



Aircraft Risk Assessment for New Business Expansion

Evaluating Low-Risk Aircraft



Presented By: Vallary Banda





INTRODUCTION


COMPANY OBJECTIVE: Diversify Portfolio by entering and investing in the aviation industry.

FOCUS: Purchase and operate aircraft for commercial and private enterprises.

PROJECT GOAL: Identify the lowest-risk aircraft to ensure a safe and profitable entry into the aviation market.

RISK ASSESSMENT CRITERIA

Key risk factors:

1. Incident Frequency
 2. Severity of Incidents/accidents
 3. Aircraft Damage
 4. Phase of Flight
 5. Weather Conditions
 6. ERCS Score
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DATA COLLECTION:

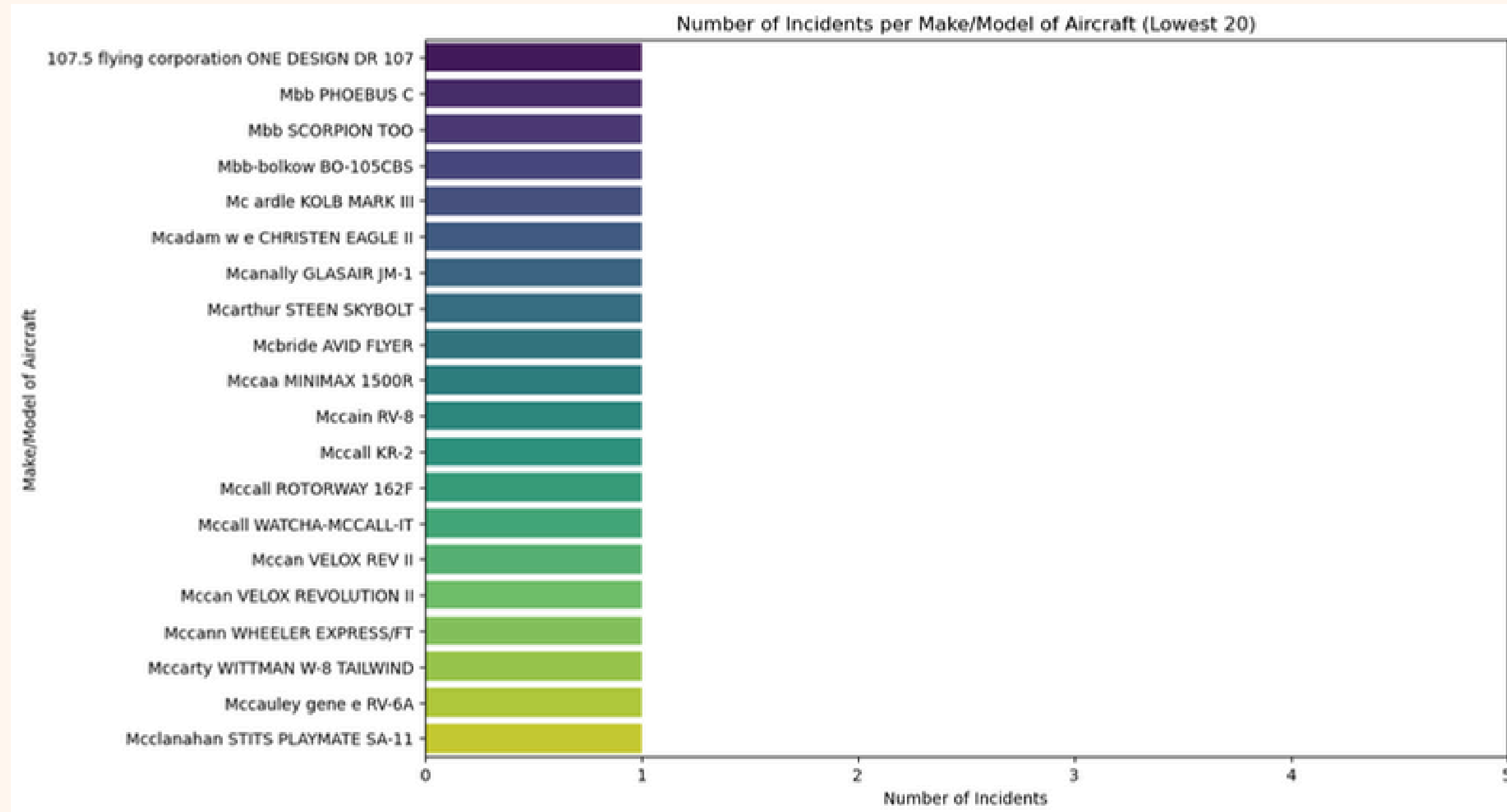
- Analysis of historical Data provided by NTSB

