AIRCRAFT ASSESSMENT ANALYSIS

- Data-Driven Insights for Safer Aircraft Investments
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Overview

- Introduction to the analysis

- Understanding accident severity trends to enhance safety and investment decisions

- Summary of key insights from the analysis

Business Understanding

- Aviation safety is crucial for passengers, operators, and investors.
- Identifying risk factors helps in reducing accidents and making informed investment choices.
- **Business Questions:**
- How do aircraft features influence accident severity?
- How do weather and flight phases affect accident outcomes?
- Which aircraft models are safest for investment?

Data Understanding
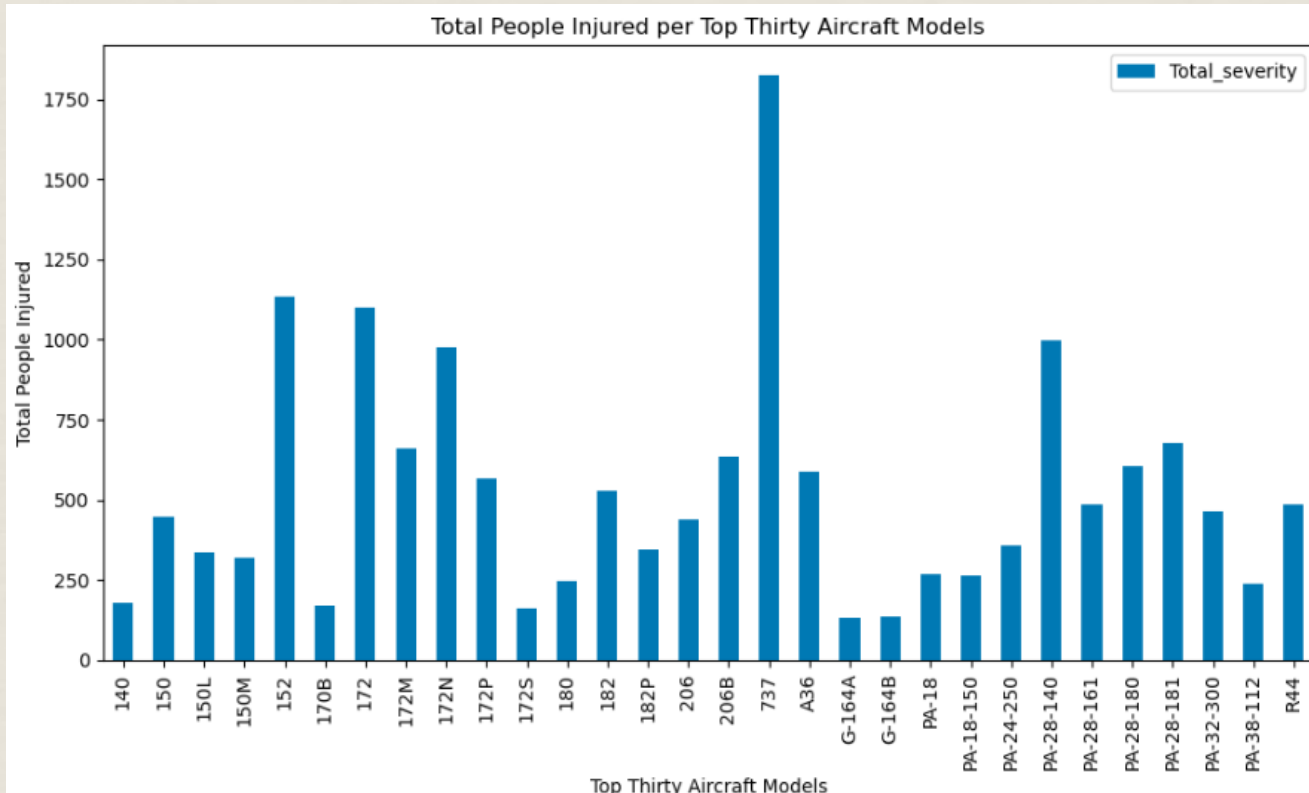
- **Source of Data:**
- Aviation accident dataset from National Transportation Board (NTSB).
- Includes details on aircraft models, weather, flight phases, and severity metrics.

- **Description of Data:**
- Key features: Aircraft type, make, number of engines, injuries, weather, flight phase.
- Data preprocessing: Cleaning missing values, handling inconsistencies.

