ROAD ACCIDENTS ANALYSIS DASHBOARD

AGENDA

Project Overview

Objectives

Dataset

Tools Used

Key Visualizations

Insights & Recommendations

Conclusion

PROJECT OVERVIEW

This project analyzes road accident data using **Tableau** to identify key factors contributing to accidents. The dashboard provides insights into weather conditions, accident severity, vehicle types, accident timing, and geographic distribution.

OBJECTIVES

1-Identify the **main causes of accidents.**

2-Determine which **district has the highest number of severe accidents.**

3-Analyze the **impact of weather conditions** on accident severity.

4-Discover **peak accident times and dates.**

5-Evaluate **road conditions, vehicle involvement, and accident trends** over time.

DATASET

The dataset contains information on accident severity, location, weather, road conditions, and vehicle involvement.

TOOLS USED

Tableau (for dashboard creation)

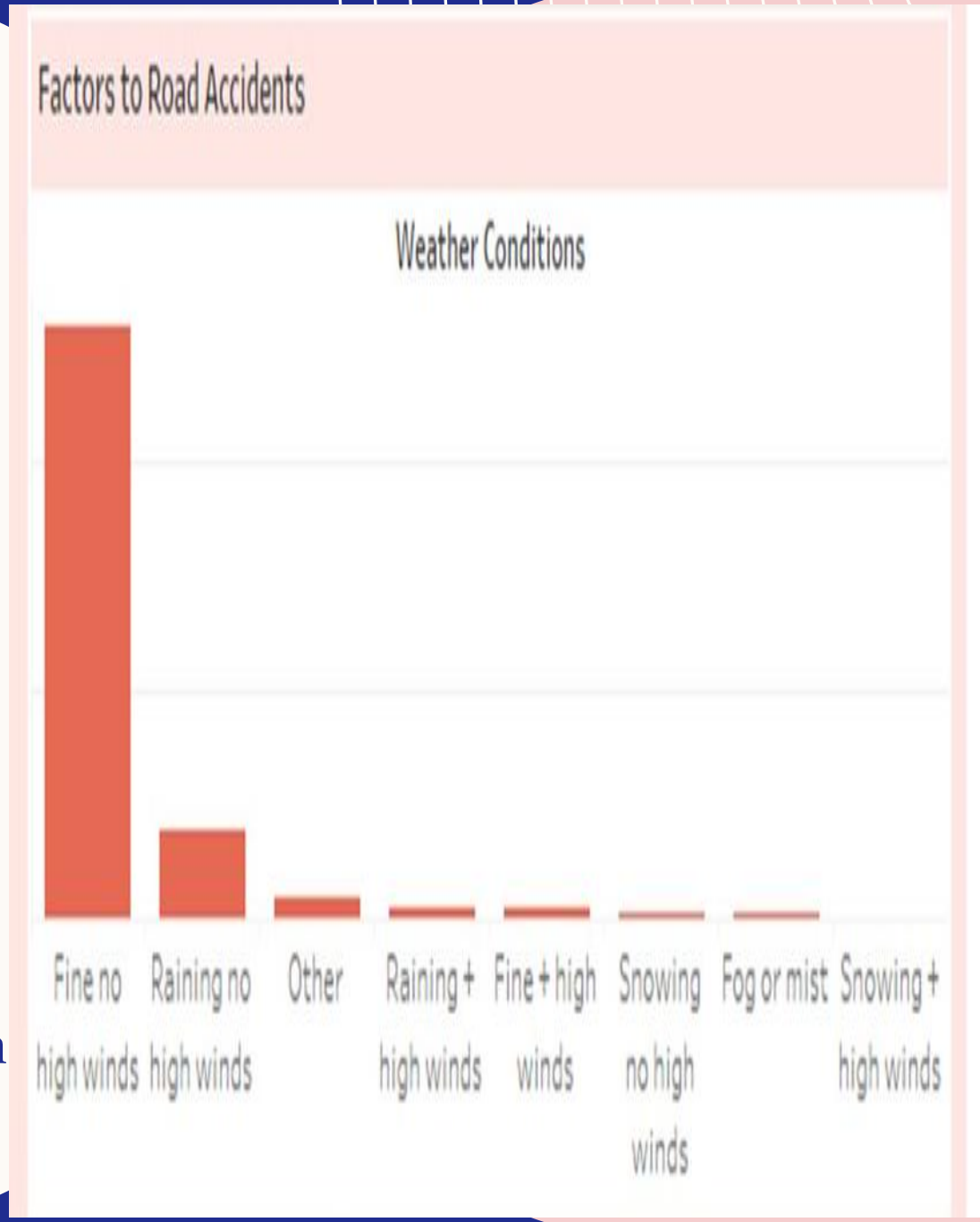
KEY VISUALIZATIONS

Road Accidents (Bar Chart):

•**Description:** A bar chart comparing different weather conditions and the number of accidents occurring under them.

