

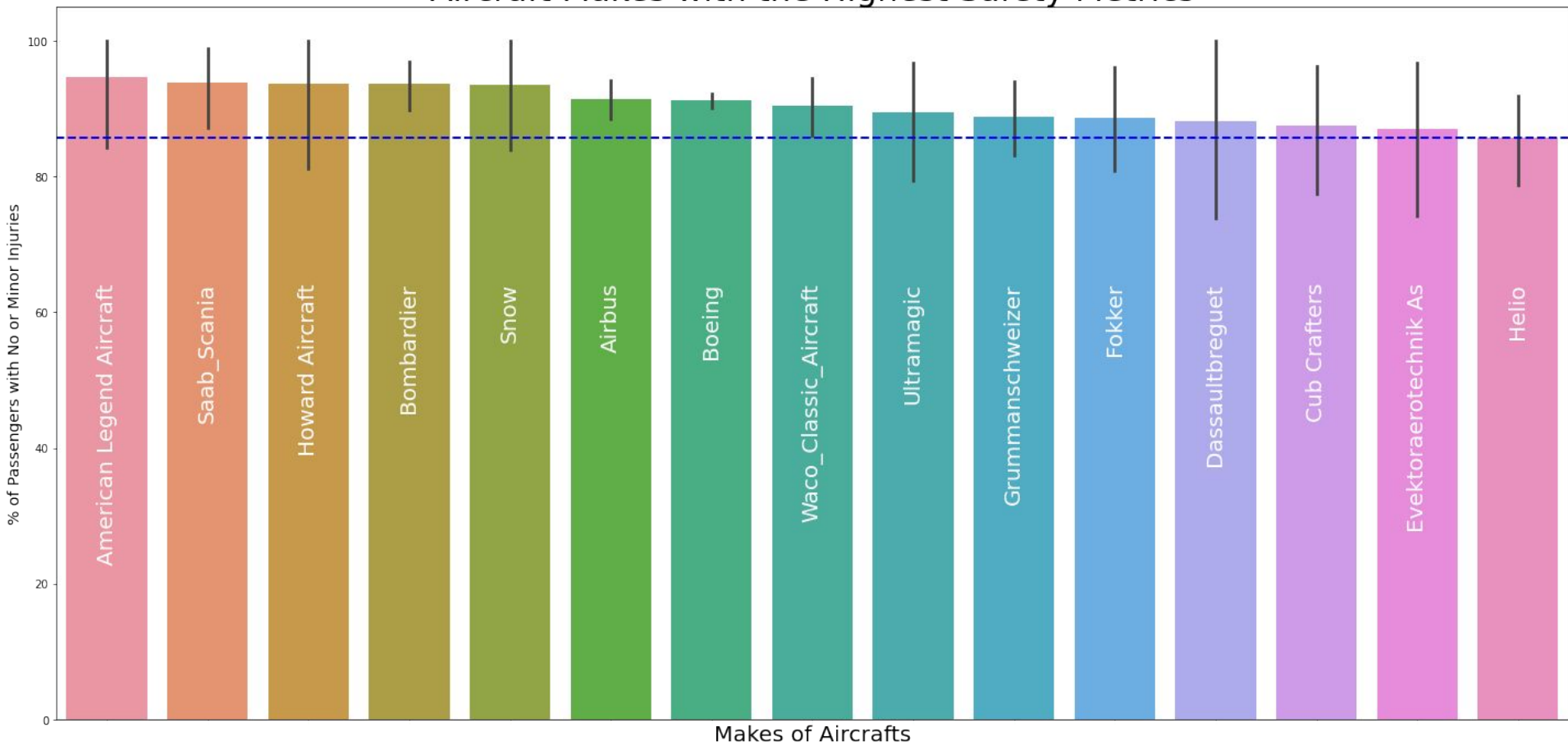
Aviation Analysis

Authors: Brendan, Sunny, Wesley

Background

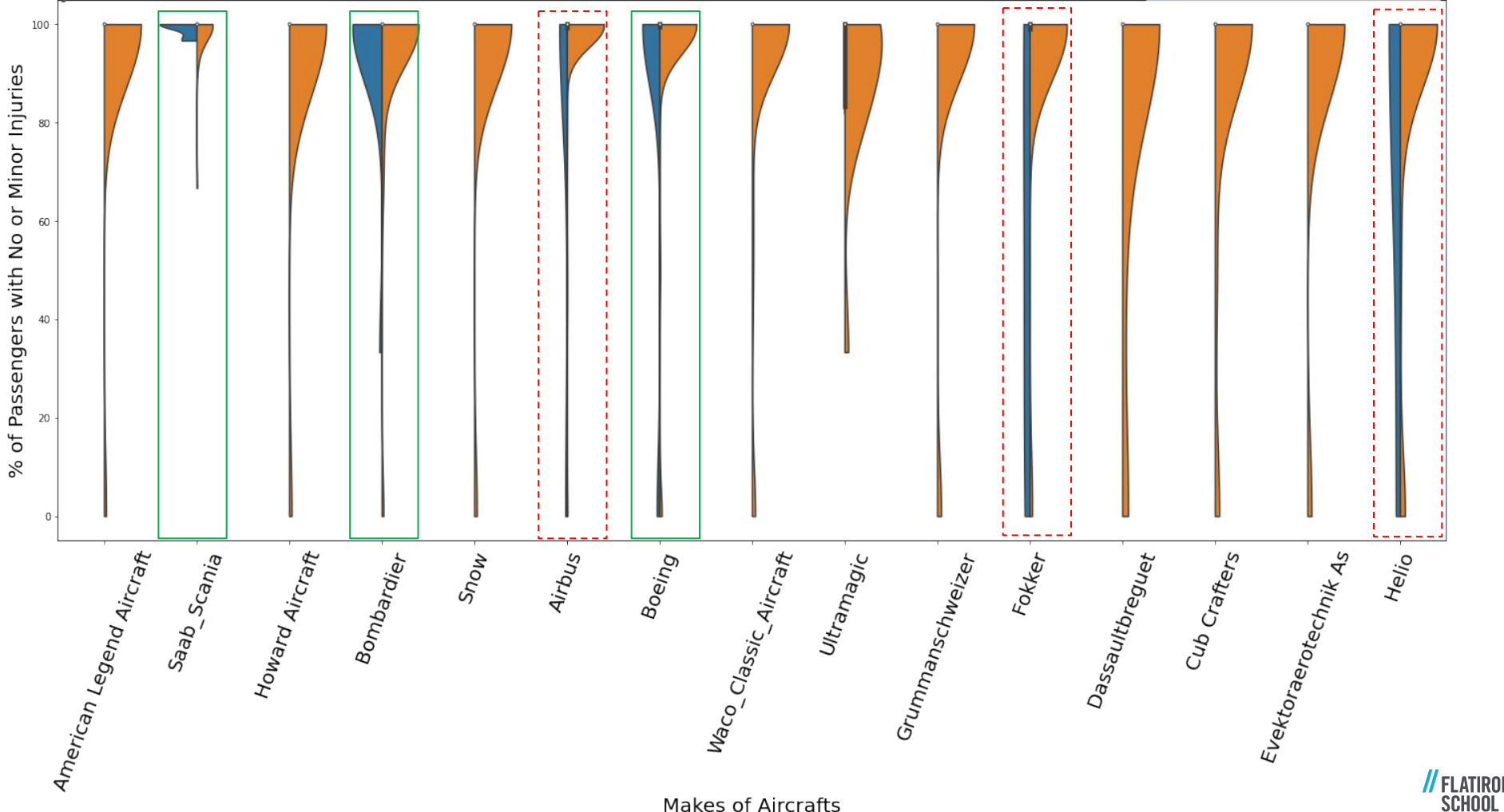
- Purpose: Management recommendations for purchasing and operating aircrafts based on safety
- Source of data: The NTSB aviation accident database - aircrafts accident data for the past 40 years
- Focus areas and considerations:
 - Primary safety metric: the percentage of passengers with minor or no injury
 - Others : Weather conditions, Aircraft costs, Aircraft damages

