

BIRD STRIKE ANALYSIS

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INTRODUCTION

A bird strike is strictly defined as a collision between a bird and an aircraft which is in flight or on a take-off or landing roll. Bird Strike is common and can be a significant threat to aircraft safety. For smaller aircraft, significant damage may be caused to the aircraft structure and all aircrafts are vulnerable to the loss of thrust which can follow the ingestion of birds into engine air intakes.

DATASET INFORMATION

Dataset consists of data collected on Bird Strikes by FAA between the years 2000 to 2011.

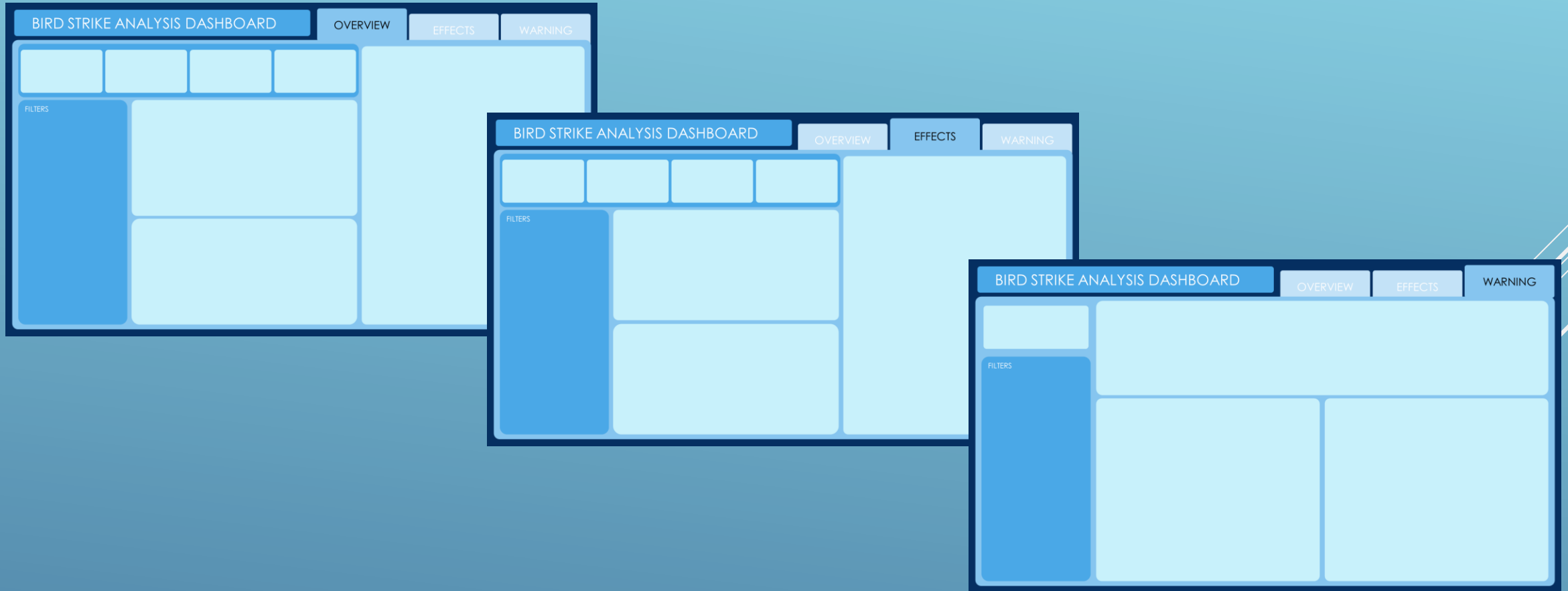
- Aircraft Type, Make/Model, Size, Number of Engines, and Airline Operator
- Date, Airport and State which the flight took off from
- Weather Conditions, and Altitude at which the bird strike occurred
- Number, Size and Species of the type of wildlife that struck
- Effect of Bird Strikes & Impact on Flight
- Damage and Cost incurred and Number of People injured
- Whether or not the pilot was warned of the birds or wildlife

After cleaning the data and removing null entries, there are a little over 25000 records of bird strikes.

