City of Biddeford
Sustainability Commission
March 24, 2025 at 5:30 PM

City Hall Second Floor Conference Room & Zoom

Join Zoom Meeting Online
Or call in by phone: +1 312 626 6799
Meeting ID: 952 9073 2407
Passcode: 045319

1. Roll Call
2. Approval of Minutes
   - 2.a Approval of Meeting Minutes from February 24, 2025
3. New Business
   - 3.a EV Charging Proposed Ordinance
   - 3.b Process for Amending Climate Action Plan-Coastal/Beach Management?
4. Updates
   - 4.a Public Engagement, Earth Day-Joie and Kiara
   - 4.b Beach Management & UNE-Will
   - 4.c Sustainability Landscaping-Bev
   - 4.d Dune Grass Planting-Jeff
   - 4.e UNE Fellowship-Brad
   - 4.f EJ4NE Grant to Bike/Ped Plan
   - 4.g Solar Ordinance-Brad
   - 4.h Local Food Production-Wendy
   - 4.i BSCAT Updates
   - 4.j Others?
5. Adjourn

February 24, 2025
Present: Joie, Jeff, Will, Brad
Public: Drew, Richard, Kathy, Ken, Kayla
Excused Absence: Wendy, Bev, John

Brad spoke with David Galbraith, he will attend the March 3 meeting and explain transit-oriented development and discuss with us how we can support the city. Also discuss affordable housing

Solar ordinance was approved by the planning board with a recommendation to City Council. First it will go to Policy and then to council for their review. By May first we could be done with multiple readings and it could be passed, approximate timeline

Bike/ped plan – Brad spoke with SMPDC, they are writing a proposal for ~$150k (max is $200k) with environmental justice for New England, that would be used to create the plan. Would include lots of public engagement. Scope of work will be determined after public engagement event, so we know it is meeting needs. Award date is in May, due date is March 7 – 99% complete now. Traffic committee is working on this now too – we need to keep them updated as we move forward with that. Drew attending, he is part of the traffic committee, he is wondering who should work on the bike/ped plan. Drew is interested in assisting with the committee's work on the bike/ped plan. This plan will include a minimum concept design for at least the downtown, hopefully a little further out as well. We want to collaborate with the traffic committee on this too, we will stay in communication with them.

Public engagement opportunities. We are already set for the Pollinator Festival (about first weekend in May), Joie reached out about the art walk they will have a sign up soon. Earth Day is coming up, Brad wants us to think about a high profile event we could sponsor – get the commission on the map in front of the community. Jeff is planning an Earth Day (April 22) event in the evening; Biddeford Coastal Preservation Committee is having a zoom meeting to listen to Elizabeth Ayala Johnson's talk and then discussion. Then the next Saturday is a beach clean-up event, then there will be an art competition too at the community center.

We could also have a city hall event and/or library – have something for the community on Earth Day. Perhaps an event on April 26 for the community – we will discuss more at our next meeting. Maybe The City of Biddeford can work with Apex for a bike tune up event, a hands-on activity.

The Biddeford Pool Conservation Trust (formerly the Biddeford Pool Land Trust) is planting beach grass on the big beach in Biddeford Pool. The grass is to be delivered now on Tuesday, March 4. The weather will determine when the planting occurs in March. The grass is dormant and is healthy for a few weeks this time of year. You can sign up to be on a list to get notifications here…." You can sign up to be on a list to get notifications here:

https://docs.google.com/spreadsheets/d/1FxA8U7GXlr8mKq_Q7yN2qUCkRApwX57xjaJ7QRFGDZA/edit?usp=sharing

Update from Biddeford/Saco Climate Action team – they are working to highlight the Biddeford/Kennebunkport vernal pool complex – want to draw attention to it and highlight the value to the community. Long term – less housing that is chopping down those trees, more conservation – higher density

Conversation about table 6.1 and accessibility, do we reduce the minimum from 5 to 1 for accessibility spaces as a total percentage of EV spaces? We need to do more research on this

Conversation about charge stations need to provide the plug for your car, including the cord

Conversation about table 5.1 and what percentage we need to provide – how should we set the percentage for each land use type?

Brad and Will to coordinate and pass around revised ordinance

Should we create a more compelling graphic for the monarch pledge?

March meeting will be moved to March 24 instead of the 17th

Biddeford Community Garden – spring Pollinator Festival on May 31st – community fundraiser, they want our help in advertising – theme is metamorphosis and migration this year

ELECTRIC VEHICLE INFRASTRUCTURE

1. Purpose

The purpose of this ordinance is to facilitate and encourage the use of electric vehicles, to expedite the establishment of a convenient, cost-effective electric vehicle infrastructure, and to establish minimum requirements for such infrastructure to serve both long-term and short-term parking needs.

2. Definitions

Accessible electric vehicle charging station means an electric vehicle charging station where the battery charging station is located within accessible reach of a barrier-free access aisle and the electric vehicle.

Battery charging station means an electrical component, assembly or cluster of components assemblies designed specifically to charge batteries within electric vehicles.

Battery electric vehicle means any vehicle that operates exclusively on electrical energy from an off-board source that is stored in the vehicle's batteries and produces zero tailpipe emissions or pollution when stationary or operating.

Charging levels means the standardized indicators of electrical force, or voltage, at which an electric vehicle's battery is recharged. The terms 1, 2, and DC fast charging are the most common charging levels, and include the following specifications:

- Level 1 provides charging through a 120 volt (V), alternating-current (AC) plug. Level 1 is considered as slow charging. Level 1 charging equipment is standard on vehicles and therefore does not require the installation of charging equipment. The most common place for Level 1 charging is at the vehicle owner's home and is typically conducted overnight.
- Level 2 charging is through a 240V, AC plug and requires installation of home charging or public charging equipment. These units require a dedicated 40-amp circuit. Level 2 chargers are commonly found in residential settings, public parking areas, places of employment and commercial settings.
- DC Fast Charging (DCFC) charging is through a 400 to 1000 V, direct-current (DC) plug. Due to their high cost and extremely high-power draw, Level 3 chargers are typically found in commercial or industrial locations rather than residential.

Electric vehicle means a vehicle that operates, either partially or exclusively, on electrical energy from the electrical grid, or an off-grid source, that is stored on board for motive purposes. "Electric vehicle" includes:

- Battery electric vehicle
- Plug-in hybrid electric vehicle

Electric vehicle charging station (EVCS) means a public or private parking space that is served by battery charging station equipment that has as its primary purpose the transfer of electric

energy (by conductive or inductive means) to a battery or other energy storage device in an electric vehicle. A charging station must include a port that conforms to EV industry standards and can charge the vehicle, although an adapter may be required.

EVCS-capable means parking spaces with necessary conduit installed but lacking required electrical capacity to install EVCS.

EVCS-installed means parking spaces equipped with electrified EVCS.

EVCS-ready means parking spaces with necessary conduit installed and electrical capacity available to install EVCS.

Electric vehicle charging station – private restricted use means an electric vehicle charging station that is:

- Privately owned and restricted access (e.g., single-family home, executive parking, designated employee parking, assigned parking at multi-family residential buildings); or
- Publicly owned and restricted (e.g., fleet parking with no access to the general public).

Electric vehicle charging station – public use means an electric vehicle charging station that is:

- Publicly owned and publicly available (e.g., Park & Ride parking, public library parking lot, on-street parking); or
- Privately owned and available to visitors (e.g., shopping center parking).

Electric vehicle infrastructure means conduit/wiring, structures, machinery, and equipment necessary and integral to support an electric vehicle, including battery charging stations.

Electric vehicle parking space means any marked parking space that identifies the use to be exclusively for the parking of an electric vehicle.

Electric vehicle supply equipment (EVSE) means any equipment or electrical component used in charging electric vehicles at a specific location. EVSE does not include equipment located on the electric vehicles themselves.

Electrical capacity shall mean, at minimum:

- Panel capacity to accommodate a dedicated branch circuit and service capacity to install a 208/240V outlet per charger;
- Conduit from an electric panel to future EVCS location(s).

Non-electric vehicle means any motor vehicle that is licensed and registered for operation on public and private highways, roads, and streets that does not meet the definition of an electric vehicle.

