

# PLANNING CONSIDERATIONS FOR EVS

## EVSE SUPPORT STUDY

Prepared for NYSERDA

Prepared by WXY

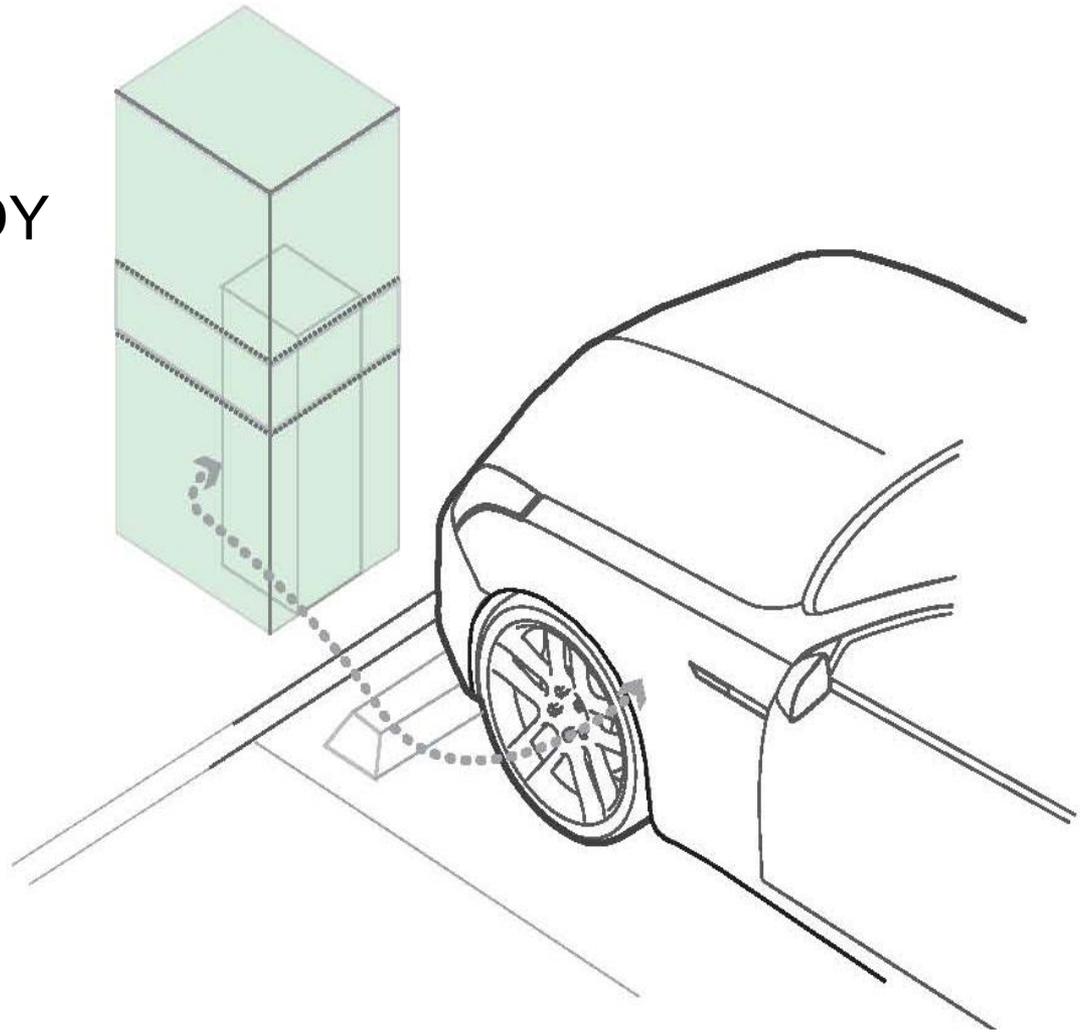
With Energetics Inc. and

Barretto Bay Strategies

Adam Lubinsky, PhD, AICP

WXY, Managing Principal

June 17, 2013



WXY

# Why Should Munis Care?

- Building codes allow for, but don't encourage, EVSE
- Comprehensive plans probably don't mention EVs or EVSE
- Most zoning and parking ordinances are silent on EVSE
- Allowable settings for EVSE may not be well considered



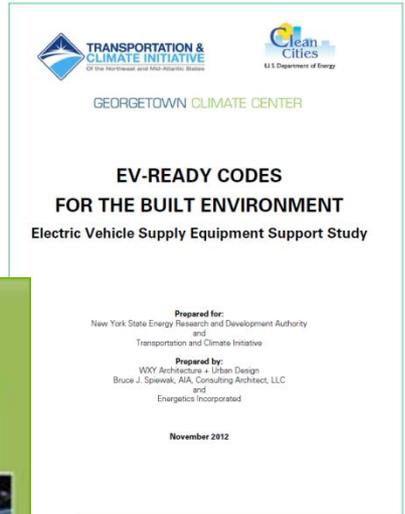
# What Can Munis Do?

