

PHASE 1 PROJECT

on

**AIRCRAFT ACCIDENT ANALYSIS FOR
RISK**

ASSESSMENT AND RECOMMENDATION

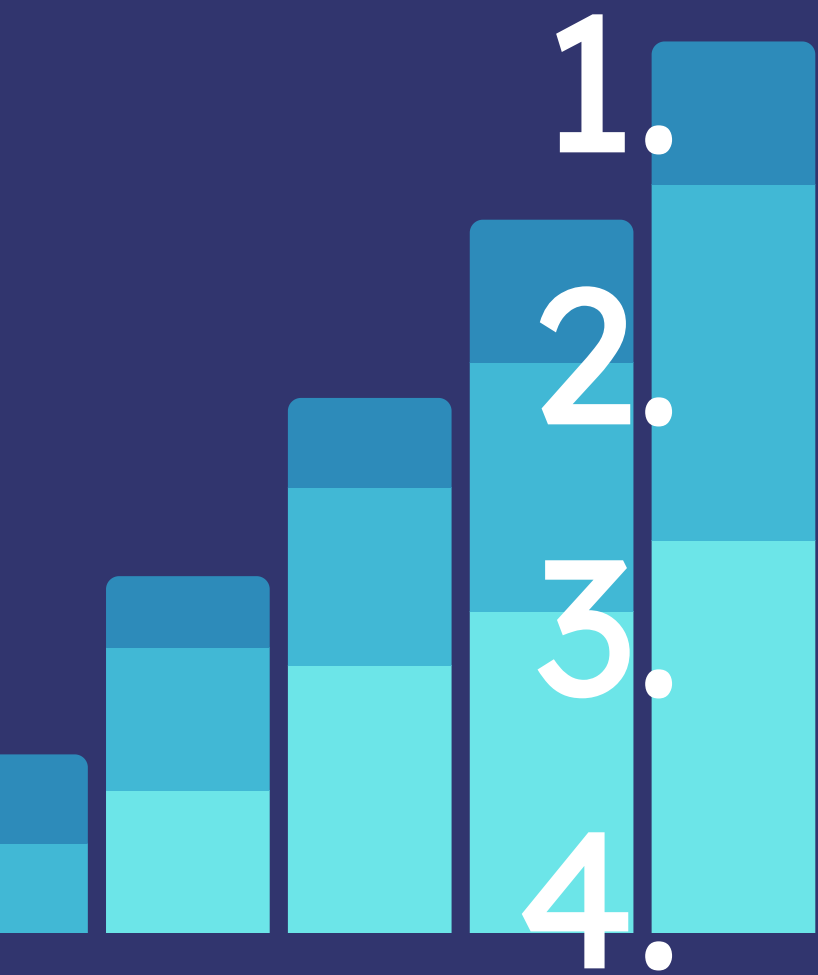
BY

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WAMBUA



Project Contents



Project Overview

Business Problem

Data Visualization

Conclusions

1. PROJECT OVERVIEW



DATA
CLEANING

ANALYSIS

VISUALIZE

GENERATE
INSIGHTS

KEY QUESTIONS

WHAT IS
THE TREND
IN
ACCIDENTS
OVER THE
YEARS?

DOES PURPOSE
OF FLIGHT,
WEATHER,
ENGINE TYPE,
MAKE
INFLUENCE
THESE TRENDS?