Plug-in hybrid electric vehicle means an electric vehicle that:

- Contains an internal combustion engine and also allows power to be delivered to drive wheels by an electric motor;

• Charges its battery primarily by connecting to the grid or other off-board electrical source;
• May additionally be able to sustain battery charge using an on-board internal-combustion-driven generator; and
• Has the ability to travel powered by electricity.

3. Applicability

3.1. This ordinance shall apply to all electric vehicle infrastructure installed, constructed, or modified after the effective date of this Ordinance.
3.2. Electric vehicle infrastructure in place prior to the effective date of this ordinance shall not be required to meet the requirements of this ordinance unless substantial modification to the infrastructure is proposed in accordance with the criteria identified in Section 5.1.

3.3. All electric vehicle infrastructure shall be designed, built, and installed in accordance with applicable local, state, and federal codes, regulations, and standards.

5. Required Facilities

5.1. All new or reconstructed parking structures or lots shall be required to install level-2 or higher EVCSs according to Table 5.1 when one of the following conditions is met:

- The development includes a new off-street parking facility with more than 10 spaces; or
- The parking capacity of an existing building, site, or parking facility with 10 or more spaces is increased by 30 percent or more (expressed as [number of additional spaces]/[number of existing spaces] x 100).

5.1.1. The number of EV charging stations required to be installed at the time of development is stated as a percentage of the total number of parking spaces in Column A of Table 5.1. Requirements will be rounded up to closest whole number but will always be a value of at least one EVCS to be available at the time of development occupancy.

5.1.2. To meet anticipated demand for EV charging stations as the technology becomes more widespread, Column B and C of Table 5.1 specifies the required increased electrical capacity to enable future EV charging station installations. Electric capacity requirements for EVCS-ready are met by providing a cabinet, box or enclosure connected to a conduit linking parking spaces with 208/240V or higher voltage AC electrical service for the suitable for the number of charging stations. Capacity requirements will be rounded to the closest whole number. A parking facility will meet the requirement for future capacity if column A, B, and C are less than or equal to the EVCS installation.

- Site design must provide electrical, associated ventilation, accessible parking, and wiring connection to transformer to support the additional potential future electric vehicle charging stations.

Table 5.1
EV Charging Requirements for new and reconstructed parking structures

Land use type	A. EVCS-installed parking spaces required (as % of total parking spaces)	B. EVCS-ready parking spaces required (as % of total parking spaces)	C. EVCS-capable parking spaces required (as % of total parking spaces)
One or two family residential	-	100%	-
Multi-family residential	10%	40%	50%
Lodging	10%	40%	30%
General office, medical	5%	10%	20%
Industrial	5%	5%	10%
Institutional, municipality	10%	10%	20%
Commercial (retail, dining, recreational, entertainment, etc.)	5%	10%	10%

5.1.3. Multi-family residential units may meet the required number of EVCS-ready parking spaces by installing current and/or future capacity for level-1 EVCS not to exceed one quarter of all parking spaces.

5.1.4. DC Faster Charging equipment may be installed to meet the above requirement at one third the rate prescribed by table 5.1.

5.1.5. These requirements may be revised upward or downward by the Planning Board as part of an application for a conditional use permit or planned unit development based on verifiable information pertaining to parking.

5.1.6. When the cost of installing EVSE required by this ordinance would exceed five percent of the total project cost, the property owner or applicant may request a reduction in the EVSE requirements and submit cost estimates for city consideration. When City Council approval of the project is not required, the Zoning Administrator may administratively approve a reduction the required amount of EVSE to limit the EVSE installation costs to not more than five percent of the total project cost.

5.1.7. Affordable housing projects (120% AMI in 33% of dwelling units) can reduce requirement in table 5.1 by 50%.

5.2.7. Those who do not wish to meet the EVCS requirements may pay an in-lieu fee to the City of Biddeford at a rate of $10,000 per EVCS-installed parking space, $5,000 per EVCS-ready parking space, and $2,000 per EVCS-capable parking space. EVCS in-lieu fees collected by the City shall be deposited into a specific account, segregated from the City's general revenue, and created for supporting electric vehicle infrastructure in the City of Biddeford. These funds shall be used in accordance with the following:

a. The funds contributed to the specific account, entitled the Electric Vehicle Charging Infrastructure Fund, shall be used to further the electric vehicle infrastructure within the City. More specifically, these funds may be used for equipment, and/or construction costs of electric vehicle charging infrastructure in existing or new City owned parking lots.

b. A portion of these funds may also be used for administrative, legal, engineering, or other costs related to the planning, design, permitting, and property acquisition for electric vehicle charging.

c. A portion of these funds may also be used to establish a grant or revolving loan program to provide direct financial assistance to offset the cost of retrofitting existing parking areas with electric vehicle charging infrastructure.

d. The Electric Vehicle Charging Infrastructure Fund may be used in combination with other City funds and other private, non-profit, and government funding for expanding electric vehicle charging infrastructure within Biddeford.

e. The in-lieu fees contributed by a development shall not be used by the same or other developments to fund the electric vehicle charging infrastructure that is required to meet the minimum standards described in Table 5.1.

f. The in-lieu fees collected by the City shall not be utilized to fund electric vehicle charging infrastructure that is otherwise required to meet minimum zoning standards.

6. General Requirements for Electric Vehicle Infrastructure

6.1. Electric vehicle charging stations within single-family and two-family residences are exempt from the below general requirements. This does not exempt electrical or other permit obligations.

6.2. General station requirements

6.2.1. Size. A standard size parking space shall be used for an electric vehicle charging station where such a station is required or planned.

6.2.2. Equipment Standards and Protection. Where provided, parking for electric vehicle charging purposes shall meet the standards of subsections 6.2.2 (1) through (4) of this section.

1. Clearance. Charging station equipment mounted on pedestals, light posts, bollards or other devices shall be a minimum of 24 inches clear from the face of curb.
2. Charging Station Equipment. Charging station outlets and connector devices shall be no less than 36 inches or no higher than 48 inches from the top of surface where mounted, and shall be designed and located as to not impede pedestrian travel or create trip hazards on sidewalks.
3. Charging Station Equipment Protection. When the electric vehicle parking space is perpendicular or at an angle to curb face and charging equipment, adequate equipment protection, such as wheel stops or concrete-filled steel bollards shall be used.
4. Maintenance. Charging station equipment shall be maintained in all respects, including the functioning of the charging equipment. A phone number or other contact information shall be provided on the charging station equipment for reporting when the equipment is not functioning or other problems are encountered.

6.2.3. Signage. Electric vehicle charging stations, other than in residential use, shall have posted signage allowing only charging electric vehicles to park in such spaces. For the purposes of this subsection, “charging” means that an electric vehicle is parked at an electric vehicle charging station and is connected to the charging station equipment. Signage for parking of electric vehicles shall include:

- Information on the charging station to identify voltage and amperage levels and any time of use, fees, or safety information.
- Restrictions shall be included on the signage, if removal provisions are to be enforced by the property owner
- As appropriate, directional signs to effectively guide motorists to the charging station space(s).

6.2.4. Lighting. Site lighting shall be provided where EVCS is installed unless charging is for daytime purposes only. Lighting standards should be met pursuant to the Biddeford’s zoning ordinance.

6.2.5. Time limits may be placed on the number of hours that an electric vehicle is allowed to charge, prohibiting indefinite charging/parking. If applicable, warnings shall be posted to alert charging station users about hours of use and possible actions affecting EVCS that are not being used according to posted rules.

6.2.6. The EVCS must be operational during the normal business hours of the use(s) that it serves. EVCS may be de-energized or otherwise restricted after normal business hours of the use(s) it serves. If applicable, warnings shall be posted to alert charging station users about hours of use.

6.2.7. Usage Fees. The property owner or operator is not restricted from collecting a service fee for the use of an electric vehicle charging station made available to visitors of the property.

6.3. **Accessible Facilities**

6.3.1. Where electric vehicle charging stations are provided in parking lots or parking garages, excluding garages in single-family or two-family residential units, accessible electric vehicle charging stations shall be provided according to the ratios shown in Table 6.2. The first column indicates the number of electric vehicle stations being provided on-site and the second column indicates the number of accessible charging stations that are to be provided for the corresponding number(s) of charging stations.