Aircraft Makes with the Highest Safety Metrics



Safety

Distributions of Safety Metrics by Weather Conditions



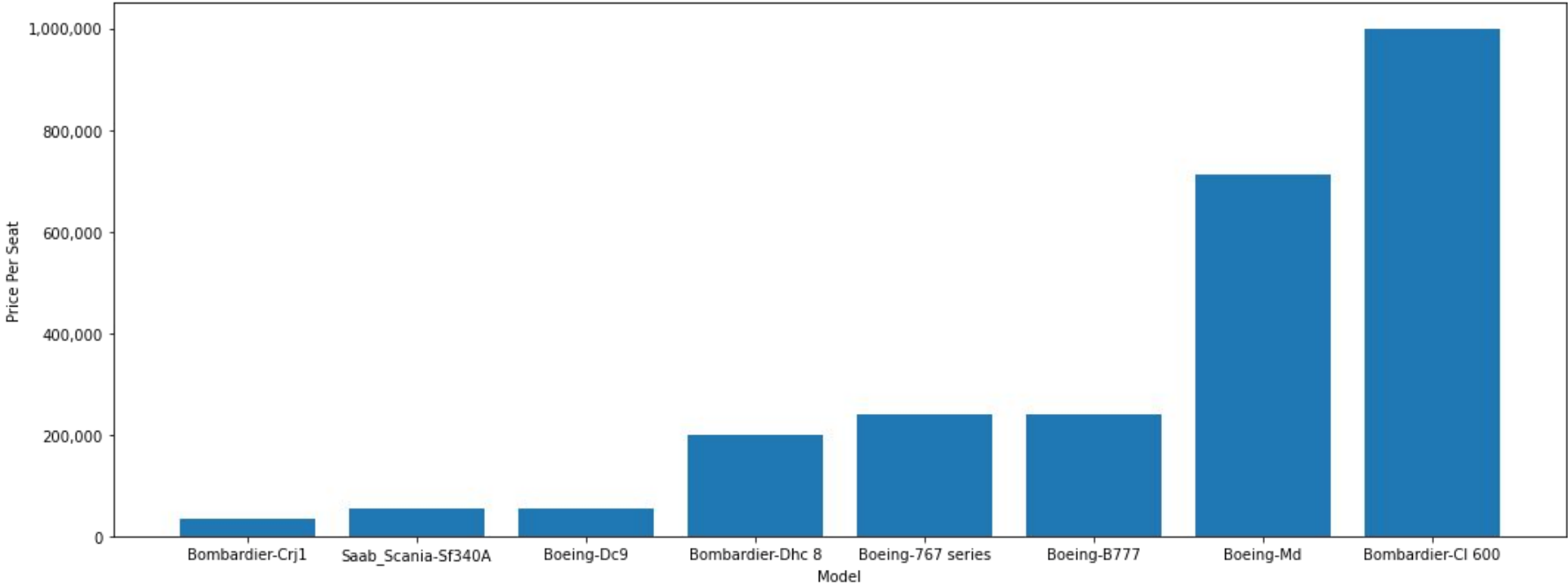
- Model recommendations from weather and safety metric analysis
 - Models with no fatalities or serious injuries – selected models below
 - Boeing: 720, 727, 767, 777, B727, B737, B744, B747, B757, B767, B777, Dc9, and Md series
 - Bombardier: Bd100, Cl 600, Crj1, and Dhc 8 series
 - Saab Scania: Sf340B and Sf340A series