EVALUATION METRICS:

- Quantitative risk score for each aircraft make/model
- Number of survivors per aircraft make/model

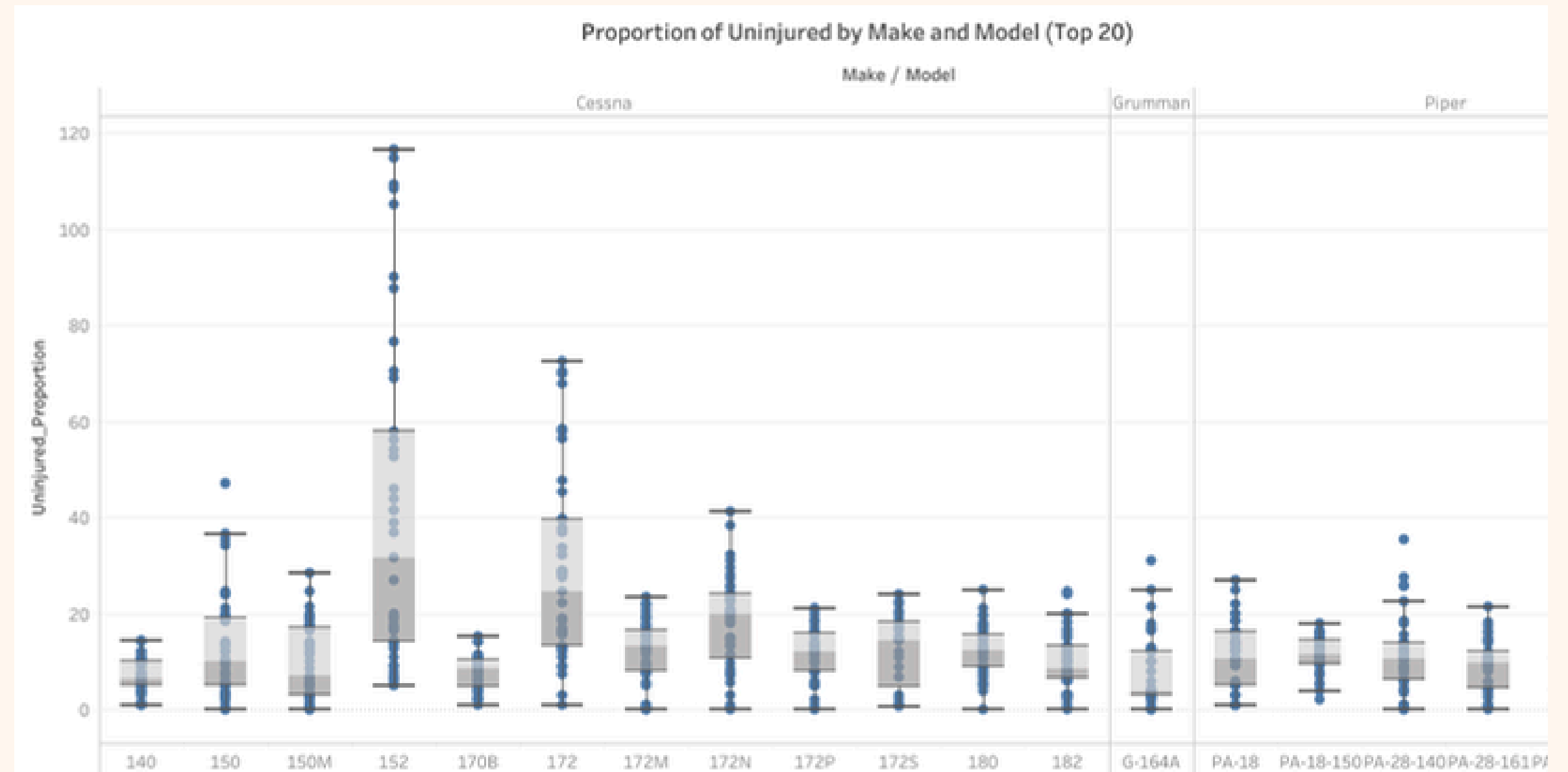
FINDINGS : INCIDENT FREQUENCY

Several Make/model combinations have an incident frequency of 1.



