



**LEBANON ECONOMIC DEVELOPMENT COMMISSION  
AUGUST 13, 2025 - 4:00 PM  
COUNCIL CHAMBERS, CITY HALL OR  
REMOTE VIA VIRTUAL PLATFORM  
LEBANONNH.GOV/LIVE**

---

**1. Call to Order**

The August 13, 2025 Economic Development Commission meeting is hereby called to order.

**2. Approval of Minutes**

A. July 9, 2025

**3. New Business**

A. Discuss Potential Zoning Amendments for Fall 2025

1. Proposed Amendments to Section 607.8, Electric Vehicles

B. Discussion with Arts and Culture Commission

**4. Future Agenda Items**

**5. Next Meeting Date**

A. September 10, 2025

**6. Other Business**

**7. Adjournment**

Meetings are open for in-person and remote attendance. Members of the public who wish to attend remotely may do so by going to [LebanonNH.gov/Live](http://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 disrupt virtual or phone connection(s), the meeting will continue without remote access capabilities.

Any person with a disability who wishes to attend this public meeting and needs additional accommodation, please contact the ADA coordinator at City Hall by calling 603-448-4220 at least 72 hours in advance so that the City can make any necessary arrangements.

DRAFT

**ECONOMIC DEVELOPMENT COMMISSION  
WEDNESDAY, JULY 9, 2025 – 4:00PM  
Council Chambers – City Hall – or remote via Virtual Platform  
MINUTES**

**EDC MEMBERS PRESENT:** Andrew Key, Dean Cashman, Councilor Chris Simon (City Council Rep), Councilor Tim McNamara (City Council Rep), Dan Nash (Chair), Brendan Callahan, Eric Stacy

**EDC MEMBERS ABSENT:** Chip Brown

**STAFF PRESENT:** Deputy City Manager David Brooks

---

1  
2 **1. CALL TO ORDER:**

- 3 • The July 9, 2025, Economic Development Commission meeting was called to order at 4:00pm.  
4

5 **2. APPROVAL OF MINUTES:**

- 6 A. June 11, 2025  
7

8 *Motion by Councilor Simon to approve the meeting minutes of June 11, 2025, as presented.*

9 *Second by Mr. Callahan.*

10 *\*The Vote on the MOTION was approved (5-0-1), with Councilor McNamara abstaining.*  
11

12 *Mr. Key entered the meeting at 4:05pm.*  
13

14 **3. NEW BUSINESS:**

- 15 B. Discussion of Building Permit Review Process – *The Commission discussed this item at this time*  
16

17 Leigh Hays, Chief Building Official, explained that the Department switched to OpenGov permitting software and  
18 spent a significant amount of time reviewing the building permitting process to make sure the permitting software  
19 reflected how the Department operates. Applicants now use the software to submit an application to the City and the  
20 Building Code dictates that the plans and documents submitted demonstrate how the project will be compliant with  
21 the State Building Code. The Department has added in the zoning and Planning Board review processes based on  
22 this. There are a couple of RSAs which restrict building permits from being issued if they would create a zoning  
23 violation. He explained that he cannot issue a building permit that would create a zoning or Planning Board  
24 regulation violation. To ensure this, the Department communicates using a zoning review and then a technical  
25 review of the submittal. Comments are reviewed by the Building Inspectors who then compare the submitted plans  
26 to the Building Code requirements prior to issuing a Building Permit. After all the inspections are completed, a  
27 certificate of completion or certificate of occupancy is issued, based on the type of project.  
28

29 Mr. Stacy asked if construction could begin before a permit is issued. Mr. Hays stated that a permit must first be  
30 issued. Mr. Stacy expressed concern with the permitting process. On April 28<sup>th</sup>, he submitted an application, and his  
31 administrative intake review was completed on May 27<sup>th</sup>. During that time, he was unable to do any work. He stated  
32 that he believes the system is mis-designed.  
33

34 Mr. Stacy asked if wiring diagrams are required for each application. Mr. Hays stated that this depends on the scope  
35 of work for the project. It is up to the discretion of the Building Inspector. Mr. Stacy stated that this is harmful to an  
36 applicant's moving forward in the process expediently. Mr. Hays stated that the Department is trying to do the best  
37 that it can for the City to help ensure that work moves forward in a timely manner. It is much easier and more cost-  
38 effective to catch a problem at the beginning than it is to have to redo a project because it was done incorrectly.  
39

40 Mr. Hays stated that, per Section 107.3 of the 2021 IBC, as adopted by the State of New Hampshire, the Building  
41 Official shall examine or cause to be examined the accompanying submittal documents and shall ascertain by such  
42 examination whether construction indicated and described is in accordance with the requirements of this code or  
43 other pertinent laws or ordinances. Mr. Stacy stated that, if the diagram was not required to be submitted then it  
44 would not need to be examined. Mr. Hays stated that this is based on the scope of the project at hand. The Building  
45 Official has discretion to determine what information is needed or not based on the project.

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28  
29  
30  
31  
32  
33  
34  
35  
36  
37  
38  
39  
40  
41  
42  
43  
44  
45  
46  
47  
48  
49  
50  
51  
52  
53  
54  
55  
56  
57  
58  
59

Mr. Stacy asked if the Building Official could use their discretion to determine that an application to bring an apartment up to code would not require a wiring diagram, which likely requires no discretion at all, instead of delaying the upgrading of a service by five weeks. There should be a way to fast-track simple applications. Mr. Hays stated that Staff works to do so.

Councilor McNamara stated that this does not feel like an issue for the Commission. Mr. Stacy stated that this is an issue for the Commission if the people who are doing economic development work cannot get the work done because of the way that the process operates.