Aircraft Models & Severity

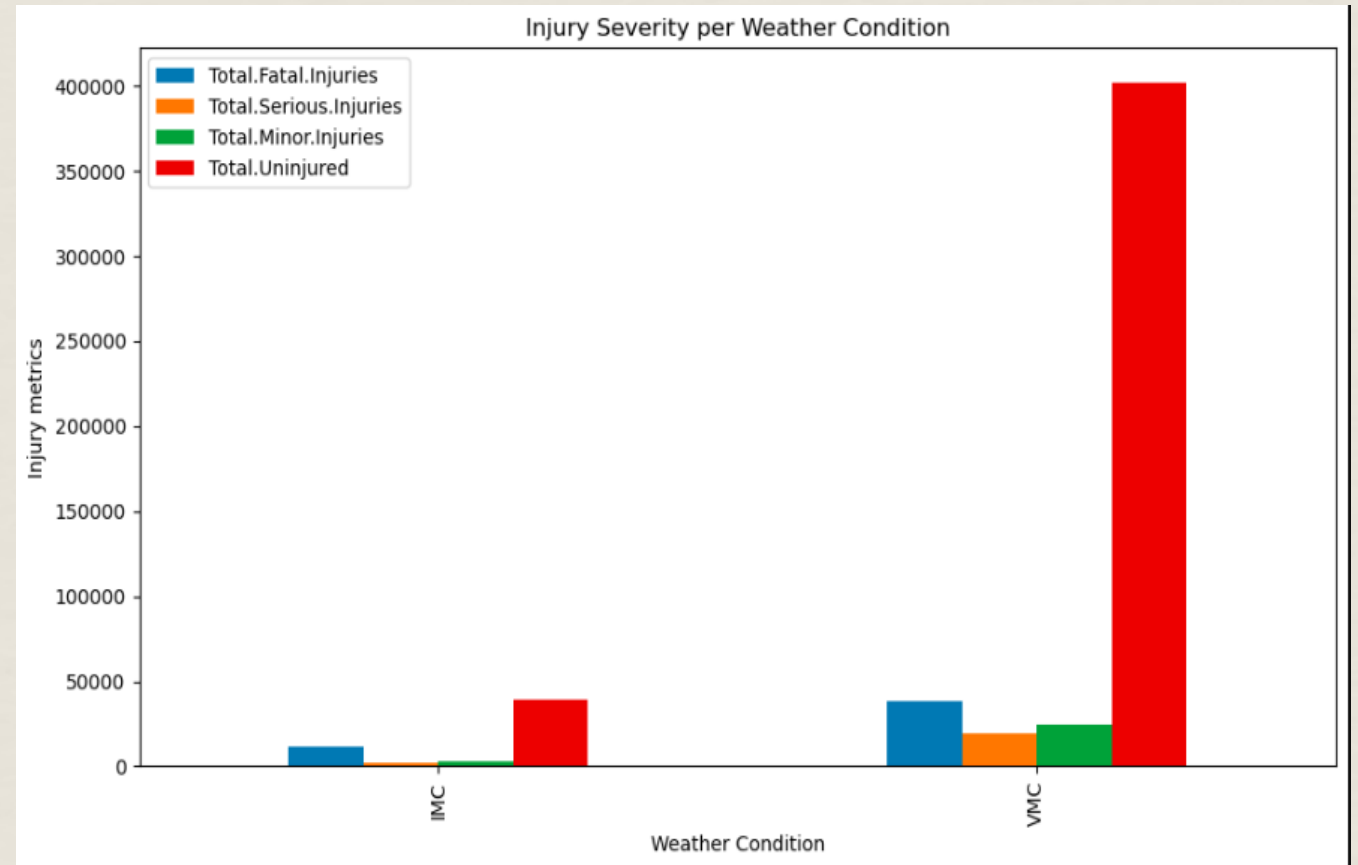Total People Injured per Top Thirty Aircraft Models

- Some aircraft models have higher accident severity than others.

