

**Appendix B: ZEV Penetration and Infrastructure Beyond California**

**Submitted with Comments by:**

**the States of California, Connecticut, Delaware, Hawaii, Iowa, Illinois, Maine, Maryland, Minnesota, North Carolina, New Jersey, New Mexico, New York, Oregon, Rhode Island, Vermont, and Washington, the Commonwealths of Massachusetts, Pennsylvania, and Virginia, the District of Columbia, and the Cities of Oakland, Los Angeles, San Francisco, San Jose, and New York on**

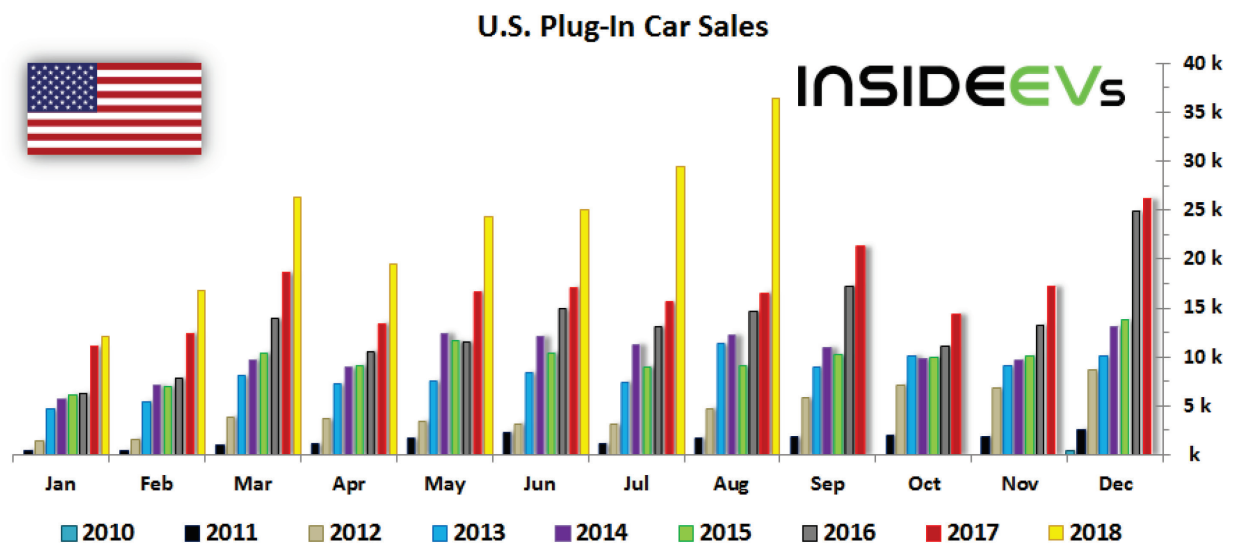
**the Environmental Protection Agency's and the National Highway Traffic Safety Administration's Joint Proposed "SAFE" Vehicles Rule for Model Years 2021-2026 Passenger Cars and Light Trucks; and the Draft Environmental Impact Statement**

**Docket IDs: EPA-HQ-OAR-2018-0283 / NHTSA-2018-0067 / NHTSA-2017-0069**

## Nationwide/Regional

Just as in California, ZEV penetration and charging infrastructure nationwide are well on track to meet targets through 2025 and beyond.<sup>1</sup> Electric vehicle sales nationwide have increased in the last eight years, with a steeper upward trend since 2015.<sup>2</sup> And the market share of electric vehicles nationwide has steadily increased since 2015.<sup>3</sup> Indeed, sales in 2018 have been dramatically higher than in past years, as depicted in Figure 1.

Figure 1: U.S. Plug-In Electric Vehicle Car Sales, Monthly from 2010–2018<sup>4</sup>



Since January 2018, the increase in electric vehicle sales has been sustained and has grown to unprecedented levels in recent months. Although not yet reflected in this chart, domestic sales of plug-in electric vehicles for September 2018 totaled 44,589 vehicles, a 22 percent increase over the previous month’s already impressive figure, and more than double the number sold in September 2017.<sup>5</sup> If this trend continues, total sales of plug-in electric vehicles in 2018 will top 366,000, an 80 percent increase over 2017, and only slightly below the number projected for

<sup>1</sup> ZEVs include battery electric vehicles, plug-in hybrid electric vehicles, and hydrogen fuel cell vehicles. This Addendum focuses on battery and plug-in hybrid electric vehicles, which make up the vast majority of ZEV sales.

<sup>2</sup> States’ Appx. C-122, Advanced Technology Vehicle Sales Dashboard, ALLIANCE OF AUTOMOBILE MANUFACTURERS, (hereinafter “Alliance Advanced Technology Vehicle Sales Dashboard”), <https://autoalliance.org/energy-environment/advanced-technology-vehicle-sales-dashboard/> (Data compiled by the Alliance of Automobile Manufacturers using information provided by IHS Markit; data last updated Aug. 23, 2018) (sales data of BEVs and PHEVs nationwide).

<sup>3</sup> *Id.* (market share data for BEVs and PHEVs nationwide).

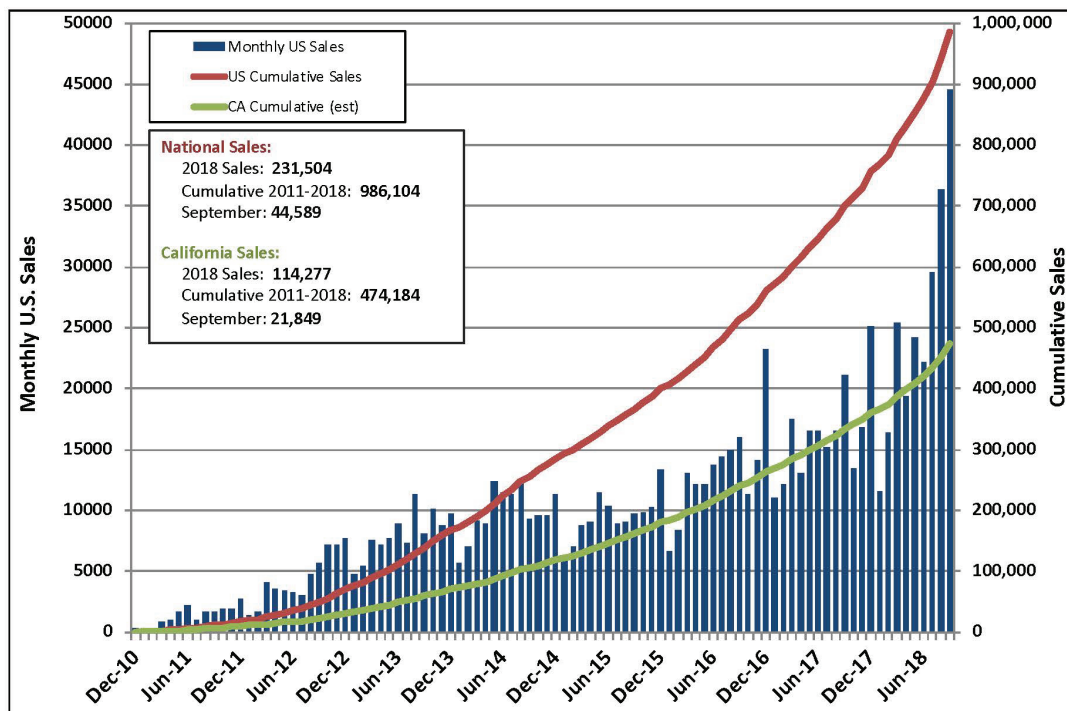
<sup>4</sup> States’ Appx. C-136, *Monthly Plug-in Sales Scorecard*, INSIDE EVs, <https://insideevs.com/monthly-plug-in-sales-scorecard/> (last visited Oct. 24, 2018).

<sup>5</sup> *Id.*

2021 (387,075) in the Draft Technical Assessment Review published by EPA, NHTSA and CARB in 2016 (“TAR”).<sup>6</sup> Thus, based on the most recent data, manufacturers are well on their way to beating the level of fleet electrification previously projected by EPA and NHTSA.

As monthly sales increase, more and more electric vehicles are on the roads. Cumulatively, one million electric vehicles have been sold in the United States, approximately 49 percent of which were sold in California.<sup>7</sup> And, globally, four million electric vehicles are on the road.<sup>8</sup>

Figure 2: Monthly and Cumulative Sales of Plug-In Electric Vehicles Nationwide and in California<sup>9</sup>



Note: Approximation assumes CA sales are 49% of national sales.  
Reference: [www.hybridcars.com](http://www.hybridcars.com) and [www.insideevs.com](http://www.insideevs.com)

10/5/2018

<sup>6</sup> See States’ Appx. C-40, TAR at 4-38.

<sup>7</sup> Monthly EV Sales, VELOZ (updated Sept. 2018) [http://www.veloz.org/wp-content/uploads/2018/10/9\\_sept\\_2018\\_Dashboard\\_PEV\\_Sales\\_veloz-1.pdf](http://www.veloz.org/wp-content/uploads/2018/10/9_sept_2018_Dashboard_PEV_Sales_veloz-1.pdf).

<sup>8</sup> States’ Appx. C-125, Cumulative Global EV Sales Hit 4 Million, BLOOMBERG NEW ENERGY FINANCE (Aug. 30, 2018), [https://about.bnef.com/blog/cumulative-global-ev-sales-hit-4-million/?utm\\_source=newsletter&utm\\_medium=email&utm\\_campaign=newsletter\\_axiosgenerat&stream=top-stories](https://about.bnef.com/blog/cumulative-global-ev-sales-hit-4-million/?utm_source=newsletter&utm_medium=email&utm_campaign=newsletter_axiosgenerat&stream=top-stories).

<sup>9</sup> Monthly EV Sales, VELOZ (updated Sept. 2018), [http://www.veloz.org/wp-content/uploads/2018/10/9\\_sept\\_2018\\_Dashboard\\_PEV\\_Sales\\_veloz-1.pdf](http://www.veloz.org/wp-content/uploads/2018/10/9_sept_2018_Dashboard_PEV_Sales_veloz-1.pdf).

