

Development Phase

Tools Used

- **Power BI Desktop** – for dashboard creation
- **CSV File** – loaded directly into Power BI

Steps Followed

1. Data Import & Preprocessing

- Imported road_accidents.csv into Power BI
- Removed empty rows and cleaned inconsistent data
- Converted Date to a proper date format
- Verified all categorical fields (Weather_Conditions, Road_Surface_Conditions, etc.) were properly formatted

2. Data Transformation

- Extracted **Month** from the Date field for time-based analysis
- Ensured Number_of_Vehicles is treated as a numeric field for aggregation
- Used Accident_Severity and Location to enable location-based insights

3. Dashboard Visuals Created *(based on our design)*:

Visual	Description	Fields Used
Bar Chart – Count of Date by Month	Shows how accidents occurred across different months	Month, Count of Date
Column Chart – Sum of Number_of_Vehicles	Displays the number of vehicles involved in accidents	Number_of_Vehicles
Bar Chart – Count of Weather_Conditions	Highlights which weather types had more accidents	Weather_Conditions

Visual	Description	Fields Used
Pie Chart – Accident Severity	Visualizes the proportion of slight, serious, and fatal accidents	Accident_Severity
Bar Chart – Accident Severity by Location	Compares accident severity across different locations	Location, Accident_Severity
Donut Chart – Road Surface Conditions	Illustrates the types of road conditions during accidents	Road_Surface_Conditions

4. Design & Layout

- Arranged visuals in a clear and balanced 2-column layout
- Used consistent and contrasting colors for easy differentiation
- Added chart titles, legends, and data labels for readability

5. Dashboard Features

- Charts are interactive and auto-filter on selection
- Visuals update dynamically based on user interaction
- Clean and minimal layout for clear insight delivery