



pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION



Energy Programs Office

PA EV Roadmap Process Lessons Learned

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Tom Wolf, Governor

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PA Electric Vehicle Roadmap

PENNSYLVANIA ELECTRIC VEHICLE ROADMAP

Prepared for the Pennsylvania Department of
Environmental Protection
July 2018



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CONSULTANTS GROUP | A CADMUS COMPANY



- The Pennsylvania Electric Vehicle Roadmap reviews the state of the electric vehicle (EV) market in Pennsylvania, defines a set of proposed strategies to support the expansion of the EV market, and provides estimates of the potential benefits and impacts to the state from an increased EV market.
- The roadmap is the result of 10 months of policy research, data and policy analysis, and facilitated discussions by our Roadmap contractor, with input from the DEPA Coalition.

Drive Electric PA Coalition

The Drive Electric Pennsylvania Coalition includes state and municipal government officials, Department of Energy's Clean Cities Coalitions (clean cities), EV businesses and consultants, transportation organizations, electric utilities, environmental groups, auto companies, and other interested stakeholders.

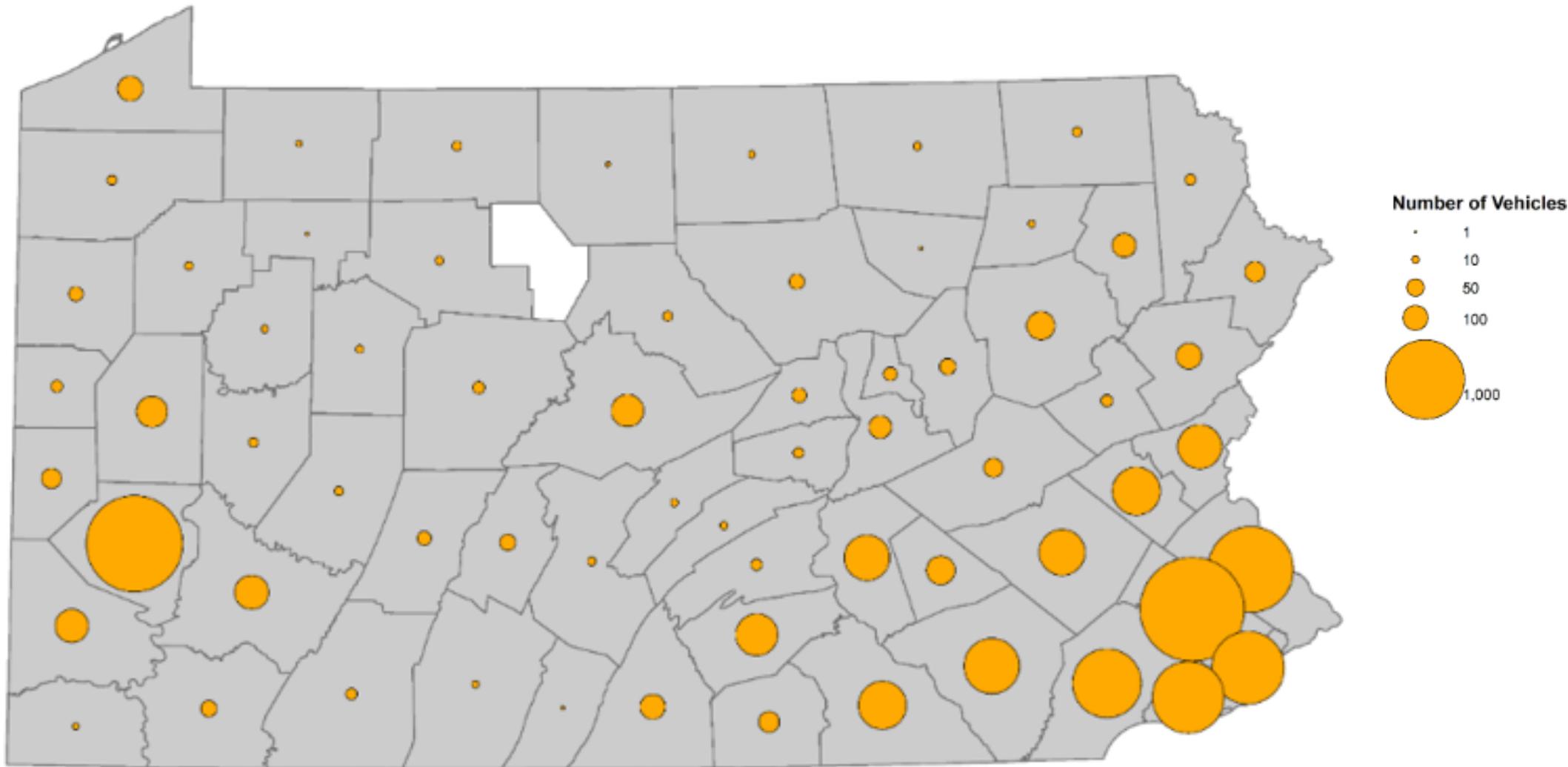


PA Electric Vehicle Roadmap

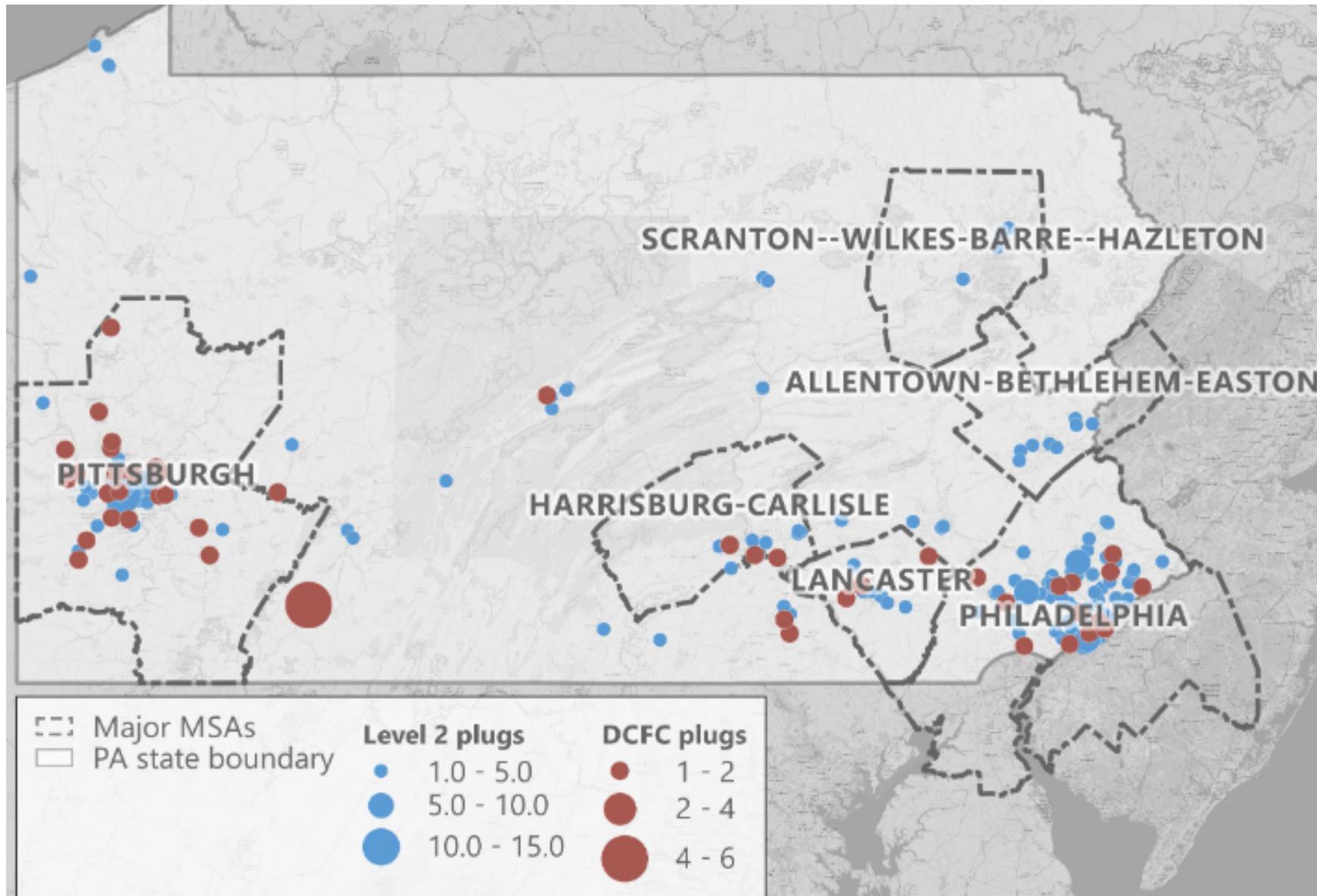
Roadmap describes:

- State of EV market in PA
 - Benchmarks: 11,347 EVs in PA (3551 BEVs and 7,796 PHEVs) and 300 publicly available charging stations
 - Barriers: Awareness, vehicle options, stations, costs
- EV adoption strategies
- EV market penetration modeling
 - Energy, environmental, and economic implications from adopting more EVs

Electric Vehicle Distribution in PA



EVSE Distribution in PA



As of Feb. 2018.
Source: AFDC

PA Electric Vehicle Roadmap

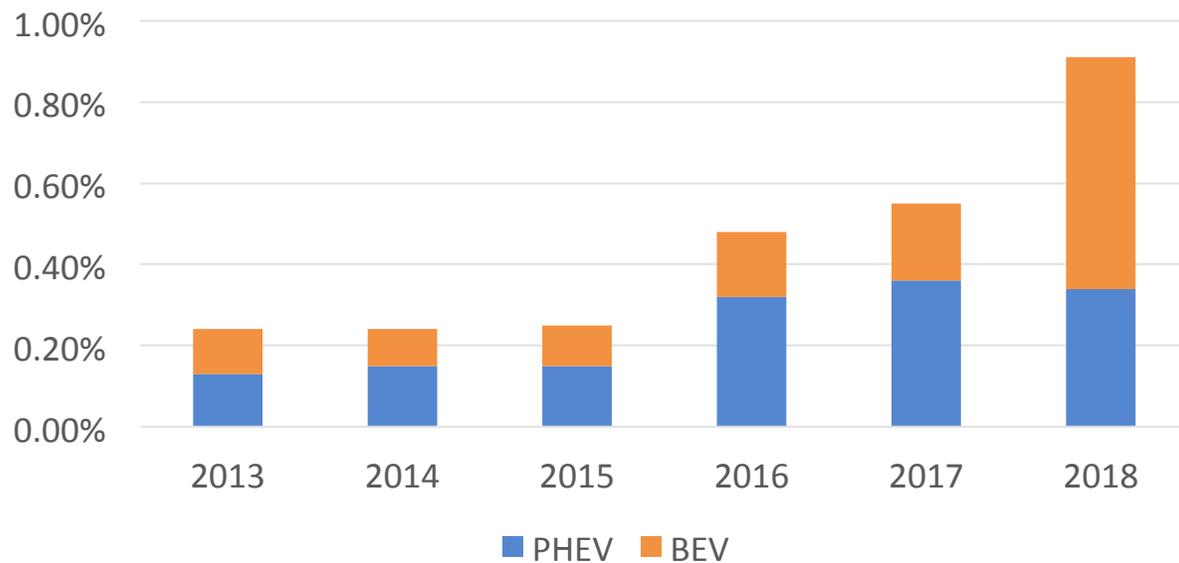
Strategy	Near-term actions (0-2 years)	Mid-term actions (2-5 years)	Long-term actions (5+ years)
Establish utility transportation electrification directive			
Establish statewide EV sales goals			
Expand and improve AFIG rebate program			
Strengthen statewide EVSE network planning, investment, and communications			
Establish fleet education, cooperative purchase, and technical assistance program			
Create EV marketing and education campaign targeted at consumers			
Establish dealer outreach and support program			
Encourage residential and commercial EV rate designs			
Advance public and residential EVSE investment			
Develop municipal support, technical assistance, and grant program			
Establish workplace and multifamily EVSE education and outreach programs			
Adopt EV-ready building code amendments			
Explore development of financing for EVs/EVSE			