Chair Nash asked the Deputy City Manager and Building Department if there is a way to refine the process, as it does appear to be harming economic development in the City. Too often it seems that the officials are chasing a “perfect” permit. A reasonable timeline of simple applications should be explored. Mr. Hays stated that the Department tries to issue permits as diligently as possible. In January there were 57 new applications, 61 in February, 97 in March, and 161 new applications in April.

Deputy City Manager Brooks stated that there is a lot of logic that can be built into the OpenGov system. Depending on the project, steps may be turned on/off in the review process. Much of this comes down to how the applicant fills out the Information. Staff continues to work to refine the system. Chair Nash suggested reviewing metrics of the applications submitted.

Mr. Key stated that he has noticed the OpenGov system is a move forward as it should streamline the process. He asked if the utility connection permit is new. Mr. Hays stated that it is new to the Public Works Department. Mr. Key suggested making the permits more trade-oriented so that each trade can focus on their specific items. The utility connection permit seems like a redundant step. Mr. Hays stated that, on the Building Department side, the electrical, plumbing, and mechanical work has been divided out based on what the State requires for licensing requirements.

Chair Nash suggested having public access to the permit process, unless there is a reason to prohibit it.

A. Discuss Potential Zoning Amendments for Fall 2025

Mr. Stacy discussed his proposed amendment to make projects “EV capable” instead of “EV ready,” due to the technology evolving so quickly. Sherry Boschert, Lebanon Energy Advisory Committee, stated that the LEAC EV Advisory Committee meets tomorrow and she will bring up this topic at that time. The Committee is interested in making things easier on developers to build housing and making it more convenient for residents to get EVs and use them to meet the City's goals for reducing greenhouse gas emissions. The hope is to do these at the least cost for everyone. LEAC has written its own amendments on this topic that have been submitted to the City Council for review. One of the differences between LEAC’s proposal and this suggestion is that the existing regulation does not require installed electric vehicle chargers, just EV ready ones. She stated that she will be hosting a webinar on July 28<sup>th</sup> geared toward developers regarding low power level 2, as is being proposed in LEAC’s amendment.

Deputy City Manager Brooks stated that, with respect to this particular section of the Zoning, there are at least three different competing zoning amendments. It is up to the City Council to determine if it will take these up. The City Council agreed that all of the proposed amendments to this section should be included in the review by the Planning Department in the fall. The review will see which amendment rises to the top and is brought before the Council next year.

**4. FUTURE AGENDA ITEMS:**

The Commission discussed potential future agenda items such as the amendments to the EV parking regulation, including comparisons between the three proposed amendments.

**5. NEXT MEETING DATE:**

A. August 13, 2025

The Commission agreed to meet on August 13, 2025.

**6. OTHER BUSINESS**

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13

None at this time.

**7. ADJOURNMENT.**

*Motion by Mr. Cashman to adjourn the meeting.*

*Second by Mr. Key.*

*\* The Vote on the MOTION was approved (7-0).*

*The meeting was adjourned at 5:03PM.*

Respectfully submitted,  
Kristan Patenaude

Lebanon City Council  
Shaun Mulholland  
Jack Wozmak  
Lebanon City Hall  
51 N Park St  
Lebanon, NH 03766

Dear Members of the Lebanon City Council,

I am writing to formally submit a petition in accordance with Section 1000.2.C of the Zoning Ordinance on behalf of the voters who have signed the petition. This petition seeks to amend the Zoning Ordinance, specifically Section 607.8.C.2, which pertains to the regulations for electric vehicle (EV) charging in multi-family dwellings.

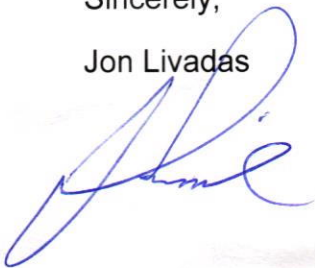
The attached document outlines the proposed amendment and our rationale for the requested changes. We believe that the current EV charging requirements are overly restrictive and financially burdensome, particularly for new developments which will further inflate the housing crisis and limit affordable housing development. By revisiting the requirement using accurate data and by allowing these decisions to be made through the site plan review process, we can ensure a more flexible and case-by-case approach that better accommodates the diverse needs of different projects within our community.

We respectfully request that this petition be reviewed and considered for adoption to promote equitable development and the effective allocation of resources.

Thank you for your attention to this matter.

Sincerely,

Jon Livadas



# Petition 1000.2 C: Revising the EV Charging Mandate

## 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 space per dwelling unit.**~~
  - ~~2. Multi-Family Dwellings. Parking for **multi-family dwellings** and **senior housing complexes** shall include a minimum of 65% of EVSE-installed EV-ready, and EV-capable spaces as follows:
    - ~~a. **EVSE-installed spaces** for a minimum of 5% of proposed **off-street parking spaces.**~~
    - ~~b. **EV-ready spaces** for a minimum of 20% of proposed **off-street parking spaces.**~~
    - ~~c. **EV-capable spaces** for a minimum of 40% of proposed **off-street parking spaces.**~~~~
  - ~~3. Non-Residential Uses. Parking for uses requiring or proposing to provide 30 or more **off-street parking spaces** shall include a minimum of 50% of EVSE-installed, EV-ready, and EV-capable spaces as follows:
    - ~~a. **EVSE-installed spaces** for a minimum of 2% of proposed **off-street parking spaces**, with a minimum of two **EVSE-installed spaces.**~~
    - ~~b. **EV-ready spaces** for a minimum of 10% of proposed **off-street parking spaces.**~~
    - ~~c. **EV-capable spaces** for a minimum of 38% of proposed **off-street parking spaces.**~~~~
  4. Where the calculations above result in a fractional parking space, it shall round up to the next whole number.
  - ~~5. 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.**~~
  - ~~6. Where the number of **EV-ready spaces** provided exceeds the minimum required, the excess **EV-ready spaces** shall be deducted from the total number of required **EV-capable spaces.**~~
  - ~~7. Up to five (5) **Level 2 EV-installed spaces** may be substituted with one (1) **Level 3 EV-installed space** (minimum 50kW).~~
  - ~~8. **EVSE-installed spaces, EV-ready spaces, and EV-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.~~~~