Expansion of electric vehicle charging infrastructure has accompanied the increasing numbers of ZEVs. In fact, while there were fewer than 5,000 electric charging stations across the country in 2011, there are now more than 60,000 public and private stations.<sup>10</sup>

These trends are projected to continue through 2025 and beyond. In fact, projections suggest that electric vehicles may make up 65 percent or more of new United States light-duty vehicles by 2050.<sup>11</sup> By 2025, annual United States sales of plug-in electric vehicles are expected to exceed 1.2 million vehicles, resulting in more than 7 million plug-in electric vehicles on the roads.<sup>12</sup> This projection represents about twice the fleet electrification projected for 2025 in the TAR.<sup>13</sup>

Across the country, many States have already taken steps to ensure that the ZEV and charging infrastructure projections are realized. In addition to California, nine Section 177 States have adopted the ZEV mandate.<sup>14</sup> The Governors of nine States have also signed onto the State Zero-Emission Vehicle Programs Memorandum of Understanding, agreeing to “coordinate actions to support and ensure the successful implementation of our Zero-Emission Vehicle programs.”<sup>15</sup> State signatories include California, Connecticut, Maryland, Massachusetts, New York, Oregon, Rhode Island, Vermont, and, most recently, New Jersey. Building on the October 2013 Multi-State Governors’ Memorandum of Understanding, participating states established the Multi-State ZEV Action Plan in 2014,<sup>16</sup> and the ZEV Task Force Multi-State ZEV Action Plan 2018–2021 in 2018.<sup>17</sup>

The rest of this Appendix highlights existing ZEV penetration and charging infrastructure and plans to ensure increased penetration through 2025 and beyond in a number of States.

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<sup>10</sup> States’ Appx. C-168, *US Alternative Fueling Stations by Fuel Type*, U.S. DEPT. OF ENERGY ALTERNATIVE FUELS DATA CENTER (updated Sept. 2018), [www.afdc.energy.gov/data/10332](http://www.afdc.energy.gov/data/10332).

<sup>11</sup> States’ Appx. C-166, Jeffrey Rissman, *The Future of Electric Vehicles in the U.S., Part 1: 65-75% New Light-Duty Vehicles Sales by 2050*, FORBES (Sept. 14, 2017, 8:15 AM), <https://www.forbes.com/sites/energyinnovation/2017/09/14/the-future-of-electric-vehicles-in-the-u-s-part-1-65-75-new-light-duty-vehicle-sales-by-2050/#dd10df0e2892>.

<sup>12</sup> States’ Appx. C-131, EDISON ELECTRIC INSTITUTE, *Plug-in Electric Vehicle Sales Forecast Through 2025 and the Charging Infrastructure Required* (June 2017), [http://www.edisonfoundation.net/iei/publications/Documents/IEI\\_EEI%20PEV%20Sales%20and%20Infrastructure%20thru%202025\\_FINAL%20\(2\).pdf](http://www.edisonfoundation.net/iei/publications/Documents/IEI_EEI%20PEV%20Sales%20and%20Infrastructure%20thru%202025_FINAL%20(2).pdf).

<sup>13</sup> States’ Appx. C-40, TAR at 4-39.

<sup>14</sup> These Section 177 States are Connecticut, Maine, Maryland, Massachusetts, New Jersey, New York, Oregon, Rhode Island, and Vermont.

<sup>15</sup> See States’ Appx. C-145, *State Zero-Emission Vehicle Programs Memorandum of Understanding* (Oct. 2013).

<sup>16</sup> States’ Appx. C-147, ZEV Program Implementation Task Force, *Multi-State ZEV Action Plan* (May 2014), <https://www.nescaum.org/documents/multi-state-zev-action-plan.pdf>.

<sup>17</sup> States’ Appx. C-146, ZEV Task Force, *Multi-State ZEV Action Plan 2018-2021* (2018), <https://www.nescaum.org/documents/2018-zev-action-plan.pdf>.

## **Connecticut**

As of September 24, 2018, there were 3,272 battery electric vehicles (BEVs) and 4,701 plug-in hybrid electric vehicles (PHEVs) registered in the state of Connecticut.<sup>18</sup> In addition, 2,584 electric vehicles (EVs) have been sold from June 1, 2017 through June 30, 2018, which represents the last year of sales data made public.<sup>19</sup> 378 electric charging stations (327 public, 51 private) in the State support these vehicles.<sup>20</sup> And Connecticut signed onto the October 2013 Multi-State Governors' Memorandum of Understanding, and thus committed to putting roughly 125,000 EVs on Connecticut roads by 2025.<sup>21</sup>

The Connecticut Hydrogen and Electric Automobile Purchase Rebate (CHEAPR) offers incentives of up to \$5,000 for Connecticut residents who purchase or lease a new eligible battery electric, plug-in hybrid electric or fuel cell electric vehicle. CHEAPR rebates can be redeemed for over 35 eligible vehicles, and this number is increasing as more manufacturers release new models.<sup>22</sup>

## **Illinois**

### ***ZEV Sales and ZEV Infrastructure in Illinois***

ZEV penetration is trending up in Illinois. According to the Auto Alliance, 2,380 BEVs and 1,432 PHEVs were sold in 2017, up from 1,522 BEVs and 1,166 PHEVs sold in 2016.<sup>23</sup> This continues the upward trend that began in 2014, and 2018 is on track to continue that trend. Through June 2018, 1,327 BEVs and 911 PHEVs had been sold in Illinois this year. ZEV market share is also trending up in Illinois and has been increasing every year since 2014.<sup>24</sup>

Recent analysis projects this trend will continue in the future. 12,300 BEVs and PHEVs operate in Illinois today. An analysis commissioned by the Midcontinent Independent System Operator

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<sup>18</sup> Based on Connecticut DMV data.

<sup>19</sup> See States' Appx. C-122, Alliance Advanced Technology Vehicle Sales Dashboard, <https://autoalliance.org/energy-environment/advanced-technology-vehicle-sales-dashboard/> (sales data of BEVs and PHEVs in Connecticut June 2017 to June 2018).

<sup>20</sup> States' Appx. C-129, *Connecticut Transportation Data for Alternative Fuels and Vehicles*, U.S. DEPT. OF ENERGY ALTERNATIVE FUELS DATA CENTER, <https://www.afdc.energy.gov/states/ct> (last visited Oct. 24, 2018).

<sup>21</sup> States' Appx. C-145, *State Zero-Emission Vehicle Programs Memorandum of Understanding* (Oct. 2013).

<sup>22</sup> States' Appx. C-127, *CHEAPR Eligible Vehicle List*, CONNECTICUT DEPT. OF ENERGY AND ENVIRONMENTAL PROTECTION, [https://www.ct.gov/deep/cwp/view.asp?a=2684&q=561424&deepNav\\_GID=2183](https://www.ct.gov/deep/cwp/view.asp?a=2684&q=561424&deepNav_GID=2183) (last visited Oct. 24, 2018).

<sup>23</sup> States' Appx. C-122, Alliance Advanced Technology Vehicle Sales Dashboard, <https://autoalliance.org/energy-environment/advanced-technology-vehicle-sales-dashboard/> (sales data of BEVs and PHEVs in Illinois).

<sup>24</sup> *Id.* (Illinois EV market share data output).

(MISO) projects this number to increase to 726,273 by 2030.<sup>25</sup> An analysis by Bloomberg New Energy Finance projects this number to increase to 1.2 million by 2030.<sup>26</sup>

Charging infrastructure has also developed in Illinois. DOE's Alternative Fuels Data Center states that Illinois has 480 public EV charging stations with 1,179 charging outlets.<sup>27</sup> Including private charging stations, these numbers rise to 583 stations and 1,393 outlets.

### ***Illinois Policies***

Illinois recognizes EVs' environmental and financial benefits (*see* 20 ILCS 627/5 (2016)) and therefore has enacted several policies to support EV sales and develop EV charging infrastructure.

Illinois agencies have provided monetary support to EV projects. For instance, the Illinois Environmental Protection Agency plans to direct over \$10 million from the VW Environmental Mitigation Trust to fund EV supply equipment projects, which may include all-electric charging infrastructure.<sup>28</sup> Another state agency, the Chicago Metropolitan Agency for Planning, directs funds to projects that expand EV use, including a recent \$15 million grant to augment Chicago's EV fleet and install 100 charging stations at Chicago airports.<sup>29</sup>

Illinois has also implemented incentives and updated regulations to encourage the use of EVs and development of charging infrastructure. State law specifically protects EVs' parking places (625 ILCS 5/11-1308 (2016)) and charges EVs a reduced registration fee (625 ILCS 5/3-805 (2016)). Furthermore, recent laws created a professional certification for proper installation of charging stations (220 ILCS 5/16-128A(d) (2016)), exempted charging stations from unnecessary regulatory requirements (220 ILCS 5/3-105(c) (2016)), and encouraged state transportation agencies to build charging stations at their facilities (605 ILCS 5/4-223 (2016); 605 ILCS 10/11(e) (2016)).

### **Maryland**

In 2011, Maryland established an Electric Vehicle Infrastructure Council, tasked with assessing and recommending policies that promote adoption of EVs and their integration into the state's transportation fabric. Maryland also became a signatory to the October 2013 Multi-State

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<sup>25</sup> States' Appx. C-143, M.J. Bradley & Associates, *Electric Vehicle Cost-Benefit Analysis: Plug-in Electric Vehicle Cost-Benefit Analysis Illinois* (Sept. 2017), [https://www.nrdc.org/sites/default/files/electric-vehicle-cost-benefit-analysis\\_2017-09-27.pdf](https://www.nrdc.org/sites/default/files/electric-vehicle-cost-benefit-analysis_2017-09-27.pdf).

<sup>26</sup> *Id.*

<sup>27</sup> States' Appx. C-124, *Alternative Fueling Station Counts by State*, U.S. DEPT. OF ENERGY ALTERNATIVE FUELS DATA CENTER, [https://www.afdc.energy.gov/fuels/stations\\_counts.html](https://www.afdc.energy.gov/fuels/stations_counts.html) (last visited Oct. 17, 2018).

<sup>28</sup> States' Appx. C-135, Illinois Env'tl. Protection Agency, *State of Illinois Beneficiary Mitigation Plan* (Aug. 2018), <https://www2.illinois.gov/epa/Documents/iepa/air-quality/vw-settlement/Illinois%20Beneficiary%20Mitigation%20Plan.pdf>.

