

Aviation Accident Risk Presentation

Phase 1 Data Analysis Project

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Overview

- - Explored over 80,000 aviation accident records from the U.S. NTSB
- Cleaned and analyzed data in Python; visualized in Tableau
- Built an interactive dashboard focused on:
- Injury severity, Phase of flight, Damage levels, Accident locations
- Objective: Help stakeholders identify risk patterns and support aviation safety decisions

Business Understanding

- Aviation incidents impact safety, operations, and compliance
- Airlines and aviation authorities must understand where and why accidents happen
- Insights on injury patterns, aircraft damage, and flight phase risk can improve:
- Training procedures, Airport safety operations and maintenance focus

Data Understanding

- Dataset: National Transportation Safety Board (NTSB) aviation accident records

Format: CSV, ~80,000+ entries

- Key columns:
Broad.phase.of.flight
Injury.Category
Aircraft.damage
Location
Make
Event.date
- Cleaned data using Pandas (handled nulls, selected top categories, filtered out irrelevant rows)

Data Analysis

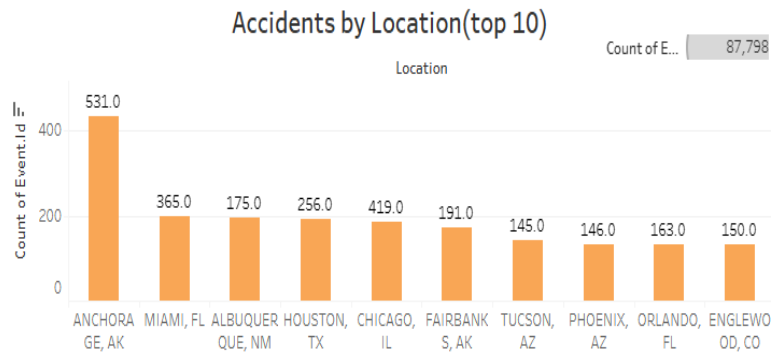
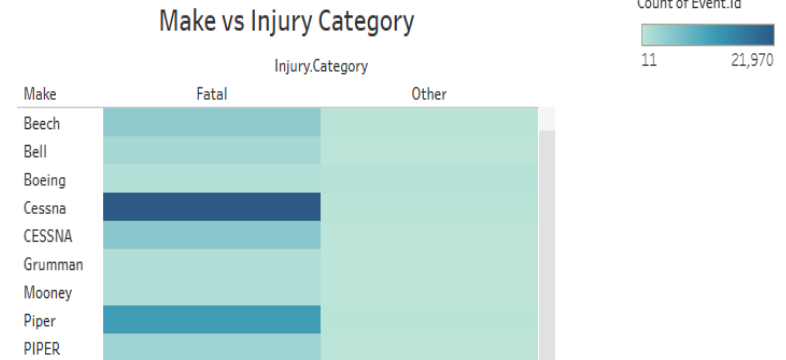
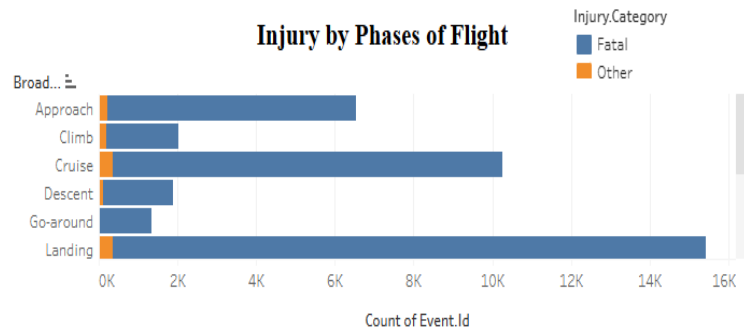
- Landing is the most accident-prone phase, followed by cruise and maneuvering
- Substantial damage is the most common aircraft outcome
- Anchorage, Fairbanks, Miami top the list of high incident locations
- Fatal injuries occur most during approach and landing phases
- Heatmap shows how injury severity varies across all flight phases

Recommendations

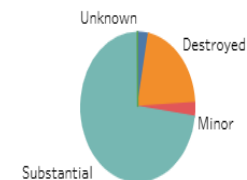
- Focus safety initiatives and drills on approach and landing
- Prioritize inspections on aircraft models with higher accident rates
- Reevaluate operational risk in high-incident areas like Alaska
- Share interactive dashboards with operational and safety teams

DASHBOARD

Aviation Accidents insights



Aircraft Damage Breakdown





Thank You

I'm happy to answer any questions and welcoming any
new suggestions