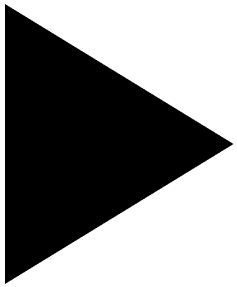
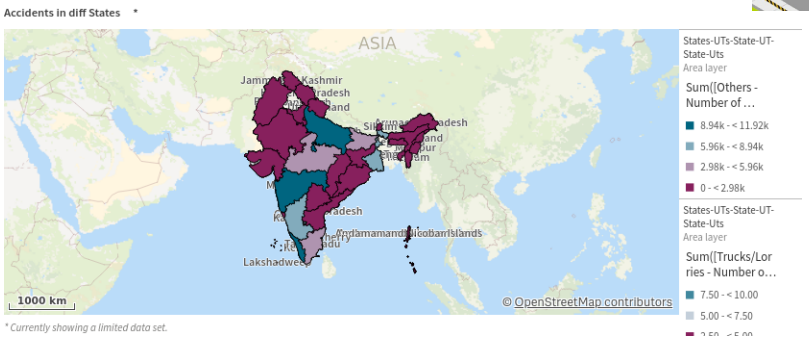
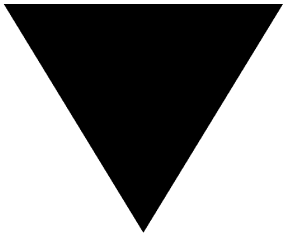
Road Safety and Accident Analysis in India

Welcome to the Road Safety and Accident Analysis in India. This project aims to identify accident hotspots, understand causes, and suggest preventive measures to improve road safety.







Avg of Driving on Wrong side

Avg([Driving on Wrong side - Number of Accidents])
678.6

Avg of Flashing Signal

Avg([Flashing Signal/Blinker - Total number of Accidents])
337.2

Avg of Other causes

Avg([Others - Number of Accidents])
2.18k

Avg of Use of mobiles

Avg([Use of Mobile Phone - Number of Accidents])
292.3

Avg of Overspeeding

Avg([Over-Speeding - Number of Accidents - Number])
8.86k

Avg of Drunk and Drive

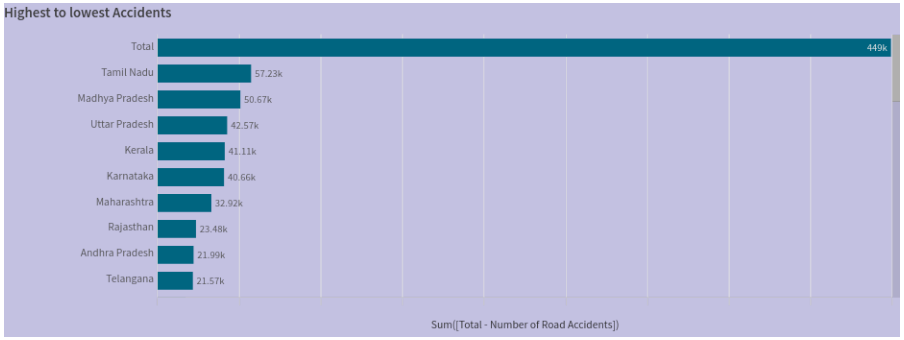
Avg([Drunken Driving/ Consumption of alcohol and drug - Number of Accidents])
340.4

