Data-Driven Insights for Safe Aviation Expansion

Aviation Accident Risk Assessment

Project Overview

- "We analyzed aviation accident data to identify the safest aircraft and operational practices for our expansion into the aviation sector."
- "This presentation will provide key findings and actionable recommendations to minimize risk."

Understanding the Business Need

- "The company is expanding into the aviation industry."
- "We need to understand the risks associated with different aircraft to make informed purchasing decisions."
- "Our goal is to ensure the safety of our operations and minimize potential losses."
- "Which aircraft and operational strategies will minimize risk?"

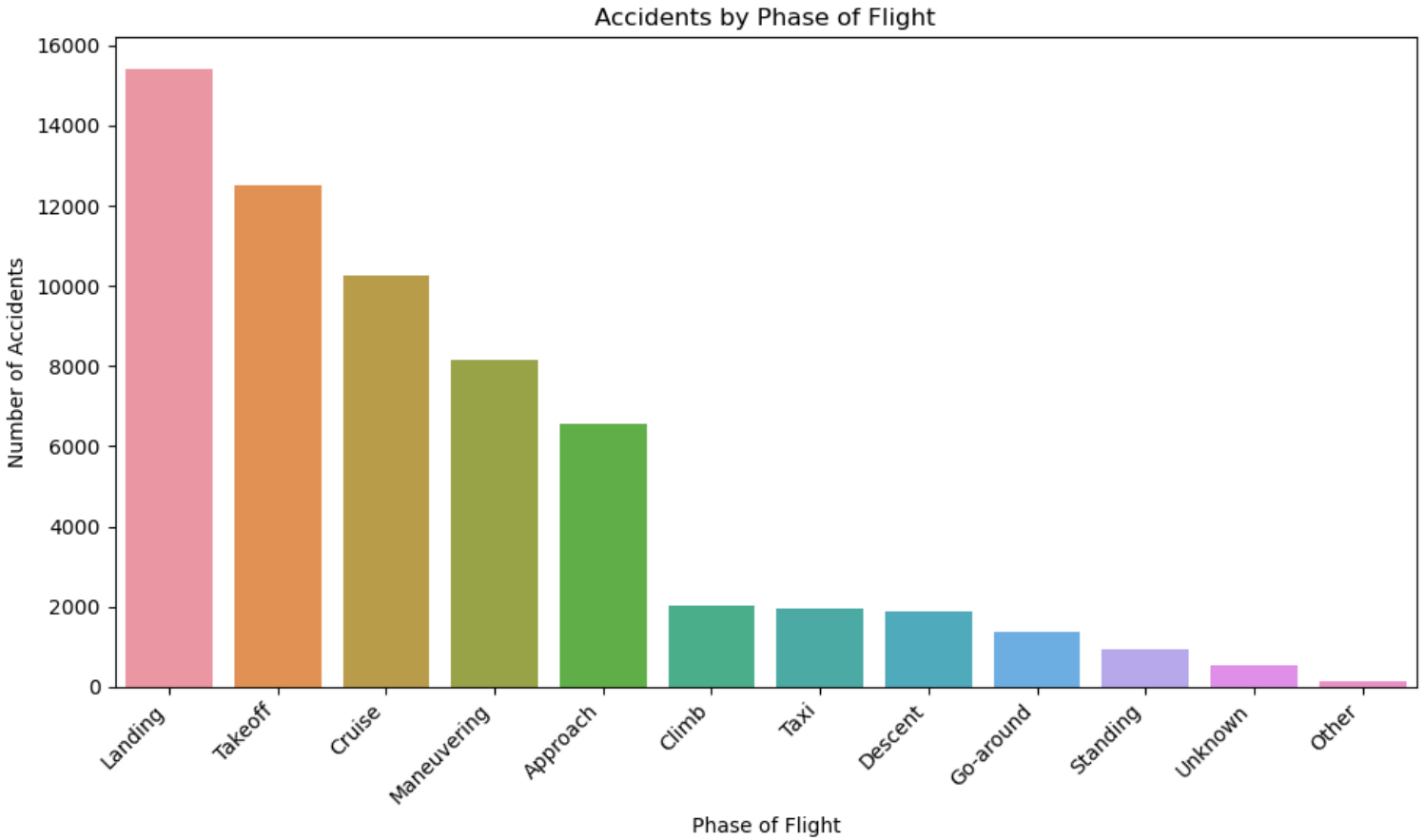
About the Data

- Source: "Data is from the National Transportation Safety Board (NTSB), covering accidents from 1962 to 2023."
- Description: "It includes details on accidents, aircraft, and contributing factors like weather and flight phase."