<sup>29</sup> *See* States' Appx. C-128, City of Chicago Press Release, *Mayor Emanuel's Drive Electric Chicago Effort Gets \$15 Million Grant for Electric Vehicles and Charging Stations*, Oct. 11, 2017, [https://www.cityofchicago.org/content/dam/city/depts/mayor/Press%20Room/Press%20Releases/2017/October/101117\\_DriveElectric.pdf](https://www.cityofchicago.org/content/dam/city/depts/mayor/Press%20Room/Press%20Releases/2017/October/101117_DriveElectric.pdf).

Governors' Memorandum of Understanding and participates in the Multi-State ZEV Task Force. Today, Maryland offers state excise tax credits (up to \$3,000) for purchases of BEVs and PHEVs, as well as partial rebates for residential and commercial installation of charging infrastructure. As of June 2017, there were more than 9,000 BEVs and PHEVs registered in Maryland—up from barely 600 five years earlier—and more than 1,100 public EV charging outlets.<sup>30</sup> And by June 2018, there were 13,676 BEV and PHEV sales in the State.<sup>31</sup>

Maryland aims to have 60,000 EVs by 2020 and 300,000 by 2025.<sup>32</sup> Just last year, the Maryland Clean Cars Act of 2017 extended the state's EV charging equipment rebate program, as well as the BEV and PHEV excise tax credit program, through fiscal year 2020.

### **Massachusetts**

The Commonwealth of Massachusetts has seen tremendous growth in the use and ownership of EVs and EV infrastructure over the past five years. According to the Massachusetts Department of Environmental Protection (MassDEP), EV registrations in Massachusetts increased 732 percent from 2014 through June 2018.<sup>33</sup>

#### ***EV Sales and Infrastructure***

As discussed below, Massachusetts is committed to putting 300,000 EVs on the road by 2025.

Steady progress has been made toward that goal. From January 2011 through June 2018, a total of 16,635 EVs, including BEVs and PHEVs, were sold in Massachusetts.<sup>34</sup> As demonstrated by the graphs below, EV sales trend lines in Massachusetts have been increasing sharply since 2015. Compared to total of 4,631 EVs sold in Massachusetts from 2011 through 2014, over 12,000 EVs were sold from January 2016 through June 2018. The BEV share of total EV sales has increased steadily since 2011.

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<sup>30</sup> States' Appx. C-139, Maryland Electric Vehicle Infrastructure Council, *Annual Report* at 7 (Dec. 31, 2017),

[http://www.mdot.maryland.gov/newMDOT/Planning/Electric\\_Vehicle/Documents/EVIC\\_2017\\_Annual\\_Report\\_Final\\_12-31-2017.pdf](http://www.mdot.maryland.gov/newMDOT/Planning/Electric_Vehicle/Documents/EVIC_2017_Annual_Report_Final_12-31-2017.pdf).

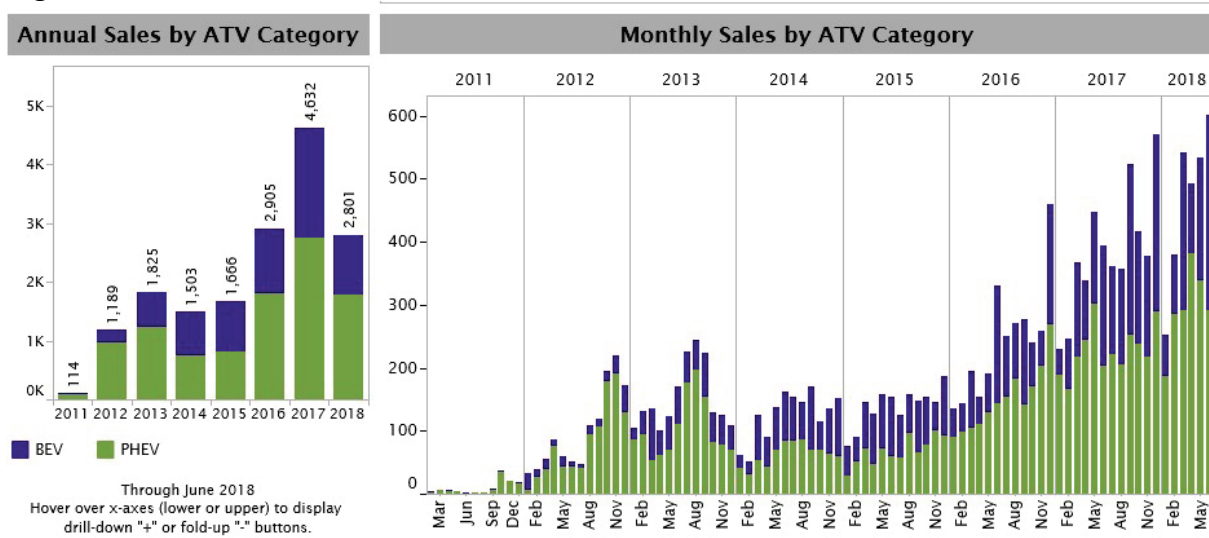
<sup>31</sup> States' Appx. C-122, Alliance Advanced Technology Vehicle Sales Dashboard, <https://autoalliance.org/energy-environment/advanced-technology-vehicle-sales-dashboard/> (sales data of BEVs and PHEVs in Maryland).

<sup>32</sup> States' Appx. C-139, Maryland Electric Vehicle Infrastructure Council, *Annual Report* at 3; *see id.* at 3–4 (projecting that “as many as 60,000 to 100,000 EVs will be registered in the State by 2020”).

<sup>33</sup> *See* States' Appx. C-141, *MassEVIP: Fleets*, MASS.GOV, <https://www.mass.gov/how-to/massevip-fleets> (last visited Oct. 21, 2018) (Chart of Massachusetts Electric (EV) [BEV] and Plug-in Hybrid Electric Vehicles (Increase Over Five Years: BEVs 683%, PHEVs 769%, Total 732%)).

<sup>34</sup> *See* States' Appx. C-122, Alliance Advanced Technology Vehicle Sales Dashboard (sales data of BEVs and PHEVs in Massachusetts, January 2011 through June 2018, based on vehicle registrations).

Figure 3: ZEV Sales in Massachusetts 2011–2018<sup>35</sup>



In 2010, there were no publicly available EV charging stations in Massachusetts. There are now 569 publicly available stations in the Commonwealth, with a total of 1,631 charging outlets.<sup>36</sup> Including private charging infrastructure, there are currently 641 charging stations in Massachusetts, with a total of 1,748 charging outlets, of which over 600 include Level 2 stations with 1,509 outlets, and 60 include direct current fast charging (DCFC) stations with 204 charging outlets.<sup>37</sup>

#### Massachusetts EV Adoption Programs

Electric vehicle growth in Massachusetts is supported by multiple state laws, policies, and rebate and incentive programs, including those summarized below.

**Massachusetts ZEV Adoption Plan and ZEV Adoption Act:** As a member of the Multistate ZEV Task Force,<sup>38</sup> Massachusetts joined the October 2013 Multi-State Governors' Memorandum of Understanding, and established a ZEV Adoption Plan in 2015, committing the Commonwealth to put 300,000 EVs on the road by 2025.<sup>39</sup>

<sup>35</sup> *Id.*

<sup>36</sup> See States' Appx. C-126, *Charging Stations Locations*, MULTI-STATE ZEV TASK FORCE, [https://www.zevstates.us/charging-stations/#/analyze?region=US-MA&fuel=ELEC&show\\_map=true&ev\\_levels=all&status=P&status=E&access=private&access=public](https://www.zevstates.us/charging-stations/#/analyze?region=US-MA&fuel=ELEC&show_map=true&ev_levels=all&status=P&status=E&access=private&access=public) (last visited Oct. 24, 2018) (data for Massachusetts).

<sup>37</sup> *Id.*

<sup>38</sup> States' Appx. C-148, MULTI-STATE ZEV TASK FORCE, <https://www.zevstates.us/> (last visited Oct. 19, 2018).

<sup>39</sup> States' Appx. C-140, *Massachusetts Zero-Emission Vehicle Action Plan: A Roadmap to Reach 300,000 Zero Massachusetts*, Draft (Aug. 2015), <https://www.mass.gov/files/documents/2016/08/nk/massachusetts-zero-emission-vehicle-action-plan2015.pdf>.



The Massachusetts ZEV Adoption Act<sup>40</sup> was enacted to accelerate EV growth in the Commonwealth. Among other provisions, it prohibited owners of public EV charging infrastructure from assessing users a subscription or membership fee and required that payment options be accessible to all members of the general public. The Act also provided for municipalities to create ZEV-only parking areas and authorized EV charging infrastructure-related modifications to requirements under the state building and electric code. Finally, the Act codified a prior order of the Massachusetts Department of Public Utilities (Mass DPU) that allowed utilities to submit charging infrastructure investment proposals, especially for areas not well served by the private market. The Mass DPU recently approved “make ready” infrastructure proposals by two utilities that, combined, will provide 4,800 Level 2 stations and nearly 150 DCFC stations, ten percent of which will be in environmental justice communities.<sup>41</sup>

**The MOR-EV Program:** Since 2014, the Massachusetts Offers Rebates for Electric Vehicles (MOR-EV) program has provided rebates for 10,210 vehicles.<sup>42</sup> To supplement and complement the \$7,500 federal tax credit available to EV purchasers, the MOR-EV program offers rebates up to \$2,500 for the purchase or lease of light-duty electric vehicles, including BEVs, PHEVs, and zero emission motorcycles (ZEMs). As demonstrated by the chart below, rebates issued under the program have increased dramatically since 2014, reflecting increasing sales of ZEVs.<sup>43</sup>