This document serves as a petition to remove the Electric Vehicle (EV) charging mandates from the Zoning Ordinance and instead include a simpler requirement that suits the actual projected demand in Site Plan regulations.

The current multi-tiered approach of EV charging requirements is overly cumbersome, financially prohibitive, and confusing for property owners. The existing zoning ordinance assumes that almost every tenant will have at least one electric vehicle and lacks the flexibility needed to accommodate various types of projects, forcing all properties, including affordable housing, to adhere to the same overbearing standards. There is no data supporting the current mandates and while we understand Lebanon's EV goals the requirement seems to greatly out project a realistic EV adoption rate. Furthermore, the data showing EV growth in the Lebanon seems to be inaccurate, only covers a few years, and it doesn't distinguish between EV owners who own vs those who rent their homes. This is a crucial factor, as renters have different needs and priorities compared to homeowners when it comes to their vehicle choices. Ignoring this distinction further compounds the issues with the current one-size-fits-all approach

The EV industry continues to evolve as technology changes and making decisions today under the guise of being proactive to save property owners money in 5 or 10 years seems short-sighted given the limited and inconsistent data. Below are two screen grabs from the Lebanon website discussing registered EVs in Lebanon. The first is from last year (2024) and states Lebanon had 212 EVs in 2023. The second image is currently on the website and states there were 58 in 2023 and 95 in 2024.

[News Flash Home](#)  
The original item was published from 12/28/2023 11:05:00 AM to 6/2/2024 12:00:01 AM.  
[Electric Vehicles](#)

---


Posted on: December 28, 2023

**[ARCHIVED] EV Adoption Zooming Ahead**

The latest vehicle registrations in Lebanon confirm a rapid rise in the number of electric vehicles (EVs), which includes all-electric cars or trucks and plug-in hybrids. The same acceleration is happening in Grafton County, across the State of New Hampshire, and in the United States as a whole, Lebanon's [Electric Vehicle \(EV\) Subcommittee](#) reports.

Compared with December 2022, the number of EVs registered in Lebanon increased by 70% in December 2023. And compared with 2016, when the first long-range EVs became available (other than Teslas), EV registrations in Lebanon increased by 278% in 2023. The absolute numbers still are small locally -- we are up to 212 EVs in Lebanon -- but the trend toward more EVs is happening in all parts of the state and the country.

[CNN reports](#) that in 2023 for the first time, U.S. consumers bought more than 1 million EVs in a single year, accounting for around 8% of car sales. A [recent presentation](#) by the New Hampshire Department of Environmental Services (DES) showed increased EV registrations in every county, with Grafton being the fourth most EV-popular county in the state:



### Why EVs?

- EVs are fun to drive!
- Throughout New England, transportation emits carbon dioxide (a greenhouse gas) more than any other sector of society. The same is true in Lebanon. According to the 2012 Lebanon Master Plan, Lebanon's commercial sector is the largest carbon emitter here, and 70% of that is commute vehicle emissions.
- EVs can run on clean, affordable, domestic electricity.
- EVs save money in the long run. Although purchase prices for some EVs can be higher than for some internal-combustion vehicles, costs for fuel and maintenance are dramatically lower with EVs, producing considerable savings overall.
- EVs are good for business. [Installing EV charging stations increased sales at nearby businesses by an average of 13% in a four-year study of 273 stores, restaurants, hotels, and other retail businesses.](#) In a [separate study](#) of 4,000 EV charging stations and 140,000 business establishments, installing EV charging increased annual spending at nearby businesses by 2.7% in 2019 and 3.2% in 2021-2023.
- The U.S. auto industry is shifting to EVs. The number of plug-in vehicles registered in Lebanon increased by 58% between December 2023 and December 2024 (from 58 to 95 EVs and plug-in hybrids). Plug-in vehicles comprised 3.5% of vehicles in Lebanon in 2024, up from 0.5% in 2020. Also view [a town-by-town breakdown of 2020 EV registrations \(PDF\)](#).

So which number is correct? We would be surprised if EV ownership has gone down, and we are not arguing the industry isn't growing, but we do believe a more balanced approach is necessary. One that aligns with the actual needs of the community while forecasting a realistic adoption rate based on defensible, local data rather than nationwide statistics or only pro EV articles. Requiring 65% or more parking spaces to be EV/EV ready when there is no data to support that number is an overreach. For instance, The Lebanon Woolen Mill (LWM) multi-family development, has 240 parking spaces and is required to 156 EV parking spaces mixed across the different levels. LWM, will have almost three times more EV ready spaces than there are registered EVs in Lebanon. Furthermore, the development is private, and the chargers will not be accessible to non-residents. Would we be better served by focusing on public charging stations accessible to everyone?

Imposing the current EV charging requirements is financially burdensome for property owners. The significant upfront costs will not yield short-term or long-term value, as technology and market demands evolve rapidly, and future value does not lower the cost of building today. These additional costs will result in less development of both market rate and affordable housing. We need housing units OF ALL KIND - the more supply the more rent relief the market will see.

