Problem Statement

Your task is to create a Power BI dashboard for analysing this data. You are expected to explore this dataset, identify key performance indicators (KPIs), and present insightful visualizations through a well-designed dashboard. This assignment aims to evaluate your skills in data analysis, visualization, and dashboard creation using Power BI.

STEP IN PROJECT

- Requirement Gathering
- Data Overview
- Connecting Data with Power bi
- Data Cleaning
- Data Modeling
- Background Design in Power Point
- Data Visualization and Charts Designs
- Dashboard Building
- Insight

REQUIREMENT

Clients want to create a Road Accident Dashboard for Year 2021 and 2022 so that they can have insight on the below requirements:-

1. Data Preparation:

- Import the provided dataset into Power BI.
- Clean the data by handling missing values, outliers, and any inconsistencies.
- Perform necessary data transformations to prepare it for analysis.

2. Exploratory Data Analysis:

- Explore the dataset to understand the distribution and characteristics of variables.
- Identify trends, patterns, and correlations within the data.

➢ Select relevant KPIs based on your analysis (e.g., Accident Severity Distribution, Number of Accidents Over Time, Distribution of Accidents by Day of the Week, Top Junction Controls Contributing to Accidents, Weather Conditions vs. Accident Severity, and Road Surface Conditions vs. Accident Severity)

3. Dashboard Design:

➢ Design an interactive dashboard with multiple visualizations to effectively communicate insights from the data.

➢ Include a variety of charts and graphs such as bar charts, line charts, maps, etc.

➢ The dashboard layout should be is intuitive and user-friendly.

Insights

- **Total incidents:** 144,400 traffic accidents occurred this year (CY); There was a decrease of 11.7% , last year. The number of victims was 195,700, down 11.9% compared to last year.

- **Serious injuries**: Mostly minor injuries (124,100), serious injuries (18,800) and deaths (1,549 fewer people). Much more. The number of deaths decreased by 35.6 percent compar ed to last year.

1. **Causalities by light condition:**

Current year:	**Previous year:**
● In day- 73.84% (145k)	● In day- 72.22%(160k)
● In night- 26.16%(51k)	● In night-27.78%(62k)

2. **Causalities by Vechile Type:**

Current year :	**Previous year:**
● Agriculture – 399	● Agriculture – 633
● Car- 155804	● Car- 177681
● Bus- 6573	● Bus- 6225
● Van- 15905	● Van- 17567
● Bike- 15610	● Bike- 18154
● Others- 1446	● Others- 1886

3.Causalities by Areas:

Current year:

- Urban - 61.95%(121k)
- Rural - 38.05%(74k)

Previous year :

- Urban - 60.44%(135k)
- Rural - 39.46%(88k)

4. Causalities by month:

Current year:

- Jan -13k
- Feb -14.9k
- Mar -16.5k
- Apr -15.8k
- May -16.8k
- June -17k
- July -17k
- Aug -16.8k
- Sep -17.8k
- Oct -18.2k
- Nov -18.5k
- Dec - 13k

Previous year:

- Jan -18.4k
- Feb -15k
- Mar -17.9k
- Apr -17.8k
- May -18.9k
- June -18.7k
- July -19.8k
- Aug -18.9k
- Sep -18.5k
- Oct -20.1k
- Nov -21k
- Dec -18.7k

5.Causalities by Road type:

Current year:

- Single Carriageway - 144653
- Dual Carriageway - 31912
- Roundabout - 12683
- One Way Street - 3499
- Slip Road - 2990

Previous year:

Single carriageway - 165450
Dual carriageway - 35456
Roundabout - 14145
One Way Street - 3890
Slip Road - 3610