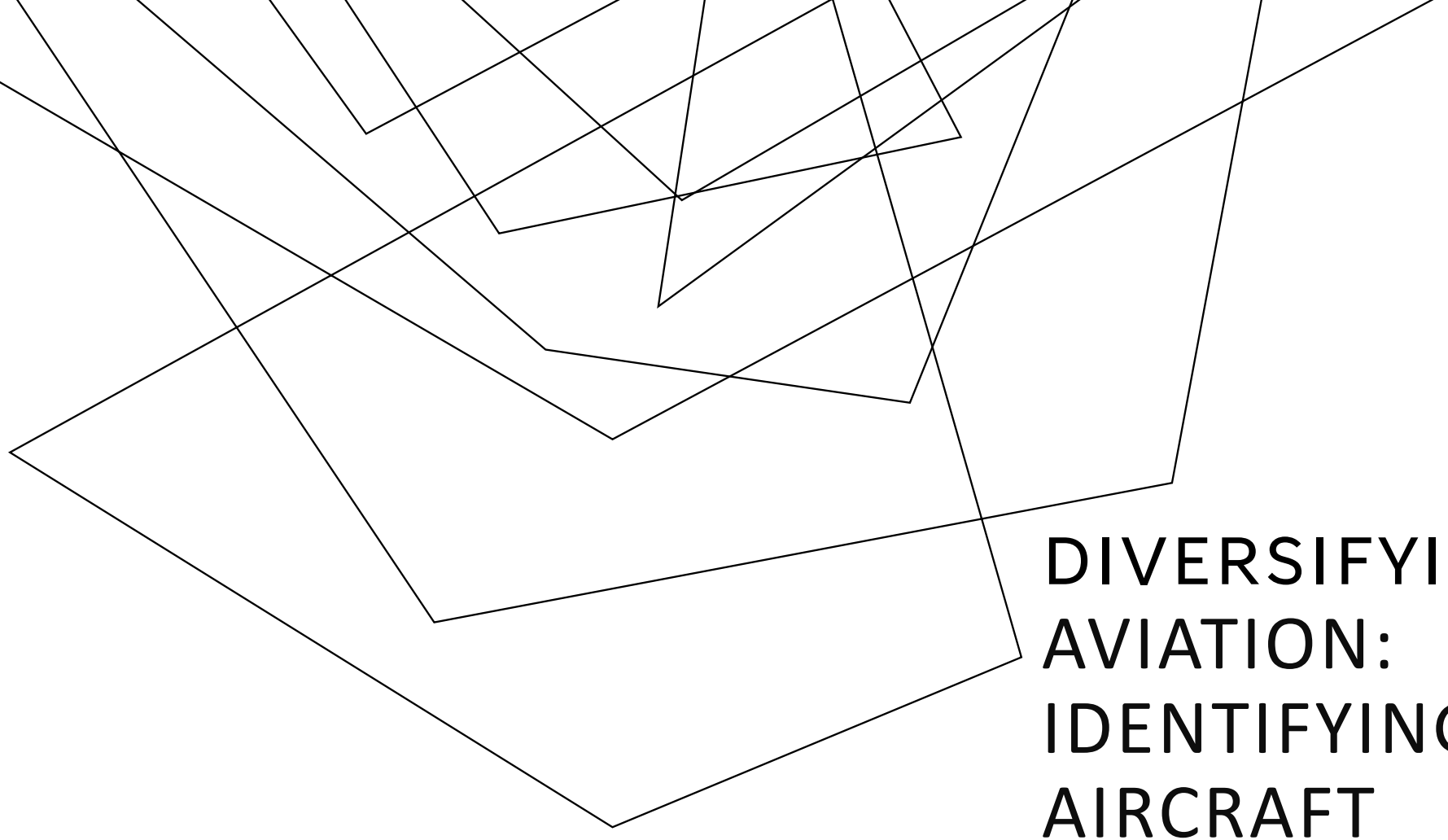


DIVERSIFYING INTO AVIATION: IDENTIFYING LOW-RISK AIRCRAFT INVESTMENTS

Neal Iyer

AGENDA

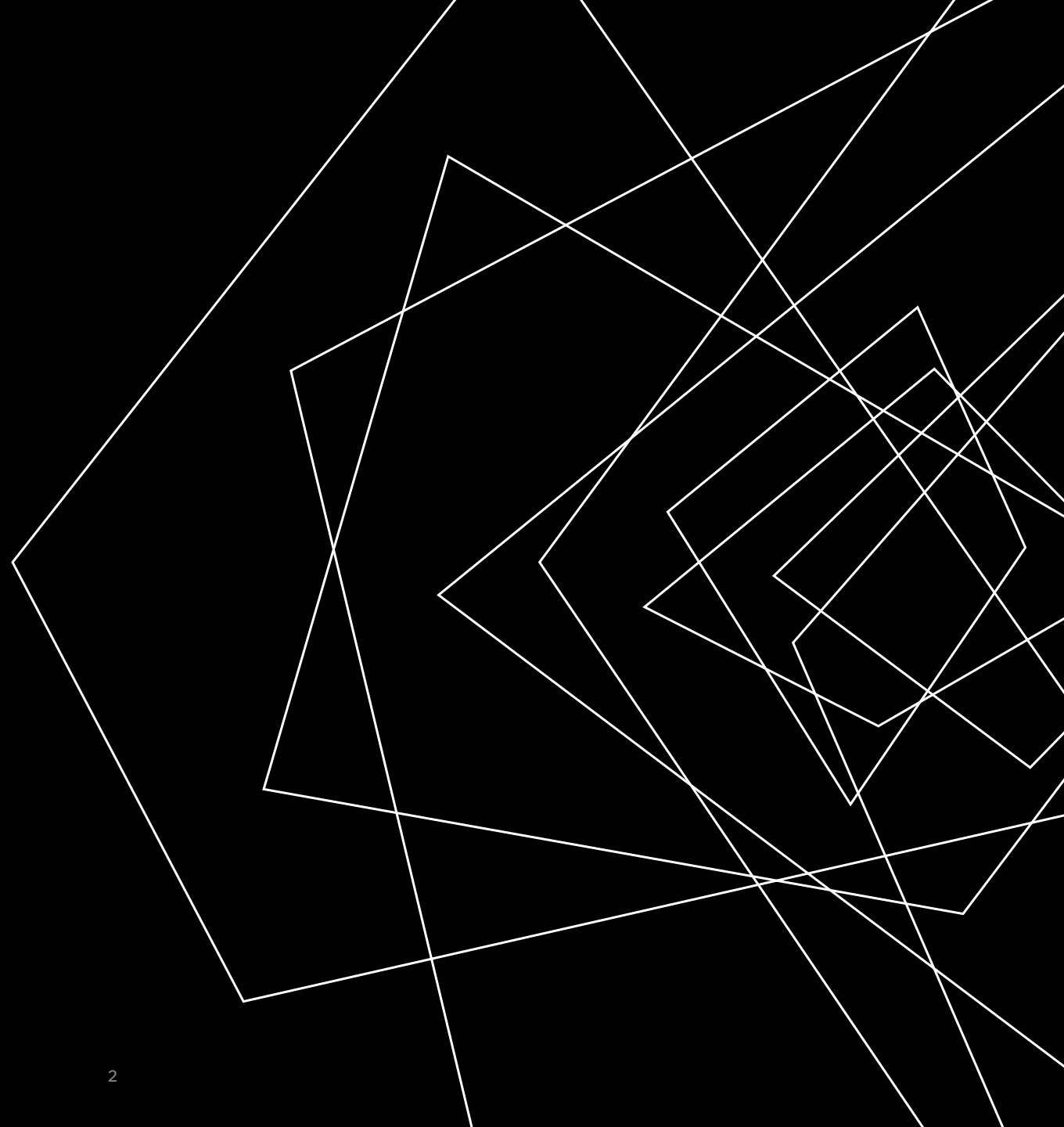
Overview

Primary goals

Data Analysis and Findings

Resolutions & Conclusions

Questions



STRATEGIC OVERVIEW

GOAL

- Leverage the company's growth by entering the aviation industry, focusing on commercial and private sectors.

AIM

- The aim is to diversify portfolio while mitigating risks associated with aircraft operation and ownership.

Step 1 — Analyze Safest Commercial and Military Aircrafts based on Total Injuries

Step 2 — Analyze safest Private/Personal Aircrafts based on Total Injuries

Step 3 — Analyze Aircraft risk based on safest/most hazardous phase of flights and total injuries