As it stands, the EV ordinance does not offer the adaptability needed to address the unique circumstances of different developments. By moving EV requirements to the site plan review process, decisions can be made on a case-by-case basis just as parking requirements are managed today. This would allow for a more tailored approach,

ensuring that the needs of each project are adequately met without imposing unnecessary financial burdens on specific projects such as affordable housing.

Lastly, the EV mandate seems to not have thought about the impact it will have on the power grid if all the proposed developments get built. We understand charging will mostly happen during the night when tenants are home but still, the grid must be able to support the power being brought to the site. Were utility companies consulted regarding the additional load these requirements would impose and if that type of power could be provided? Using the Lebanon Woolen Mill project as an example, the switchgear needed to power just the EV aspect could power a 100-unit building. Many designated EV spaces won't have chargers installed as laid out in the requirements, yet our site will still need three switchgears. This is creating a scenario where the power infrastructure is significantly expanded without any guarantee of utilization while potentially lowering the load potential elsewhere. These are all issues California is dealing with today due to their overly aggressive EV requirements.

We believe that rescinding the EV charging mandate, right sizing it for the community future need, and moving it to the Site Plan Regulations will foster a more economically viable development landscape while motivating smaller property owners to invest in their assets to bring more housing on a smaller scale to Lebanon. By enabling a flexible approach through site plan review, we can ensure that each project is evaluated on its own merits and specific needs, similar to how parking requirements are handled.

If you support the above, please sign below:

Name: Karen A. Slayton  
Signature: Karen A. Slayton Date: May 20, 2025

Name: Robert E. Slayton  
Signature: Robert E. Slayton Date: May 20, 2025

Name: Gordon Bailey  
Signature: Gordon Bailey Date: May 20, 2025

Name: SAMANTHA MEDINA  
Signature: Samantha Medina Date: May 21 2025

Name: Tracy Packard  
Signature: Tracy Packard Date: May 21 2025

Name: Cote Swenson  
Signature: Cote Swenson Date: May 21 2025

Name: Kim Davis

Signature: Kimberlee Davis

Date: 5/21/25

Name: Michelle Hammond

Signature: Michelle Hammond

Date: 5/21/2025

Name: Mary Mayes

Signature: Mary Mayes

Date: 5/21/2025

Name: Don Talburt

Signature: Don Talburt

Date: 5/21/2025

## Draft amendments to the Lebanon Zoning Ordinance

Endorsed unanimously by the Lebanon Energy Advisory Committee, June 19, 2025.

Proposed changes are in red text.

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, EVSE-ready spaces, and EVSE-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) EVSE-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) EVSE-Ready Low-power Level 2 charging space per new dwelling unit.**
3. Multi-Family Dwellings (four or more units; **adding units to existing multi-family housing triggers the requirements for the new units only**). Parking for **new** multi-family dwellings shall include:
  - a. **For each residential unit with parking, at least one EVSE-Ready Low-power Level 2 charging space per unit for 50% of total units with parking.**
  - b. **EV-Capable Low-power Level 2 spaces for a minimum of the remaining 50% of residential units with parking and 25% of the remaining off-street parking spaces.**
4. Non-Residential Uses. Parking for uses requiring **the provision of 10 or more new or additional** off-street parking spaces shall include:
  - a. EVSE-Installed **Level 2** spaces for a minimum of 2% of **new or additional** off-street parking spaces, with a minimum of two EVSE-Installed spaces.
  - b. **EVSE-Ready or EVSE-Capable Level 2 spaces for a minimum of 20% of new or additional off-street parking spaces.**
  - c. **For parking spaces dedicated for employee use, these requirements may be replaced by a minimum of one EVSE-Ready Low-power Level 2 charging space per employee for at least half of employees in the largest shift who drive to work and who are offered parking.**
  - d. **For existing (not “greenfield”) non-residential developments, these requirements for EV charging may be replaced by a contribution to a common fund managed by the City of Lebanon for installing public EV charging stations at a separate site, with the contribution amount to be determined by the City.**

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 EVSE-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 EVSE-Capable spaces **of a similar level (Low-power Level 2, or Level 2)**.
8. Up to **five(5)** 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.
- 10. In each instance where EVSE Capable is required, EVSE Ready or EVSE Installed may substitute. In each instance where EVSE Ready is required, EVSE Installed may substitute.**

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 208/240-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” as outlets for users who bring their own charging cords or with the addition of an installed EV charging station (EVCS).

EVSE-INSTALLED SPACE: An off-street parking space with a dedicated branch circuit and EVSE. ~~at minimum.~~

LEVEL 1 (which is not mandated but is included here for informational purposes): 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 approximately 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.

## **Lebanon's Zoning Regulations on EV Charging: The Case for Low-power Level 2 (LPL2)**

January 2, 2025

By Sherry Boschert, chair, EV Subcommittee, Lebanon Energy Advisory Committee

The Lebanon Energy Advisory Committee's Electric Vehicle (EV) subcommittee has proposed modifying Lebanon's Zoning regulations regarding EV charging in order to "right-size" the requirements by including the option of Low-power Level 2 (LPL2) charging. This should save money for developers, drivers, and our community as a whole while reducing stress on the electrical grid and lowering greenhouse gas emissions compared with the current Zoning regulations.