- City-wide or regional plans to identify prime locations for EVSE
- Building code, permitting, or zoning and parking ordinance amendments to promote EVs
- Site design guidance for public and private parking facilities
- Signage standardization



# Sources to Support Munis

### Residential EVSE Permit Process Best Practices



**TRANSPORTATION & CLIMATE INITIATIVE**  
Of the Northeast and Mid-Atlantic States

**Clean Cities**  
U.S. Department of Energy

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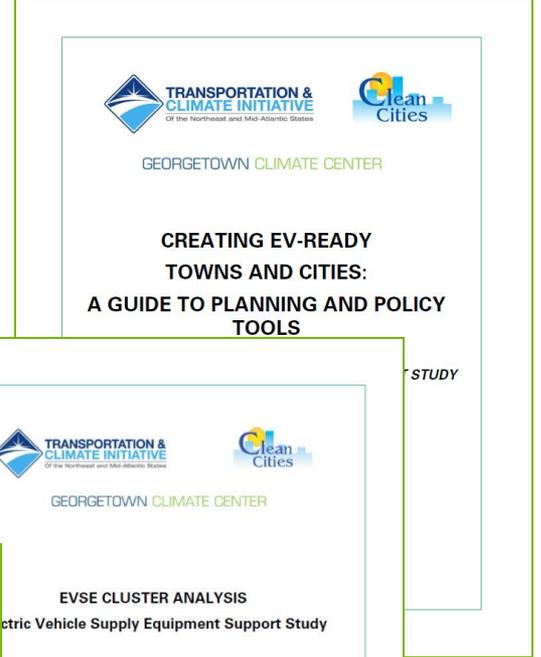
## EV-READY CODES FOR THE BUILT ENVIRONMENT

### Electric Vehicle Supply Equipment Support Study

Prepared for:  
New York State Energy Research and Development Authority  
and  
Transportation and Climate Initiative

Prepared by:  
WXY Architecture + Urban Design  
Bruce J. Spiewak, AIA, Consulting Architect, LLC  
and  
Energetics Incorporated

November 2012



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Of the Northeast and Mid-Atlantic States

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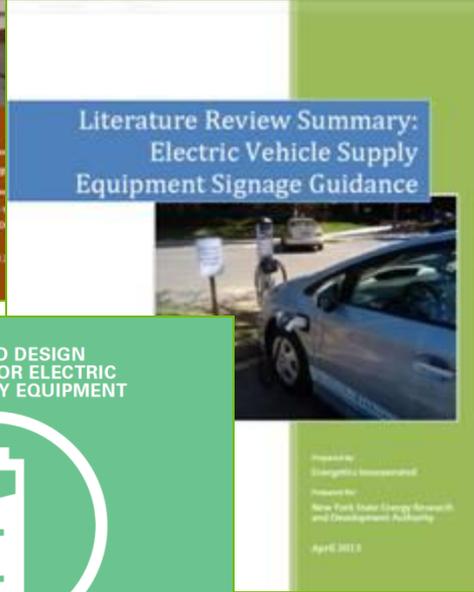
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## CREATING EV-READY TOWNS AND CITIES:

### A GUIDE TO PLANNING AND POLICY TOOLS

STUDY

### Literature Review Summary: Electric Vehicle Supply Equipment Signage Guidance



Prepared for:  
New York State Energy Research and Development Authority

Prepared by:  
WXY Architecture + Urban Design

April 2012

## SITING AND DESIGN GUIDELINES FOR ELECTRIC VEHICLE SUPPLY EQUIPMENT



Prepared for:  
New York State Energy Research and Development Authority  
and  
Transportation and Climate Initiative

Prepared by:  
WXY Architecture + Urban Design

With support from:  
Energetics Incorporated

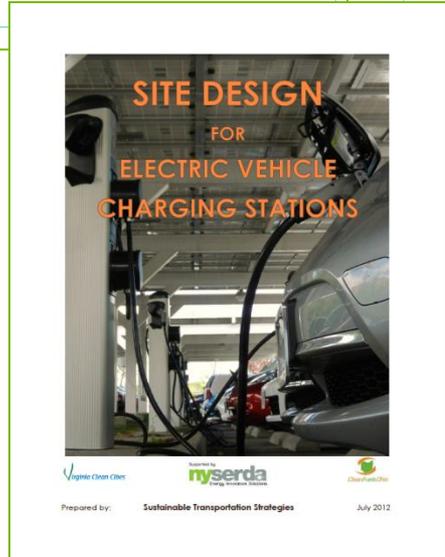
November 2012

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## SITE DESIGN FOR ELECTRIC VEHICLE CHARGING STATIONS



Prepared by:  
Sustainable Transportation Strategies

July 2012

Logos: Virginia Clean Cities, myserda, Clean Mobility

### EVSE CLUSTER ANALYSIS

#### Electric Vehicle Supply Equipment Support Study

Prepared for:  
New York State Energy Research and Development Authority  
and  
Transportation and Climate Initiative

