Transportation Electrification Plan Foundational Insights

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

- Connecticut passed statues 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

Zoning ordinances are useful tools for local governments to indicate where EVSE are allowed or prohibited and to incentivize or require EVSE throughout zoning districts or in specific areas.

Zoning is a form of local ordinance that establishes allowable uses of property within local jurisdictions. Through this governance, zoning can consider a larger strategic plan for EVSE deployment. To support a growing PEV market, Planning & Zoning staff and Commissioners will need to consider existing methods and technologies available for PEV charging, but also plan proactively for emerging technologies and installations. Determining where and how EVSE is allowed, incentivized or required will include the balancing of additional public EVSE with conventional parking that is in high demand.

Zoning is a long-term tool, and shapes development over many years. The report Creating EV-Ready Towns and Cities [1] examines best practices for promoting EV-friendly zoning regulations. Its companion guide, EV-Ready Codes for the Built Environment,[2] is intended to aid local and state practitioners in assessing local code-specific barriers and identifying the code provisions that would encourage a basic or advanced level of EV readiness in local policies and regulations. Zoning changes that encourage EVSE in appropriate locations should be prioritized to ensure timely results.

In general, the guide recommends that zoning updates should address the present PEV landscape, consider future demand, and plan for a scalable expansion as more charging infrastructure is needed. Consider zoning implications for solar canopies to generate the power for charging stations.

Zoning alone will not facilitate EVSE implementation, but recommendations for zoning changes prepare and clear a path so as to not hinder advancing EVSE infrastructure. EV-Ready Codes for the Built Environment finds that a proactive regulatory framework can assist in the deployment of a connected and strategically located EVSE infrastructure network in the places where drivers are most likely to charge. [3] Several areas of opportunity exist for zoning regulations to prepare for expanding EVSE. Through coordinated planning efforts, equity and access should be ensured. Planning that EVSE is near and accessible for every neighborhood, especially frontline communities.

To support EVSE expansion, zoning regulations for new development, especially for residential projects, could require a certain portion of parking spots to be pre-wired with electrical panels, raceway and conduit installed; the actual EVSE can be installed at a later date. This preparation is considered “EV make-ready”. Studies show for all types of buildings pre-wiring for EV charging infrastructure is significantly less expensive during new construction than it is to retrofit for EVSE later. [4] The city of Hartford [5] and the town of Middletown [6] have created new zoning regulations that require a minimum number of EV charging stations for new developments.

[1] WXY Architecture + Urban Design and Energetics Incorporated. Creating EV-Ready Towns and Cities: A Guide to Planning and Policy Tools. New York State Energy Research and Development Authority and Transportation and Climate Initiative. November 2012. https://www.transportationandclimate.org/sites/default/files/EVSE_Planning_and_Policy_Tool_Guide.pdf.

[2] WXY Architecture + Urban Design and Energetics Incorporated. EV-Ready Codes for the Built Environment. New York State Energy Research and Development Authority and Transportation and Climate Initiative. November 2012. https://www.transportationandclimate.org/sites/default/files/EV-Ready_Codes_for_the_Built_Environment_0.pdf.

[3] Ibid.

[4] Plug-In Electric Vehicle Infrastructure Cost-Effectiveness Report for San Francisco. Energy Solutions and Pacific Gas & Electric Company. November 17, 2016. http://evchargingpros.com/wp-content/uploads/2017/04/City-of-SF-PEV-Infrastructure-Cost-Effectiveness-Report-2016.pdf.

[5] Harford Zoning Regulations. 7.2.2. D. Required Electric Vehicle Charging Stations. p233. June 2020. https://www.hartfordct.gov/files/assets/public/development-services/planning-zoning/pz-documents/zoning-regulations/zoning-regulations-06052020.pdf.

[6] Beals, S. Middletown zoning requires electric charging station for large developments. Hartford Courant. January 29, 2018. https://www.courant.com/community/middletown/hc-news-middletown-electric-vehicles-20180126-story.html.