



**ELECTRIC VEHICLE (EV) SUBCOMMITTEE
LEBANON ENERGY ADVISORY COMMITTEE (LEAC)
DECEMBER 12, 2024 - 3:00 PM
COUNCIL CHAMBERS, CITY HALL OR
REMOTE VIA VIRTUAL PLATFORM
LEBANONNH.GOV/LIVE**

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- 1. Call to Order**
 - 2. Approval of Minutes**
 - A. November 14, 2024
 - 3. Old Business**
 - A. Lebanon workplace charging program
 - B. Charging and Fueling Infrastructure (CFI) grant application
 - C. Request for Proposals (RFP) for EV charging stations & Solaflect EV
 - D. E-bike charging stations
 - E. Potential revisions to the Zoning Ordinance
 - 4. New Business**
 - A. Lebanon fleet EV's
 - B. Upper Valley EV Expos in 2025
 - 5. Open to the Public**
 - 6. Upcoming Events & Future Agenda Items**
 - 7. Set next meeting**
 - 8. Adjournment**

Meetings are open for in-person and remote attendance. Members of the public that wish to attend remotely may do so by going to LebanonNH.gov/Live where you will find instructions on how to enter the meeting. Members of the public will be able to participate and ask questions through the City's virtual platform or by phone. Please note: Should technical difficulties occur during the meeting that disrupts virtual or phone connection(s), the meeting will continue without remote access capabilities.

AGENDA
ELECTRIC VEHICLE SUBCOMMITTEE OF THE
LEBANON ENERGY ADVISORY COMMITTEE
December 12, 2024

AGENDA ITEM 2
APPROVAL OF MINUTES:

November 14, 2024



ELECTRIC VEHICLE SUBCOMMITTEE MEETING MINUTES

(Subcommittee of the Lebanon Energy Advisory Committee)

City Hall Council Chambers

November 14th 2024, 3:00 PM

-- Draft --

MEMBERS PRESENT: Sherry Boschert - Chair, Tom Benzel, Bill Stearns, Clifton Below.

MEMBERS ABSENT: none.

STAFF PRESENT: Tad Montgomery - Energy & Facilities Manager.

GUESTS PRESENT: Members of the Dartmouth College Cook Engineering School e-bike charging station design team: Avery Moorehead, Gannon Forsberg, Grace Connolly.

1. **CALL TO ORDER:** Ms. Boschert called the meeting to order at 3:04 PM.

2. APPROVAL OF PAST MINUTES:

Mr. Benzel moved to accept the September 2024 EV Subcommittee minutes; Mr. Stearns seconded. Approved unanimously. There was no October subcommittee meeting.

3. OLD BUSINESS

- A. **Lebanon Workplace EV Charging Policy** – Ms. Boschert said that the policy has been approved and is waiting for the Finance Director to approve a payment system for Staff and the HR Director to issue a survey to determine City Staff interest in workplace charging.
- B. **Charging and Fueling Infrastructure Grant (CFI)** – Ms. Boschert said that concern has been expressed recently from national organizations that the CFI funding might be delayed until the next administration takes office, which could result not only in delay also possible elimination of this funding.
- C. **Request for Proposals (RFP) for EV Charging Stations** – After discussing the likelihood of not receiving any CFI funding, the subcommittee members agreed that Ms. Boschert should propose to DPW leaders and the City Manager that a Request for Proposals be finalized and issued seeking proposals for installing only those desired EV charging stations that could be funded using Tax Increment

Financing (TIF) funds or by some other means besides CFI funding.

