

# PHASE 1 PROJECT

on

**AIRCRAFT ACCIDENT ANALYSIS FOR  
RISK**

**ASSESSMENT AND RECOMMENDATION**

BY

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**WAMBUA**



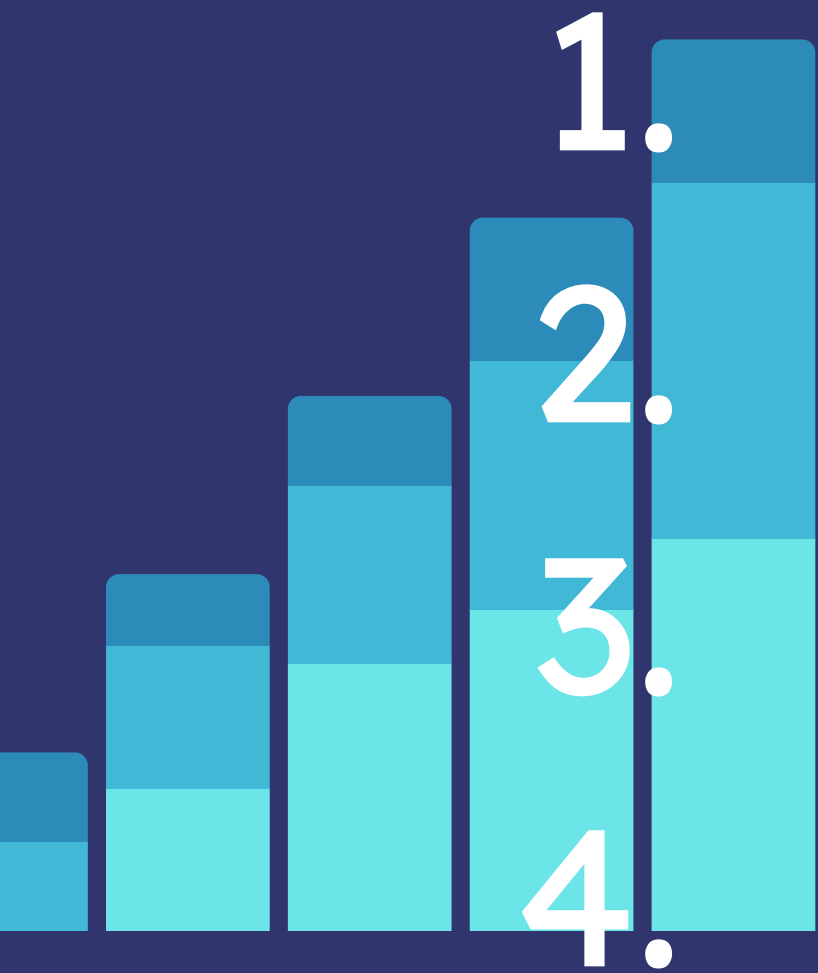
# Project Contents

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?