- 737 model having the highest injury severity over the years and G-164A having the least.
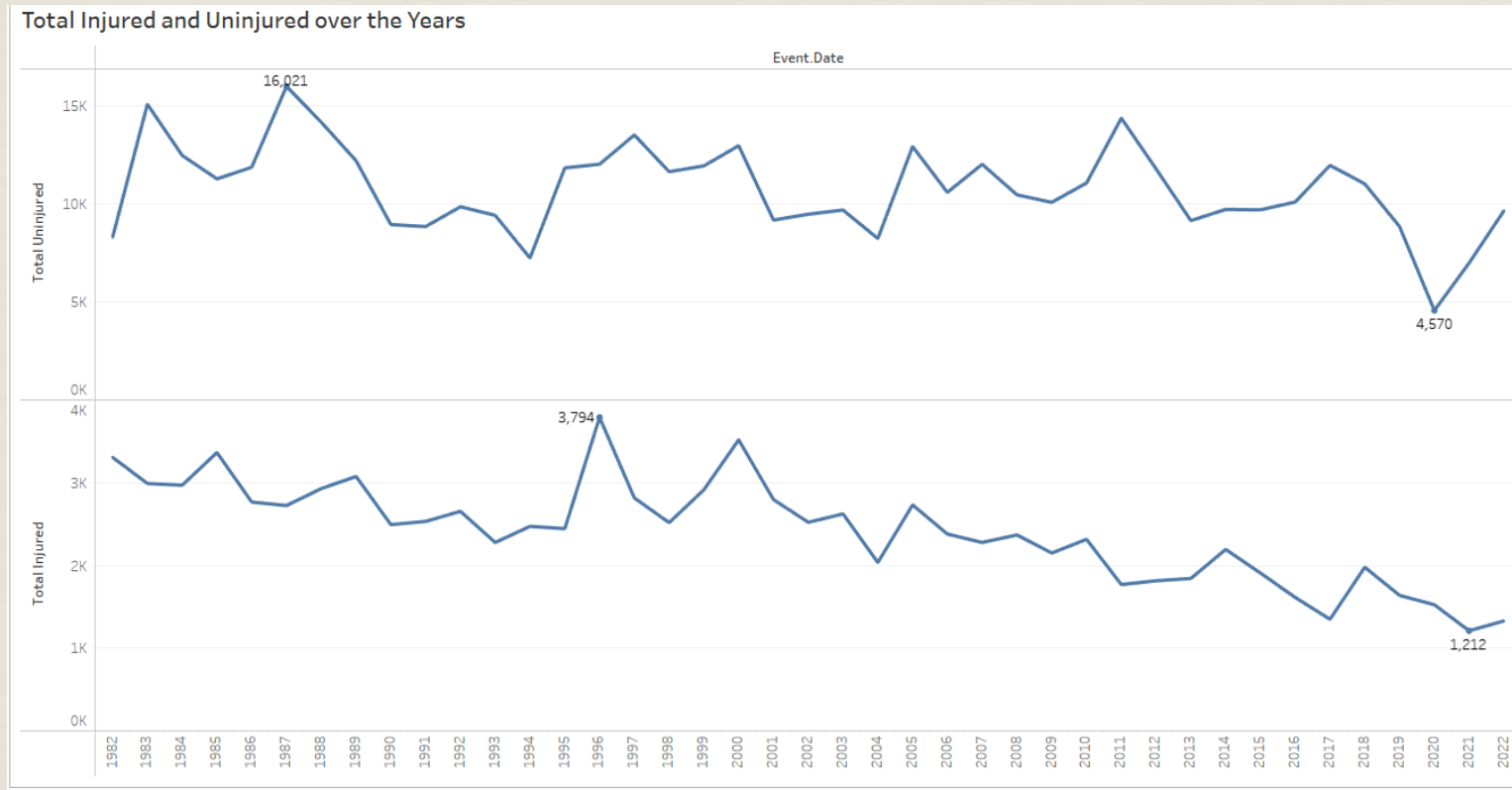
Weather Severity Impact

- Accidents during poor weather (IMC) tend to be more severe.

- VMC has more uninjured to Injured per ratio while IMC has less per ratio.

Risk Profile for Aircraft Investments

Total Injured and Uninjured over the Years

- Trends in accident severity over time.
- Reducing at a fluctuating trend and Uninjured fluctuating.

Recommendations

- Invest in aircraft models with a lower severity rate.

- Implement stricter safety measures during risky flight phases.

- Monitor weather conditions before flying to reduce severe accidents.

Next Steps

- Further analysis on manufacturer safety trends.
- Predictive modeling to anticipate high-risk flight conditions.
- Collaboration with aviation authorities to enhance safety policies.

Q&A

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