In response to the Planning Department's request for examples of LPL2 use and associated costs, below is an examination of experiences with LPL2 charging, in sections:

1. Summary
2. Driver habits
3. Energy
4. Costs and emissions
5. Existing and proposed regulations
6. Sources

Key terms and acronyms:

**L2** = Level 2 EV charging (on a dedicated 40- to 100-amp breaker and 208/240-volt circuit drawing 6.2+ kW to supply 19+ miles of range per hour of charging).

**LPL2** = Low-power Level 2 EV charging (on a 20-amp breaker and 208/240-volt circuit drawing 3.3-6.1 kW to supply approximately 15+ miles of range per hour of charging).

**EV Installed** = Everything needed for EV charging is installed for the parking space including an EV charging station (EVCS) and port that plugs into the car.

**EV Ready** = Everything needed for EV charging is installed for the parking space minus the charging station/port, but with an electrical outlet that drivers can plug into using their own charge cords.

**EVCS Capable** = Most components needed for EV charging at the parking space are installed (electrical panel capacity, space for a dedicated branch circuit, and mounted raceways) to enable easy future conversion to EV Ready or EV Installed.

### **1. Summary**

I am still seeking examples of LPL2 use on the East Coast. On the West Coast, it is becoming almost the standard for multi-unit housing. For example, in the State of California (the nation's largest vehicle market), changes to the California Green Building Standards Code (CALGreen) go into effect at the start of 2026 that require at least one LPL2 EV-Ready charging for every unit with parking at new multi-unit housing. If there are more parking spaces than units, 25% of the additional spaces also must have LPL2 EV-Ready charging.

Reports and experiences from West Coast sources show that making LPL2 charging available to all units with parking at new multi-unit housing developments would result in greater economic and environmental benefits for residents and communities as a whole at a cost to developers that is comparable to or less than installing a smaller proportion of L2 EV charging stations. Residential LPL2 also reduces stress on the electrical grid and fewer greenhouse gas emissions compared with installing smaller numbers of L2 stations.

## **2. Driver habits**

EVs in the United States grew to approximately 3.3 million in 2023, up from 2 million in 2022 and 1.3 million in 2021. Projections suggest that half or more of new vehicles sold by 2035 will be EVs. In Lebanon, there were 95 registered electric vehicles (EVs) and plug-in hybrid vehicles (PHEVs) in December 2024 compared with 58 in 2023, a 64% increase. Plug-in vehicles now make up 3.5% of vehicles in Lebanon, up from 0.5% in 2020.

A recent J.D. Power report showed that 83% of EV owners prefer to charge at home. Most of the 31% of Americans who live in multi-unit housing lack residential charging options. In the past two years the percentage of renters interested in or relying on EV charging jumped from 27% to 34%, according to the National Multifamily Housing Council and Grace Hill 2024 Renter Preferences Survey.

Except on long-distance road trips, EV drivers “top off” when charging rather than “filling up” like gas-car drivers do when refueling. The most logical, safe, and convenient place to charge an EV is at home, where vehicles tend to sit for 8-12 hours of each day. Residential EV charging allows drivers to plug into lower-power electrical sockets that still meet most commuters’ needs while utilizing least-cost residential electrical rates.

LPL2 EV charging could meet the daily charging needs of 94% of commuters residing in the Lebanon Micro New England City and Town Area, according to my analysis of a study by Meghan Butts of the Upper Valley Lake Sunapee Regional Planning Commission. The remaining 6% of commuters might seek additional charging on the other end of their commute or would occasionally utilize public L2 or fast EV chargers.

LPL2 charging for each unit at multi-unit housing provides the same convenience enjoyed by residents of single family homes – the ability to leave a vehicle overnight without having to move it from a shared charger, and knowing they’ll wake up to a charged car.

## **3. Energy**

Orange, Inc. (one of the companies specializing in LPL2 and L1 charging) reported in a 2023 paper that usage data from its charging outlets showed that drivers needed an average of 16.8 kWh of electricity per day. That need may be slightly higher in New

Hampshire conditions than in California but is easily met overnight with 4-6 hours of LPL2 charging, which delivers 3.3-6.1 kW. Requiring L2 stations that deliver 6.2+ kW at multi-unit housing is overkill; residential LPL2 is right-sizing charging at less cost and greater convenience.

Using those numbers and California grid data from 2022, Orange also forecast potential impacts on the U.S. electrical grid. If 25% of an expected 10 million EV drivers in 2035 live in apartments with LPL2 charging and charge between 9 p.m. and 9 a.m. daily, those 2.5 million cars would need 9.5 GWh of energy per hour. Without LPL2 charging at home, though, if those drivers use public fast-charging stations two or three times per week before or after work, they would require 312,500 GW of peak load (if all plugged in at once), which is many multiples of current grid capacity.

Several scenarios below estimate what the energy capacity would need to be under Lebanon's current or proposed Zoning regulations for EV charging at multi-unit housing.

