**Capstone Project Blurb**

As of December 2023, the U.S. Department of Energy reported **3.55 million registered electric vehicles (EVs)** nationwide, with California leading adoption, followed by states such as Washington, Florida, and Texas. Washington State, with a population of **7.9 million residents**, recorded **199,000 battery electric vehicle (BEV) registrations by mid-2025**, highlighting both existing progress and significant potential for future growth.

This project will focus on **EV adoption potential in Washington State**, specifically among residents aged **25 to 60**, who represent the most active driving population. A central theme will be the role of **charging infrastructure** in enabling adoption. We will examine factors such as:

* **Population and vehicle ownership** trends by county.
* **Travel patterns and corridor demand**, including commuting and long-distance routes.
* **Existing charging infrastructure** and geographic gaps in coverage.
* **Vehicle density, usage patterns, and policy incentives** driving EV adoption.

Industry guidance suggests a ratio of roughly **one charging point per 1,000–2,000 residents** in areas with high EV penetration. Using this benchmark, we will:

1. Map existing **Tesla Supercharger and public charging locations** in Washington State.
2. Estimate the **target charging infrastructure needs** across counties based on population aged 25–60.
3. Propose potential **investments in charging points** to meet forecasted demand.
4. Apply **machine learning models** to forecast the relationship between infrastructure expansion and EV adoption growth through future years.

By combining demographic analysis, infrastructure mapping, and predictive modeling, this capstone aims to provide **data-driven recommendations** for strengthening Washington’s charging network and accelerating EV adoption.

Dataset:   
1. 199,000 Vins samples of battery eletric vehicle registration: coordinates 1,2,3 csv.

2. supercharger network in US/washington states

3. Washington states census population by county, by age, by year.