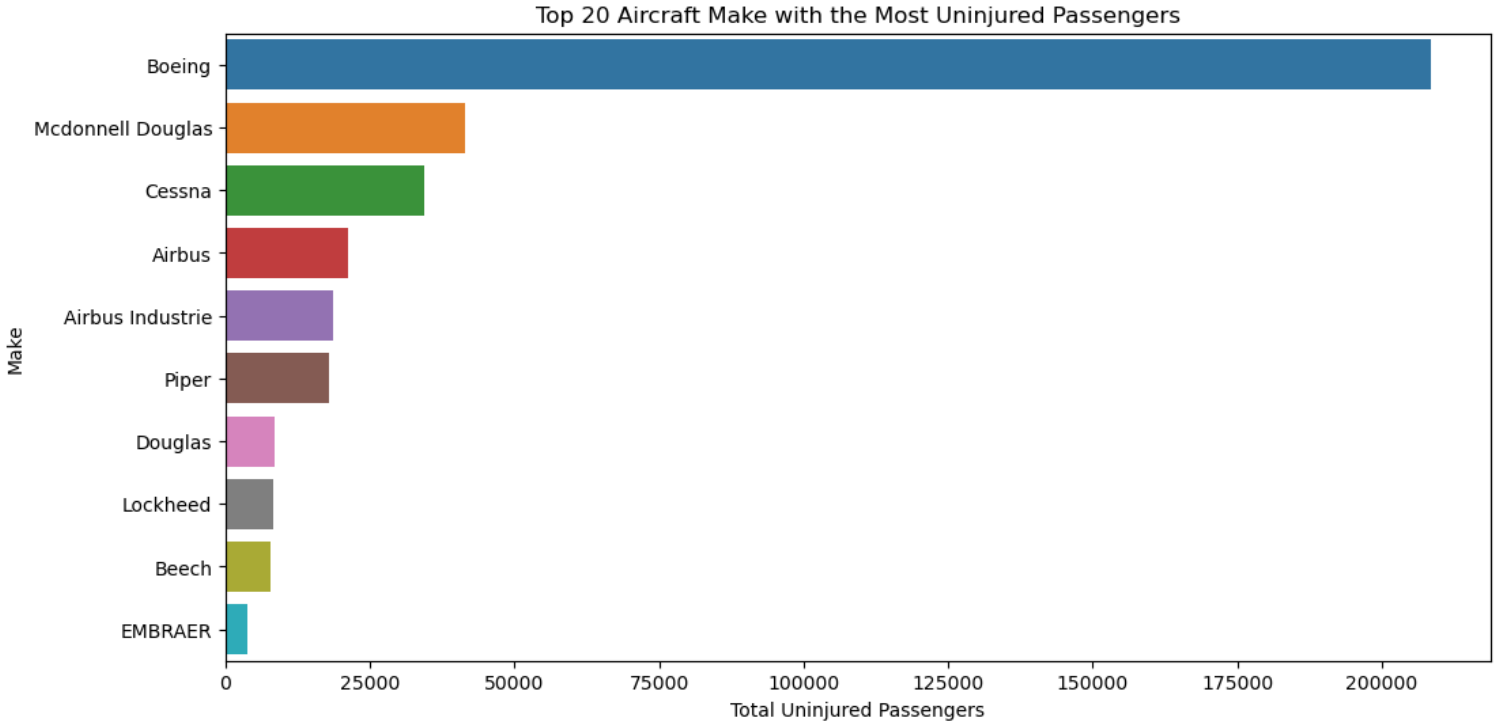
Analyzing the Data

- "We cleaned the data to ensure accuracy."
- "We looked at accident patterns related to aircraft, weather, and flight phase."
- "We calculated accident rates to compare aircraft safety."