Prepared by:  
WXY Architecture + Urban Design,  
Barretto Day Strategies  
and  
Energetics Incorporated

December 2012

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# Citywide Planning Under Way

- New York City and Albany have each undertaken major EV planning efforts
  - NYC has extensive plans for EVs and has new initiative to update building codes to install up to 10,000 EVSE in NYC by 2020
  - Albany crafted a city-wide EV plan that identifies key spots around city for EVSE



# Comprehensive Planning

- If you want to pursue EV-friendly local ordinances, you should strongly consider including EVs and EVSE in your comprehensive plan



# Zoning Options

- Zoning ordinance best practices include:
  - Define what types of EVSE are allowable and appropriate in each land use type
  - Request developers install EVSE or wiring with new developments or significant renovations
  - Establish design criteria for EVSE installations
  - Provide density bonuses for EVSE installations
- Different levels of requirements/requests may be appropriate for different communities



# Parking Options

- Parking ordinances can help municipalities
  - Enable towing or fines for parking in EV-only spaces
  - Require minimum amounts of EVSE for large lots
    - Hawaii requires all parking lots over 100 spaces to have at least one EVSE near the building entrance



# Permitting Options

- A wide range of permitting policies have been implemented, including:
  - Online permitting and/or standardized forms specific to EVSE
  - Low-cost EVSE permits
  - Labeling EVSE as minor work
  - Same-day inspections
  - Inclusion of electric service worksheet to confirm that electric service is sufficient
- Permitting guide developed by NYSERDA

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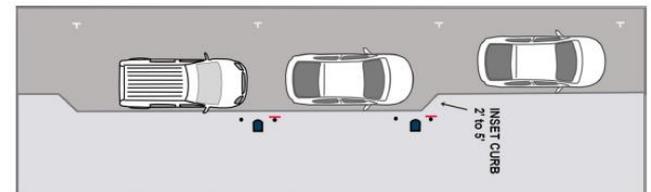
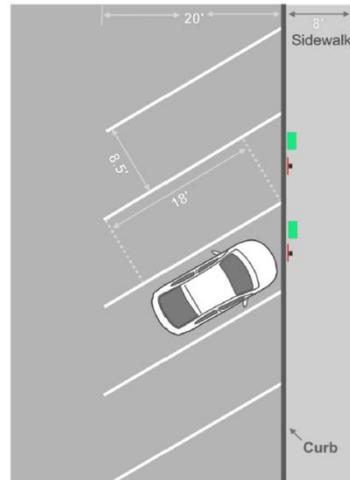
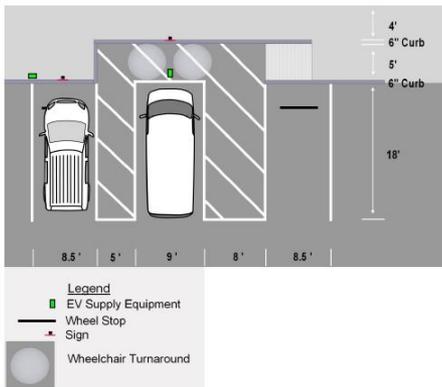
# Building & Electrical Code Options

