ROAD ACCIDENT

Data Visualization with Tableau

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01 Feb 2024

Overview

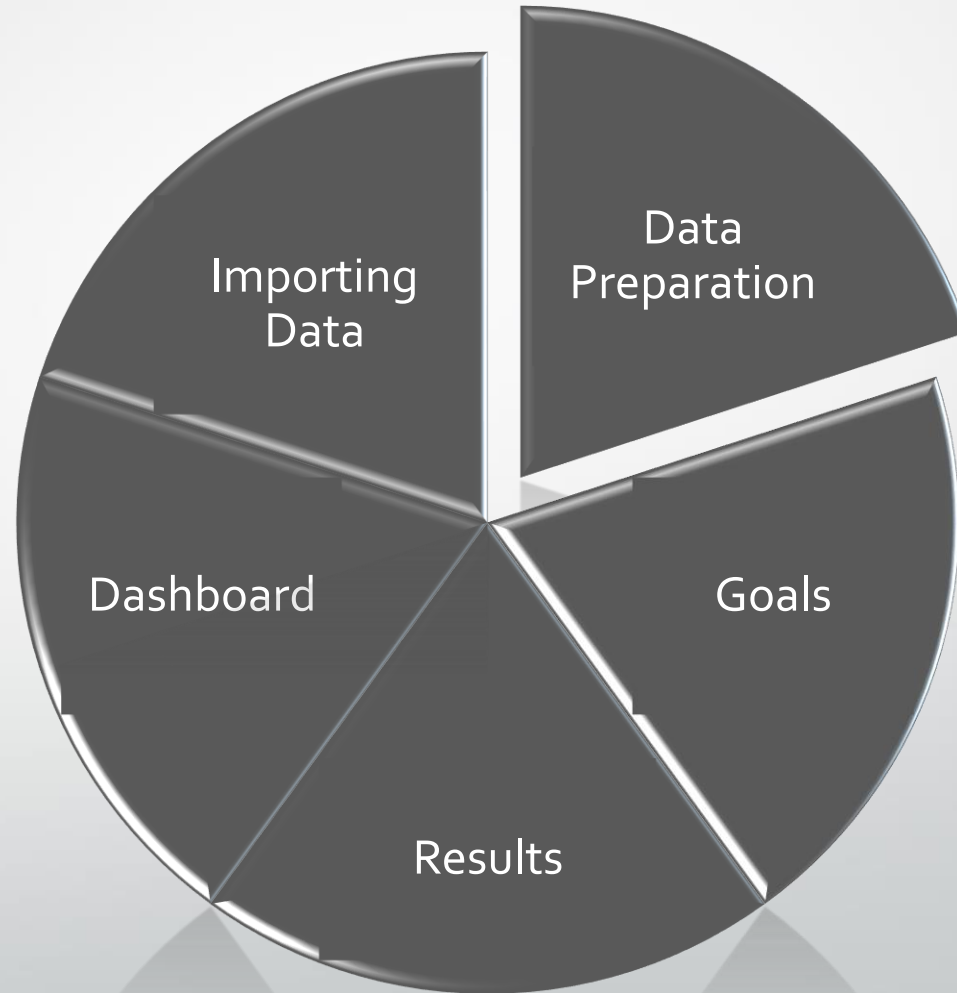| 01	02	03	04	05
Introduction	Process	Purpose of Analysis	Results	Future Moves

Introduction

Data Source- Kaggle

This project investigates road accident causes like weather, road types, and vehicles to enhance safety measures.

The goal is to reduce injuries and fatalities through improved infrastructure and increased public awareness.

Process

Tools Stack

Purpose of analysis

➢ Analysing data to understand the patterns and causes of road accidents.

➢ Analysis of total accidents and casualties vary monthly and yearly, considering different locations.

➢ Analyzing data to comprehend the severity of accidents (fatal, serious, slight) by examining vehicle type, road type, road surface, and weather conditions.

