EV Smart Communities
CTS Seminar

October 26th, 2022

Diana McKeown, Metro CERT Director at Great Plains Institute
Agenda

• Who am I?
• BRIEF history of EVs in Minnesota
• EV Smart Communities
• Other EV related projects
• Hot topic issues
Who am I?

- Hometown = White Bear Lake
- Home = Longfellow/East Lake
- 30-year clean energy community organizer (15 years w CERTs this month!)
- University of MN, Alum (CNR 1995)
- EV Owner
- Namer of things
- Music & movie lover, Foodie, Rollerskater
Clean Energy Resource Teams (CERTs)

MISSION
We connect individuals and their communities to the resources they need to identify and implement community-based clean energy projects.
About the Great Plains Institute

- Transform the energy system to benefit people, the economy and the environment
- Takes a collaborative, nonpartisan approach
- Partner organization to GreenStep Cities & CERTs
- Facilitates Drive Electric MN

https://betterenergy.org/
DRIVE ELECTRIC MINNESOTA

By bringing together all of the parts and players in the electric vehicle industry, Drive Electric MN will accelerate the adoption of electric vehicles in Minnesota.

Partnership of EV champions from around MN

Utilities, dealerships, nonprofits, charging providers, auto dealers, and more are involved.
EV Smart Communities
Short history of EVs in Minnesota

- **2010** - Drive Electric MN begins as public private partnership
- **2013** - Minnesota Plug-in Vehicle Owners Circle forms (originally 176, now has 3000 members!)
- **2017** - Electric School Bus Pilot launched in Lakeville. First in the Midwest
- **2018** - Volkswagen Settlement $43 Million – 15% for Electric Vehicle Charging Stations
- **2018** - 2021 Over 40 cities participate in Cities Charging Ahead Peer Cohorts
- **2019** - Accelerating Electric Vehicle Adoption: A Vision Statement
- **2020** - Clean Transportation Pilot launched, MN Department of Transportation
- **2021** - Clean Cars Minnesota – First Midwest State to adopt LEV/ZEV
- **2021** - Electric Vehicle Assessment, MN Department of Transportation
- **2022** - Electric Vehicle Planning Study, Metropolitan Council
- **2022** – Federal Guidance for National Electric Vehicle Infrastructure Formula Plan (MN will get $68 million over 5 years)
EV Vision, Assessment & Planning

2019 EV Vision – MnDOT

2019 Pathways to Decarbonization

2021 Electric Vehicle Assessment
Peer Cohort work

- Developed and Facilitated Cities Charging Ahead (2018-2021)
- Developed and Facilitated Powering Ahead for Vehicle Electrification (Municipal Utilities 2020)
- Facilitator for soon to be launched EV Smart MN Cities & EV Smart MN Tribal Nations
EV Smart Communities
Why EV-Ready?

• Local governments are essential partners in creating a self-sustaining EV market
  • Shape action of residents and businesses
  • Use tools to foster community’s transition to EVs
  • Encourage EV market transformation via public and private EV charging infrastructure
Five Principles of EV-Ready Communities

1. **Policy**: Adopt policies and plans that support transportation electrification and acknowledge EV benefits

1. **Regulation**: Implement development standards and regulations that enable public and private sector of EV use

1. **Administration**: Create predictable, transparent, and well-documented administrative processes for installing EV charging infrastructure

4. **Programs**: Develop public programs to overcome market barriers to EV use and installation of charging equipment

4. **Leadership**: Demonstrate EV viability in public fleets, facilities, public transit, and alternative transportation modes
EV-Ready Categories

1. Planning
2. Regulation
3. Utility Engagement
4. Education and Incentives
5. Government Operations
6. Shared Mobility

Equity
EV Smart Communities is a recognition program designed to provide communities with a roadmap to electric vehicle (EV) readiness, including securing funding and getting projects off the ground. The path to becoming EV ready involves a portfolio of best practices and actions that include both simple steps and more complicated initiatives that makes it possible for any community to participate.
## EV Smart Framework

<table>
<thead>
<tr>
<th>Planning</th>
<th>Regulation</th>
<th>Utility Engagement</th>
<th>Education and Incentives</th>
<th>Government Operations</th>
<th>Shared Mobility</th>
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<tbody>
<tr>
<td>Address EVs and EVSE in Comprehensive Plan</td>
<td>Enable EV and EVSE in land use regulations</td>
<td>Joint programs with utility on education and marketing</td>
<td>Host public education events and campaigns</td>
<td>Electrify public fleet</td>
<td>Deploy electric transit, para-transit vehicles</td>
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<tr>
<td>Address EVs and EVSE in Specific-Area Plan</td>
<td>Incorporate EV and EVSE in parking standards</td>
<td>Work with utility on interconnection process</td>
<td>Host EV web resources</td>
<td>Provide public chargers</td>
<td>Deploy electric school buses</td>
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<td>Address EVs and EVSE in Functional Plan</td>
<td>Incorporate EV and EVSE in the building code</td>
<td>Address EV charging issues</td>
<td>EV/EVSE education of commercial property owners</td>
<td>ROW charging deployment</td>
<td>Develop electric bike or scooter opportunities</td>
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<td>Establish a deployment benchmark and set deployment goals</td>
<td>Incorporate EV and EVSE in permitting</td>
<td>Utility EV programs and rates</td>
<td>Financial incentives for EVSE installation</td>
<td>Install employee reserved EVSE</td>
<td>Develop car sharing program</td>
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<td>Require EVSE in or near to affordable multi-family housing</td>
<td>Work with utility to integrate renewable energy</td>
<td>Financial incentives for purchasing EVs</td>
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### EV Smart Communities