- A. If current Zoning requires one off-street parking space per studio apartment and 5% of those spaces must be L2 Installed, that's 20 EVSE Installed spaces for a development with **100 studio apartments**. Two adjacent spaces are allowed to share one charger circuit, so at least (10) 40-amp circuits would be needed, or 400 amps. And 20% of the remaining 80 spaces must be EV-Ready; that's 16 more spaces requiring at least 8 shared 40-amp circuits, or 320 amps. And 50% of the remaining 64 spaces must be L2 EV-Capable; that's 32 more spaces needing at least (16) 40-amp circuits, or 1,280 amps. The total comes to **2,000 amps for those 70 spaces with EV charging access now or in the future, and 30 parking spaces (30%) would get no EV charging at all.**
- B. Currently, apartments with **one or more bedrooms** may require up to 1.5 parking spaces per unit, which is 50% more than for studios. The electrical capacity needed for L2 EV charging for 70 of **100 units** either now or in the future would be **3,000 amps and, still, 30% of spaces would get no EV charging** now or in the future.
- C. **Under the proposed Zoning amendments**, LPL2 could meet residents' daily charging needs using much less energy. For **100 studio apartments** with 100 EV-Ready LPL2 parking spaces, two adjacent spaces are allowed to share one charger circuit, so at least (50) 20-amp circuits would be needed, or **1,000 amps, and all 100 units would have EV charging.**
- D. Under the proposed Zoning amendments, for **100 units with one or more bedrooms, each unit gets an EV-Ready LPL2** charging space and two adjacent spaces can share one charge circuit, requiring 1,000 amps. **And 25% of the remaining 50 spaces would be EV-Capable LPL2** -- so, 13 spaces, with two adjacent spaces allowed to share one charger circuit, requiring at least (7) 20-amp circuits or 140 amps. That totals **1,140 amps and all 100 units would have EV charging.**

Note: Other EV charging infrastructure options may reduce the energy load further. For example, the addition of “load management” or a “load balancer” to LPL2 stations at multi-unit housing might serve four to six times more charge ports compared with unmanaged L2 stations and use half the electrical capacity.

#### 4. Costs

Although the cost of installing EV charging necessarily is site-specific, LPL2 EV Ready requires less electrical infrastructure compared with L2 Installed. LPL2 also lowers costs for installation and maintenance of EV charging stations by using less expensive charging outlets instead of full charging stations. The money saved by not requiring L2 Installed EV charging stations for multi-unit housing provides builders with sufficient funds to include LPL2 outlets for every unit at equivalent or less cost, studies suggest.

Charging at home on residential rates typically costs drivers half as much as using public, third-party chargers. Presumably, building managers will prefer LPL2 outlets because there are fewer shared EV chargers to manage, and residents will prefer LPL2 outlets because of EV charging access for all at less cost to drivers than using public chargers.

##### *California cost comparisons:*

A group of California State legislators compared two scenarios using low- and high-cost estimates for two different charging strategies. **Strategy A:** Provide one LPL2 EV-Ready space for all units with parking at multi-unit housing plus L2 EV Installed at 10% of open/guest/shared parking spaces. **Strategy B:** Provide L2 Installed charging stations at 10% of total parking spaces and LPL2 EV Ready charging at 40% of total spaces.

The associated costs ranged from \$789-\$1,485 for each LPL2 EV Ready space and \$2,596-\$3,883 each for L2 Installed.

1. For a hypothetical new 100-unit residential building with 300 parking spaces where each unit has 2 dedicated parking spaces and there are 100 common/guest parking spaces, Strategy A would require 576 kW total (at the breaker) and cost \$104,893-\$187,319. Strategy B would require 864 kW and cost \$172,596-\$294,675. **Strategy A was 36%-39% less expensive and provided universal access to EV charging.**
2. For a hypothetical 100-unit apartment complex with 180 parking spaces where 50 units have 1 dedicated space, 50 units have 2 dedicated spaces, and there are 30 common/guest spaces, Strategy A would require 509 kW and cost \$86,722-\$160,139. Strategy B would require 518 kW and cost \$103,558-\$176,805. **Strategy A was 16%-9% less expensive and provided universal access to EV charging.**

*Peninsula Clean Energy, at the 2025 National Community Choice Aggregation Conference:*

The director of Energy Programs for Peninsula Clean Energy reported that installing LPL2 or L1 charging can be seven-fold less expensive than installing L2 charging. The marginal cost during construction for new buildings to install LPL2 charging (compared with no charging) is 0.3% of total costs.

*Orange Charger, Inc. comparisons:*

The experience and estimates of Orange (one of the companies specializing in LPL2 and L1 charging) suggest that adding LPL2 EV Ready for every unit with parking at new multi-unit developments adds 0.3%-0.5% to construction costs.

On its [website](#), Orange estimates that the costs of installing and operating two LPL2 EV-Ready outlets would be 69% less than the costs for a two-port L2 EV Installed charger -- \$2,750 vs. \$8,750.

In a 2023 paper on case studies at multi-unit properties, Orange reported that installation of a LPL2 EV-Ready outlet may cost as low as \$3,600 compared with \$8,000-\$12,000 for L2 EV Installed.

In a 2022 presentation, Orange estimated that for a multi-unit apartment complex in San Mateo, Calif. with 26 EV chargers, the 10-year up-front and ongoing costs for LPL2 outlets would be approximately \$47,320 compared with \$244,000+ for networked L2 chargers. Factoring in potential charging revenues and service fees/commissions, the LPL2 installations could break even in 3 years compared with 18-20 years for the L2 stations.

*Sven Thesen & Associates:*

This consultant compared two proposed EV infrastructure codes for multi-unit housing: one requiring LPL2 for each unit with parking and the other requiring L2 charging at 40%-73% of unit spaces (5% L2 EV Installed, 25% LPL2 EV Ready, and 10% L2 EV Capable).

For 150,000 new multi-unit housing dwellings expected to be built over a 20-year period, the LPL2 strategy would result in greater benefits in seven of eight measures:

- Shorter society payback time (years for cumulative savings to exceed initial costs)
- Faster societal internal rate of return
- EV charging available to more housing units
- Greater net residents' and societal savings
- More carbon dioxide emissions avoided
- Reduced cost for emission reductions
- Utility retrofit costs avoided

Initial construction costs would be \$28 million higher for LPL2 at all 150,000 units compared with installing L2/LPL2 for a subset of units (\$205 million vs. \$178 million). That initial investment in LPL2 would produce a \$1.4 billion greater reduction in other costs and avoid 2.9 million more tons of carbon dioxide emissions compared with the L2/LPL2 strategy, the report stated. The analyses did not factor in an estimated \$0.7

billion to \$1.6 billion that would be needed later to add EV charging to spaces that don't get them initially under the L2 strategy.