•**Question Answered:** How do weather conditions impact accident frequency?

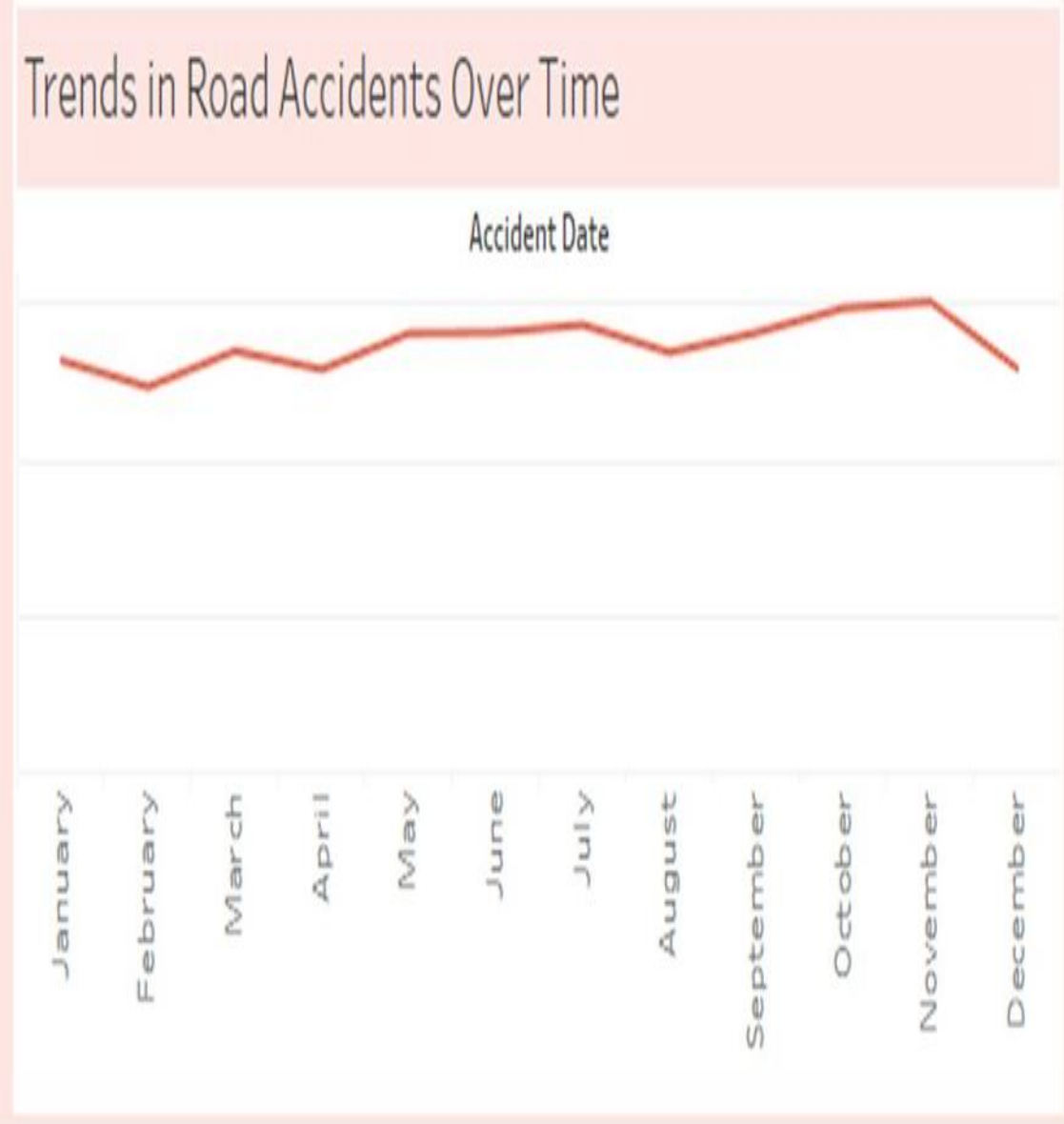
•**Insights:** The majority of accidents occur under **"Fine, no high winds"** conditions, suggesting that normal weather does not prevent accidents—human factors may play a bigger role.



