Road Safety Analysis Documentation

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1. Introduction

The road safety analysis project aimed to develop a comprehensive Road Safety Dashboard for the years 2021 and 2022. The objective was to provide stakeholders with insights into key performance indicators (KPIs) related to road accidents, casualties, and other relevant metrics. This document outlines the methodology followed and the key findings derived from the dashboard.

2. Procedure Followed

Steps in Project:

1. **Requirement Gathering:**

   - Understood objectives and requirements for the Road Safety Dashboard.

   - Identified primary and secondary KPIs based on stakeholder needs.

   - Discussed specific preferences and customization requirements.

2. **Raw Data Overview:**

   - Obtained raw data for road accidents in 2021 and 2022.

   - Reviewed dataset structure and contents for data quality.

3. **Connecting Data with Power BI:**

   - Imported raw data into Power BI Desktop.

- Connected to the dataset and loaded it into the Power BI data model.

4. **Data Cleaning:**

- Utilized Power Query Editor to clean and transform the data.

- Handled missing values, duplicates, and inconsistencies.

5. **Data Processing:**

- Performed additional data processing tasks such as aggregation and filtering.

6. **Data Modelling:**

- Established relationships between tables and defined a calendar date table.

7. **Background Design:**

- Designed visually appealing background for the dashboard.

8. **Data Visualization/Charts Design:**

- Created various charts and visualizations to represent KPIs effectively.

9. **Report/Dashboard Building:**

- Built the main dashboard layout with interactive features.

10. **Insights:**

- Analyzed visualizations to derive meaningful insights.

11. **Power BI Functionalities:**

- Utilized Power BI functionalities to enhance the dashboard.

12. **Export the Report:**

- Exported the completed dashboard for sharing.

Requirement in Project:

- Created a Road Safety Dashboard for 2021 and 2022.

- Addressed primary and secondary KPIs related to casualties, accident severity, vehicle types, monthly trends, road types, locations, and time of day.

3. Key Findings and Insights

The Road Safety Dashboard provided valuable insights into various metrics, including:

- Total casualties and accidents with year-over-year (YoY) growth.

- Casualties by accident severity and vehicle type.

- Monthly trends comparison.

- Casualties by road type, location, and time of day.

Conclusion

The project enhanced skills in data analysis and visualization, providing valuable experience for future endeavors.