Step 4 — Analyze Aircraft risk based on Engine Type and total injuries

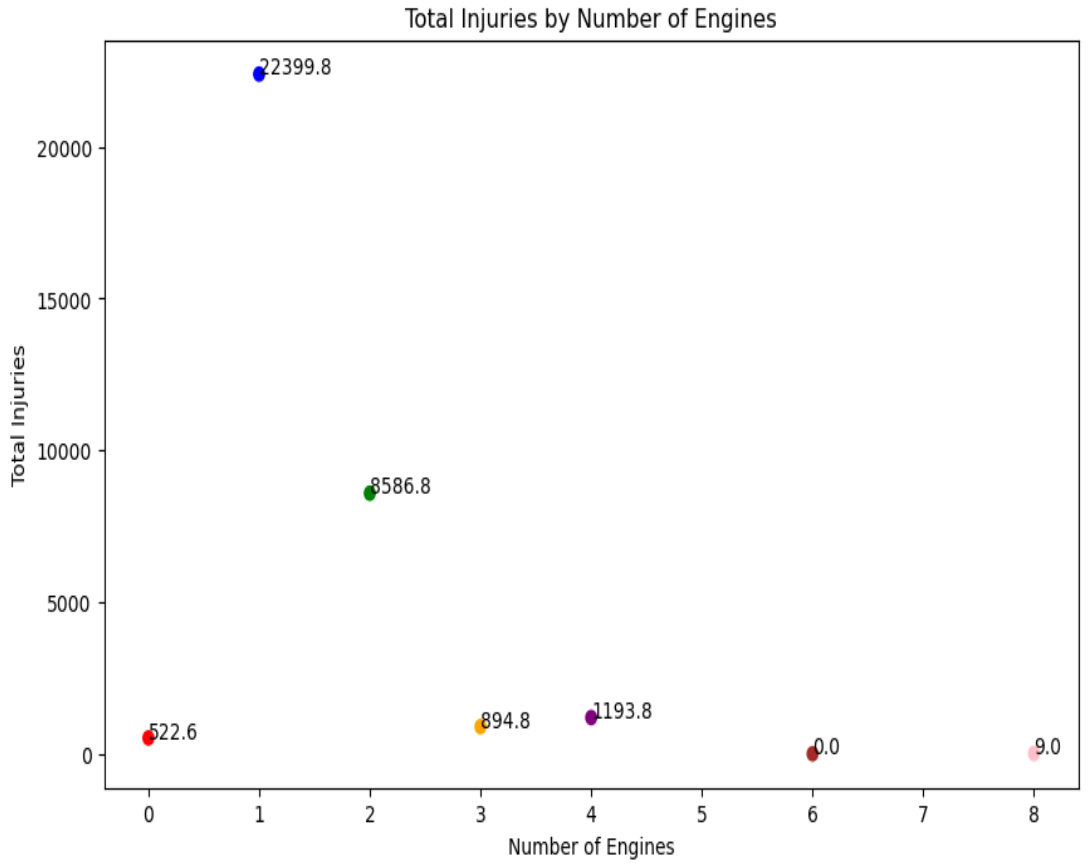
ANALYSIS

INJURIES BASED ON NUMBER OF ENGINES

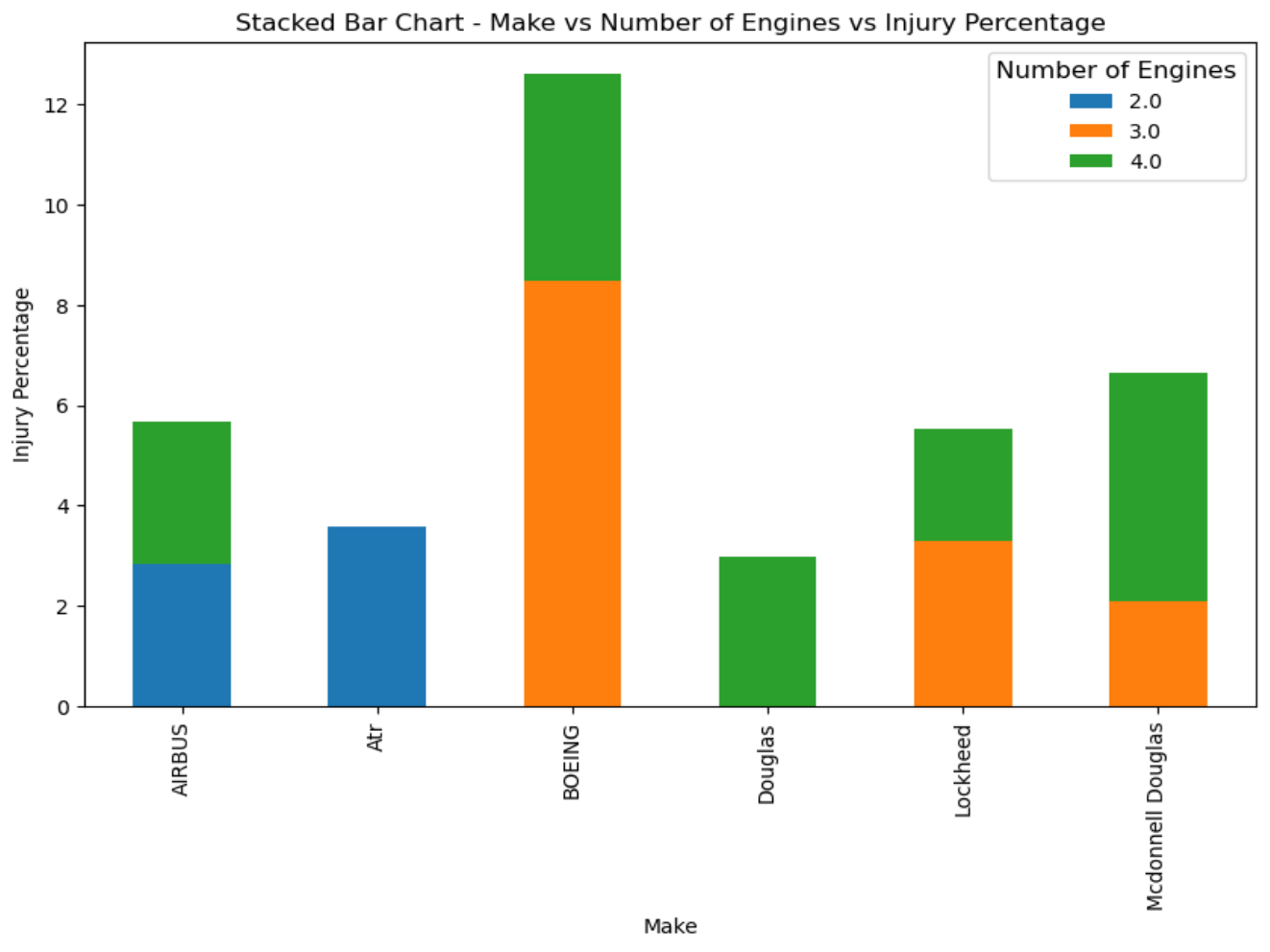
Analyses

- 1 Engine Aircrafts have the highest number of total injuries

	Number.of.Engines	Total Injuries
1	1.0	22399.8
2	2.0	8586.8
4	4.0	1193.8
