

Final Report
Electric Vehicle Charging Stations Infrastructure Commission
Senate Bill 517 (2018)

The Electric Vehicle Charging Stations Infrastructure Commission (EV Commission) was established via Senate Bill 517, adopted in the 2018 legislative session. The current Commission members are:

Matthew Mailloux - Office of Strategic Initiatives	Dave Rodrigue - Dept. of Transportation
Richard Bailey, Jr - Dept. of Safety	Rebecca Ohler - Dept. of Environmental Services
Kevin Boughan - Eversource	Dan Bennett - NH Automobile Dealers Assoc.
Peter King (Geosyntec) - Business & Industry Assoc.	David Watters - Senate
George Sykes - House	Steven Smith - House
Gary Lemay (NH Elec. Coop.) - Drive Electric NH	Carleton Simpson - Unitil
Kevin Miller (ChargePoint) - Manufacturers Industry	

The EV Commission was tasked with making recommendations on the following eight areas:

1. The development of zero emission vehicle technology and infrastructure, including private and rental residence, business, and municipal installation of electric vehicle charging stations.
2. The availability of high-speed charging stations and the role of proprietary technology in relation to their availability and use on public property.
3. The development of electric vehicle charging stations, including high-speed charging stations, in state and federal highway corridors and at public transportation hubs and parking garages.
4. New Hampshire joining the Multi-State ZEV Task Force or forming an interstate compact for the development of electric vehicle charging station networks.
5. Legislation on tax credits for private and rental residence and business installation of electric vehicle charging stations.
6. Changes needed to state laws, rules, and practices, including building codes and public utilities commission rules, to further the development of zero emission vehicle technology and infrastructure.
7. Potential private, state, federal, and municipal funding sources, including grants, the Volkswagen settlement and other settlement funds, and regional greenhouse gas initiative funds.
8. State agency workplace charging.

This report provides an overview of the work of the EV Commission from its inception in 2018 through October 2020, and final recommendations from the Commission, which expires on November 1, 2020.

EXECUTIVE SUMMARY OF EV COMMISSION MEETINGS

The EV Commission met seventeen (17) times between August 2018 and November 2020. Due to the diverse background of the EV Commission members, the early meetings focused on educating members about the current status of the electric vehicle (EV) market, the basics of EV charging equipment (also known as electric vehicle supply equipment, or EVSE), a review of current policy in some Northeast states relative to zero emission vehicles (ZEV), where charging typically takes place (home, work, around town, travel corridors, destinations) and the types of chargers needed for different locations. The electric utilities shared information relative to the impact large-scale adoption of EVs could have on the grid and strategies to manage that impact to ensure reliability and to keep infrastructure costs down. The Commission also reviewed tools that have been developed for the Northeast states to help determine the best locations for Direct Current Fast Chargers (DCFC), which are essential for long range EV travel, and heard from the Office of Strategic Initiatives (OSI) regarding the planned use of the VW Settlement funds¹.

The Commission finds that electric utility investment in grid infrastructure to support the installation of EVSE lowers the barriers to such installation. Availability of EVSE is critical to facilitating the development of the overall EV market in the region and will support our tourism-based economy.

Electric distribution companies (EDC) are uniquely positioned to enable strategic electrification as part of larger investments in grid modernization capabilities, specifically investments in electric vehicle charging infrastructure. Utility owned or funded behind the meter enabling infrastructure, also known as “make-ready” infrastructure, can accelerate charging infrastructure deployment, and it has the potential, all else equal, to put downward pressure on rates by spreading fixed costs over a greater volume of electric sales.

Solutions like make-ready charging infrastructure can leverage electric utility expertise in designing, building, and maintaining electrical distribution infrastructure, which can help support EV charging and serve as a platform for third party innovation and forward- thinking pilots designed to advance EV adoption and serve potential EV drivers in areas with additional market barriers.

The EV Commission adopted the following statement to provide guidance to OSI on use of the VW funds:

The Electric Vehicle Charging Infrastructure Commission recommends prioritizing EV charging infrastructure initial investment from the Volkswagen Settlement and other potential sources along the

¹ <https://www.nh.gov/osi/energy/programs/vw-settlement.htm>

interstate highway system, the NH turnpike system, and other roadways; and prioritized as deemed suitable as determined by OSI, NHDES, and NHDOT in consultation with the commission.

Through a brainstorming session in which public attendees were included, the EV Commission identified four priorities for the work of the Commission, including; providing guidance to OSI on the use of the Volkswagen funds; including development of Level 2 charging at key locations as part of long-term infrastructure planning; working to ensure state agencies lead by example through the purchase of EVs for the state fleet; and recognizing that building codes and zoning ordinances can play an important role, either positive or negative, in the development of adequate charging infrastructure.

The EV Commission evaluated and identified priority corridors for installation of DCFC, reviewed typical construction costs to install that infrastructure, discussed the appropriate role of electric utilities in development of EVSE, and heard a utility proposal for public-private investment at 12 sites in New Hampshire. Electric utility demand charges, which can make operation of DCFC unprofitable, were explored, and the Commission also heard from the New England Convenience Stores and Energy Marketers Association (NECSEMA) regarding their potential role in supporting vehicle electrification.