## 5. Existing and proposed regulations

### *LPL2 Examples:*

- In 2025 the City of Lebanon, N.H. is considering changing its Zoning regulations that require EV charging at new developments to allow or require LPL2 in certain circumstances. To see the latest version of this proposal, contact [sherry.boschert@gmail.com](mailto:sherry.boschert@gmail.com).
- The San Jose (Calif.) City Council unanimously adopted a strong EV charging code for new multi-family housing on January 30, 2024. Instead of L2 EV charging access at 30% of residential parking spaces, every residential parking space will be equipped with a **LPL2** receptacle, and each residential unit with assigned parking will have their receptacle directly wired to their panel or meter. The Council approved an exemption from the direct-wiring requirements for “unbundled” parking (i.e., parking that is paid for on a separate lease).
- On December 17, 2024 California regulators unanimously adopted amendments to the California Green Building Standards Code (CALGreen) to go into effect at the start of 2026 that require at least a **LPL2** outlet or charger (i.e., EV Ready or EV Installed) for any new unit with a parking space at multi-unit housing. (These could be standardized outlets – NEMA 6-20, 14-30, or 14-50 -- or J1772 or J3400 chargers.) The LPL2 spaces are allowed to share power between them as long as the system can provide a minimum of 3.3 kW simultaneously to each unit. If parking spaces are assigned, the EV charging for each space will be on a separate circuit wired to that unit's electrical panel “when feasible.” If parking spaces are shared, there must be at least one EV-Ready space per unit. If there are more parking spaces than there are units, at least 25% of the excess needs to be EV Ready or Installed. These codes apply not just to new developments but any time a parking space is added or altered at an existing development in a way that requires a building permit.

The new California codes also include mandates for hotels or commercial, office, or retail developments. At least LPL2 EV Ready or EV Installed is required at 65% of parking at new hotels or motels and 20% of spaces at new commercial, office, or retail parking lots. In some cases, property owners can install DC fast charging to reduce the required number of LPL2 spaces.
- Bay Area Air Quality Management District Draft Charge! Program Guidance for Fiscal Year Ending 2025: BAAQMD grants for EV charging infrastructure may be awarded to LPL2 or L1 chargers but only at multi-unit housing facilities.

### *Full L2 examples:*

- Lebanon’s current Zoning regulations, 2023: See [Lebanon's Zoning Ordinance](#), especially [pages 131-132](#) and definitions on [pages 183-184](#) and [187](#). These require at least one EV-Ready L2 space at new one- or two-family homes. At off-street parking for new multi-unit housing, they require 5% of parking spaces to have installed L2 EVSE, 20% to be L2 EV-Ready, and 60% to be L2 EV-Capable. At new non-residential developments with at least 30 off-street parking spaces, 2% of spaces must have L2 EVSE, 10% must be L2 EV-Ready, and 50% must be L2 EV-Capable.
- Dover, N.H. 2021: At <https://ecode360.com/33400371> see Chapter 153 (Site Review Regulations), Part 14 (Site development design criteria), Section D (Parking), specifically items § 153-14(D3) and § 153-14(D5.a.5). Section D3 requires EV-Ready L2 spaces at 5% of parking for new multi-family residential projects and 2% of parking at non-residential projects. In Section D5.a.5., a conditional use permit for an increase in the number of parking spaces requires one L2 Installed charging station for every 10 requested parking spaces over the parking maximum where use of the parking space typically results in at least two hours of parking, and two L2 Capable charging spaces for every 20 spaces requested where use of the space typically doesn’t last two hours or longer.
- City of Boston Electric Vehicle Readiness Policy for New Developments: L2 EV Installed at 25% of parking spaces and L2 EV Ready at 75% of spaces, or the equivalent charging capacity through slower or faster charging stations as determined by a point system that weights various charger types to ensure that the same number of EVs are served per unit of time (with extra points for EV Car Sharing or Electric Bike Parking).

*Unspecified power levels:*

- Vermont Upper Valley: The 2023 Climate Action Plan by the Two Rivers Ottauquechee Regional Commission, page 3, calls for implementing an "EV Ready" building ordinance requiring new developments to have panel capacity and conduit in place (i.e., "EV Capable") to charge EVs and establishing minimum parking requirements for exclusive EV use. It also calls for parking garages to have at least 20% of spaces served by charging outlets at construction and an additional 20% every 5 years thereafter.

## 6. Sources

“Why EV Charging is the Ultimate High-Tech Amenity for Modern Multifamily Residences,” *Buildings*, November 11, 2024: <https://www.buildings.com/resiliency-sustainability/electrification/article/55241601/why-ev-charging-is-the-ultimate-high-tech-amenity-for-modern-multifamily-residences>

Email communications from town officials in Dover, N.H.

Climate Action Plan, Two Rivers Ottauquechee Regional Commission’s Intermunicipal Regional Energy Coordinator Program: <https://www.trorc.org/wp-content/uploads/2023/04/TRORC-IREC-CAP-V4-1.pdf>

Email communications with Wendy Chou and Dennis Murphy, [Acterra](#).