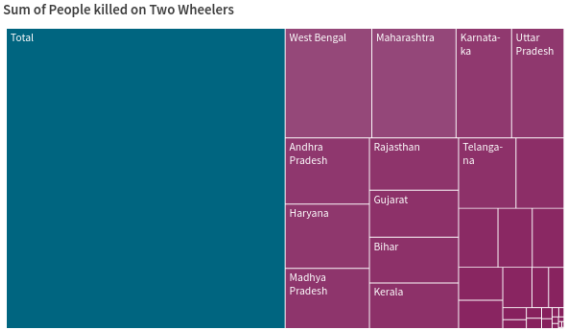
Avg of Jumping Signals

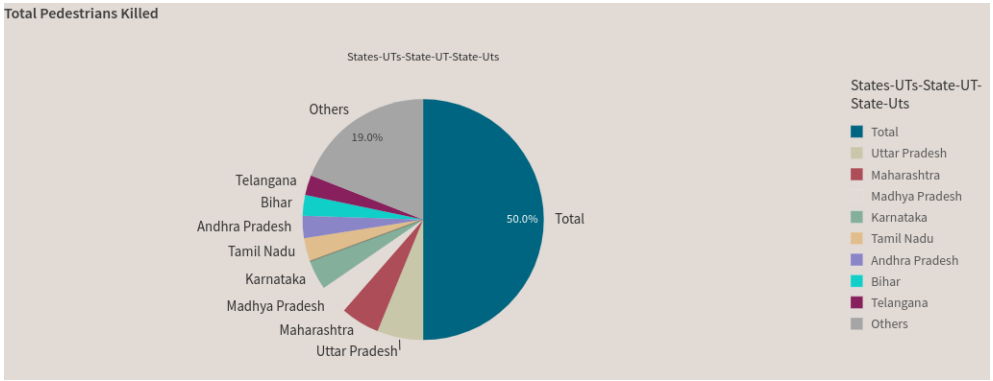
Avg([Jumping Red Light - Number of Accidents])
123.4

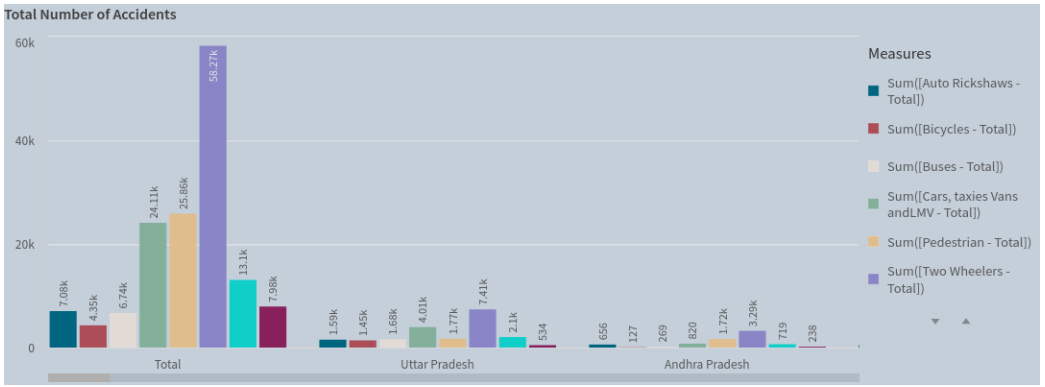
Introduction

India faces a significant challenge with high road accident rates, leading to numerous fatalities and injuries. This analysis seeks to uncover patterns in road accidents and provide actionable insights to enhance safety measures.