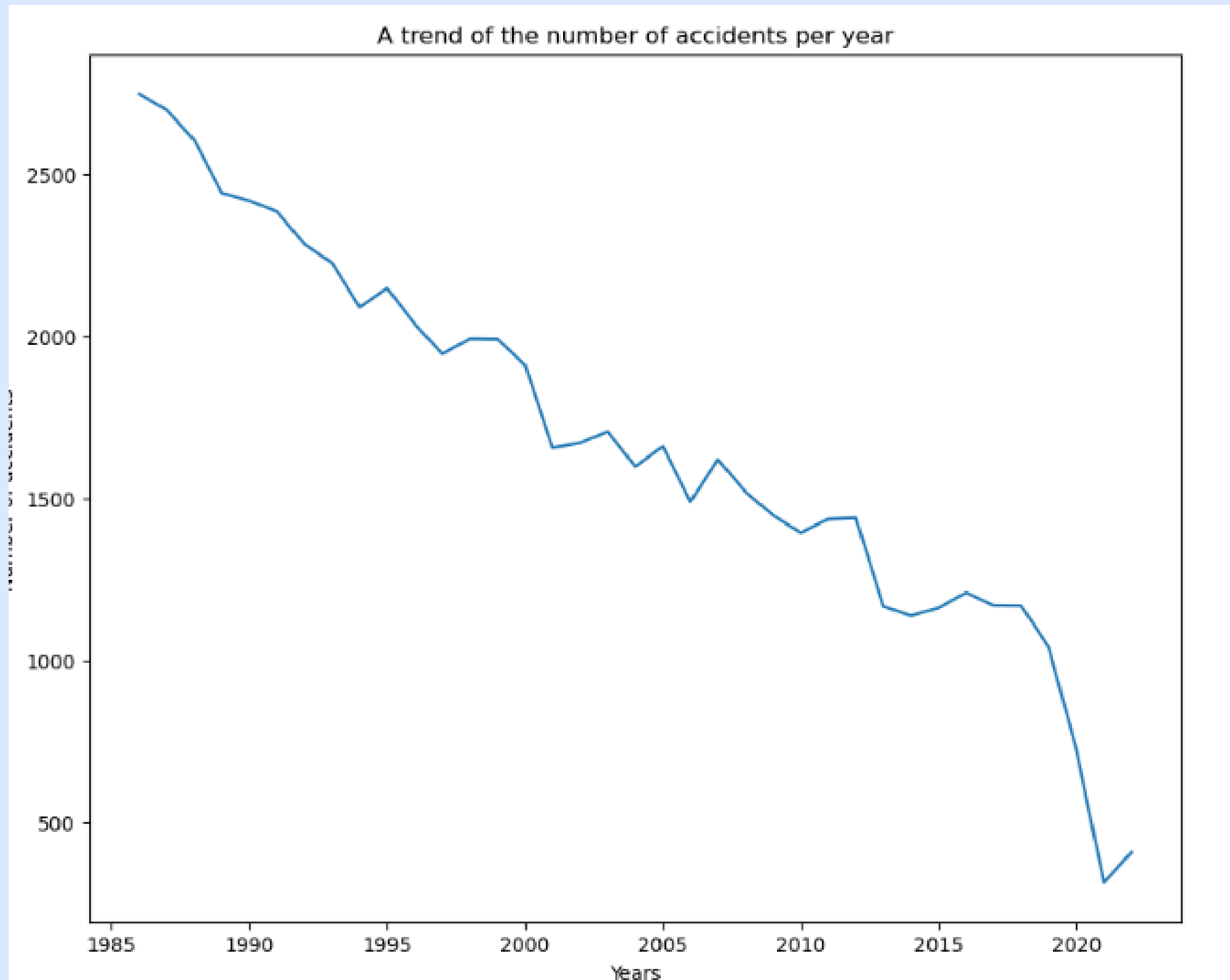
WHAT IS THE
RISK ANALYSIS
OF
ENGINE TYPE ON
BOTH ON THE
PEOPLE AND
AIRCRAFTS?