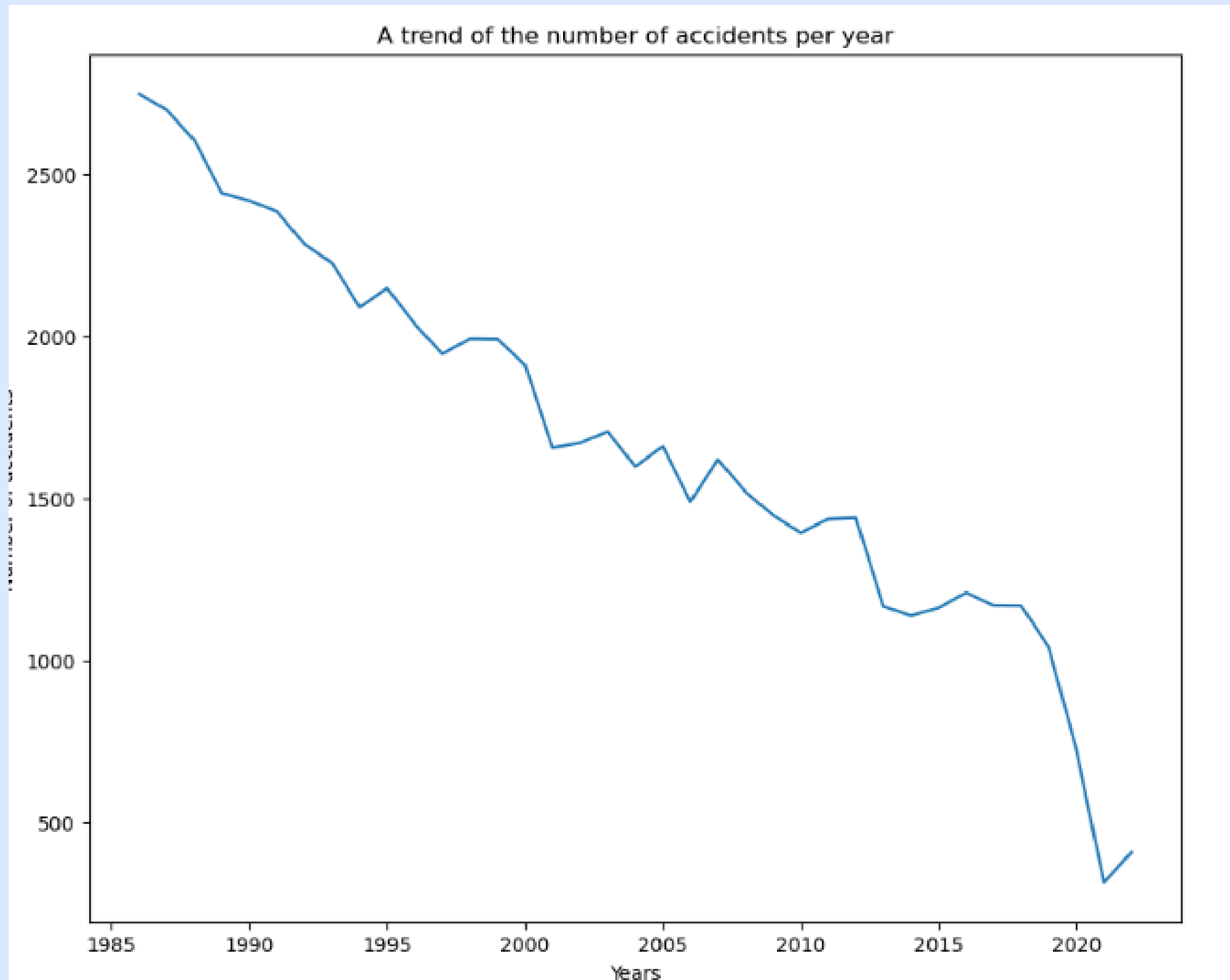
WHAT IS THE  
RISK ANALYSIS  
OF  
ENGINE TYPE  
ON BOTH ON  
THE PEOPLE  
AND  
AIRCRAFTS?



