PROJECT TITLE:-

QLIK ANALYSIS OF ROAD SAFETY AND ACCIDENT PATTERNS IN INDIA

About the project:-

India faces a significant challenge with road safety, witnessing a high rate of road accidents annually. The complexity of the issue is underscored by diverse factors such as rapid urbanization, varying traffic regulations, and mixed vehicular traffic. Key data points include accident frequency, severity, locations, and times, along with demographic details of those involved. Analyses often reveal peak accident periods during weekends and late-night hours, with hotspots typically located at intersections and poorly maintained roads. Contributing factors like speeding, driving under the influence, and inadequate infrastructure are common. Insights drawn from these patterns can inform policy-making, enhance traffic management, and promote targeted safety campaigns, ultimately aiming to reduce accidents and improve overall road safety in India.

Purpose of the project:-

Data Sources:-

1.Accident Data
2.Demographic Data
3.Infrastructure Data
4.Weather Data

Key Analyses and Visualizations:-

1.Trend Analysis
2.Weather Influence,etc

Outcomes and Recommendations:-

1.Targeted Interventions
2.Policy Formulation
3.Infrastructure Improvements
4.Emergency Response

Technical Architecture of Business Analytics for Road Accident Analysis:-

The Technical Architecture for a Business Analytics (BA) solution to analyze road accidents typically involves multiple layers and components to effectively gather, process, analyze, and visualize data.

1.Data Storage
2.Data Processing
3.Data Analytics
4.Visualization
5.User Access
6.Security.
7.Collaboration.

Define Problem / Problem Understanding:-

Specify the Business Problem:-

- *Road safety in India:*

Economic Benefits:-Lower healthcare costs and increased productivity due to fewer traffic disruptions.

Operational Efficiency:- Smoother traffic flow and reduced congestion.
Competitive Advantage:- Companies can enhance their reputation by supporting road safety initiatives and attracting more business investments to safer areas.

Business Requirements:-

1. Infrastructure Improvement:-
   - Road Design and Maintenance
   - Pedestrian and Cyclist Facilities
2. Technology Integration:-
   - Traffic Management System
   - Automated Enforcement
3. Regulatory Framework:-
   - Legislation and Standards
   - Enforcement and Compliance
4. Education and Awareness:-
   - Public Awareness Campaigns
   - Driver Training Programs
5. Emergency Response:-
   - Accident Response and Management
   - Medical Facilities and Services
6. Data Collection and Analysis:-
   - Accident Data Management
   - Research and Development
7. Community and Stakeholder Engagement:-
   - Public Participation
   - Stakeholder Collaboration

Literature Survey:-

Road safety is a pressing issue in India, where road traffic accidents result in a high number of fatalities and injuries each year. The World Health Organization (WHO) ranks India among the countries with the highest number of road traffic deaths. This literature survey aims to provide an overview of the current research on road safety in India, focusing on accident causes, preventive measures, infrastructure, and the impact

of policy and technology.

1. Accident Causes:-
   - Human Factors
   - Driver Behavior
   - Road User Types
2. Preventive Measures:-
   - Education and Awareness
   - Enforcement of Traffic Laws
3. Infrastructure:-
   - Road Design and Maintenance
   - Black Spot Identification
4. Impact of Policy:-
   - National Road Safety Policy
   - Regional Initiatives
5. Technology:-
   - Advanced Driver Assistance Systems (ADAS)
   - Smart Traffic Management
6. Behavioral Interventions:-
   - Community-Based Programs
   - School-Based Education

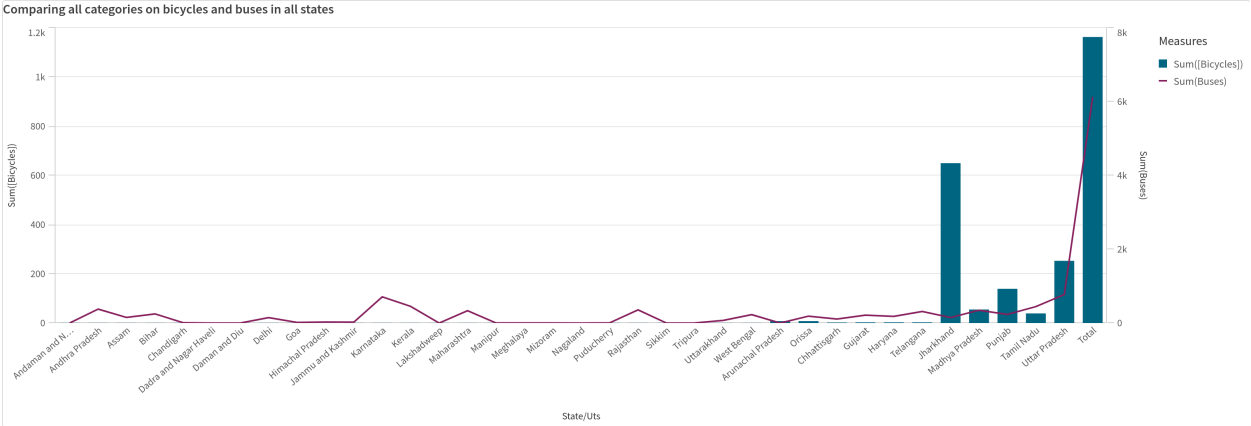
Data Collection & Extraction From Database

