Electric Vehicle Readiness in the Capital District

CDRPC Planning and Zoning Webinar Series

June 4, 2020
Capital District Clean Communities Coalition
What is Clean Cities?

Clean Cities advances the energy, economic, and environmental security of the United States by supporting local actions to cut petroleum use in transportation.

- Reduced petroleum consumption
- Reduced greenhouse gas (GHG) emissions
- Reduced dependence on imported petroleum
Technical Portfolio

Light-, Medium-, and Heavy-Duty Vehicles

Alternative Fuel Infrastructure

Energy Efficient Mobility Systems and Technologies
Alternative Fuels Planning & Outreach

- TCI Northeast EV Network (2012)
- Proterra EV Bus Demo (2013)
- NYSAMPO CCWG Fact Sheet (2014)
- Capital District EV Charging Plan (2016)
- EV Truck Voucher Workshop (2013)
- EVSE Installer Training (2013)
Zero Emission Vehicle (ZEV) Plan History
Why Update the Plan?

• Document changes in Electric Vehicle Technology and Infrastructure since 2016

• Expand scope to include other Zero Emission Vehicles (ZEV) beyond just Electric Vehicles
Zero Emission Vehicle Trends
EV Trends Data Sources

EVs on the Road

• **NYS DMV Registration Data**
  (January 2020)

EV Charging Stations

• **USDOE Alternative Fuels Data Center (AFDC)**
  (January 2020)
Electric Vehicle Landscape (2016)

- 831 Registered EVs
- 69 Public Level 2 Charging Station Locations

Percent of EVs By County

- Albany: 34%
- Rensselaer: 18%
- Saratoga: 33%
- Schenectady: 15%

Percent of Public Charging Locations by County

- Albany: 57%
- Rensselaer: 22%
- Saratoga: 12%
- Schenectady: 10%
EVs on the Road - NYS

<table>
<thead>
<tr>
<th>Year</th>
<th>PHEV/EREV</th>
<th>BEV</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>508</td>
<td>204</td>
</tr>
<tr>
<td>2013</td>
<td>2,775</td>
<td>615</td>
</tr>
<tr>
<td>2014</td>
<td>5,853</td>
<td>1,747</td>
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<tr>
<td>2015</td>
<td>9,616</td>
<td>3,595</td>
</tr>
<tr>
<td>2016</td>
<td>10,232</td>
<td>4,102</td>
</tr>
<tr>
<td>2017</td>
<td>16,344</td>
<td>8,253</td>
</tr>
<tr>
<td>2018</td>
<td>23,197</td>
<td>13,706</td>
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<tr>
<td>2019</td>
<td>26,271</td>
<td>20,720</td>
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EVs on the Road – Capital District

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<tr>
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<tbody>
<tr>
<td>PHEV/EREV</td>
<td>23</td>
<td>194</td>
<td>376</td>
<td>539</td>
<td>599</td>
<td>1,070</td>
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<td>BEV</td>
<td>4</td>
<td>20</td>
<td>76</td>
<td>161</td>
<td>229</td>
<td>507</td>
<td>730</td>
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Capital District ZEV Readiness
ZEV Readiness

- Multiple incentive programs for EV purchases and new charging infrastructure
- New York State commitment to cleaner, greener energy
- Commute distances well aligned with existing EV range
ZEV Rebates

• Charge NY Drive Clean Rebate

• Federal Electric Vehicle Tax Credit

• Charge Ready NY charging station rebate

• NYS Truck Voucher Incentive Program
NYS Climate Legislation

- Climate Leadership and Community Protection Act

- 85% reduction in GHG emissions by 2050 (from 1990 levels)

- 100% carbon free electricity by 2040
Pessimistic EV Market Share Scenario

Optimistic EV Market Share Scenario

EV  PHEV  HEV  ICE
Regional Commutes

- Average distance traveled in a daily commute to work is approximately 11 miles one way

- 53 models with an all-electric range of 22 miles or greater

<table>
<thead>
<tr>
<th>Manufacturer</th>
<th>BEV Models</th>
<th>PHEV Models</th>
<th>Total</th>
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<tbody>
<tr>
<td>Tesla</td>
<td>17</td>
<td>17</td>
<td>17</td>
</tr>
<tr>
<td>Kia</td>
<td>3</td>
<td>2</td>
<td>5</td>
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<tr>
<td>BMW</td>
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<td>2</td>
<td>4</td>
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<tr>
<td>Ford</td>
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<td>2</td>
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<tr>
<td>Hyundai</td>
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<td>1</td>
<td>3</td>
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<tr>
<td>Nissan</td>
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<tr>
<td>Honda</td>
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<tr>
<td>Jaguar</td>
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<td></td>
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<td>smart</td>
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<td></td>
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<tr>
<td>Toyota</td>
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<td>Chrysler</td>
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<tr>
<td>Fiat</td>
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<td>Mitsubishi</td>
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<td>Volkswagen</td>
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<td>Volvo</td>
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<td>1</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>39</strong></td>
<td><strong>14</strong></td>
<td><strong>53</strong></td>
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Barriers & Opportunities
EV Barriers & Opportunities

Barriers

• Electricity Demand Charges
• Access to at home charging
• Electric Vehicle Pricing

Opportunities

• Municipal EV Readiness Policy
• Elected Officials Outreach and Education
• General Public Outreach and Education
What's Next?

- Funding the Transition to an Electric School Bus Fleet
  Webinar: June 23, 2020, 2:00-3:00pm

- Municipal EV Readiness Workshop: Date TBD
Comments / Questions

View the CDCC ZEV Plan:

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