3	3.0	894.8
0	0.0	522.6
6	8.0	9.0
5	6.0	0.0



COMMERCIAL AND MILITARY AIRCRAFTS



Analyses

-Data shows that Boeing has the highest injury pctg for both 3 and 4 engine aircrafts,

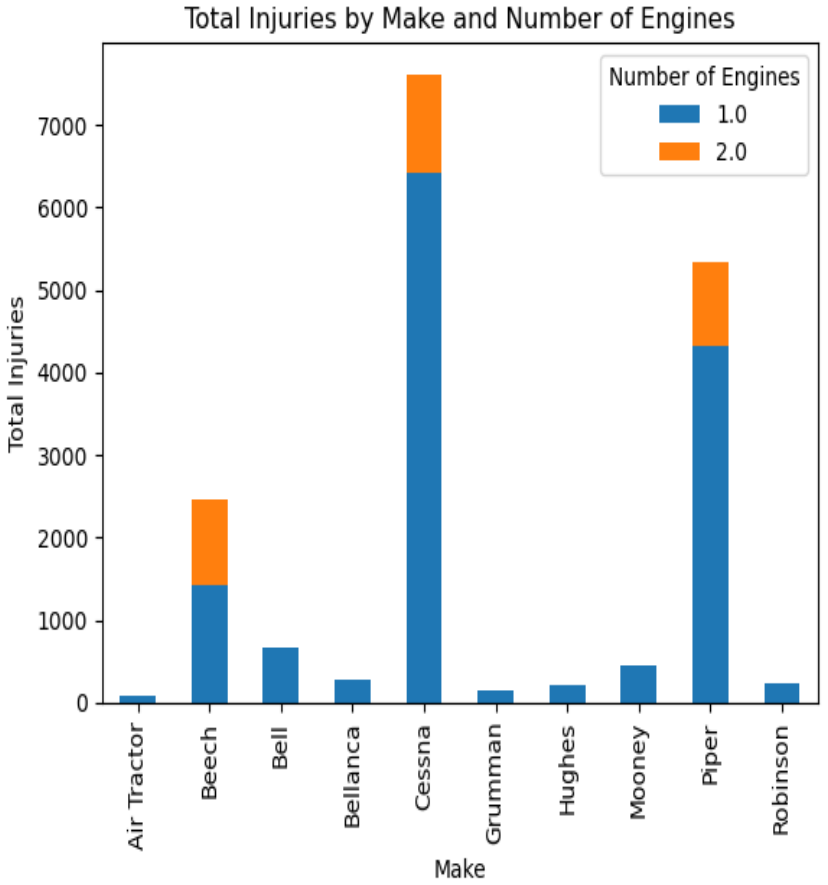
-Airbus has the lowest injury percentage for both 2 and 3 engine aircrafts, making it a safer choice for commercial travel

