Flight Damage Stats

ANALYSIS FINDINGS & RECOMMENDATIONS

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SUMMARY

As part of our company's strategic expansion into new industries, we are venturing into the aviation sector, aiming to acquire and operate aircraft for both commercial and private purposes. However, understanding the risks associated with different aircraft types is crucial for making informed purchasing decisions.

The Flight-Damage-Stats project addresses this challenge by analyzing historical data on airplane damage to identify which aircraft types represent the lowest risk. By leveraging data visualization and statistical analysis, this project aims to provide actionable insights that will guide our new aviation division in selecting the safest and most reliable aircraft for our business

PROJECT OUTLINE

- Project Statement
- Data
- Methods
- Results
- Conclusions

Problem Statement

1.To Investigate the risks involved with the Aviation Industry

2.Analyse the Real Data provide.

3.Come up with an informed decision business recommendation for the business to move forward with its Aviation Opportunity

4.Come up with visualizations to help the organization come up with Data driven decisions .

DATA

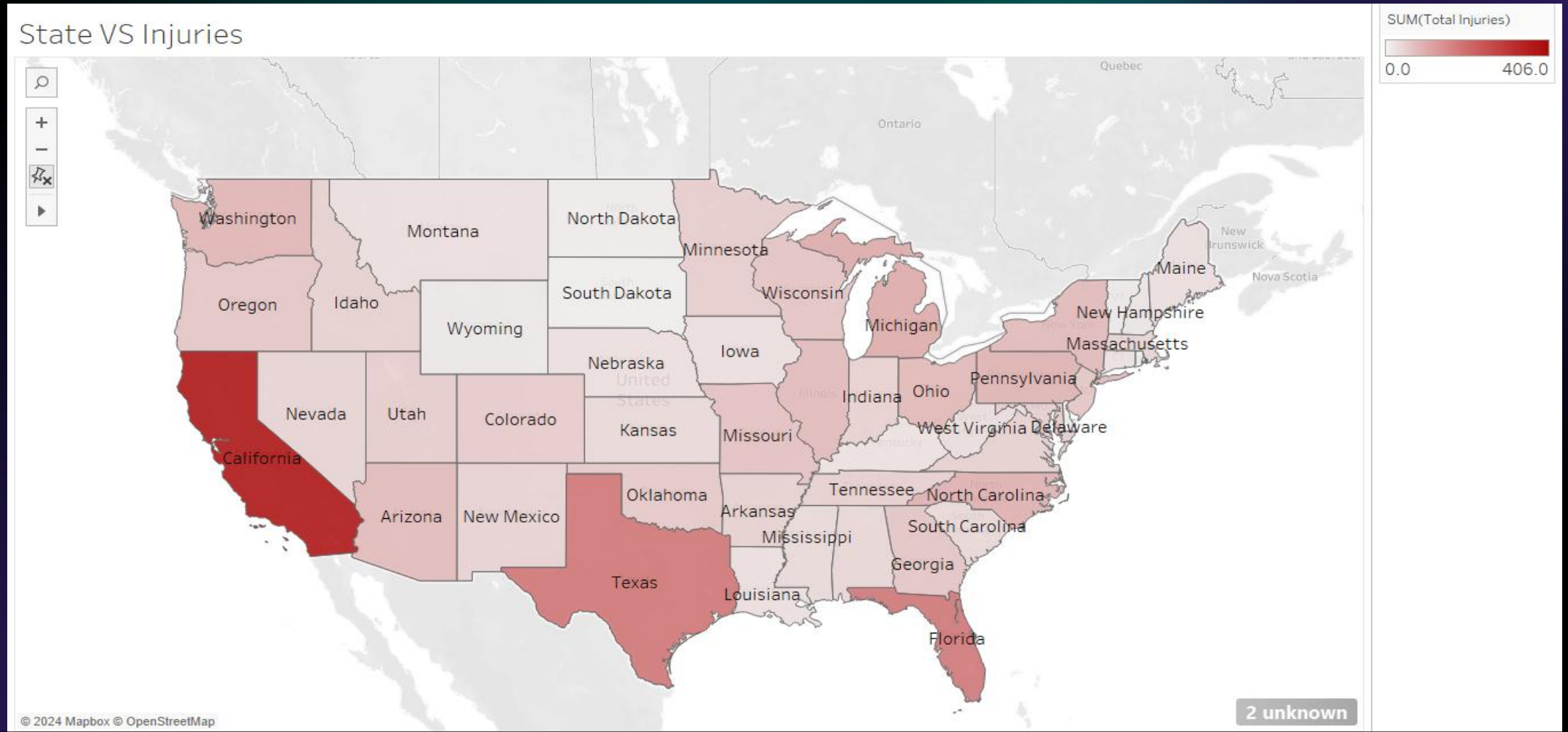
Data Source
https://www.kaggle.com/datasets/khsamaha/aviation-accident-database-synopses)