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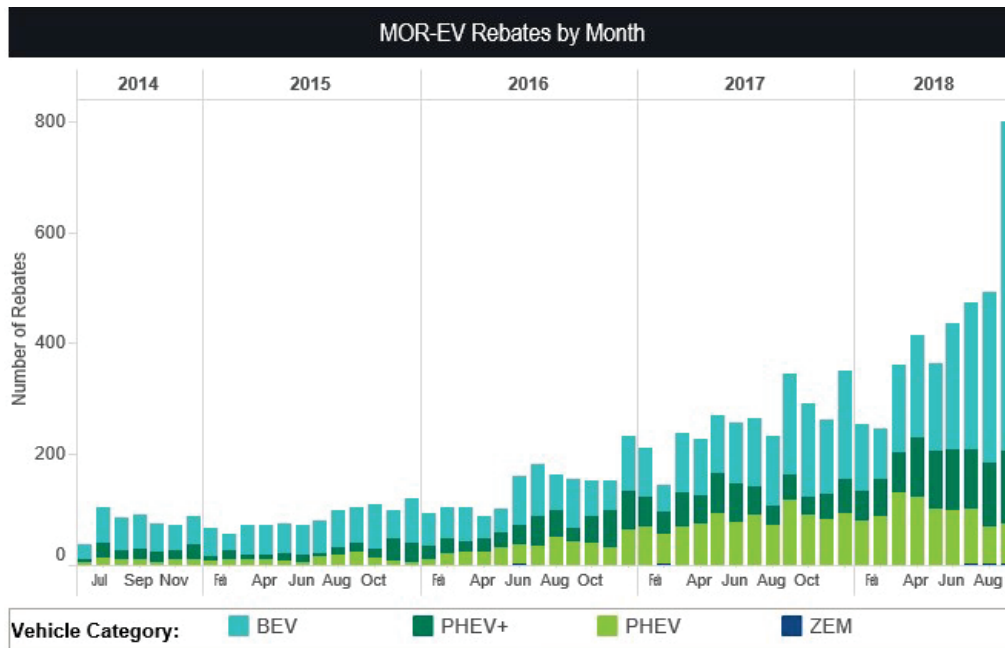
<sup>40</sup> An Act Promoting Zero Emission Vehicle Adoption, 2016 Mass. Acts, ch. 448 (codified at Mass. Gen. Laws ch. 25A, § 16 (2017), and Mass. Gen. Law ch. 40, § 22A (2017)), <https://malegislature.gov/Laws/SessionLaws/Acts/2016/Chapter448>.

<sup>41</sup> See States’ Appx. C-161, Order in DPU 17-13, Sept. 10, 2018, <https://eeaonline.eea.state.ma.us/EEA/FileService/FileService.Api/file/FileRoom/9800474>; States’ Appx. C-163, David Packard, *Electric Vehicle Charging Gets a Jump: Eversource’s \$45m Program Will Support Rapid Buildout*, COMMONWEALTH MAG., Dec. 14, 2017, <https://commonwealthmagazine.org/opinion/electric-vehicle-charging-gets-jump/>.

<sup>42</sup> See States’ Appx. C-144, *MOR-EV Program Statistics*, MOR-EV, <https://mor-ev.org/program-statistics> (last visited Oct. 21, 2018).

<sup>43</sup> *Id.*

Figure 4: MOR-EV Rebates by Month<sup>44</sup>



**MassEVIP Fleets:** Administered by MassDEP, the Massachusetts Electric Vehicle Incentive Program (MassEVIP) provided grants over the past five years to increase the deployment of electric vehicles and charging infrastructure in the Commonwealth. Cities, towns, state agencies, and public colleges and universities applied for grants to assist with the cost of EV purchases and with the upfront cost of installing Level 2 dual-port charging stations as part of the MassEVIP Fleets program. From 2013 through June 2018, MassEVIP Fleets provided \$2.66 million to fund 267 EVs and 92 publicly accessible EV charging stations.<sup>45</sup>

**MassEVIP Workplace Charging:** MassDEP also provides grants up to \$25,000 to companies with 15 or more employees in non-residential places of business to acquire EV charging infrastructure. The program funds 50 percent of the cost of installing Level 1 and Level 2 stations capable of charging EVs produced by multiple manufacturers. Since 2014, this program has provided \$1.3 million to fund 523 EV charging stations with a total of 892 charging ports at 257 separate locations.<sup>46</sup>

**Volkswagen Settlement Funds:** Massachusetts will receive \$75 million from the court-approved federal Environmental Mitigation Trust established in partial settlement of state and federal claims brought against Volkswagen for installing software “defeat devices” to deceive state emissions tests.<sup>47</sup> MassDEP has developed a Beneficiary Mitigation Plan to spend

<sup>44</sup> *Id.*

<sup>45</sup> See States’ Appx. C-141, *MassEVIP: Fleets*, MASS.GOV, <https://www.mass.gov/how-to/massevip-fleets> (last visited Oct. 21, 2018).

<sup>46</sup> See States’ Appx. C-142, *MassEVIP: Workplace Charging*, MASS.GOV, <https://www.mass.gov/how-to/massevip-workplace-charging> (last visited Oct. 22, 2018).

<sup>47</sup> See States’ Appx. C-138, *Volkswagen Diesel Settlements and Environmental Mitigation*, MASS.GOV, <https://www.mass.gov/guides/volkswagen-diesel-settlements-environmental-mitigation#about-the-vw-settlements> (last visited Oct. 21, 2018).

approximately \$16 million of \$23 million in first-year funds available under the settlement. This plan provides \$11 million for purchase of electric transit buses by transportation authorities, and \$5 million for installation of electric vehicle supply equipment (EVSE) to supplement the network of existing EVSEs.<sup>48</sup>

In addition, the \$2 billion “Electrify America” initiative established by the court-approved Volkswagen settlement has funded EV charging stations in Plymouth and Chicopee, Massachusetts, and will also provide funding for public EV charging infrastructure in Boston.<sup>49</sup>

## **New Jersey**

### ***Existing State Electric Vehicle Initiatives***

#### **New Jersey’s Clean Car Program**

As of June 2018, there are 18,782 BEVs and PHEVs registered in New Jersey.<sup>50</sup> That is a marked increase from 2011 when there were only 338 EVs registered in the State.<sup>51</sup> New Jersey’s EV registrations have grown more than 55 times in only seven years.

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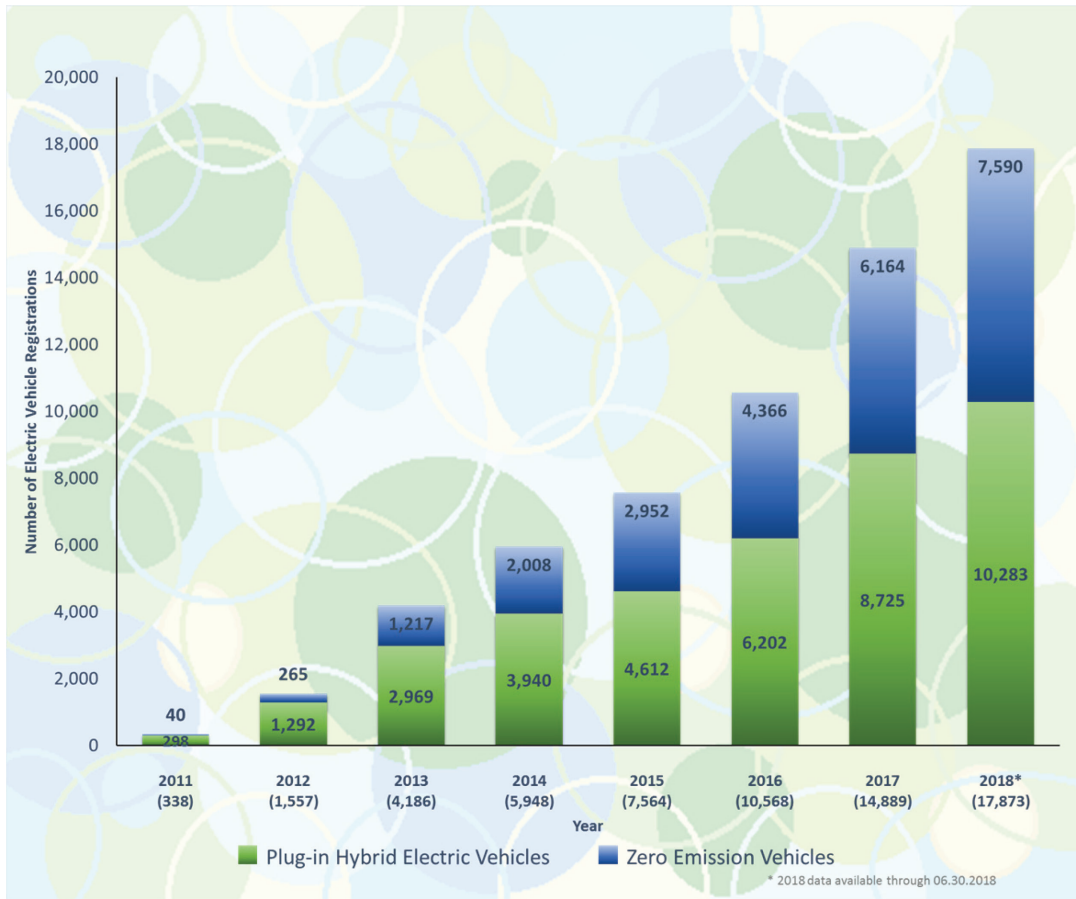
<sup>48</sup> *Id.*

<sup>49</sup> *Id.*

<sup>50</sup> New Jersey Dept. of Env’tl. Protection (NJDEP), *Alternative Fuel Vehicle Report* (revised June 30, 2018). Data reflects NJDEP analysis of New Jersey Motor Vehicle Commission (NJMVC) state registration database records.

<sup>51</sup> NJDEP analysis of NJ Motor Vehicle Commission state registration database records for 2011.