Table 6.2 Minimum Number of Accessible Electric Vehicle (EV) Charging Stations

Number of EV charging stations	Minimum accessible EV charging stations
1-50	1
51-100	2
101-150*	3

*One additional accessible EV charging station for each 50 EVCS

6.3.2. Accessible electric vehicle charging stations should be located in close proximity to the building or facility entrance and shall be connected to a barrier-free accessible route of travel. It is not necessary to designate the accessible electric vehicle charging station exclusively for the use of disabled persons.

6.4. **Charging and Parking**

6.4.1. EVCS parking spaces are to be included in the calculation for both the number of minimum and maximum parking spaces required, as provided by [Chapter and Section number for Parking Requirements].

6.4.2. EVCS parking spaces, where provided for public use, are reserved for charging electric vehicles only.

6.4.3. Electric vehicles may be parked in any space designated for public parking, subject to the restrictions that would apply to any other vehicle that would park in that space.

6.5. **Parking Restrictions**

6.5.1. No person shall stop, stand or park any non-electric vehicle in a space designated through signage as an electric vehicle charging station. Any non-electric vehicle is subject to removal by the property owner or the property owner’s agent.

6.5.2. Any electric vehicle in an electric vehicle parking stall that is signed exclusively for electric vehicle charging and that either (1) is not electrically charging or (2) is parked beyond the days and hours designated on regulatory signs posted at or near the space shall be subject to removal as posted by the property owner or the property owner's agent. For purposes of this subsection, "charging" means an electric vehicle is parked at an electric vehicle charging station and is connected to the charging station equipment.

6.6. **Decommissioning**: Unless otherwise directed by Biddeford, within ninety (90) days of cessation of use of the EVCS, the property owner or operator shall restore the site to its original condition. Should the property owner or operator fail to complete said removal within ninety (90) days, Biddeford shall conduct the removal and disposal of improvements at the property owner or operator's sole cost and expense.

7. **Violations**

7.1. If the owner of an EVCS is found to be in violation of the provisions of this Ordinance, Code Enforcement Officer shall be responsible for administering the violation.

8. **Effectiveness, Interpretation, Severability**

8.1. This ordinance shall become effective immediately upon its adoption.

8.2. All other portions, parts, and provisions of the Zoning Ordinance of Biddeford as heretofore enacted and amended shall remain in force and effect.

8.3. The invalidity of any section or provision of the ordinance shall not be held to invalidate
any other section or provision of this Ordinance.

8.4. If any part of this ordinance conflicts with any other applicable federal, state, or local regulation, the more restrictive regulation shall control.

INSTALLING EV CHARGERS FOR EVERY*BODY*

Ensuring Accessible Electric Vehicle Charging Stations in Maine

Guide to Locating and Installing Accessible and Usable AC Level 2 and Level 3 EV Chargers for public use.

January 2024

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Introduction

As the world expands the development and growth of electric vehicle (EV) infrastructure, we must ensure that we are not leaving certain populations behind. People with disabilities need to be part of this shift to electric vehicle use. Because of the speed in which EV charging stations are being installed, many public charging stations are difficult, if not impossible, to use for people with all abilities. Some conditions are beyond the installers' ability to change. For example, the location of the vehicle inlet has not been standardized, so the vehicle may have access on the front, the back and either side of the vehicle, making standard parking difficult. There is also a need to ensure that charging allow for people who have limited reach and strength to easily used charging plugs and cords.

This document focuses on the installer of these charging systems where use by the public is intended. The guide provides information that emphasizes the physical attributes of parking accessibility, location and usage of the charging stations themselves. This guidance does not address EV installations on public right of way and/or on street parking.

This guide will create easy, understandable guidance when locating and installing EV Chargers based on US Access Board guidance. These standards will focus on AC Level 2 and Level 3 chargers. This guidance does not include on street charging stations on public rights of way.

The US Access Board sets standards for the Americans with Disabilities Act (ADA) for the use of public and private facilities, and for the Architectural Barrier Act (ABA) which applies to facilities designed, built, altered, or leased with federal funds.

Although the US Access Board does not have legal standards specifically for EV Chargers, it has numerous standards for many of the attributes of a charging station and parking requirements which are included in earlier standards. The approved ADA requirements for parking do not necessarily encompass EV parking, as they focus more on access to pedestrian facilities and less on access to charging stations. In 2022, the US Access Board released *Design Recommendations for Accessible Electric Vehicle Charging Stations* for installation of EV Charging stations. We have used that document to inform this Guide. The full ADA document, including on-street charger guidance can be found at: https://www.access-board.gov/tad/ev/

Various accessibility standards may apply to EV charging stations, including:

- ADA Accessibility Standards
- ABA Accessibility Standards
- Section 508 Standards

Installing Accessible Chargers

EV charging stations fall under both private and public ADA laws. Some examples of EV charging stations that may be covered under the ADA or ABA include those installed at:

- State or local government offices,
- Public parks,
- Municipal building parking lots,
- Street parking and the public right-of-way,
- Residential housing facilities provided by a state or local government,
- Public EV charging stations provided by a private entity,
- Fleet charging stations used by the federal government,
- Commercial fleet charging stations available to corporate clients, or
- Rest stops along the Interstate Highway System.

Location

When locating EV charging stations, we should access the ability to *design* spaces that are ADA Accessible. The accessible charger(s) shall be located where there is a level grade on multiple sides for the entire space and aisle(s). An accessible charging space shall be closest to any entrance of accessible feature, i.e. curb ramp or accessible path.

Currently there is no set requirement on how many spaces should be required but the US Access Board recommends 5% of total spaces and that 2 two of the spaces can be combined to limit the space needed for the unit. If there is only one space, that space should be accessible to ensure equal access to all users. This *does not* mean it needs to be exclusively for those with disabilities.

When adding charging stations to existing parking lots or new parking lots, these key conditions should be considered:

- Can the chargers be connected by a compliant accessible route to the accessible entrance of a building or facility?
- Is the slope and cross slope of the vehicle charging space less than 2.1% (1:48)?
- Can the floor or ground surface be altered to achieve slopes less than 2.1% (1:48)?
- Is there sufficient space for an 11-foot-wide, 20-foot-long vehicle space and 5-foot-wide access aisle?
- Can the chargers be placed at the same level as the vehicle charging space?
- Will existing curbs and landscaping need to be removed or altered to place chargers at the same level as the vehicle charging space?
- Can a clear floor or ground space positioned for a parallel approach with an unobstructed side reach at operable parts be provided?
- Is the clear floor or ground space firm, stable, and slip resistant?

- If EV chargers must be mounted on a curb, are operable parts of the chargers still within an unobstructed side reach and no farther than 10 inches and no higher than 48 inches above the clear floor or ground space?
- What existing site constraints are there, and would locating chargers elsewhere on the site make them more accessible?

Accessible Mobility Features

EV chargers are designed to serve people who use mobility devices and must be located on an accessible route and should provide:

- a vehicle charging space at least 11 feet wide and 20 feet long, and
- adjoining access aisle at least 5 feet wide and maximum 2.1% slopes in each direction, and
- clear floor or ground space at the same level as the vehicle charging operable parts and positioned for an unobstructed side reach, and
- accessible operable parts, including on the charger and connector.

A single unit may look like this.