METHODS

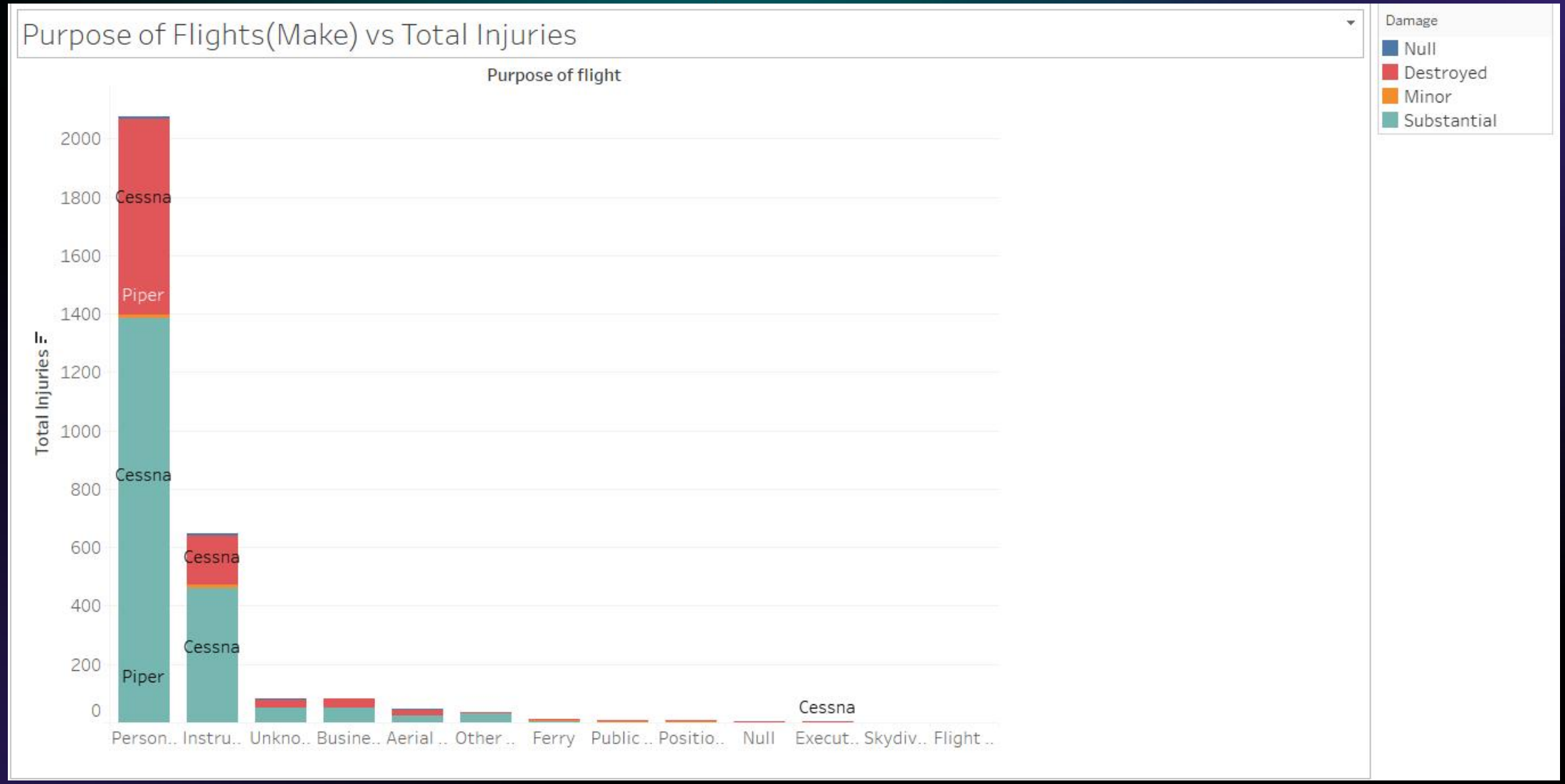
```
df = pd.read_csv("AviationData.csv",encoding='latin1')

df1 = pd.read_csv("USState_Codes.csv")

Data =pd.read_csv("Clean_AviationData.csv")
```

