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Dataset

The dataset used in this analysis was obtained from the gov.uk website, which contains reported road collisions and personal injury accident logs in the United Kingdom. The data collection is done by the Department of Transportation, and the last update for the dataset was released on 15th December 2022. The research data has been organised into different categories. Reported road accidents by severity, road user type, and region in the United Kingdom over the past 10 years have been chosen for this visualization.

Source : Data Source for Reported road collisions (RAS0402 data set of the attached link is chosen for this analysis)

Repository Link: Assignment Submission Link - GitHub

Dataset : OneDrive Link to Data set

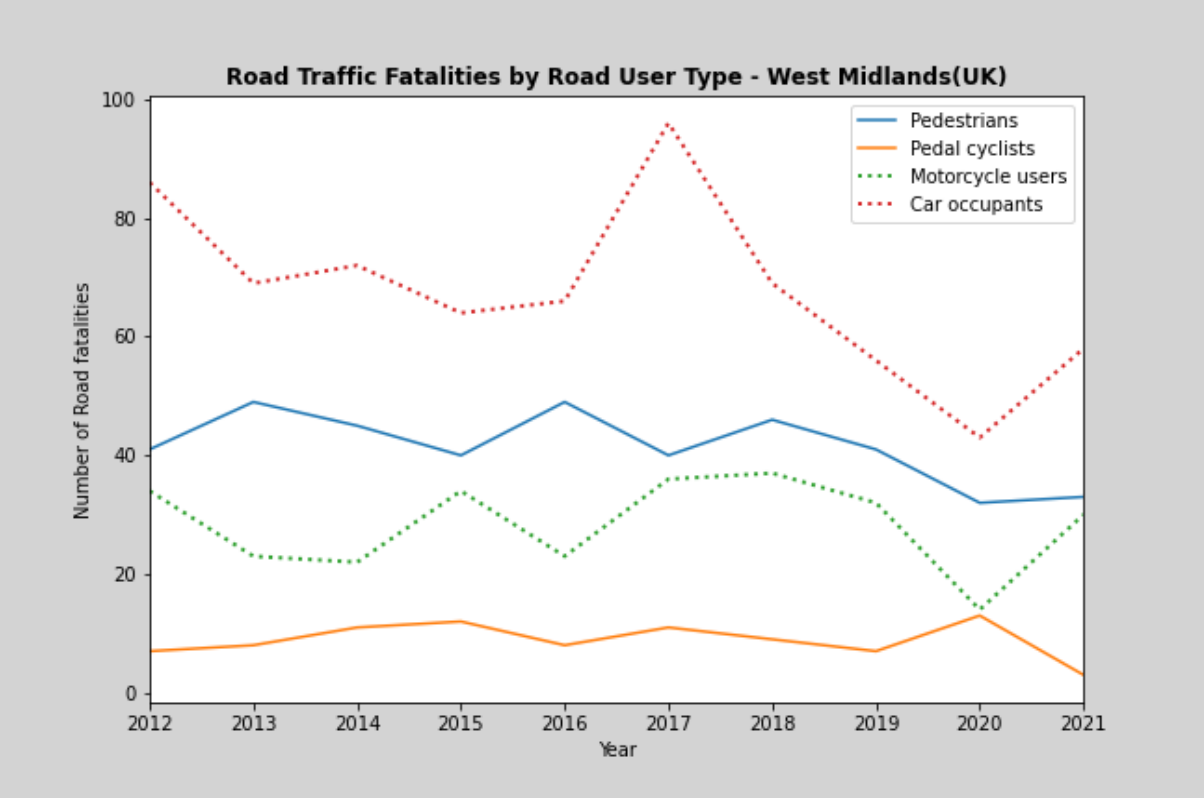

Figure 1:Road Fatalities by Road user type in West Midlands – United Kingdom

Line plot is a good technique for representing the trends and patterns of road accidents in a region or country over time.

This line plot shows the number of road fatalities in the West Midlands, United Kingdom, over a period of ten years (2012 - 2022), categorised by road user types, which includes pedestrians, pedal cyclists, motorcycle users, and car occupants.

This analysis reveals, car occupants had a higher number of road deaths compared to other road user types during the ten-year period from 2012 to 2022. It reaches a peak in 2017 and then gradually declines after that. After 2020, it is gradually increasing again, and only serious actions will be able to control it. Pedal cyclist deaths report the lowest rate over the past 10 years. Over a 10-year period, the pedestrian death rate on the road ranges between 35 and 45. It is preferable to act on lowering it.

