Road Accident Data Analysis Dashboard - Project Report

# 📘 Introduction

This project focuses on analyzing a large dataset of road accident casualties using Microsoft Excel. It includes interactive dashboards and visualizations to highlight key trends, breakdowns by vehicle type, road type, and environmental conditions.

# 🎯 Objective

To gain hands-on experience in Excel-based data analysis, improve dashboard design skills, and extract meaningful insights from real-world road accident data involving over 4 lakh casualties.

# 🛠 Tools & Techniques Used

- Microsoft Excel  
- Pivot Tables & Charts  
- Slicers & Filters  
- KPI Calculation  
- Data Cleaning & Structuring  
- Dashboard Design

# 📊 Project Workflow

1. Data Cleaning: Removed inconsistencies, corrected errors, and formatted data.  
2. Data Processing: Aggregated accident data using pivot tables.  
3. Data Analysis: Derived key metrics and KPIs for fatalities, vehicle types, and road types.  
4. Data Visualization: Designed an interactive dashboard using slicers, charts, and visuals.

# 🔍 Key Insights

- Total Casualties: 417,883  
- Highest Casualties by Vehicle: Cars (333,485)  
- Most Affected Road Type: Single Carriageway (309.7K)  
- Daylight Accidents: 305K+  
- Urban Areas Reported Higher Incidents (255.9K)  
- Slight Injuries dominated at 84.1% of total casualties

# 📸 Visual Snapshots

Refer to the screenshots used in the GitHub README for visuals of the Dashboard and Data Analysis Sheet.

# 📚 Learning Outcome

This project significantly improved my Excel capabilities, especially in handling real-world datasets. I gained practical experience in designing dashboards, creating KPIs, and storytelling through visuals. It has strengthened my foundation as a data analyst.

# 🔗 Links

GitHub: https://github.com/mahesh735-ai

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