Figure 5: ZEV Registrations in New Jersey<sup>52</sup>



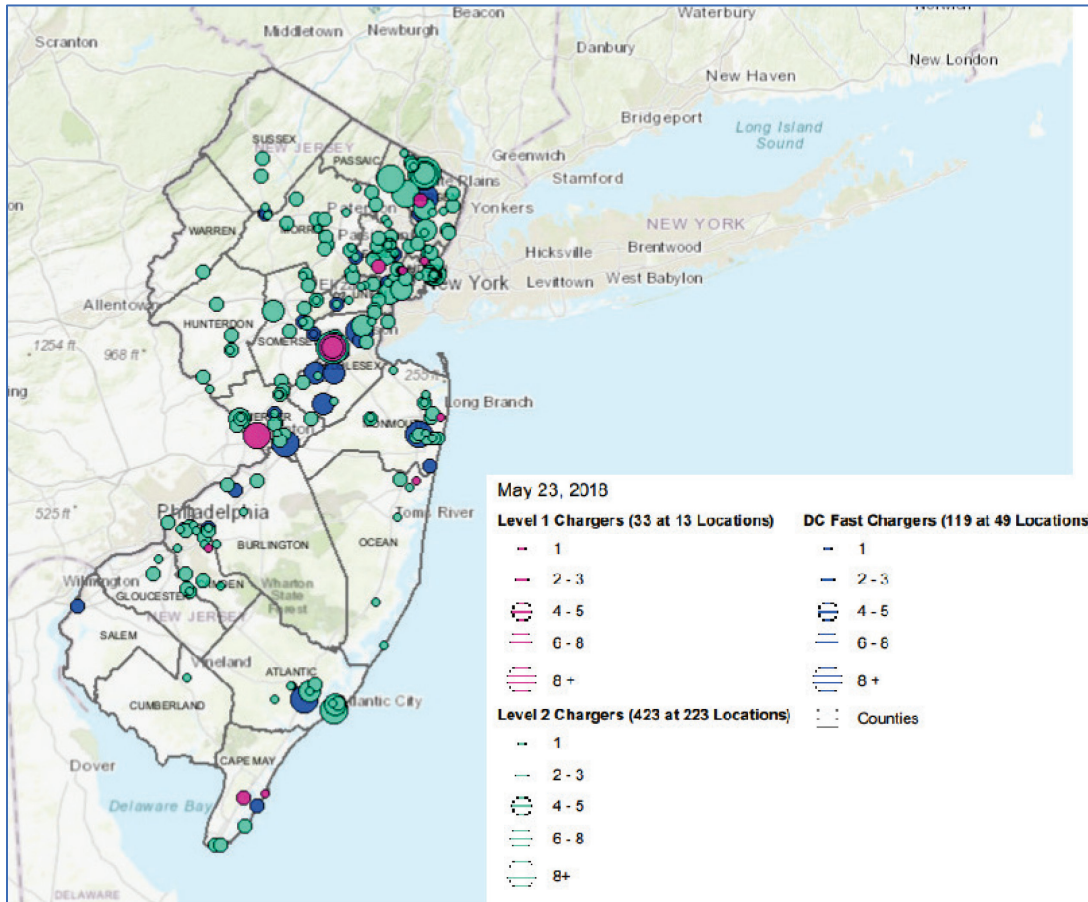
### Public Charging Infrastructure

New Jersey’s network of charging stations continues to grow. New Jersey has 644 public charge points (or plugs) at 256 locations.<sup>53</sup> That includes publicly accessible DCFC stations, with 102 public fast chargers at 42 locations. About 95 percent of the state falls within a 25-mile radius of a fast charger, many along major highways.

<sup>52</sup> For purposes of Figure 5, Zero Emission Vehicles data refer to registrations of BEVs.

<sup>53</sup> States’ Appx. C-124, *Alternative Fueling Station Counts by State*, U.S. DEPT. OF ENERGY ALTERNATIVE FUELS DATA CENTER, [https://www.afdc.energy.gov/fuels/stations\\_counts.html](https://www.afdc.energy.gov/fuels/stations_counts.html) (last visited Oct. 24, 2018).

Figure 6: Publicly Accessible EV Charging Stations in New Jersey



In response to the New Jersey Department of Environmental Protection’s application, the Federal Highway Administration has designated five New Jersey highways as “Electric Vehicle Corridors” where DC fast chargers allow worry-free electric travel: I-95, I-295, and sections of I-80, I-78, and I-287. Those highways connect to EV Corridors in neighboring states and throughout the Northeast and Mid-Atlantic region.<sup>54</sup>

### ***Multistate Collaboration***

New Jersey is engaged in several multistate and regional collaborative efforts to speed adoption of electric vehicles and build out a robust charging network statewide and throughout the region. First, in May 2018, Governor Murphy joined the October 2013 Multi-State Governors’ Memorandum of Understanding. Also in May 2018, states on the East Coast from Virginia to Maine, released the “Northeast Corridor Regional Strategy for Electric Vehicle Charging Infrastructure” to advance public and private investments in electric car charging and increase

<sup>54</sup> States’ Appx. C-123, *Alternative Fuel Corridors*, FED. HIGHWAY ADMIN., [https://hepgis.fhwa.dot.gov/fhwagis/ViewMap.aspx?map=Highway+Information|Electric+Vehicle+\(EV-Round+1+and+2\)](https://hepgis.fhwa.dot.gov/fhwagis/ViewMap.aspx?map=Highway+Information|Electric+Vehicle+(EV-Round+1+and+2)) (last visited Oct. 24, 2018).

the use of electric cars throughout the region.<sup>55</sup> The regional strategy is the result of a multi-state effort by twelve states and the District of Columbia, and incorporates input from automobile manufacturers, utilities, electric vehicle charging companies, and others. Announced by the Northeast States for Coordinated Air Use Management (NESCAUM), which facilitated the effort, the regional strategy offers a vision for electric vehicle charging infrastructure investment and provides a compilation of recommendations to ensure public and private funding decisions are strategically integrated.

### ***New Jersey State Incentives for Electric Vehicles and EV Infrastructure***

New Jersey exempts battery electric vehicles and fuel cell electric vehicles from state sales and use tax. The tax exemption, which applies to the sale, lease or rental of both new and pre-owned vehicles, is permanent and does not sunset, providing sustainability and certainty to consumers and fleet administrators.<sup>56</sup>

In addition, DEP worked closely with the New Jersey Department of Community Affairs (DCA) to streamline the permitting process so that homeowners can quickly and easily install home chargers. DCA determined that the installation of residential charging equipment is considered “minor work” under state codes and rules. This means that the homeowner or electric contractor need only provide verbal notification to the local code enforcement agency prior to starting the installation. The permit application must then be subsequently filed within five days of the notification. DCA’s action eliminated a waiting period for approval of a permit that could have been as long as three weeks.<sup>57</sup>

### **New York**

New York State currently has 31,721 registered plug-in electric vehicles (BEVs and PHEVs)<sup>58</sup> and a publicly available charging network of 2,294 Level 2 and DCFC charging outlets.<sup>59</sup> Plug-in electric vehicle sales in the State rose 70 percent in 2017 compared to 2016.<sup>60</sup>

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<sup>55</sup> States’ Appx. C-149, NESCAUM, *Northeast Corridor Regional Strategy for Electric Vehicle Charging Infrastructure 2018–2021* (May 16, 2018), <http://www.nescaum.org/documents/northeast-regional-charging-strategy-2018.pdf>.

<sup>56</sup> N.J.S.A. 54:32B-8.55 (Sales Tax Exemption – Zero Emission Vehicles), <http://www.drivegreen.nj.gov/zev.html>.

<sup>57</sup> See States’ Appx. C-134, *Homeowner’s Guide to EV Charging Stations: Electric Vehicle Charging Stations – What You Need to Know*, [http://www.state.nj.us/dca/divisions/codes/publications/pdf\\_other/homeowners\\_guide\\_electric\\_vehicles\\_charging\\_stations.pdf](http://www.state.nj.us/dca/divisions/codes/publications/pdf_other/homeowners_guide_electric_vehicles_charging_stations.pdf).

<sup>58</sup> States’ Appx. C-132, *Electric Vehicle Registration Map*, NYSERDA, <https://www.nyserd.ny.gov/All-Programs/Programs/ChargeNY/Support-Electric/Map-of-EV-Registrations> (last visited Oct. 25, 2018).

<sup>59</sup> States’ Appx. C-152, *Alternative Fueling Station Locator*, U.S. DEPT. OF ENERGY ALTERNATIVE FUELS DATA CENTER, <https://www.afdc.energy.gov/stations/#/analyze?region=US-NY&fuel=ELEC> (last visited Oct. 24, 2018).

<sup>60</sup> States’ Appx. C-137, Mark Kane, *Rebates Drive Up EV Sales by 74% in New York*, INSIDE EVS, Oct. 1, 2017, <https://insideevs.com/rebates-drive-up-ev-sales-by-74-in-new-york/>.

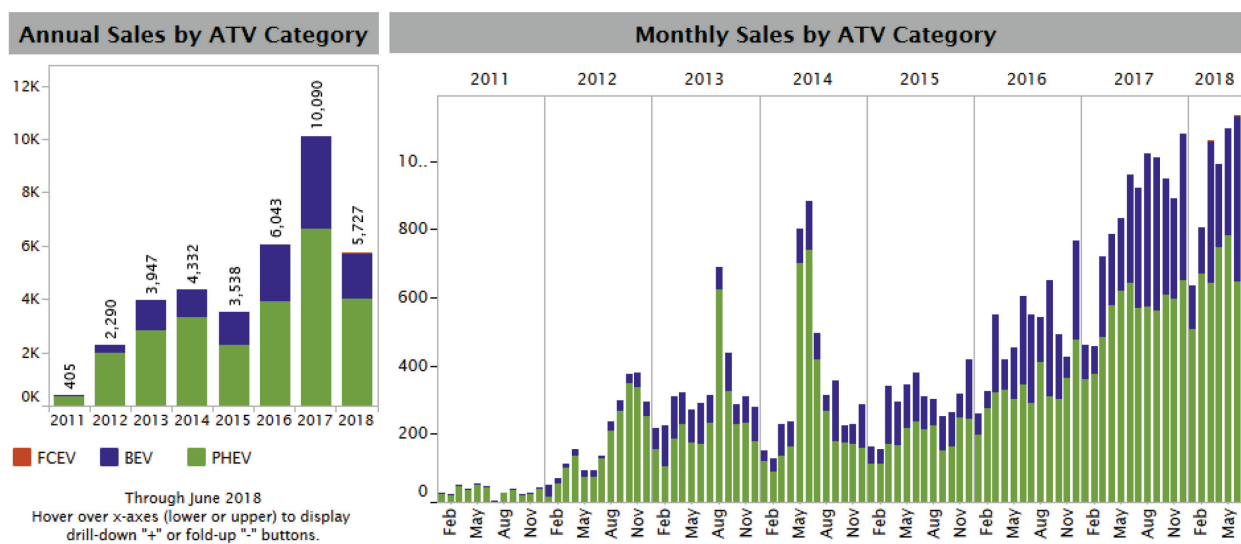
And those trends are expected to continue. New York State’s target is for 800,000+ EVs by 2025, and 1.3 million or more by 2030 to meet ZEV and 40x30 Greenhouse Gas goals.<sup>61</sup>

New York State remains committed to its Zero Emission Vehicle Program and is a signatory to the October 2013 Multi-State Governors’ Memorandum of Understanding, discussed above. New York continues to support the ZEV initiative through various programs. These efforts reflect a collaborative approach involving multiple agencies and authorities, as follows:

### Vehicle Incentives

- The New York State Energy Research and Development Authority (NYSERDA), in partnership with the New York State Department of Transportation (NYSDOT), launched its \$55 million *Drive Clean Rebate Program* in March 2017, which provides a rebate of up to \$2,000 per vehicle for plug-in electric vehicle buyers. Since that program was announced, over 9,300 rebates have been issued,<sup>62</sup> and EV sales in 2017 were 67 percent higher than in 2016.