FINDINGS : SEVERITY OF INCIDENTS

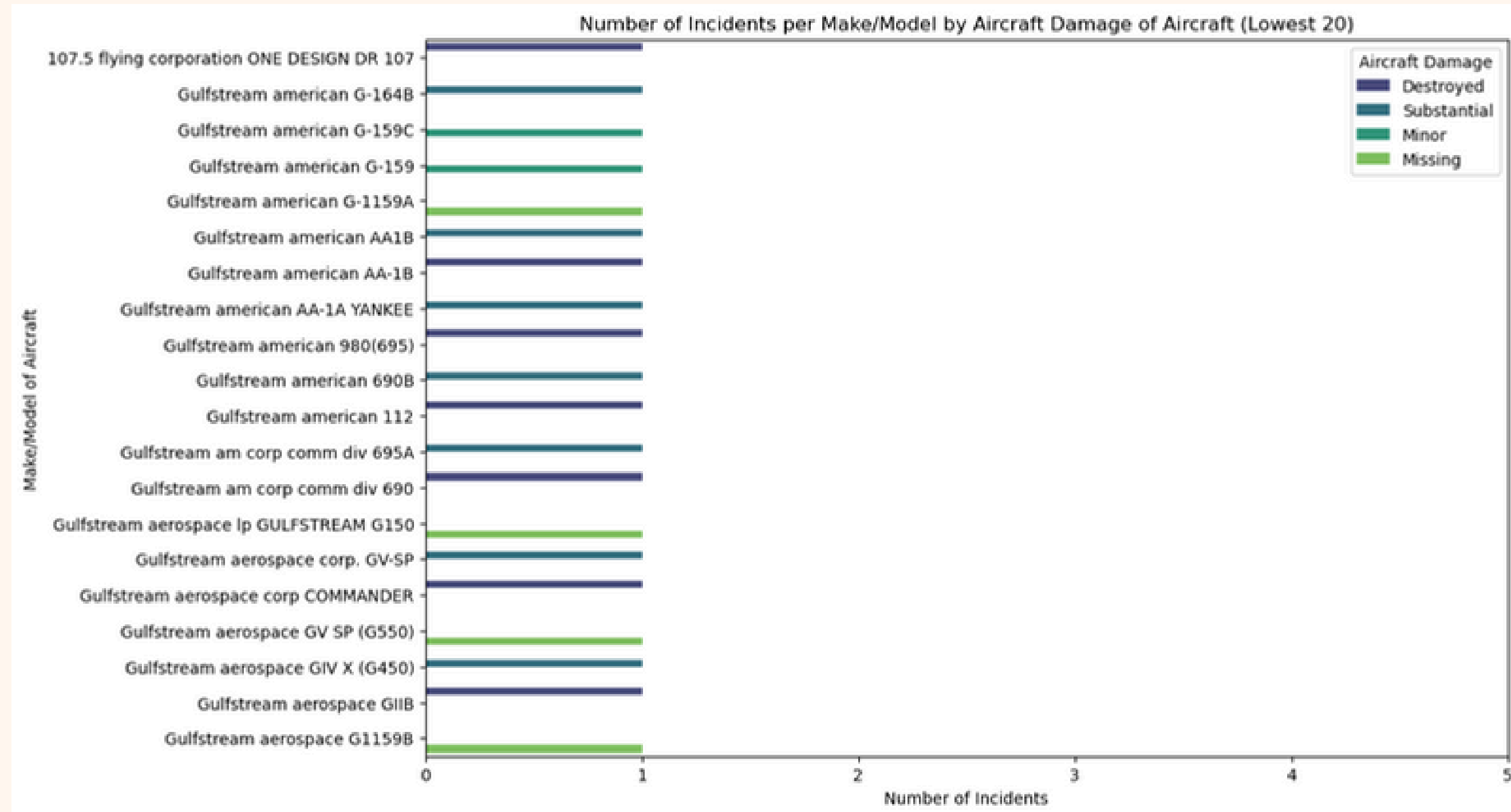
Over the years, Cessna, Grumman and Piper aircraft Makes have had the highest proportion of **uninjured passengers** as compared to other makes.