RESULTS

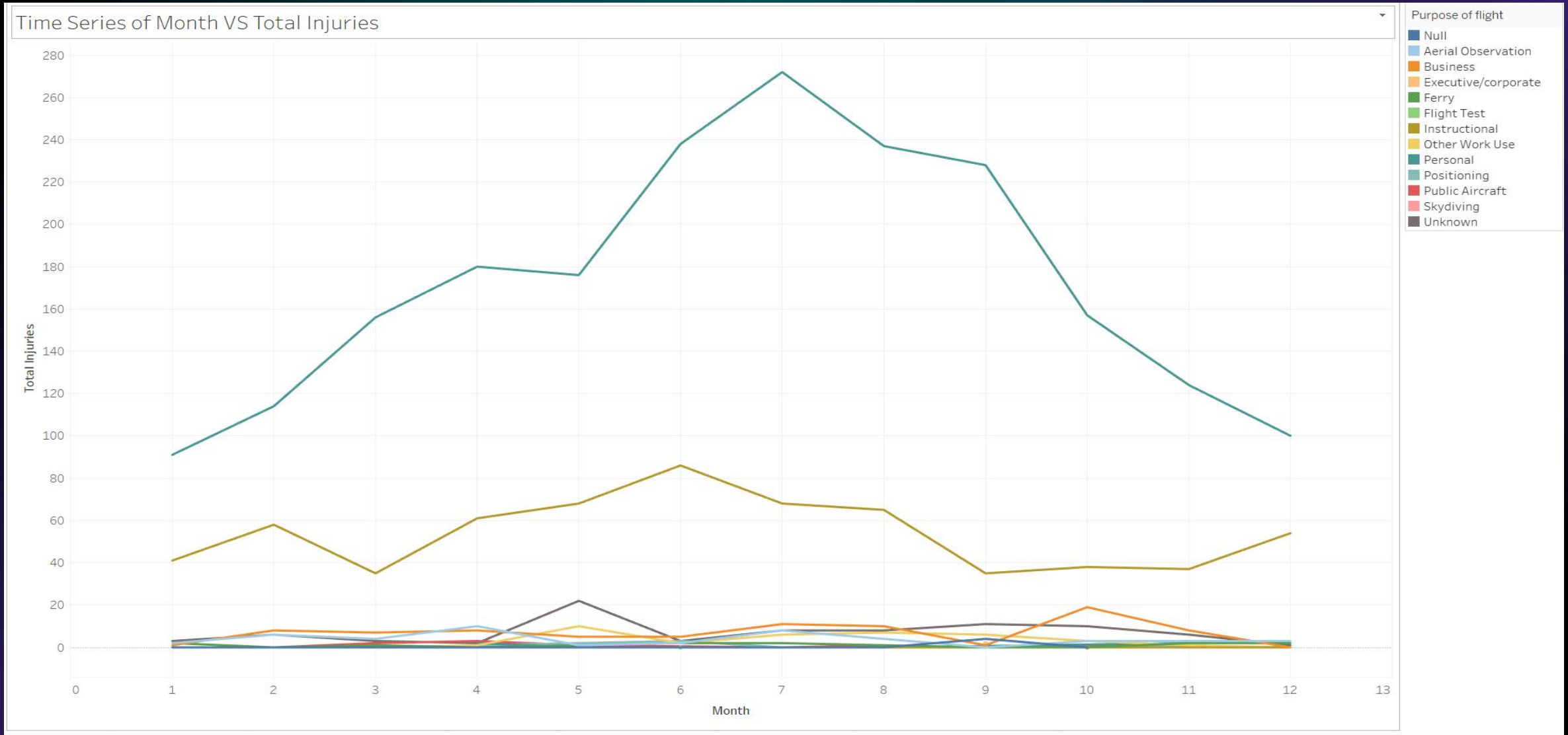
A visualization of the States VS Total Injuries



