

ARE YOU READY FOR THE ELECTRIC VEHICLE REVOLUTION?

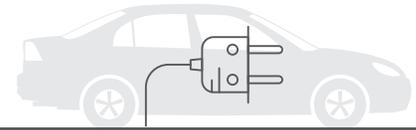
Electric vehicle technology is not just coming, it's here. And it's poised to dominate the transportation landscape. Learn what you can do to prepare for a fully electrified future.



Conventional



Hybrid



Electric

EV Benefits to Drivers

- + Better for the environment
- + Fuel savings
- + Fueling location flexibility
- + Reduced maintenance costs
- + Federal and state purchasing incentives
- + Quiet driving experience
- + Improved acceleration, braking, and torque



\$7.5 billion in federal funds have been set aside in the 2021 Infrastructure and Jobs Act to build more EV charging infrastructure through private partnerships.¹



By 2030, an estimated 25 million EVs will be on the road and 30% of car sales in the US will be EVs.²



Ford and other manufacturers are projecting moves to **all EV in 10-15 years**.³

Charging Up

(per hour of charge)



Level 1

3-5 miles



Level 2

12-50 miles



DCFC

75-300 miles

Key Terms

Electric Vehicles (EVs) encompasses all vehicles primarily powered by electricity rather than gasoline.

Battery-powered Electric Vehicles (BEVs) are run entirely off an electric engine powered by rechargeable battery cells.

Plug-in Hybrid Electric Vehicles (PHEVs) have both an electric engine powered by rechargeable batteries and a gasoline engine.

Kilowatt-Hour (kWh) represents a fixed unit of energy measurement equivalent to 1000 watts of energy consumed in one hour.

Charging stations, today and tomorrow

As of 2022, **53,500 charging stations** in the United States and Canada



The Biden administration hopes to build **500,000 new stations by 2030**



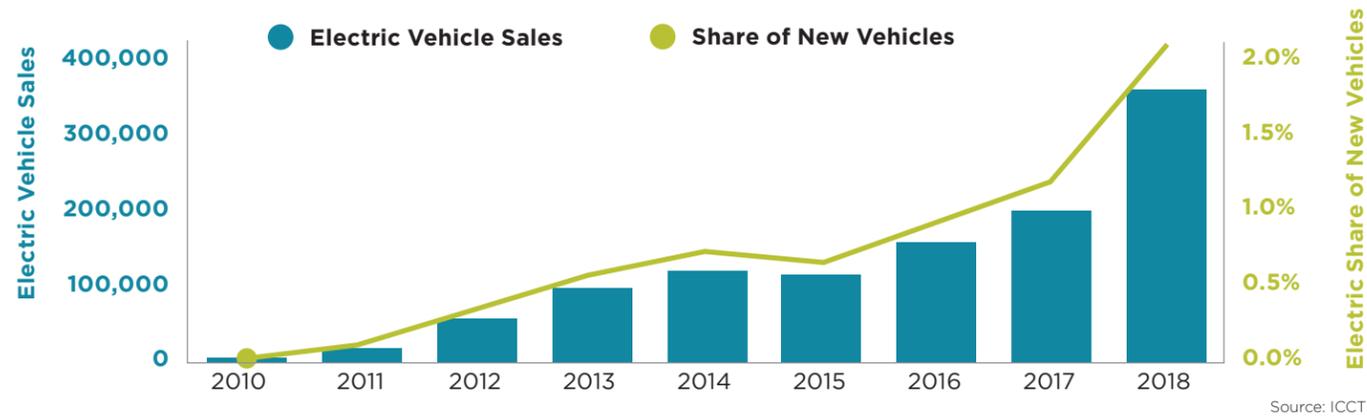
¹ <https://transportation.house.gov/committee-activity/issue/infrastructure-investment-and-jobs-act>

² <https://evadoption.com/ev-sales/ev-sales-forecasts/>

³ <https://transportation.house.gov/committee-activity/issue/infrastructure-investment-and-jobs-act>

WHY IS THE FUTURE ELECTRIC?

