Data Analysis Report: Low Risk Aircraft Investment Options

Lewis Mwaki 2025

Background

BACKGROUND

Our company with no prior experience in aviation and no knowledge in aircraft models, wants to leverage data analysis to bring insights and new information to inform the kind of aircrafts to invest in that are the lowest risk. Without this analysis the company risks losses in their investments, and worse yet losses of lives of customers and aircraft personnel. The Head of the Aviation Division will receive actionable recommendations in this regard to make business decisions.

OUR KEY OBJECTIVES

Engine Type & Safety

Unveiling the Safest Configurations

Matching Aircraft to Mission

What exactly should we focus on achieving with the aircrafts first, and what are the risks of different ventures in this regard

Weather Resilience

Which aircrafts perform best in the worst conditions.

Executive Summary

Objective

Identify the lowest-risk aircraft options for our company's aviation venture

Approach

Analyzed decades of aviation accident data to identify patterns and trends

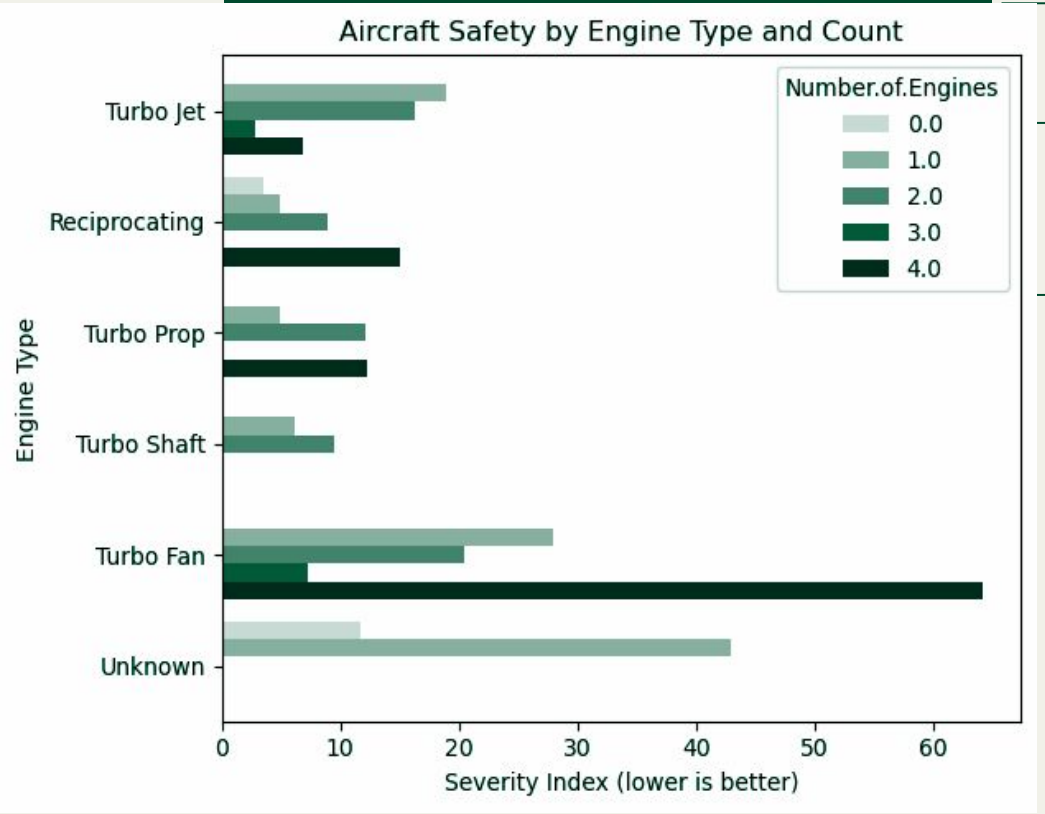
Findings

Specific aircraft models, engine configurations, and operational types demonstrate superior safety profiles.