Pricing Analysis

- Wide variation in price per passenger
- Three tiers of aircraft depending on business purpose/need
- Select the safest aircraft while increasing shareholder value

Small Aircraft

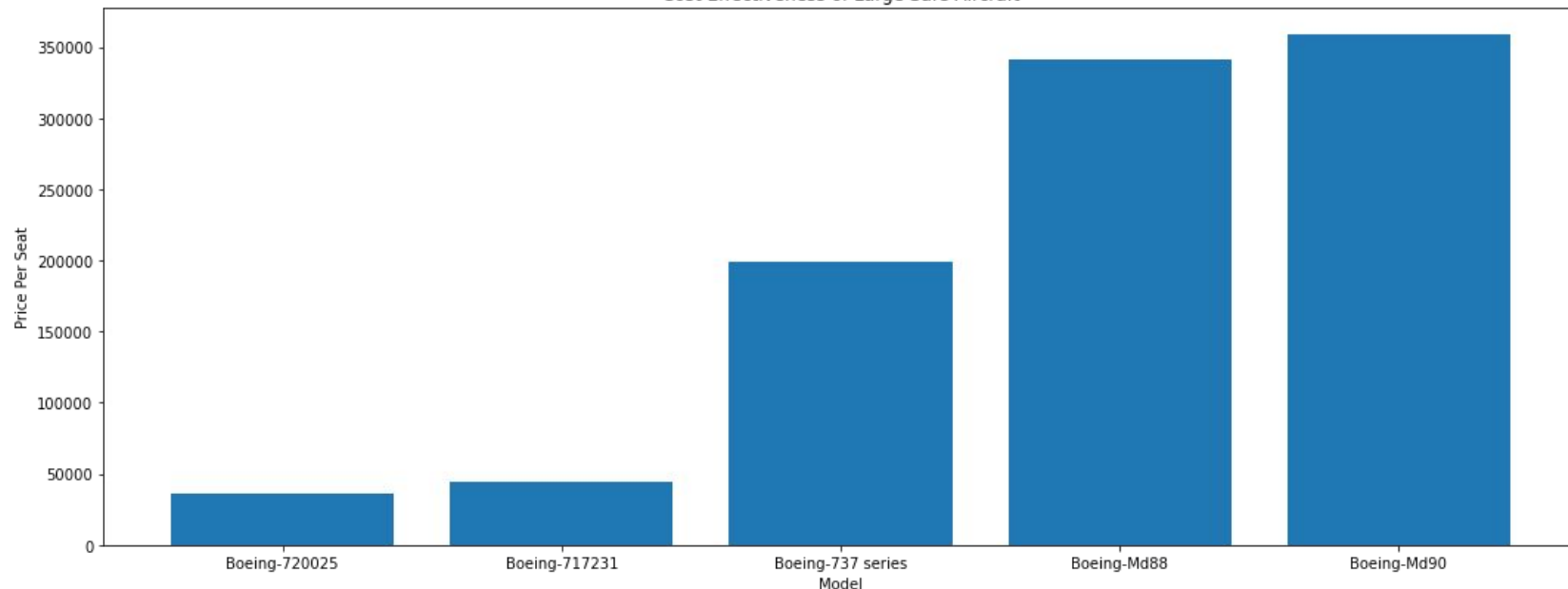
Cost Effectiveness of Small Safe Aircraft