Figure 7: ZEV Sales in New York 2011–2018<sup>63</sup>



<sup>61</sup> States’ Appx. C-158, *Governor Cuomo Announces \$4.2 Million Expansion of High-Speed Electric Vehicle Charging Stations Along New York State Thruway*, NYSERDA, May 9, 2018, <https://www.nyserdera.ny.gov/About/Newsroom/2018-Announcements/2018-05-09-Governor-Cuomo-Announces-Expansion-of-high-speed-EV-charging-stations>; States’ Appx. C-121, ACADIA CENTER, *New York: Pathway to 2030* (2017), [https://2030.acadiacenter.org/wp-content/uploads/2018/02/Acadia-Center\\_EnergyVision-2030\\_NY-State-Target-Summary\\_20180131.pdf](https://2030.acadiacenter.org/wp-content/uploads/2018/02/Acadia-Center_EnergyVision-2030_NY-State-Target-Summary_20180131.pdf).

<sup>62</sup> States’ Appx. C-159, *Drive Clean Rebate Primary Statistics*, NYSERDA, <https://www.nyserdera.ny.gov/All-Programs/Programs/Drive-Clean-Rebate/Rebate-Data/Rebate-Stats> (last visited Oct. 25, 2018).

<sup>63</sup> States’ Appx. C-122, Alliance Advanced Technology Vehicle Sales Dashboard, <https://autoalliance.org/energy-environment/advanced-technology-vehicle-sales-dashboard/> (sales data of BEVs and PHEVs in New York).

## Charging Stations

- As part of his 2018 State of the State address, Governor Andrew Cuomo announced *Charge NY 2.0*, which will increase the number of public charging stations from over 2,000 now to 10,000 by 2021. Funding and/or construction of publicly available charging stations has been completed to date by NYSERDA, New York Power Authority (NYPA), the Port authority of New York and New Jersey (PA-NYNJ), DEC, Office of General Services (OGS), NYSDOT, and the New York State Thruway Authority.<sup>64</sup>
- The Public Service Commission ruled in 2013 that EV charging station owners would not be regulated as utilities for selling electricity, removing a key market uncertainty.<sup>65</sup>
- Through its *EVolve NY* program (2018), NYPA will dedicate \$250 million to encourage electric vehicle adoption and expand infrastructure to include new DCFC stations along key interstate corridors, at key urban hubs, and at NY City airports.<sup>66</sup>
- The New York State Thruway has installed DCFC charging pedestals at six service areas. In May 2018, the Governor announced a \$4.2 million expansion effort to install DCFC at remaining service areas.<sup>67</sup>
- New York State in its September 2018 release of the VW Beneficiary Mitigation Plan made a commitment of up to \$19.2 million to fund light-duty electric vehicle charging infrastructure.<sup>68</sup>
- DEC's Municipal Zero-Emission Infrastructure Rebate Program provides municipalities up to \$8,000 per Level 2 charging port, up to \$32,000 for Level 3 charging pedestals, and up to \$250,000 for a hydrogen fueling station.<sup>69</sup> During the initial FY 2016–2017 round, DEC awarded over \$1.5 million in grants to municipalities toward the installation of 194 new public charging ports and one upgrade to a hydrogen fuel station. During Round 2 (FY 2017–2018), DEC awarded \$985,368 in grants to municipalities toward the installation of 136 new public charging ports, including 10 DCFC ports. Additional

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<sup>64</sup> States' Appx. C-157, *ChargeNY*, NYSERDA, <https://www.nypa.gov/innovation/programs/chargeny> (last visited Oct. 24, 2018); States' Appx. C-167, Kat Fisher, *Governor Cuomo Releases Bold Plan to Electrify New York's Transportation Sector*, SIERRA CLUB, Jan. 8, 2018, <https://www.sierraclub.org/compass/2018/01/governor-cuomo-releases-bold-plan-electrify-new-york-s-transportation-sector>.

<sup>65</sup> States' Appx. C-150, New York Public Service Commission Ruling in 13-E-0199 (Nov. 22, 2013) <http://documents.dps.ny.gov/public/Common/ViewDoc.aspx?DocRefId={0A1AB82A-ABD4-43FA-B3E6-A4C54EC02220}>.

<sup>66</sup> States' Appx. C-133, *EVolve NY*, NY POWER AUTHORITY, <https://www.nypa.gov/innovation/programs/evolveny> (last visited Oct. 24, 2018).

<sup>67</sup> States' Appx. C-156, *Electric Vehicles*, NY THRUWAY AUTHORITY, <https://www.thruway.ny.gov/travelers/travelplazas/electric-vehicles.html> (last visited Oct. 24, 2018).

<sup>68</sup> States' Appx. C-153, *VW Settlement Information*, NY DEPT. OF ENVTL. CONSERVATION, <https://www.dec.ny.gov/chemical/109784.html> (last visited Oct. 24, 2018).

<sup>69</sup> States' Appx. C-155, *New York Offers ZEV Rebates to Municipal Fleets*, ENVTL. PROTECTION, Sept. 12, 2017, <https://eponline.com/articles/2017/09/12/new-york-offers-zev-rebates-to-municipal-fleets.aspx>.



funding has been requested in the FY 2018–2019 budget for Round 3 of the *Municipal Zero-Emission Vehicle Infrastructure Rebate Program* that is expected to start in late 2018.<sup>70</sup>

## **Oregon**

Oregon has seen rapid progress in EV adoption. In January 2013, there were 1,669 EVs registered in Oregon. As of the end of June 2018, there were 17,893—an increase of more than 1,000 percent.<sup>71</sup> There are currently 596 public charging stations with 1,408 charging outlets.<sup>72</sup>

Oregon is a signatory of the October 2013 Multi-State Governors’ Memorandum of Understanding. Seeking to build on the momentum for EV adoption in Oregon, on November 6, 2017, Governor Kate Brown signed Executive Order 17-21, establishing a goal of 50,000 registered and operating electric vehicles in Oregon by 2020, and outlining policies designed to achieve that goal.<sup>73</sup> Examples of those policies, and other state policies designed to promote EV adoption, are:

**Rebate Program.** On Aug. 18, 2017, Governor Brown signed HB 2017, which, among many other transportation investments, establishes a program to provide rebates to Oregonians who purchase certain types of electric vehicles (including plug-in hybrid electric vehicles) and other qualifying zero-emissions vehicles (ZEVs). This program was designed by the Oregon Legislature to encourage higher adoption of ZEVs, reducing air pollution and advancing progress toward the state’s greenhouse gas reduction goals.<sup>74</sup>

In May 2018, the Zero Emission and Electric Vehicle Rebate rules were adopted by the Environmental Quality Commission (which oversees the Department of Environmental Quality (DEQ)).<sup>75</sup> Key program elements include:

- Standard rebates of \$1,500 or \$2,500 towards the purchase or lease of a new plug-in hybrid or battery electric vehicle (rebate amount depends upon the battery capacity);
- “Charge Ahead” rebates of \$2,500 for the purchase or lease of any new or used battery electric vehicle. Only low and moderate income households may qualify for the Charge Ahead rebates.

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<sup>70</sup> States’ Appx. C-154, *Grant Funding for Municipalities*, NY DEPT. OF ENVTL. CONSERVATION, <https://www.dec.ny.gov/energy/109181.html> (last visited Oct. 24, 2018).

<sup>71</sup> States’ Appx. C-160, Oregon Dept. of Envntl. Quality (“DEQ”), *Electric Vehicles in Oregon* (Sept. 21, 2018).

<sup>72</sup> States’ Appx. C-124, *Alternative Fueling Station Counts by State*, U.S. DEPT. OF ENERGY ALTERNATIVE FUELS DATA CENTER, [https://www.afdc.energy.gov/fuels/stations\\_counts.html](https://www.afdc.energy.gov/fuels/stations_counts.html) (last visited Oct. 17, 2018).

<sup>73</sup> States’ Appx. C-162, Office of the Governor, Executive Order 17-21, *Accelerating Zero Emission Vehicle Adoption in Oregon to Reduce Greenhouse Gas Emissions and Address Climate Change* (Nov. 6, 2017), [https://www.oregon.gov/gov/Documents/executive\\_orders/eo\\_17-21.pdf](https://www.oregon.gov/gov/Documents/executive_orders/eo_17-21.pdf).

<sup>74</sup> HB 2017 (sections 148-52, chapter 750, Oregon Laws 2017), as amended by HB 4059 (sections 18-21, chapter 93, Oregon Laws 2018).

<sup>75</sup> OAR 340-270-0010 through 340-270-0500.

**Volkswagen Mitigation Fund dollars for EV charging stations.** EO 17-21 instructed the Oregon DEQ, in cooperation with the Oregon Department of Transportation (“ODOT”), the Oregon Department of Energy (“ODOE”), and the Oregon Health Authority Public Health Division (“OHAPHD”), to develop a plan to leverage up to 15 percent of the Volkswagen Mitigation Fund (approximately \$10.9 million of the total \$72.9 million) to develop and maintain EV charging stations with a focus on connecting rural communities, low-income communities, and Oregonians living in multi-family homes, while complementing the recently established “Charge Ahead” EV Rebate Program.<sup>76</sup>

**Electrify America.** EO 17-21 directed ODOT, in cooperation with ODOE, DEQ, PUC, and local governments, to facilitate the application process for fund deployment of VW’s “Electrify America” (“EA”) investments and projects for which VW must spend \$2 billion nationwide.