Benefit

Enables informed investment decisions, enhanced safety, and peak operational efficiency.

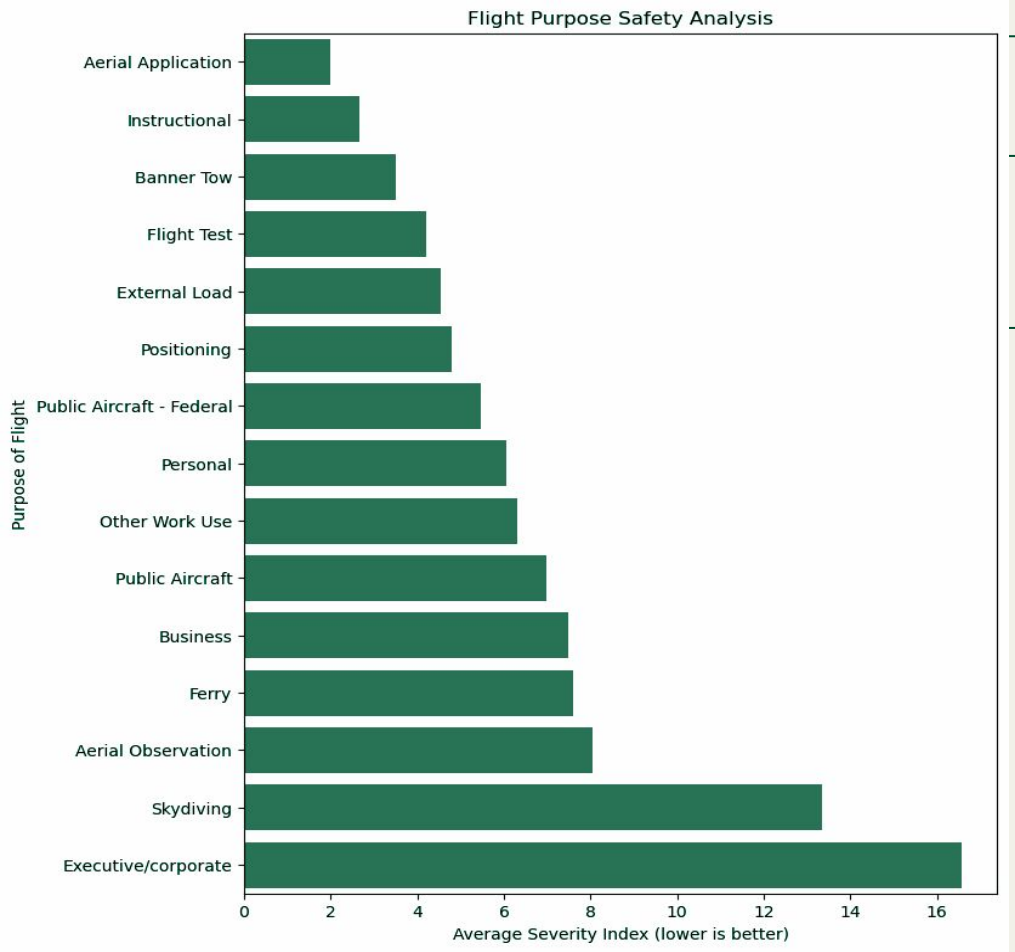
ENGINE CONFIG



- Three-engine turbojet aircraft demonstrate the lowest severity index.
- Single-engine reciprocating aircraft provide a safe option for smaller operations.
- Four-engine turbofan configurations exhibited the highest severity indices.

