NARUC Winter Policy Summit

Committees on Energy Resources and the Environment (ERE) and Electricity

First Do No Harm: Siting EV Charging Infrastructure

11:00 a.m.

Institute of Transportation Engineers –
A Community of Transportation Professionals

Who Is ITE?
- A network of 17,000+ transportation professionals
- Members in more than 78 countries
- Working across all levels of government and the private sector

Grassroots Engagement
- 11 Districts, 73 Sections, 4 Chapters
- 140 Student Chapters
- Opportunities to gather broad opinions and develop global consensus around issues

What Does ITE Provide?
- Knowledge and education
- Best practices and emerging trends
- Skills and professional development
- Connection to the global transportation network
- Standards Development Organization

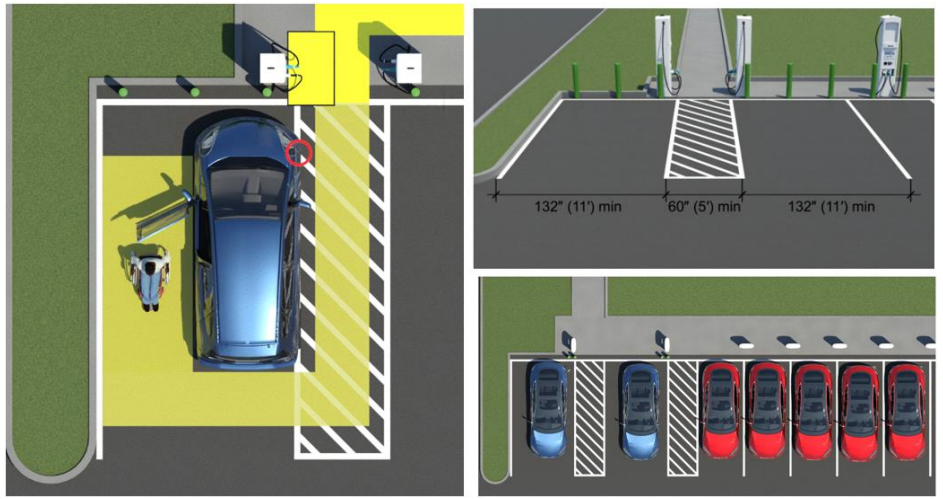
Technical/Policy Engagement
- 6 Technical Councils & 18 Committees
- 3 Employer Councils
- Regularly producing webinars, technical briefs, recommended practices to share knowledge and advance state of the industry

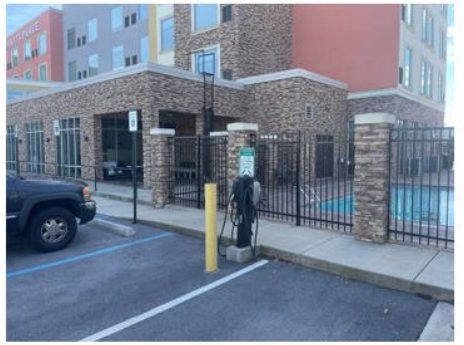
ite
A Community of Transportation Professionals

ITE Development Trend: Electrification

Issues of Potential Interest to ITE Members

- EV planning/charging station locations
- EV charging station accessibility
- EV impacts on incident management
- EV impacts and transportation analysis
- Micromobility electrification (e-bikes, e-scooters)
- EV fleets and bus charging
- EV charging station best practices in rest areas
- EV charging station mapping
- EV charging station access (energy deserts)
- EV charging stations in private & public settings
- EV truck charging needs, issues, best practices
- EV park-n-ride repurposing
- EV in-motion charging opportunities





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Electrification Coalition

EV Adoption Programs Around the U.S.