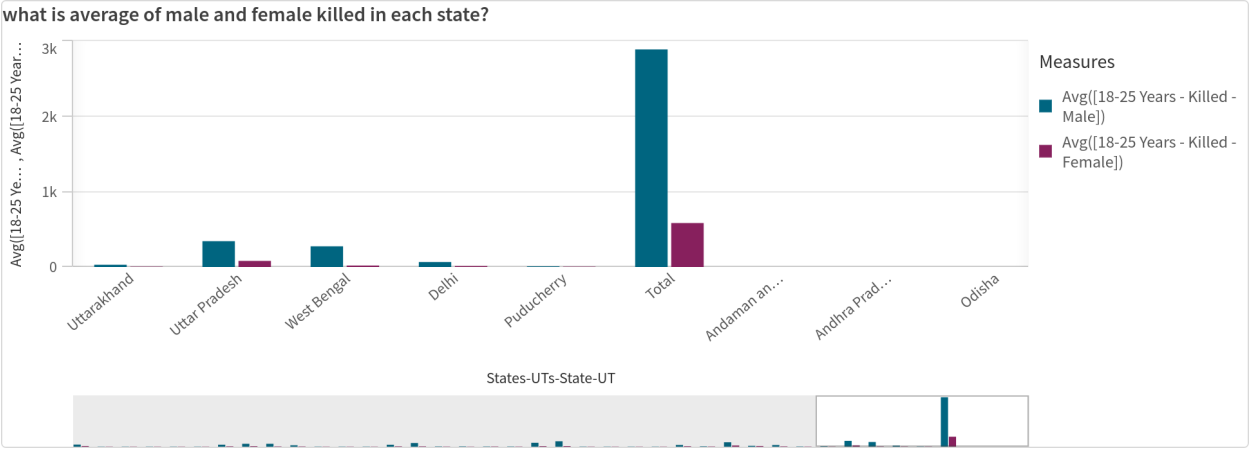
Data Collection & Extraction From Database
Download the dataset from the provided link
https://www.kaggle.com/datasets/aryakittukrishnasai/road-accidents-in-india
After downloading the data set upload the data into the qlik cloud.
We can see different fields in data.
This are some of the fields from the data.
State/UT
Less than 18 years – Male
Less than 18 years – Female
18-25 Years – Male

18-25 Years – Female
25-35 Years – Male
25-35 Years – Female
35-45 Years – Male
35-45 Years – Female
45-60 Years – Male
45-60 Years – Female
60 and Above – Male
60 and Above – Female
Age not known – Male
Age not known – Female
Prepare The Data For Visualization
We can perfrom different opertions for the given data.
After performing all the needed operation we have to associate the data and click on load data.
After load data we have click on Advanced options .