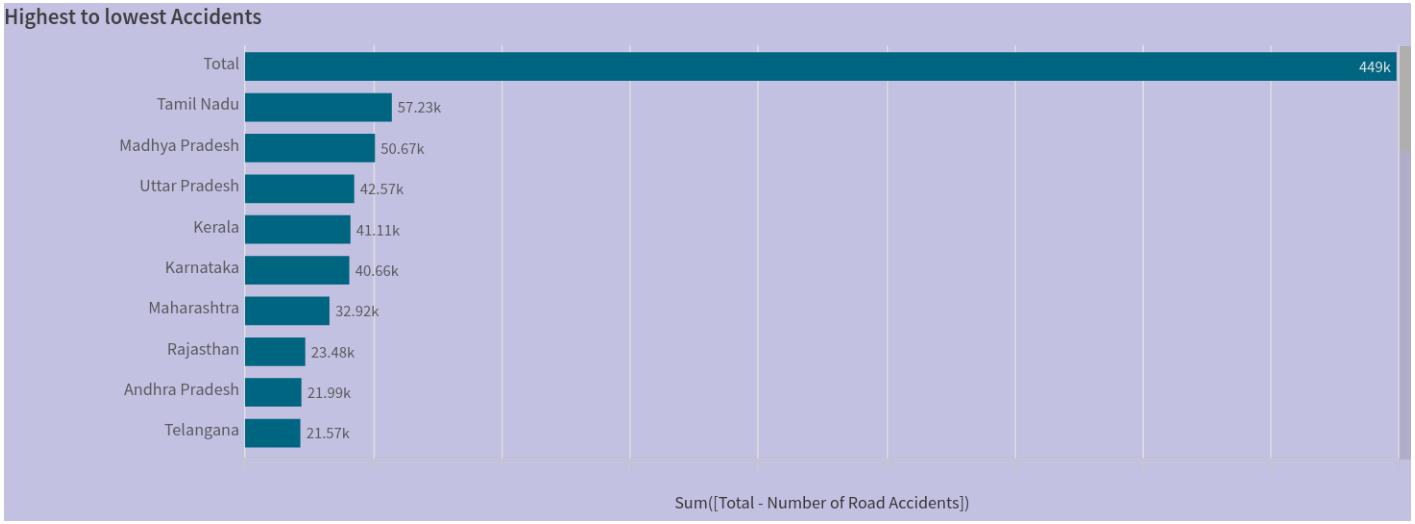


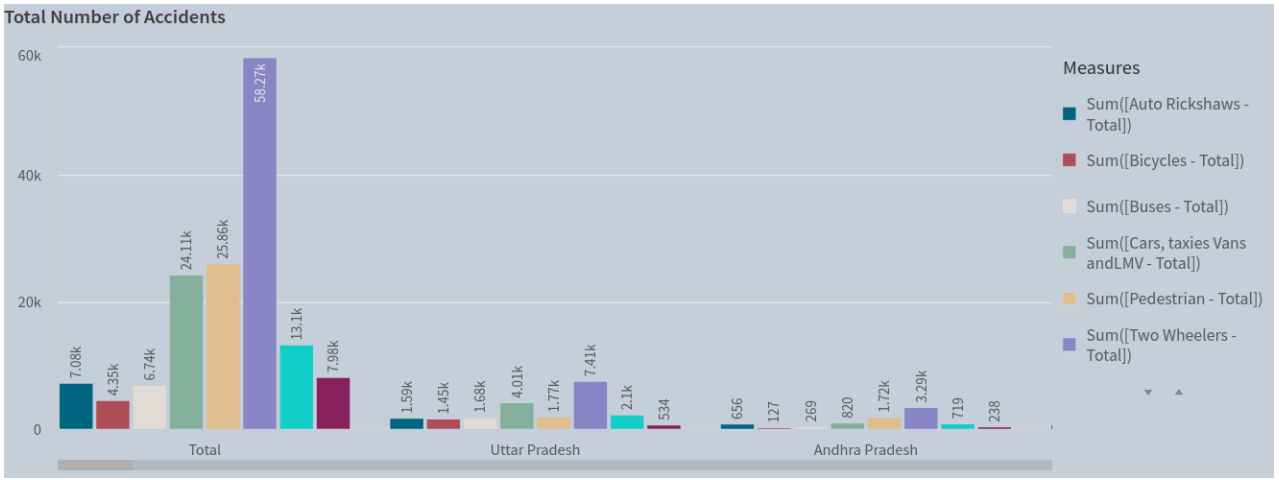




Problem Statement

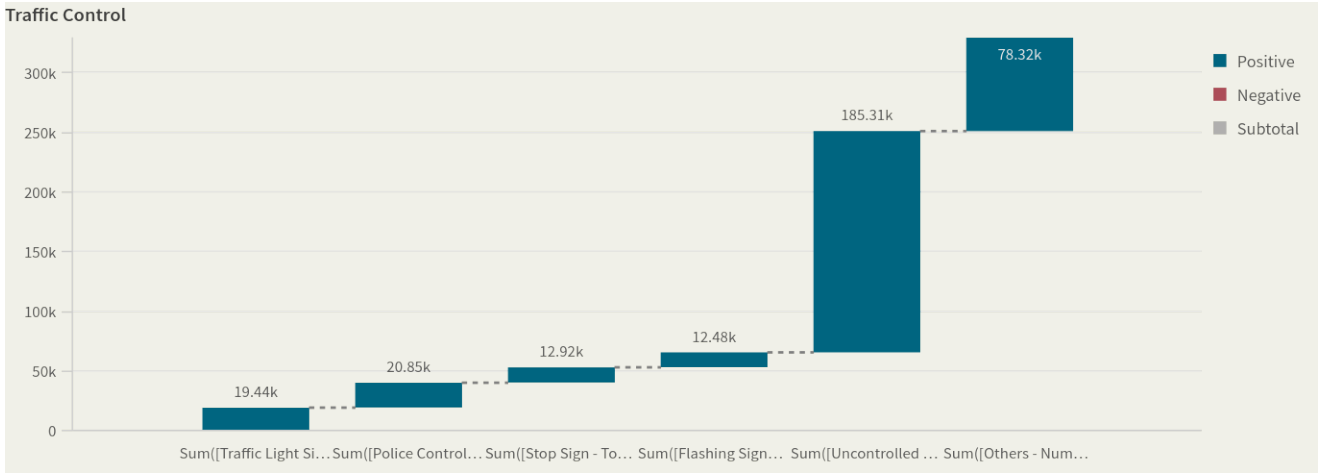
India has one of the highest rates of road accidents globally. The high frequency of accidents results in considerable loss of life, financial costs, and societal impact. Our goal is to identify high-risk areas and propose solutions to reduce accident rates and fatalities.