Technical Lead
Climate Mayors EV Purchasing Collaborative

State EV Policy Accelerator
NV, MI, PA, VA, NC

Electrification Advisor
Bloomberg American Cities Climate Challenge

Lead Electrification Partner
Smart Columbus

Federal EV Infrastructure Program
State agency collaboration on EV infrastructure investments (NEVI fund)

Electric Freight Consortium
Private-sector collaboration

Resources

Home > Our Work > Federal EV Policy > Inflation Reduction Act Impacts on Electric Vehicles

INFLATION REDUCTION ACT IMPACT ON ELECTRIC VEHICLES

The Inflation Reduction Act of 2022, which was signed into law on August 16, is perhaps the most significant legislation to accelerate transportation electrification in U.S. history. The Electrification Coalition (EC) has been advocating for many of the key measures included in the law for over a decade. Altogether, this is a major win for consumers and businesses, but there are challenges on the road ahead.

Watch a webinar on recent EV legislation by the Electrification Coalition and SAFE.

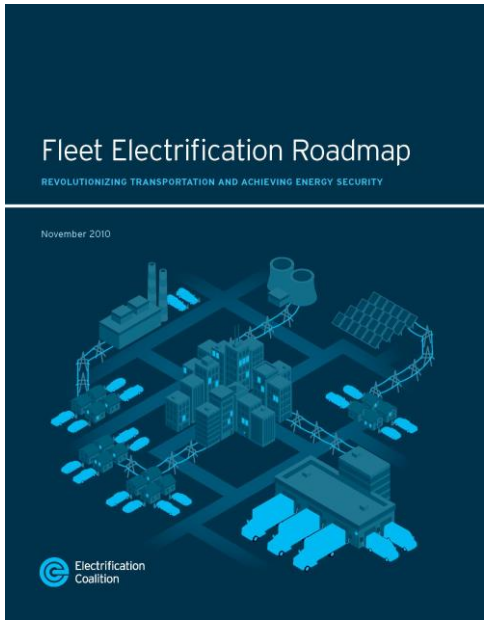
Dashboard for Rapid Vehicle Electrification: DRVE Tool

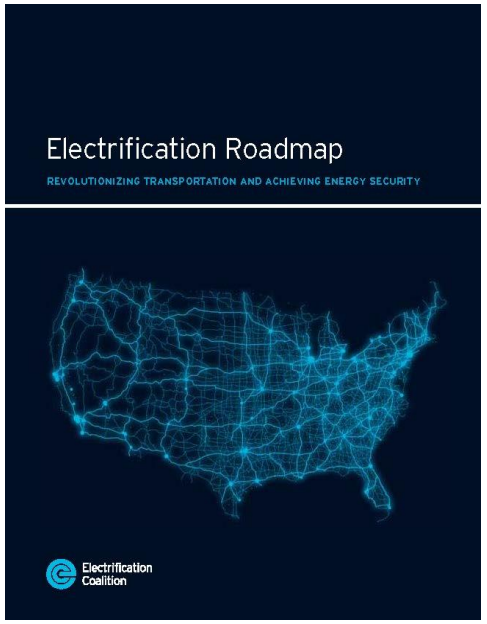
The EC created the Dashboard for Rapid Vehicle Electrification (DRVE) Tool, providing unique, turnkey analysis for light-, medium-, and heavy-duty fleet electrification. By designing this custom-made tool with partner Atlas Public Policy, this total cost of ownership (TCO) tool allows users to upload simple fleet data into an easy-to-use Excel-based tool that can analyze and assess the best fit for EV deployment within minutes, greatly shortening timing from traditional fleet analysis work. This tool works for both private-sector and public fleets, including both local and state fleets.

