

Synopsis

Title: Road Accidents Analysis

The dashboard provides an overview of road accidents categorized by various metrics, including casualties, vehicle types, road types, time, and geographical locations. Key highlights include:

1. **Key Metrics (CY: Current Year)**
 - **Total CY Casualties:** 195.7K (-11.9%)
 - **Total CY Fatal Casualties:** 2.9K (-33.3%)
 - **Total CY Serious Casualties:** 27.0K (-16.2%)
 - **Total CY Slight Casualties:** 165.8K (-10.6%)
2. **Breakdowns**
 - **By Vehicle Type:**
 - Cars contribute significantly (155.8K casualties), followed by bikes (15.6K).
 - Agricultural vehicles and buses are less involved.
 - **By Road Type:**
 - Single carriageways have the highest casualties (~0.14M).
 - **By Light Condition:**
 - Most accidents occur during the day (73.84%).
 - **By Urban vs Rural:**
 - Urban areas account for 61.95% of casualties.
3. **Trends and Locations**
 - A line graph compares monthly trends for the current year vs. the previous year.
 - A map visualizes accidents by districts using average latitude and longitude.

1. Excel: Data Preparation

- **Purpose:**
 - Raw data storage and preprocessing.
 - Cleaning and structuring the dataset for use in Power BI.
 - Common tasks include:
 - Removing duplicates.
 - Standardizing column formats.
 - Adding calculated fields (e.g., percentages or time-based metrics).
- **Key Features in Excel:**
 - **Sorting & Filtering:** To segregate data (e.g., by vehicle type, road type, etc.).
 - **Formulas:** To calculate totals, percentages, and trends.
 - **Pivot Tables:** To summarize data, e.g., casualties by vehicle type or road condition.
 - **Data Validation:** To ensure consistent entries (e.g., for light conditions).

2. Power BI: Visualization & Reporting

- **Purpose:**

- Importing the prepared dataset from Excel.
- Creating interactive and dynamic visuals.
- Allowing stakeholders to explore insights like trends, comparisons, and geographical patterns.
- **Power BI Elements Used:**
 1. **KPI Cards:** Show overall metrics (e.g., total casualties, fatality rates).
 2. **Pie Charts:** Represent proportions (e.g., casualties by urban/rural areas and light conditions).
 3. **Bar Charts:** Highlight data distribution (e.g., casualties by vehicle and road type).
 4. **Line Charts:** Visualize trends over time (e.g., monthly casualties for CY and PY).
 5. **Maps:** Geographically plot data (e.g., accidents by district using latitude and longitude).
 6. **Filters and Slicers:** Enable users to interact with the data (e.g., filtering by year, location, or other categories).

Power BI Visualization

