Aviation Safety Team I

Data Gathering and Defining Stakeholders + KPIs

Summary:

* Our project aims to create an overview of aviation safety over the past 40 years, examining trends in aviation safety, their causes, and ultimately suggesting recommendations to improve aviation safety. We employ at least 3 different datasets to gain descriptive and predictive insights into the factors contributing to aviation accidents, technical issues, and injuries.

Dataset 1: National Travel Safety Board (NTSB) [Aviation Investigation Search Database](https://www.ntsb.gov/Pages/AviationQueryv2.aspx)

* Dataset of investigations into airplane accidents, typically performed within 1-2 years of incident
* Not anonymized
* Fact gathering includes flight logs, maintenance records, personal interviews
* Includes information on on-flight injuries and their severity

Dataset 2: NASA’s [Aviation Safety Reporting System](https://asrs.arc.nasa.gov/search/database.html) (ASRS) Database

* Database of self-reports of aviation safety incidents such as near-collisions, airspace violations, crew fatigue, weather encounters, passenger misconduct, communication issues, etc.
* Include information on time, location, weather conditions, miss distance, human factors, result, reporter’s narrative, and more.
* More than 230,000 reports from 1988-2025
* Excludes reports that indicate criminal activity or accidents

Dataset 3: Bureau of Transportation Statistics (BTS): [T-100 Segment](https://transtats.bts.gov/DatabaseInfo.asp?QO_VQ=EEE&DB_URL=)

* Collects macro-level data on the air carrier traffic from years 1990-2025.
* Grouped by month-year, airport
* Used to produce reports and analyses of air traffic patterns and will thus be useful to construct visualizations of trends in accident rates.

Stakeholders

* Lawmakers/Regulators
* Airlines

KPIs

* Aviation Safety Incidents
* Airplane Accidents/Crashes
* Severity of aviation accident injuries