📊ROAD ACCIDENT DASHBOARD REPORT

Project Type: Excel Data Analytics Dashboard
Tool Used: Microsoft Excel

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1. INTRODUCTION

Road accidents are a major concern affecting public safety and transportation systems worldwide. Understanding accident patterns and risk factors is essential for reducing casualties and improving road safety.

This project focuses on analyzing road accident data for the years **2021 and 2022** using **Microsoft Excel**. An interactive dashboard was developed to provide meaningful insights into casualties, accident severity, vehicle types, road conditions, and accident trends. These insights help stakeholders take informed, data-driven decisions to enhance road safety measures.

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2. OBJECTIVE OF THE PROJECT

The primary objectives of this project are:

- To analyze the **total number of casualties** caused by road accidents
- To understand accident severity levels (**Fatal, Serious, Slight**)
- To identify **high-risk vehicle types and road types**
- To compare accident trends between **2021 and 2022**
- To support **data-driven decision making** for road safety improvements

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3. BUSINESS REQUIREMENTS

The client required an analytical dashboard that provides insights on the following aspects:

3.1 Primary KPI – Total Casualties

Displays the overall number of casualties resulting from road accidents, offering a high-level view of accident impact.

3.2 Primary KPIs – Casualties by Severity

Shows total casualties and percentage distribution based on accident severity:

- Fatal

- Serious
- Slight

This helps in understanding the seriousness of road accidents.

3.3 Casualties by Vehicle Type

Analyzes total casualties by different vehicle types to identify which vehicles are most frequently involved in accidents.

3.4 Monthly Trend Analysis (Current Year vs Previous Year)

Compares monthly accident trends between:

- **Current Year (2022)**
- **Previous Year (2021)**

This analysis highlights seasonal patterns and year-on-year changes.

3.5 Casualties by Road Type

Identifies road types with the highest number of casualties, such as:

- Single carriageway
- Dual carriageway
- Roundabout
- Other road types

3.6 Casualties by Road Surface

Displays casualty distribution based on road surface conditions:

- Dry
- Wet
- Snow / Ice

3.7 Casualties by Area and Light Condition

Analyzes accidents based on:

- **Area:** Urban vs Rural
- **Light Condition:** Daylight vs Dark

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4. STAKEHOLDERS

This dashboard is useful for the following stakeholders:

- Ministry of Transport
- Road Transport Department
- Police Force
- Emergency Services Department
- Road Safety Corps
- Transport Operators
- Traffic Management Agencies
- Public
- Media

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5. DATA & TOOLS USED

5.1 Data

- Road accident data for **2021 and 2022**
- Includes information on casualties, vehicle type, road type, road surface, area, and light condition

5.2 Tools & Techniques

- Microsoft Excel
- Pivot Tables and Pivot Charts
- KPI Cards
- Line Charts, Bar Charts, and Donut Charts
- Slicers and Timeline Filters
- Dashboard formatting and data visualization techniques

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6. DASHBOARD FEATURES

- Interactive filters for **Year** and **Area (Urban/Rural)**
- Clear KPI indicators for quick insights
- Visual comparison of current and previous year trends
- User-friendly and professional dashboard design

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7. INSIGHTS & OBSERVATIONS

- Slight casualties account for the **highest percentage** of total casualties
- **Single carriageway roads** record the maximum number of accidents
- Most accidents occur on **dry road surfaces**
- Casualties are higher during **daylight** compared to night conditions

• Certain months show increased accident frequency, indicating **seasonal patterns**

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8. CONCLUSION

The Road Accident Dashboard provides a comprehensive and interactive view of road accident data. It helps in identifying key risk factors related to road types, vehicle categories, and environmental conditions.

This project demonstrates strong skills in **Excel data analysis, dashboard creation, and data visualization**, making it suitable for academic submission as well as a professional portfolio.

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9. FUTURE ENHANCEMENTS

- Include additional years of data for deeper trend analysis
- Integrate geographical maps for location-based insights
- Automate data updates using **Power Query**
