

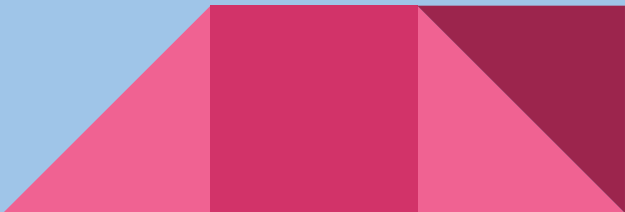
The background of the slide is a photograph of an airplane crash site in the ocean. Two large pieces of the aircraft are visible: a wing on the left and a larger section of the fuselage and tail on the right. The tail section has the registration 'N18224H' visible. The water is calm with gentle ripples, and the sky is a clear, pale blue. In the top right corner, there is a decorative graphic consisting of several overlapping triangles in shades of blue and purple.

Aviation Accidents Analysis

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Summary

Descriptive analysis reveals criteria for selecting best suited Aircraft Models for the Company:

- Airplane Make_models with lowest Accident Occurrence
 - Low accident prone Make_models by Flight Phase
 - Make_models with lowest accident severity numbers
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Outline

- Business Problem
- Data
- Methods
- Results
- Conclusions



Business Problem

- Selecting lowest risk aircrafts
- Safety Assurance
- Operations Reliability and Efficiency

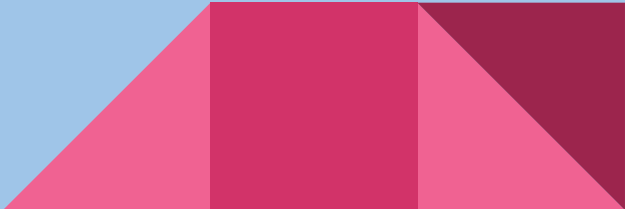


Data

- Pulled from the National Transportation Safety Board
- Aviation accidents data for over 80,000 accident events from 1948 to 2022
- Includes accident events details e.g date, severity, aircraft categories, models, make e.t.c.



Methods

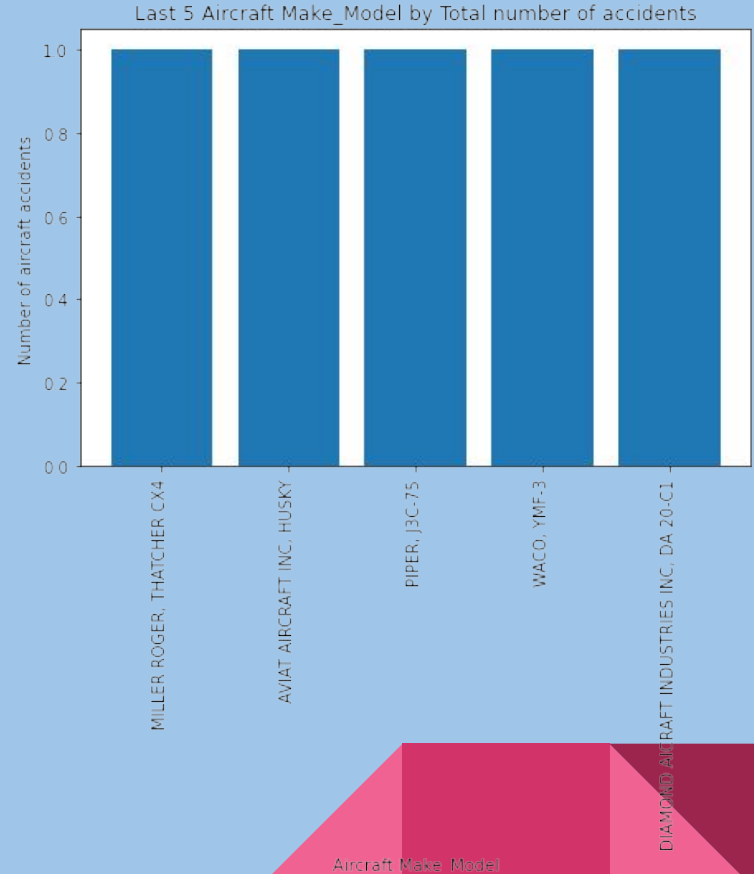
- Data missing values handled by dropping and replacing them
 - Data analyzed by:
 - Frequency of accidents per Make_Model
 - Accident frequency by Flight Phase per Make_Model
 - Accident Severity per Make_Model
 - Use of barcharts to visualize occurrence per aircraft model
- 

Results 1

Top 5 Airplane Make_models with lowest accident occurrence and best suitable for purchase and operations are:

- MILLER ROGER, THATCHER CX4
- AVIAT AIRCRAFT INC, HUSKY
- PIPER, J3C-75,
- WACO, YMF-3
- DIAMOND AICRAFT INDUSTRIES INC, DA 20-C1

