



Municipal EV Readiness Toolkit 12-Week Program

Module 7: Public & Destination Charging

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Transportation Electrification Plan Foundational Insights

Why should you start planning now for a Transportation Electrification Plan?

- Connecticut passed statutes that requires a reduction of greenhouse gas (GHG) emissions 80 percent below 2001 levels by 2050 (Public Act 08-98), with an interim target of 45 percent below 2001 levels by 2030 (Public Act 18-82).
- Transportation makes up 38% of GHG emissions, the largest source of GHG emissions. In order to reach those goals, transportation will need to become zero-emission.
- For 2030 target: The [report](#) from the GC3 recommends reducing transportation emissions 29% from 2014 levels to stay on target.
- December 2015 – CT joined the [International zero emission vehicle \(ZEV\) alliance](#) that says: no later than 2050 – strive to make all new passenger vehicles in their jurisdictions ZEVs
- July 2020 – CT joined the [multi-state Medium and Heavy-duty ZEV memorandum of understanding](#) that commits states will work toward ensuring that: by 2050 – 100 percent of all new medium- and heavy-duty vehicle sales be ZEVs, with an interim target for 2030 having 30 percent ZEV sales

People's perceived lack of visible charging stations is cited as one of the top barriers that contribute toward car buyers not purchasing electric vehicles.

Public charging infrastructure must evolve to meet consumers' on-the-go charging needs and expand consumer confidence in PEV technologies. Designing and planning charging systems will require addressing unique needs and removing barriers that local leaders are in a position to help with. Higher visibility of public charging infrastructure has been shown to correlate with higher rates of PEV adoption. As the deployment of PEVs ramps up, public charging infrastructure will be essential to meet the needs of out-of-state drivers and local drivers without access to residential charging infrastructure. Public electric vehicle supply equipment (EVSE) makes plug-in electric vehicles (PEVs) even more convenient to drive. Their use can increase the daily effective range of battery electric vehicles (BEVs) and reduce the amount of gasoline consumed by plug-in hybrid electric vehicles (PHEVs). Public charging will predominately use Level 2 and direct current fast chargers (DCFC).

Estimates for changes in location for total vehicle electric energy delivered show between 2017 and 2025 that while home charging and private workplace charging will decrease, DCFC will remain effectively the same, and public Level 2 chargers will more than double from 7 percent to 15 percent. [1] Public PEV infrastructure expansion is falling behind. In 2018, new EV sales increased by forty percent in the U.S., but public charging stations only increased by two percent. [2]



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If PEV sales match forecasts for the next decade, a lack of available charging infrastructure to meet refueling demand may become an impediment to PEV adoption. With the rapid growth of ride- and car-sharing services the placement of PEV chargers at more frequented destinations would help enable a shift to greater PEV use in those service fleets.

To support the expansion of its public charging network, municipalities should identify key destination locations for EVSE installation coincident to Connecticut's efforts to fill infrastructure gaps. Travel and tourism statistics could be analyzed to identify prime locations for destination charging. Potential locations should include interstate highways, parking lots and garages, airports, transit centers, retail sites, state parks, historical sites, multi-use entertainment venues, and lodging and accommodations. Where possible, municipalities should embrace public-private partnerships to increase the number of public chargers, and increase data collection and analyses to adopt models that can help inform EVSE charger siting.

Factors to consider for public charging

- Public EVSE will include both public spaces and private developments.
- Public charging may involve multiple entities in establishing permission to install PEV chargers.
- Consider the implications for curbside charger installations in the public right of way. These locations might be well suited for DCFC, electric delivery vehicle top offs while unloading, ride-sharing or car-sharing applications.
- To ensure equity and equal access PEV chargers should include near-by access in every neighborhood, especially in underserved communities.
- Ample EVSE that is easy to access and that complies with the American with Disabilities Act.
- Charging equipment should be fully operational, interoperable with any PEV make and model.
- Charging equipment should accept multiple accessible payment options.
- Signage is important for two purposes: wayfinding and communicating applicable usage and enforcement regulations.
- Resilience planning should incorporate EVSE on evacuation routes.

EV Corridors

- The Federal Highway Administration is working with partners to designate national alternative fuel corridors including PEV charging so commercial and passenger vehicles can reliably travel between cities and regions, and across the entire nation.
- Connecticut has established several EV "corridor-ready" interstate routes.
- As part of the Volkswagen (VW) diesel emissions settlement, Electrify America has been tasked with building out a nationwide network of DCFC stations.

[1] Nicholas, M., Hall, D., & Lutsey, N. Quantifying the Electric Vehicle Charging Infrastructure Gap Across U.S. Markets. The International Council on Clean Transportation. January 2019. <https://theicct.org/publications/charging-gap-US>.

[2] Pollak, N. The Shift to Electric Vehicles. Norton Rose Fulbright. August 7, 2019. <https://www.projectfinance.law/publications/the-shift-to-electric-vehicles>.