DATA SOURCE



**AVIATION ACCIDENT
DATABASE SYNOPSSES
(KAGGLE)**

TRENDS OF OCCURENCES OVER THE YEARS

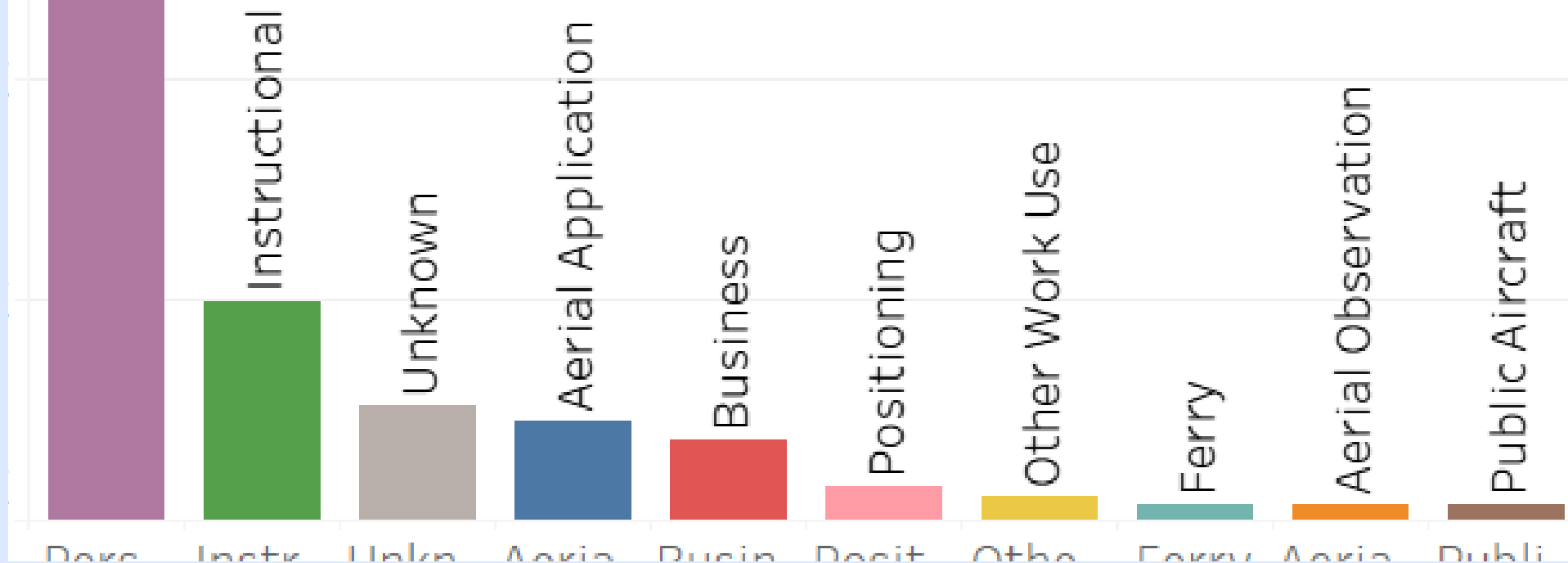


The number of events (accidents and incidents) seem to decrease over the years.

