



*Siting and Design Guidelines*

February 27, 2013

# Transportation and Climate Initiative

- Eleven states and the District of Columbia launched TCI in June 2010 to:
  - Reduce greenhouse gases in the transportation sector and help build the clean energy economy;
  - Create benefits and funding opportunities for states that are leading the way;
  - Align with federal government actions, goals and emerging inter-agency approaches; and
  - Build on existing regional efforts.



# The Northeast Electric Vehicle Network

- Launched by TCI in 2011.
- The Network will result in an increased number of electric vehicle charging stations.
- The Network is more than just physical infrastructure, it also represents:
  - A growing partnership between the public and private sectors to expedite our transition toward a cleaner transportation system; and
  - A commitment to removing barriers that would slow the mass-market rollout of electric vehicles.



# DOE Electric Vehicle Planning Grant

- TCI, together with the New York State Energy Research and Development Authority (NYSERDA) and 16 of the region's Clean Cities Coalitions, received a nearly \$1 million Electric Vehicle Readiness Grant from DOE in September 2011 to lay the groundwork for the Northeast Electric Vehicle Network.
- Under the DOE grant, the project partners are:
  - Engaging stakeholders;
  - Conducting a literature review of market barriers to EV deployment;
  - Creating siting and design guidelines, model permits, building codes, and ordinances tailored to the TCI region; and
  - Undertaking education and outreach activities to raise awareness of the benefits of EVs and share the products of this work.



# Guidance Documents

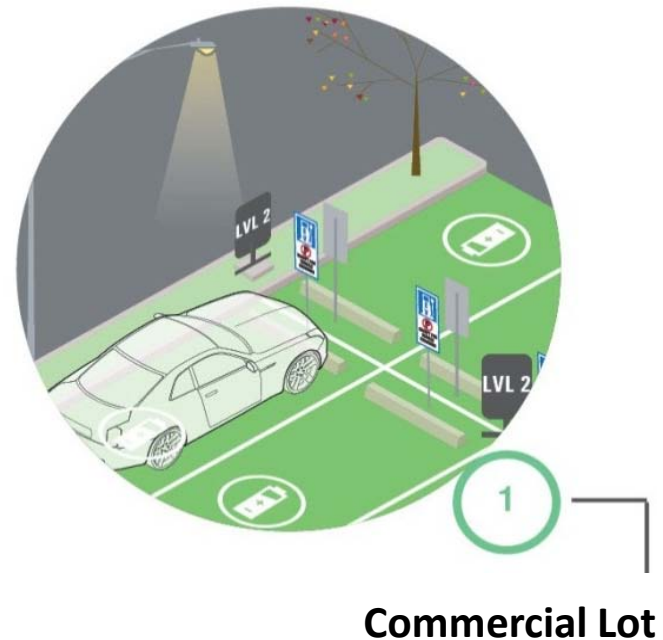
- Consulting team Energetics Incorporated and WXY Architecture + Urban Design is creating a series of EV guidance documents for the TCI region. These documents include:
  - An **Analysis of Current EV and EVSE Deployment** in the TCI region;
  - An **EVSE Cluster Analysis**;
  - **Siting and Design Guidelines for Electric Vehicle Supply Equipment**;
  - A report on **EV-Ready Codes for the Built Environment**; and
  - A **Guide to Planning and Policy Tools** for creating EV-Ready towns and cities.



# Siting and Design Guidelines

# Siting and Design Guidelines

- The guidelines provide siting and design recommendations at the micro level.
- Specifically, these guidelines:
  - Identify key siting and design issues that are relevant to local governments, developers, homeowners, businesses, utility providers, and other organizations; and
  - Provide an overview of elements of site selection and design and installation scenarios.
- This guide is for installers involved in EVSE deployment at commercial lots, multi-family residences, on-street charging, service station models, and fleets.