With hybrid and all-electric vehicles becoming more affordable all the time, sales are expanding rapidly.



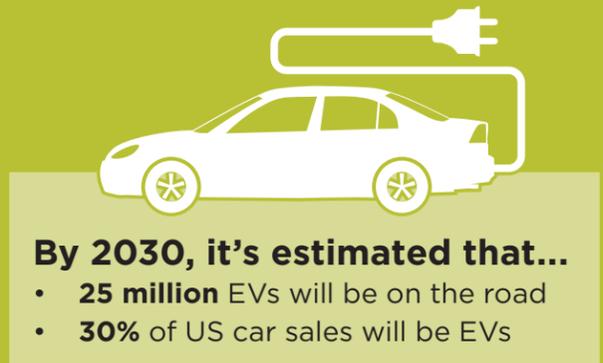
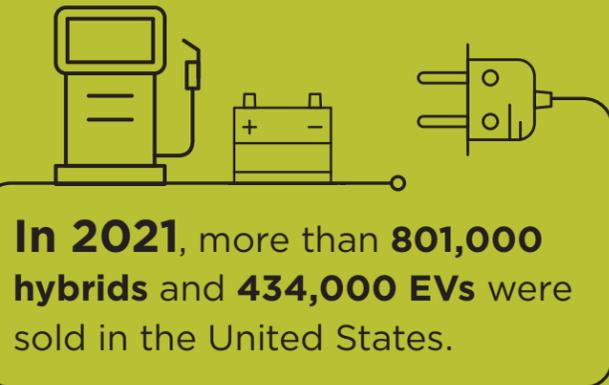
EV and Charging Infrastructure Funding in the Infrastructure Investment and Jobs Act (IIJA)

\$30.7 billion total

\$7.7 billion dedicated to the deployment of EVs and related infrastructure only

\$12.7 billion dedicated to the deployment of all types of clean vehicles and fueling infrastructure, which includes EVs and charging infrastructure

\$10.3 billion for grid and battery-related investments



Barriers to total electrification

State Level

- Awareness
- Cost
- Infrastructure
- Equity

National Level

- Product Interoperability
- Reliability

HOW DO 50 DOTS GET READY FOR FEDERAL LEGISLATION?

Where are the gaps in your state's electric vehicle charging infrastructure? How do you close them?

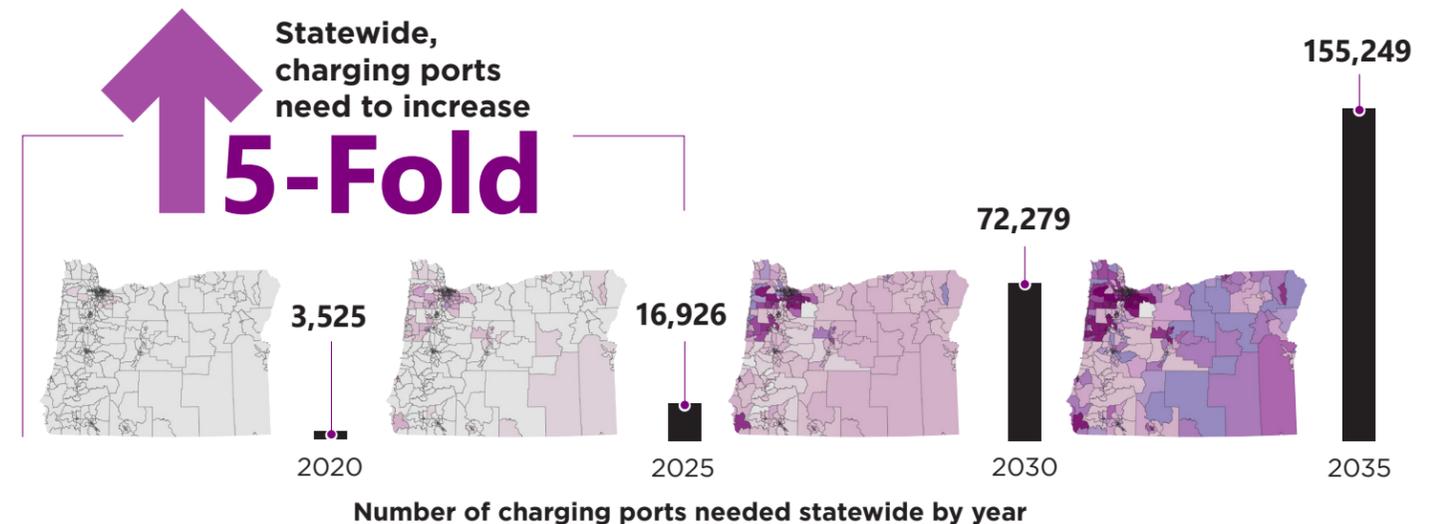
- + The role of public agencies in facilitating EV adoption is critical
- + Take a thoughtful and systematic approach to plan and design of charging stations
- + Collaborate with other stakeholders to develop a strategic plan for statewide deployment
- + Take advantage of both public and private/public financial participation opportunities