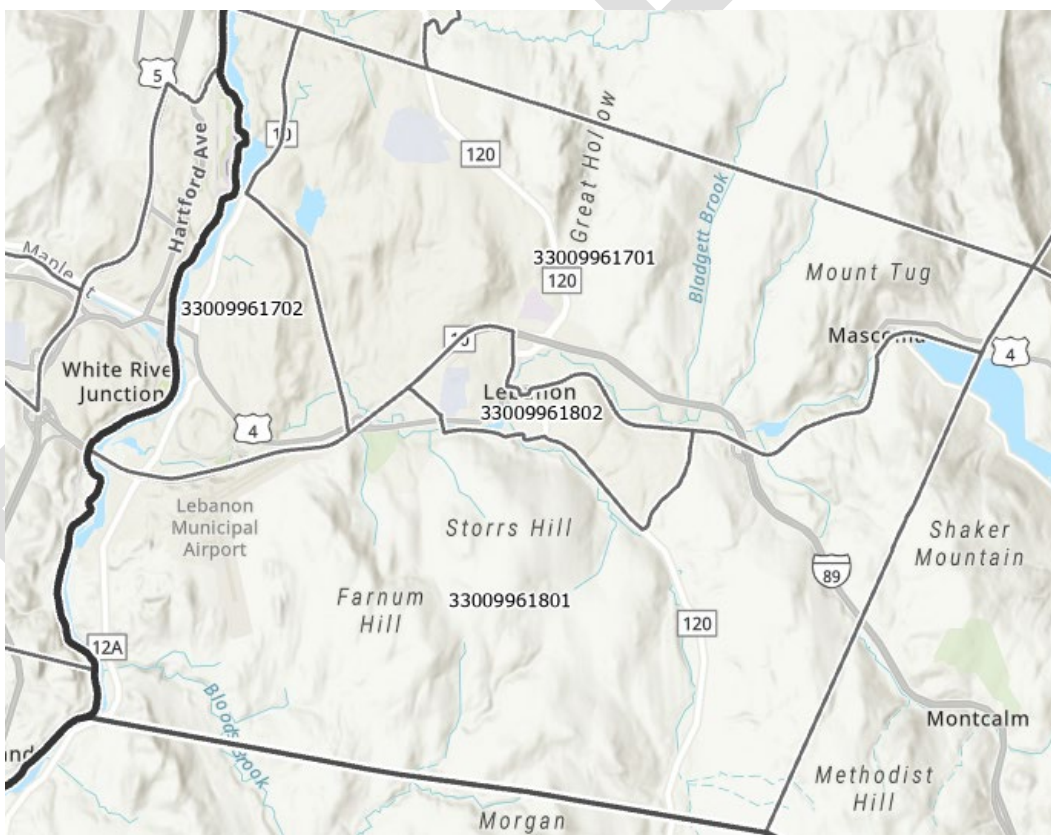
- D. **Constraints on Direct Pay for EV Charging Stations** – Ms. Boschert referred to an email that Mr. Montgomery sent the Subcommittee showing regions of the City that are and are not eligible for federal Direct Pay incentives for EVCS (see below). The Alternative Fuel Vehicle Refueling Property (§30C) incentive is limited to “low-income or non-urban census tracts.” See below for the City’s census tracts that qualify and do not. On the bright side, Mr. Montgomery said that for eligible sites the incentive is per-port, not per-charging station.

33009961802 – Not Included in Appendix B: List of census tracts that are eligible for § 30C using 2020 delineations of census tract boundaries, including non-urban census tracts.

33009961801 – Included.

33009961701 – Included.

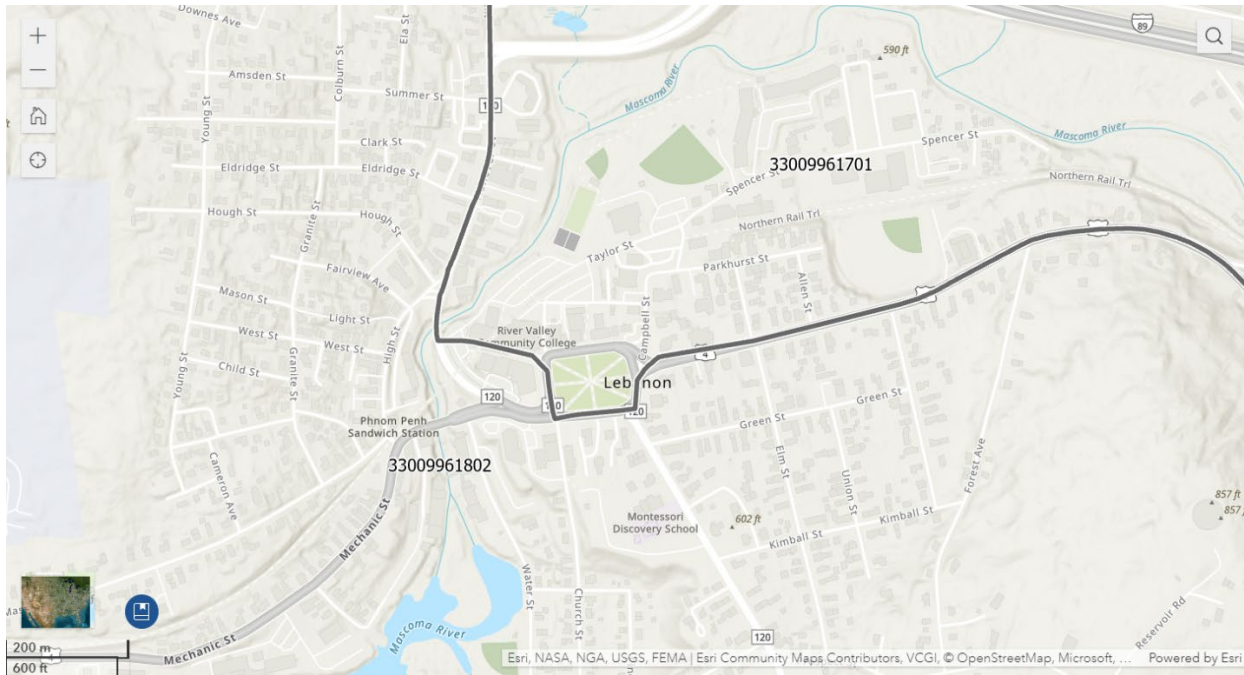
33009961702 – Not Included.



