

# **Aviation Safety Risk Analysis Report**

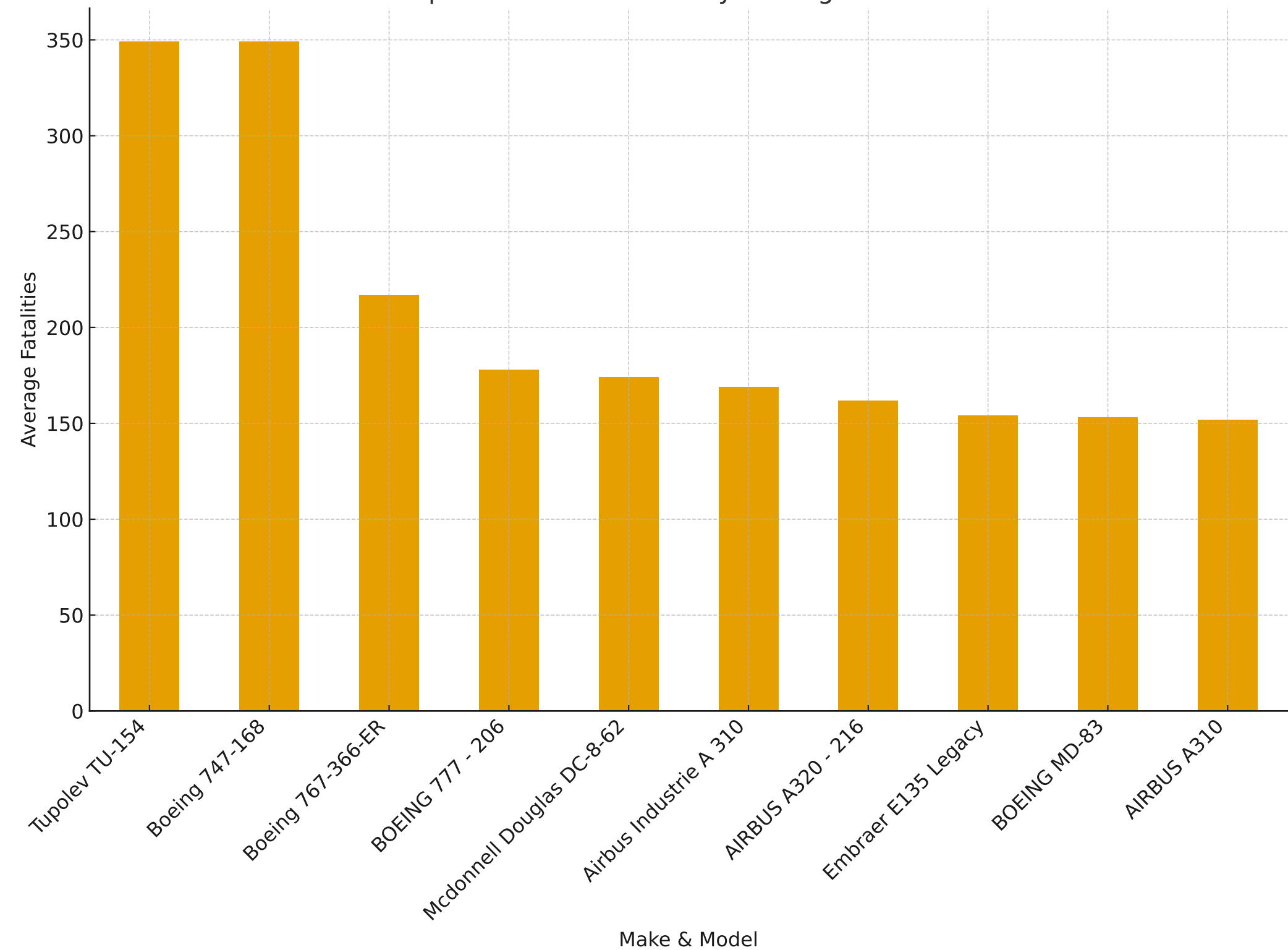
Prepared by Akonon

Business-style report — Clean (no code) — Charts inline

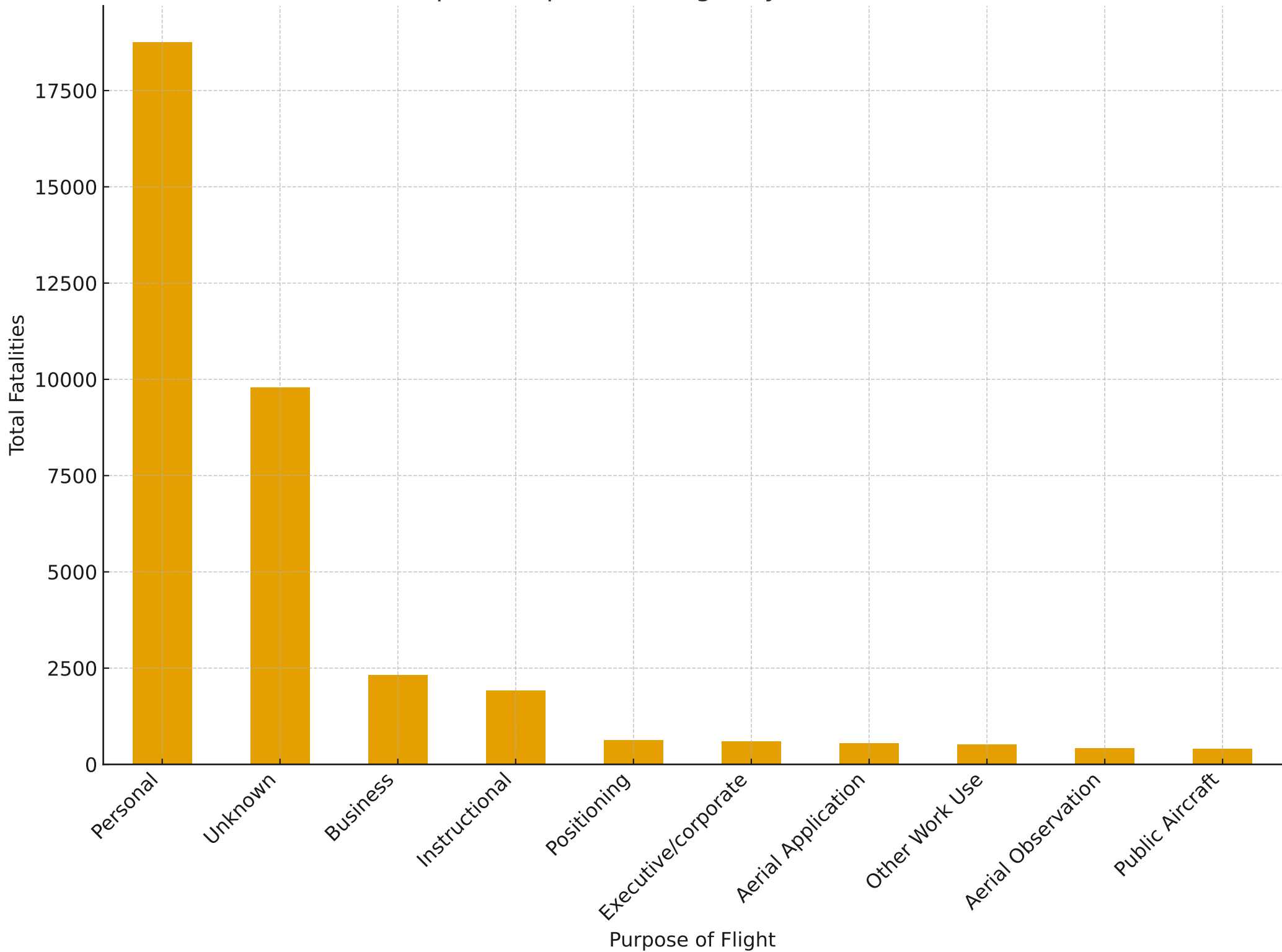
## Executive Summary:

This report identifies lower-risk aircraft models for the company's consideration by analyzing historical accident and injury data. Key measures include average fatalities by aircraft model, total fatalities by flight purpose, and average fatality rates by engine type. Findings and recommendations are presented below with supporting charts.