Case study

ODOT's Transportation Electrification Infrastructure Needs Analysis (TEINA)

Growth in public charging ports needed over the next 15 years to meet Oregon's 2035 goal.

Note: Modeling assumes 50,000 electric vehicles in 2020.



BE PREPARED.

Here are some things you can do now.

Public agencies

- 1) Lead by example: electrify your own fleet
- 2) Streamline the EV permitting and construction process
- 3) Include transportation and employee commuting in climate action plan
- 4) Collaborate with local utility service providers
- 5) Address EV charging deserts
- 6) Adopt EV-ready building codes and parking ordinances
- 7) Encourage addition of 110-volt outlets and public charging stations
- 8) Establish infrastructure investment standards to ensure consistency
- 9) Plan for transportation network companies (TNCs) as anchor tenants of DC fast charge (DCFC) hubs
- 10) Facilitate e-micromobility adoption

Private developers

- 1) Focus today on light-duty, zero-emission vehicle charging infrastructure: urban, rural, and corridor
- 2) Support on-site depot charging for public and private fleet electrification
- 3) Plan for and support medium and heavy-duty zero-emission vehicle charging
- 4) Consider how charging infrastructure affects parking lot design and stall allocations.
- 5) Look for ways to plan an EV-friendly facility, even if not adding charging now
- 6) Install infrastructure during site development at 1/6 the life cycle cost of retrofitting
- 7) Be aware that sites with ready access to the power grid will be more valuable as EV adoption accelerates
- 8) Be prepared: progressive communities already have site development policies requiring EV chargers
- 9) Be aware of the industry direction: senior EV positions, free EV charging, and delivery with EV fleets
- 10) Consider customer experience: more customers and employees are attracted to EV charging opportunities

Implementation needs

- 1) Involve all major stakeholders (DOT, landowners, etc.)
- 2) Identify infrastructure needs by use case and area type
- 3) Establish functional specifications for station prototypes
- 4) Estimate costs and incorporate future proofing elements
- 5) Coordinate with utilities on capacity expansion plans
- 6) Develop a phased deployment strategy
- 7) Provide implementing assistance, support and resources to local planning agencies

Act now!

Statewide EV plans are due to FHWA by August 1

in order to be eligible for funding under the [National Electric Vehicle Formula Program](#).

Competitive grant funding will become available no later than November 2022.



Contact us

Wayne Kittelson

Kittelson & Associates, Inc.
wkittelson@kittelson.com

Jeff Allen

Forth
JeffA@forthmobility.org

Catherine Corliss

MIG
ccorliss@migcom.com

 **KITTELSON
& ASSOCIATES**

 **FORTH**  **M I G**
Empowering Mobility