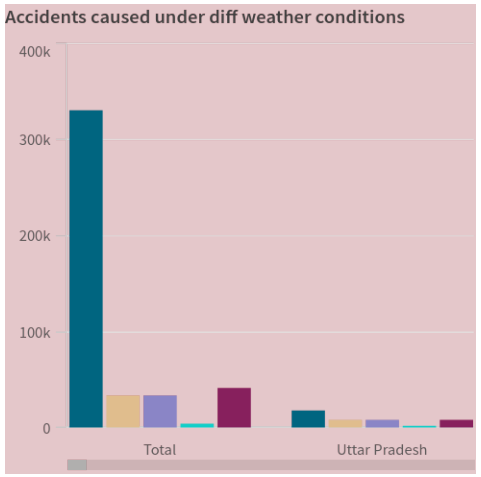


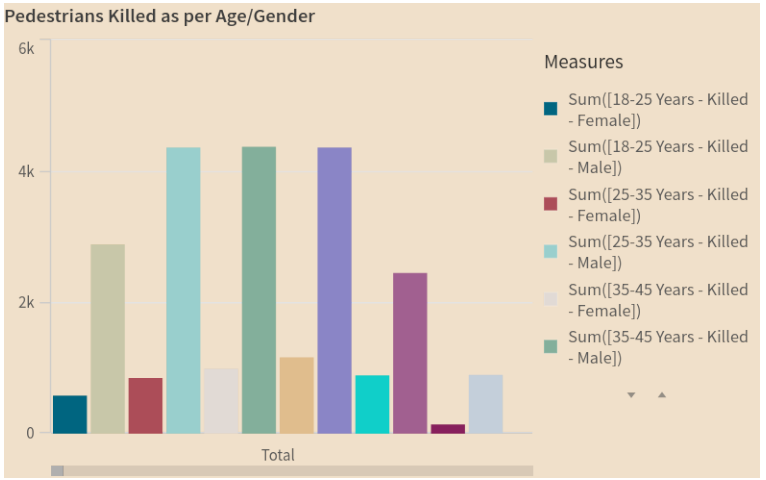


Data Collection and Preparation

I used several datasets, including accident reports, age-specific accident data, and pedestrian fatality records. The data was cleaned, merged, and prepared for analysis in Qlik Sense.We used several datasets, including accident reports, age-specific accident data, and pedestrian fatality records. The data was cleaned, merged, and prepared for analysis in Qlik Sense.