While most of the focus of the EV Commission was on battery electric vehicles, the Commission did also learn about Fuel Cell Electric Vehicles and their associated fueling infrastructure needs. The Commission also heard from the NH Department of Business and Economic Affairs (BEA) regarding NH's relatively high percentage of workforce engaged in the technology sector. BEA also commissioned a report, *Evaluating Electric Vehicle Infrastructure in New Hampshire*, that looked at how the State of New Hampshire can best support electric vehicle (EV) charging infrastructure through appropriate policies and prudent investments and benefit the state's overall economy. One benefit to the economy is the attraction EV charging can have to EV owners, and the Commission heard more about this concept through a discussion of *Drive Change. Drive Electric.*, an EV awareness campaign recently launched by Northeast states that highlights specific communities in each state that have small businesses that have actively supported EV charging. Dover, Portsmouth and Nashua are the New Hampshire communities highlighted in the regional outreach program.

The EV Commission spent a significant amount of time discussing the need for DCFC on New Hampshire corridors and the need to utilize the Volkswagen Settlement funds to support such investment. In June 2019, OSI provided a high-level overview of a planned Request for Proposals (RFP) for installation of DCFC and co-located Level 2 charging infrastructure. In response to this overview the EV Commission developed the following public statement:

Recognizing that:

- *Adequate electric vehicle supply equipment (EVSE) in New Hampshire, and in particular direct current fast chargers (DCFC) along major travel corridors in the state, is necessary to enable electric vehicle (EV) travel within and through New Hampshire; and*
- *Availability of adequately spaced EVSE along the state’s major travel corridors is essential to overcome “range anxiety” and enable and encourage broader adoption of EVs by New Hampshire residents and residents throughout the Northeast; and*
- *Manufacturers continue to introduce a wider variety of EV models which will be available to consumers in the coming years and that drivers will be best served if New Hampshire’s EV charging market supports multiple business models, generates new jobs, and encourages innovation and competition in equipment and networks services; and*
- *New Hampshire’s Volkswagen Beneficiary Mitigation Plan provides funding for the support of EVSE development within the state; and*
- *Electric utilities have proposed a “make ready” program for New Hampshire that could provide streamlined interconnection and behind the meter investment by the utilities;*

The EV Commission therefore requests that:

- *The Office of Strategic Initiatives (OSI), working with the electric utilities and the NH Department of Environmental Services (NHDES), develop a request for proposals (RFP) utilizing the VW settlement funds to spur private sector investment in DCFC, combined with Level 2 charging; and*
- *The RFP should strive to result in adequate EVSE along the priority travel corridors presented by NHDES and the Department of Transportation at the Commission’s January 2019 meeting to alleviate range anxiety; and*
- *The RFP should be released in a timely manner with the goal of having EVSE in place on those corridors by the end of 2020; and*
- *The fully regulated electric utilities work with the Public Utilities Commission and EVSE industry stakeholders to design and obtain approval for a “make ready” program for New Hampshire that is designed to work both in conjunction with the RFP and beyond; and*
- *OSI, in collaboration with the EV commission and NHDES, and in consideration of the results of the pending NH Department of Business and Economic Affairs statewide infrastructure plan, work to develop further initiatives for the remaining EVSE fund balance, such as: providing EVSE for state electric vehicles, a statewide Level 2 charging solicitation, EVSE to support fleet electrification, workplace electrification, or other similar efforts.*

Following a summer break the EV Commission returned to discuss rate design issues with Public Utilities Commission (PUC) staff that would be appropriate for the various types (DCFC and Level 1 and

2) of EVSE. In November 2019, the Commission was briefed on the DCFC RFP for charging infrastructure on major NH corridors, released by OSI in November 2019. The DCFC RFP closed in late January 2020, with no qualifying proposals submitted, and OSI and NHDES scheduled a listening session in March to accept feedback regarding the solicitation.

In the interim, the EV Commission discussed Level 2 charging needs, and in March 2020, the Commission discussed how the state should utilize VW funding to support Level 2 charger installations. No specific recommendations were adopted by the Commission, but numerous ideas were brought forth, including ensuring small communities had an opportunity to get VW funds for charging; ensuring our largest populations centers and intermodal transportation centers get funds; discussion whether the funds should be available for non-networked chargers or do we need/want the data from networked systems; competing ideas on whether a scoring system or just minimum qualifications should be used to distribute the funds; and whether VW funds should be available to support workplace charging. There was agreement that Level 2 chargers built with VW funds should still be able to collect a fee for charging.

Due to COVID the EV Commission did not meet in April, May or June 2020, resuming in a July virtual meeting where a representative of Congressman Pappas briefed the Commission on the recently passed “Moving Forward Act” and Sen. Shaheen’s staff discussed the pending Transportation Innovation Guaranteeing Emission Reduction through Energy Efficiency (TIGER-EE) Act. The Commission was also briefed on the Medium-Heavy Duty Zero Emission Vehicle Memorandum of Understanding (MHD ZEV MOU) that fifteen states signed on to in July.

The EV Commission heard from Clean Energy NH how EV charging could support the local economy north of the Notch by attracting EV owners who would “stay and play” while charging. The Commission was briefed by PUC staff regarding Order 26,394, issued in PUC docket IR 20-004, which was opened in response to Senate Bill 575 (2018) that directed the PUC to look at Rate Design standards relative to EV charging, including cost of service, prohibition of declining block rates, time of day rates, seasonal rates, interruptible rates, load management techniques, and demand charges.

