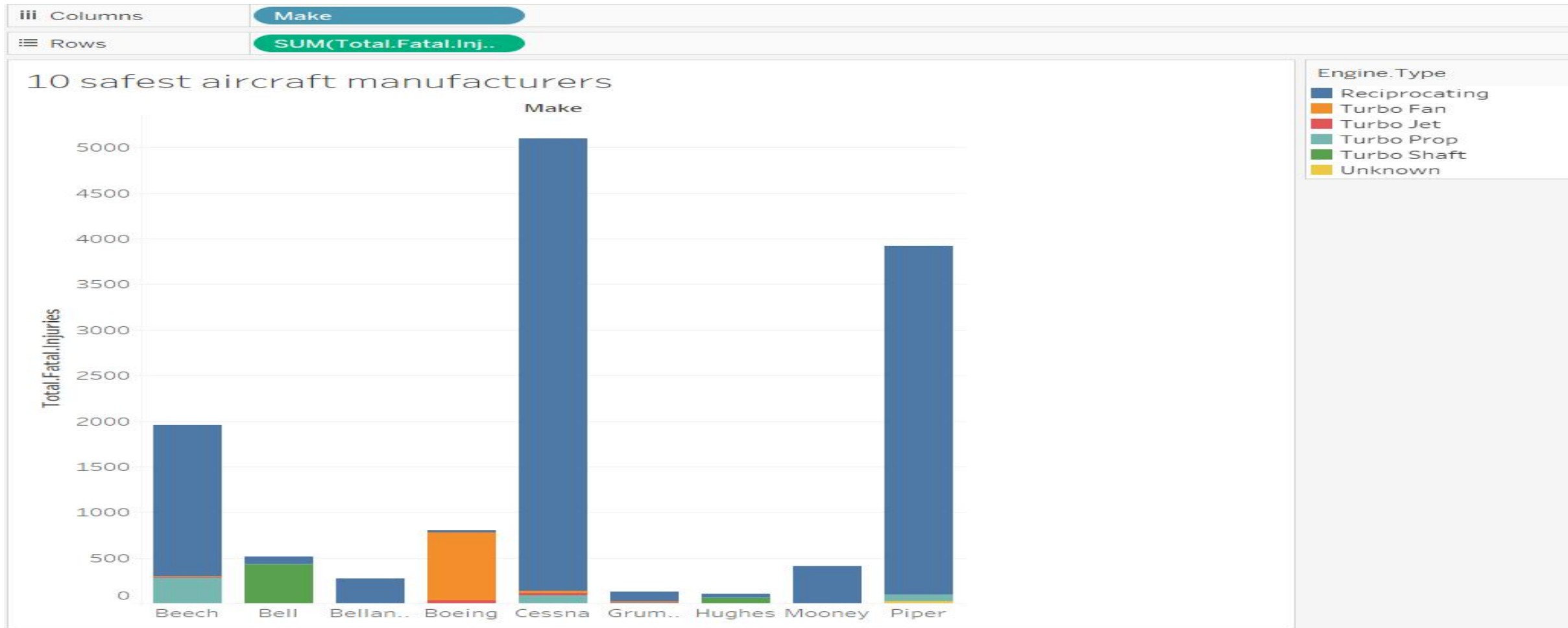


Findings and Recommendation:

- From our analysis , most accidents happen during landing, take- off and cruise
- This is because from the NTSB data analysed, the three phases had the highest number of accidents occurring,
- We recommend that the company should invest in specialized training of pilots for the three phases.

Analysis 3 : Best Engine Types

- We did our analysis by comparing the engine types with the number of accidents occurred from our data from NTSB



Findings and Recommendation:

- We found that Reciprocating Engine Type had the highest number of accidents occurring during 1962-2023.
- We therefore would recommend the company to avoid inventing in aircrafts with such engine , they should however consider investing in Aircraft with turbo jet since they had the lowest number of accidents.

Conclusion

- We recommended 'HUGHES' make with a Turbo Jet engine to as the safest aircraft to purchase.
- We would also recommend specialized training for pilots during landing, take-off and cruise to mitigate risk
- Company should focus on risk management during key phases to enhance safety.