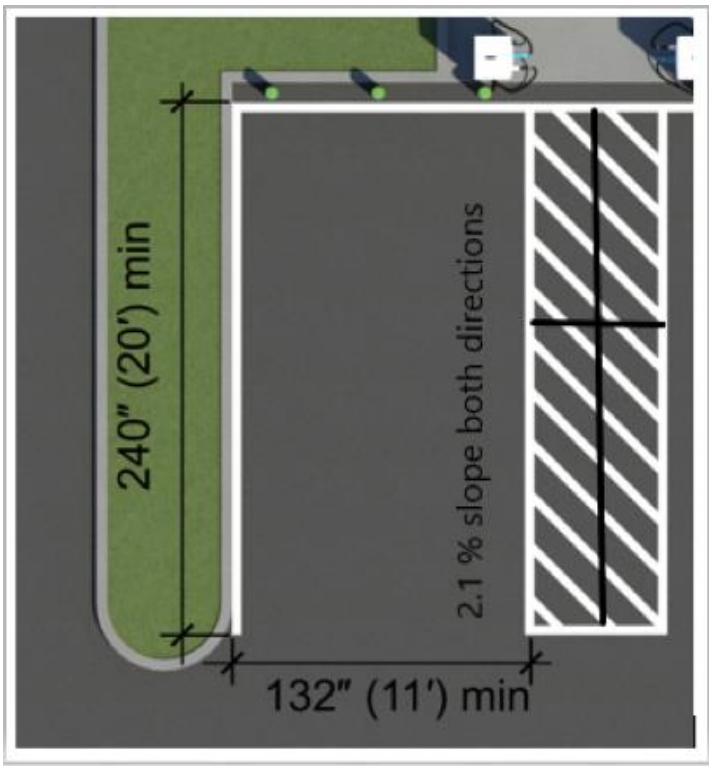


Figure 1- Access Aisle and Space, Credit: US Access Board

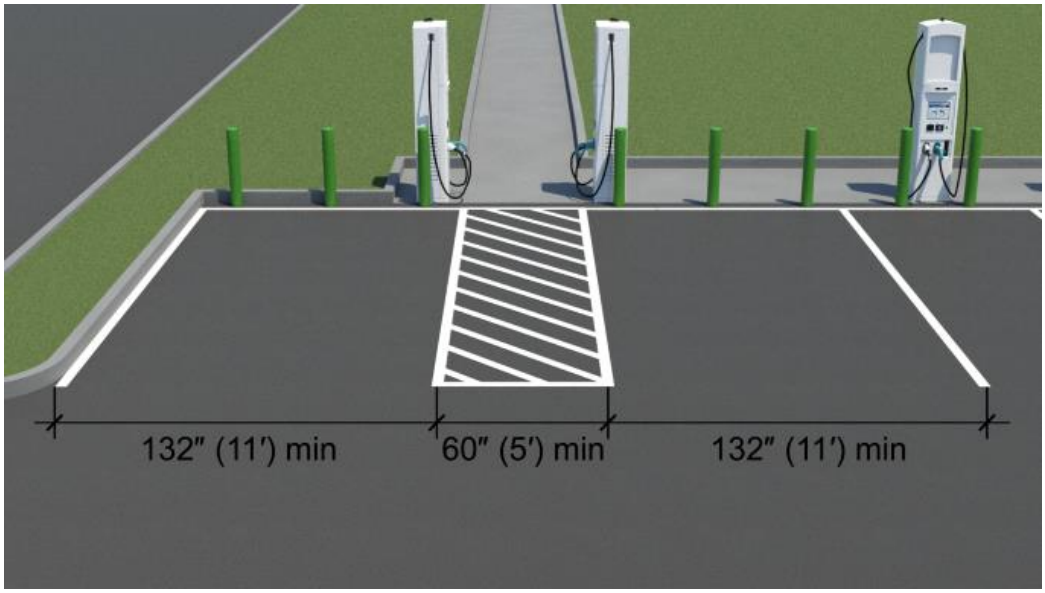


Figure 2 - Access Aisle, Credit: US Access Board

Access Aisle

The access aisle must be connected by an accessible route to the clear floor or ground space at the EV charger. The aisle should have no more than a 2.1% or 1:48 cross slope and running slope.

When charging cables are short, the charger should be positioned so that the operable parts and clear floor or ground space are on the same side as the access aisle. This configuration allows for placement of bollards to protect chargers without obstructing clear floor or ground space.

Clear Ground Space

Clear floor or ground spaces must meet requirements for ground and floor surfaces, including criteria for firmness, stability, and slip resistance. They must be free of changes in level and not sloped more than 2.1% or 1:48. Grass, curbs, wheel stops, and bollards may not be located within the clear floor or ground space.

Clear floor or ground space at chargers must be a minimum of 30 inches by 48 inches. Additional space may be required where the clear floor or ground space is confined on three sides and obstructed for more than half the depth (e.g., bollards, curbs, etc.) See Figure 3.

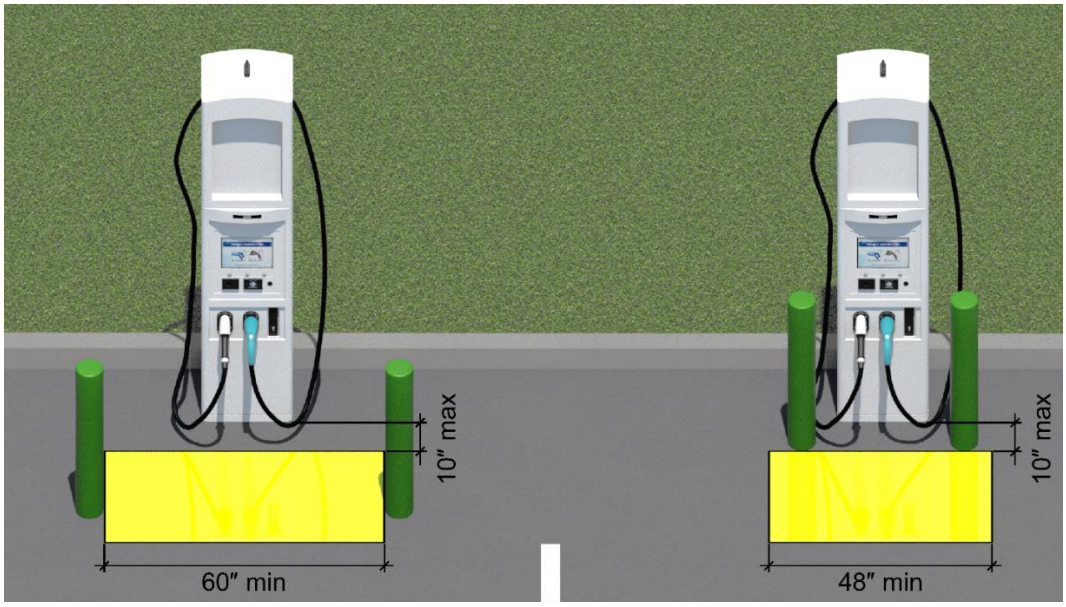


Figure 3 - Clear Grounds space, Credit: US Access Board

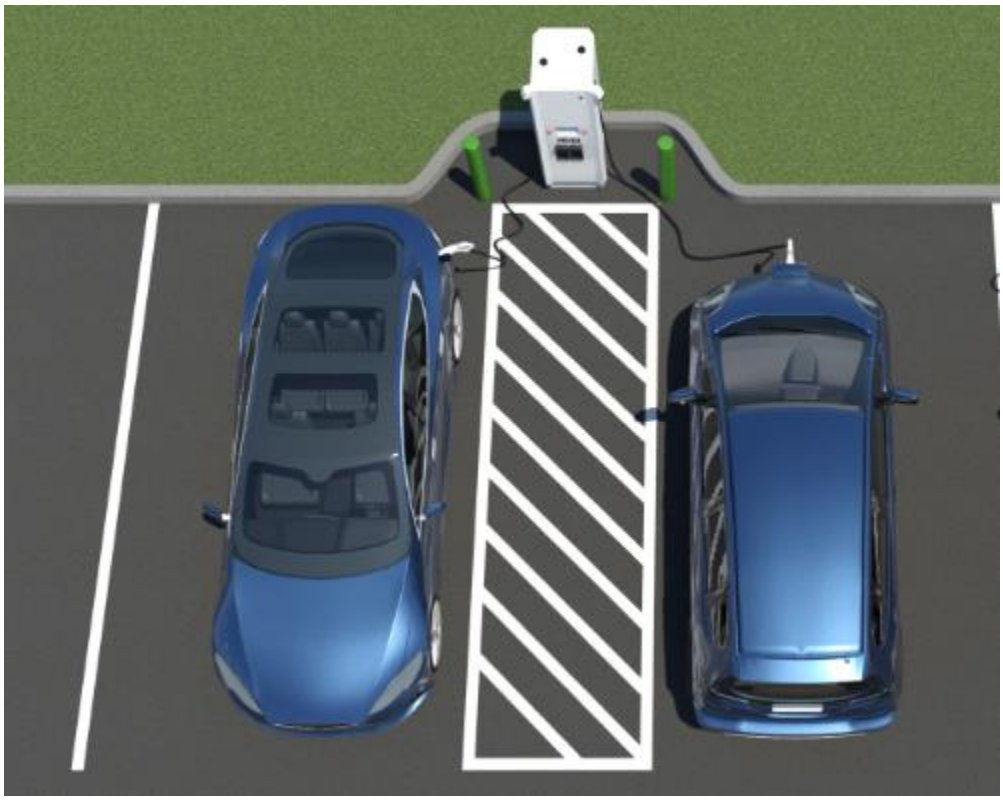


Figure 4 – Ground space with charging plugs on side of unit, Credit US Access Board

While both a forward approach and parallel approach are permitted under the ADA and ABA Standards, it is recommended that the clear floor or ground space be positioned for a parallel approach to the charger and centered on the operable part. If there are

multiple operable parts, the clear floor or ground space should be centered on the EV charger.