**DATA SOURCE**

**AVIATION ACCIDENT  
DATABASE SYNOPSES  
(KAGGLE)**

# TRENDS OF OCCURENCES OVER THE YEARS

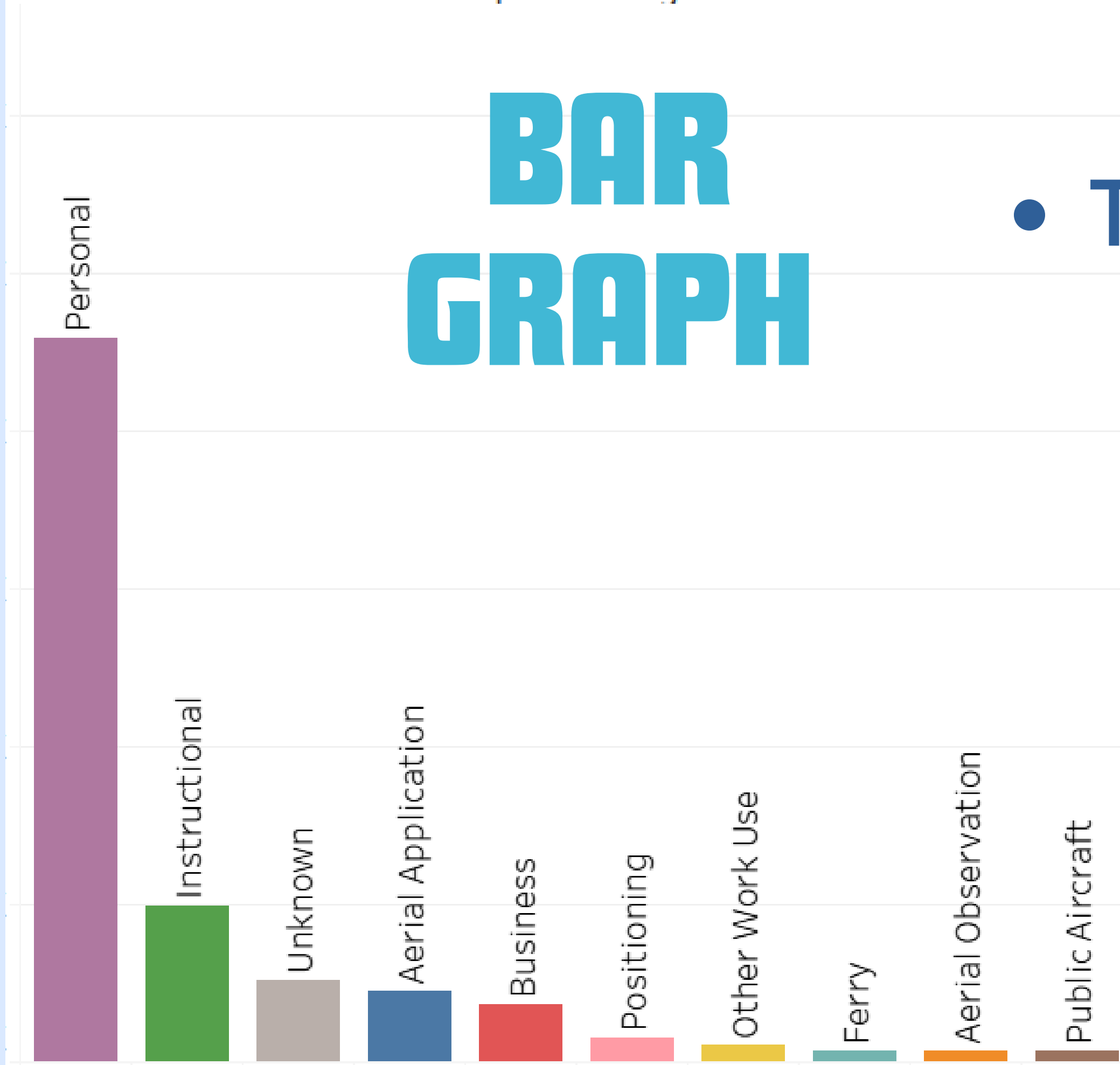


- **The number of events (accidents and incidents) see to decrease over the years...why?**