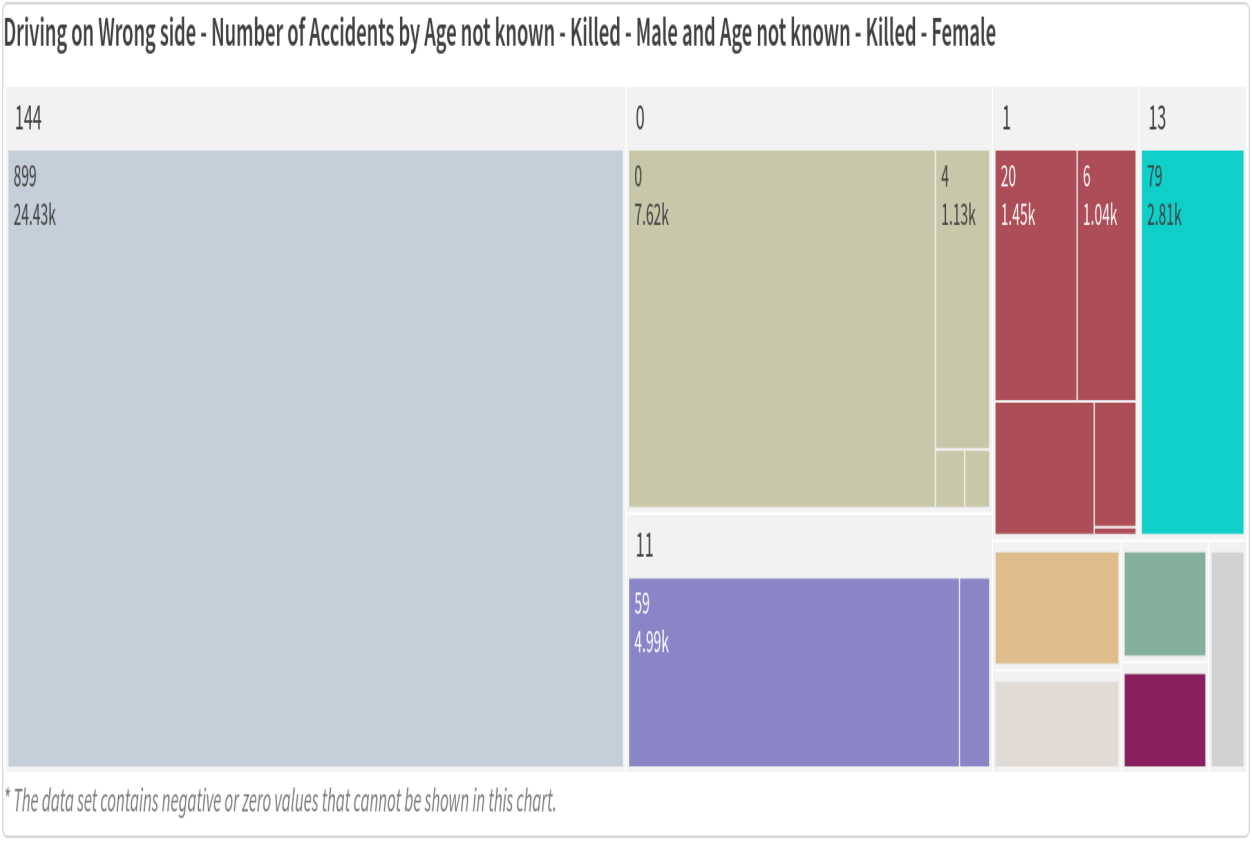
Number Of Unique Visualizations

Here are some of the visualizations

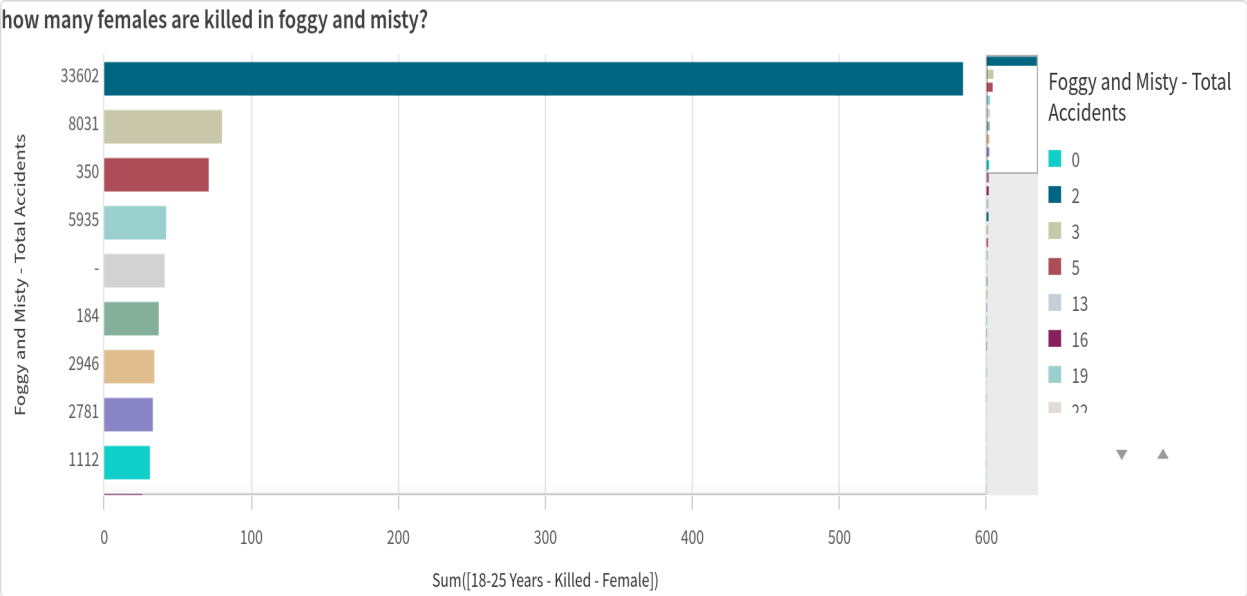




Dashboard


Driving on Wrong side - Number of Accidents by Age not known - Killed - Male and Age not known - Killed - Female
144
899
24.43k
0
0
7.62k
4
1.13k
11
59
4.99k
1
20
1.45k
6
1.04k
13
79
2.81k
* The data set contains negative or zero values that cannot be shown in this chart.

Application Of Data Filters



Number of visualizations:-

1.comparing all categories on bicycles and buses in all states?
2.how many females are killed in foggy and misty?
3.sum of total number of police controlled accidents and sum of total police controlled persons injured?
4.what is the maximum number of persons injured verses killed in flashing signal/blinker?
5.in drunken driving /consumption of alcohol and drug what is the count of males and females?
6.in driving on wrong side how many persons were injured greviouly injured?
7.what are the total number of males killed in rainy accidents?
8.the accidents which are occurred by jumping red light ,what is the count of males?