Bombardier-Crj1 takes the cake with an economic \$35,000/seat

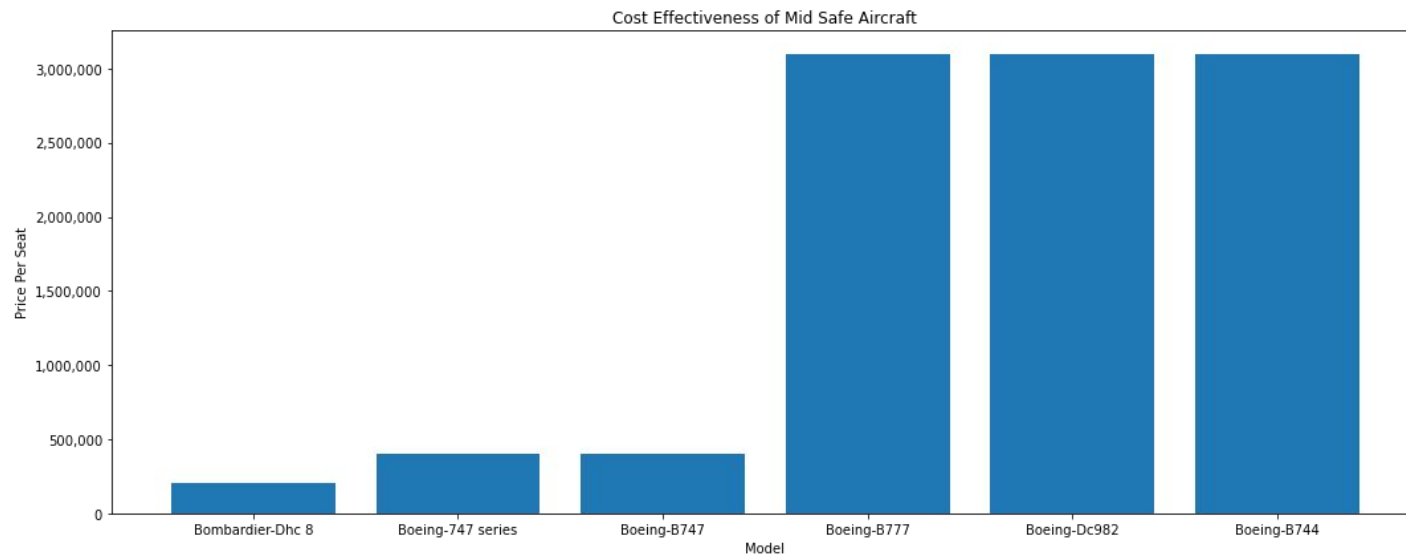
Large Aircraft

Cost Effectiveness of Large Safe Aircraft



- Boeing 720025 eeks out its older brother with a cost of \$35,714 / seat

Middle Ground Aircraft

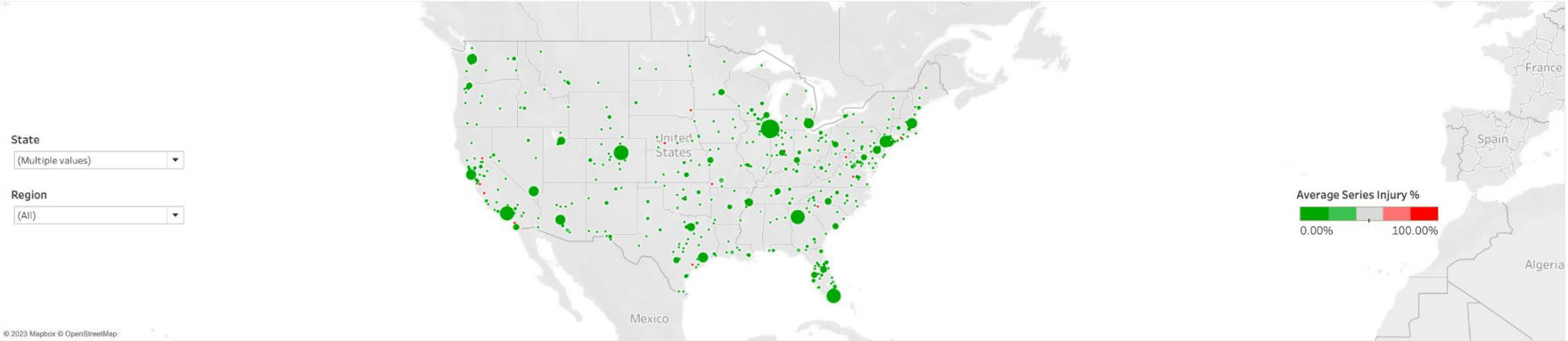


- No middle tier aircraft come below \$200,000/seat - not viable in comparison

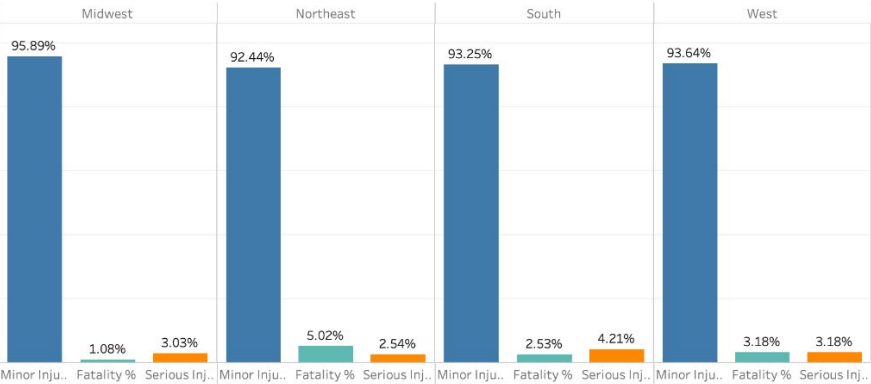
- Model recommendations from weather and safety metric analysis
 - Models with no fatalities or serious injuries – selected models below
 - Boeing: 720, 727, 767, 777, B727, B737, B744, B747, B757, B767, B777, Dc9, and Md series
 - Bombardier: Bd100, Cl 600, Crj1, and Dhc 8 series
 - Saab Scania: Sf340B and Sf340A series
- Now considering costs...
 - Bombardier Crj1 takes the cake
 - If looking for a high capacity hauler - Boeing 720025

Operating Regions