Source: [Alternative Fuel Vehicle Refueling Property Credit | Internal Revenue Service](#)

Map: [2020 Census Tract Identifier](#)

Eligible Census Tract List: [Appendix B list of 2020 census tract boundary 30C eligible tracts](#)



Mr. Montgomery said that he will confirm this information with the lawyers he is working with at L4GG and the VT Law and Graduate School.

- E. **Solaflect Solar EV Charging Station** – Mr. Benzel gave an update on technology development at the company and said that Rob Adams is working to design an RFID card reader that could be used with the EVCS to accept payments. Mr. Benzel said that this would require users to obtain these cards, and someone to oversee the project on an ongoing basis. He said that a credit card system doesn't seem to be feasible. There was more discussion on the alternative Beam Global solar EVCS system, but Beam also does not have a mechanism for receiving payment. Ms. Boschert proposed, based on her recent conversation about this with the City Manager, that the City go ahead and purchase and install a Solaflect solar EV charger. Others in the group expressed reservations, especially in light of the likely lack of a Direct Pay incentive for the project. Ms. Boschert said that she would check in again with the City Manager. Mr. Montgomery said that he would ask lawyers with expertise on Direct Pay if any part of the system is eligible.
- F. **Solar e-Bike Charging Stations** – Mr. Montgomery gave an update of the project, including a decision that day by the City Manager that the e-bike CS in

Colburn Park include chargers but no walls or roof structure. Members of the design team from Dartmouth College gave an update on the survey that they have developed to gauge interest in e-bike charging stations in town.

Announcements on the survey have already been posted through the City's LebNews and other sites, and it was decided that the end date for the survey would be Nov. 30th. Ms. Boschert has made a shortened URL for the survey: <https://Shorturl.AT/1otd9>. The team said that they have started talking with statisticians at Dartmouth about how best to interpret and use the survey results.

- G. **School District / School Board Outreach** – Ms. Boschert said that she has reached out repeatedly to School Board members and the Superintendent, most recently regarding technical assistance from the National Renewable Energy Laboratory on energy issues for schools, but has not received a response. She will take this item off the Subcommittee's agenda unless she hears from them in the next month.
- H. **Potential Revisions to Zoning Ordinance** – Mr. Below reported on a presentation he attended while at the National Community Choice Aggregation Conference in Washington DC recently about Level 1 or Low-power Level 2 vs. full Level 2 EV charging stations (EVCS). The presenter, from Peninsula Clean Energy, made a convincing argument that for multi-family residential housing the installation of Level 1 EVCS is adequate for most use cases at a fraction of the cost of installing Level 2 EVCS, and low-power Level 2 is an enticing middle option. Subcommittee members agreed to discuss at the next meeting a draft proposal for changes to the Zoning codes to incorporate these options. Ms. Boschert asked members to review the City's EVCS zoning ordinance 607.8 and send her recommendations on:
- Adjusting the Definitions to incorporate Low-power Level 2;
 - Percent of residential parking spaces required to have EVCS at Level 1, Low-power Level 2, and/or full Level 2;
 - Residential vs. commercial developments' requirements, and
 - The ratio of required EV Capable vs. EV Ready vs. EVCS Installed.

