

Traffic Accident Analysis Report 📊

1. Introduction

Traffic accidents are a significant issue affecting road safety and urban planning. This analysis uses Tableau visualizations to uncover key factors influencing accident severity and trends, helping to inform better safety measures.

2. Data Cleaning Process

Removed duplicate entries and handled missing values.

Standardized categorical variables (e.g., weather conditions, road types).

Ensured numerical consistency for accident counts, casualties, and vehicle involvement.

3. Key Insights 📈

Sheet 4: Impact of Weather and Road Conditions on Casualties

Most accidents occurred under fine weather with no high winds, suggesting driver behavior is a major factor.

Wet, icy, and flooded road surfaces significantly increase the likelihood of severe casualties.

Sheet 5: Influence of Road Type and Weather on Vehicle Count

Roundabouts, single-carriageways, and slip roads have the highest average number of vehicles involved in accidents.

Rainy and foggy conditions show a strong correlation with increased vehicle involvement per accident.

Sheet 6: Accident Severity by District Area

Birmingham has the highest number of accidents, followed by Leeds and Manchester.

While most accidents result in slight injuries, fatal accidents remain a critical concern in certain areas.

4.Actionable Recommendations

Weather-Related Measures: Implement stricter speed limits and safety campaigns during high-risk weather conditions like rain and fog.

Road Maintenance: Improve drainage systems and road maintenance to reduce risks on wet or icy roads.

High-Risk Areas: Increase traffic monitoring and law enforcement in cities with the highest accident rates (e.g., Birmingham, Leeds).

Driver Education: Enhance driver training programs, especially for navigating roundabouts and slip roads safely.

5. Conclusion & Next Steps

This analysis highlights critical factors influencing traffic accidents and provides actionable recommendations for improving road safety. Future steps include:

Incorporating real-time traffic data for more dynamic analysis.

Using machine learning models to predict accident-prone areas and times.