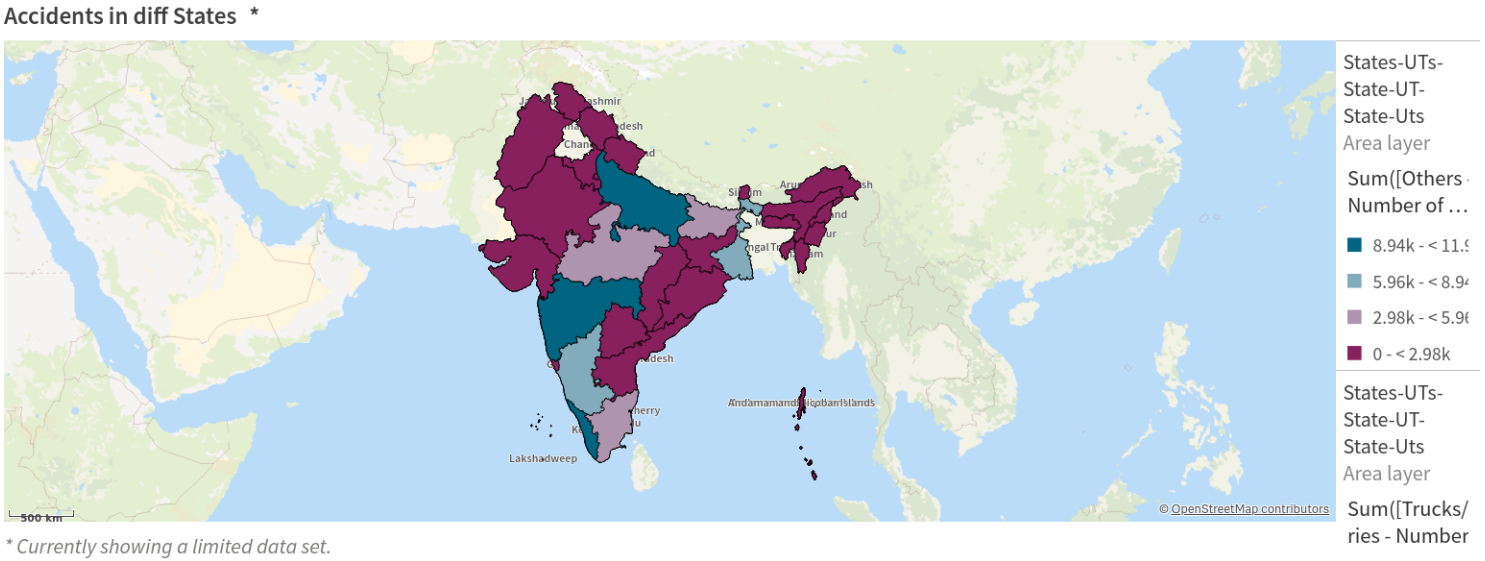






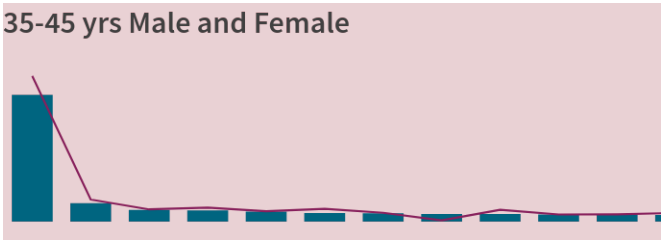
Heat Map of Accident Hotspots

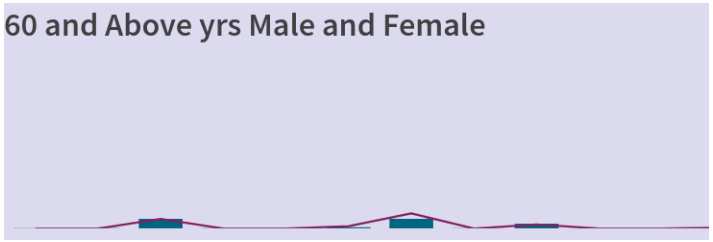
The heat map visualization reveals accident hotspots across India. Urban centers like Delhi and Mumbai show the highest concentration of accidents.

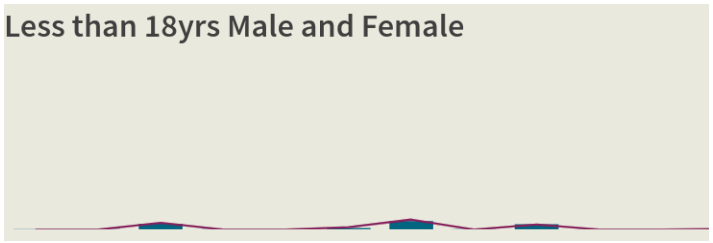


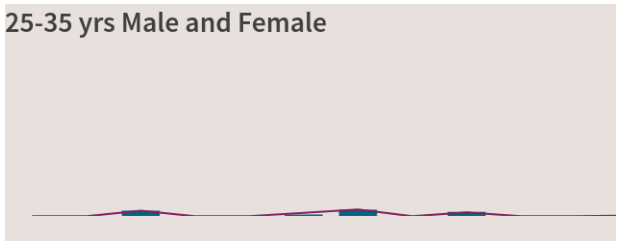
Accidents by Age Group

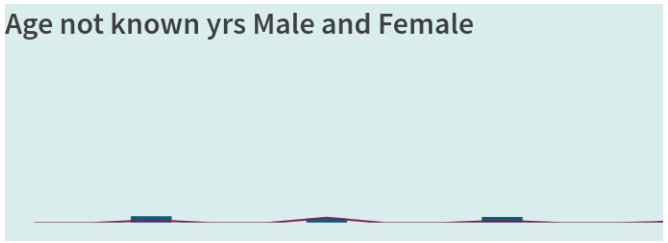
The bar chart shows the distribution of accidents by age group and gender. Teenagers below 18 to elderly people above 60 years and The most effected are the group of 35-45 years old who are most frequently involved in accidents, suggesting a need for targeted awareness campaigns.