Purpose Of Flight

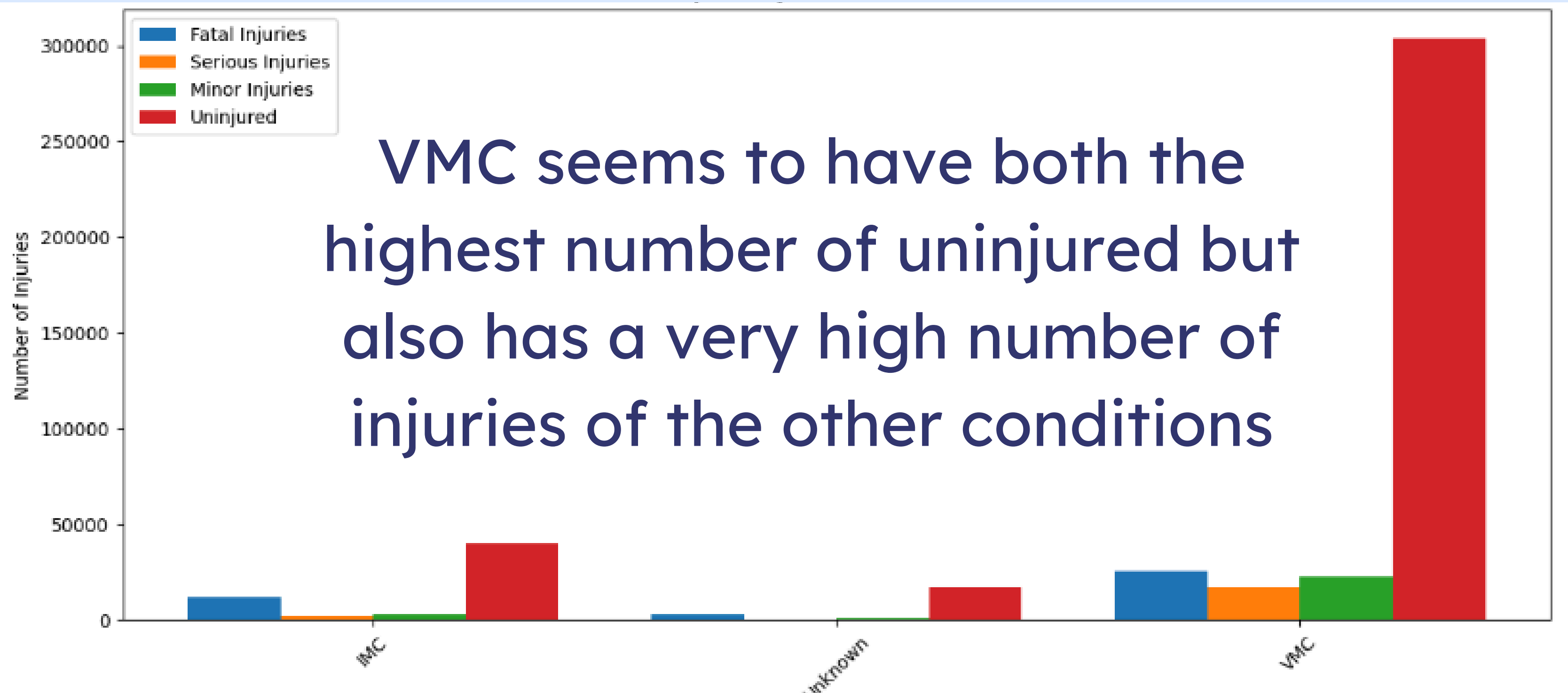
BAR GRAPH

Top 10 purpose of flight categories with very high number (events) of accidents or incidents