KEY VISUALIZATIONS

Road Accidents Over Time (Line Chart):

- **Description:** A line chart showing how the number of accidents has changed over time.
- **Question Answered:** Are accidents increasing or decreasing over time?
- **Insights:** The number of accidents remains relatively **consistent throughout the year**, with a slight decline in December. This suggests that seasonal changes might not heavily impact accident trends.



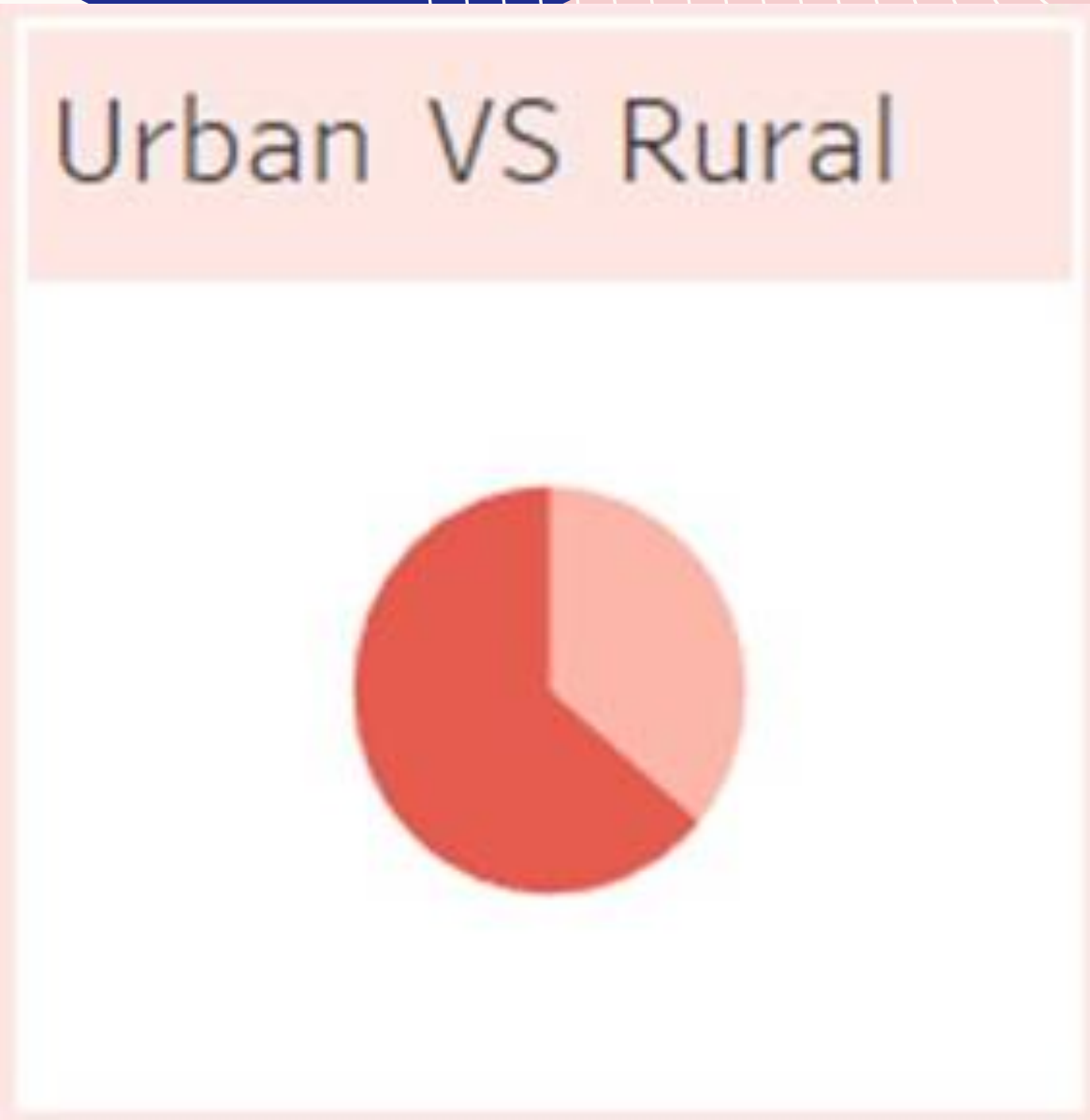
KEY VISUALIZATIONS

Urban vs Rural Accidents (Pie Chart):

- **Description:** Compares the proportion of accidents that occur in urban versus rural areas.

