# Excel Dashboard

# Accident Analysis Dashboard

**Column Names:** Age_band_of_driver, Sex_of_driver, Educational_level, Vehicle_driver_relation, Driving_experience, Lanes_or_Medians, Types_of_Junction, Road_surface_type, Light_conditions, Weather_conditions, Type_of_collision, Vehicle_movement, Pedestrian_movement, Cause_of_accident, Accident_severity.

## Introduction:

The Accident Analysis Dashboard provides a comprehensive overview of accident-related data, focusing on various factors contributing to accidents and their resulting severity. The dataset encompasses diverse attributes related to drivers, road conditions, environmental factors, and accident characteristics. This summary aims to provide an understanding of the dataset's key insights and potential implications.

## Key Insights:

### 1) Demographic and Driver Characteristics:

- Age_band_of_driver and Sex_of_driver columns reveal the distribution of accidents across different age groups and genders.
- Educational_level and Vehicle_driver_relation columns offer insights into the educational background and relationship of the driver to the vehicle.

### 2) Driving Experience and Behavior:

- Driving_experience column provides information about the experience level of drivers involved in accidents.
- Vehicle_movement and Pedestrian_movement columns shed light on the movement of vehicles and pedestrians during accidents, respectively.

### 3) Road and Environmental Conditions:

- Lanes_or_Medians and Types_of_Junction columns describe the road layout and junction types where accidents occur.
- Road_surface_type, Light_conditions, and Weather_conditions columns indicate the prevailing road surface, lighting conditions, and weather during accidents.

### 4) Accident Characteristics:

- Type_of_collision and Cause_of_accident columns help identify the types and causes of accidents.
- Accident_severity column categorizes accidents based on their severity, providing a crucial factor for analysis.

## Implications:

**Targeted Safety Measures:**

- Insights from the Age_band_of_driver and Sex_of_driver columns can aid in tailoring safety campaigns and interventions for specific demographic groups.
- Educational_level data can guide efforts to improve awareness and education among drivers.

**Enhanced Road Design and Planning:**

- The Types_of_Junction and Lanes_or_Medians columns can influence road design and infrastructure planning to minimize accident-prone areas.
- Weather_conditions and Road_surface_type information can prompt better maintenance practices for adverse weather conditions.

**Risk Mitigation Strategies:**

- Understanding the primary causes of accidents through the Cause_of_accident column can inform strategies to mitigate these causes and reduce accident rates.

**Emergency Response Preparedness:**

- The Accident_severity column helps prioritize emergency response based on the severity of accidents.

## Pivot Tables and Charts:

- Age Distribution of Drivers
- Educational Level and Accident Severity
- Weather Condition and Accident Severity
- Cause Of Accidents by Weather Conditions
- Type of Collision Distribution
- Vehicle Movement Vs. Pedestrian Movement
- Road And Light Conditions Vs. Accident Severity
- Accident Severity Analysis
- Cause of Accident Analysis
- Severity Of Accidents by Sex and Age
- Driving Experience Analysis With Education Level
- Accident Severity Based on Experience And Education
- Impact Of Demographics on Accident Severity
- Analysis of Collision Types, Causes, and Severity by Age

## Conclusion:

The Accident Analysis Dashboard encapsulates crucial data elements related to accidents, allowing stakeholders to draw valuable insights for road safety enhancement, policy formulation, and targeted interventions. By leveraging these insights, decision-makers can work towards reducing accident occurrences and their associated impacts on road users and the community at large.