Final discussions of the EV Commission were how to continue the unfinished business of the Commission, focusing on the existing Transportation Council (RSA 238-A:2) as the body best suited to take over this effort; and what should be the final recommendations of the Commission. The Commission completed its work on October 30, 2020 by adopting this report, inclusive of its recommendations.

More detailed reports of each meeting are included at Attachment A to this report.

EXECUTIVE SUMMARY OF COMMISSION RECOMMENDATIONS

The state should commit to the development of Zero Emission Vehicle (ZEV) technology and infrastructure, including the state, private and rental residence, business, and municipal installation of EV charging stations to reduce air pollution emissions and stimulate the transformation to a lower carbon transportation system.

The State should move quickly to use the VW Settlement funds to deploy DC fast charging stations along major corridors and to deploy level 2 EVSE on other corridors and locations, including municipalities and businesses, with a portion of funds available in a rebate program, and should consider utilizing a third party to develop and administer programs.

New Hampshire should consider authorizing public utilities to include EVSE “make ready” programs and other EVSE initiatives as part of the systems benefit charge, and it should consider authorizing the use of tax credit programs for EVSE installation in residential and business locations.

The state should study and consider adopting a successful ZEV mandate or vehicle incentive program and joining regional, multi-state programs.

State Agencies should assess EVSE needs for employees, with stations also available for public use, and the state should adopt plans to move the state vehicle fleet towards ZEV.

The State of New Hampshire and agencies should develop Operating Budgets and Capital Budget funding proposals and goals for ESVE, and pursue funding from Federal sources.

The state should encourage and enable deployment of EVSE in residences and businesses, and make any needed changes in building codes, rules, and practices.

FINAL RECOMMENDATIONS OF THE EV COMMISSION

Enabling and encouraging the use of electric vehicles (EVs) in New Hampshire will support economic development in areas of the state dependent on tourism, lower lifetime costs of owning a vehicle for many drivers, and result in lower emissions of criteria pollutants and greenhouse gas emissions that contribute to climate change. Therefore, the following recommendations regarding actions, legislation and policies necessary to support and encourage increased adoption of electric vehicles by New Hampshire residents, and to support travel to and throughout New Hampshire by visitors, are put forth by the members of the Electric Vehicle Charging Station Infrastructure Commission. Recommendations include actions to hasten development of electric vehicle supply equipment (EVSE) necessary to charge EVs, as well actions to spur the sale and adoption of EVs.

All levels of state government, including state agencies and departments, are requested to use these recommendations as a guide to future policies, practices, rules, and legislation. The Commission’s recommendations should be advanced by the New Hampshire Transportation Council², which should serve as a successor to the work of the EV Commission and should develop new recommendations as circumstances require.

Executive Branch

Through the New Hampshire Volkswagen Settlement Beneficiary Mitigation Trust Fund (NH VW Trust), the Governor’s Office of Strategic Initiatives (OSI) should solicit and fund projects to deploy direct current fast charging (DCFC) stations along New Hampshire’s major corridors as expeditiously as possible. Additional EVSE at public transportation hubs and public parking areas should also be pursued in the near-term.

OSI should re-issue a solicitation for electric school buses using NH VW Trust in the near term.

OSI should consider allocating of a portion of the NH VW Trust EVSE for a non-proprietary Level 2 EVSE rebate program for publicly accessible chargers, to be administered by a non-governmental entity.

New Hampshire should consider participating in existing regional efforts to reduce emissions from the transportation sector, including signing on to the ZEV Memorandum of Understanding (ZEV MOU) and participating in the multi-state ZEV Program Implementation Task Force, which serves as a forum for coordination and collaboration on the full range of program support.

General Court

The legislature should study and consider adopting successful ZEV mandates such as the California Low Emission Vehicle (CALEV) or other vehicle incentive programs and joining multi-state programs, such as the Northeast and Mid-Atlantic Transportation Climate Initiative (TCI), to promote ZEV adoption and EV infrastructure.

New Hampshire should consider implementing any final recommendations from the (TCI) collaborative efforts to cap global warming pollution from transportation fuels and invest millions annually to achieve additional benefits through reduced emissions, cleaner transportation, healthier communities, and more resilient infrastructure.

Since regulated electric utility investment can reduce the cost of and barriers to the installation of EVSE, particularly DCFC, New Hampshire should consider legislation to encourage and enable fully

² Established by House Bill 267 (2018), Chaptered Law 291 via Revised Statutes Annotated 238-A:2, <http://www.gencourt.state.nh.us/statstudcomm/>

regulated electric utilities to include EV charging “make ready” programs to fund upgrades necessary to support the installation of EVSE, and in particular for DCFC, through the system benefits charge or other mechanisms, and make any other needed statutory changes needed to accommodate the findings in PUC Order 26,394 issued August 18, 2020, in response to Senate Bill 575 (2018) which was addressed via docket 20-004, and subsequent dockets on rate setting, to provide some assurance for predictable and sustainable operating costs.

New Hampshire should consider including EVSE installation as an allowable investment under the research and development tax credit. New Hampshire should consider legislation to enable municipalities to offer tax credits for the installation of EV charging stations in residential and business locations.

The legislature should consider including EVSE as an allowable expenditure under the municipal registration fee transportation surcharge.