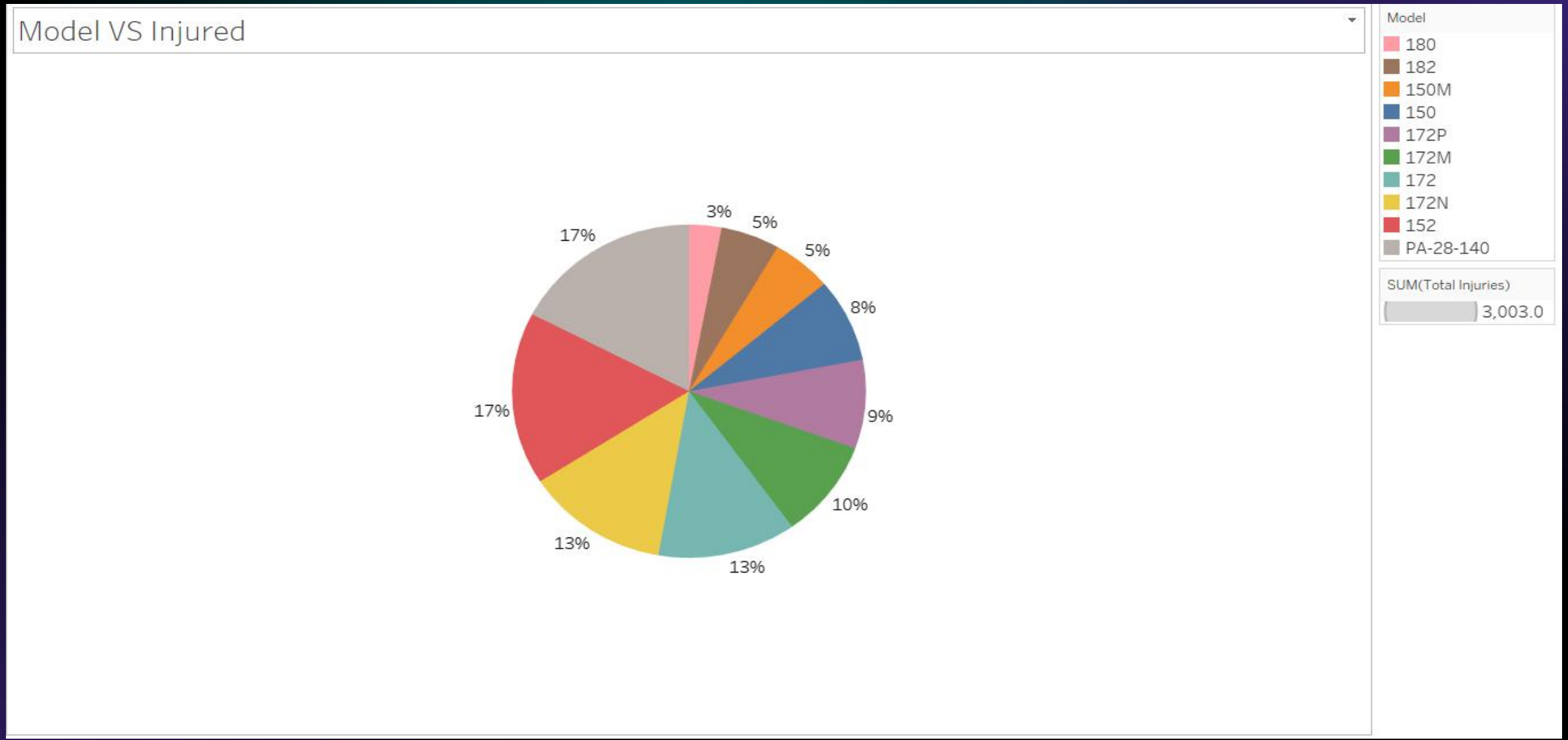
A visualization of Purpose of flight with the Make VS Total Injuries