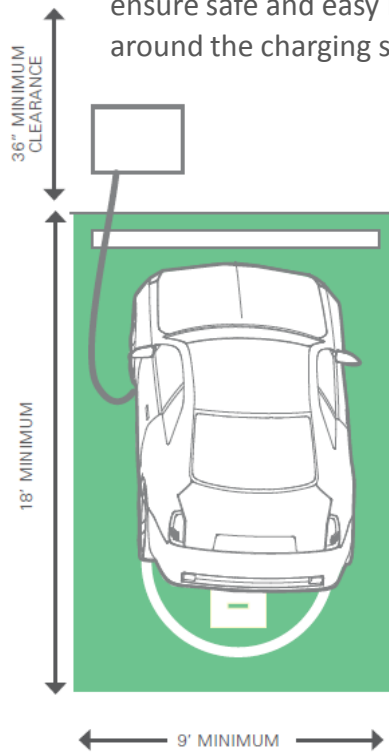




# Siting and Design Guidelines

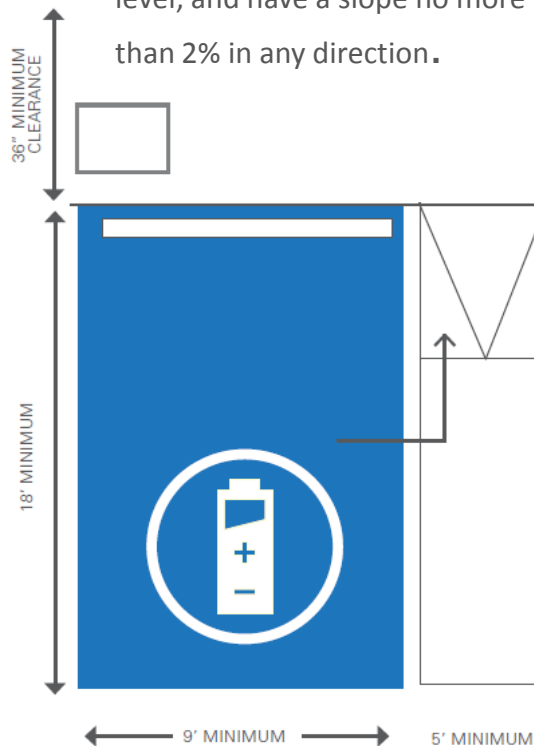
## Standard Parking Space

**Considerations:** More than typical space is required in order to ensure safe and easy movement around the charging station.



## Parking Space Considerations for Wheelchair Accessibility

**The** ground surface should be firm, level, and have a slope no more than 2% in any direction.



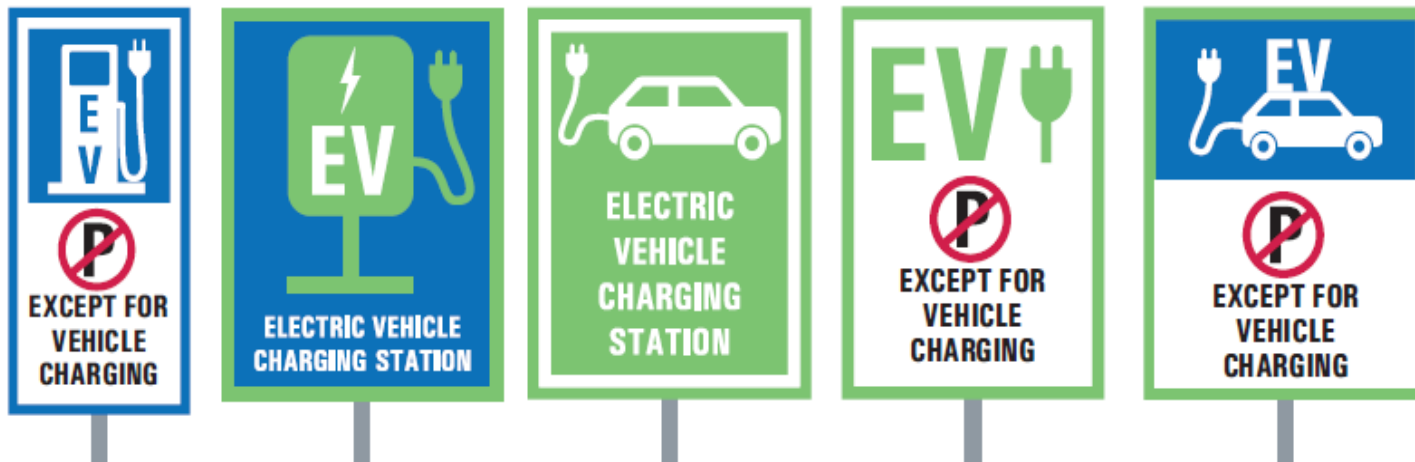
## Possible Variations for Wheelchair Accessible EVSE Charging Spaces