The legislature should consider enacting goals for increasing the share of ZEV vehicles in the state vehicle fleet. A state fleet EV requirement should be considered, and include total cost of ownership as a factor, using actual ownership time. Legislation should be considered to incentivize agencies to adopt ZEV and to support EV charging infrastructure. The legislation could also set a sequence of escalating minimum fuel economy standards as part of the transition to ZEVs.

The legislature should consider requiring EVSE in relevant capital budget proposals for building construction, as well as in school construction aid, and creating a separate fund for competitively bid agency proposals for EVSE.

The legislature should consider legislation to increase the registration fee for ZEVs, with proceeds to be dedicated to EVSE and other ZEV infrastructure.

The legislature should consider legislation to fund and encourage private funding along travel corridors other than the major highways for DC fast charging stations and Level 2 charging stations, with particular attention to the North Country and other rural areas, so people living there and traveling to the region for recreation will have access to EV charging.

The legislature should consider supporting the development of ZEV technology and infrastructure, including the state, private and rental residence, business, and municipal installation of EV charging stations.

State Agencies and Municipalities

The New Hampshire Department of Transportation should consider including EV infrastructure as an eligible project for funding under the Congestion Mitigation and Air Quality Improvement (CMAQ) Program.

OSI and the Department of Environmental Services (NHDES) should include budgetary requests to support programs aimed at promoting EV adoption and implementing EVSE infrastructure projects.

New Hampshire state agencies should assess the current and future needs for EVSE for their employees and the public and determine appropriate locations for charging stations. These charging stations could be funded through VW settlement, federal or other funds, as available for this purpose, and through the capital budget. The agencies should consider third-party operation and maintenance of EVSE and should ensure the cost of the power supply is borne by the users of the equipment.

Stations funded through state programs, including the VW Trust and other programs utilizing federal or competitive funds, should leverage open standards and facilitate inter-network roaming to ensure the broadest possible use of those stations by EV drivers.

The state and municipalities should encourage the installation of charging infrastructure in single-family residential, multi-family residential, workplaces, public garages, and municipal locations.

The state should consider adopting the EV-ready building code requirements in the most recent International Energy Conservation Code to enable installation of charging infrastructure in new residential and business construction.

Municipalities should consider adopting the EV-ready building code requirements in the most recent International Energy Conservation Code (if such requirements remain absent from the State Energy Code) to enable installation of charging infrastructure in new residential and business construction.

Since difficulty in obtaining local permits can be a significant barrier for installing EVSE, municipalities should ensure code inspectors are educated about EVSE and review “best practices” for streamlining permitting processes to the extent feasible.

CONCLUSION

The EV Commission thanks all those who have served on the commission and helped create the recommendations in this report, particularly Senator David Watters who served as the chair of the commission and Rebecca Ohler who served as clerk.

The EV Commission members also thank the members of the public, state agency personnel, businesses, and organizations who participated in and informed the work of the Commission.

ATTACHMENT A

SUMMARY OF EV COMMISSION MEETINGS

The EV Commission met seven times from December 2019 through October 2020. Meeting summaries are below and full minutes and all meeting materials are available on a webpage hosted by the NH Department of Environmental Services³.

August 24, 2018 - At this inaugural EV Commission meeting elections were held and Senator David Watters was elected Commission Chair and Rebecca Ohler (NHDES) was elected clerk. Senator Watters reviewed the charge of the commission and went over the rules of a commission and the Right to Know law as it relates to the commission. Sarah McKearnan, Senior Policy Advisor with Northeast States for Coordinated Air Use Management, a nonprofit association of air quality agencies in the Northeast, provided a broad overview of the current status of the electric vehicle (EV) market, the basics of EV charging equipment (also known as electric vehicle supply equipment, or EVSE), a review of current planning in the Northeast, opportunities to coordinate infrastructure investment, where charging takes place (home, work, around town, travel corridors, destinations), and key overarching issues.

September 28, 2018 - The EV Commission heard from representatives of the four major electric utilities – Eversource, Liberty Utilities, Unitil and the NH Electric Cooperative. Collectively the discussion brought out the following information:

- EVs will be cost competitive in the next two to five years;
- There are benefits to all electric customers from increased adoption of EVs;
- It is important that we think through and manage the transition to avoid unintended consequences.
- Incentives (i.e. EV rebates, EVSE rebates) can be effective in increasing electric vehicle adoption rates;
- EV charging rates can be effective at reducing use of electricity for EV charging during peak demand periods; and
- EVs include hydrogen fuel cell (HFC) vehicles, not just battery electric vehicles.

October 26, 2018 - Matthew Goetz, Electric Vehicle Manager at the Georgetown Climate Center, presented an MJ Bradley & Associates tool developed to assist states in determining the best places to locate fast chargers (DCFC) along major corridors. The tool utilizes multiple data sets such as traffic volumes, location of existing charging stations, and availability of amenities near highway exits.

Matthew Mailloux and Alexis Labrie from the Office of Strategic Initiatives (OSI) presented an overview of the 2018 Ten Year State Energy Strategy and an overview and update on the status of the Volkswagen Settlement funds (VW Funds), including the state's Beneficiary Mitigation Plan.

