Summary Document: Road Accident Analysis.

Overview:

The following document presents an analysis of road accidents that occurred during the years 2021 and 2022. The analysis aims to identify trends, patterns, and key insights to better understand the factors contributing to road accidents. The project will utilize various essential metrics known as key performance indicators (KPIs) to assess the severity and consequences of traffic accidents. These KPIs included the overall number of casualties based on accident severity, Light conditions, Weather conditions vehicle type, road surface, and other factors.

Key Findings:

The Dashboard for Road Accident Analysis can be helpful to draw many insights. the key findings include Total casualties and total Accident values for the current year. Total Casualties by Accident Severity, Total Casualties concerning Vehicle type, Monthly trend showing a comparison of casualties for the current year and previous year, Casualties by road type for the current year, Total Casualties and total accidents by location, Count of Accident Severity by Weather Conditions, Count of Accident Severity by Road Surface Conditions.

Analysis:

Using the dashboard, we can perform various analyses such as trend analysis, geographical analysis, time analysis, vehicle and road type analysis, and analysis of other factors.

- Explored weather conditions associated with accidents, such as rain, fog, or snow.
- Investigated the influence of road conditions and visibility on accident occurrence**.**
- Examined the types of vehicles involved in accidents.
- Identified an overall decrease in the number of road accidents from 2021 to 2022.
- Analyzed seasonal variations and observed higher accident rates during November and October, and also when the road surface is dry, wet, or damp.
- Mapped accident hotspots to pinpoint areas with the highest frequency of accidents.
- Examined urban versus rural accident rates to identify areas requiring targeted interventions. Urban areas are having more number of casualties than rural areas.

Insights:

From our Dashboard, the first KPI indicates, as with respect to 2021 the year 2022 the total casualties have reduced by -11.9%, that is the number of accidents has reduced from 2021 to 2022. The total number of accidents are 144.4K. the total number of fatal casualties indicating those who are badly injured are 3K decreased by -33.3%, the number of serious casualties indicates who are less than fatal and more than slight is 27k decreased by -10.6%.

From the casualties by vehicle type we can see that car is one particular vehicle type involved in a maximum number of accidents. which helps us understand that four-wheelers should be careful while driving and there should be norms and regulations for four-wheelers in such a way that accidents can be reduced and in turn number of casualties also reduces.

Examined urban versus rural accident rates to identify areas requiring targeted interventions. Urban areas are having more number of casualties than rural areas. observed higher accident rates during November and October, and also when the road surface is dry, wet, or damp.

Conclusion:

The analysis of road accidents in 2021 and 2022 underscores the critical importance of prioritizing road safety initiatives. the number of Accidents has been reduced from 2021 to 2022 which is a good thing and also concludes that the urban areas need safety norms and regulations to follow in order to avoid accidents which are more compared to rural areas. the months of November and October involved more accidents and the accidents happen mostly when the road surface is dry, wet, or damp. The areas where a major number of accidents occurred are highlighted in the map, these areas need to develop plans to reduce accidents .