FINDINGS : AIRCRAFT DAMAGE

From analysis, most incidents resulted in substantial damages to the aircraft, even in the lowest 20 as seen in the graph.

However, we can see some sustained very minor damages.



FINDINGS : ERCS SCORE

What is ERCS?: European Risk Classification Scheme (ERCS) is a methodology for risk-classifying accidents/incidents in aviation.

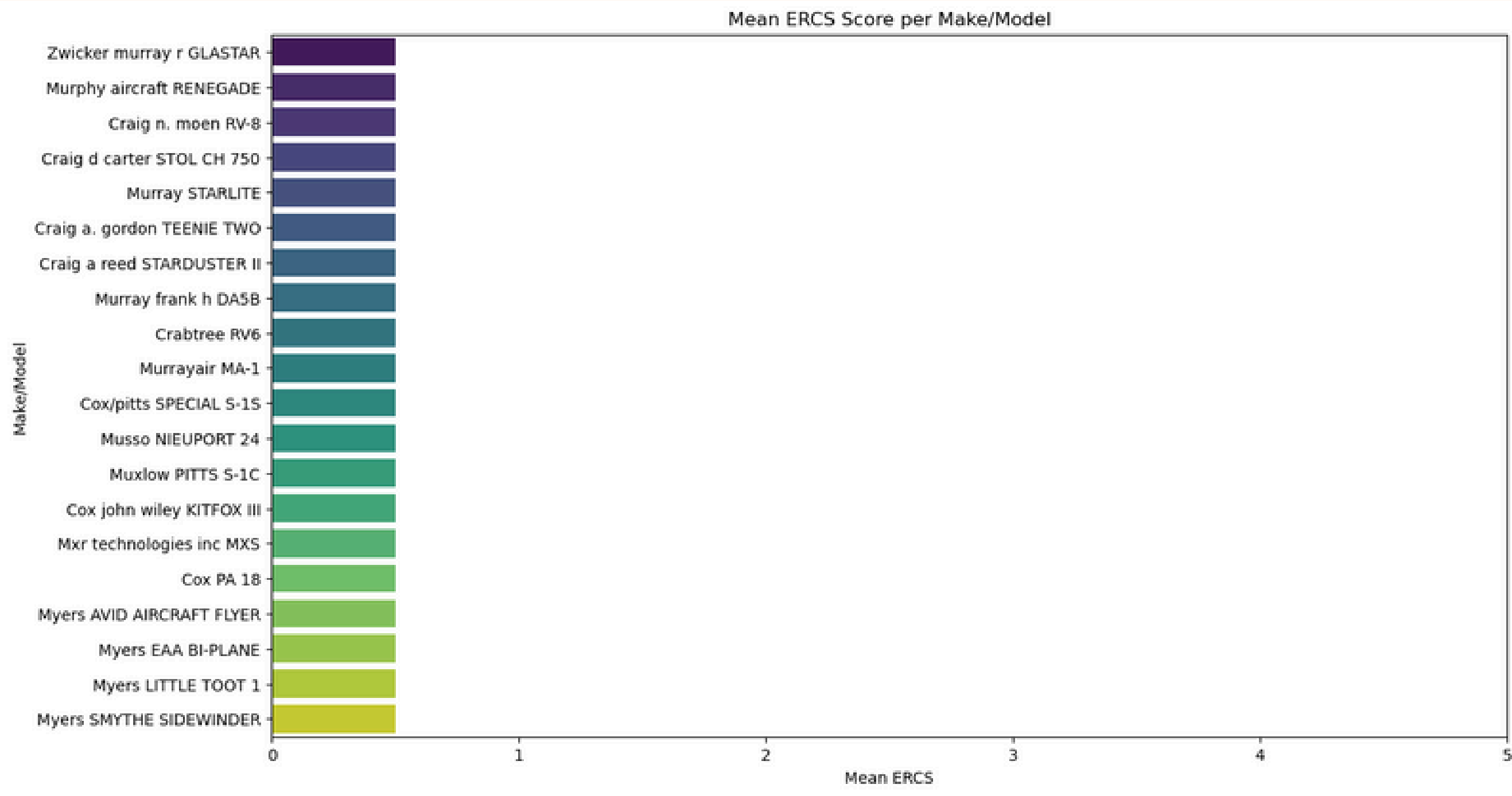
ERCS Score = Severity Score * Likelihood of Occurrence (how often similar incidents occur).