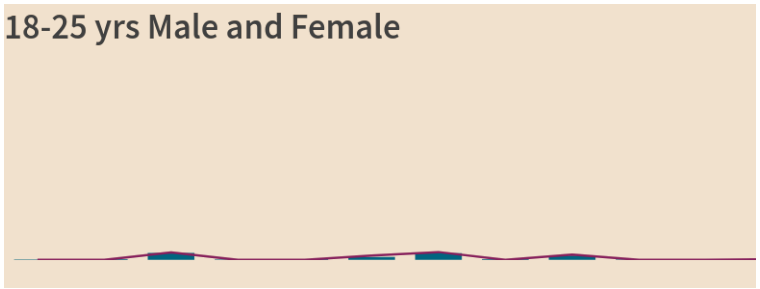


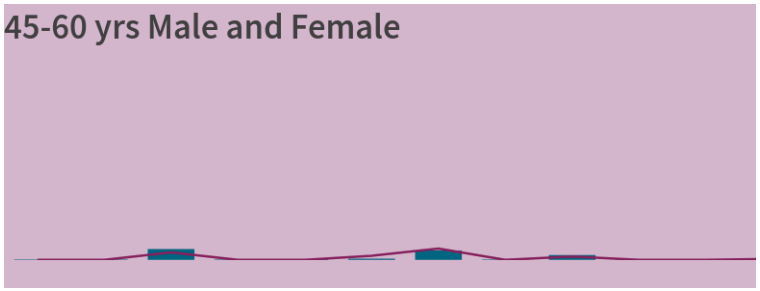




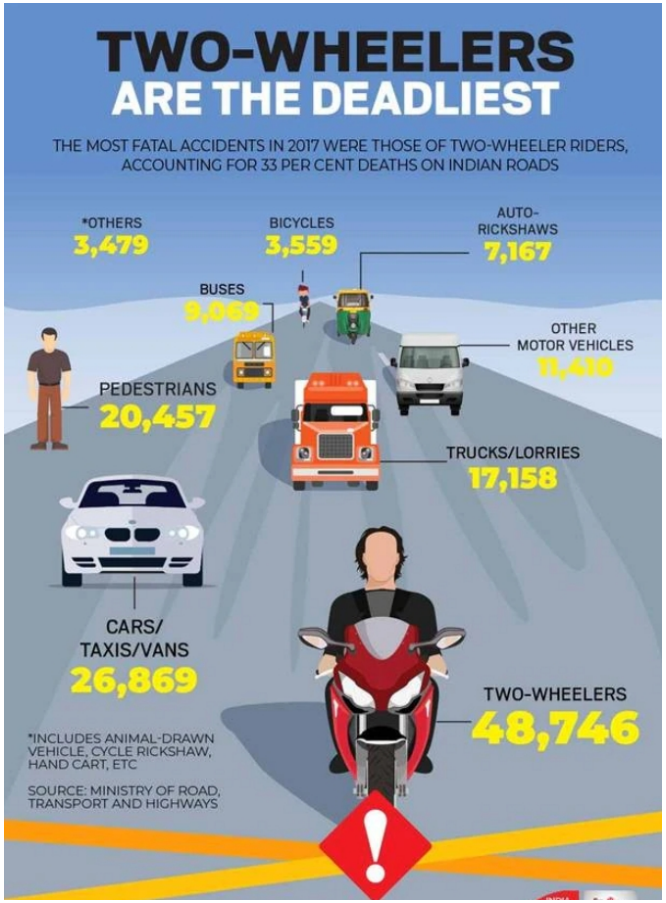






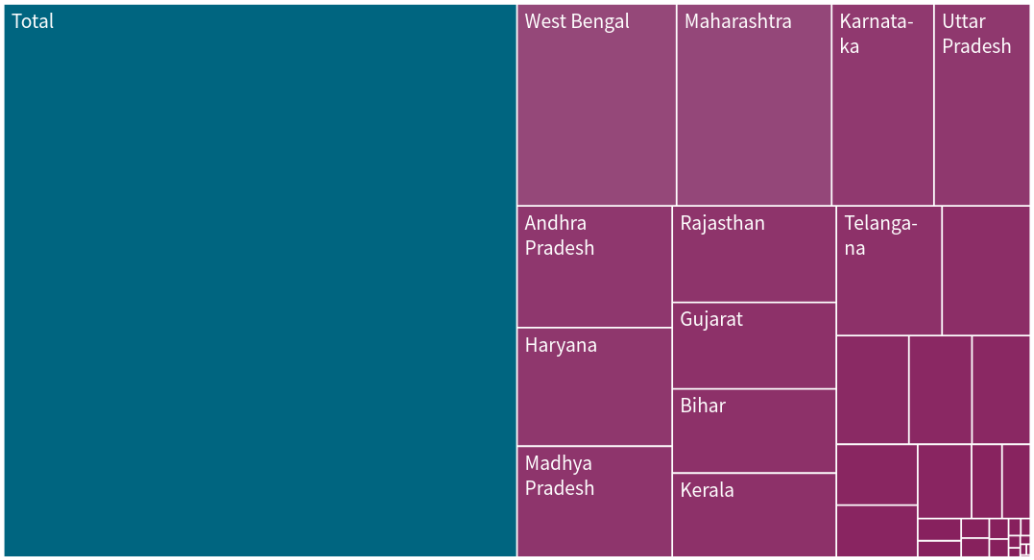


Two Wheeler



Most of the people in India are killed due to two wheelers or the users of two wheeler, Its both the ways, either the victim is walking or on other vehicle or is the person driving the two wheelers. It is said that the two wheelers are the most dangerous type of vehicle. West Bengal, Maharashtra are the states where most of the people were killed due to the two wheelers.