"California will require EV charging for all new residential units in 2026," *Electrek*, December 18, 2024:  
[https://electrek.co/2024/12/18/california-will-require-ev-charging-for-all-new-residential-units-in-2026/#:~:text=California a will require EV charging for all new residential units in 2026.-Jameson Dow | Dec&text=California's new building codes will only actual problem with EVs.](https://electrek.co/2024/12/18/california-will-require-ev-charging-for-all-new-residential-units-in-2026/#:~:text=California%20will%20require%20EV%20charging%20for%20all%20new%20residential%20units%20in%202026.-Jameson%20Dow%20Dec&text=California's%20new%20building%20codes%20will%20only%20actual%20problem%20with%20EVs.)

Letter from 11 California State legislators to California Building Standards Commission Community Development Staff , May 15, 2023 regarding "Electric Vehicle Charging Clarification in the CALGreen Intervening Code Cycle.

"Scaling EV Charging Program Impacts," presentation by Phillip Kobernick, Peninsula Clean Energy, at the 2024 National Community Choice Aggregation Conference.

Papers, communications, and slide decks from [Orange](#) including "Building Affordable Equitable Charging to Multi-Unit Properties with Lower Power Charging," July 11, 2023 and others.

Electric Vehicle Readiness Policy for New Developments, City of Boston:  
<https://www.boston.gov/sites/default/files/file/2020/03/EV%20Readiness%20Policy%20For%20New%20Developments%20%287%29.pdf>

Charge! Program Draft Guidance for Fiscal Year Ending 2025, Bay Area Air Quality Management District:  
[www.baaqmd.gov/charge](http://www.baaqmd.gov/charge)

A Comparison of Two Multi-Family Dwelling EV Charging Codes," Sven Thesen & Associates, 2021:  
<https://tinyurl.com/mu3zv9n>

To: Lebanon Economic Advisory Commission  
From: Eric Stacy, Member, Economic Development Commission Board  
Date: June 12, 2025  
Subject: Recommendation: EV-Capable Requirement in Residential New Construction (1–4 Family Homes)

---

## Executive Summary

This memo outlines the rationale for requiring all new 1–4 family residential construction in Lebanon to be EV-capable, not EV-ready or EV-installed. This approach reduces long-term infrastructure costs, supports future homeowner flexibility, avoids unmanaged grid stress, and accommodates future electric vehicle adoption without imposing premature expense.

---

## Definition of EV-Capable

An EV-capable home includes: - Electrical panel capacity reserved for a 240V, 40-amp branch circuit - Continuous conduit (raceway) installed from panel to garage or parking location - No outlet, wiring, or charging equipment installed unless and until the homeowner installs it later

This enables homeowners to install an EV charger later with minimal disruption and avoids tearing up walls, driveways, or increasing panel capacity.

(Citation: Plug In America, 2024; International Code Council, 2022)

---

## Cost Efficiency

- Cost to install EV-capable infrastructure at construction: ~\$400–\$900 per home
- Retrofit cost after construction (trenching, drywall, rewiring, panel upgrades): \$2,500–\$3,500+ per home
- Mandating EV-capable now avoids 3–5x future retrofit costs

(Citation: Atlas Public Policy, 2025; Plug In America, 2024; ICC EV Code Study, 2022)

---

## Grid Management & Delay of Uncontrolled Load Growth

- Requiring only EV-capable avoids early mass installation of unmanaged chargers
- This delays the onset of evening peak EV load clustering
- Allows utilities time to roll out smart meter programs, TOU rates, and demand response tools before charger saturation occurs

(Citation: NH Department of Environmental Services, 2019; NHPUC Docket IR 22-076, 2023; VGIC Comments, 2023)

---

### Avoiding Stranded Investment for Homeowners

- Many buyers won't own EVs for several years
- Installing a Level 2 charger upfront risks paying for unused technology
- EV-capable homes preserve homeowner flexibility and avoid burdening home prices

(Citation: NH House Bill 606, 2023; Plug In America, 2024)

---

### Level 3 Charging and Homes with Limited Electrical Capacity

- Older or rural homes with 100-amp panels, no smart meters, or no garages are poorly suited to home chargers
- Strategically sited shared DC fast chargers (Level 3) offer a neighborhood-based solution
- Reduces unmanaged residential load; public chargers can be grid-buffered and monitored
- Can be deployed with battery storage to avoid stressing feeders during peak demand

(Citation: Franklin Grid Solutions, 2024; University of Vermont FOREST Project, 2024; VGIC, 2023)

---

### Conclusion

Mandating EV-capable (not ready or installed) infrastructure in new 1–4 unit homes is the fiscally and technically prudent step. It avoids premature costs, allows for future charging without expensive retrofits, and limits grid exposure during the market transition. Shared public fast charging offers an additional grid-friendly solution for homes unable to host residential chargers.

I recommend the Commission support a local EV-capable building code amendment consistent with IECC Appendix requirements for conduit and panel capacity, to be incorporated into Lebanon's residential development policy.

---

Citations: - Atlas Public Policy. (2025). Cost Savings from EV-Enabling Building Codes. - Plug In America. (2024). EV Charging for All Coalition Guidelines. - International Code

Council. (2022). IECC Appendix EV-Provisions. - NH Department of Environmental Services. (2019). Electric Vehicle Infrastructure Planning. - New Hampshire PUC. (2023). IR Docket 22-076 on Managed EV Charging. - Vehicle-Grid Integration Council. (2023). Comments on NH Grid Management Strategies. - Franklin Grid Solutions. (2024). DC Fast Charging Infrastructure & Battery Integration. - University of Vermont / VT DPS. (2024). FOREST Project: Grid Optimization Tools. - NH House Bill 606. (2023). Proposed EV Infrastructure Requirements in State-Funded Housing.