- **Question Answered:** Do accidents occur more in urban or rural areas?

- **Insights:** Urban areas have a higher accident rate, likely due to increased traffic congestion.



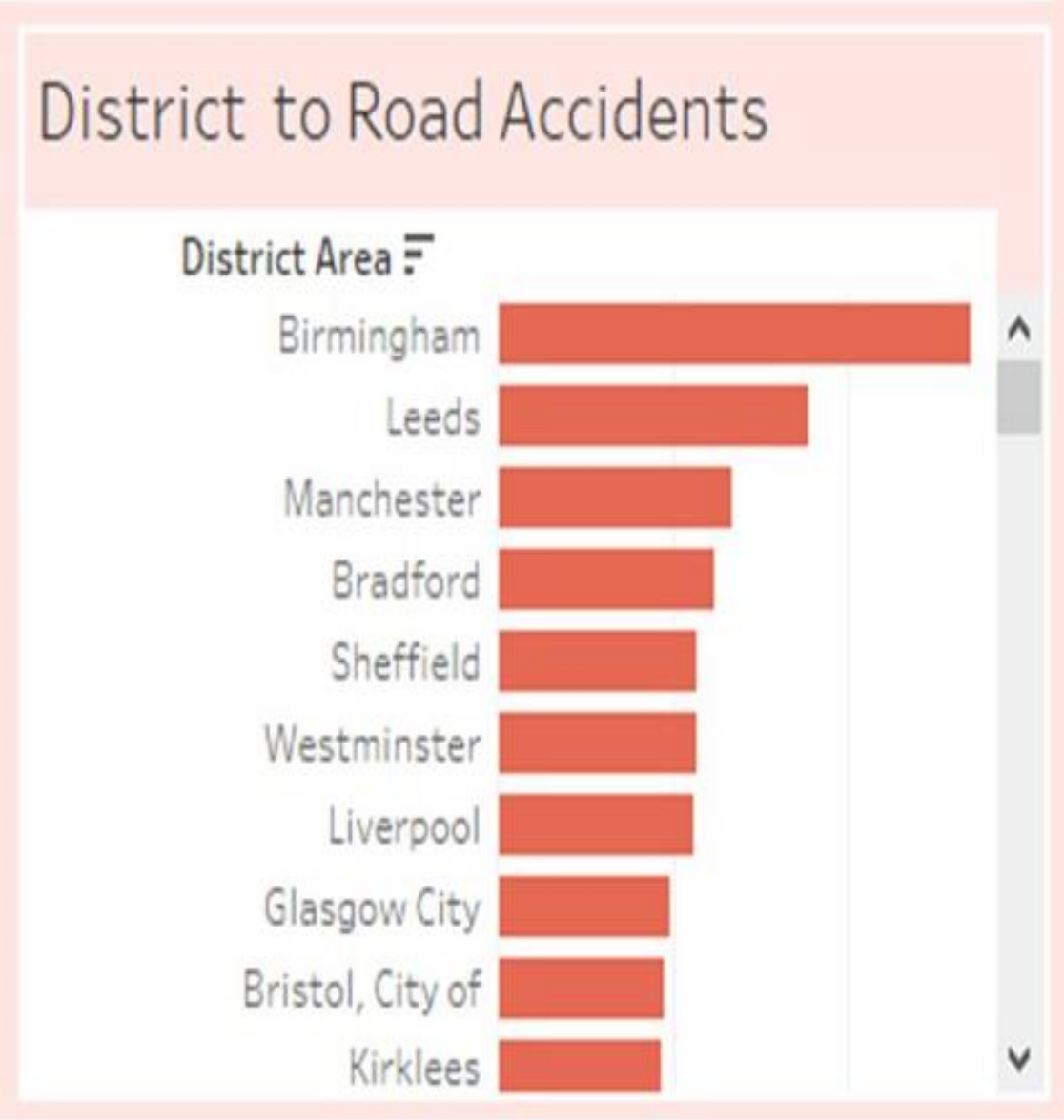
KEY VISUALIZATIONS

District to Road Accidents (Bar Chart):

•**Description:** Displays a ranking of districts based on accident frequency.