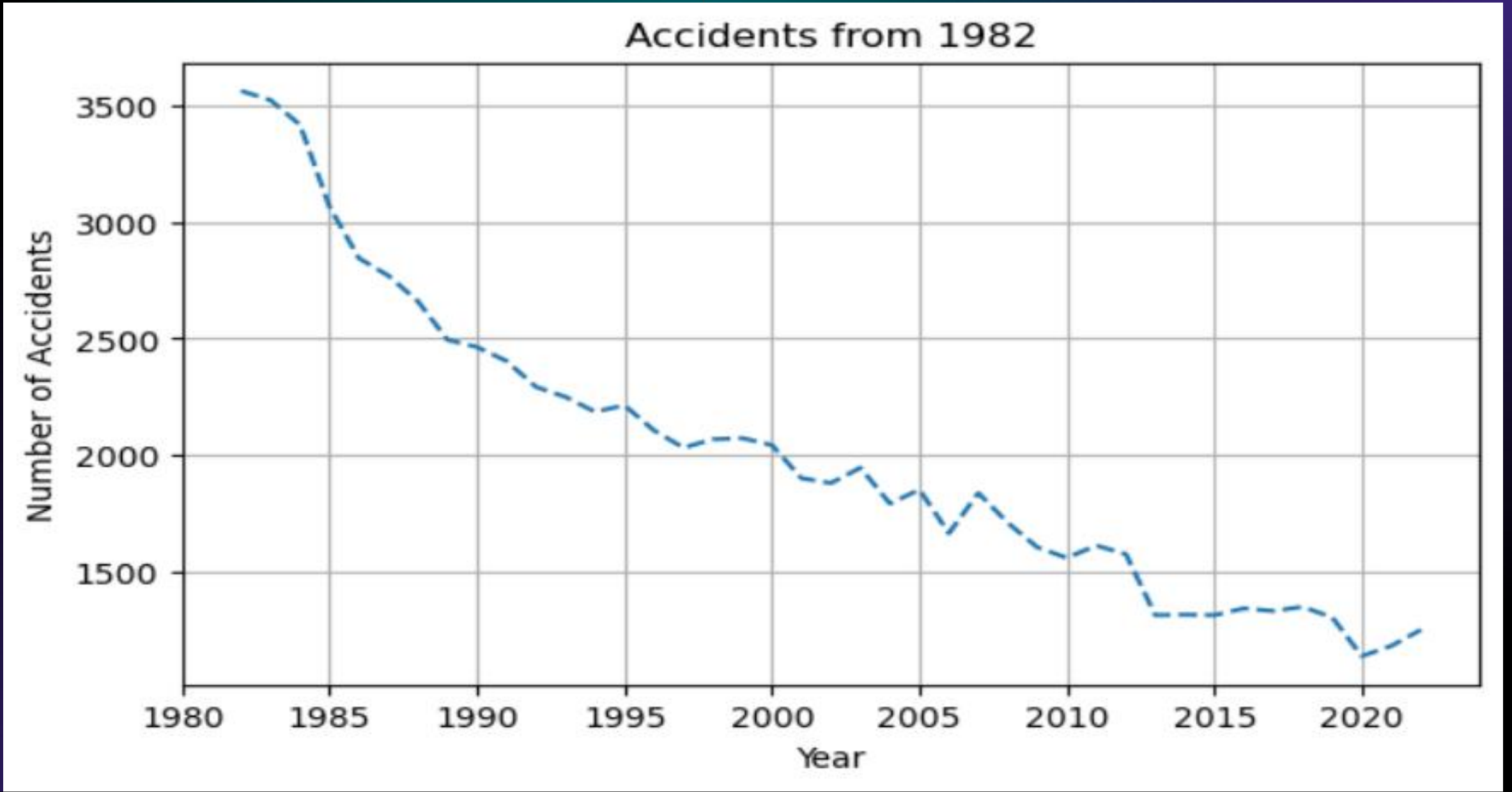
A Time Series presentation of Month VS Total Injuries with the Purpose of flight



A pie-Chart presentation of Model vs Injured Totals



A line Graph presentation of all Accidents from 1982



CONCLUSIONS

Observation

- There has not been a single accident from 2009 to date.
- Its Risky to invest in the California State since it has the highest umber of accident occurrence this is due to its high rate of flights in the area
- Personal planes are the most famous they have also the highest occurrence of accidents.
- Cessna plane makes have the highest number of destroyed flights in an accident followed by the pipes they also have the highest number of substantial Damage rate

CONCLUSIONS

Business Recomendation

- Invest in other States but not California ,Texas and Florida
- Invest in the model 180,182, 150,172P planes
- Invest in all other plane purposes rather that the Personal and Instructional Planes.

CONCLUSION

1. Engine type Impacts on accidents
2. Prioritize operational focus on flight purposes with fewer recorded accidents or ensure stricter safety regulations for flight purposes that have higher accident rates, reducing overall risk.
3. Its necessary to avoid investing in the Amateur built planes
4. Prioritize aircraft with a lower likelihood of significant damage during accidents. This can reduce long-term costs related to repairs, downtime, and replacements.