EV Roadmap - Lessons Learned

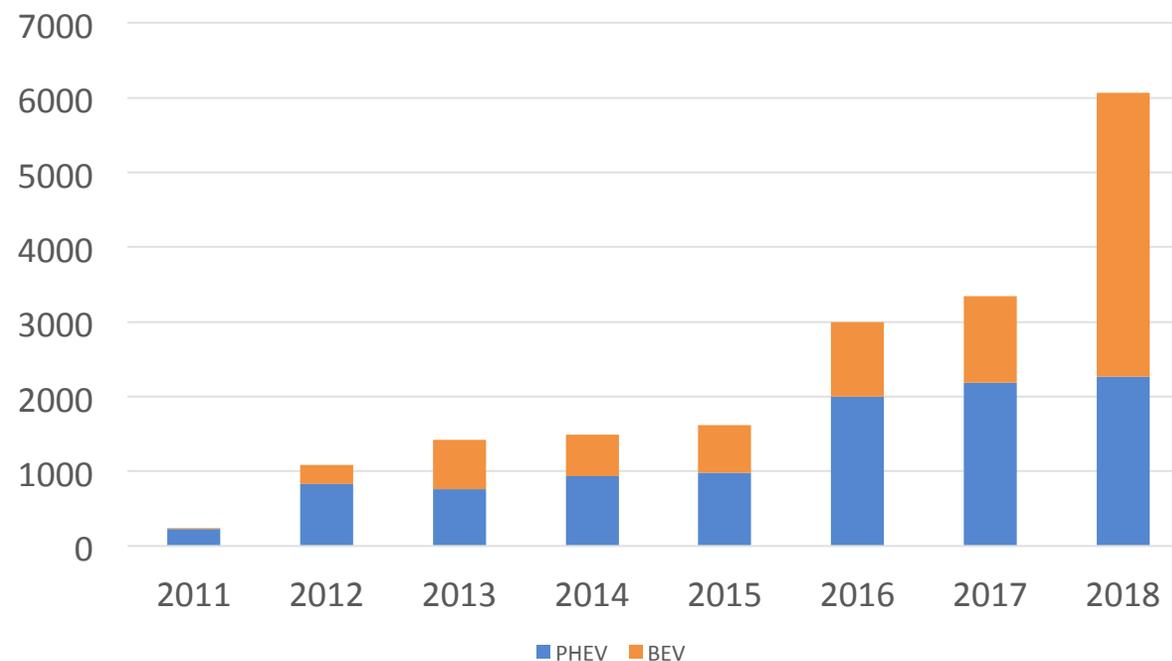
- Importance of setting the parameters for Roadmap process
 - Define the scope & clearly communicate it
 - Statewide? Regional?
 - All EVs? MHD? Public transit? FCEV?
 - Define the intended audience
 - Agencies? Public? Legislature? Stakeholder groups?
 - Goal or no goal?
 - % sales? % registration? GHG reduction?
 - Understand the age and completeness of baseline data

Electric Vehicle Growth in PA

Electric Vehicle Sales Market Share in Pennsylvania



Annual Electric Vehicle Sales in Pennsylvania



EV Roadmap - Lessons Learned

- Strong Stakeholder group is essential
 - Identify key participants or champions (utility, local gov, agency)
- Active & meaningful engagement of stakeholders is key
 - Propose, develop, and prioritize Roadmap strategies
 - In PA, facilitation built into Roadmap contract
 - Foster Stakeholder buy-in/ownership in process
- Every step should have implementation in mind
 - Build expectation within Stakeholder group
 - Make each strategy action-oriented
 - Include implementation steps with each strategy