ODOT submitted Oregon’s Phase 1 proposal for charging along the I-5 and I-84 corridors and EA has identified 11 locations for investments. A typical EA site has 4 to 10 DC fast chargers. Three projects in Huntington, Grants Pass, and Albany have been completed and the remaining are under development.

EA has also proposed investing in 6 “community depots” in the Portland area, each with a capacity of 150kW; three retail location charging projects with a capacity of 50 kW plus L2 charging; and 16 workplaces and 4 multi-unit dwelling projects which would have with L2 charging stations. The proposals are subject to change as EA moves through the process of identifying project partners.

### **Rhode Island**

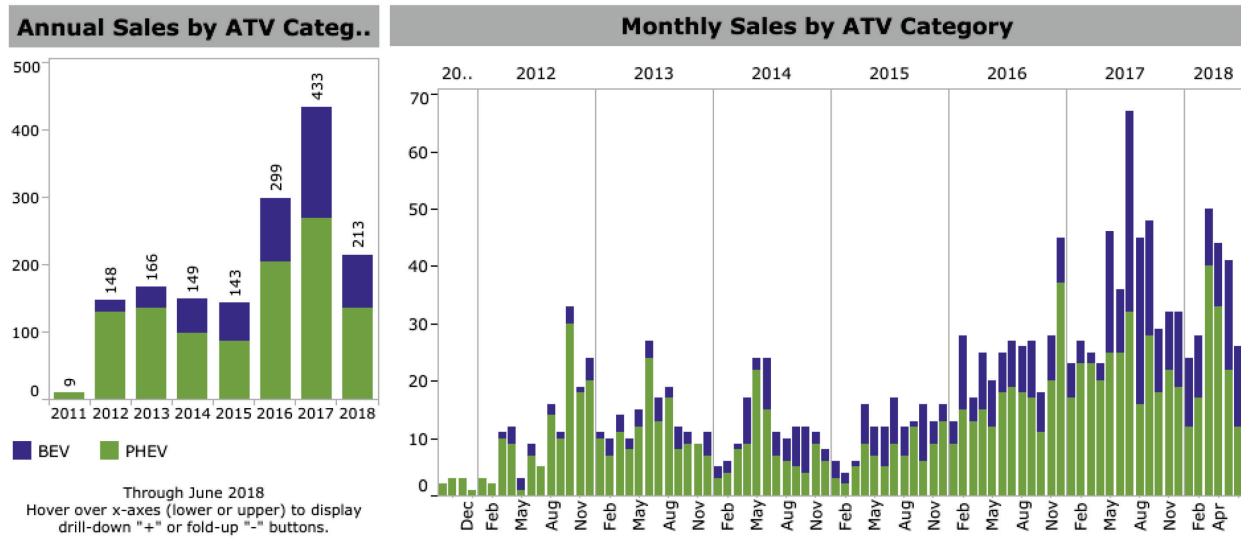
In 2016 and 2017, sales of ZEVs in Rhode Island increased significantly, as shown below. And by June 2018, 1,560 BEVs and PHEVs had been sold in the State.<sup>77</sup>

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<sup>76</sup> States’ Appx. C-172, Oregon Dept. of Envntl. Quality, *VW Environmental Mitigation Program for the State of Oregon* (Mar. 2018).

<sup>77</sup> States’ Appx. C-122, Alliance Advanced Technology Vehicle Sales Dashboard, <https://autoalliance.org/energy-environment/advanced-technology-vehicle-sales-dashboard/> (sales data of BEVs and PHEVs in Rhode Island).

Figure 8: ZEV Sales in Rhode Island, 2011-2018<sup>78</sup>



Just as the number of ZEVs has increased, charging infrastructure in Rhode Island has kept pace. Currently, 82 charging stations with 232 charging outlets serve ZEVs throughout the State.<sup>79</sup>

Multiple initiatives and programs in Rhode Island help support continued growth in EVs and charging infrastructure. The State is a signatory of the October 2013 Multi-State Governors' Memorandum of Understanding. In addition, Rhode Island is using \$1.5 million from the Volkswagen Settlement to roll out DC fast chargers throughout the State.<sup>80</sup> The State's Green Energy Consumers Alliance Drive Green Program also works with local dealerships to offer discounted prices to EV customers.<sup>81</sup> And the State offers monetary incentives to state and municipal agencies for purchase and installation of charging stations and EVs.<sup>82</sup>

<sup>78</sup> *Id.*

<sup>79</sup> States' Appx. C-124, *Alternative Fueling Station Counts by State*, U.S. DEPT. OF ENERGY ALTERNATIVE FUELS DATA CENTER, [https://www.afdc.energy.gov/fuels/stations\\_counts.html](https://www.afdc.energy.gov/fuels/stations_counts.html) (last visited Oct. 17, 2018).

<sup>80</sup> States' Appx. C-130, DEM Rhode Island, *Draft Beneficiary Mitigation Plan Volkswagen Environmental Mitigation Trust Agreement* (May 2018), <http://www.dem.ri.gov/programs/air/documents/pn/vwmitplan.pdf>.

<sup>81</sup> States' Appx. C-165, *Drive Green*, GREEN ENERGY CONSUMERS ALLIANCE, <https://www.greenenergyconsumers.org/drivegreen> (last visited Oct. 24, 2018).

<sup>82</sup> States' Appx. C-164, *Charge Up!*, RHODE ISLAND OFFICE OF ENERGY RESOURCES, <http://www.energy.ri.gov/transportation/ev/charge-up.php> (last visited Oct. 24, 2018).

## **Vermont**

Sales of electric vehicles have increased steadily over the last few years in Vermont. 2017 sales of BEVs increased six-fold over sales in 2015.<sup>83</sup> And sales of PHEVs more than doubled in 2017 compared to 2015.<sup>84</sup> These trends are likely to continue.

As a signatory to the October 2013 Multi-State Governors' Memorandum of Understanding, Vermont participates in the Multi-State ZEV Task Force on an ongoing basis. And in September 2014, the Vermont Climate Cabinet, comprised of senior state government officials, adopted the Vermont Zero Emission Vehicle Action Plan, which outlines state specific goals and strategies to increase ZEV adoption in the state.<sup>85</sup>

On September 18, 2018, Governor Scott announced that the state would make \$2.4 million of its share of Volkswagen Mitigation Trust funds available for matching grants to fund the installation of electric vehicle charging stations.<sup>86</sup>

With respect to its own fleet of state owned and leased vehicles, the State has adopted a Go Green Fleets Initiative and is working to meet a Vermont ZEV Action Plan goal that a minimum of 25 percent of light duty vehicles in the state fleet are electric by 2025.<sup>87</sup>

## **Washington**

### ***Washington's Goal***

In 2015, Washington State articulated the goal of increasing the number of electric vehicles registered in Washington from about 8,000 in 2013 to 50,000 by 2020.<sup>88</sup> By June 1, 2018, 23,047 BEVs and 10,799 PHEVs had been sold in Washington, for a total of 33,826 light-duty electric vehicles.<sup>89</sup>

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<sup>83</sup> States' Appx. C-122, Alliance Advanced Technology Vehicle Sales Dashboard, <https://autoalliance.org/energy-environment/advanced-technology-vehicle-sales-dashboard/> (sales data of BEVs and PHEVs in Vermont); *see also* States' Appx. C-175, *Zero Emission Vehicles*, VERMONT DEPT. OF ENVTL. CONSERVATION, <https://dec.vermont.gov/air-quality/mobile-sources/lev/zev> (last visited Oct. 24, 2018).

<sup>84</sup> *Id.*

<sup>85</sup> States' Appx. C-169, Vermont Climate Cabinet, *Vermont Zero Emission Vehicle Action Plan* (Sept. 2014), [http://dec.vermont.gov/sites/dec/files/aqc/mobile-sources/documents/Final%20VT%20ZEV%20Action%20Plan\\_080114.pdf](http://dec.vermont.gov/sites/dec/files/aqc/mobile-sources/documents/Final%20VT%20ZEV%20Action%20Plan_080114.pdf).

<sup>86</sup> States' Appx. C-170, State of Vermont Press Release, *Governor Phil Scott Announces \$2.4 Million in Grants for Electric Vehicle Charging Stations*, Sept. 18, 2018, <https://accd.vermont.gov/press-releases/governor-phil-scott-announces-24-million-grants-electric-vehicle-charging-stations>.

<sup>87</sup> States' Appx. C-171, Vermont Dept. of Bldgs. & General Services, *2016 Vermont State Agency Energy Plan* (2016), <https://bgs.vermont.gov/sites/bgs/files/files/energy-environment/2016-State-Agency-Energy-Plan.pdf>

<sup>88</sup> States' Appx. C-174, Washington State Dept. of Transportation, *Washington State Electric Vehicle Action Plan 2015–2020*, at 1 (Feb. 2015).

<sup>89</sup> States' Appx. C-122, Alliance Advanced Technology Vehicle Sales Dashboard, <https://autoalliance.org/energy-environment/advanced-technology-vehicle-sales-dashboard/> (sales data of BEVs and PHEVs in Washington).

As noted in the Washington State Electric Vehicle Action Plan, Washington State recognizes that supporting the adoption and use of electric vehicles is sound economic, environmental, and transportation policy.<sup>90</sup> Creating a robust market for electric vehicles will help:

- Meet state goals to reduce greenhouse gas emissions;
- Protect public health and air quality;
- Promote economic growth; and,
- Save drivers money.<sup>91</sup>

In addition, electric vehicles tap into clean Pacific Northwest power. The Pacific Northwest is home to some of the cleanest and least expensive electricity in the nation. Public Utility Districts in Washington get nearly 82 percent of their energy from hydropower, which is reliable, renewable, and produces almost no greenhouse gas emissions. Plugging an electric vehicle into the Northwest grid generates much less upstream pollution than filling a car with gasoline or diesel.<sup>92</sup>

Washington has adopted a number of strategies to help meet its goal. In addition to providing financial incentives, Washington's plan includes completing the build-out of Washington's fast charging network along highways, supporting workplace charging, addressing building codes, policy, and zoning barriers to electric vehicle infrastructure, engaging electric utilities to help in these efforts, and supporting and participating in regional partnerships to advance electric vehicles.