4. NEW BUSINESS

- A. **Cost Benefit Analysis Guide for Managed EV Charging** – Ms. Boschert pointed Subcommittee members to a new US D.O.E. tool called EVGrid Assist that “helps

stakeholders make actionable progress toward achieving their transportation electrification goals through validated data and tools, technical assistance and capacity building, and shared learnings from real-world experience.” See:

<https://www.energy.gov/eere/evgrid-assist-accelerating-transition>

- B. National Drive Electric Week reports from September** – Mr. Stearns gave a review of the NDEW event in New London in September and there was a discussion on collaboration with Hartford and other local communities on NDEW events next year.

5. OPEN TO THE PUBLIC

There was no public discussion.

6. UPCOMING EVENTS AND FUTURE AGENDA ITEMS:

Ms. Boschert offered the following lists:

Upcoming:

- Tuesday, Dec. 10, 5:30 pm -- Virtual kickoff of NH Comprehensive Climate Action Plan, (Register for either one [here](#)) or:
- Wednesday, Dec. 11, 9 am in Concord -- In-person kickoff of NH Comprehensive Climate Action Plan (Register for either one [here](#))
- Tuesday, Dec. 17, 1-2 pm -- Forth webinar reviewing the past year & the outlook for electrifying transportation. Register [here](#).

Recently Completed but Available:

- Video of "[A Post-election, Bipartisan Discussion of the Future of Energy and Climate Policy](#)" hosted on Nov. 8 by the Dartmouth Energy and Climate Alumni Network. (Sherry found this helpful after the election.)
- Video of a Nov. 12 webinar on "[Applying Justice40 to EV Charging](#)" hosted by the Joint Office of Energy and Transportation.
- Video of a Nov. 12 webinar by Forth on "[Plugging into the Curb: Right of Way Charging Innovations and Strategies](#)."
- Forth also recently launched another [EV Carsharing program](#), this time at a 92-unit affordable housing location in New Mexico. See also Forth's June 2024 report on "[Best Practices for EV Carsharing Programs](#)."

7. NEXT MEETING:

The date of the next meeting is Thursday, December 12th, 3 PM, Council Chambers, City Hall.

8. ADJOURNMENT:

Ms. Boschert moved to adjourn the meeting at 4:17 PM, seconded by Mr.

Benzel. The motion passed unanimously without obstruction, complication, or acrimony.

Respectfully submitted,

Tad Montgomery

DRAFT

AGENDA
ELECTRIC VEHICLE SUBCOMMITTEE OF THE
LEBANON ENERGY ADVISORY COMMITTEE
December 12, 2024

AGENDA ITEM 3
OLD BUSINESS:

E: Potential Revisions to Zoning Ordinance- Draft Amendments to Zoning Ordinance & EVCS RFP Sites

LEAC EV Subcommittee draft amendments to Zoning Ordinance

From Zoning Ordinance pages 183-184:

607.8 Electric Vehicles.

A. Purpose. The purpose of this section is to facilitate the transition to *electric vehicle* use and to expedite the establishment of convenient, cost-effective *electric vehicle infrastructure* that such a transition necessitates.

B. Applicability. *EV charging stations* are allowed as an *accessory use* in all zoning districts. When the retail charging of *electric vehicles* is proposed to be the principal use of a *lot*, then the proposed *EV charging station* shall be considered a *service station* for zoning purposes.

C. EV Infrastructure Requirements / Off-Street EV Parking Requirements. *EVSE-installed spaces*, *EV-ready spaces*, and *EV-capable spaces* shall be provided as follows:

1. One- and Two-Family Dwellings. All new *one-* and *two-family dwellings* shall provide at least one (1) *EV-ready Low-power Level 2 charging* space per *dwelling unit*.
2. All new dwellings with up to three units, including Accessory Dwelling Units (ADUs), shall provide at least one (1) *EV-ready Low-power Level 2 charging* space per dwelling unit.
3. Multi-Family Dwellings (four or more units). Parking for *multi-family dwellings* shall include:
 - a. *A parking space for each residential unit with parking that contains at least one EVSE-ready Low-power Level 2 outlet.*
 - b. *In addition to the EVSE-ready requirements, EV-capable Low-Power Level 2 spaces* for a minimum of 70% of the off-street parking spaces remaining after accounting for the EVSE-ready spaces under C.3.a.
4. Non-Residential Uses. Parking for uses requiring or proposing to provide 30 or more *off-street parking spaces* shall include:
 - a. *EVSE-installed Level 2 spaces* for a minimum of 2% of proposed *off-street parking spaces*, with a minimum of two *EVSE-installed spaces*.
 - b. *In addition to the EVSE-installed requirements under C.4.a, EV-ready Level 2 spaces* for a minimum of 10% of proposed *off-street parking spaces* remaining after accounting for the EVSE-installed spaces under C.4.a.
 - c. *EV-capable Level 2 spaces* for a minimum of 20% of proposed *off-street parking spaces*.
 - d. *For parking spaces dedicated for employee use, these requirements may be replaced by a minimum of one EV-ready Low-power Level 2 charging space for each employee who drives to work.*
5. Where the calculations above result in a fractional parking space, it shall round up to the next whole number.

