



AVIATION RISK ANALYSIS

Presentation - 2024



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About Us



Allied Ventures Group is a diversified investment company committed to acquiring and managing high-potential assets across various industries, including aviation.

Our team plays a crucial role in this mission by providing actionable insights and data-driven strategies to inform our investment decisions and operational improvements.

With a team of experienced analysts, we ensure that our investments are backed by rigorous analysis and cutting-edge technology.

Project Overview



Introduction

Our company is exploring the aviation industry to diversify its portfolio. The aviation sector offers significant opportunities but also involves substantial risks.

This presentation provides an analysis of aviation accident data to determine the safest aircraft models for our investment.



Objectives

- Identify the lowest-risk aircraft models based on historical accident data.
- Understand which phases of flight are associated with the highest risks.
- Analyze accident trends over time to inform our safety protocols and investment decisions.

Business Understanding

Expanding into the aviation industry requires a thorough understanding of the associated risks. Different aircraft models and phases of flight carry varying levels of risk, which can significantly impact safety and profitability.

This analysis aims to provide insights into these risks to guide our strategic investment decisions.



Problem Statement

The aviation sector, while offering substantial growth, poses significant safety and operational risks that can impact profitability and business sustainability.

To ensure a successful entry into this industry, we need to identify aircraft models with the lowest risk profiles based on historical accident data.

Additionally, we must identify the phases of flight that are most prone to accidents and understand the trends in aviation incidents over time.

Determine which aircraft models have the lowest number of injuries and fatalities to guide our purchasing decisions.

Recognize which phases of flight are associated with the highest accident rates to enhance safety protocols and training.

Examine how aviation accident trends have evolved over the years to inform our safety measures and investment strategies.

Data Understanding



The analysis is based on aviation accident data from the National Transportation Safety Board (NTSB) covering the period from 1962 to 2023.

This dataset includes detailed records of civil aviation accidents and selected incidents in the United States.

Key Data Points

1

Aircraft Make and Model: Identifies the manufacturer and specific model of the aircraft involved in accidents.

2

Injury Data: Includes the number of fatal, serious, minor injuries, and uninjured individuals in each accident.

3

Phase of Flight: Indicates the flight phase during which the accident occurred (e.g., takeoff, cruise, landing).

4

Accident Date: Provides the date of each accident, which is essential for trend analysis.

5

Weather Conditions: Information on weather conditions at the time of the accident.