The Commission voted to provide guidance to OSI on the use of a portion of the VW Funds by adopting the following statement:

³ <https://www.des.nh.gov/organization/divisions/air/tsb/tps/msp/sb517.htm>

The Electric Vehicle Charging Infrastructure Commission recommends prioritizing EV charging infrastructure initial investment from the Volkswagen Settlement and other potential sources along the interstate highway system; the NH turnpike system, and other roadways; and prioritized as deemed suitable as determined by OSI, NHDES, and NHDOT in consultation with the commission.

The Commission’s intent is for the statement to be guidance to OSI to place an initial focus on corridor charging, but that there will likely also be investment potential in charging infrastructure in other locations as well. This statement was also intended as a directive to the three agencies to come up with a plan and bring it back to the commission for approval.

December 7, 2018 - This meeting was designed as a workshop to create a roadmap for the work of the Commission over the coming months that would enable the Commission to provide recommendations on the 8 areas specified in SB 517. Through breakout groups, that included Commission members and attending public, the following top priorities/issues were identified:

1. Provide guidance to OSI on the use of the Volkswagen funds
2. Long-term infrastructure planning should include development of Level 2 charging at key locations
3. State agencies should lead by example through the purchase of EVs for the state fleet.
4. Building codes and zoning ordinances could play an important role by requiring “make ready” in new building and reconstruction projects.

January 25, 2019 - Becky Ohler (NHDES) presented the work completed by NHDES and NHDOT to identify priority corridors for the development of DCFC infrastructure in New Hampshire: Interstates I-89, I-93, and I-95; and portion of state Routes 2, 3, 4, 9, 11, 16, and 101.

David Rodrigue (NHDOT) presented DOT’s proposed signage policy for DCFC on the limited access highway system.

Charlotte Ancel, (Eversource) presented information about heavy duty transit and school bus electrification projects in surrounding states. Preliminary evaluation points to a positive cost/benefit; however, demand charges are a significant issue and strategies must be developed to minimize them.

February 22, 2019 - Chris Nihan from ChargePoint gave a presentation titled DC Fast Charging in New Hampshire: Capital and Operating Cost Barriers and Opportunities. The presentation provided figures for the installation costs for two 50 kW fast chargers and two 150 kW fast chargers.

- Site acquisition: \$0 – 25,000
- Hardware (DCFC equipment): \$60-80,000 (50 kW) \$90-150,000 (150 kW)
- Electrical panels and switchgear: \$4-20,000 (50 kW) \$12-26,000 (150 kW)
- Engineering, design and permitting: \$3,500 – 12,000 (50 kW) \$7-16,000 (150 kW)
- Utility upgrade: \$2-5,000 (50 kW) \$35-100,000 (150 kW)
- Project management: \$3-10,000 (50kW) \$5-15,000 (150 kW)
- Construction: \$35-90,000 (50kW) \$70-120,000 (150 kW)

The presentation went on to discuss demand charges and how they are a barrier to DC Fast Charging as a business opportunity during the beginning of electric vehicle adoption.

Jon Shaer, Executive Director of New England Convenience Stores and Energy Marketers Association (NECSEMA), shared the perspective of the convenience stores and transportation fuels distributors.

Gary LeMay (NH Electric Coop) discussed some of the barriers to electric utility investment in electric vehicle charging including high infrastructure costs, lack of experienced/knowledge operating EVSE; and lack of knowledge regarding location of EVs.

March 22, 2019 - Representative from three of the electric utilities in New Hampshire (Carleton Simpson, Unitil; Huck Montgomery, Liberty Utilities; and Kevin Boughan, Eversource) discussed the role of electric utilities in development of EVSE. A joint utility DCFC corridor investment proposal that would utilize a public-private partnership to develop 12 sites with four 50kW DCFC per site on major transportation corridors in New Hampshire was presented.

April 26, 2019 - Charles Myers, Massachusetts Hydrogen Coalition, provided an overview of fuel cell vehicle (FCV) technology and the associated fueling infrastructure needs. The presentation reviewed the fuel cell concept and current vehicles available on the market, including light duty passenger cars; medium duty delivery trucks; transit buses; and heavy duty class 8 tractor trailers.

Tim White (NHDES) gave an update on the nominations for FHWA alternative fuel corridors.

May 24, 2019 - Carol Miller (New Hampshire Bureau of Economic Affairs (BEA)) discussed key growth sectors in New Hampshire - healthcare, advanced manufacturing, technology, hospitality, and construction. New Hampshire ranks fairly high among all states for the percentage of workforce employed in technology and technology jobs continue to grow in New Hampshire. BEA recruits businesses, workforce/talent, travel industry, and students into New Hampshire, targeting millennials and commuters from age 28-32 years old, who are also likely to drive electric vehicles. BEA hired Plug-in America to develop a strategic plan for EV infrastructure improvements in NH. Peter O'Connor (Plug-in America) provided an overview of that plan. Plug-in America is working with CALSTART (to address heavy duty fleet needs) and S Curve Strategies (for communications and outreach) on the plan.

Jessica Wilcox (NHDES Granite State Clean Cities Coordinator) provided an overview of the *Drive Change. Drive Electric. Destination Electric* EV awareness campaign recently launched by Northeast states. *Destination Electric* identifies small, unique businesses have EV charging available within walking distance of. In New Hampshire Dover, Portsmouth and Nashua are participating in the program. The goal is to raise consumer awareness of electric cars and the availability of EV charging in that community.