Sum of People killed on Two Wheelers



Accident rate as per genders

The gender who are mostly killed in accidents are males. We can see the Sum of make killed are 83.98K and females are 27.2K.

Sum([Total Male - Age])

83.98k

Sum([Total Female - Age])

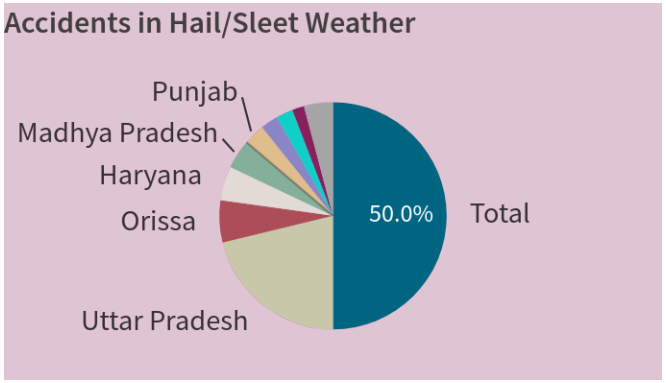
27.2k

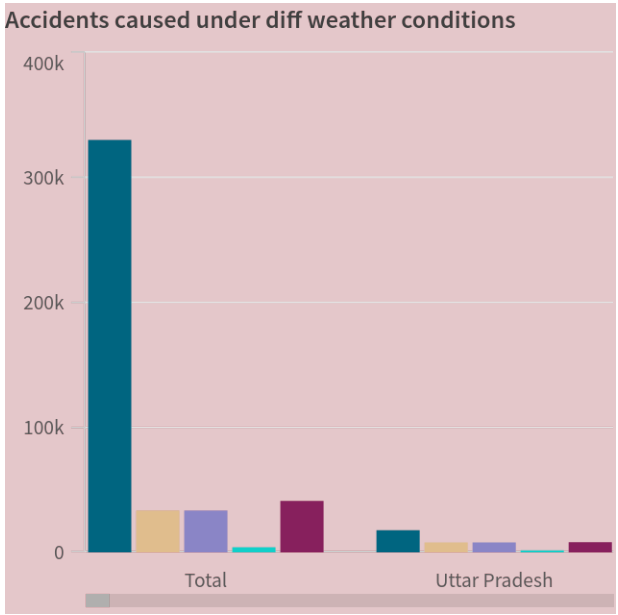
This is the visualization which shows the comparison of Female and male accident rate.

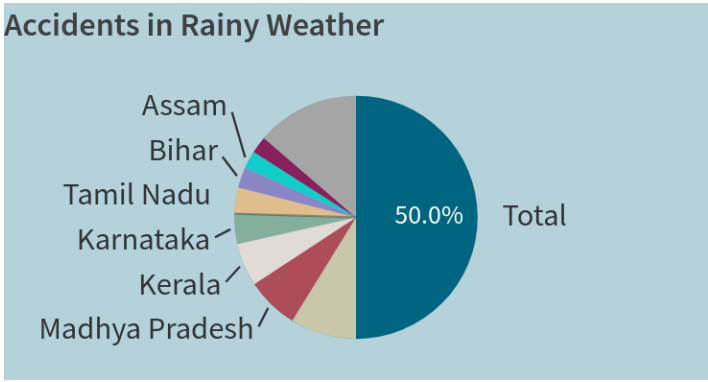
Visualization - Accident rate as per Genders
- Road users accident rate as per gender