6

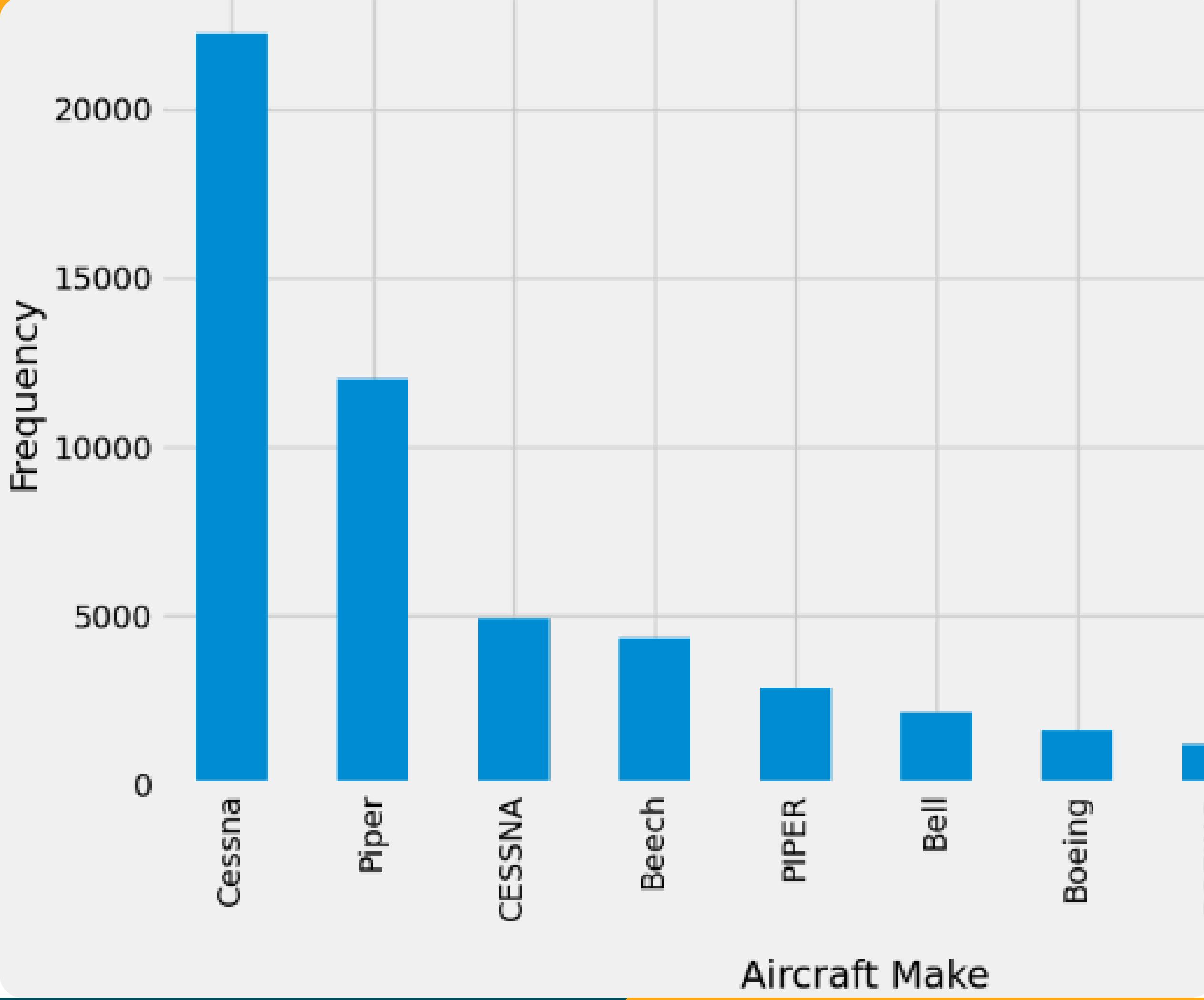
Location: Geographic location of the accident.

Data Analysis

By utilizing various visualizations, we aim to uncover patterns and insights that will inform our investment decisions and safety protocols. The analysis includes a detailed examination of accident frequencies, the relationship between injury types, and trends over time.