➢ Aiming to improve preventive measures and reduce injuries and economic losses.
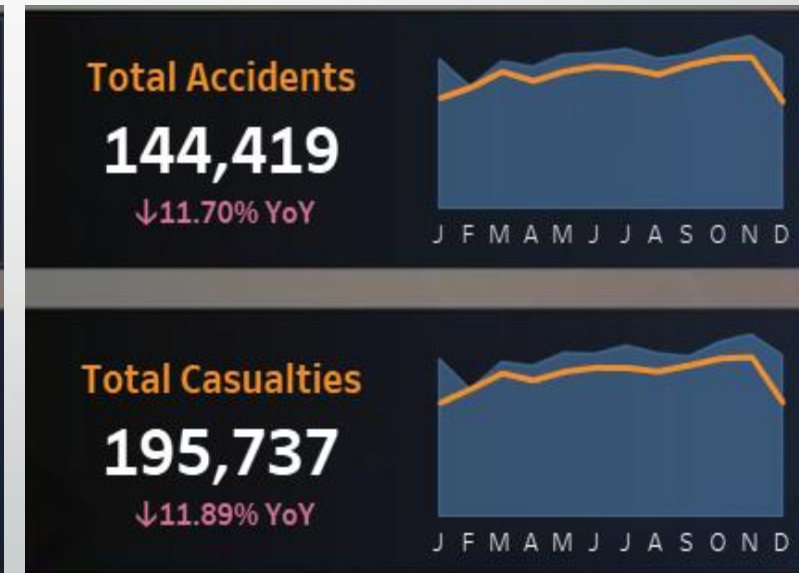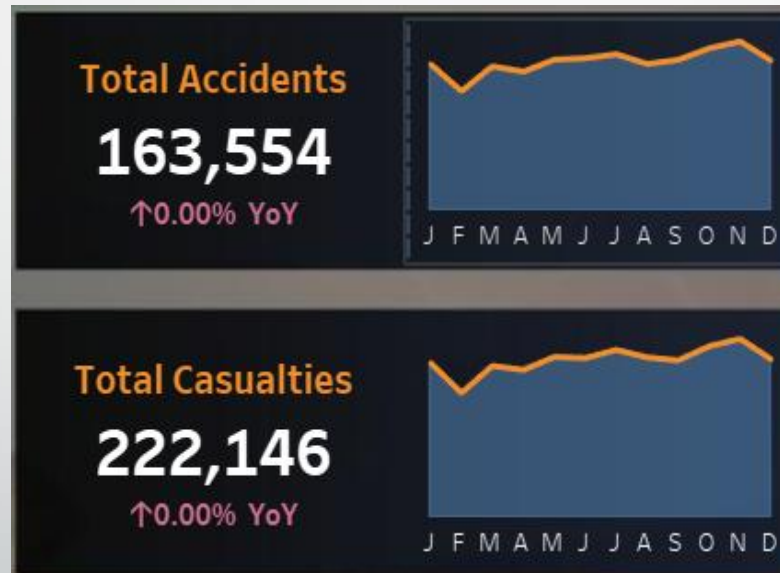
Results

➢ Highest number of accidents and casualties in November for both years.
➢ Decrease in December for 2022.
➢ Decrease in February for 2021.

2021   Vs   2022

Total Accidents
163,554
↑0.00% YoY
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Total Casualties
222,146
↑0.00% YoY
J F M A M J J A S O N D

Total Accidents
144,419
↓11.70% YoY
J F M A M J J A S O N D

Total Casualties
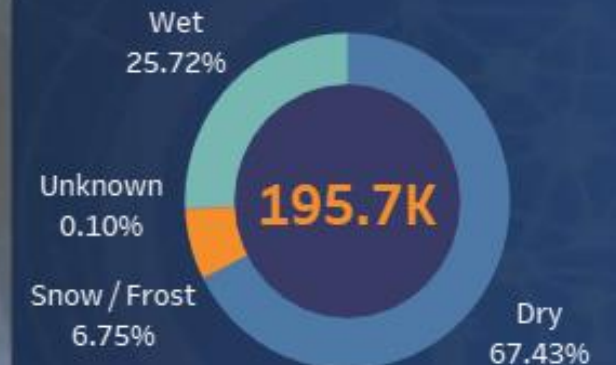195,737
↓11.89% YoY
J F M A M J J A S O N D

Results

➢ Majority of accidents happen in clear weather conditions.
➢ Majority of accidents occur on dry road surfaces.
➢ Fewer accidents in snowy, wet, or foggy conditions.

All Casualties by Weather Cond.
- Snow/Fog 2.88%
- Rain 11.73%
- Others 4.68%
- 195.7K
- Fine 80.71%