Clear indicators that we should prioritize Three-engine turbojet engines at any given time and fully avoid four-engine turbo fan configurations

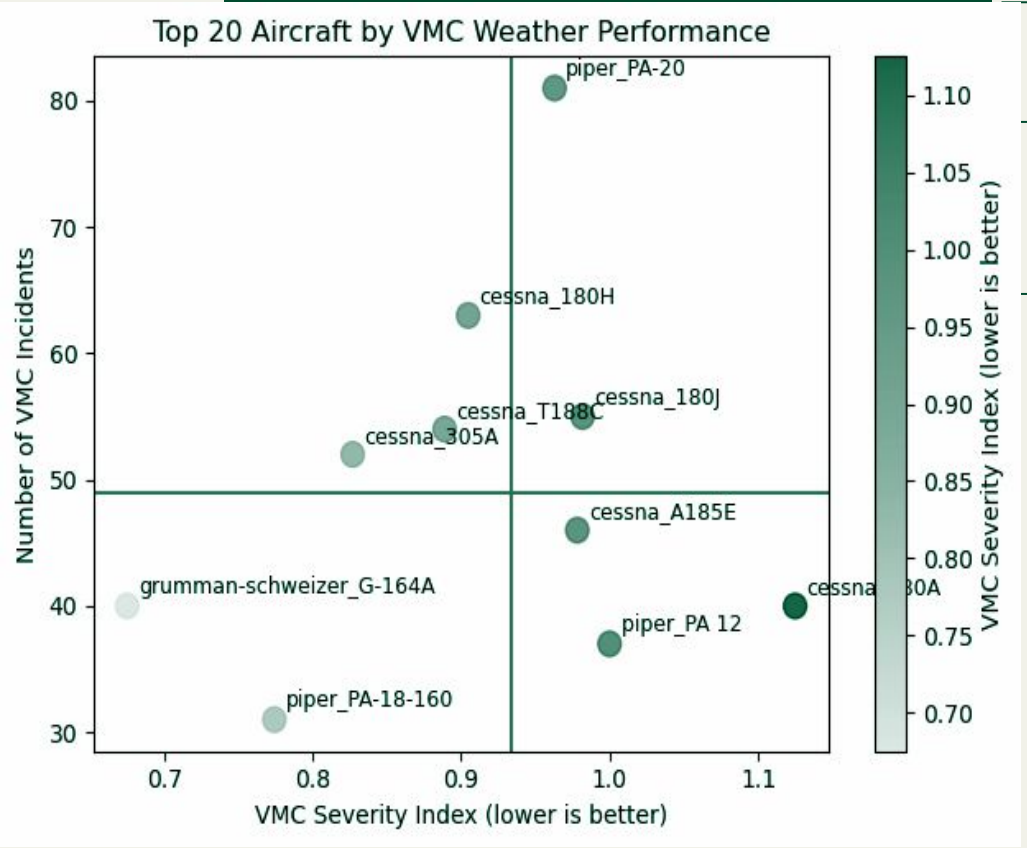
FLIGHT PURPOSE



- **Instructional and aerial application flights show the lowest severity indices**
- **Aligning aircraft selection with operational purpose reduces risk**
- **Business flights show slightly higher severity indices overall compared to personal flight.**

Insights indicate that we should strictly avoid offering business flights as operation there would mean a high risk, but instead start slow with application type and instructional type aircraft

WEATHER SEVERITY



- Agricultural aircraft models consistently demonstrate low severity indices
- Piper PA series aircraft are consistently top performers in both IMC and VMC
- Cessna models maintain strong safety records despite high usage rates

Venturing into training aircraft will see us leaning alot towards the Piper PA series considering its resilience in all kinds of weathers; Cessna models prove themselves safe consistently despite high utility

Navigating Uncharted Skies:

Challenge

Entering the aviation market without expertise poses risks to investments and, more importantly, lives.

Solution

Our data-driven analysis identifies aircraft models, engines, and operation types with proven safety records.

Actionable Insights

- Prioritize three-engine turbojet aircraft for large aircraft operations.
- Utilize single-engine reciprocating aircraft for smaller training or personal needs.
- Select aircraft models based on weather conditions in operational regions.
- Align aircraft selection with intended operational purpose.

Thank You!

We're ready to address your questions and explore how these insights can guide our aviation division.