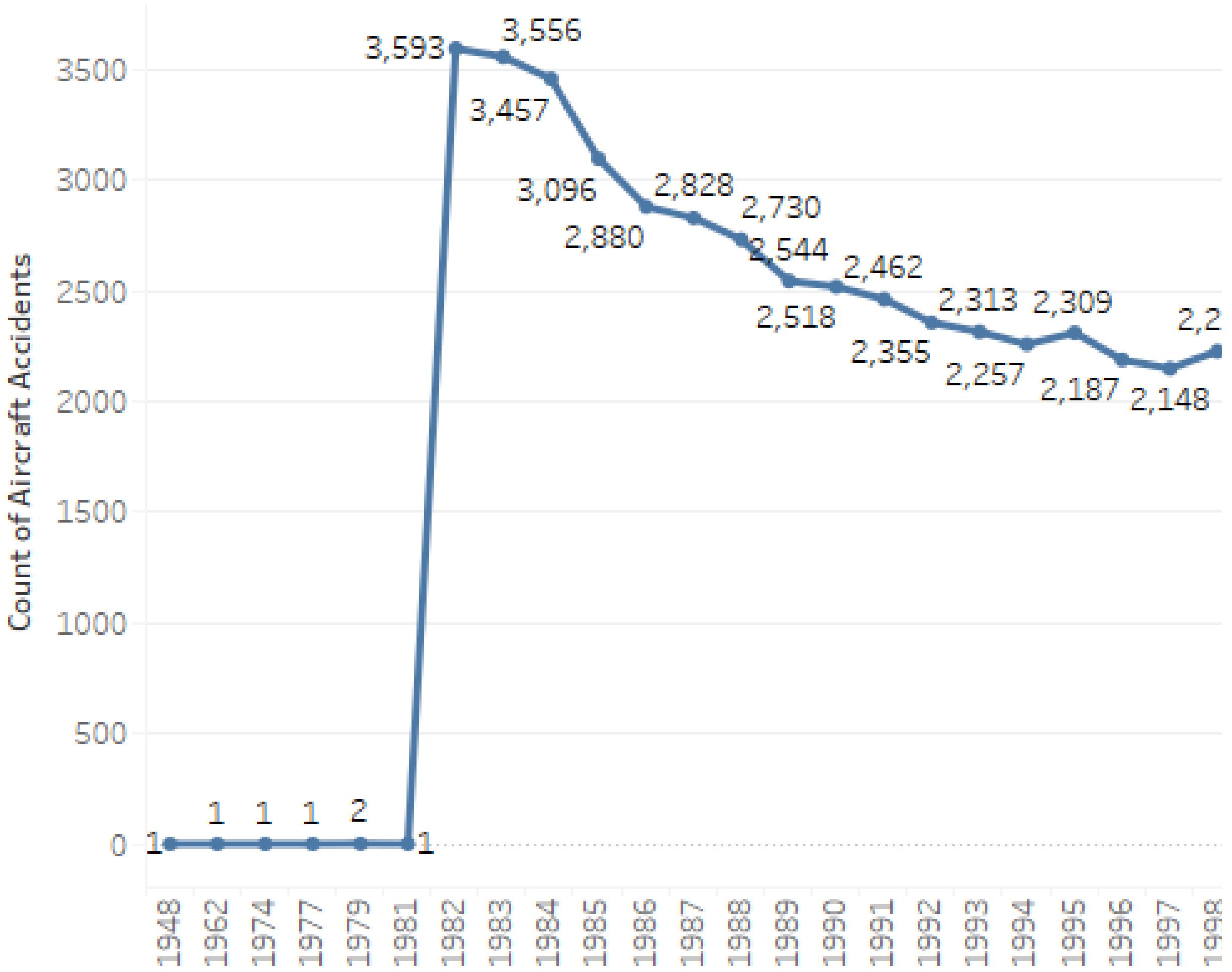
Each visualization provides a unique perspective on the data, helping us to identify areas of concern and opportunities for improvement.