Purpose Of Flight

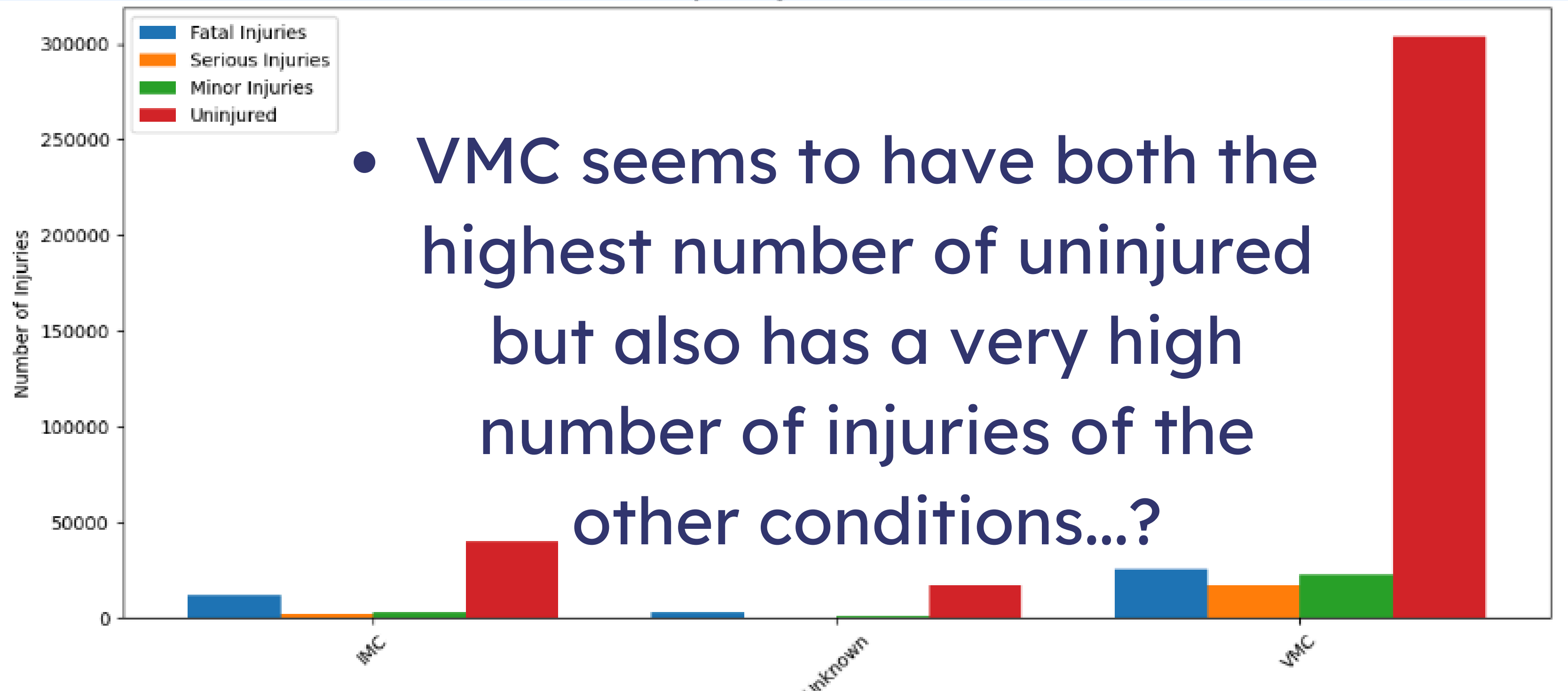
# BAR GRAPH

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



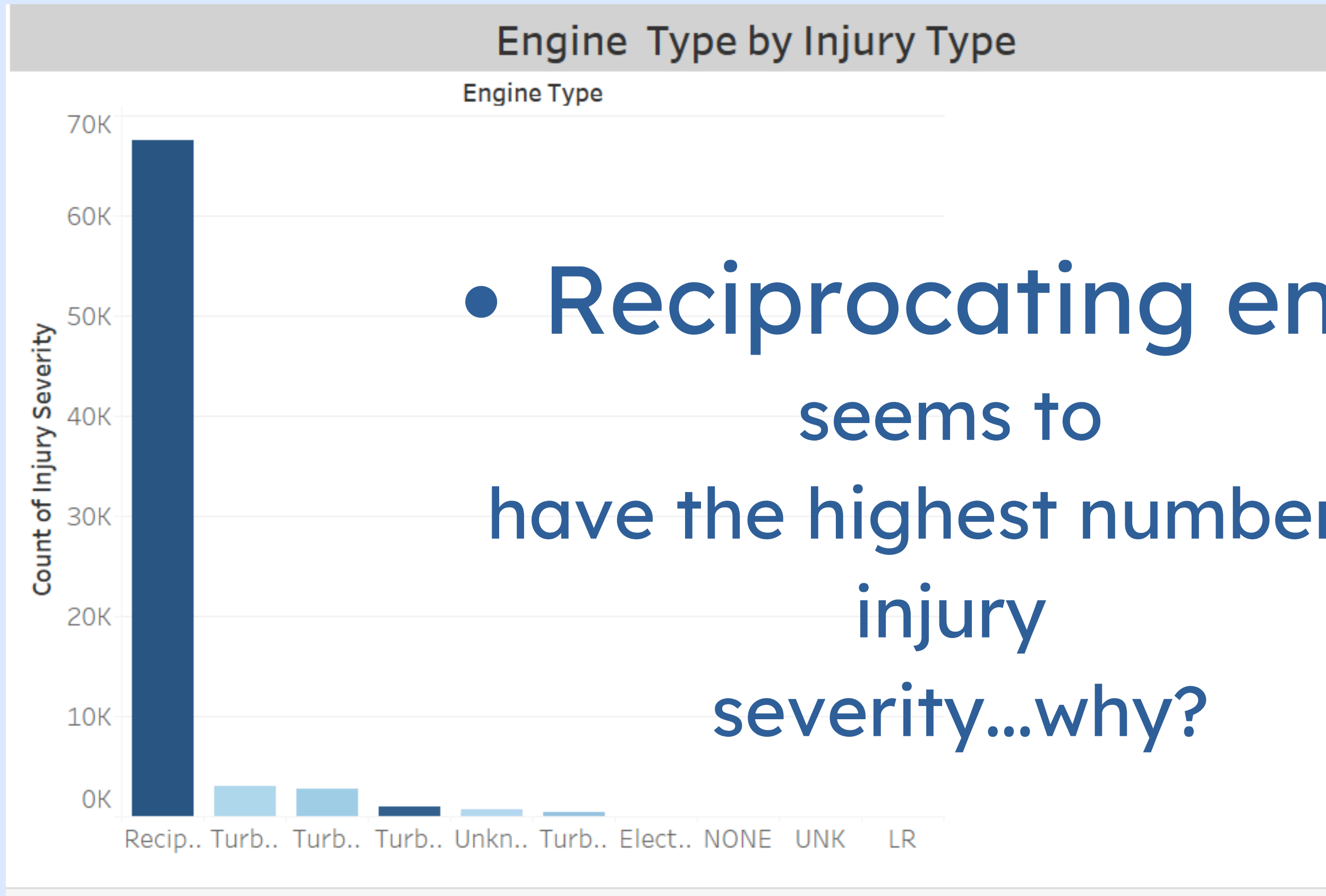
# BAR CHART

## WEATHER CONDITIONS VS