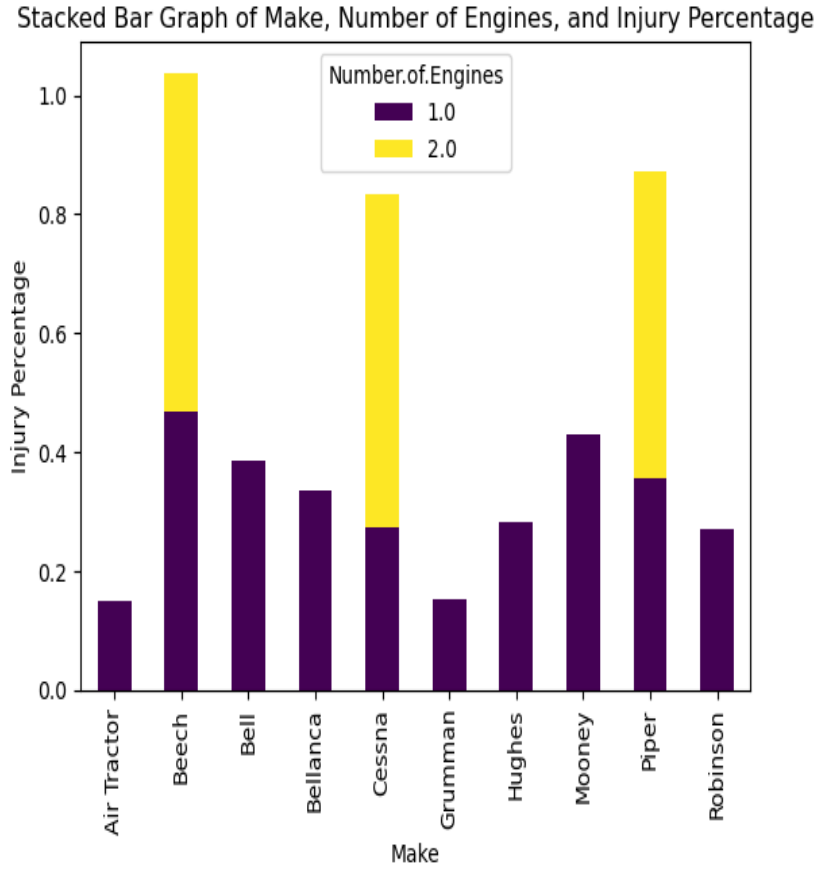
-For Military, Mcdonnell Douglas has a lower injury percentage for 3 engine planes, whereas Lockheed has a lower percentage for 4

PERSONAL AIRCRAFTS

- The Data reveals Cessna has the lowest injury percentage for all 1 engine aircrafts with a Personal Purpose of Flight
- Beech and Cessna 2 engine have the highest injury percentages

	Make	Number.of.Engines	Total Injuries	Total Incidents	Injury Percentage
40	Beech	2.0	1028.8	1804	0.570288
69	Cessna	2.0	1189.2	2119	0.561208
165	Piper	2.0	1016.0	1969	0.515998
39	Beech	1.0	1426.2	3051	0.467453
155	Mooney	1.0	459.0	1064	0.431391
43	Bell	1.0	670.0	1738	0.385501
164	Piper	1.0	4310.2	12061	0.357367
45	Bellanca	1.0	284.8	850	0.335059
131	Hughes	1.0	207.4	734	0.282561
68	Cessna	1.0	6420.4	23435	0.273966
184	Robinson	1.0	225.8	838	0.269451
118	Grumman	1.0	150.0	978	0.153374
24	Air Tractor	1.0	82.0	547	0.149909