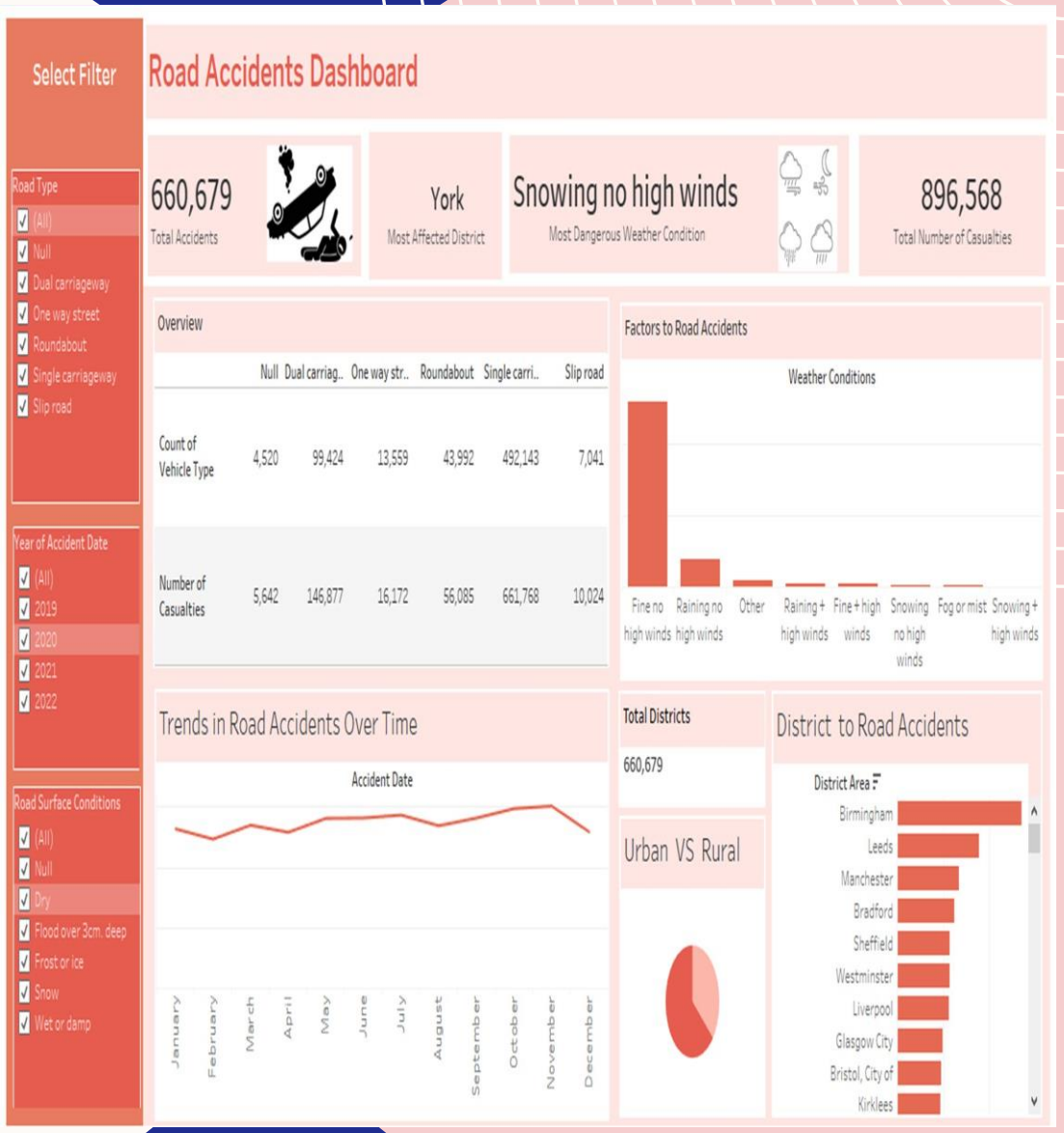
•**Question Answered:** Which districts have the highest accident counts?

•**Insights: Birmingham, Leeds, and Manchester** have the most accidents, indicating high-risk areas that may need targeted interventions.



FINAL INSIGHTS FROM THE DASHBOARD

- The majority of accidents happen in normal weather conditions, suggesting that driver behavior or road infrastructure might be more critical factors.
- York is the most accident-prone district, followed by Birmingham and Leeds.
- Single carriageway roads are the most dangerous.
- The number of accidents remains stable throughout the year, with a slight drop in December.



ROAD SAFETY RECOMMENDATIONS

1 Improve Traffic Management in High-Risk Districts

•York, Birmingham, and Leeds have the highest accident rates.

•**Action:** Increase traffic monitoring, install speed cameras, and improve road signage in these areas.