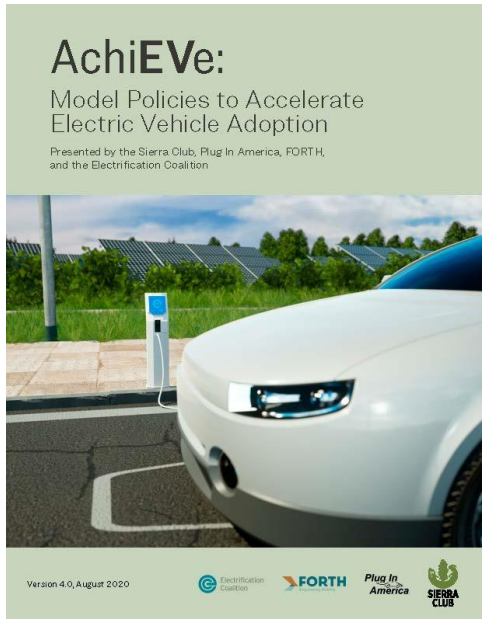
EV Funding Finder

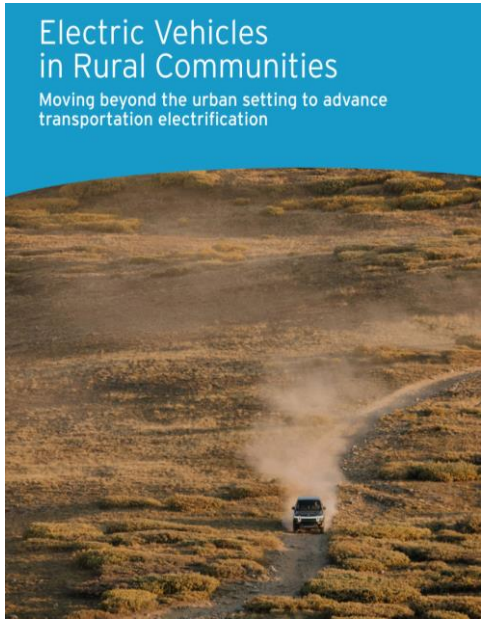
A user-friendly tool to identify federal funding opportunities

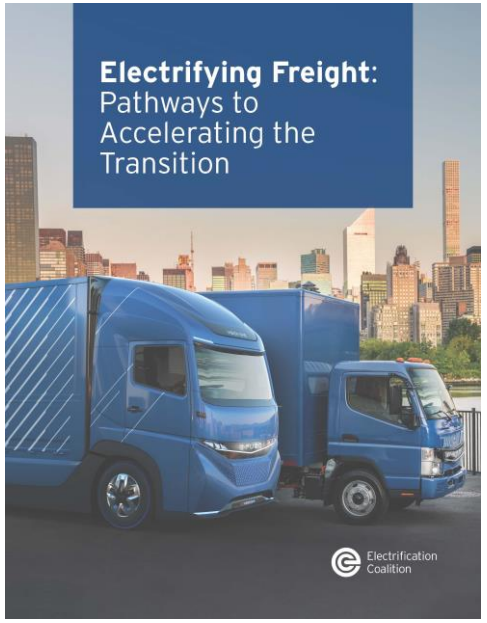
Electrification Coalition











EC Resources and Toolkits

Explore more resources at
www.electrificationcoalition.org

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Electrifying Highways:

