Bicycle Accidents Analysis Report of Dashboard.

Overview

This dashboard explores trends and patterns in bicycle accidents across the UK from 1979 to 2018. The analysis highlights the impact of **weather conditions**, **speed limits**, **time of day**, and **road types** on accident frequency and severity. The objective is to identify critical insights that can help inform public policy, urban planning, and road safety strategies.

Key Visualizations & Insights

1. Casualties Over Time

- This time series shows a fluctuating trend of bicycle accident casualties.
- Casualties peaked in the mid-1980s and generally declined toward the 2000s.
- A small resurgence is seen post-2010, possibly reflecting increased bicycle usage or better reporting.

2. Accidents by Weather & Light Conditions

- The bubble chart indicates that most accidents occurred under **clear weather conditions**, suggesting that **volume of activity** (rather than poor conditions) may drive accident frequency.
- **Rain**, **fog**, and **snowy conditions** form much smaller proportions of the dataset.

3. Impact of Speed Limit

- This bar chart examines accident frequency by **road type** and corresponding **speed limits**.
- The **Single carriageway** roads dominate in accident volume, especially at higher speed limits (up to 20M). This likely indicates that single carriageways are more prone to bicycle accidents due to higher speeds, traffic mixing, or design inefficiencies.
- In contrast, **dual carriageways**, **roundabouts**, and **slip roads** see comparatively fewer accidents, possibly due to better traffic separation or lower cyclist presence.

4. Accident by Weather Condition

- A bar graph reiterates that the highest number of casualties occurs in **Clear** weather.
- Other conditions like **Rain**, **Fog**, **Snow**, and combinations like **Rain and Windy** contribute significantly less.
- This suggests that weather may not be the primary cause of accidents, and preventive efforts might be better focused elsewhere (e.g., infrastructure, visibility, or cyclist behavior).

5. Time of Day

- This area graph reveals **two clear peaks** in accidents:
    - **Morning (7–9 AM)** — corresponding to commuting hours.
    - **Evening (4–6 PM)** — also likely related to end-of-day travel.
- Very few accidents occur during **night hours**, indicating less cyclist activity or possibly better road vigilance during that time.

Summary & Recommendations

1. **High-risk time periods** are clearly around commute hours. Targeted public awareness and cycling infrastructure improvements (e.g., protected bike lanes) should focus on these hours.
2. **Clear weather conditions** may falsely appear safe — accident mitigation efforts should not only focus on poor weather but also on driver/cyclist behavior and road design in regular conditions.
3. **Single carriageways** are hotspots for accidents and deserve prioritization for safety audits and design upgrades.
4. The dashboard provides a strong foundation for future analysis by adding layers like severity, demographic details, or geographic breakdowns if available.