Senator Watters presented the following policy statement developed by the electric utilities that the commission might consider endorsing in advance of any DC Fast Charging Corridor Proposal:

“The Commission endorses utility electric vehicle charging station and supply equipment ‘make-ready’ programs that provide streamlined interconnection and behind the meter investment. Such investments are viewed as prudently incurred and just and reasonable capital expenditures by the utility.”

After some discussion, senator Watters decided to share the language with the Office of Strategic Initiatives.

June 28, 2019 - Matthew Mailloux (OSI) presented a high level overview of the proposal for funding DCFC using VW funds. He stated that the targeted corridors will be in line with the ones presented by NHDOT and NHDES to the commission earlier in the year. In response to this pending Request for Proposals the Commission approved the following statement:

Recognizing that:

- *Adequate electric vehicle supply equipment (EVSE) in New Hampshire, and in particular direct current fast chargers (DCFC) along major travel corridors in the state, is necessary to enable electric vehicle (EV) travel within and through New Hampshire; and*
- *Availability of adequately spaced EVSE along the State’s major travel corridors is essential to overcome “range anxiety” and enable and encourage broader adoption of EVs by New Hampshire residents and residents throughout the Northeast; and*
- *Manufacturers continue to introduce a wider variety of EV models which will be available to consumers in the coming years and that drivers will be best served if New Hampshire’s EV charging market supports multiple business models, generates new jobs, and encourages innovation and competition in equipment and networks services; and*
- *New Hampshire’s Volkswagen Beneficiary Mitigation Plan provides funding for the support of EVSE development within the state; and*
- *Electric utilities have proposed a “make ready” program for New Hampshire that could provide streamlined interconnection and behind the meter investment by the utilities;*

The EV Commission therefore requests that:

- *The Office of Strategic Initiatives (OSI), working with the electric utilities and the NH Department of Environmental Services (NHDES), develop a request for proposals (RFP) utilizing the VW settlement funds to spur private sector investment in DCFC, combined with Level 2 charging; and*
- *The RFP should strive to result in adequate EVSE along the priority travel corridors presented by NHDES and the Department of Transportation at the Commission’s January 2019 meeting to alleviate range anxiety; and*
- *The RFP should be released in a timely manner with the goal of having EVSE in place on those corridors by the end of 2020; and*
- *The fully regulated electric utilities work with the Public Utilities Commission and EVSE industry stakeholders to design and obtain approval for a “make ready” program for New Hampshire that is designed to work both in conjunction with the RFP and beyond; and*
- *OSI, in collaboration with the EV commission and NHDES, and in consideration of the results of the pending NH Department of Business and Economic Affairs statewide infrastructure plan, work to develop further initiatives for the remaining EVSE fund balance, such as: providing EVSE for state electric vehicles, a statewide Level 2 charging solicitation, EVSE to support fleet electrification, workplace electrification, or other similar efforts.*

October 4, 2019 - Tom Frantz from the New Hampshire Public Utilities Commission (PUC) discussed the PUC role in regulating public utilities that are considered natural monopolies and that are vested with public interest. The PUC ensures that “costs are known and reasonable” and that costs are appropriately reflected in rates. The issue of demand charges was discussed and Mr. Frantz indicated that one option would be for the utilities to propose a separate customer and rate class for EV charging infrastructure, a step that should be done during a utility rate case. Time of use pricing can also impact demand at peak times.

OSI and DES continue work to develop the RFP for use of VW Trust funds in support of a DCFC network in NH and anticipate release of the RFP in the near future.

November 22, 2019 – The 2019 Annual Report of the EV Commission was approved by members.

An overview of a Request for Proposals (RFP) for Direct Current Fast Charging (DCFC) infrastructure on specified major corridors in New Hampshire, released 11/22/2019, was presented by Sen. Watters, Matthew Mailloux and Rebecca Ohler. The RFP is proposing to pay for 80% of eligible costs, including equipment, onsite electrical, connectors, on-site signage, shipping and freight, construction costs, administrative costs relative to the construction cost and does not include electrical utility upgrades, upkeep and on-going maintenance, real estate, building, or parking facilities. There was significant discussion regarding the details of the RFP.

It was agreed that the Commission would turn its focus to Level 2 charging and perhaps make a recommendation to OSI that the next RFP focus on Level 2 charging. Members were asked to make recommendations regarding businesses and trade organization that should be invited to discuss Level 2 needs with the Commission.

There was discussion regarding the use of federal Congestion Mitigation and Air Quality funds to be put toward corridor studies in New Hampshire, inclusive of an EV charging needs analysis. The meeting closed with a brief Legislative update, which included a potential bill relative to restricting EV charging parking spaces to EVs, and a filed Legislative Service Request relative to the adoption of the California Low Emission Vehicle and Zero Emission Vehicle (LEV ZEV) mandate by New Hampshire.

January 24, 2020 - Colin Lentz, Strafford Regional Planning Commission (SPRC) provided a perspective of regional planning commissions regarding state support for development of EV charging infrastructure. Colin presented two handouts; a pamphlet on what the regional planning commissions (RPCs) do and an analysis of home to work trips to identify density areas that might indicate good locations for charging. This analysis was completed by SRPC and shared with Electrify America by NHDES hoping to attract EVSE investment in NH by Electrify America. NH communities are eager to implement local charging options. Colin also noted that the RPCs were a conduit for information between the state and the municipalities. Senator Watters noted that based on his conversations there are many businesses and communities that would like to host Level 2 stations.