#### Regulation

<table>
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<th>Requirement</th>
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#### Incorporate EV and EVSE in parking standards

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<td>Require EVSE-ready/EVSE-capable for employment centers (&gt; 20 stalls)</td>
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<tr>
<td>Require EVSE-installed for employment centers (&gt; 20 stalls)</td>
</tr>
<tr>
<td>Require EVSE-ready/EVSE-capable for retail centers (&gt; 50 stalls)</td>
</tr>
<tr>
<td>Require EVSE-installed for retail centers (&gt; 50 stalls)</td>
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<tr>
<td>Define EV stalls in parking minimum or maximums (i.e., does it count toward min/max?)</td>
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<tr>
<td>Protect EV charging access for public charging locations</td>
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<td>Establish ADA guidelines for EV enabled parking stalls*</td>
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<td>Encourage or incentivize managed charging EVSE</td>
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#### Incorporate EV and EVSE in the building code

<table>
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<tr>
<td>Require Level 2 EVSE/EVSE-ready for single-family homes</td>
</tr>
<tr>
<td>Require Level 1 and 2 EVSE-installed for multi-family buildings (10% or higher)*</td>
</tr>
<tr>
<td>Require Level 1 and 2 EVSE-ready/capable for multi-family buildings (20% or higher)*</td>
</tr>
<tr>
<td>Require 100% Level 1 and 2 EVSE-ready for multi-family buildings*</td>
</tr>
<tr>
<td>Require Level 2 or DCFC for commercial parking facilities (20% or higher)</td>
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<td>Require solar-ready for surface parking facilities with EVSE</td>
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## EV Smart Communities

### Government Operations

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<tr>
<td>Electrify public fleet</td>
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<tr>
<td>Provide public chargers</td>
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<tr>
<td>ROW charging deployment</td>
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<td>Install employee reserved EVSE</td>
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### EVSE Implementation

- **Provide public chargers**
  - Install EVSE in public parking (downtowns, retail centers)
  - Install EVSE for public use at community centers, city hall, or other public facilities
  - Install solar carports with EV charging at a public location
  - Track charging metrics (i.e., usage, reduced GHG emissions, earnings, etc.)
Other EV Projects
Communities LEAP – Hennepin County

Providing guidance and support for a community engagement plan and process for Hennepin County, Minneapolis and Brooklyn Park to plan for transportation electrification, with a priority on communities that score high on vulnerability indices and are overly reliant on fossil-fueled personal vehicles. The project team will directly engage with residents to explore potential electric mobility solutions (including passenger vehicles, e-mobility, car- and ride-share services, and supporting charging infrastructure) and develop a set of transportation electrification priorities and principles. The efforts will serve as a blueprint for additional local, state, regional and utility transportation electrification planning including for EV charging infrastructure scheduled to be built.

https://www.energy.gov/communitiesLEAP/leap-communities
Trending Topics
Developing Terminology

1. **EV-Capable**
   Install electrical panel capacity with a dedicated branch circuit and a continuous raceway from the panel to the future EV parking spot.

2. **EVSE Ready Outlet**
   Install electrical panel capacity and raceway with conduit to terminate in a junction box or 240-volt charging outlet.

3. **EVSE Installed**
   Install a minimum number of Level 2 EV charging stations.

- New ordinance scan reveals growing granularity for required completeness of EVSE
- Evolution and separation of terms impacts required percentages in EV parking standards

Credit: Southeast Michigan Council of Governments
IRA and EVs

- A LOT of unknowns.

- Which vehicles will qualify in 2023 and beyond?

- Will there be tweaks to the legislation, likely.

- Will WTO challenge the US manufacturing aspect?

Accessibility

Consider ADA regulations for parking and sidewalk management and apply them to EV charging stations.

Some municipalities have adopted codes to address accessibility:

• Number of accessible stations
• Cord management
• Site planning considerations

Figure 11.8A – EV Charging Station Design, including Accessible EV Charging Stations
Note: Not to scale.

Accessible EV Charging Station
• Includes pedestal mounted charging station, signage, and barrier free routes to charging equipment and the building.
• The barrier free area adjacent to the Designated Accessible Space shall be striped in blue and be 60” or 96” wide.

EV Charging Station
• Wall mounted charging station

Photo Credit: South Windsor, CT, §11.8.3
"Electric vehicle fires in Florida caused by Hurricane Ian fuel safety questions"

"Hurricane Ian damage leads to spontaneous combustion of EVs in Florida"
Equity Considerations
Equity in Transportation

• If siting of EVSE is left to private developers and charging operators rather than address in planning, access to underserved communities will be limited

• Approaches to advance equity include:
  • Accessibility of equipment
  • Multifamily supportive policies
  • Right-of-way supportive policies
  • Geographic coverage
Visit CleanEnergyResourceTeams.org, attend an upcoming event, or connect with CERTs staff!

YOUR REGIONAL COORDINATOR

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