

# ELECTRIC VEHICLE SALES IN INDIA

## Introduction

Electric Vehicles (EVs) are gaining significant importance in India as part of the country's transition towards sustainable and eco-friendly transportation. Understanding EV adoption trends across different states, vehicle categories, and time periods is crucial for policymakers, businesses, and infrastructure planners. This project analyses Electric Vehicle sales data in India using SQL for data analysis and Microsoft Excel for visualization.

## Objectives of the Study

- To analyse year-wise growth of EV sales in India
- To identify top-performing states in EV adoption
- To study vehicle category and vehicle class contributions
- To analyse month-wise seasonal trends in EV sales

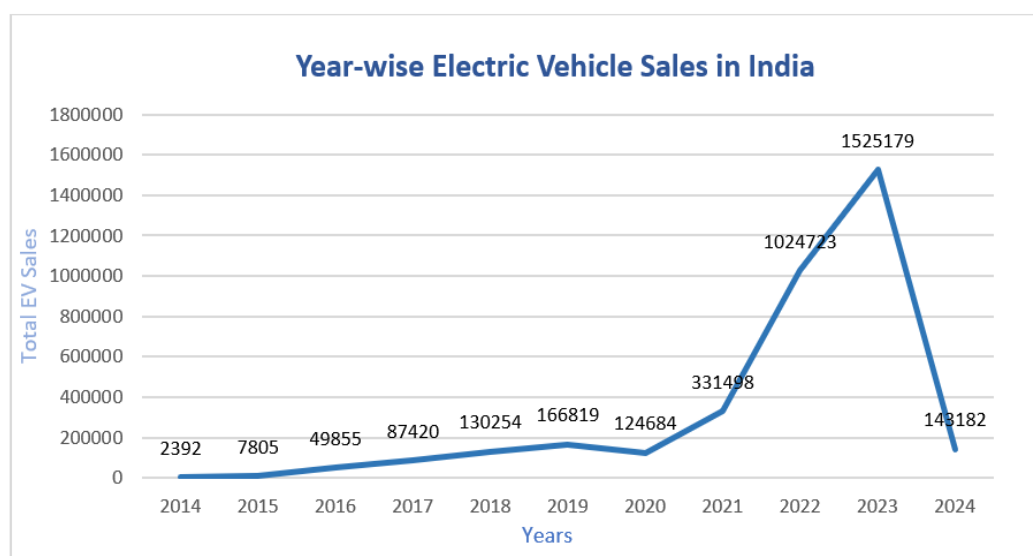
## Tools and Technologies Used

- PostgreSQL – for data storage, cleaning, and analysis
- SQL – for aggregation, filtering, and window function analysis
- Microsoft Excel – for data visualization and reporting
- Dataset – Electric Vehicle Sales by State in India (CSV format)

## Data Analysis Using SQL

SQL was used extensively to clean, aggregate, and analyze the data. Initial validation included checking row counts, missing values, duplicates, and verifying correct data types. Aggregation queries using GROUP BY were applied to analyse trends across years, states, vehicle categories, and months.

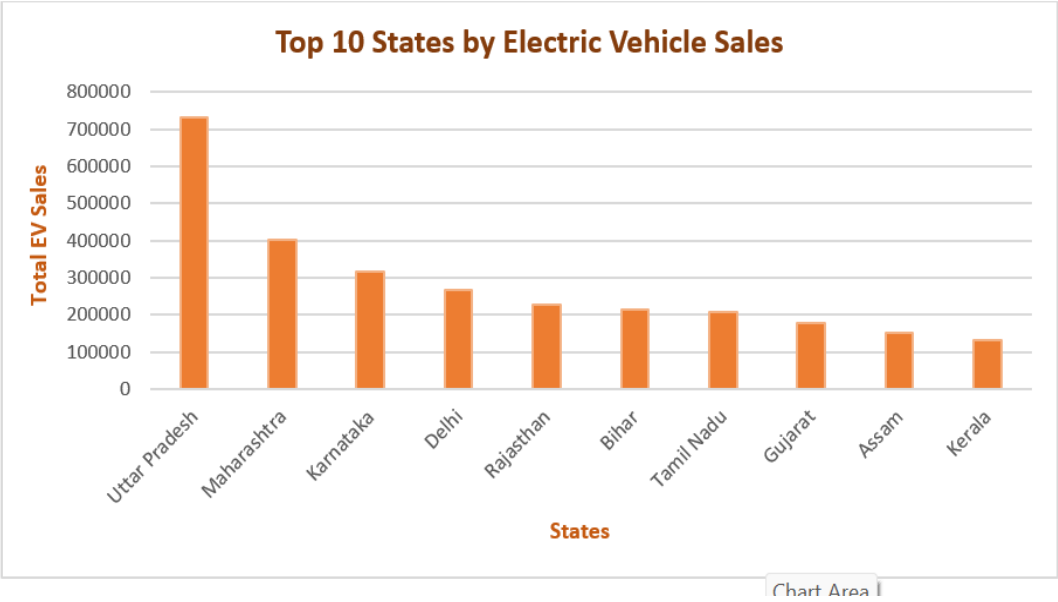
## Year-wise Electric Vehicle Sales in India



EV sales grew slowly between 2014 and 2019, declined slightly in 2020 due to the COVID-19