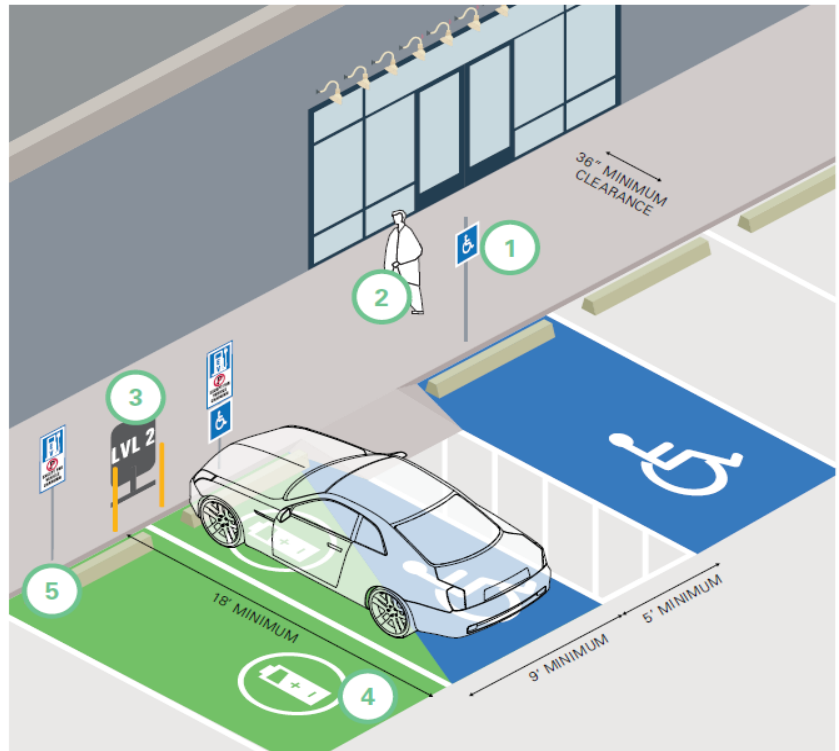
# Siting and Design Guidelines

- A combination of symbol and text is recommended.
- The term “charging” should be used to ensure hybrid vehicles do not use the spaces for parking.
- The selected EV symbol should be larger and more pronounced than the no-parking symbol to avoid confusing messages.