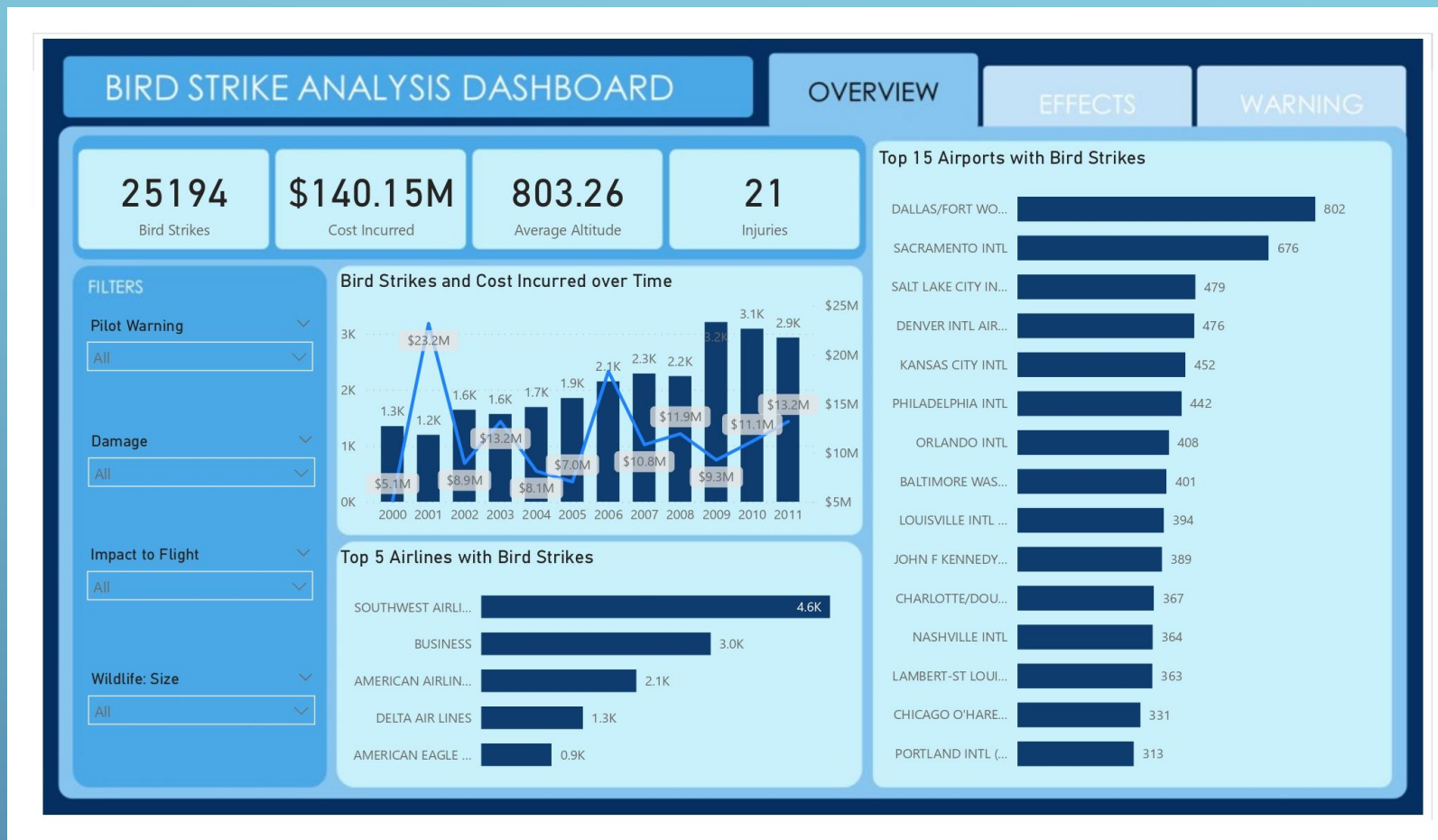
KEY PERFORMANCE INDICATORS

- Average number of bird strikes per year
- Bird Strikes that incurred damage to the airplane
- Cost Incurred due to Bird Strikes
- Average Altitude of the airplanes in at the time of strike
- Total people injured due to Bird Strikes