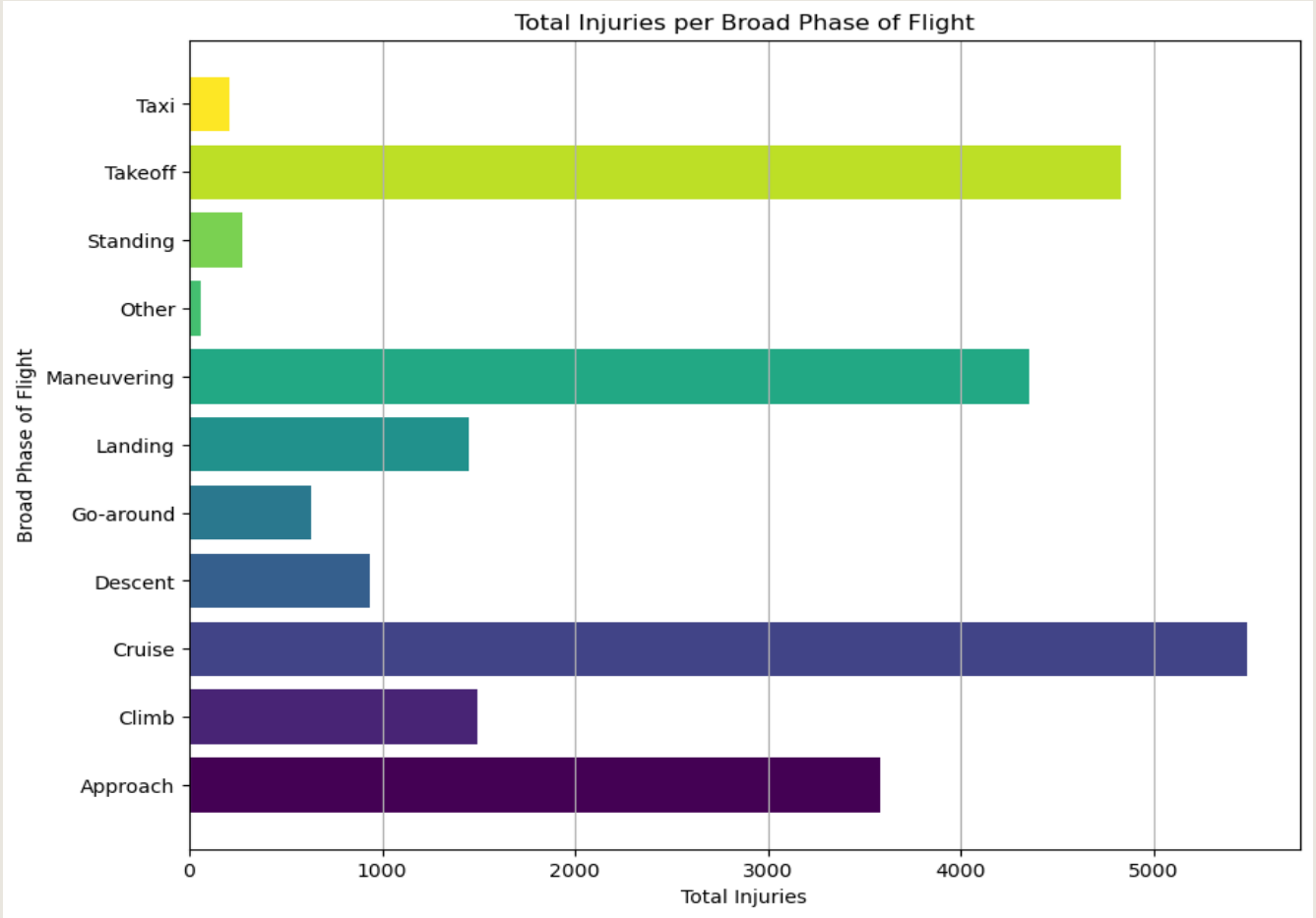




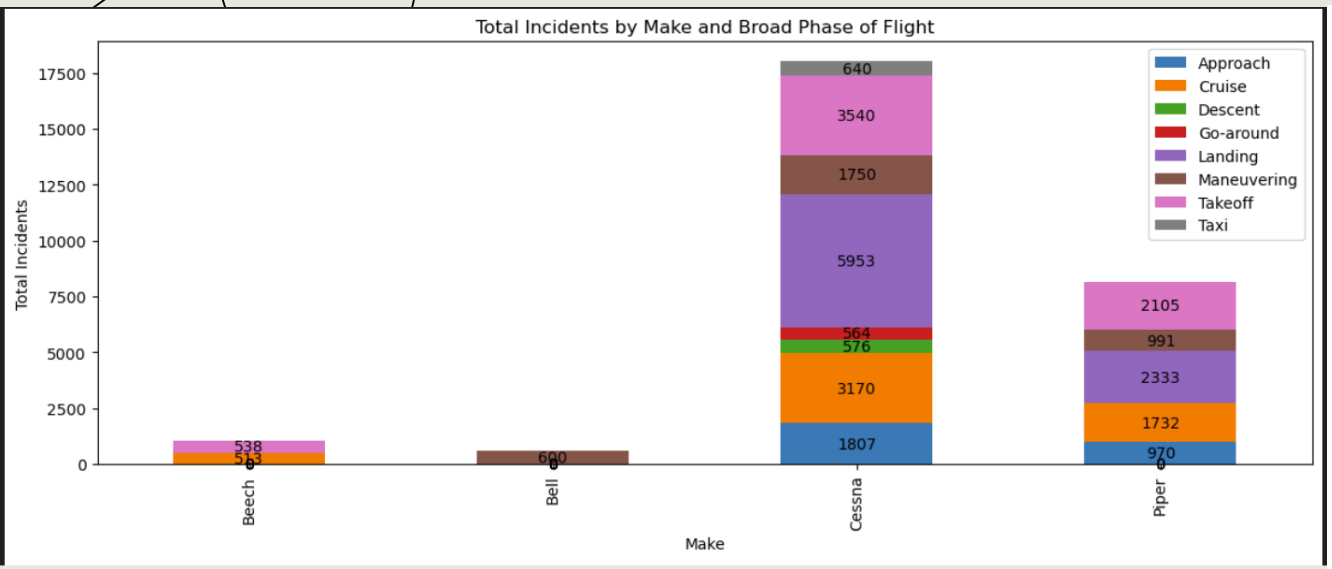
INJURY RATE FOR PHASE OF FLIGHTS

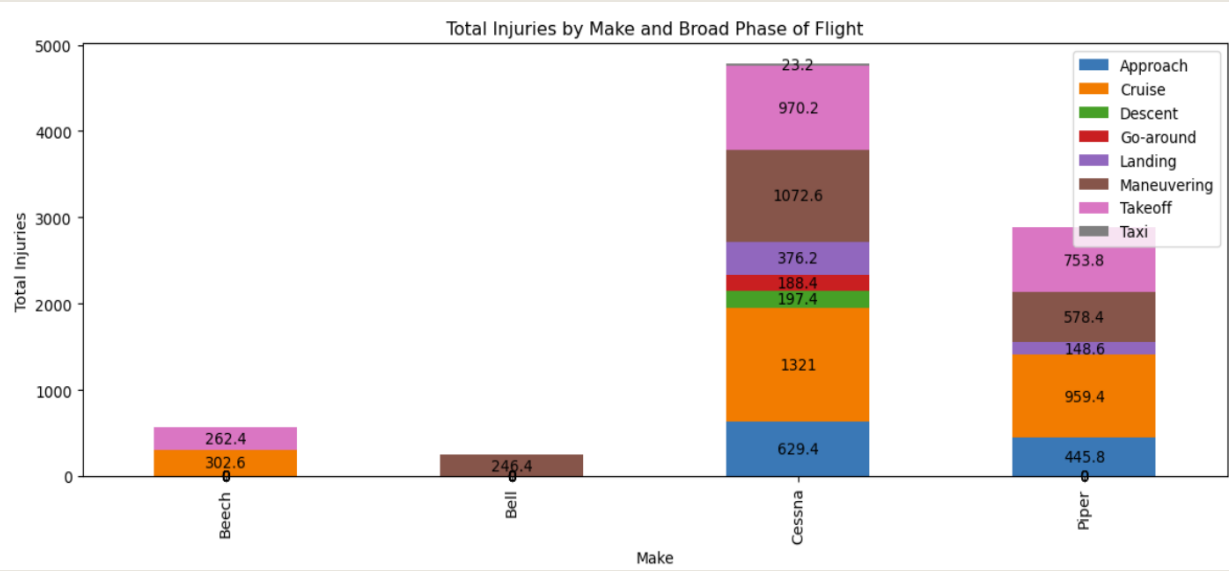
Cruise, Takeoff, and Maneuvering are the highest three injury producing phases of flights

	Broad.phase.of.flight	Total Injuries	Total Incidents	Injury Percentage
2	Cruise	5483.2	10269	0.533957
9	Takeoff	4828.6	12493	0.386504
6	Maneuvering	4354.6	8144	0.534700
0	Approach	3578.4	6546	0.546654
1	Climb	1492.0	2034	0.733530
5	Landing	1446.2	15428	0.093739
3	Descent	936.6	1887	0.496343
4	Go-around	631.8	1353	0.466962
11	Unknown	472.4	548	0.862044
8	Standing	272.4	945	0.288254
10	Taxi	205.8	1958	0.105107
7	Other	60.4	119	0.507563