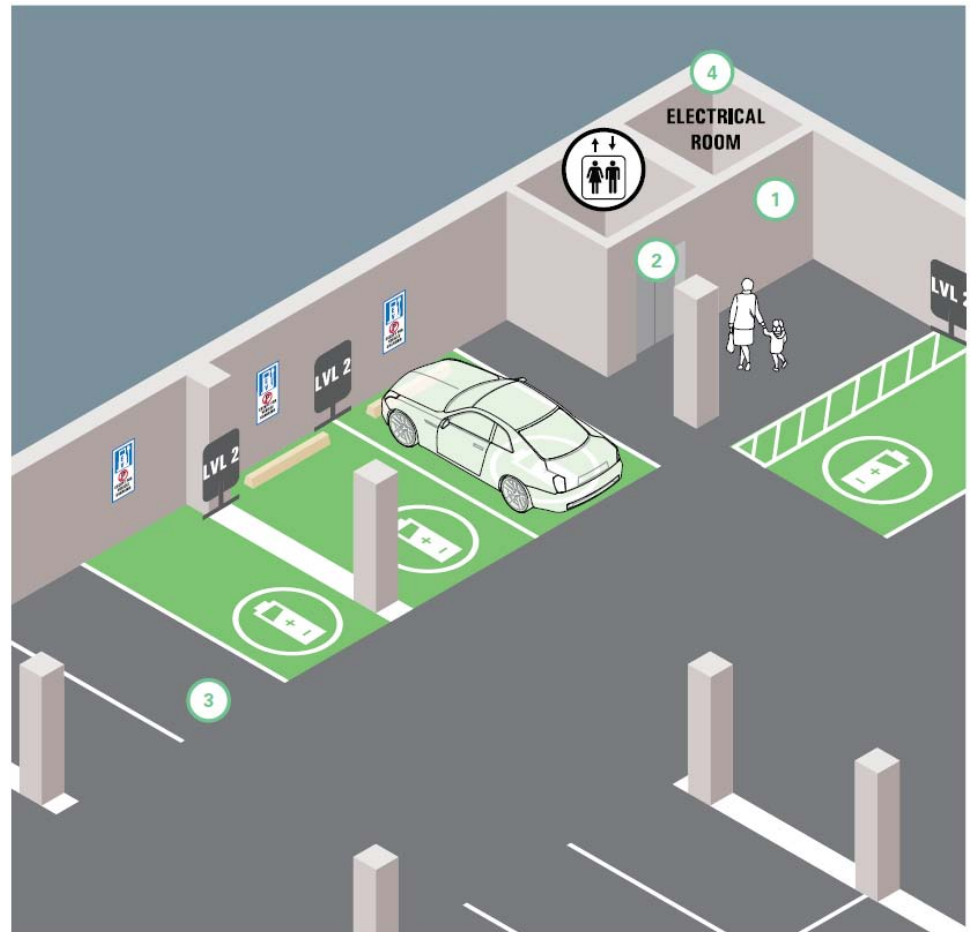
# Siting and Design Guidelines

- Detailed guidelines for siting at **commercial lots, multi-family lots, on street-parking, service stations, and fleet** lots.
- Example guidelines for commercial sites.
  - Signage is critical for finding stations in a busy lot.
  - Allow sufficient room for pedestrian access, and keep path clear for pedestrians.
  - Visible EVSE can help with green branding.
  - Carefully site EVSE to minimize cost -may be most cost effective to locate EVSE near electrical panel.