6. Where the number of *EVSE-installed spaces* provided exceeds the minimum required, the excess spaces shall be deducted from the total number of required *EV-ready spaces of a similar level (Low-power Level 2, or Level 2)*.

7. Where the number of *EVSE-ready spaces* provided exceeds the minimum required, the excess *EVSE-ready spaces* shall be deducted from the total number of required *EV-capable spaces of a similar level (Low-power Level 2, or Level 2)*.

8. Up to **ten (10) Level 2 EVSE-installed spaces** may be substituted with one (1) **Level 3 EV-installed space** (minimum **150 kW**).

9. *EVSE-installed spaces*, *EVSE-ready spaces*, and *EVSE-capable spaces* are to be included in the calculation for both the number of minimum required and maximum permitted off-street parking spaces.

a. Every two (2) *EVSE-installed spaces* provided in addition to the required minimum may be counted as four (4) *off-street parking spaces* as relates to Section 607.1 (Minimum Off-Street Parking Requirements), for reduction of total required parking not greater than 10 percent of the total amount of required parking.

Pages 183-184 and 187:

Appendix A – Definitions

ELECTRIC VEHICLE SUPPLY EQUIPMENT (EVSE) / EV CHARGING STATION (EVCS): The apparatus installed specifically for the purpose of transferring energy between the site or building wiring and the Electric Vehicle. EVSE does not include any equipment affixed to the electric vehicle.

ELECTRIC VEHICLE INFRASTRUCTURE: Structures, machinery, and equipment necessary and integral to support an *electric vehicle*, including *EV charging stations* and electrical outlets.

ELECTRIC VEHICLE (EV): An automotive-type vehicle for on-road use primarily powered by an electric motor, including any battery electric vehicle, ~~fuel-cell electric vehicle~~, or plug-in hybrid electric vehicle, that draws current from an onboard battery charged through a building or site electrical service, *EVSE*, or other source of electric current.

EVSE-CAPABLE SPACE: An *off-street parking space* with electrical panel capacity and space for a branch circuit dedicated to the parking space that is not less than **20-ampere and 110/120-volt panel capacity for Level 1 charging, or 20-ampere and 108/240-volt for Low-Power Level 2 charging, or 40-ampere and 208/240-volt for Level 2 charging**, and is equipped with raceways, both underground and surface mounted, to enable the future installation of *EVSE*. For two adjacent EV-capable spaces, a single branch circuit is permitted.

EVSE-READY SPACE: An off-street parking space provided with a full dedicated branch circuit that includes not less than **20-ampere and 110/120-volt panel capacity for Level 1 charging, or 20-ampere and 208/240-volt panel capacity for Low-Power Level 2 charging, or 40-ampere and 208/240-volt panel capacity for Level 2 charging plus** conduit, wiring, receptacle, and overprotection devices terminating in an outlet ~~or receptacle or junction box~~ that will support an installed EVSE ~~or support attachment of a~~

charge cord for the vehicle and which is located in close proximity to the location of the parking space. For two adjacent EV-ready spaces, a single branch circuit is permitted. These spaces are "ready to go" either as outlets for users who bring their own charging cords or with the addition of an EV charging station (EVCS).

EVSE-INSTALLED SPACE: An *off-street parking space* with a dedicated branch circuit and EVSE for *Level 1, Lower-power Level 2, or Level 2 EV charging stations*, ~~at minimum~~.

LEVEL 1: Charging level for EVs that operates on a dedicated 20-amp breaker (same kind used for conventional electrical outlets in most buildings) on a 110- or 120-volt AC circuit while drawing 1.9-3.2 kW to supply 2-5 miles of range gained per hour of charging.

LOW-POWER LEVEL 2: Charging level for EVs that operates on a dedicated 20-amp breaker on a 208- or 240-volt AC circuit while drawing 3.3-6.1 kW to supply approximately 15+ miles of range gained per hour of charging.

LEVEL 2: Charging level for EVs that operates on a dedicated 40- to 100-amp breaker (same kind used by a clothes dryer or stove) on a 208- or 240-volt AC circuit while drawing 6.2+ kW to supply 19+ miles of range gained per hour of charging.