INJURY METRICS PER MAKE AND PHASE OF FLIGHT

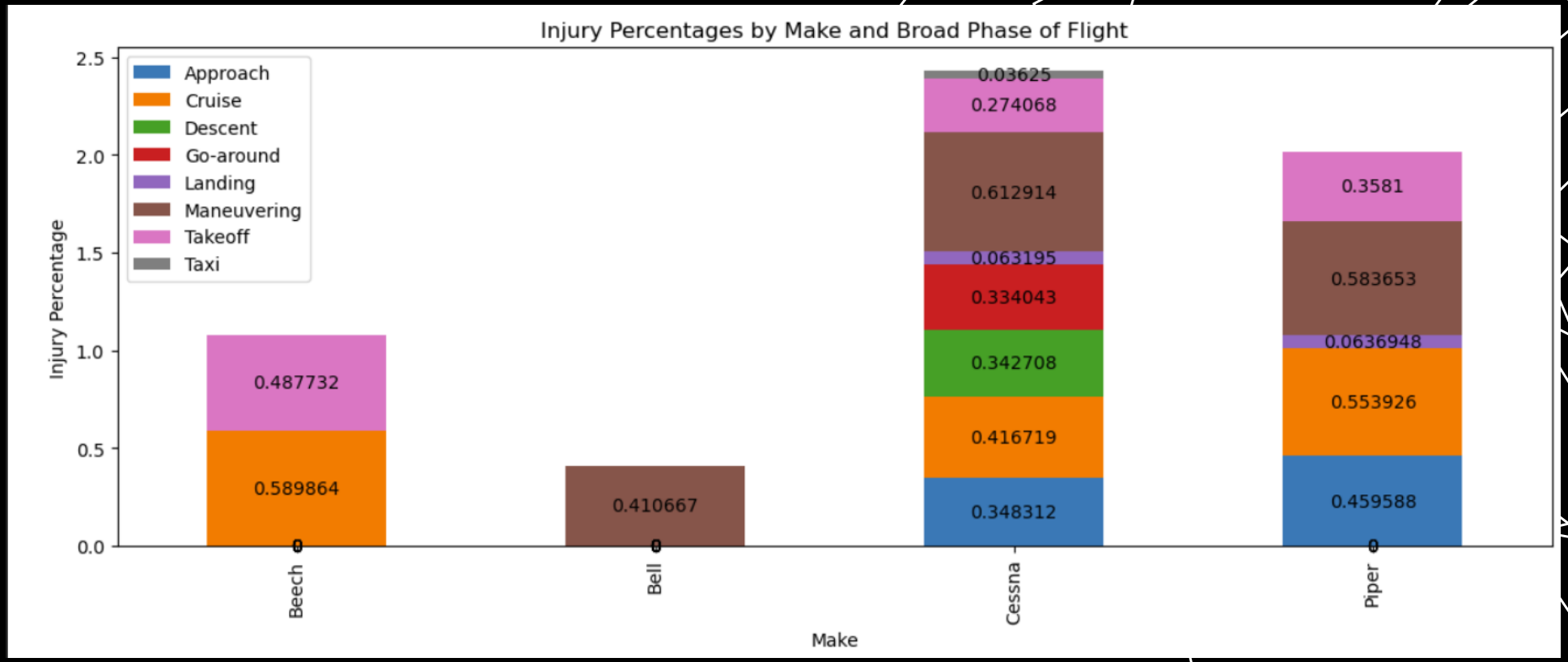




- The Data shows that Cessna and Piper both clearly have the highest amounts of injuries and incidents for all phases of flight
- Cruise, Maneuvering, and Takeoff are the three highest injury producing phases for all aircrafts

INJURY PERCENTAGES PER PHASE OF FLIGHT

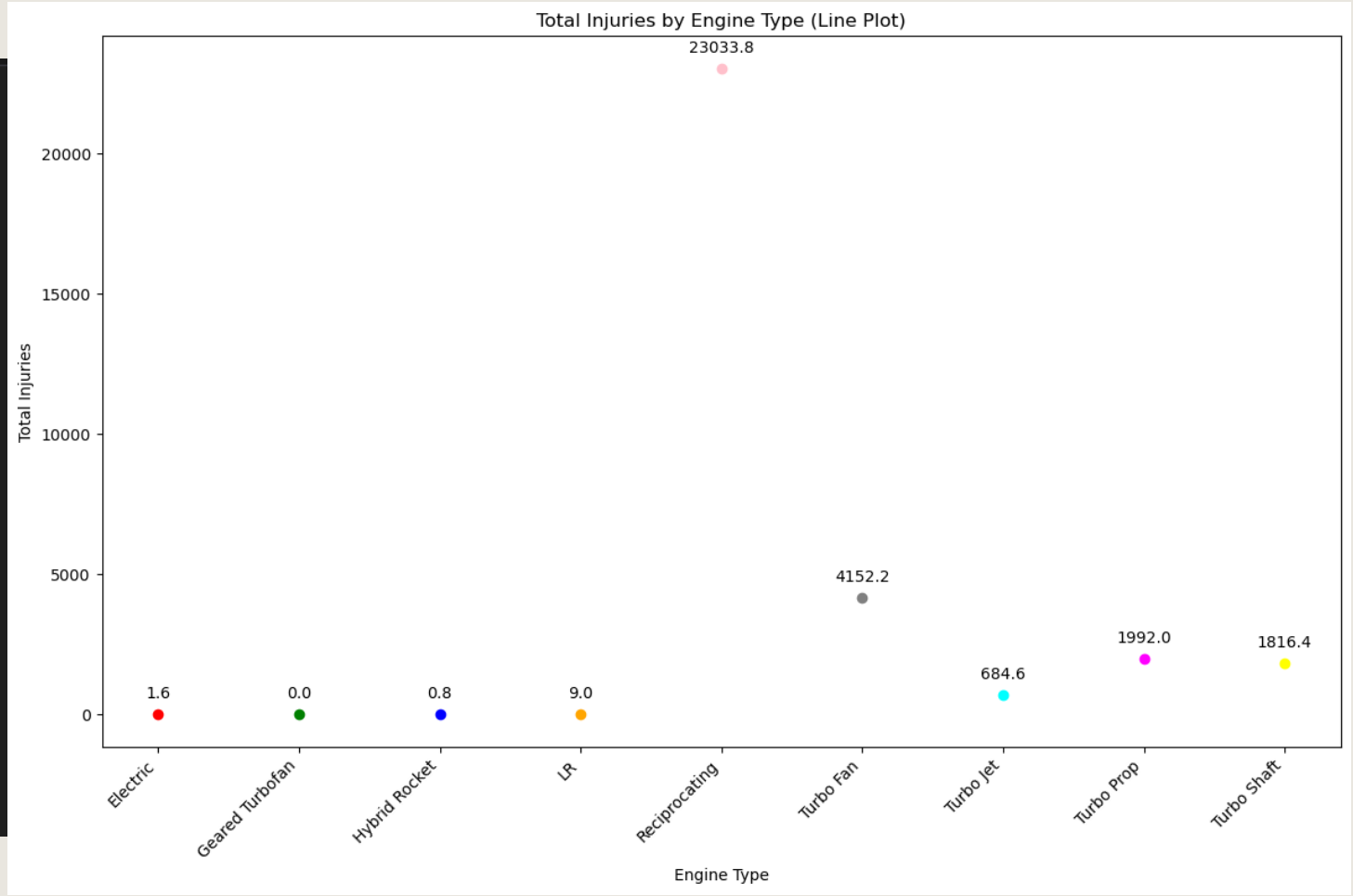
Based on below data, one could deduce:
-Cessna has the highest injury percentage for Maneuvering but also the lowest for Landing, despite having the highest injury total
-Additionally, Cessna has the highest injury total for Cruise but lowest injury percentage



