Centre for Infrastructure, Sustainable

Transportation and Urban Planning

Indian Institute of Science (IISc), Bengaluru

Summer Internship Program 2024

Project Title:

Road Safety Monitor Dashboard

(Power Bi Dashboard)

Submitted To:
CiSTUP
Indian Institute of Science,
Bengaluru

Project In-charge: Dr. Vijay
Gopal Kovvali & Dileepan K

Submitted By:
Mohini Ruhela
Banasthali Vidhyapith,Jaipur,
Rajasthan

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Summary Report:

Road Safety Monitor Dashboard

1. Introduction:

The "Road Safety Monitor: Visualizing Accident Trends" dashboard is a dynamic and interactive tool designed to analyze and visualize road accident data. The dashboard provides valuable insights into accident trends, severity, and contributing factors, allowing stakeholders to make informed decisions and implement targeted interventions for improving road safety.

2. Data Overview:

The dashboard utilizes road accident data, including information such as Accident Index, Accident Date, Severity, Light Conditions, Location, Number of Vehicles, and Number of Casualties.

3. Stakeholders:

The stakeholders for the Road Safety Monitor dashboard include government agencies such as the Ministry of Transport, Road Transport Department, Police Force, Emergency Service Department, Road Safety Corps, Transport Operators, Traffic Management Agencies, as well as the general public and media.

4. Project Steps:

1. Requirement Gathering: Identify primary and secondary KPI's, gather stakeholder requirements.
2. Stakeholders: Define the users and stakeholders who will utilize the dashboard.
3. Raw Data Overview: Review the available road accident data to understand its structure and quality.
4. Connecting Data with Power BI: Import and connect the road accident data with Power BI.
5. Data Cleaning: Cleanse and prepare the data for analysis, addressing any inconsistencies or missing values.
6. Data Processing: Utilize DAX queries to process and manipulate the data as required for analysis.
7. Data Modeling: Create data models to organize and structure the data for efficient analysis.
8. Data Visualizations/Charts Design: Design visualizations and charts to effectively communicate key insights.
9. Dashboard Building: Build the interactive dashboard using Power BI, incorporating filters, slicers, and drill-through options.

10. Final Insights: Analyze the dashboard to derive actionable insights and recommendations for road safety improvements.

5. Dashboard Components:

- **Primary KPI's:**

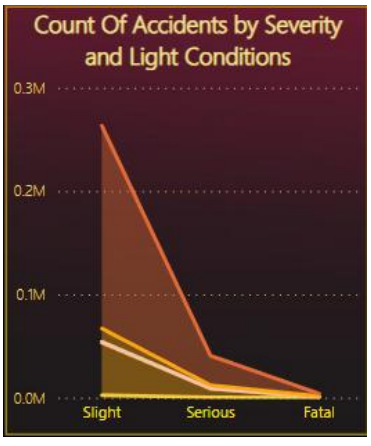
Total Accidents, Total Vehicles, Current Year Casualties

- **Secondary KPI's:**

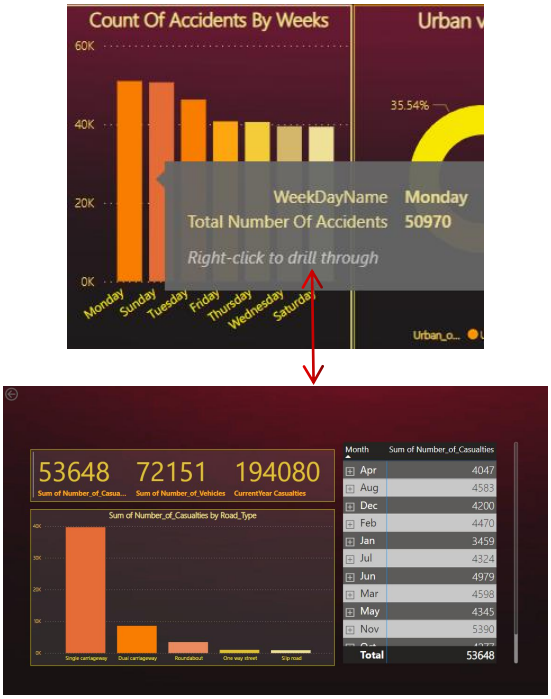
Customized KPI's tailored to stakeholder needs