2 Implement Speed Control Measures

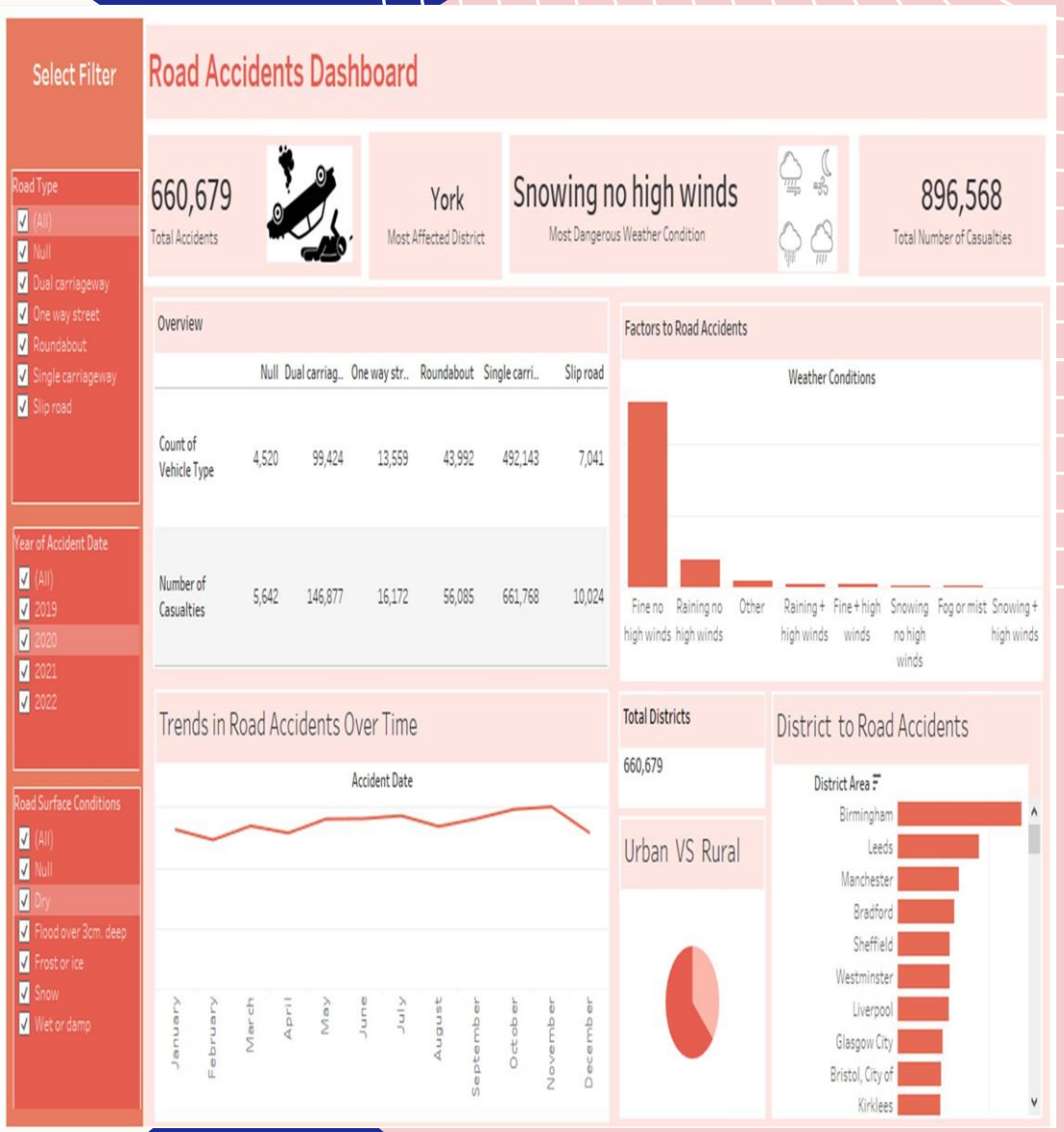
•Most accidents occur in **fine weather conditions**, indicating reckless driving.

•**Action:** Enforce stricter speed limits, introduce speed bumps, and enhance police patrols in accident-prone areas.

3 Increase Awareness of Winter Driving Risks

•**Snowing (no high winds) is the most dangerous weather condition.**

•**Action:** Educate drivers on safe driving techniques during snowy conditions and provide better road salting to prevent skidding.