INJURIES PER ENGINE TYPE

The initial data shows that The Reciprocating Engine has the highest amount of injuries, by far, followed by Turbo Fan

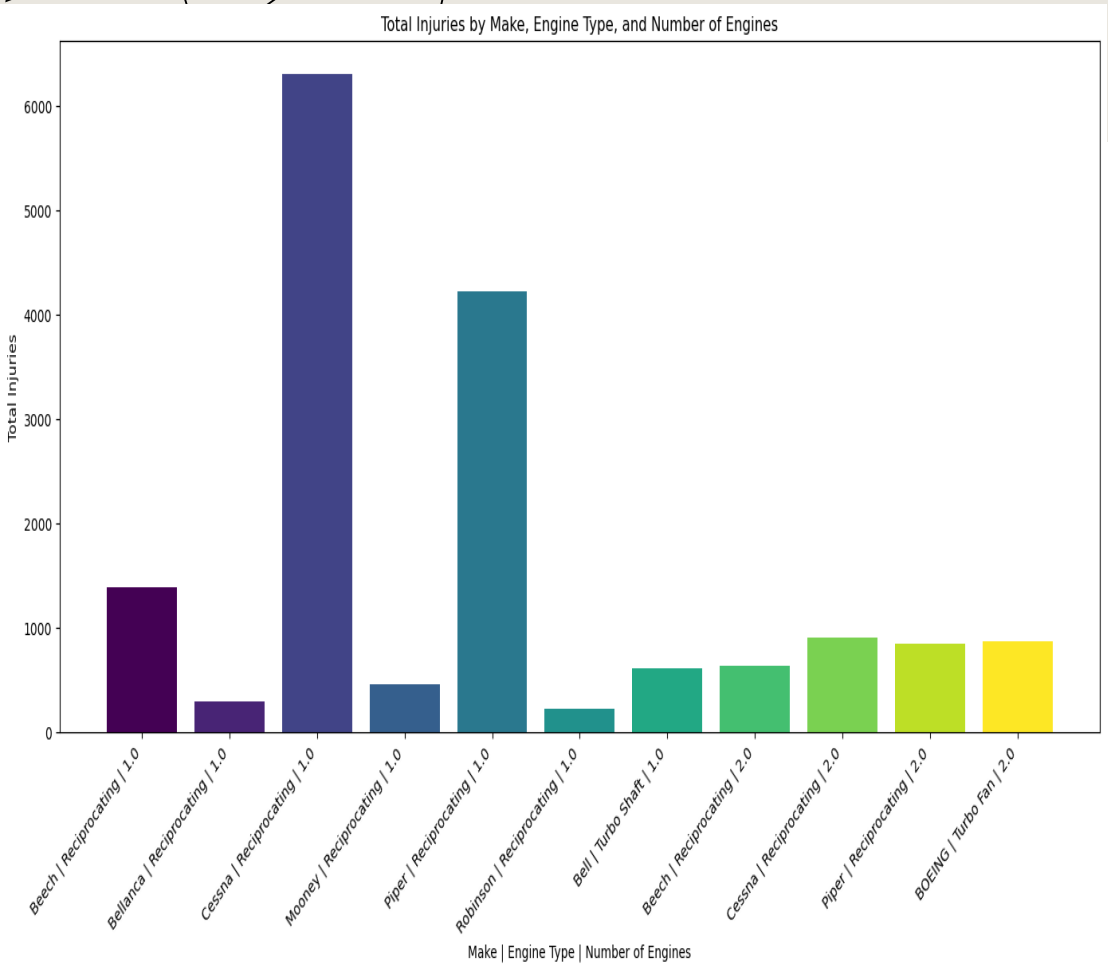
	Engine.Type	Total Injuries	Total Incidents	Injury Percentage
6	Reciprocating	23033.8	69530	0.331279
7	Turbo Fan	4152.2	2481	1.673599
12	Unknown	3065.0	2051	1.494393
9	Turbo Prop	1992.0	3391	0.587437
10	Turbo Shaft	1816.4	3609	0.503297
8	Turbo Jet	684.6	703	0.973826
3	LR	9.0	2	4.500000
5	None	7.0	19	0.368421
0	Electric	1.6	10	0.160000
2	Hybrid Rocket	0.8	1	0.800000
11	UNK	0.4	1	0.400000
1	Geared Turbofan	0.0	12	0.000000
4	NONE	0.0	2	0.000000