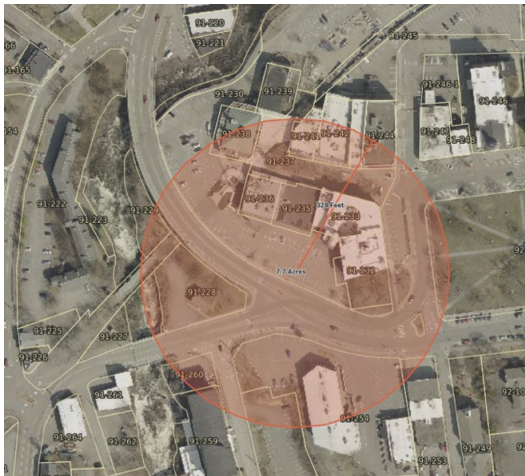
LEVEL 3: Fast or rapid charging level for EVs that operates on a 60-amp or higher breaker on a 480-volt AC electric circuit or higher ~~three~~-phase circuit with special grounding equipment and mounting on an equipment pad.

DRAFT EV Charging Station Sites for RFP

Notes for each site indicate if it qualifies for Tax Increment Financing (TIF) funding and/or Direct Pay rebates from the IRS. **Please note:** We have intentionally excluded any permanent grid-intertied installations in the two municipal parking lots behind Lebanon City Hall due to planned redevelopment, as well as the parking spaces along Taylor Street due to right-of-way complications.

Site 1: TIF = Yes. Direct Pay = No.

DCFC fast charging station at Hanover Street municipal parking lot, 0 Hanover Street, Lebanon, NH (Parcel 91-230). Liberty Utilities preliminary assessment: May need a new transformer, conduit, and pad mount. Estimated cost: \$150,000-\$250,000.



Site 2: TIF = Yes. Direct Pay = No.

L2 EVCS in Hanover Street lot, 0 Hanover Street, Lebanon, NH (Parcel 91-230). The City's electrician assessed this site as having sufficient electrical capacity.



Site 3: TIF = Yes. Direct Pay = Yes.

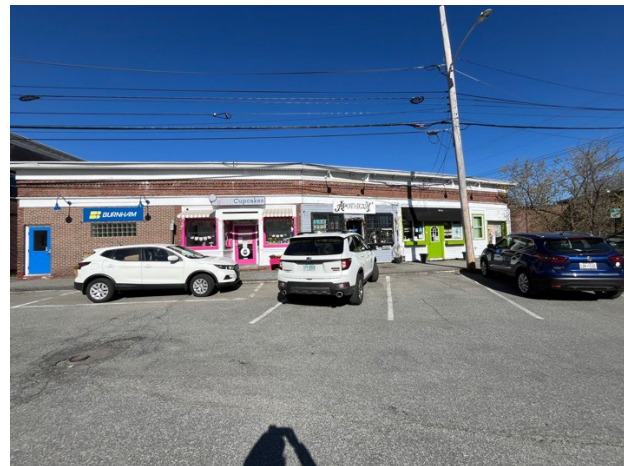
Either DCFC or L2 EVCS at Parkhurst Street at Spencer Street, at eight on-street parking spaces. Liberty Utilities preliminary assessment: There seems to be plenty of

electrical capacity for DCFC or L2. If a pad-mount transformer is needed at an estimated cost of \$40,000-\$125,000, total cost from Liberty may be \$100,000-\$150,000.



Site 4: TIF = Yes. Direct Pay = Yes.

L2 EVCS on utility pole at 55-57 Hanover Street. Liberty Utilities preliminary assessment: Estimated cost of Liberty equipment plus services: \$20,000-\$30,000.



Site 5: TIF = Yes. Direct Pay = Yes.

Dual-port L2 EVCS on a curbside utility pole next to two on-street parking spaces in front of 11 Bank Street (AVA Art Gallery). Liberty Utilities preliminary assessment: The pole and electrical capacity look good. Cost from Liberty estimated at \$2,000-\$3,000.



Site 6: TIF = No. Direct Pay = Yes.

Eight L2 ports at Lebanon Municipal Airport, 5 Airpark Road, West Lebanon, NH 03784.



Site 7: TIF = Yes. Direct Pay = Yes.

Not to be included in a RFP, but to be considered in addition to any of the sites above once RFP responses are available: A SolaflectEV solar EVCS in the lower municipal parking lot.

