



ELECTRIC VEHICLE DATA ANALYSIS

ANALYZING EV TRENDS IN THE U.S. FROM 2011–2024
USING TABLEAU

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BUSINESS PROBLEM STATEMENT

- The goal of this analysis is to explore the growth, distribution, and market insights of Electric Vehicles (EVs) across U.S. states from 2011 to early 2024.
- Key objectives include:
 - Understanding EV adoption trends by year and region.
 - Comparing market share between BEV and PHEV vehicles.
 - Identifying leading manufacturers and models driving EV growth.
 - Assessing Clean Alternative Fuel Vehicle (CAFV) eligibility distribution.



DASHBOARD REQUIREMENTS

- KPIs:
 - Average Electric Range
 - Total Vehicles
 - Total BEV Vehicles
 - Total PHEV Vehicles



DASHBOARD REQUIREMENTS

- Charts:
 - Line/Area Chart – Total Vehicles by Model Year
 - Map – Total Vehicles by State
 - Side Bar Chart – Total Vehicles by Make (Top N filter)
 - Donut Chart – Vehicles by CAFV Eligibility
 - Data Table – Model, Make, EV Type, Total Vehicles, % of Total
- Filters: EV Type, CAFV Eligibility, Model, and State



DATASET DESCRIPTION & VALIDATION

- Dataset Source: U.S. Electric Vehicle Population Data (2011–2024)
- Columns: VIN, County, City, State, Postal Code, Model Year, Make, Model, EV Type, CAFV Eligibility, Electric Range, MSRP, etc.
- Data Cleaning:
 - Minor null values found in County, City, Vehicle Location, and Legislative District.
 - These missing values do not significantly affect insights or visualizations.



DASHBOARD OVERVIEW & KEY INSIGHTS

- The EV market has shown continuous growth every year since 2011.
- Washington leads the nation in EV production and registration.
- BEV vehicles dominate the market with 77% share, while PHEV accounts for the rest.
- CAFV Eligibility: 41% eligible, 11% not eligible, others unknown.



MANUFACTURER INSIGHTS & CONCLUSION

- Top Manufacturers: Tesla, Nissan, Chevrolet
- • Tesla: Consistent year-on-year growth, producing only BEV vehicles. Model Y and Model 3 lead sales.
- • Nissan: Market fluctuates yearly; LEAF model dominates their lineup (BEV only).
- • Chevrolet: Produces both BEV and PHEV models; market shows ups and downs.
- Conclusion: The analysis highlights a strong upward trend in EV adoption, with Tesla emerging as the market leader and significant future potential for sustainable mobility.



The background features a dark, futuristic car driving on a road at night. The scene is overlaid with a vibrant green and blue color scheme. Large, semi-transparent circular graphics resembling data charts or gauges are positioned on the left and right sides. These circles contain various elements like concentric arcs, arrows, and 'X' marks. A large, curved scale with numerical values (150, 160, 170, 180, 190, 200, 210, 220, 230, 240, 250, 260) is visible on the left. The overall aesthetic is high-tech and digital.

THANK YOU

PREPARED AND PRESENTED BY **RIYA MANOJ**

TOOLS USED: TABLEAU | PYTHON | EXCEL