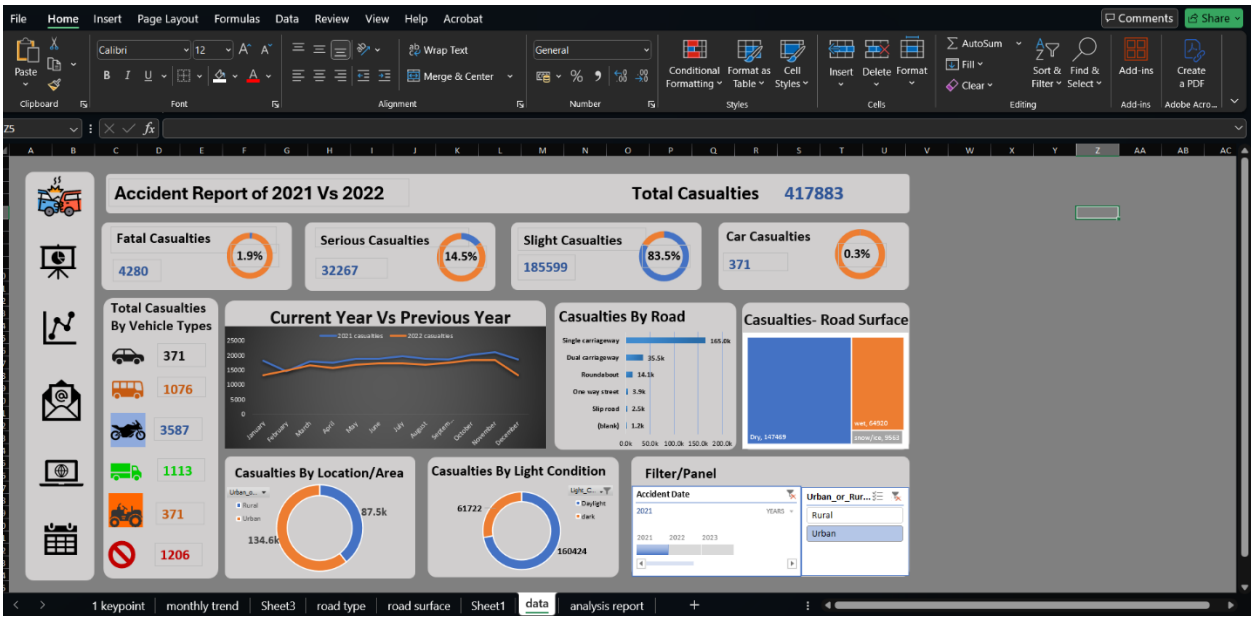

🔧 UK Road Accident Analysis Dashboard (Excel Project)

📅 Duration Analyzed: 2021–2022
📊 Tool Used: Microsoft Excel
📍 Location: United Kingdom (UK Accident Data)

📌 Project Overview

This project involves analyzing UK road accident data for the years 2021 and 2022. The goal was to extract actionable insights by visualizing various accident parameters such as accident severity, vehicle type, road types, and environmental conditions.

The final deliverable is a dynamic Excel dashboard highlighting key patterns, trends, and correlations within the accident data.

🎯 Client Requirements and How I Addressed Them

1. ✅ Total Casualties After Accidents
→ The dashboard prominently shows total casualties (417,883) at the top for quick reference.

2. ✅ Casualties by Accident Severity

→ Breakdown of Fatal (1.9%), Serious (14.5%), and Slight (83.5%) casualties using doughnut charts and absolute values.

3. ✅ Maximum Casualties by Type of Vehicle
→ Visual cards display casualty counts for vehicle types such as two-wheelers, cars, trucks, and others. Two-wheelers and bicycles had notably higher impacts.

4. ✅ Casualties by Vehicle Type
→ A categorized breakdown reveals how each type contributed to the total casualty number.

5. ✅ Monthly Trend Comparison (2021 vs 2022)
→ A line chart presents a clear visual comparison of monthly casualties across both years, enabling quick trend spotting.

6. ✅ Monthly Casualties by Road Type
→ A bar chart illustrates the accident distribution across different road infrastructures (e.g., single carriageway, roundabout, dual carriageway).

7. ✅ Casualties by Road Surface Condition
→ Stacked bar chart highlights road surface impact, such as Dry (147,469), Wet (96,802), and Snow/Ice (3,659).

8. ✅ Relationship Between Casualties by Area and Light Condition
→ Pie charts depict area-wise (Urban/Rural) and time-wise (Daylight/Dark) casualty distribution, showing major accidents in Rural and Dark conditions.

📈 Key Insights

Most accidents occurred on dry roads, not wet or icy roads.

Slight injuries dominated the casualty types, which may suggest the need for minor safety interventions.

Rural areas and nighttime conditions saw more casualties—indicating a need for better lighting and enforcement.

Two-wheelers and pedal cycles saw high casualty counts, highlighting the need for improved safety infrastructure for vulnerable road users.

🛠️ Tools & Features Used

Microsoft Excel 365

Pivot Tables and Pivot Charts

Doughnut Charts, Bar Graphs, Line Graphs

Conditional Formatting and Data Filters

Dashboard Design and Layout Customization

👨‍💻 My Contribution

Cleaned and transformed raw accident data into structured tables.

Created pivot tables for dynamic analysis by year, road type, vehicle type, and location.

Designed and built the dashboard interface for intuitive user interaction.

Applied data storytelling techniques to highlight important trends and insights.