



CHOOSING THE SAFEST AIRCRAFT FOR BUSINESS EXPANSION

Data-Driven Insights from Aviation Accident Analysis

Objective

Key Question:

"Which aircraft pose the lowest risk for our new aviation venture?"

What We Did:

- Analyzed 88,889 aviation accident records
- Focused on safety, maintenance costs, and operational risks
- Identified safest manufacturers and models

Key Findings at a Glance

1. Safety Champions:

- Cessna 172 and Piper PA-28 models show **lowest fatality rates**
 - Cessna and Piper lead in manufacturer safety

2. Risk Patterns:

- Most accidents occur during private/business flights
- Engine type and flight phase impact accident severity

3. Safety vs. Popularity:

- Some widely used models maintain excellent safety records

Simple comparison table of top 5 safest models

Manufacturer	Aircraft Model	Total Accidents	Total Fatalities	Avg Fatalities per Accident
CESSNA	172	418	102	0.24
CESSNA	182	215	78	0.36
CESSNA	180	184	19	0.1
CESSNA	172N	153	76	0.5
PIPER	PA28	145	60	0.41

What Makes an Aircraft Safe?

Critical Safety Factors:

1. Low average fatalities per accident
2. High accident survival rates
3. Proven safety across different flight purposes

Top Recommended Manufacturers



- 172 model
- 418 accidents analyzed
- **0.24 avg fatalities**



- PA-28 model
- 145 accidents analyzed
- **0.24 avg fatalities**

Why They Stand Out:
Consistent safety across multiple aircraft types

Ideal Aircraft Choices

- **For Commercial Operations:**

- Cessna 182 (215 accidents, 78 total fatalities)
- Piper PA28 (145 accidents, 60 fatalities)

- **For Executive/Private Use:**

- Beech A36 (145 accidents, 118 fatalities)

Risk vs. Operational Needs

Factor	Cessna 172	Piper PA-28
Safety Rating	★★★★★	★★★★☆
Passenger Capacity	4	4
Maintenance Cost	\$\$	\$\$\$

Key Insight: *"Higher safety doesn't always mean higher costs"*

RECOMMENDATIONS

➤ Immediate Actions:

- Prioritize Cessna/Piper models for test fleet
- Analyze maintenance costs for shortlisted aircraft
- Schedule pilot training assessments

➤ Long-Term Strategy:

- Monitor emerging safety technologies
- Establish ongoing risk assessment process



Conclusion

Key Takeaway:

"By focusing on proven safety performers like Cessna and Piper, we can achieve both operational reliability and risk mitigation."



THANK YOU

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