Planning and Building Through Uncertainty

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February 14, 2023

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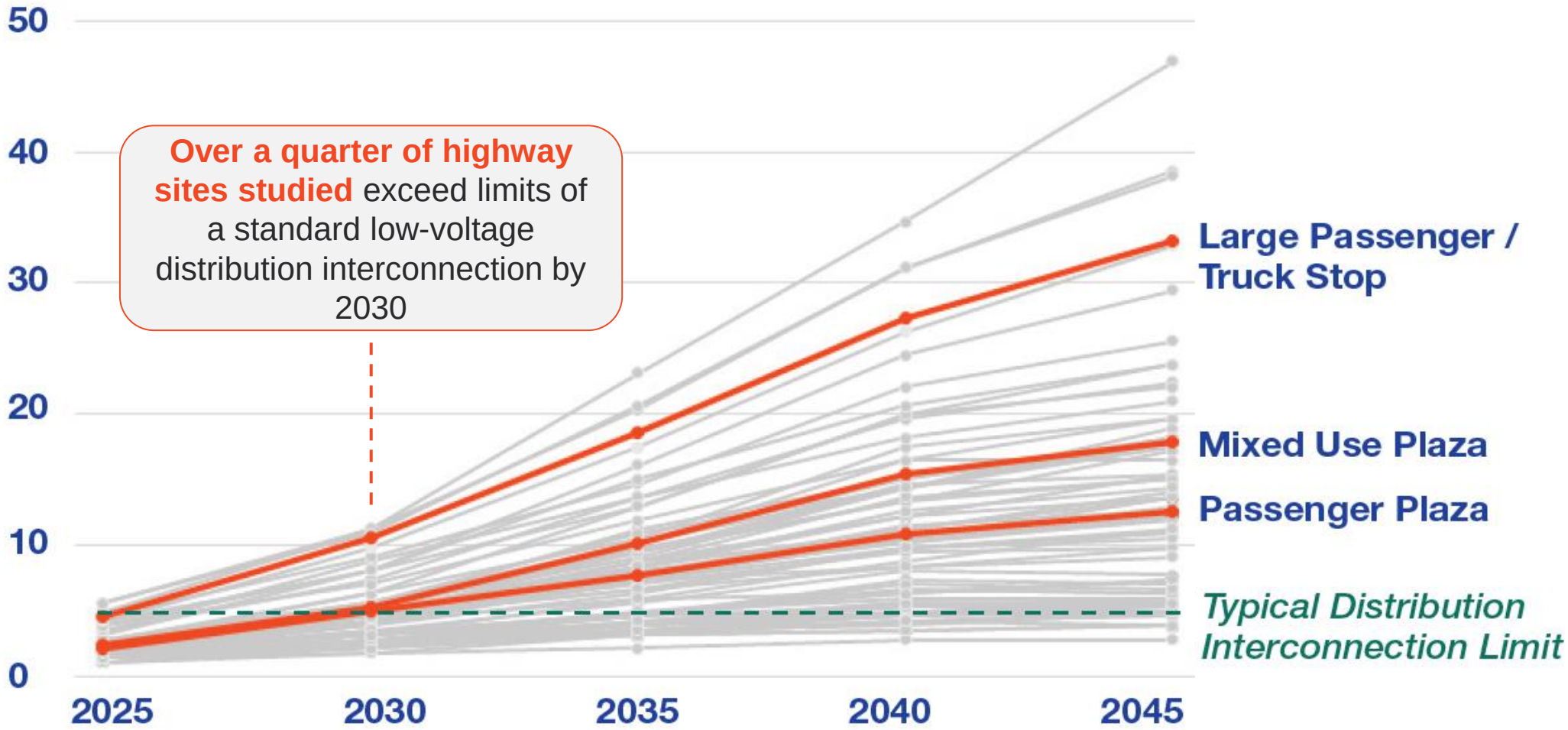
Large Industrial Plant
(40+ Megawatts)

A Small Town
(20 Megawatts)

A Stadium
(5 Megawatts)

