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"Road Safety Data Analysis (PowerBI)"

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1. Data Preparation:

➢ **Import the provided dataset into Power BI.**

Steps: Home -> Get Data -> Excel Workbook

- Import Excel Datasheet.
- Select Data and Load the data.

➢ **Clean the data by handling missing values, outliers, and any inconsistencies.**

Steps: Home -> Transform Data -> Open Power Query Editor

1. **Handle Missing Values**
   - There are two columns with missing values.

     Time

     Carriageway_Hazards

   - Remove the "Carriageway_Hazards" column which is full of "none" values.
   - Remove missing values from the "Time" column by choosing Remove rows from the Home tab.

2. Handle Outliers

There are two columns with outliers..

1. Number_of_Vehicles
2. Number_of_Casualties

- Remove the "Carriageway_Hazards" column which is full of "none" values.
- Remove missing values from the "Time" column by choosing Remove rows from the Home tab.

➢ Remove Outliers using Z-score:

1. Calculate mean
2. Calculate Standard Deviation
3. Z-Score = ("Column" - mean) / Standard Deviation

➢Data Visualization:

1. Accident Severity vs. Weather Condition -> Stacked bar Chart
2. Vehicle Types vs. Rural Urban Area -> Bar Chart
3. Road Surface Conditions vs. Count of Accident Services -> Stacked Column Chart
4. Donut Chart -> Days of Week vs. Counts of Accident Index
5. Line Chart -> Count of Year vs. Accident Index
6. Pie Chart -> Accident Index vs. Accident Severity
7. Filter for Local Authority (Districts)

My User Friendly Dashboard for Road Safety Data Analysis.