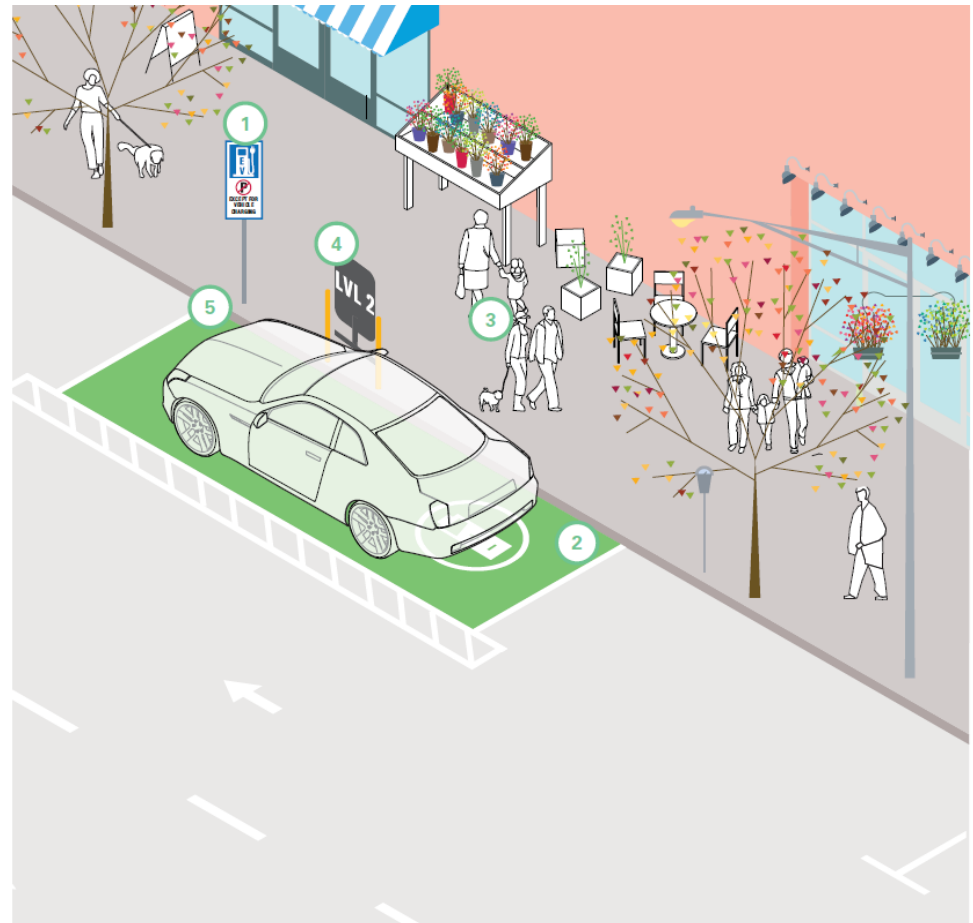
# Siting and Design Guidelines

- Multi-Unit Dwellings
  - Consider how electricity consumption is metered and billed
  - Consider distance to electrical panel and potential push-back from residents when siting EVSE
  - Be creative when locating EVSE in a crowded garage – EVSE can be mounted on a wall when space is tight
  - Check to make sure there is sufficient room in the electrical panel to accommodate EVSE installations



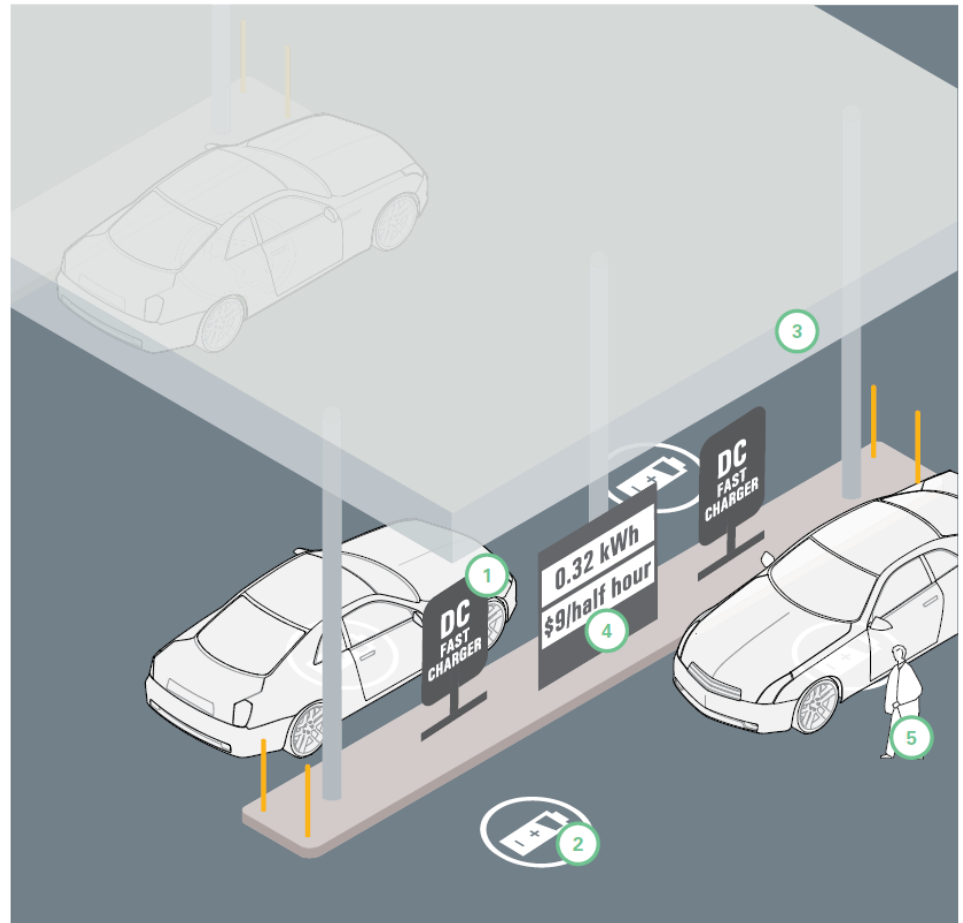
# Siting and Design Guidelines

- On-Street
  - Signage and wayfinding is critical –consider locating EVSE in prominent locations
  - Street markings can help identify EV spaces
  - Space is often limited, so stations with a streamlined and simple design are desirable
  - On street EVSE will need to draw power from a local business or street outlet
  - Allow sufficient space for the driver to plug-in their vehicle