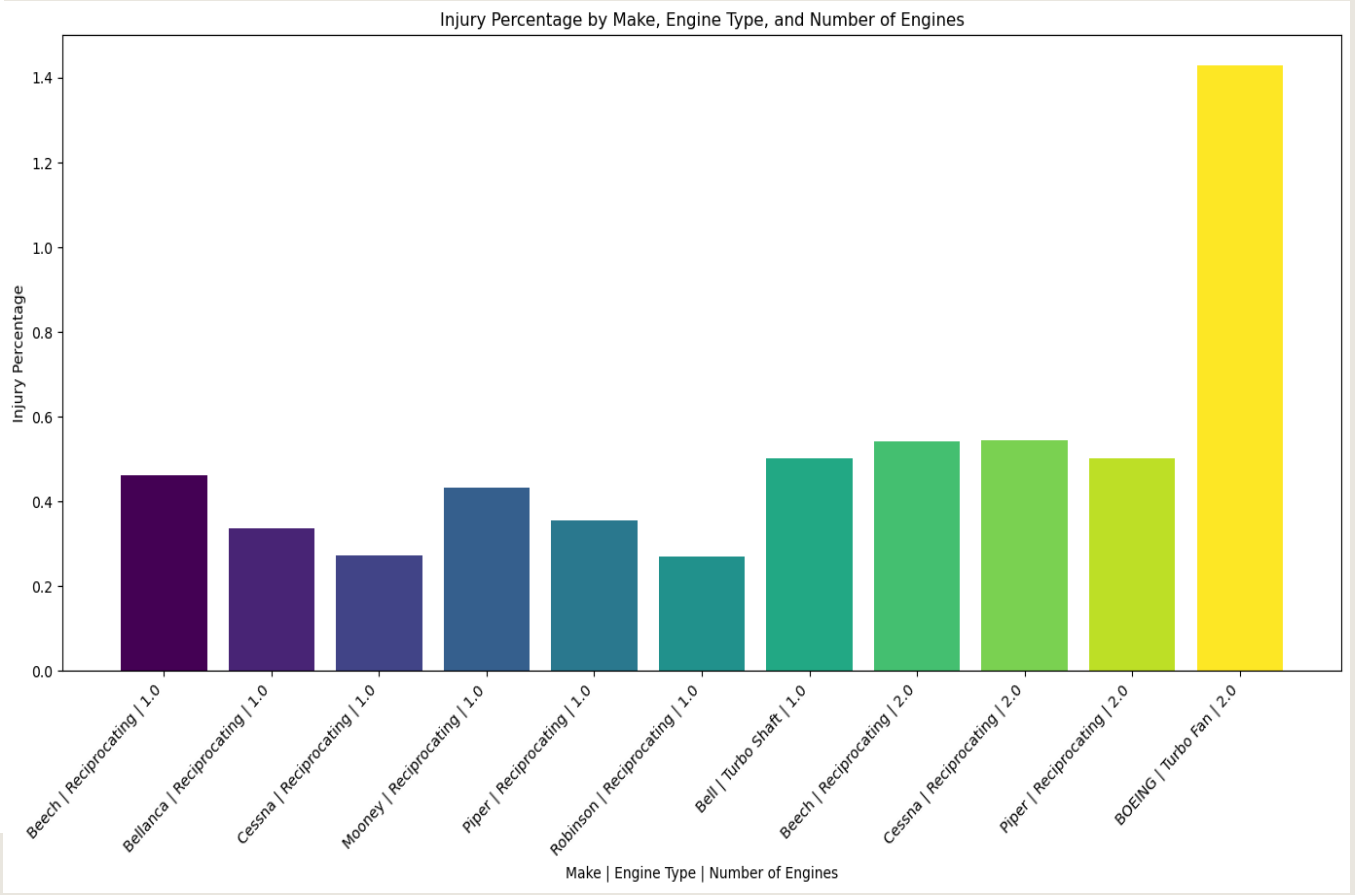


INJURY METRICS FOR ENGINE TYPE WITH MAKE

-Although Cessna's Reciprocating has the highest total injuries, it also has the lowest percentage, denoting a safe engine type

-Boeing's Turbo fan appears to be the most dangerous engine type with the highest injury percentage



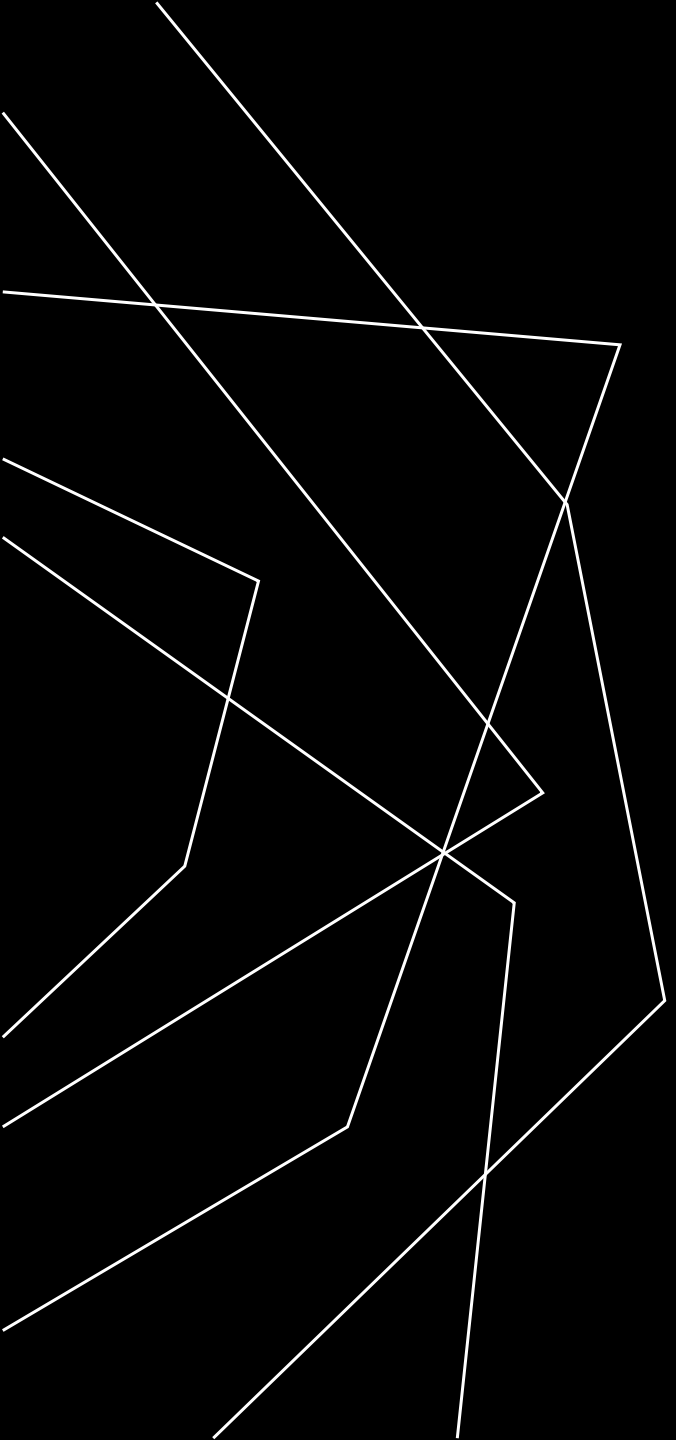


CONCLUSIONS

- Airbus appears to be the safest choice for Commercial Airline travel and Lockheed for Military Travel/Transport, as Boeing and Mcdonnell Douglas both have high injury percentages for multiple engine type air carriers.
- Cessna 1 Engine and both Cessna and Piper 2 Engine appear to be the safest choices for personal aircraft travel, with Cessna 1 engine planes having a high injury total but the lowest injury percentage, and Cessna and Piper 2 engine planes having the lowest injury percentage amongst the respective group.
- Regarding Phase of flight, Cessna and Piper are safest with their landing procedures, as both have the highest incident count and lowest injury totals for all "landing" phases of flight. Contrastingly, Cessna's "Maneuvering" phase of flight has the highest injury percentage by far with the lowest amount of incidents.
- Finally, regarding engine type, although Cessna Reciprocating 1 engine planes have the most injuries, they appear to also be the safest to fly based on the amount of incidents and resulting low injury percentage (just under 30%)

SOLUTIONS

- Airbus, Cessna, Piper, and Lockheed appear to be good choices for safe air travel for Commerical, Personal, and Military purposes, respectively
- Implement training programs for pilots pertaining to the "Maneuvering" phase of flight due to abnormally high injury rate
- Conduct research/safety measures to determine why Turbo Fan and Reciprocating engine types are involved in more accidents than other engine types



THANK YOU

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