ROAD SAFETY RECOMMENDATIONS

4 Enhance Infrastructure on Single Carriageways

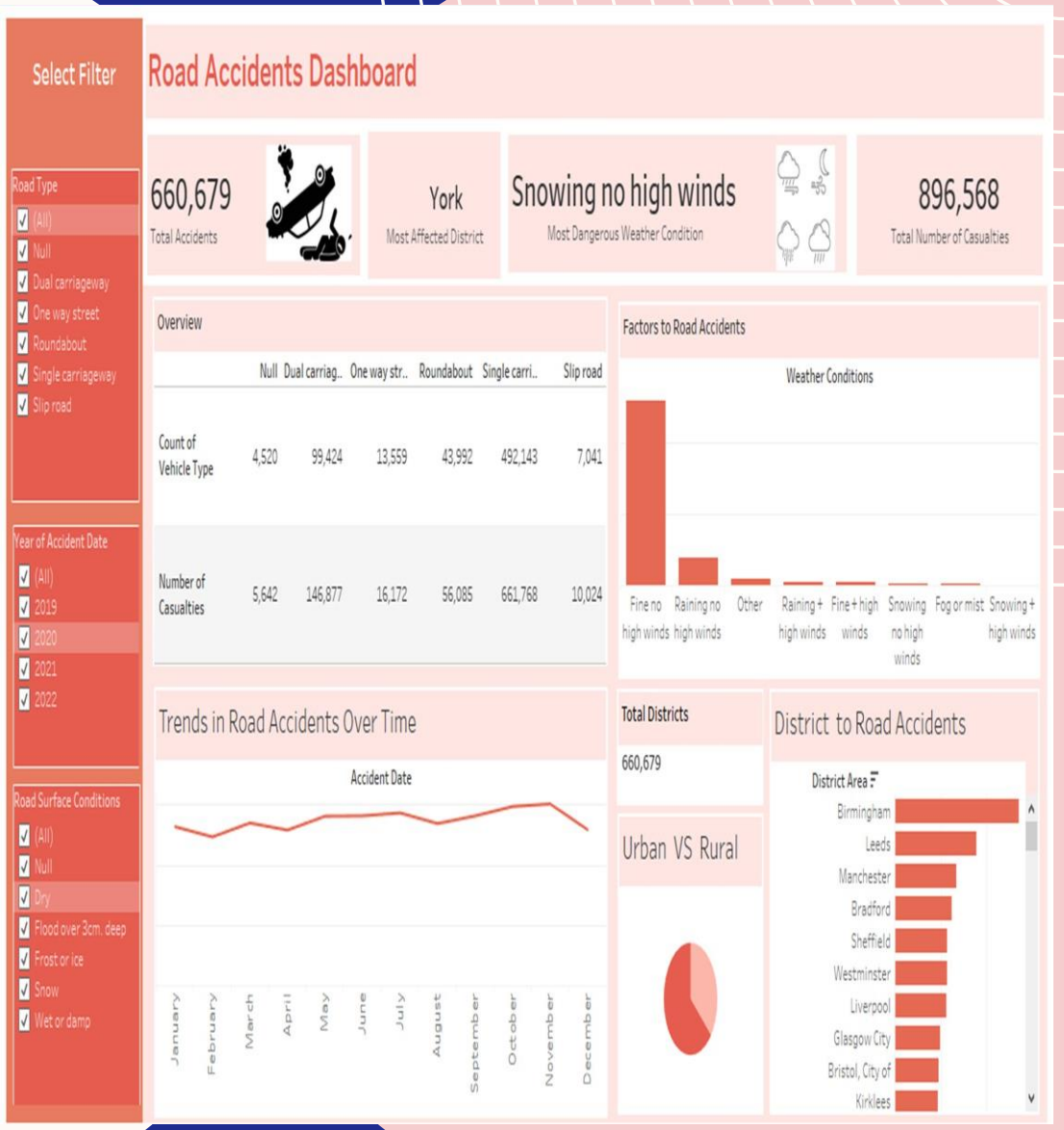
- Single carriageways account for the highest number of accidents and casualties.
- **Action:** Widen roads where possible, add better lane markings, and improve street lighting.

5 Strengthen Urban Traffic Regulations

- The majority of accidents occur in urban areas.
- **Action:** Implement stricter pedestrian safety measures, redesign intersections, and introduce better public transport options to reduce congestion.