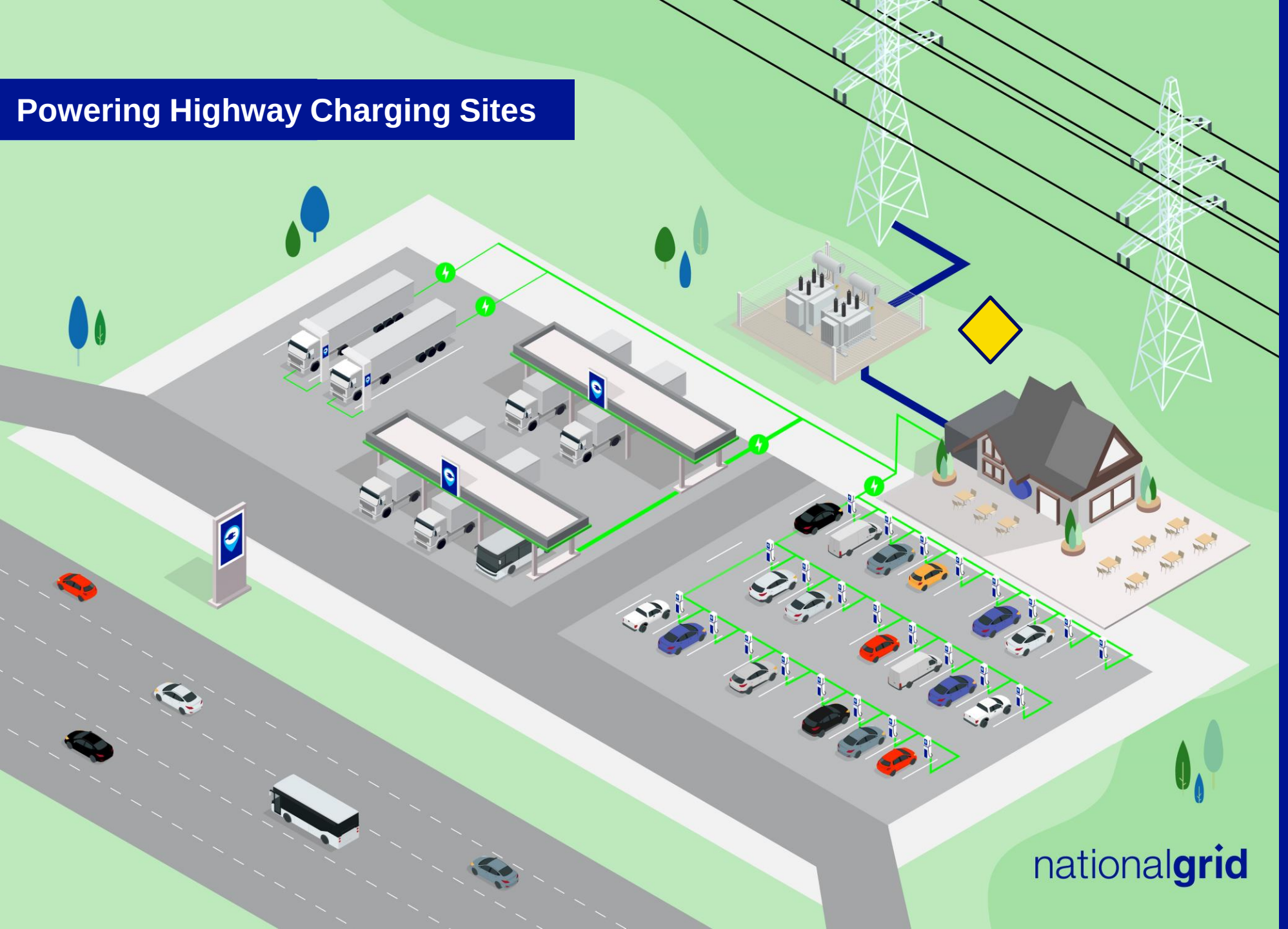
Projected charging capacity for 71 Northeastern highway sites

Megawatts of power to meet annual peak demand, over time



Note: Analysis seeks to match ZEV goals for New York + Massachusetts, makes simplifying assumption that all ZEVs are electric. See study for discussion of assumptions, including role of hydrogen fueling and impact on capacity.

Powering Highway Charging Sites



Leveraging Transmission

Highways often overlap with transmission lines, which can future proof these sites.

Barriers?

1) Identifying “no-regrets” sites for transmission interconnection
2) “Future-proofing” for rapid growth vs designing only for near-term needs
3) Cost allocation

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Reliability implications of fully electrified transport

- In a fully electrified transportation sector, the **reliability of public fast charging becomes critical**.
- Utilities should **leverage existing transmission assets** located adjacent to highway service stations.
- Interconnecting critical charging sites directly to the **most reliable assets** provides resilience and reliability value for drivers, industry, and government.