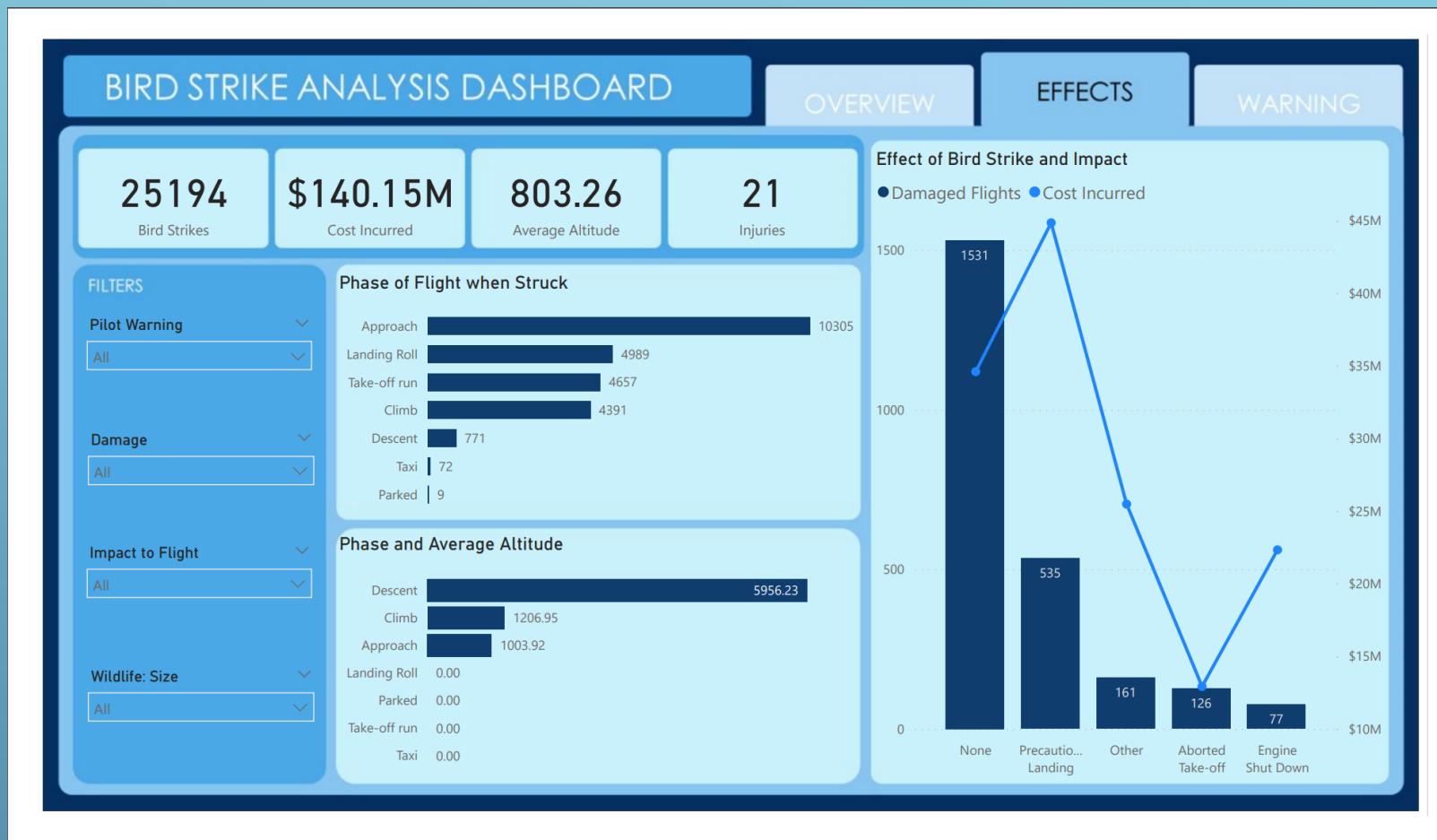
MOCK-UP DASHBOARD



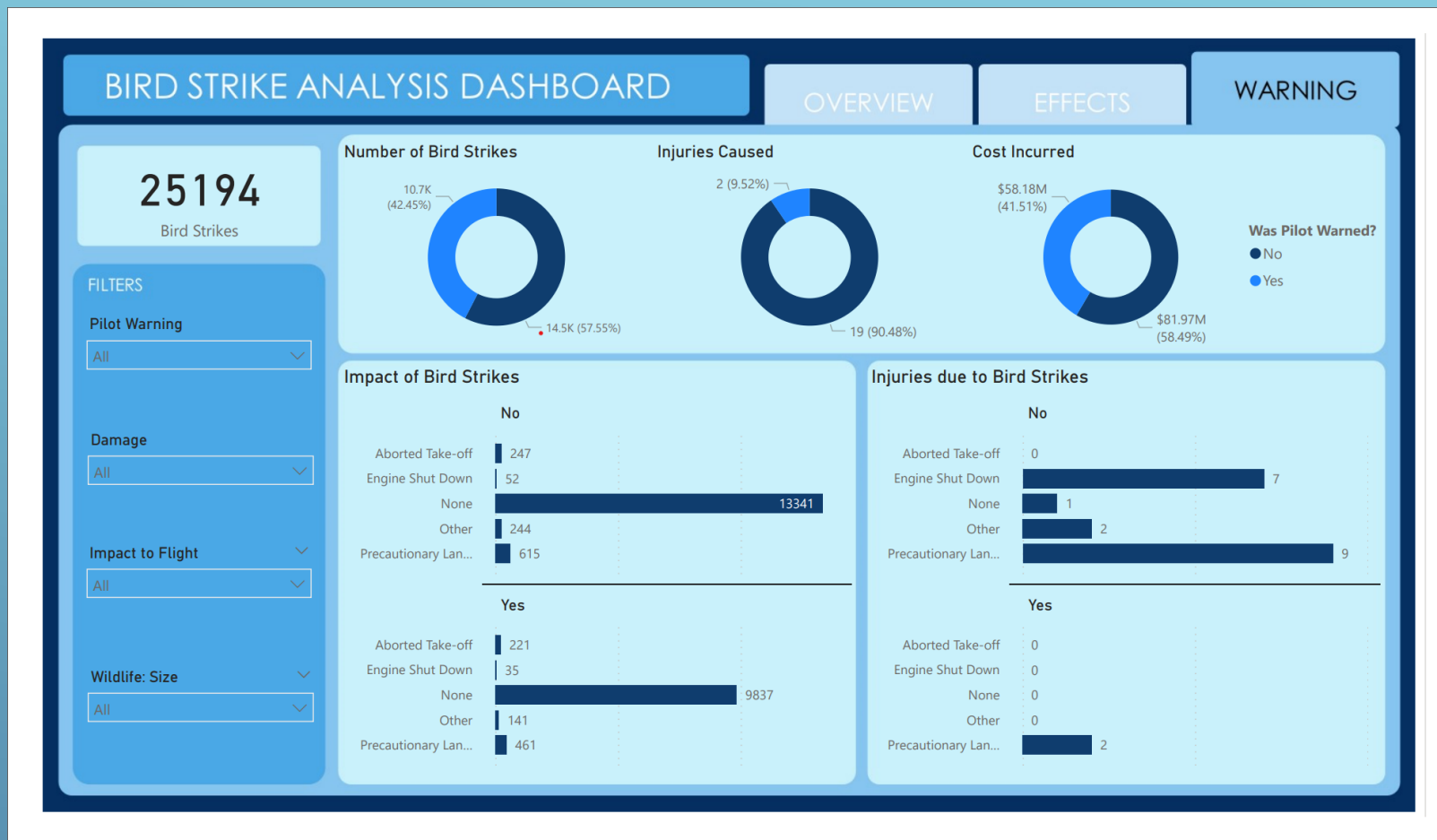
DASHBOARD



DASHBOARD



DASHBOARD



KEY INSIGHTS

- Most bird strike have occurred during the **approach** phase of flight, or at an altitude of **0-250 ft**. Bird strikes may occur during any phase of flight, but are more likely during the take-off, initial climb, approach and landing phases due to the greater numbers of birds in flight at lower levels.
- In the 2430 bird strikes that caused damage to the flight, there was no major impact to over **1500**. Over 500 flights had to land as precaution, and **126** had to abort take-off. There is a higher cost incurred when the flight makes a precautionary landing or in the case of engine shut-down.
- In **57.5%** of the records, the pilot was not warned of the bird strikes, causing **19** injuries and incurring a total cost of **\$81.97 million**. In records of the pilots being warned, only **2** injuries and a total cost of **\$58.18 million** were recorded. There is a significant difference in injuries and cost incurred when the pilot is warned ahead.

THANK YOU