Daniel Gatti, Union of Concerned Citizens, requested to speak on Level 2 charging, and more specifically about the regional Transportation and Climate Initiative (TCI). He stated that the program would not only assist in

reducing air emissions in the region, but would also provide a consistent funding source for transportation initiatives.

Senator Watters explained that TCI proposes a cap and trade policy, similar to the Regional Greenhouse Gas Initiative (RGGI). TCI would result in a 5-17 cent per gallon increase in transportation fuels, resulting in a funding source for states to use as they see fit. Senator Watters asked for analysis to be sent to him on the details of TCI and explained that NH adopting a program like TCI would result in larger investments in zero-emission vehicles. Matthew Mailloux (OSI) noted that Governor Sununu has declined to have NH participate in TCI and provided information following the meeting on the TCI initiative and those resources are included in the minutes.

The Commission had additional discussion regarding Level 2 charging and how VW Settlement funds should be used to support Level 2 charging in New Hampshire. There was broad ranging discussion of Level 2 options for state, municipal and workplace charging, including use of a rebate model to support projects. NH Electric Coop has a rebate program in place. Their program does not require the chargers to be networked and offers 50 percent of installed cost up to \$2500 per port (though none have cost that much). There was additional discussion on programs in neighboring states, with incentives ranging from \$5,000 to \$8,000 per Level 2 port. Due to restrictions on state agencies (other than the PUC) running rebate programs there was discussion of contracting a third party to run a Level 2 rebate program for the state using the VW funds.

State agency workplace charging was discussed and NHDES shared that it been selected for a Congestion Mitigation and Air Quality grant from DOT that will be used for workplace charging at 29 Hazen Drive (Dept of Health and Human Services and NHDES offices), 21 S. Fruit Street (PUC) and public charging in Franconia Notch. The timing of a contract with DOT for this grant is uncertain.

A legislative update included discussion of HB 1620 relative to electric vehicle parking spaces; relative to the adoption of California LEV/ZEV; SB 610 relative to a commission to evaluate NH's participation in the Transportation and Climate Initiative; and HB 1649 relative to a road usage fee that would increase EV registration fees.

March 6, 2020 - An update of the DCFC RFP was provided. Three proposals were received, none of which qualified. A listening session is scheduled for March 10th, which will inform OSI whether the existing RFP needs to be revised or completely rewritten.

The primary topic for this meeting was making recommendations from the Commission on the structure of a competitive solicitation for VW funds for Level 2 charging. The Commission members provided input on a potential municipal and/or workplace Level 2 charging solicitation, including matters such as minimum criteria (population, traffic volumes, number of parking spaces or employees, proximity to attractions, etc.), eligible applicants (municipalities, private sector, state/regional/local agencies), the appropriate level of funding to offer, and the funding mechanism. Recommendations were wide-ranging and no consensus was reached on Commission recommendations to OSI or a Level 2 solicitation.

OSI noted that the intent was to do a small Level 2 pilot project prior to developing a broader Level 2 solicitation.

There was discussion on PUC docket IR 20-004 in response to HB 575 (2018) directing PUC to address a number of EV-related electric rate structure issues. A technical session was held with three Commission members, Eversource, Unitil and ChargePoint, filing comments. PUC staff commented that all comments are under review and an Order will be issued by August 11, 2020 in compliance with SB 575 (2018).

April, May and June meetings – cancelled due to COVID

July 24, 2020 – this meeting and all subsequent meetings were held virtually.

Kari Thurman, District Director and Oliver Edelson, Legislative Aide for Congressman Pappas provided an overview of HR2 “The Moving Forward Act” with FAST Act embedded, which was recently passed by the House. The bill increases the cap on the number of vehicles eligible for a federal tax credit from the current 200,000 units to 600,000 units; establishes a new tax credit for the purchase of used EVs; and provides incentives for federal agencies to purchase EVs, including buses and postal trucks. The bill also seeks to increase publicly available EVSE by: making public EVSE available at all post offices by 2026; increasing funding for EVSE and allowing EVSE along interstate highways at rest areas and park & rides; updating building codes and providing technical assistance installation of EVSE at multi-family buildings and businesses; providing \$1.4 billion for publically available EVSE; and establishing an EVSE rebate program up to 75% of the installation cost.

Peter Clark, Special Assistant for Projects & Policy for Senator Shaheen discussed the Transportation Innovation Guaranteeing Emission Reduction through Energy Efficiency (TIGER-EE) Act, led by Senator Shaheen, which will be introduced in the next few weeks. The bill was spurred by the fact that greenhouse gas (GHG) emissions from the transportation sector have surpassed the electric power sector and are the single largest source of GHG emissions in the country. The bill would create a \$300 million competitive infrastructure grant program within the Department of Transportation (DOT) to fund innovative projects that promote energy efficiency while meeting significant transportation needs. Potential use of funds is broad to provide some flexibility for DOT in awarding projects, and could support construction and expansion of electric charging and hydrogen stations, port infrastructure, passenger and freight rail, and communications projects. There is a rural state set aside to ensure that no less than 20% of funds to be allocated to projects in rural areas such as NH.

