

# Electric Vehicle (EV) Data Analysis

*Interactive Dashboard & Insights Report*

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### Project Overview

This report presents a comprehensive data analysis of Electric Vehicles (EVs) in the United States using Tableau. The goal is to identify trends, evaluate the adoption of BEVs and PHEVs, measure technological progress via average electric range, and provide location-based insights.

### Problem Statement Objectives

1. Measure market growth of EVs over time and across geographies
2. Evaluate technological advancement through average electric range
3. Segment the EV market into BEVs and PHEVs and identify trends
4. Assess policy impact using CAFV eligibility
5. Identify best-performing models and manufacturers
6. Provide actionable insights through storytelling dashboards

### Dashboard Analysis & Insights

#### EV Growth by Model Year

Significant growth post-2015, peaking after 2018. Aligns with incentives and infrastructure improvements.

Recommendation: Continue post-2023 investment and model-specific incentives.

#### EV Distribution by State

California leads, followed by Washington and New York. Regional policies impact adoption.

Recommendation: Replicate California-style programs elsewhere.

#### Top 10 Makes and Models

Tesla dominates with Model 3 and Y. Its lead is due to innovation, branding, and range. Recommendation:

Other OEMs should prioritize affordability and battery efficiency.

### Average Electric Range

Steady growth in range; most modern EVs exceed 250 miles. Recommendation: Continue investing in battery tech and efficiency enhancements.

### Fuel Type Segmentation (BEV vs. PHEV)

BEVs dominate and are growing faster. Consumers prefer full electrification. Recommendation: Invest more in BEV infrastructure and policy support.

### CAFV Eligibility

A large number of EVs qualify for clean air incentives. Recommendation: Expand and diversify incentive programs for broader impact.

### Summary of Key Insights

- EV adoption accelerating post-2018
- California dominates state-wise EV count
- Tesla leads in model-level performance
- Range anxiety is decreasing with modern EV capabilities
- BEVs are overtaking PHEVs
- Incentive programs like CAFV eligibility are effective

### Final Recommendations

For Policymakers:

- Replicate Californias incentive frameworks

## EV Data Analysis Report

- Improve EV charging infrastructure
- Enforce EV-readiness in new real estate projects

For Manufacturers:

- Focus on affordable, high-range models
- Expand dealership training & test drives
- Collaborate with governments for charger rollouts

For Analysts & Utilities:

- Model EV energy demand growth
- Use geographic data for targeted rollouts

### Next Steps

- Add 2024+ EV registration data for longitudinal analysis
- Apply forecasting models to project future growth
- Segment usage patterns (urban vs highway)
- Build a narrative Tableau Story for walkthrough presentations