- **Visualizations:**

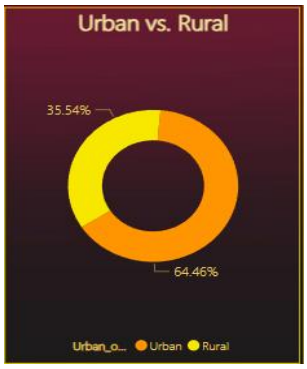
1. Count of accidents by severity and light conditions



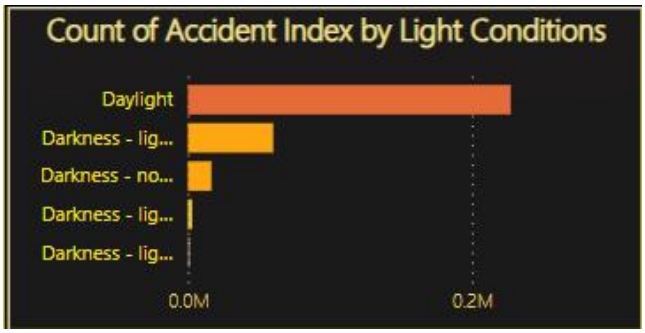
2. Count of accidents by weeks (with drill-through option)



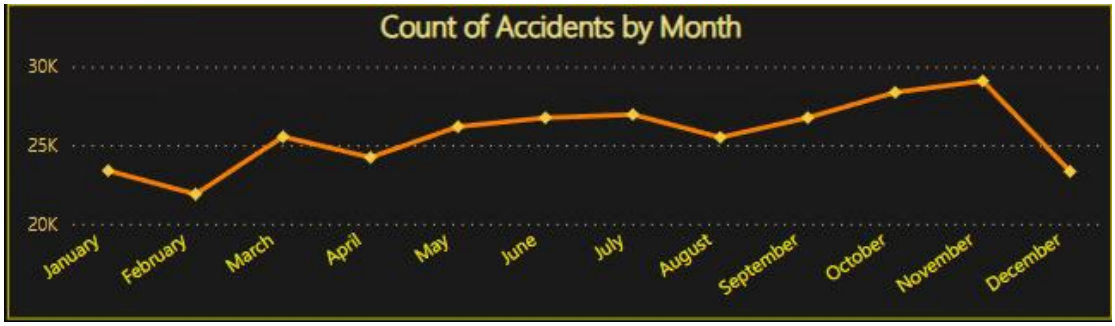
3. Urban vs. rural accidents comparison



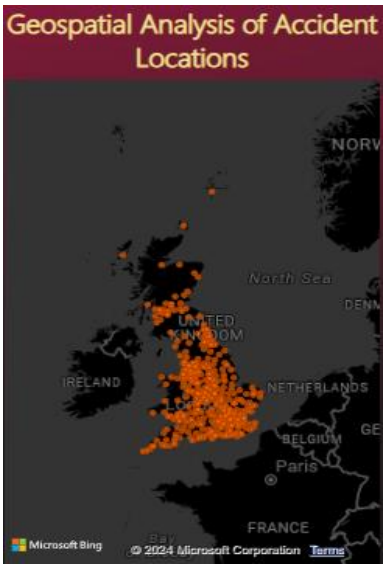
4. Count of accident index by light conditions



5. Total number of accidents by months



6. Geospatial analysis of accident locations



6.Dashboard:

7. Conclusion:

The Road Safety Monitor dashboard serves as a valuable tool for stakeholders to monitor and analyze road accident trends. By leveraging data-driven insights, stakeholders can implement targeted interventions to enhance road safety and reduce accidents, ultimately saving lives and improving transportation infrastructure.

8. Next Steps:

Continued monitoring and analysis of road accident data, periodic updates and enhancements to the dashboard based on stakeholder feedback and evolving road safety needs.