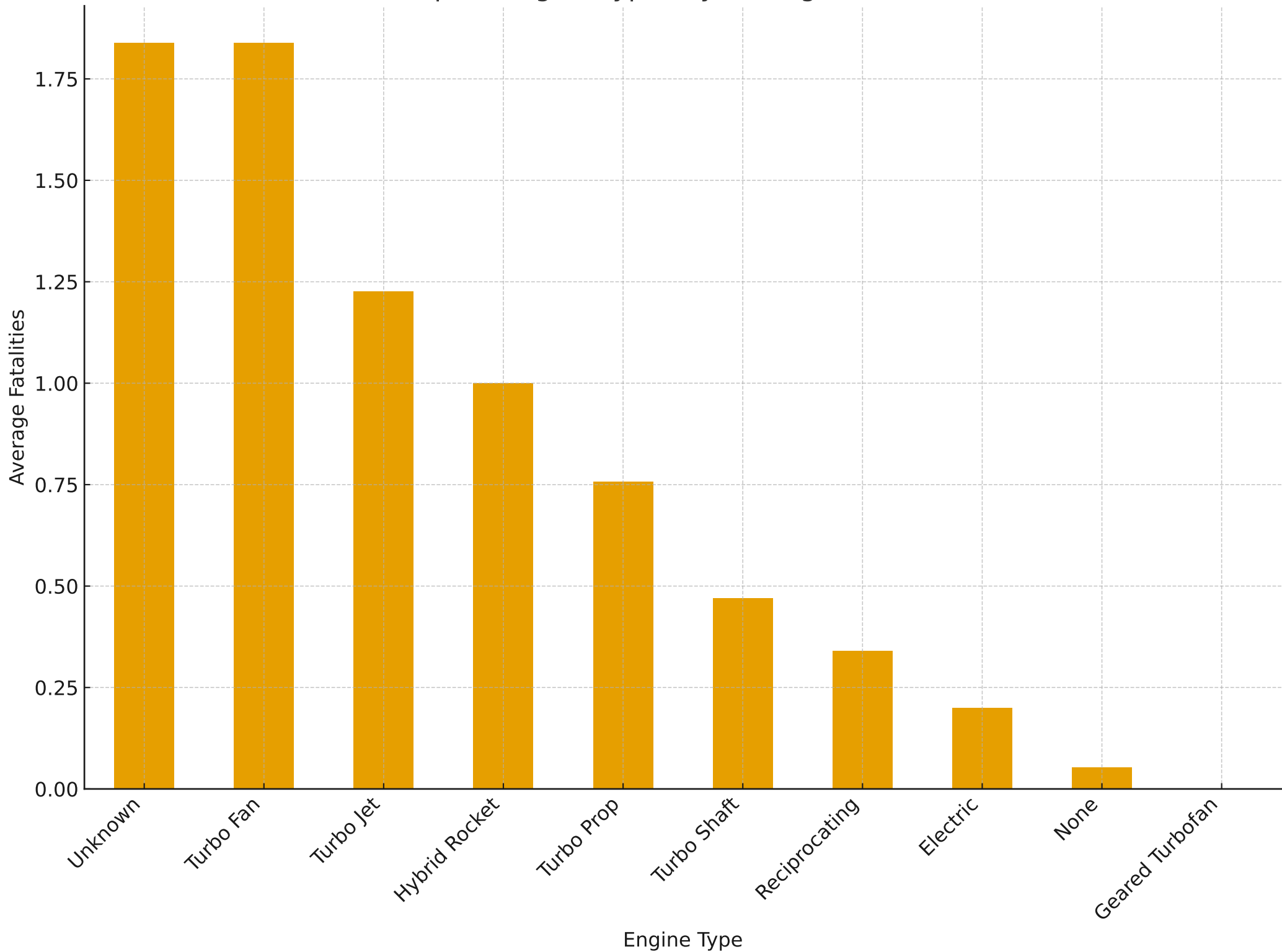
Top 10 Aircraft Models by Average Fatalities



Top 10 Purposes of Flight by Total Fatalities



Top 10 Engine Types by Average Fatalities



### Key Insights:

1. High-risk aircraft models identified: Tupolev TU-154, Boeing 747-168, Boeing 767-366-ER, BOEING 777 - 206, McDonnell Douglas DC-8-62 (see chart).
2. 'Personal' flights account for the largest share of total fatalities—this may indicate high exposure/risk in non-commercial operations.
3. Engine types labeled 'Unknown' and 'Turbo Fan' show the highest average fatalities in historical records.

### Recommendations:

- Avoid models with consistently high average fatalities when selecting aircraft for acquisition.
- Prefer aircraft with lower average fatality rates and proven safety records (e.g., models with lower means).
- Prioritize operations and training policies to reduce risks in 'Personal' and 'Unknown' purpose flights.
- Investigate records with 'Unknown' engine types to improve data quality and risk assessment.

## Appendix - Top Results (tables)

### Top 10 Models by Avg Fatalities:

1. Tupolev TU-154 — 349
2. Boeing 747-168 — 349
3. Boeing 767-366-ER — 217
4. BOEING 777 - 206 — 178
5. Mcdonnell Douglas DC-8-62 — 174
6. Airbus Industrie A 310 — 169
7. AIRBUS A320 - 216 — 162
8. Embraer E135 Legacy — 154
9. BOEING MD-83 — 153
10. AIRBUS A310 — 152

### Top 10 Purposes by Total Fatalities:

1. Personal — 18762
2. Unknown — 9789
3. Business — 2313
4. Instructional — 1913
5. Positioning — 635
6. Executive/corporate — 598
7. Aerial Application — 549
8. Other Work Use — 511
9. Aerial Observation — 414
10. Public Aircraft — 406

### Top 10 Engine Types by Avg Fatalities:

1. Unknown — 1.84
2. Turbo Fan — 1.84
3. Turbo Jet — 1.23
4. Hybrid Rocket — 1.00
5. Turbo Prop — 0.76
6. Turbo Shaft — 0.47
7. Reciprocating — 0.34
8. Electric — 0.20
9. None — 0.05
10. Geared Turbofan — 0.00