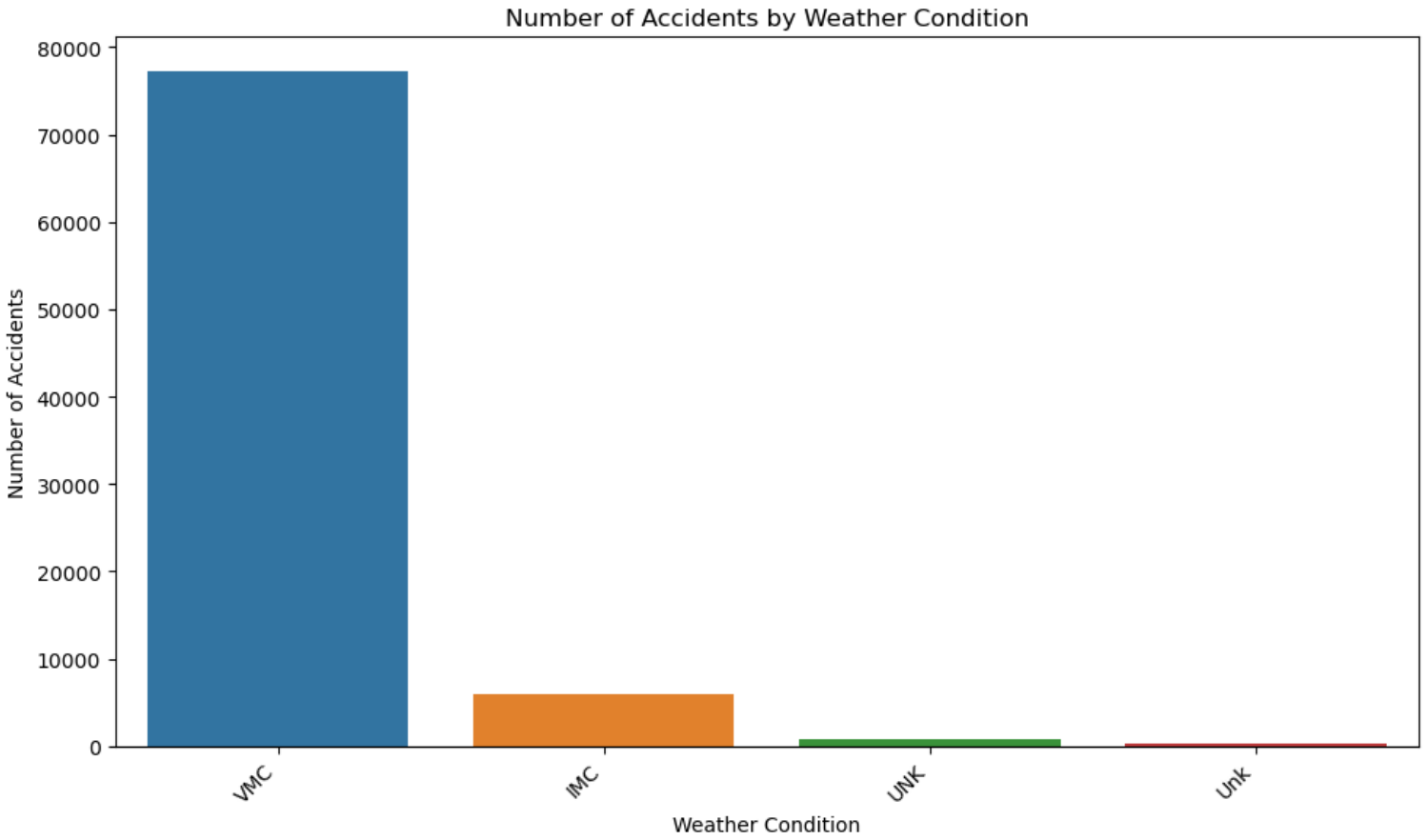
Accidents by Phase of flight



Top 20 aircraft make with the most uninjured passengers



Number of accidents by weather conditions



Recommendations

1: Prioritize aircraft from manufacturers with the lowest accident rates.

- Business Benefit: "Reduces the likelihood of accidents and associated costs."

2: "Implement enhanced training for high-risk phases of flight (e.g., landing, takeoff)."

- Business Benefit: "Improves pilot proficiency and minimizes human error."

3: "Develop strict operational guidelines for different weather conditions."

- Business Benefit: "Enhances safety and reduces weather-related incidents."

Conclusion

- Prioritize aircraft from Cessna, Piper, and Boeing for their proven track record of low accidents risk.
- Implement enhanced trainings on high risk phases such as landing and approach.
- Develop and enforce strict operational guidelines for varying weather conditions