All Casualties by Road Surfaces
- Wet 25.72%
- Unknown 0.10%
- 195.7K
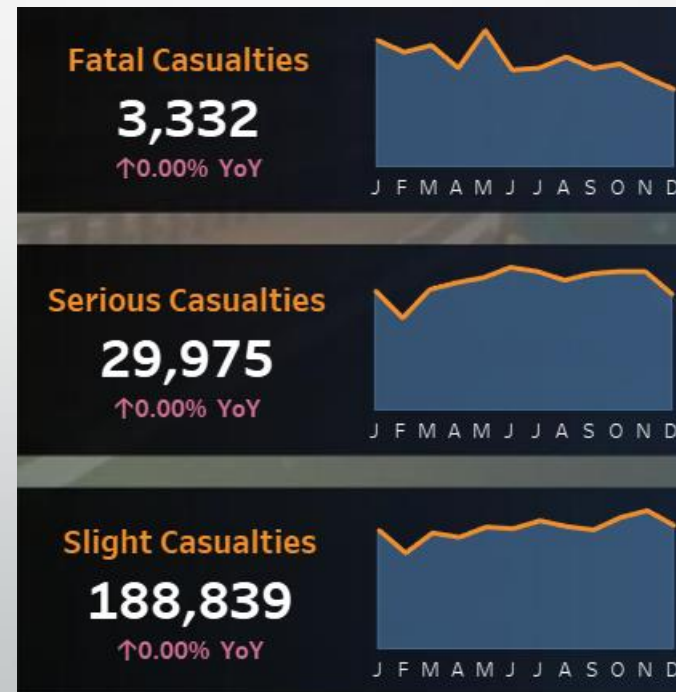- Snow / Frost 6.75%
- Dry 67.43%

Results

Accident Severity-
- Overall decline in all types of accident severities in 2022.
- In 2021, there was a fluctuation and variation across different months.

2021

2022

Fatal Casualties
3,332
↑0.00% YoY
J F M A M J J A S O N D

Serious Casualties
29,975
↑0.00% YoY
J F M A M J J A S O N D

Slight Casualties
188,839
↑0.00% YoY
J F M A M J J A S O N D

Fatal Casualties
2,178
↓34.63% YoY
J F M A M J J A S O N D

Serious Casualties
25,582
↓14.66% YoY
J F M A M J J A S O N D

Slight Casualties
167,977
↓11.05% YoY
J F M A M J J A S O N D

Results

> Vehicle Type-
> In 2022, overall casualties by vehicle type decreased.
> Bus-related casualties experienced a slight increase.

2021

All Casualities by Vehicle Type

633	6,225	177,681	18,093	1,947	17,567
↑0.00%	↑0.00%	↑0.00%	↑0.00%	↑0.00%	↑0.00%

2022

All Casualities by Vehicle Type

399	6,573	155,804	15,579	1,477	15,905
↓36.97%	↑5.59%	↓12.31%	↓13.89%	↓24.14%	↓9.46%

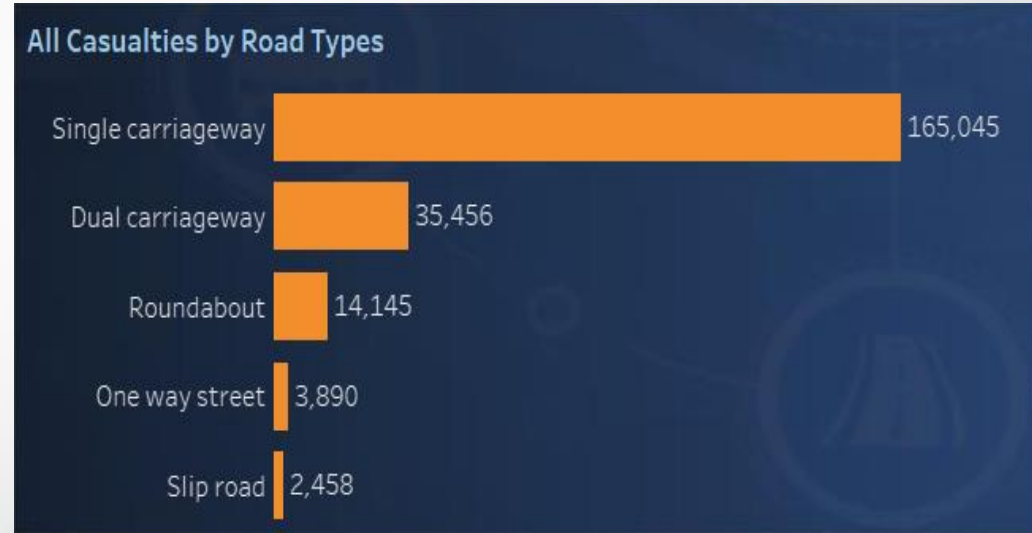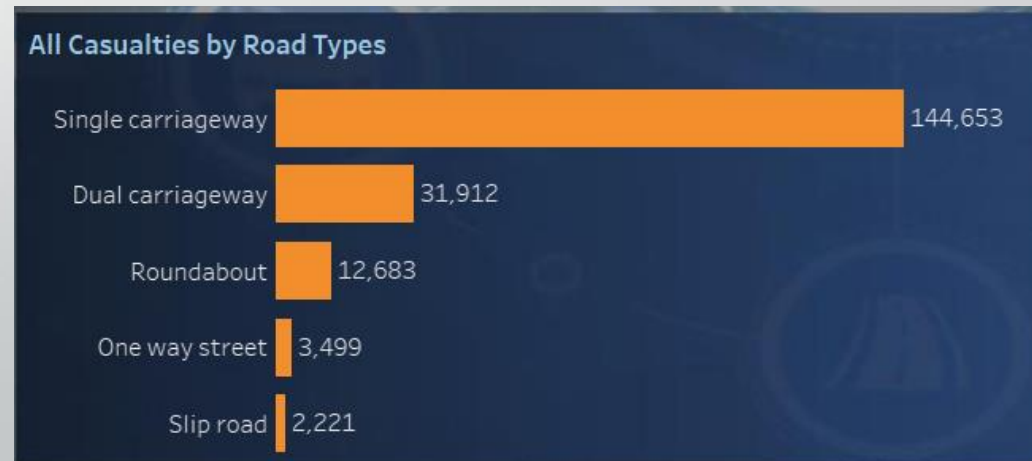# Results