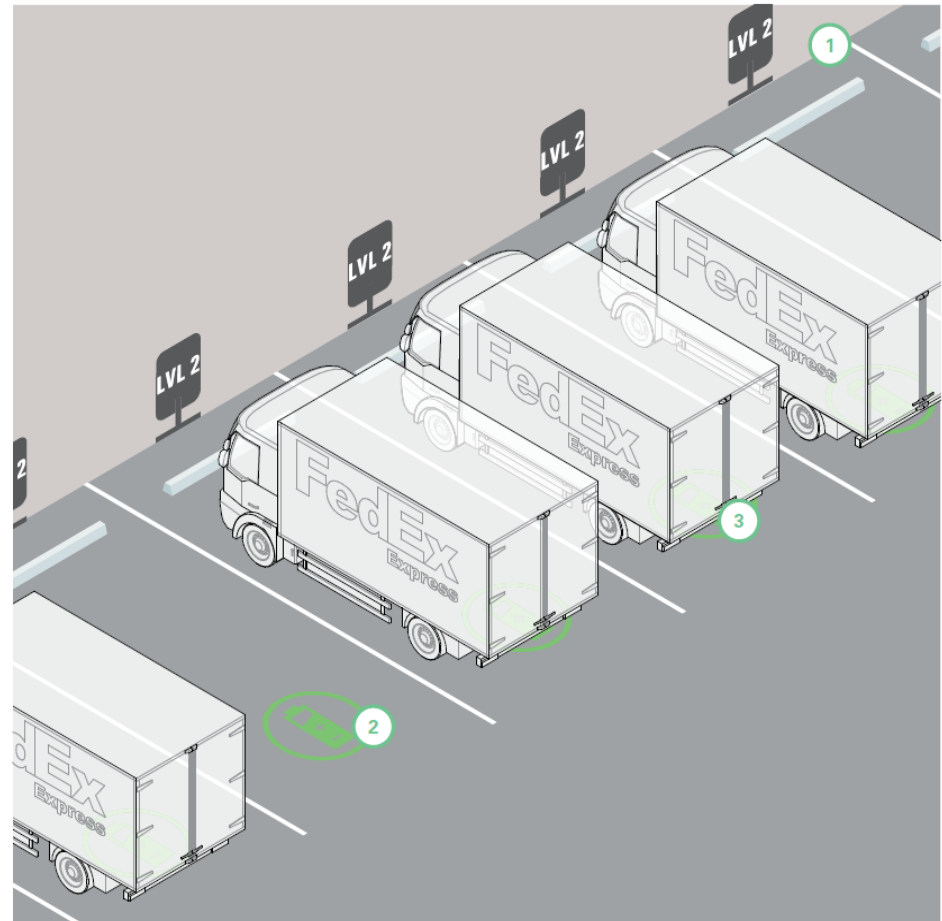
# Siting and Design Guidelines

- Service Station
  - Appropriate for DC fast charging
  - Clear markings are essential to distinguish from gasoline pumps. Important not to block other EVSE or pumps
  - Protect DC fast chargers from the elements
  - Establish an appropriate charge-for-charge model
  - Customer amenities should be provided



# Siting and Design Guidelines

- Fleets
  - Fleets must determine whether proximity to loading zones is crucial, or if EVSE should be located further from building entrances
  - Length of stay will determine appropriate level of charge
  - Work with local utility to ensure necessary upgrades are made



*For more information about the  
Northeast Electric Vehicle Network,  
please visit:*

[www.northeastevs.org](http://www.northeastevs.org)



U. S. Department of Energy

*Materials prepared on behalf of the Transportation and Climate Initiative*

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