### ***Sales of ZEVs in Washington State are Increasing***

As shown in Figure 9 below, light-duty ZEV sales in Washington State increased from 1,056 BEVs and 147 PHEVs in 2011, to 4,615 BEVs and 2,453 PHEVs in 2017.<sup>93</sup> Moreover, as of June 1, 2018 (less than half-way through 2018), 3,278 light-duty BEVs and 1,739 PHEVs had been sold in Washington in 2018.

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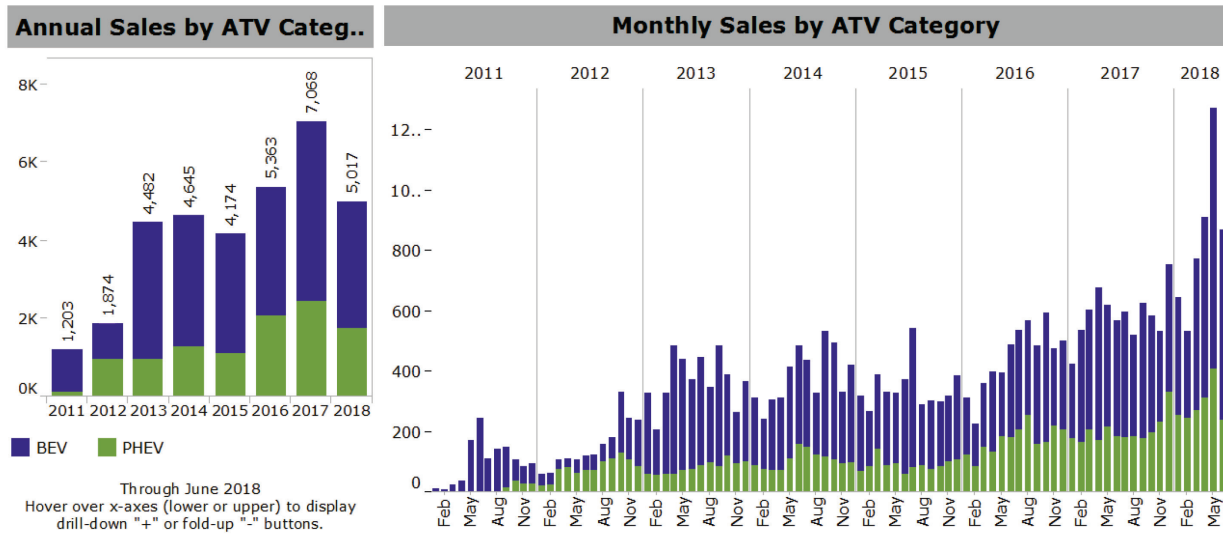
<sup>90</sup> States' Appx. C-174, Washington State Dept. of Transportation, *Washington State Electric Vehicle Action Plan 2015–2020*, at 1.

<sup>91</sup> *Id.*

<sup>92</sup> *Id.* at 2.

<sup>93</sup> States' Appx. C-122, Alliance Advanced Technology Vehicle Sales Dashboard, <https://autoalliance.org/energy-environment/advanced-technology-vehicle-sales-dashboard/> (sales data of BEVs and PHEVs in Washington).

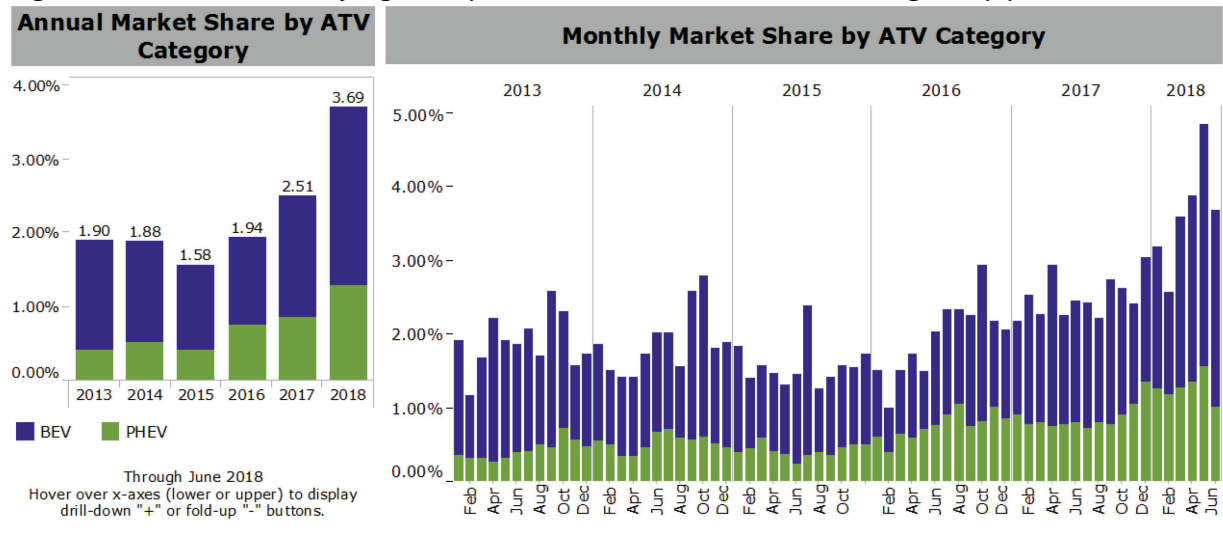
Figure 9: Light-duty BEV and PHEV sales in Washington by year<sup>94</sup>



### Market Share of ZEV Sales in Washington State is Increasing

Figure 10 below shows that the percent of all light-duty vehicles sold in Washington State that are BEVs and PHEVs has increased from 1.58 percent in 2015 to 3.69 percent in 2018.<sup>95</sup>

Figure 10: Market share of light-duty BEV and PHEV sales in Washington by year<sup>96</sup>



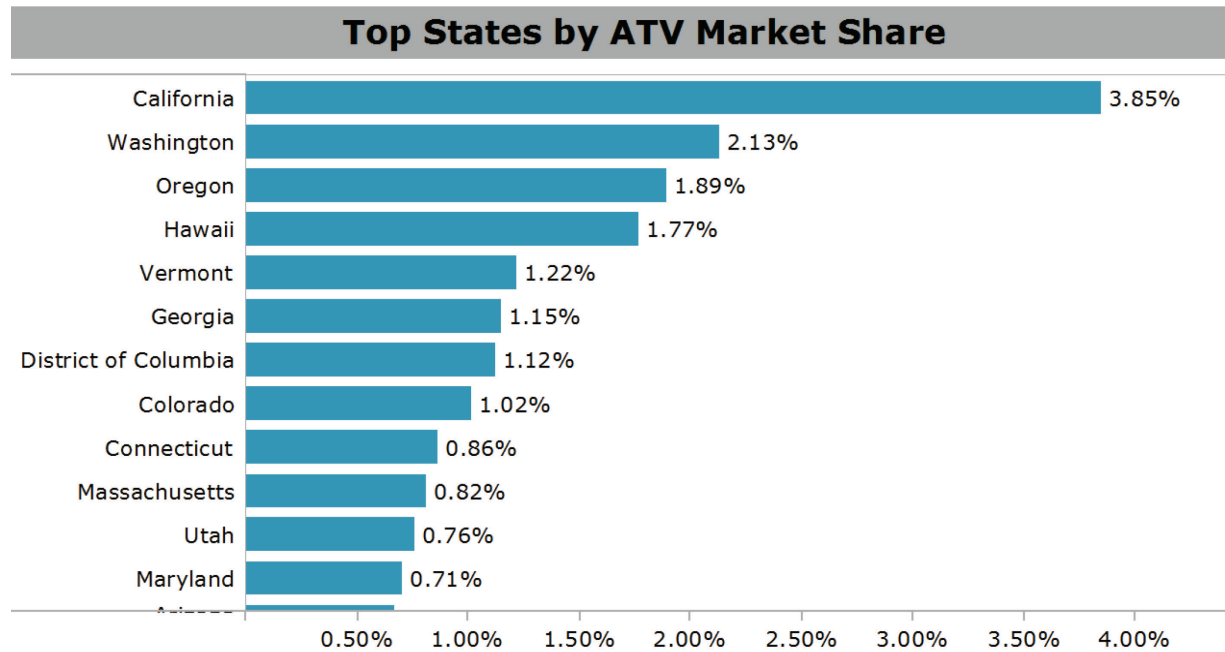
In addition, looking at market share through 2017, Washington State is second only to California in the market share of light-duty vehicles sold that are BEVs and PHEVs in the United States.

<sup>94</sup> *Id.*

<sup>95</sup> *Id.* (Washington EV market share data output).

<sup>96</sup> *Id.*

Figure 11: Market share of light-duty ZEV sales in Washington State compared to other states<sup>97</sup>



### ***ZEV Charging Infrastructure in Washington State is Expanding***

According to the United States Department of Energy Alternative Fuels Data Center, there are 828 public charging stations for light-duty electric vehicles in Washington State with a total of 2,103 fast charging Level 2 or DCFC outlets.<sup>98</sup> These charging stations are located throughout the State. Washington State is actively supporting a number of initiatives to increase the availability of charging stations in the State. For example, Washington is coordinating with British Columbia, Oregon, and California on the West Coast Electric Highway to ensure drivers will find electric vehicle charging infrastructure throughout the length of the I-5 corridor.<sup>99</sup> The state is also using public-private partnerships to fund charging stations, and finding ways to pool resources to electrify tourism routes, such as the “Nation’s First EV-Friendly Scenic Byway” along US 2.<sup>100</sup> Washington is also working with CEOs and business leaders to increase the number of workplace charging stations.<sup>101</sup>

<sup>97</sup> *Id.*

<sup>98</sup> States’ Appx. C-173, *Electric Vehicle Charging Station Locations*, U.S. DEPT. OF ENERGY ALTERNATIVE FUELS DATA CENTER, [https://www.afdc.energy.gov/fuels/electricity\\_locations.html#/analyze?region=US-WA&fuel=ELEC&show\\_map=true](https://www.afdc.energy.gov/fuels/electricity_locations.html#/analyze?region=US-WA&fuel=ELEC&show_map=true) (last visited Oct. 24, 2018) (data for Washington).

<sup>99</sup> States’ Appx. C-174, Washington State Dept. of Transportation, *Washington State Electric Vehicle Action Plan 2015–2020*, at 35.

<sup>100</sup> *Id.* at 30.

<sup>101</sup> *Id.* at 31.