Provides better safety assurance and operations reliability



Results 2

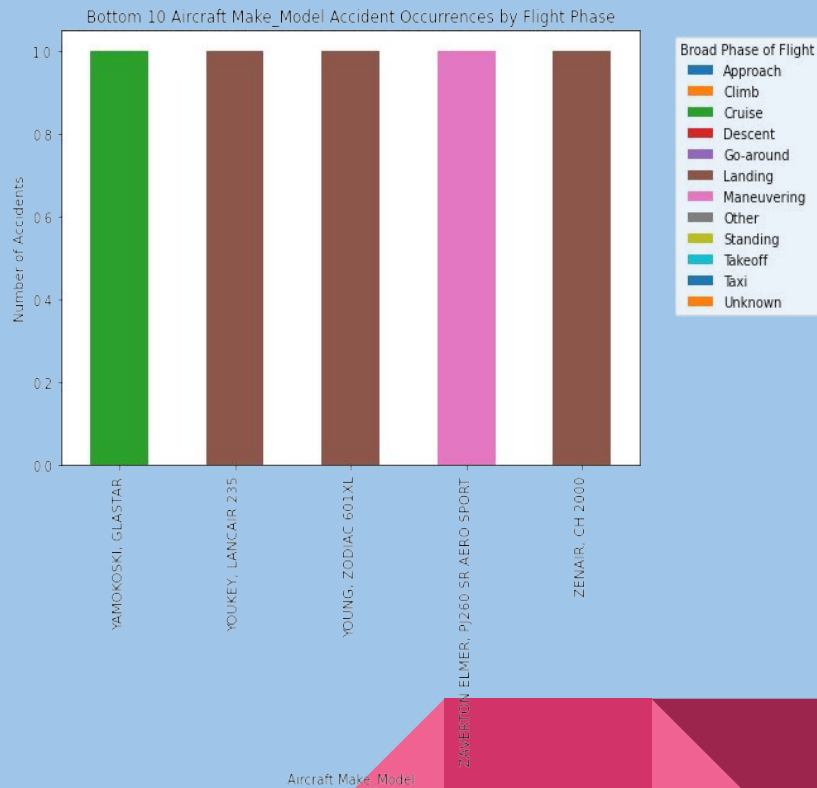
Accident Severity by Make_Model

Best choice:

- Models with least to no injuries
- Models with highest uninjured

They include:

- YAMOKOSKI, GLASTAR
- YOUKEY, LANCAIR 235
- YOUNG, ZODIAC 601XL
- ZAVERTON ELMER, PJ260 SR AERO SPORT
- ZENAIR, CH 2000



Results

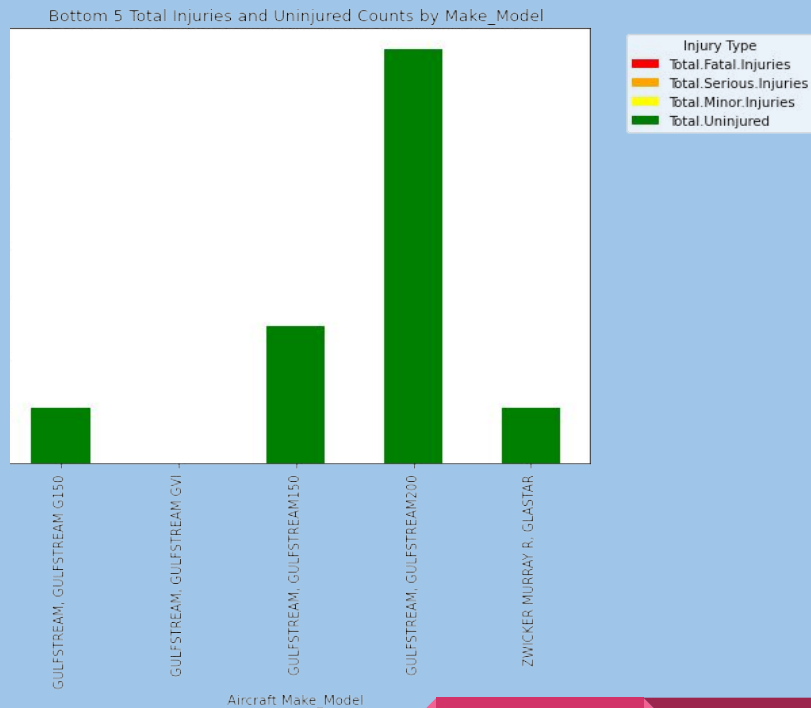
Accident by Flight Phase per Make_Model

Best choice:

- Make_models with lowest count per Flight Phase

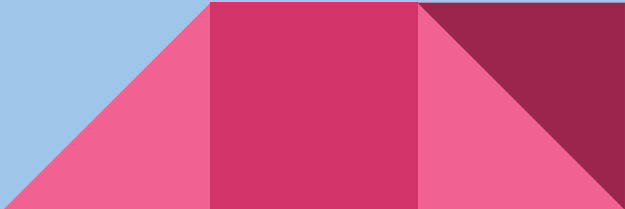
They are:

- GULFSTREAM, GULFSTREAM G150
- GULFSTREAM, GULFSTREAM GVI
- GULFSTREAM, GULFSTREAM150
- GULFSTREAM, GULFSTREAM200
- ZWICKER MURRAY R, GLASTAR



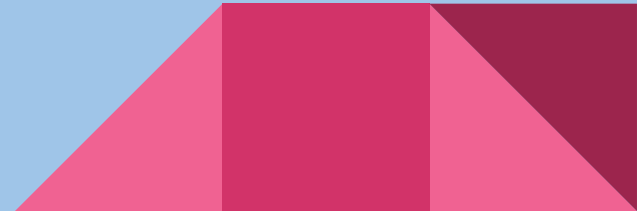
Conclusions

Recommendations

- Aircraft Make_models with lowest Accident occurrence
 - Low accident prone Make_models by Flight Phase
 - Aircraft Make_models with lowest accident severity numbers
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Further analysis

- Accident occurrence based on Weather conditions
- Location influence on Aircraft accidents
- Aircraft maintenance influence on accident frequency





Thank You!

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