**ROAD TRAFFIC ANALYSIS EXCEL PROJECT**

**4.0. Data Exploration on Road Traffic Accidents (Results)  
1. Overview of Accident Trends**

* **Total Casualties:** 12,316 people involved in road accidents.
* **Casualty Distribution by Gender:**
  + Males accounted for the highest number of casualties (11,437).
  + Female casualties were significantly lower (701).
  + Unknown gender cases: 178.

**2. Analysis of Accident Timing**

* **Accidents by Time of Day:**
  + Afternoon recorded the highest number of casualties (7,939).
  + Evening followed with 5,405 casualties.
  + Morning had 4,537 casualties.
  + Night had the least (1,186), likely due to reduced traffic.
* **Accidents by Day of the Week:**
  + **Friday** had the highest casualties (3,144), possibly due to increased weekend traffic.
  + **Monday recorded the least casualties (2,571),** likely due to lower travel activity.
* **Casualties by Light Conditions:**
  + Daytime accidents were more frequent (13,289 casualties), possibly due to higher traffic volumes.
  + Nighttime had fewer casualties (5,778), but could involve more severe incidents due to reduced visibility.

**3. Environmental Factors Impacting Accidents**

* **Surface Condition:**
  + Dry roads accounted for the majority of casualties (14,061).
  + Wet or flooded conditions had 4,852 casualties, indicating an increased risk in adverse weather.
  + Snow had the least impact (154 casualties).
* **Road Surface Type:**
  + Most casualties occurred on asphalt roads (11,296).
  + Gravel roads (242 casualties) and Earth roads (358 casualties) had significantly fewer cases.

**4. Driver Demographics and Impact on Accidents**

* **Casualties by Driver Age Group:**
  + Young drivers (18-30) were involved in the highest number of accidents (4,271).
  + Adults (31-50) followed closely (4,087).
  + Older drivers (over 51) and adolescents (under 18) had fewer recorded accidents.

**5. Vehicle-Related Factors**

* **Casualties by Vehicle Type:**
  + Private vehicles were involved in the most casualties (7,239).
  + Public transport recorded 2,910 casualties.
  + Heavy vehicles contributed to 5,018 casualties, indicating their potential for severe impacts.
  + Two-wheelers (313 casualties) and Three-wheelers (50 casualties) had lower recorded cases.
* **Casualties by Vehicle Defects:**
  + Most vehicles involved had no defects (12,034 casualties).
  + Unknown cases (6,866 casualties) suggest missing or unrecorded data**.**

**6. Accident Causes and Severity**

* Impact of Accident Causes on Casualties:
  + Reckless/Dangerous driving led to the highest number of casualties (8,881).
  + Failure to follow traffic rules also had a major impact (8,584 casualties).
  + Vehicle-related issues (559 casualties) had the least impact.
* **Casualty Severity by Class:**
  + Drivers or riders were most affected (4,944 casualties).
  + Pedestrians recorded 1,649 casualties, highlighting road safety concerns.
  + Passengers had 1,280 casualties.
* **Casualties by Educational Level:**
  + Junior high school education group had the highest casualties (11,832).
  + Illiterate individuals had the lowest (60 casualties).