1.3 Project Task 1 Dashboard

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In developing this dashboard, I strategically selected a range of visualizations to comprehensively analyze aviation safety trends and operational impacts. Each visualization was chosen based on its ability to provide clear insights into critical aspects of airline safety and operational performance.

The **Accident Rates by Airline** bar chart provides a comparative view of safety records among different airlines. This visualization allows stakeholders to identify outliers and trends in safety performance across the industry. It enables benchmarking efforts and supports strategic discussions on safety protocols and operational improvements.

The **Geographic Distribution of Incidents** as a heat map offers a spatial perspective on where aviation incidents occur globally. By visualizing incident hotspots, this map helps pinpoint regions with higher incident densities, guiding targeted safety interventions and resource allocations. It enhances situational awareness and supports proactive risk management strategies.

**Fatalities vs. Incidents** presented as a donut plot offers a concise yet insightful representation of incident severity over time. The outer circle represents the total number of incidents, while the inner circle depicts the corresponding fatalities. This visualization prompts discussions on safety measures and highlights the impact of incidents on passenger safety.

**Comparison of Air Travel Safety vs. Other Modes** as a pie chart contextualizes aviation safety within the broader transportation landscape. It illustrates the percentage of fatalities attributed to air travel compared to other modes such gliders, gyroplanes, and helicopters. This comparison fosters a balanced understanding of aviation safety risks relative to alternative transportation options.

**Fatalities by Flight Type** visualized through a donut chart categorizes fatalities by different flight types (e.g., domestic, international). This visualization helps identify variations in safety risks across different operational contexts, informing tailored safety strategies and operational decisions.

**Incident Rates by Airline Operations** depicted as a stacked bar chart analyzes incident frequencies relative to airline operations metrics such as available seat kilometers flown per week. This visualization provides insights into operational impacts on safety performance, guiding strategic decisions and resource allocations.

Presenting internally involves contextualizing each visualization within safety discussions, emphasizing data integrity and ethical considerations. Ethically, transparency, confidentiality, and proactive safety enhancement are prioritized. These findings highlight trends in safety performance and operational impacts, empowering proactive safety measures and continuous improvement. I aim to foster a culture of safety and strategic decision-making based on robust data insights. This approach ensures our dashboard informs and inspires actionable safety enhancements across our organization and the aviation industry, reinforcing our commitment to safety excellence.