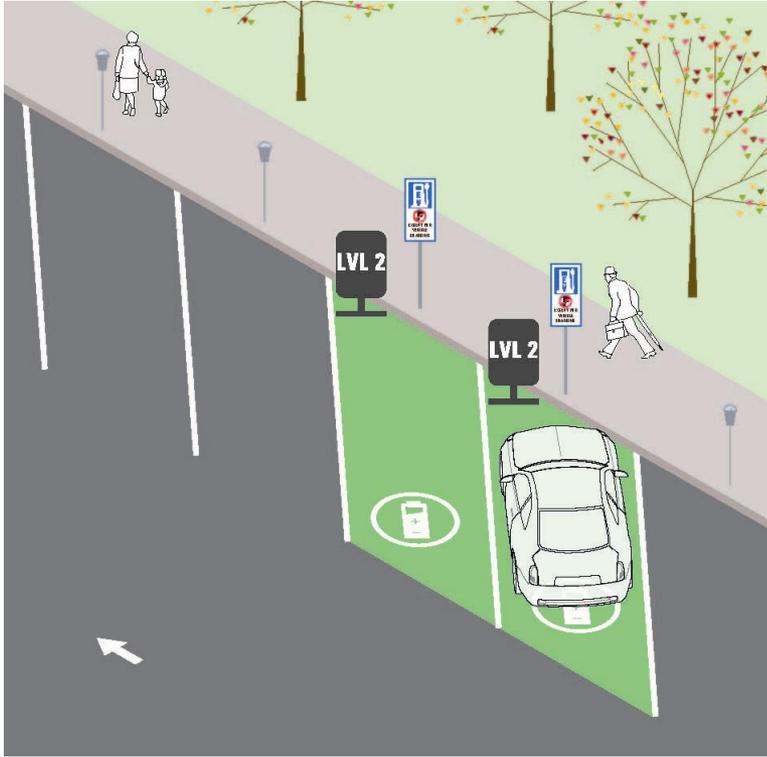
- Building codes can be used to
  - Require a set amount of wiring for EVSE in specific types of buildings
    - Vancouver requires 20% of parking spaces in multi-family homes to be wired for EVSE, requires space in electrical room for electrical expansion to service 100% EVs
  - Require accessibility of EVSE
    - Sunnyvale, CA requires at least one EVSE per installation be wheelchair-accessible
- Electrical codes can be used to
  - Reserve space for EV circuits
  - Streamline permitting and inspections
    - Oregon sets rules for what permits and inspections are required for EVSE



# Siting & Design Options

- Inclusion of siting and design standards in zoning ordinances or traffic manuals can help avoid costly, unsafe EVSE installations
- Best practice guides are available at [www.northeastevs.org](http://www.northeastevs.org) and [www.sustainabletransportationstrategies.com](http://www.sustainabletransportationstrategies.com)

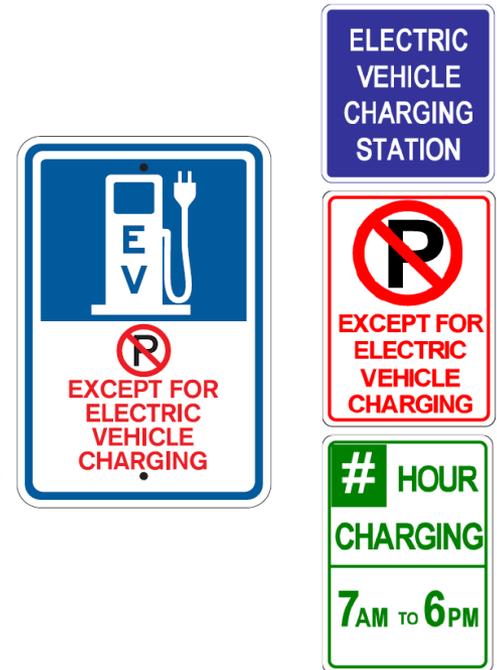




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# Signage Options

- MUTCD-approved signage is now available
- Wayfinding signs – similar to gas stations, but may need more in parking lots
- Signage should be distinct from other uses
- Signage design guide developed by NYSERDA



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# EV Clusters

- Highlight the specific factors each type of site should consider when assessing whether EVSE is appropriate
- Help site owners self-identify whether their site is a good fit for EVSE
- Case studies of the types of sites that can be found in most communities
- Focus on urban and rural examples
- Aim is for local planners and private sector to consider site characteristics when choosing where to invest

Medical Campus	Downtown
Higher Education	Commercial Office
Retail	Multi-Family
Leisure Destination	Regional Transportation
Fleet and Freight	



WXY developed an in-depth look at **nine different site typologies** and highlight wide variety of examples where EVSE can be effective solutions:

- Focus on **urban and rural** examples that span the region's varied communities – baseball stadiums and local movie theaters
- Highlight the specific **factors each type of site should consider** when assessing whether EVSE is appropriate
- Help **site owners self-identify** whether their site is a good fit for EVSE
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# How to Implement

- Tools can be phased in or made optional at first before becoming mandatory
  - Consider pilot phases for new rules
- Rules should be enforceable and not cause undue local burdens
- As with other similar processes, consult with local stakeholders

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# EV Planning Going Forward

- Upcoming funding to support municipalities that update permitting rules, zoning and parking ordinances to advance EVs



# For More Information

To download guides: [www.northeastevs.org](http://www.northeastevs.org)

To contact me: [adam@wxystudio.com](mailto:adam@wxystudio.com)