EV chargers are highly recommended to be installed at the same level as the vehicle charging space and access aisle so that the clear floor or ground space can be placed as close as possible to the EV charger. This design ensures people who use mobility devices can readily access chargers. **DO NOT DO THIS:**

Figure 5 - Credit: US Access Board

Unobstructed side reach

All operable parts should meet the requirements for an unobstructed side reach and be no higher than 48 inches above the clear floor or ground space and no farther than 10 inches away. Placing operable parts higher than the 15-inch minimum is recommended.

Connectors

Connectors must meet the requirements for operable parts, including operation with one hand and no tight grasping, pinching, or twisting of the wrist, and no more than five **(5) pounds** of force to operate.

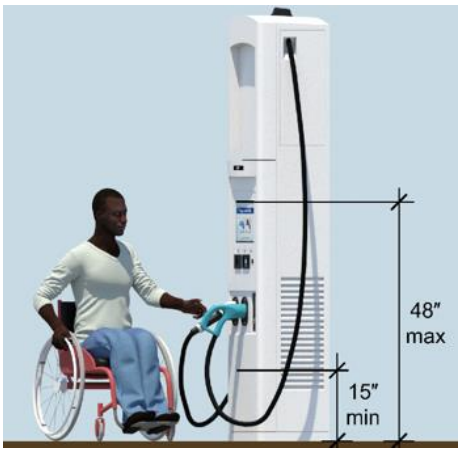


Figure 6- Connectors, Credit: US Access Board

Charging Cables

The ADA and ABA Accessibility Standards require operable parts to be operable with no more than 5 pounds of force and to not require tight grasping, pinching, or twisting of the wrist.

Light weight charging cables (AC Level 2, and some DCFCs) should be of sufficient length to charge a vehicle with various charging inlet locations.

Charging cables cannot block or obstruct accessible routes when stored or when connected to vehicles.

EV Chargers in the Public Right of way

If EV chargers must be installed on a curb, such as at on-street parking, place them as close to the edge of the face of the curb as possible and no farther than 10 inches away from the face of the curb.

Figure 7 Credit: US Access Board

Alternatively, the EV charger and a clear floor or ground space can be placed up on the curb or sidewalk, but this design should only be used at existing curbs when it is technically infeasible to lower the curb or sidewalk. The front of the charger should not face the street or curb, and charging cables should be sufficiently long and light enough to allow mobility device users to travel back down the curb ramp and reach their vehicle charging inlet. Reaching some vehicle charging inlets may only be achievable with long charging cables, and DCFCs may be limited to charging only vehicles that have charging inlets that can be reached from the sidewalk. More information on on-street EV installations can be found at: On-Street EV Charging Stations Design)

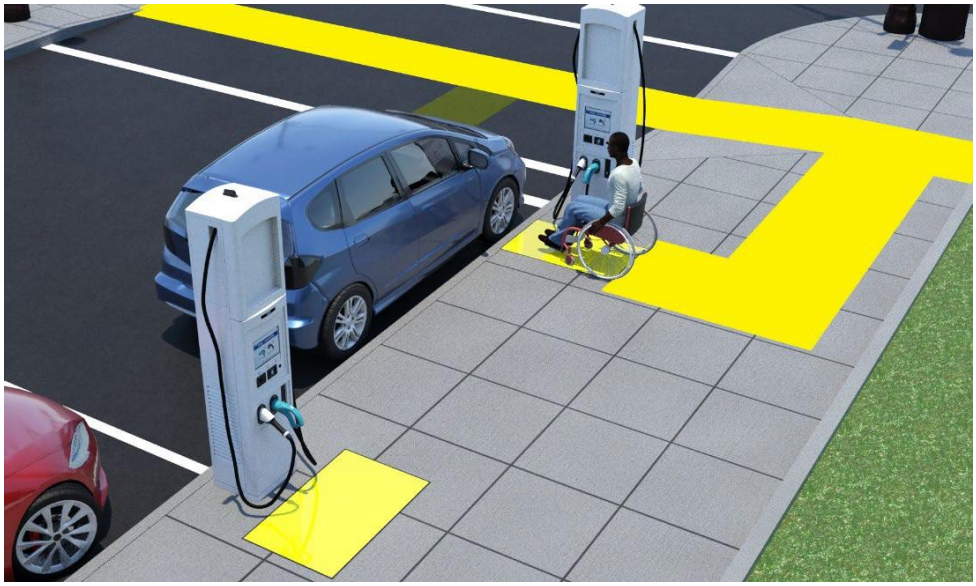


Figure 8 Credit: US Access Board

When possible, providing additional clear floor or ground space for a forward approach and turning space is recommended. Aligning the EV charger with the access aisle takes advantage of existing clear floor or ground space.

Signage – "Use Last" Model

Accessible parking spaces are identified with the International Symbol of Accessibility (ISA) and reserved for use **only** by a person with a disability placard or license plate. Use of the ISA at EV charging spaces causes confusion about whether people **without** a disability placard can use accessible EV charging spaces. Since EV charging stations usually have only a few chargers, reserving a charging space only for use by a person with a disability placard may result in underutilized chargers.

The "use last" model would not require that accessible spaces be reserved exclusively for people with disability placards. People without disability placards could use accessible EV charging spaces when all others are occupied, resulting in greater use of available chargers.

At the time of this guidance, neither Manual on Uniform Traffic Control Devices (MUTCD) nor any other code-setting organization has a standard for "use last" signs,

but the Access Board has designed several examples that can be used for signage at these spaces:

Figure 9- Sign Examples, Credit: US Access Board

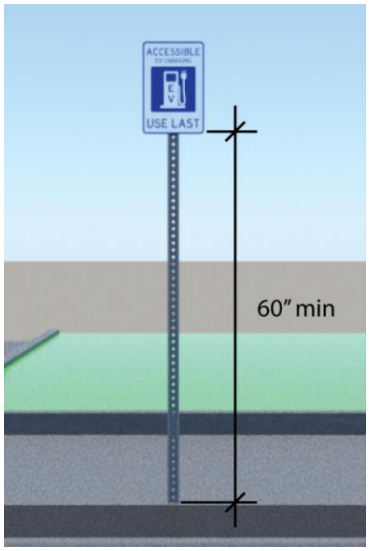


Figure 10-Sign Height, Credit: US Access Board

Number of Spaces

Five per cent but not fewer than one of electric vehicle (EV) charging spaces, in any given parking facility, must be accessible compliant. These spaces are accessible electric vehicle (EV) charging spaces, not ADA parking spaces.

Maintenance

As with all aspects of ADA compliance, EV accessible charging stations must be maintained and accessible by both public agencies and private corporations according to: *CFR 28§ 35.133 and 36.211 Maintenance of accessible features. (a) A public accommodation shall maintain in operable working condition those features of facilities*

and equipment that are required to be readily accessible to and usable by persons with disabilities by the Act or this part. This includes any striping, pavement repair and snow removal. The aisles and approaches to the EV chargers must be firm, stable and slip resistant and striping must be maintained to clearly define the accessible parking area. The equipment must remain reachable.