The Severity Score is obtained by dividing the weighted sum of injuries (Fatal, Serious, Minor and Uninjured) by total passengers.

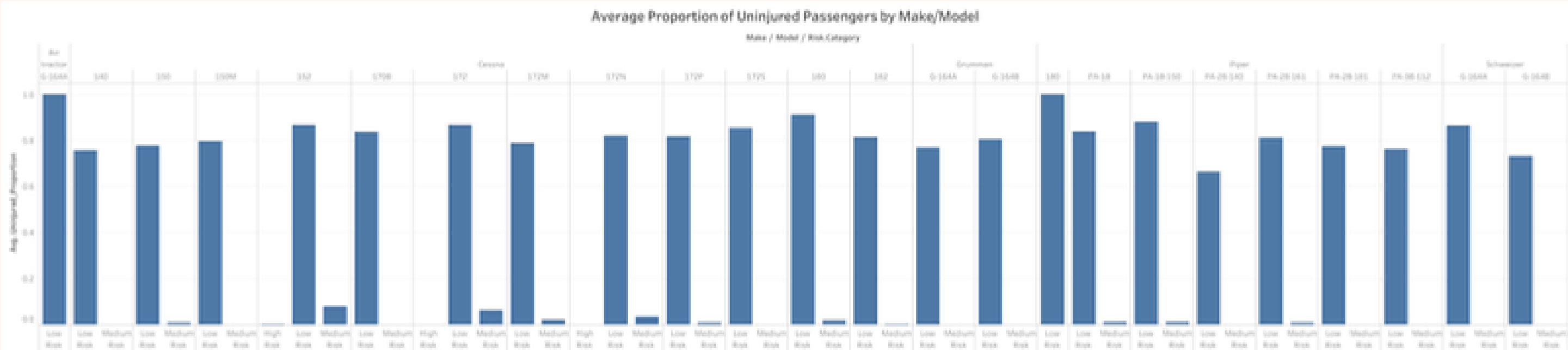
The higher the ERCS score, the higher the risk associated with the aircraft & vice versa.

FINDINGS : ERCS SCORE

All Aircraft Make/Model combination in the lowest 20 have a mean ERCS score of 0.5.



FINDINGS : COMBINED EVALUATION METRICS



The table above shows the top 20 make/model combinations with high average proportion of uninjured passengers and the risk category.

Air tractor G164A & Piper 180 have a proportion indicating all passengers were uninjured for those incidents/accidents. Piper PA-18-150, Cessna 180, Cessna 152 follow next respectively and so forth.

RECOMMENDATIONS



Air Tractor G164 :

Pros: Low ERCS Score, high proportion of uninjured passengers, low incident count

Piper 180:

Pros: Low ERCS Score, high proportion of uninjured passengers, low incident count