Road Types-
➢ All kinds of accident severity predominantly occurred on single carriageways
➢ Minimum recorded on slip roads
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2021

All Casualties by Road Types

Single carriageway	165,045
Dual carriageway	35,456
Roundabout	14,145
One way street	3,890
Slip road	2,458

2022

All Casualties by Road Types

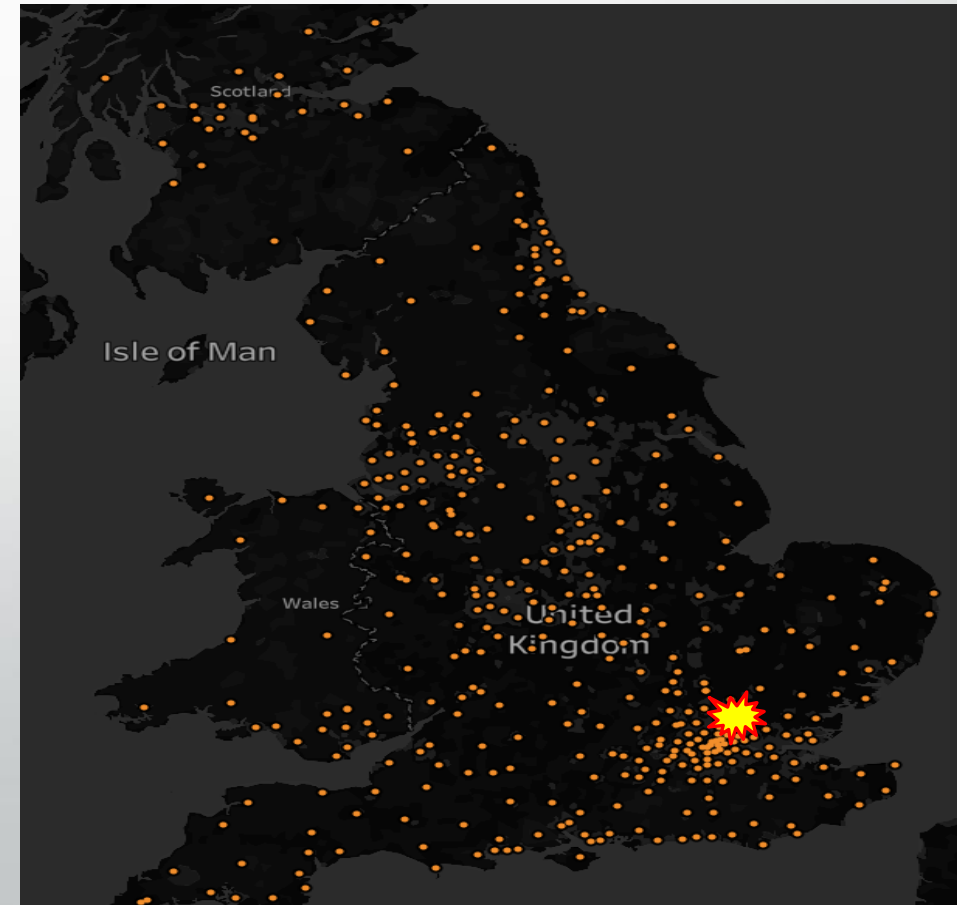|	
Single carriageway	144,653
Dual carriageway	31,912
Roundabout	12,683
One way street	3,499
Slip road	2,221

Results

➢ Location-
  Identified high accident occurrences in many locations like
  Barnet and Southwark
➢ Corresponding casualties and vehicle involvement were
  notable

Challenges

➢ The data was quite large, causing delays in loading.
➢ Encountered challenges in generating sparklines while developing KPIs.

Future moves

➢ Analyzing important factors: time, age, gender, and location.
➢ Investigating the influence of lighting on road safety.
➢ Enhance understanding and contribute valuable insights for improving road safety measures.

THANK YOU

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