Conclusion

Accessible EV charging stations will ensure that all users can fully participate in the environmental and economic advantages of this historic transition to electric vehicles. By ensuring access and considering all users, we will guarantee that people of all abilities will have equal access to this technology. As technology advances these standards may develop further, but this document is a good start to ensure that we are doing our best to accommodate users of all abilities.

Contact Information

For information on this Guide Please contact:

Efficiency Maine
866-376-2463
ev@efficiencymaine.com

Checklists

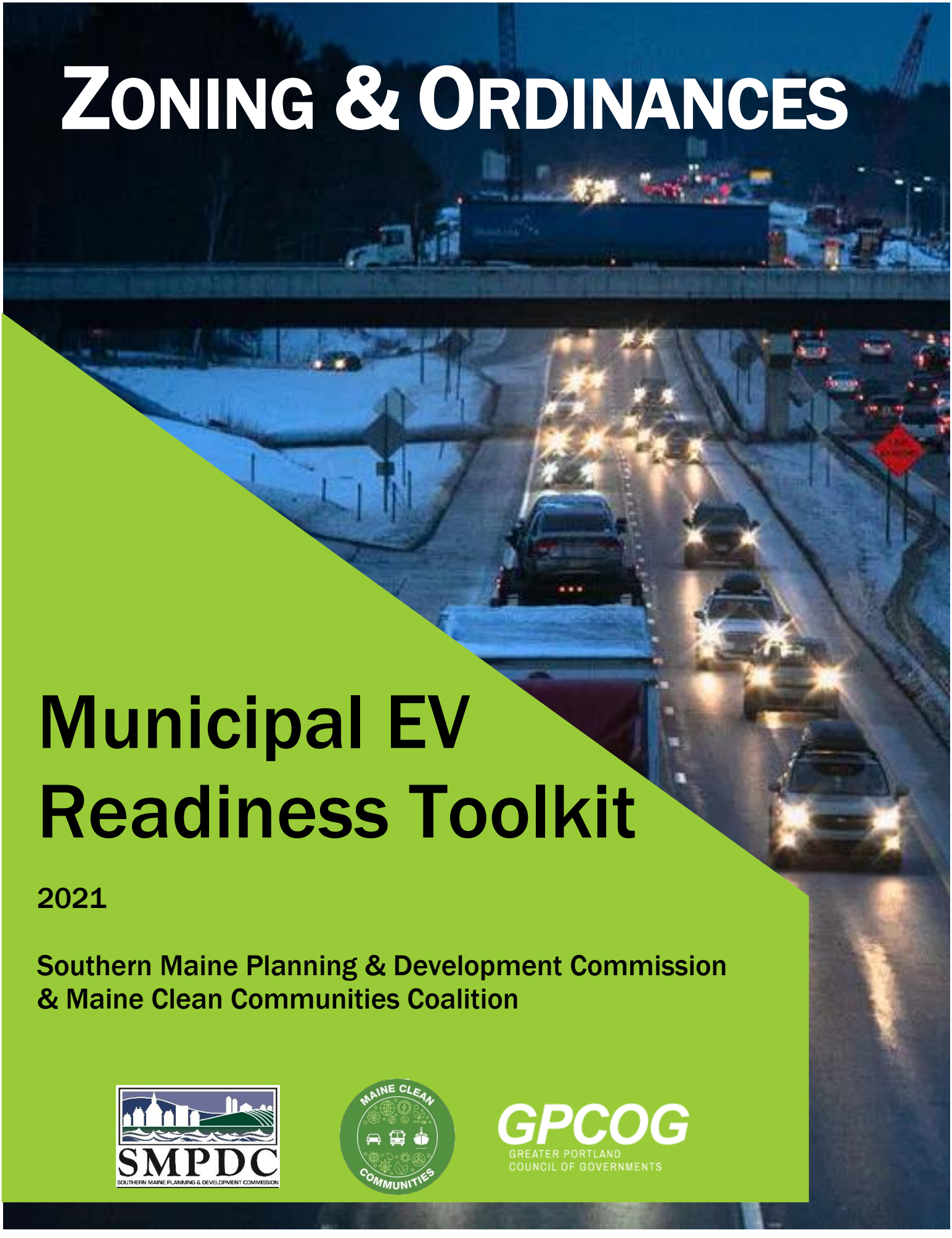
Planning for EV Stations, entities should ask questions about the feasibility of the area where EVs will be installed.

	Locating EV Charging Stations in Parking Lots
	Is the electricity source located or can be located to serve the accessible spaces?
	Can the chargers be connected by a compliant accessible route to the accessible entrance of the building or facility?
	How many EV charging stations will be created? 5% of spaces should be accessible and no less than one space should be accessible. (Not required to be exclusive.)
	Is the slope and cross slope of the vehicle charging space less than 1:48 or 2.1%?
	Can the floor or ground surface be altered to achieve slopes less than 1:48 or 2.1%?
	Is there sufficient space for an 11-foot-wide, 20-foot-long vehicle space and 5-foot-wide access aisle?
	Can the chargers be placed at the same level as the vehicle charging space? If not, will users be able to access and use the charger from the parking space lever?
	Will existing curbs and landscaping need to be removed or altered to place chargers at the same level as the vehicle charging space?
	Can a clear floor or ground space positioned for a parallel approach with an unobstructed side reach be provided?
	If EV chargers must be mounted on a curb, are operable parts of the chargers still within an unobstructed side reach and no farther than 10 inches and no higher than 48 inches above the clear floor or ground space?
	What existing site constraints are there, and would locating chargers elsewhere on the site make them more accessible?

Once the location has been determined and the parking area is being designed, ensure that these items are present (to the maximum extent feasible.)

Yes	No	Installation Checklist
		Is the accessible space 11 feet wide or more?
		Is the accessible space 20 feet long?
		Is the accessible Aisle 5 feet wide?
		Does the access aisle go directly to the charging station without obstructions?
		Is the charging station at the same level as the parking space?
		Is there a clear space at the Charging Station?
		Is the Clear Floor or Ground Space at chargers a minimum of 30 inches by 48 inches? More when ground space is confined on 3 sides.
		Is the clear Floor or Ground Space 1:48 OR 2% slope in both directions?
		Are the operable parts no more than 48 inches above the ground space?
		Are operable parts no more than 10 inches from the ground space?
		Is the connector easily operable with one hand and with no more than 5lbs force to operate?
		Do charging cables block or obstruct the accessible route when stored or connect to vehicles?
		Has signage been installed for the accessible space(s)?
		Is the sign no less than 60 inches from the ground?

ZONING & ORDINANCES



Municipal EV Readiness Toolkit

2021

Southern Maine Planning & Development Commission
& Maine Clean Communities Coalition

SMPDC
SOUTHERN MAINE PLANNING & DEVELOPMENT COMMISSION

MAINE CLEAN COMMUNITIES

GPCOG
GREATER PORTLAND COUNCIL OF GOVERNMENTS

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How to use this guide

Maine municipalities can guide the development of EV infrastructure by adopting a standalone EV infrastructure ordinance or by amending current land use, zoning, parking, and street ordinances. This guide details the regulatory best practices that municipalities can employ regarding EV infrastructure. For each regulatory tool, the guide provides the reasons for employment, best practices, example ordinance language, and alternative options. It is accompanied by a *Model EV Infrastructure Ordinance* (Appendix A). The example ordinance language throughout the guide is taken directly from the model ordinance. As currently structured, the *Model EV Infrastructure Ordinance* is a standalone ordinance that would be enacted outside of (but regulated by) a municipality's zoning or land use ordinance. Alternatively, towns may consider amending the zoning ordinance and/or other ordinances with the applicable regulatory language.