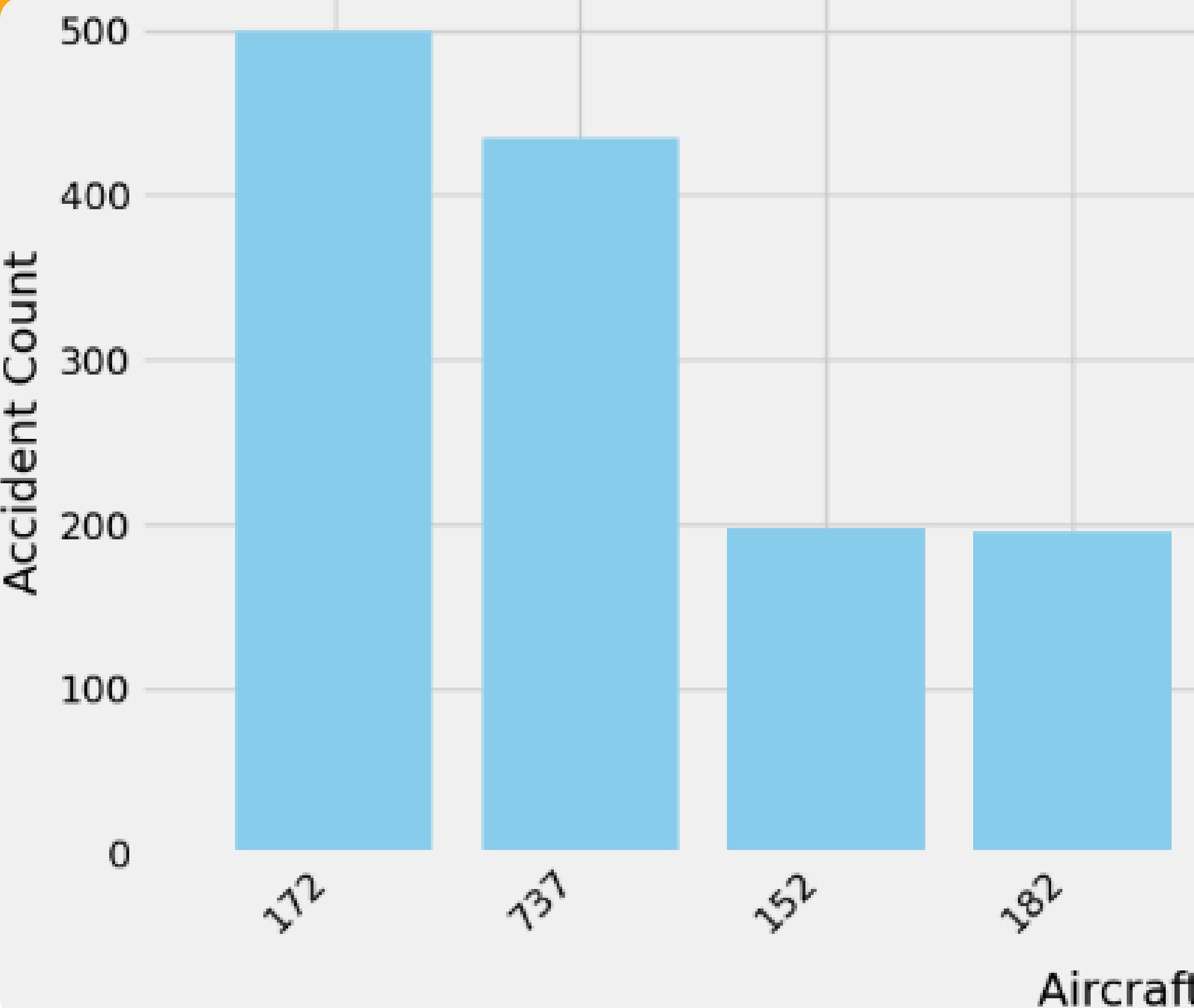
This bar chart illustrates the frequency of accidents involving the top aircraft Makes. The chart shows that Cessna aircraft have the highest frequency of accidents, with over 20,000 incidents.

This is significantly higher than the next most frequent make, Piper, which has approximately half the number of accidents as Cessna.



This line chart tracks the trends in aviation accidents over the years from 1962 to 2022. Initially, the number of accidents was minimal, but there was a sharp spike in 1977 and a gradual decline annually from 1980 to 2001.

Recent trends from 2020 to 2022 show a continued slight decline, with 1,545 incidents reported in 2022.



In our data set is shows that the Cessna 172 model has the highest accident count, followed by the Boeing 737. Recent trends from 2020 to 2022 show a continued slight decline, with 1,545 incidents reported in 2022.

The consistent presence of Cessna models among the highest accident counts indicates a need for focused safety reviews and potential improvements in operational protocols for these aircraft.



Conclusion

Cessna models, have the highest frequency of accidents. This suggests a need for targeted safety reviews and potential improvements in operational protocols for these aircraft.

Operational volume and specific aircraft characteristics play a significant role in accident rates. Focusing on high-frequency models can provide immediate safety benefits

Recent years have seen a slight decrease in accident rates, indicating the effectiveness of improved safety measures and regulations. Continuous efforts are required to maintain and enhance this trend.



Recommendations

Invest in aircraft models that have demonstrated the lowest accident frequencies, as indicated by the bar chart analysis. These models are likely to provide a safer and more reliable option for our operations.

Focus on improving safety measures and protocols during periods with historically high accident rates. Continuous monitoring and updating of safety practices based on historical data will help reduce future incidents.

Improve pilot training and safety protocols, especially for flights under various weather conditions.



Next Steps

Conduct a deeper analysis of specific aircraft models identified as low-risk to understand the factors contributing to their safety. This can include maintenance records, design features, and operational history.

Review and update safety protocols and training programs based on the identified high-risk phases of flight. Implementing targeted safety measures can significantly reduce accident rates.

Implement a system for continuous monitoring and analysis of aviation data to keep track of emerging trends and potential risks. This will ensure ongoing safety improvements.

Please feel free to share any questions or clarifications you may have regarding the analysis and recommendations.



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Thank You
For Your Attention