Elaine O’Grady, Policy & Program Director for Clean Transportation Policy with the Northeast States for Coordinated Air Use Management, (NESCAUM), provided an overview of the Medium-Heavy Duty Zero Emission Vehicle Memorandum of Understanding (MHD ZEV MOU). Fifteen states plus Washington DC signed the MHD ZEV MOU on July 14, 2020 to accelerate electrification of trucks and buses. These states represent almost 50 percent of the US economy and 40 percent of all goods movement in the US. The MOU builds on the success of 2013 light-duty MOU for ZEVs. It calls for 30% of new truck/bus sales to be zero emissions by 2030 and 100% by 2050. Though NH is not a signatory, NHDES participates in the discussions with “observer state” status.

Becky Ohler, NHDES, provided information regarding an opportunity to provide input to Electrify America regarding their Cycle 3 investment plan. Electrify America (EA) is the wholly owned VW subsidiary tasked with investing approximately \$2 billion in EV supporting infrastructure across the country. They are doing this in four 30 month cycles and are currently accepting input for their Cycle 3 investments (January 2022-June 2024). EA is reaching out to states during planning period for input, basically offering states the opportunity to make the case as to why EA should invest in their state. Anyone can submit comments to EA on their website.

Matthew Mailloux, OSI, provided an update on VW funding. Approximately 42 percent of VW funds have been allocated or committed to date. The settlement has a 10-year window and we are only a couple of years into it, so we are doing well. There are three projects of note for the Commission:

- Green Street Lot request for proposals (RFP) for publicly accessible charging in downtown Concord closed on July 14th. Five responses were received and will be reviewed and scored in the next couple of weeks.
- Statewide Direct Current Fast Charging RFP – despite COVID, OSI, DES and DOIT are reimagining what this model could look like, factoring in stakeholder feedback and learning from states that have had successful solicitations. While they are working to release an RFP they recognize concern with federal tax credits (30CITC) that might be expiring at the end of the year and OSI is looking to Congress to extend the tax credits.
- Electric school buses – we are working to re-envision how that might be moved forward to procure those types of buses in the near future, but no definitive plans at the moment.

Chairman Watters noted that as we approach the conclusion of this Commission our remaining time should focus on recommendations for public policy that will support adoption and use of EVs over the long term.

August 28, 2020 - Brianna Brand and Melissa Erlander with Clean Energy NH provided a presentation entitled Expanding EV Charging in the North Country: Insights from North of the Notch. The presentation noted how the economy of the North Country differs from the southern part of the state, with an average income of just 61% of the statewide average, and a 4.5 percent population decline in the past decade. This region is actively promoting recreation tourism and is working to revitalize town centers in order to attract visitors. A lengthy discussion followed regarding the North Country's tourism base and how EV charging could provide some level of economic relief to this part of the state because it would attract more visitors.

Brian Buckley, Elizabeth Nixon and Kurt Demmer, NH Public Utilities Commission, discussed the results of PUC docket IR 20-004, which was opened in response to Senate Bill 575 (2018) that directed the PUC to look at Rate Design standards relative to EV charging, including cost of service, prohibition of declining block rates, time of day rates, seasonal rates, interruptible rates, load management techniques, and demand charges. The corresponding Order 26,394 was released on August 18, 2020.

The goal is to capture latent ratepayer value. One mechanism is to even out demand for electricity across each 24-hour period, reducing peak load both through efficiency and by shifting that load to low load periods. This can create a downward pressure on rates by spreading kW demand over more kW hours. In addition, certain areas of the grid have more headroom for new load than others. If EVSE is located in an area with little spare capacity and there are not appropriate price signals to limit charging during high usage periods, then costs of that charging session can become very expensive. This can be avoided by sending the right price signals to EV drivers and that can be done through rate design.

In summary, Order No. 26,394 states that declining block rates and interruptible rates are not appropriate mechanisms to apply to EV charging; that demand charges may be appropriate in certain circumstances, but are not an absolute necessity; that cost of service is an appropriate mechanism for determining rates for EVSE; and that that seasonal rates and time of day/time of use rates can be effective ways to manage load from EVSE. The

Electric Vehicle Charging Stations Infrastructure Commission – Final Report

PUC will open a new docket specifically to consider these last two rate options, but no timeline for such docket has been established.

The Commission had a general conversation regarding how to continue the work of this Commission after its expiration on October 31, 2020. There was agreement to pursue analysis of DMV data to provide more information on EV adoption rates around the state.

There was general discussion regarding how to build upon the work of this Commission. One area of agreement was the need to evaluate NH vehicle registration data to determine the rate of EV adoption in various parts of the state. NHDES has done some analysis of this in the past, but does not have the resources to do more at the moment. The electric utilities offered to assist.

OSI was not available to provide a VW funding update, but NHDES noted that a spreadsheet of all funded projects using the VW funds is being developed and will be posted on the OSI website soon.

September 25, 2020 – The format and content of the final report, due November 1, 2020 was discussed. The remainder of the meeting was primarily regarding recommendations that should be made in the final report and it was proposed that they be grouped according to recommendation for legislation/budget; actions by state government; and general recommendations. The ideas proffered at this meeting are to be discussed more fully at the final meeting for inclusion in the November 1, 2020 final report.

The existing NH Transportation Council ([RSA:238-A:2](#)) *was identified as the most likely legislative body to carry on the work of this Commission post November 2020.*

October 23, 2020 – the final meeting of the Electric Vehicle Charging Stations Infrastructure Commission resulted in the list of recommendations that are incorporated into the EV Commission report dated November 1, 2020.