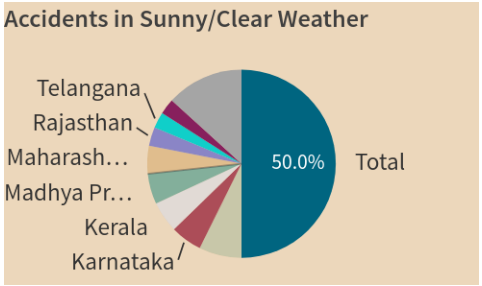
Seasonal Effects on accidents

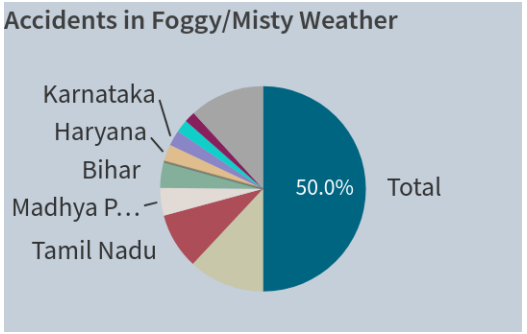
Accidents also take a long jump due to changes in seasons, weather and climates. Most of the accidents occur in Rainy or foggy weather. Lets see the visualization.





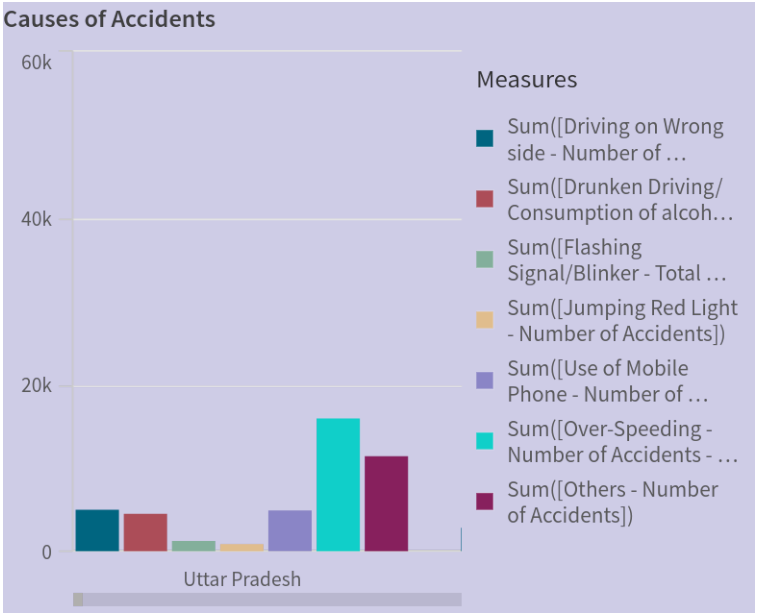


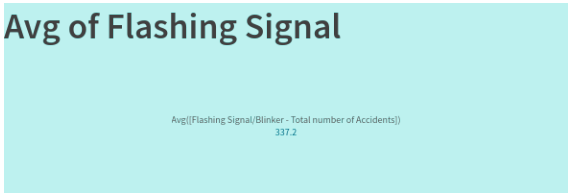


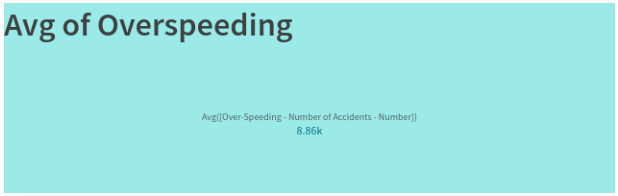


Carelessness by people

Sometimes, Accidents are done by negligence of people. For instance, Not wearing helmet, Drinking and driving, Over speeding, Not servicing their vehicle etc. People should be educated to avoid such issues. The most accidents were caused due to Over speeding.







Conclusion

Based on our analysis, we conclude

Targeted Awareness Campaigns: Focus on high-risk age groups, that is 35-45 years old.

Infrastructure Improvements: Enhance road safety in identified hotspots, to avoid accidents

Seasonal Safety Measures: Implement measures during peak accident periods, like the monsoon season.

Pedestrian Safety: Improve infrastructure and safety for pedestrians to reduce fatalities.

Strict rules implementation: Huge fines should be taken from the people you neglect the rules and risk their lives and others too.

Project Summary

This project provided a comprehensive analysis of road safety and accident patterns in India. The findings highlight the need for targeted interventions to reduce accidents and fatalities. Thank you for your attention.