Using Zoning and Ordinances to facilitate EV infrastructure

Maine municipalities play a crucial role in encouraging and directing Electric Vehicle (EV) infrastructure through zoning and other ordinances. Municipalities can facilitate EV infrastructure expansion by:

- Identifying EV Charging Stations as a permitted accessory and primary use in zoning districts
- Requiring EV charging stations in new and redeveloped parking facilities
- Setting general requirements for EV infrastructure standards including siting, protection, usage rules, and signage
- Promoting EV charging station accessibility
- Clarifying regulations for EV parking spaces

The following sections discuss these regulatory tools, their importance, and options for adapting them to meet your community's needs. In addition, Appendix A provides a *Model EV Infrastructure Ordinance* that incorporates the best practices for facilitating and regulating EV charging infrastructure. The studies, research, and ordinance language that informed the Model EV Infrastructure Ordinance and guide are presented in the Additional Resources Section.

Permitting EV Charging Stations

By establishing which types of EV charging stations (EVCS) are permitted in different zoning districts, municipalities can eliminate confusion about what is and is not allowable while facilitating the broader development of EV infrastructure. This also clarifies and streamlines the permitting process for EV charging station installation. Municipalities may choose to distinguish charging stations by their level (i.e., Level 1, Level 2, and Level 3) in ordinance language. This allows the municipality to direct different types of charging infrastructure development to the appropriate locations based on their typical uses.

Permitting EV charging stations as an accessory use

Currently, the vast majority of EVCS are accessory to the primary use of a property. Specifically allowing EVCS as a permitted accessory use clarifies and streamlines the permitting process for residents and businesses.

Best practices

- Permit Level 1, Level 2 EV, and Level 3 EVCS as an accessory use in all zoning districts and overlay zones (*5.1*).
- Clarify that EV charging stations at residential properties are designated as private restricted use (*5.1*).
- Use a standard permit process for all accessory use EV charging station installations rather than requiring a conditional or special use permit for charging stations (*5.1*).

Ordinance Language

> 5.1. Level 1, Level 2, and Level 3 EVSCs are permitted in every zoning district, when accessory to the primary permitted use. Such stations located at single-family, two-family, and multi-family land uses shall be designated as private restricted use only.

Alternatives

- Permit Level 3 EV charging stations as an accessory use only in specific zones where fast charging infrastructure is appropriate (i.e. Commercial, Industrial, etc.).
- Add more specificity to where EVCS are a permitted accessory use in zoning districts and overlay zones. In this case, it may be useful to include a table of zoning districts identifying the type of electric vehicle infrastructure that is permitted and the process under which it is permitted (permitted, conditional, or not permitted).

Permitting EV charging stations as a primary use

While there are currently no dedicated EV fueling stations in Maine, municipalities should be proactive in preparing for emerging technologies and installations by identifying which zoning districts would permit EV charging stations as a primary use.

Best practices

- Permit EV charging stations as a primary use in all zoning districts where motor fuel stations are permitted (*5.2*).

Ordinance Language

> 5.2. If the primary use of the parcel is the retail electric charging of vehicles, then the use shall be considered a motor fuel station for zoning purposes. Installation shall be located in zoning districts which permit motor fuel stations.

Alternatives

- Specify the zoning districts and overlay zones where EV charging stations are permitted as a primary use, rather than only permitting them where motor fuel stations are allowed. In this case, it may be beneficial to include a table of zoning districts identifying the type of electric vehicle infrastructure that is permitted and the process under which it is permitted (permitted, conditional, or not permitted).

Requiring EV infrastructure in new development and redevelopment

Commercial, workplace, and multi-family residential development are all subject to development regulations and design standards. Requiring EV infrastructure is particularly important in multi-family residential developments, as it reduces the barriers to EV ownership for low to moderate-income households. Development regulations can provide requirements for two different types of EV infrastructure:

1) *EV charging stations.* Requiring EV charging stations in ordinance parking standards will help Maine communities build up the infrastructure needed to support residents and visitors with EVs.
2) *Electrical capacity.* Municipalities can require that electrical wiring and capacity needed for future EV charging be installed at the time a parking structure is built. Electrical capacity standards help prepare – at the time of construction – for the future installation of EV charging stations. They help capture savings and streamline future installation by avoiding future costly retrofits and have minimal impacts on the construction or renovation costs for the parking facility. Parking spaces with the electrical capacity to support future EVCS are referred to as *EV Ready*.

Best practices

- Require all new or reconstructed parking spaces to install EV charging stations if they meet certain threshold criteria, either by the number of parking spaces or size of the development (*6.1 and 6.1.1*).
- Require all new or reconstructed parking spaces to also provide electrical capacity for additional future EV charging stations if they meet certain threshold criteria, either by the number of parking spaces or size of the development (*6.1.2*).
- Specify the number of EV charging stations and amount of electrical capacity to be installed by land use type to reflect the differences in expected charging patterns (i.e. more access to charging needed at home and work rather than at a restaurant) (*Table 6.1*).
- Allow for some flexibility in these requirements on a case-by-case basis (*6.1.3)*.

Ordinance Language

6.1. All new or reconstructed parking structures or lots shall be required to install EVCSs according to Table 6.1 when one of the following conditions is met:

- The development includes a new off-street parking facility with more than 10 spaces; or
- The parking capacity of an existing building, site, or parking facility with 20 or more spaces is increased by 30 percent or more (expressed as [number of additional spaces]/[number of existing spaces] x 100).

6.1.1. The number of EV charging stations required to be installed at the time of development is stated as a percentage of the total number of parking spaces in Column A of Table 6.1. Requirements will be rounded to closest whole number but will always be a value of at least one EVCS to be available at the time of development occupancy.

6.1.2. To meet anticipated demand for EV charging stations as the technology becomes more widespread, Column B of Table 6.1 specifies the required increased electrical capacity to enable future EV charging station installations. Electric capacity requirements are met by providing a cabinet, box or enclosure connected to a conduit linking parking spaces with 208/240V or higher voltage AC electrical service for the suitable for the number of charging stations. Capacity requirements will be rounded to the closest whole number.

- Site design must provide electrical, associated ventilation, accessible parking, and wiring connection to transformer to support the additional potential future electric vehicle charging stations.

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Table 6.1
EV Charging Requirements for new and reconstructed parking structures

Land Use Type	A. Number of EVCS required (As a % of total parking spaces)	B. Increased Electrical Capacity for future EVCS (As a % of total parking spaces)
Multi-family Residential	10%	10%
Lodging	3%	3%
General Office, Medical	3%	3%
Industrial	1%	1%
Institutional, Municipal	3%	3%
Commercial (Retail, Dining, Recreational, Entertainment, Cultural, etc.)	1%	1%

6.1.3. These requirements may be revised upward or downward by the Planning Board as part of an application for a conditional use permit or planned unit development based on verifiable information pertaining to parking.

Alternatives

- Provide more specificity on the type of EV charging stations required for each land use type. For example, development at a commercial establishment could be required to install a Level 2 charging station rather than a Level 1 to allow for faster charging.
- Allow for a *Fee in Lieu* for those developments where the required number of EVCS do not meet the anticipated needs of the facility (i.e. a large distribution center). The greatest benefit to a *Fee in Lieu* program is that fees may be used to fund the installation of public or private charging stations for low-income or other priority EVCS installations to meet community and accessibility goals. However, managing this program will require significantly more administrative time.
- Provide density bonuses for EVCS installations. Rather than requiring EV charging stations, municipalities instead may provide density bonuses to incentivize the inclusion of charging stations in a development project. Incentives typically take the form of an increase in the allowable floor area or a decrease in the total required parking stalls.

Establishing General Requirements for EV Infrastructure

Municipalities can facilitate smooth permitting, operation, and regulation of EV infrastructure by articulating standards for EV infrastructure design, installation, and operation. Requirements and standards are most important for Public Use EV infrastructure to promote safety, accessibility, and availability of EV infrastructure to EVs, pedestrians, and non-EV vehicles.

Best practices

- Municipalities should exempt EV charging stations in private residences from conforming to general station requirements (*7.1*).

Ordinance Language

> 7.1. Electric vehicle charging stations within single-family and two-family residences are exempt from the below general requirements. This does not exempt electrical or other permit obligations.

Alternatives

- Specify requirements for EV charging stations in private residences.

Setting General Station Requirements

EV Charging station requirements determine the design and operation criteria that ensure EV charging stations and their associated parking spaces are safe and easy to access. They also clearly articulate the rights of EV charging station owners to set time limits and collect usage fees.