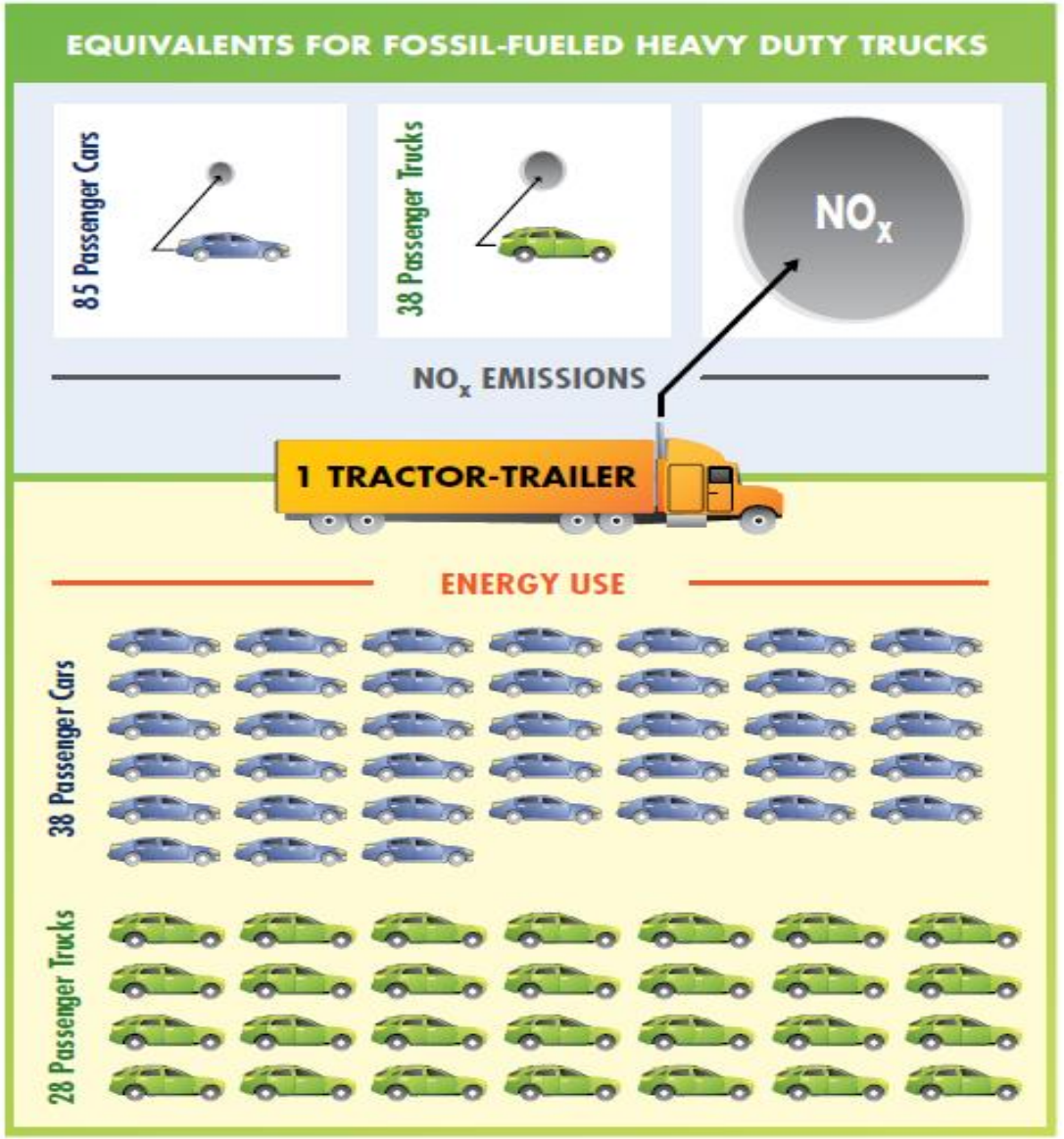

Figure 2: Energy Use and NOx Emissions by Combination Long-Haul Heavy-Duty Trucks and Light-Duty Passenger Vehicles (Data Source: U.S. EPA, 2021[4])

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The exact future of charging is unknown, but the direction is clear

The key lesson for utility planning is that **directional forecasting helps to de-risk anticipatory infrastructure investments.**

Risks of Anticipatory Investments	**Over Building**	**Building Too Early**	**Building in the Wrong Place**
How we can mitigate those risks through directional forecasting	By analyzing distinct scenarios, we can see sensitivity of energy demand in different charger configurations and sales scenarios.	Consider distribution system thresholds as compared to capacity needs as a clear indicator of investment needs.	Site specific analysis, as opposed to system wide studies, help to direct the investment and charging demand to the lowest cost locations.

This session has ended.
The next session begins at 1:45 p.m.