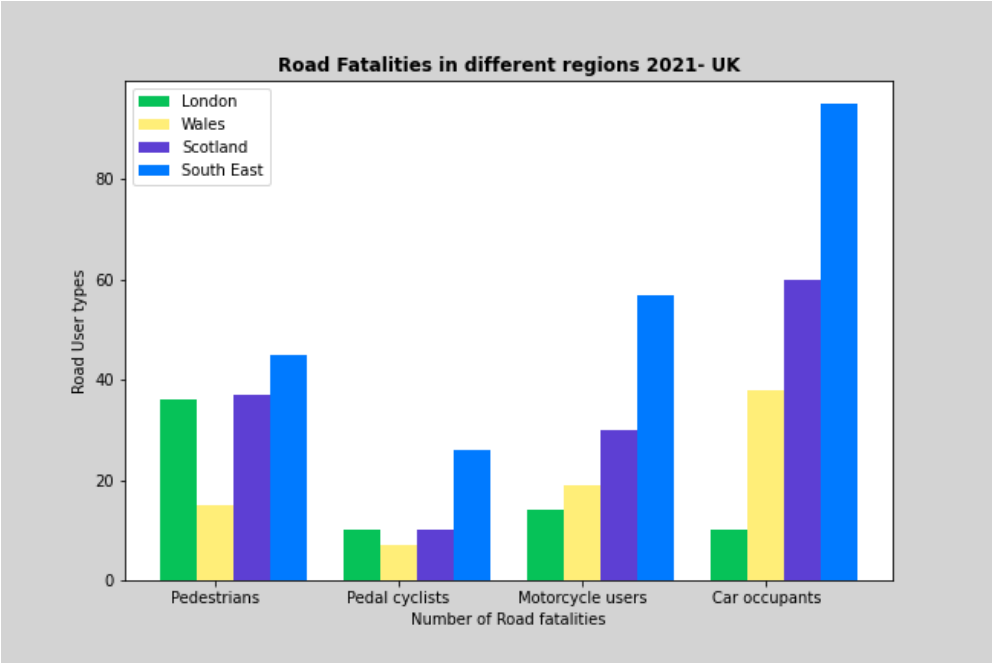

Figure 2:Road Fatalities in different regions 2021 - UK

Bar chart is a good technique for graphical representation of data that uses bars of varying heights to compare different categories of data. Here, the bar chart is chosen to represent the number of road accident deaths in different regions categorised by four road user types. This bar chart shows the total number of accident deaths that occurred in 2021 in four different regions in the UK (London, Wales, Scotland, and the South East). Secondly, it shows the road fatalities of regions by different road user categories.

From this analysis, we can further deduce in which region we had the highest number of fatal accidents in 2021. The South East region reports the highest number of fatal accidents in the UK accordingly. They can take serious actions to reduce the fatalities on the roads. In 2021,

the pedestrian death rate on roads in London is higher than in other regions. London is the capital of the United Kingdom and one of the country's busiest cities. As a result, it is preferable to take steps to reduce it.

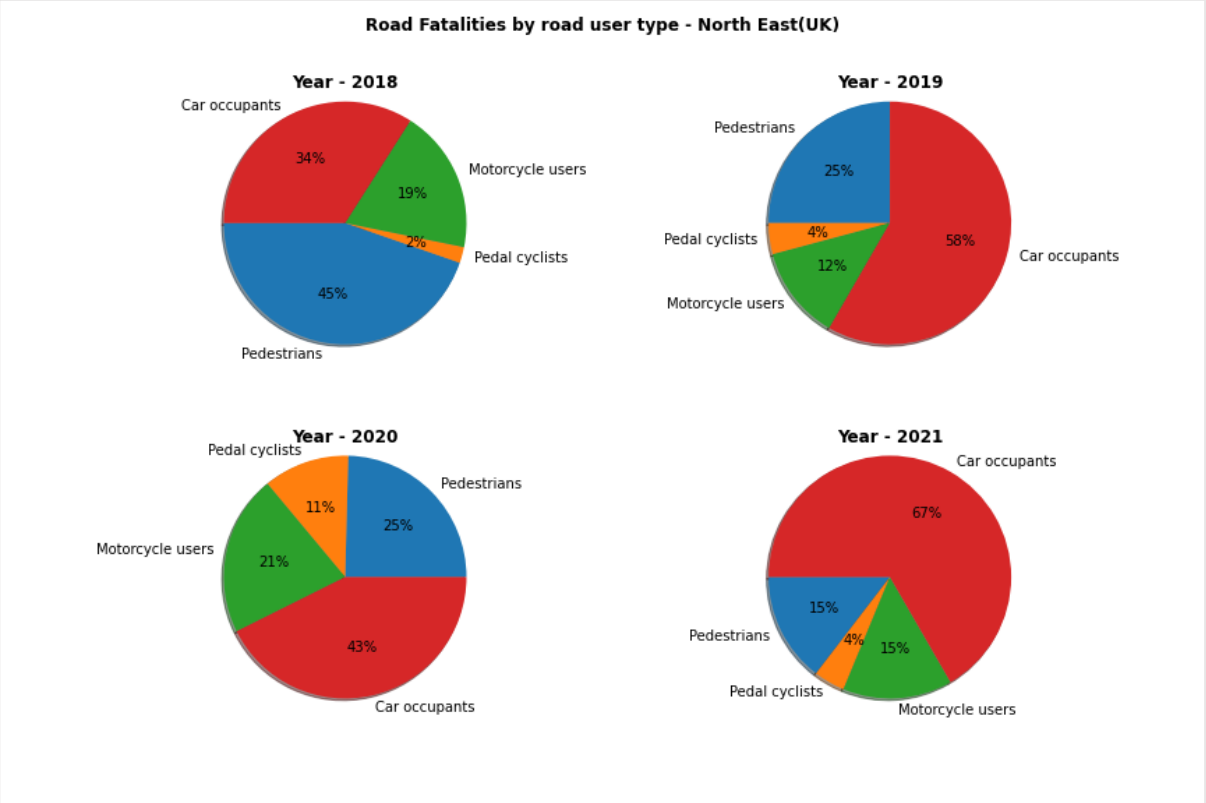

Figure 3:Road Fatalities by road user type in North East - UK

Pie chart is chosen for this visualization to represent the percentage of road user types caused by road fatalities. There are four pie charts used and first pie chart describes percentage of deaths on roads for year 2018 in the North East region. Second pie chart describes percentage of deaths on roads for year 2019 of the same region. Third and fourth pie chart represent same data for year 2020 and 2021.

This visualisation shows the growth of car occupant deaths in the North East region over the last four years. In 2021, car occupants accounted for 67% of all road deaths. In 2018, deaths of pedestrians on roads is 45% and it gradually decreases to 15% in the year 2021. Pedal cyclist maintain the lowest death rate on roads in all four years.