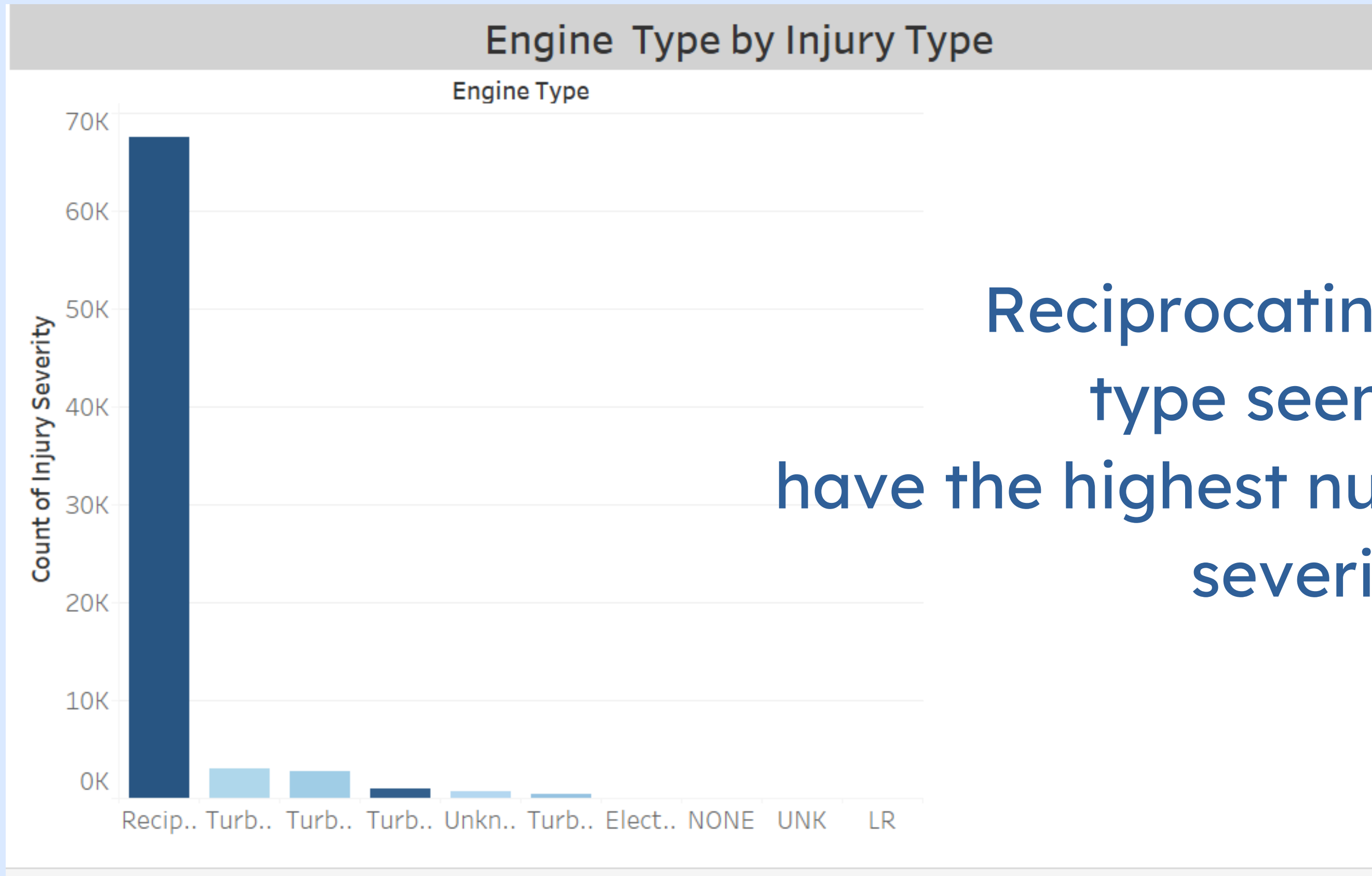


BAR CHART

WEATHER CONDITIONS VS INJURY TYPE

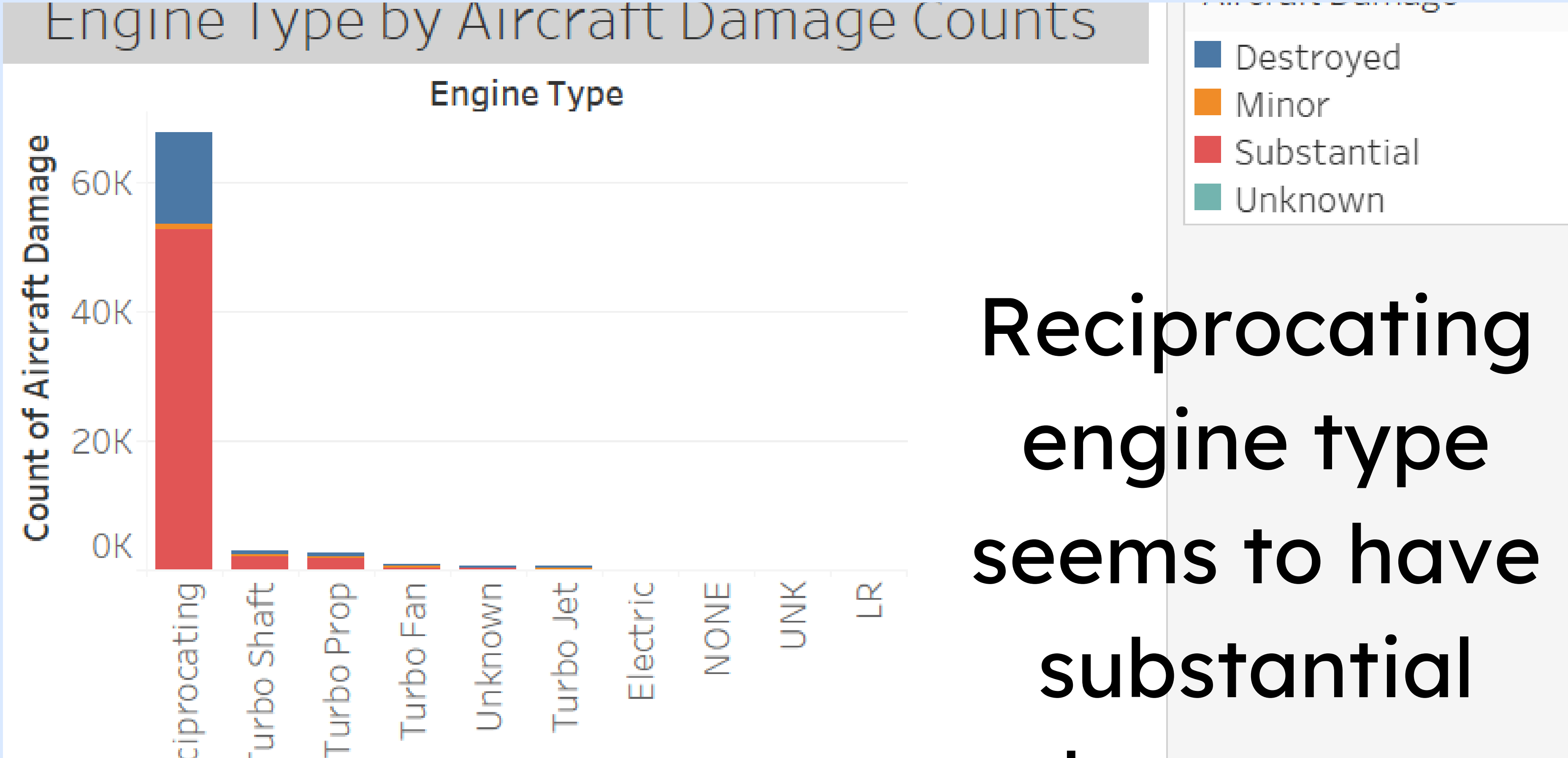


BAR CHART



Reciprocating engine
type seems to
have the highest number of injury
severity

BAR GRAPH



ANALYSIS CONCLUSIONS AND RECOMMENDATIONS

1. FINDINGS AND INSIGHTS

- The overall number of aviation events has decreased, possibly due to improved safety regulations and technology.
- Specific flight purposes have significantly higher accident rates. Focus on these categories for targeted safety interventions.
- VMC accidents have the highest number of uninjured passengers, but many injuries occur. Enhanced safety measures for flights in these conditions are recommended.
- Reciprocating engines are linked to the highest severity of injuries. Increased maintenance standards or a shift to turbine engines could reduce risk.

ANALYSIS CONCLUSIONS AND RECOMMENDATIONS

2. RECOMMENDATIONS

1. Based on accident frequency analysis, I recommend avoiding aircraft makes with high accident rates (e.g., Cessna)
2. I suggest prioritizing safety in flight operations under VMC (Visual Meteorological Conditions), as accidents tend to be higher than those in IMC (Instrument Meteorological Conditions).
3. I advise considering engine types like Turbo Fan and Turbo Jet, which show better safety outcomes regarding survivability and uninjured passengers despite their higher accident counts.

THE END



THANK YOU!