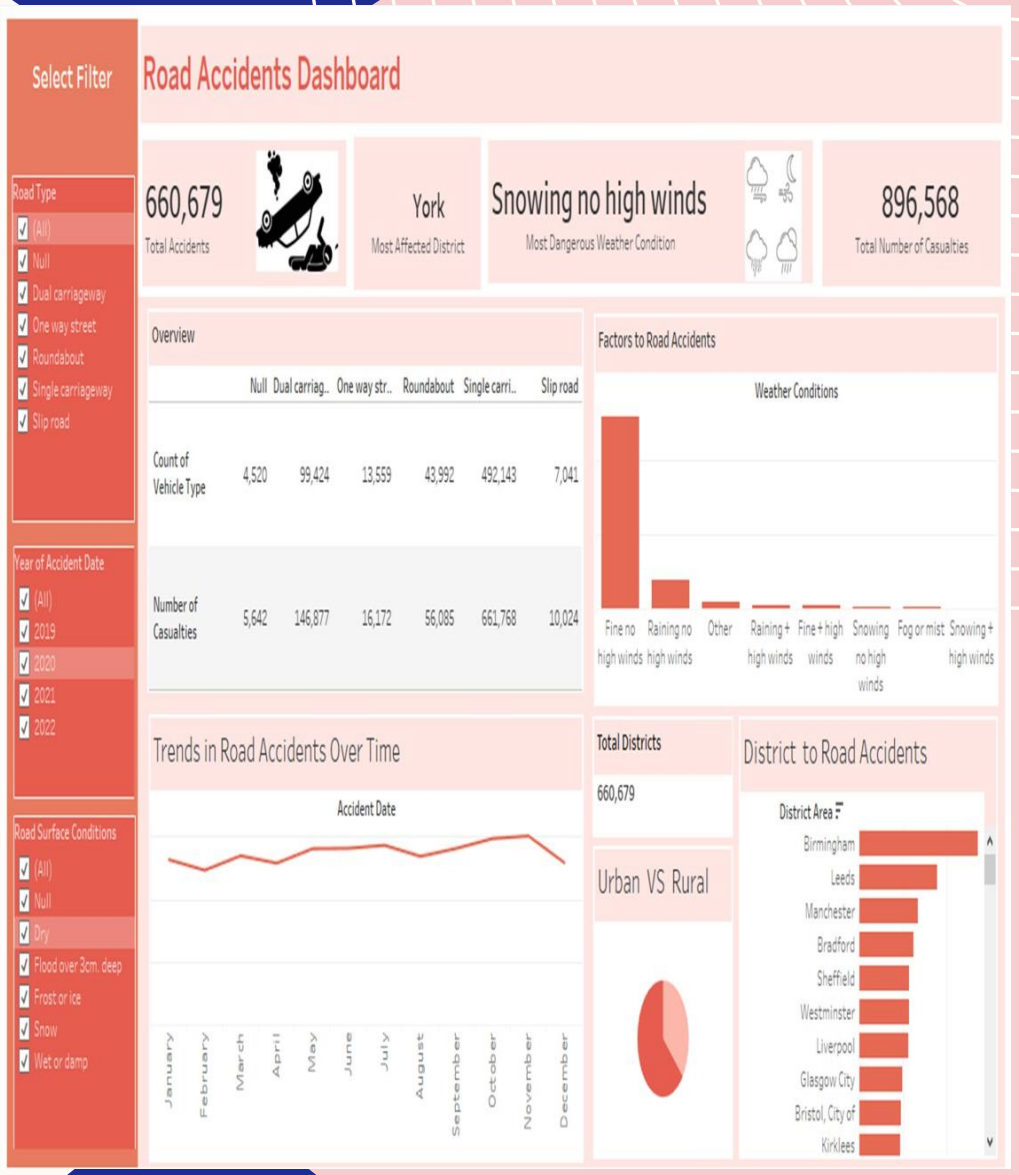
6 Address Peak Accident Times

- Accidents are consistent throughout the year but slightly decrease in **December**.
- **Action:** Conduct accident prevention campaigns year-round, with special attention to high-risk months.



CONCLUSION

This **interactive Tableau dashboard** provides a data-driven approach to understanding and preventing road accidents. By analyzing factors such as weather conditions, accident timing, and location-based risks, we can implement better safety measures and reduce traffic-related fatalities.



LINK TO THE PROJECT ON TABLEAU PUBLIC

here is the link:
[https://public.tableau.com/views/Book1_17421552474420/AccidentDashboard?:language=en-US&publish=yes&:sid=&:redirect=auth&:display_count=n&:origin=viz_share_link]

THANK YOU