INJURY TYPE



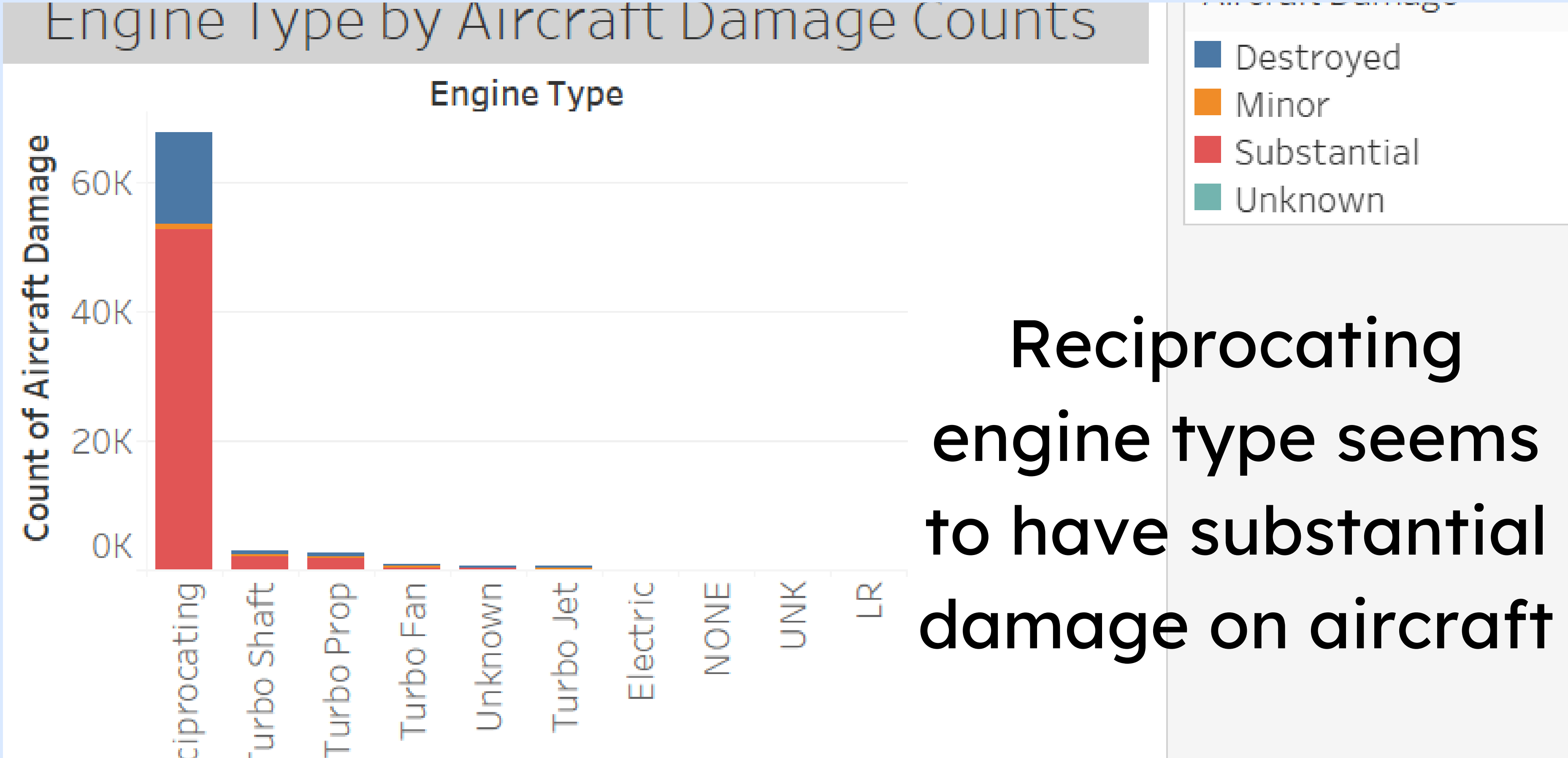


# BAR CHART



- Reciprocating engine seems to have the highest number of injury severity...why?

# 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!**