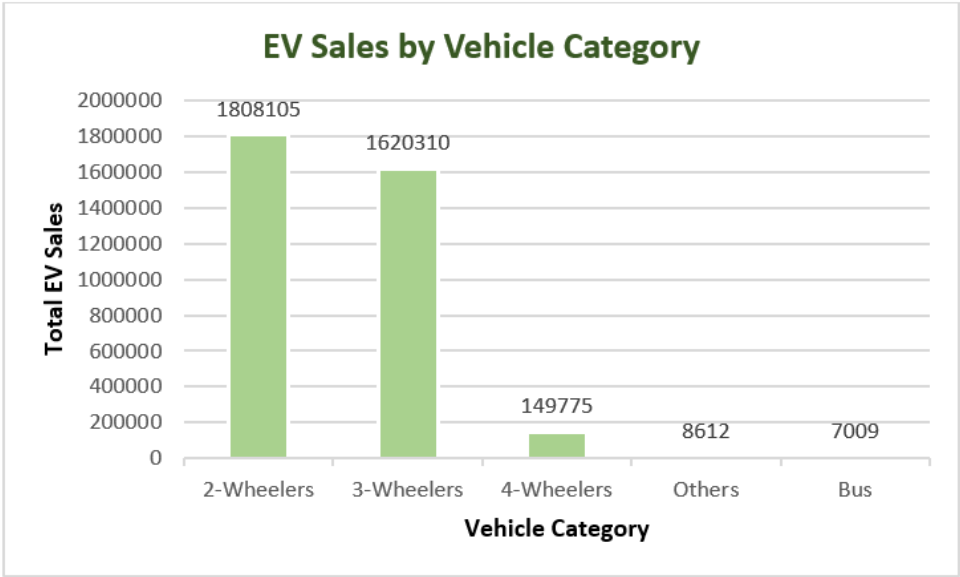
pandemic, and then increased rapidly from 2021 onwards. The peak in 2023 reflects strong EV adoption, while the lower value in 2024 is due to partial-year data.

Top 10 States by Electric Vehicle Sales



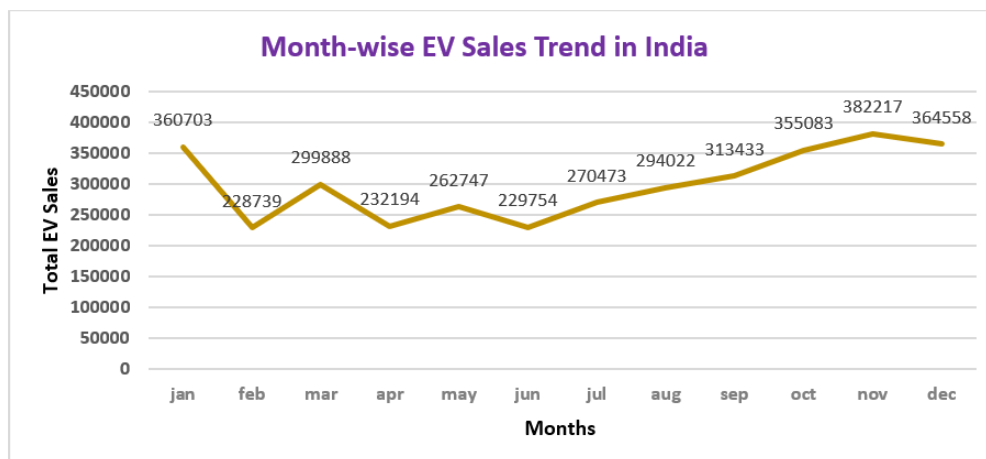
Uttar Pradesh recorded the highest EV sales, followed by Maharashtra and Karnataka. This indicates that highly populated and urbanized states are leading EV adoption.

EV Sales by Vehicle Category



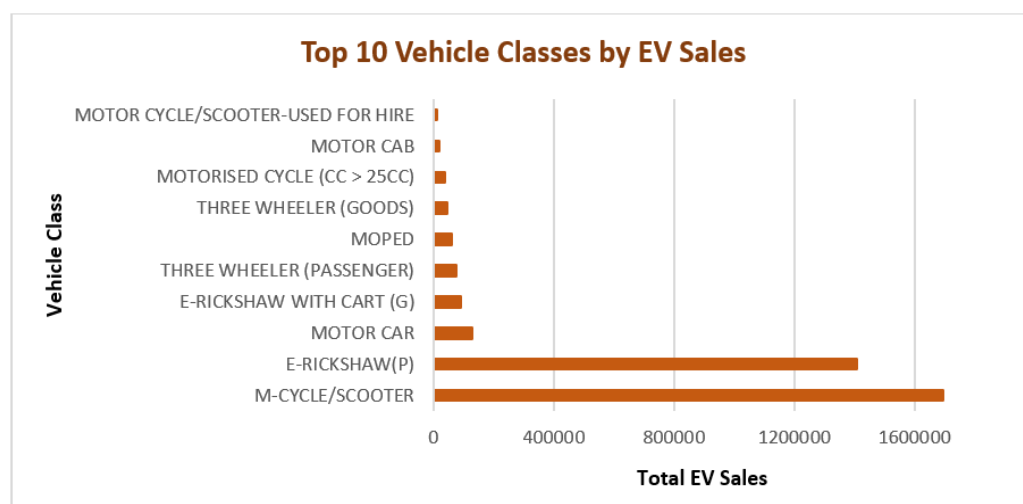
Two-wheelers and three-wheelers dominate EV sales, highlighting the role of affordability and last-mile connectivity in driving EV adoption across India.

## Month-wise EV Sales Trend in India



EV sales show seasonal variation, with higher sales during festive and year-end months, suggesting demand-driven purchasing behaviour.

## Top 10 Vehicle Classes by EV Sales



Electric two-wheelers and e-rickshaws are the leading vehicle classes, indicating strong demand for personal and shared electric mobility solutions.

## Conclusion

This project demonstrates the effective use of SQL for data analysis and Excel for visualization. The insights reveal rapid growth in EV adoption after 2021, dominance of two- and three-wheelers, and strong regional concentration in EV sales. The methodology followed in this project closely aligns with real-world data analyst workflows.