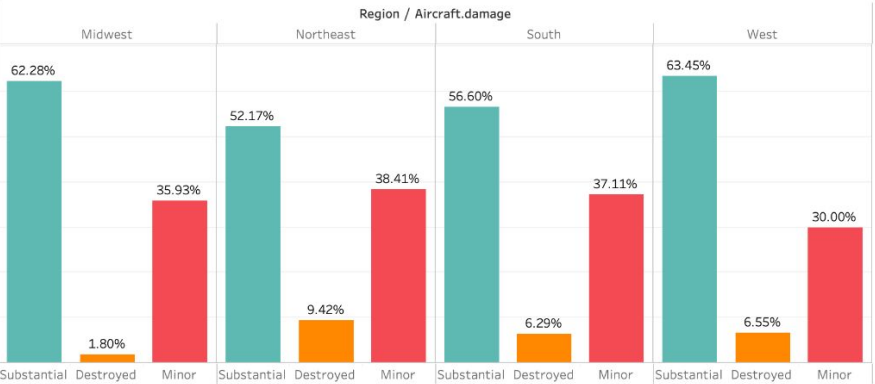
Total Accidents & Severity



Injury Severity by Region



Aircraft Damage by Region



Recommendations

- Model recommendations from weather and safety metric analysis
 - Models with no fatalities or serious injuries – selected models below
 - Boeing: 720, 727, 767, 777, B727, B737, B744, B747, B757, B767, B777, Dc9, and Md series
 - Bombardier: Bd100, CI 600, Crj1, and Dhc 8 series
 - Saab Scania: Sf340B and Sf340A series
- Now considering costs...
 - Bombardier Crj1 takes the cake, but If looking for a high-capacity hauler - Boeing 720025
- Routes: The Midwest region is the safest area to operate in from a human-life perspective and from a cost-savings perspective because it accounts for the lowest fatality rate in our recommended aircraft and has the lowest rate of destroyed aircraft when compared to other regions.

Questions?