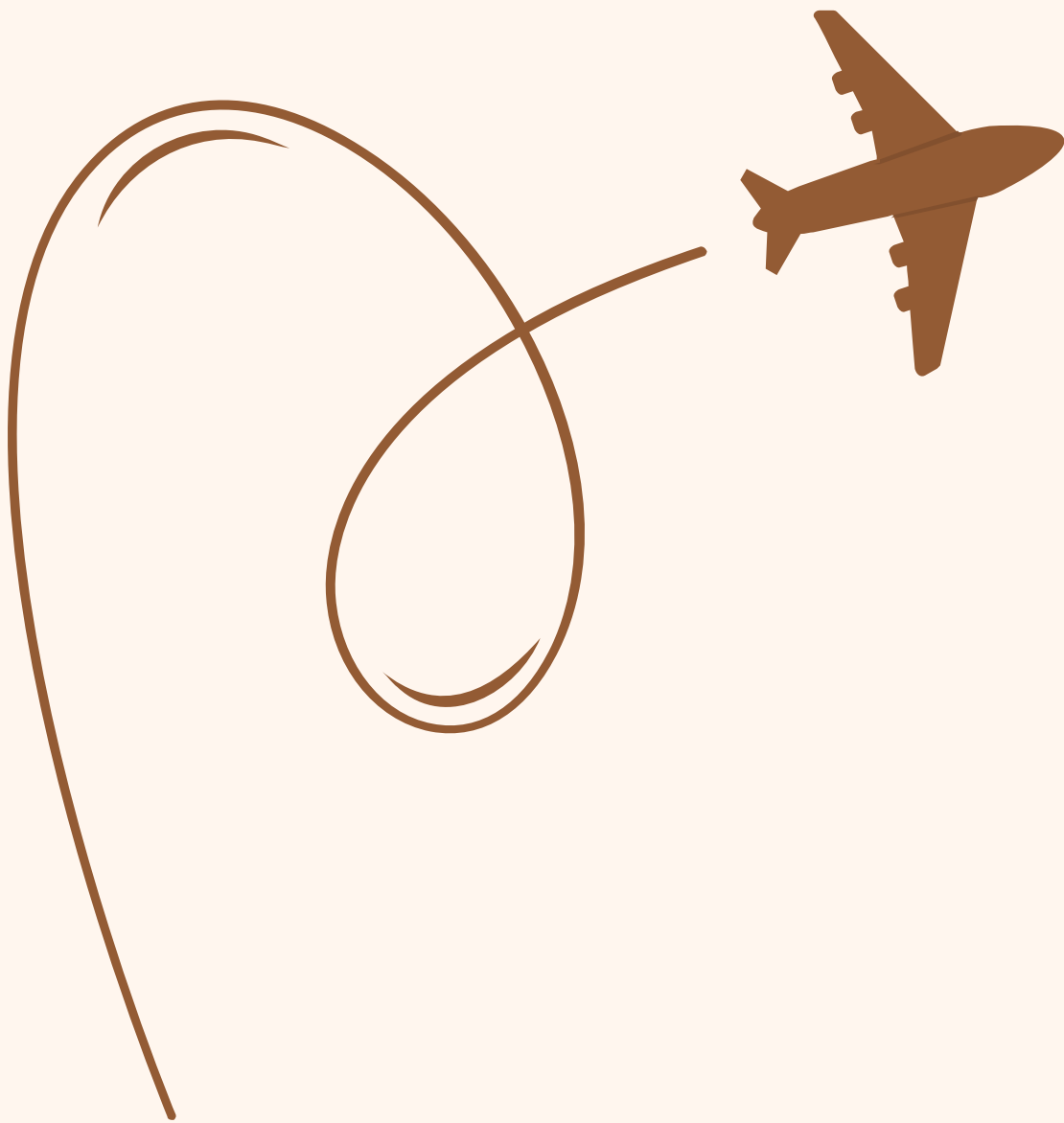
Piper PA-18-150:

Pros: Low ERCS Score, high proportion of uninjured passengers

Cons: Moderate Incident Frequency



GOT ANY QUESTIONS?

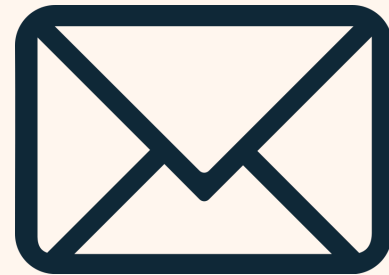


Q & A





CONTACT US



VALLARY.BANDA@STUDENT.MORINGASCHOOL.COM



NAIROBI, KENYA