Best practices

- Specify that standard parking spaces be used for EV charging stations (*7.2.1*).
- Set clear equipment and protection standards including clearance, charging station equipment design, charging station equipment protection, and maintenance requirements (*7.2.2*).
- Require clear signage indicating EV charging stations, relevant use information, wayfinding (*7.2.3*).
- Require site lighting to support the safety and security of EV charging stations (*7.2.4*).
- Allow EV infrastructure owners to set time limits (*7.2.5*), regulate EV charging station availability (*7.2.6*), and collect usage fees (*7.2.7*).

Ordinance Language

7.2. **General station requirements**

7.2.1. Size. A standard size parking space shall be used for an electric vehicle charging station where such a station is required or planned.

7.2.2. Equipment Standards and Protection. Where provided, parking for electric vehicle charging purposes shall meet the standards of subsections 7.2.2 (1) through (4) of this section.

1) Clearance. Charging station equipment mounted on pedestals, light posts, bollards or other devices shall be a minimum of 24 inches clear from the face of curb.

2) Charging Station Equipment. Charging station outlets and connector devices shall be no less than 36 inches or no higher than 48 inches from the top of surface where mounted, and shall be designed and located as to not impede pedestrian travel or create trip hazards on sidewalks.

3) Charging Station Equipment Protection. When the electric vehicle parking space is perpendicular or at an angle to curb face and charging equipment, adequate equipment protection, such as wheel stops or concrete-filled steel bollards shall be used.

4) Maintenance. Charging station equipment shall be maintained in all respects, including the functioning of the charging equipment. A phone number or other contact information shall be provided on the charging station equipment for reporting when the equipment is not functioning or other problems are encountered.

7.2.3. Signage. Electric vehicle charging stations, other than in residential use, shall have posted signage allowing only charging electric vehicles to park in such spaces. For the purposes of this subsection, “charging” means that an electric vehicle is parked at an electric vehicle charging station and is connected to the charging station equipment. Signage for parking of electric vehicles shall include:

1) Information on the charging station to identify voltage and amperage levels and any time of use, fees, or safety information.

2) As appropriate, directional signs to effectively guide motorists to the charging station space(s).

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7.2.4. Lighting. Site lighting shall be provided where EVCS is installed unless charging is for daytime purposes only. Lighting standards should be met pursuant to the (MUNICIPALITY)'s zoning ordinance.

7.2.5. Time limits may be placed on the number of hours that an electric vehicle is allowed to charge, prohibiting indefinite charging/parking. If applicable, warnings shall be posted to alert charging station users about hours of use and possible actions affecting EVCSs that are not being used according to posted rules.

7.2.6. The EVCS must be operational during the normal business hours of the use(s) that it serves. EVCS may be de-energized or otherwise restricted after normal business hours of the use(s) it serves.

7.2.7. Usage Fees. The property owner or operator is not restricted from collecting a service fee for the use of an electric vehicle charging station made available to visitors of the property.

Alternatives

- Specify where EV parking spaces should be located within a parking lot or parking structure (ex. locating EV charging stations in desirable and convenient locations to incentivize use of EVs)
- Provide more specific guidance on the type of signage required for EV parking spaces

Requiring and Encouraging Accessible Facilities

As EV infrastructure expands, it is important to ensure that EV charging stations are accessible to people with disabilities. In the United States, the accessibility of public facilities is mandated by the Americans with Disabilities Act (ADA). However, the ADA does not yet have a standard addressing the design and number requirements of accessible EV charging stations. In general, accessible EV parking spaces should meet the general requirements for accessible parking laid out in the ADA Accessibility Standards (view the federal guide here).

Best practices

- Require a minimum number of accessible EV charging stations for parking structures with 5 or more EV charging stations (*7.3.1*).
- Encourage a minimum of one accessible EV charging station at sites with less than 5 EV charging stations (*7.3.2*).
- Provide basic specifications for the location and routes to the EV charging station (*7.3.4*)
- Specify that it is not necessary to designate an accessible EV charging station exclusively for the use of people with disabilities (*7.3.4*).

Ordinance Language

7.3. **Accessible Facilities**

7.3.1. Where electric vehicle charging stations are provided in parking lots or parking garages, excluding garages in single-family or two-family residential units, accessible electric vehicle charging stations shall be provided according to the ratios shown in Table 7.3. The first column indicates the number of electric vehicle stations being provided on-site and the second column indicates the number of accessible charging stations that are to be provided for the corresponding number(s) of charging stations.

Table 7.3
Minimum Number of Accessible Electric Vehicle (EV) Charging Stations

Number of EV charging stations	Minimum accessible EV charging stations
5–50	1
51–100	2
101–150	3

7.3.2. It is strongly encouraged, but not required, that a minimum of one accessible EVCS be provided at sites with less than 5 EVCSs.

7.3.3. Accessible electric vehicle charging stations should be located in close proximity to the building or facility entrance and shall be connected to a barrier-free accessible route of travel. It is not necessary to designate the accessible electric vehicle charging station exclusively for the use of disabled persons.

Alternatives

- Encourage, but do not require, any accessible EV charging stations.
- Require a minimum of one accessible electric vehicle charging station parking space in all parking structures.

Clarifying Regulations for EV Parking Spaces

Municipalities should clearly state the intended use and parking regulations for EV charging stations and their parking spaces to ensure proper use of EV infrastructure. Setting clear restrictions on EV infrastructure use gives authority to the municipality and EV charging station owners to regulate the use of EV charging stations. Clear enforcement policies ensure EV infrastructure is available to and best utilized by EV drivers.

Best practices

- Include EV parking spaces in the requirements for both minimum and maximum parking spaces (*7.4.1*).
- Ensure EV parking spaces are reserved for the parking and charging of EVs (*7.4.2*).
- Clarify that EVs may be parked in any space designated for public parking *(7.4.3*).
- Restrict nonelectric vehicles from stopping, standing, or parking in an EV parking space (*7.5.1*).
- Clarify that EVs that are parked in an EV parking space but not charging or parking beyond set time limits are subject to removal *(*7.5.2*)*.

Ordinance Language

7.4. **Charging and Parking**

7.4.1. EVCS parking spaces are to be included in the calculation for both the number of minimum and maximum parking spaces required, as provided by [Section number for Parking Requirements].

7.4.2. EVCS parking spaces, where provided for public use, are reserved for parking and charging electric vehicles only, except as otherwise provided by this [chapter/section].

7.4.3. Electric vehicles may be parked in any space designated for public parking, subject to the restrictions that would apply to any other vehicle that would park in that space.

7.5. **Parking Restrictions**

7.5.1. No person shall stop, stand or park any non-electric vehicle in a space designated through signage as an electric vehicle charging station. Any non-electric vehicle is subject to removal by the property owner or the property owner's agent.

7.5.2. Any electric vehicle in an electric vehicle parking stall that is signed exclusively for electric vehicle charging and that either (1) is not electrically charging or (2) is parked beyond the days and hours designated on regulatory signs posted at or near the space shall be subject to removal as posted by the property owner or the property owner's agent. For purposes of this subsection, "charging" means an electric vehicle is parked at an electric vehicle charging station and is connected to the charging station equipment.

Alternatives

- None

Appendix A: Model EV Infrastructure Ordinance

SOUTHERN MAINE PLANNING AND DEVELOPMENT COMMISSION

MODEL ORDINANCE

ELECTRIC VEHICLE INFRASTRUCTURE

SMPDC
SOUTHERN MAINE PLANNING & DEVELOPMENT COMMISSION

Chapter/Article _____

ELECTRIC VEHICLE INFRASTRUCTURE

1. Authority

1.1. This ordinance shall be titled "(MUNICIPALITY) Electric Vehicle Infrastructure Ordinance" and is enacted pursuant of the provisions of M.R.S.A. Title 30-A, Chapter 141 §3001 - §3003 and Chapter 187 §4351.

1.2. The Planning Board of the (MUNICIPALITY), hereinafter called the Board, shall administer these regulations for new and redeveloped parking facilities.

2. Purpose

2.1. The purpose of this ordinance is to facilitate and encourage the use of electric vehicles, to expedite the establishment of a convenient, cost-effective electric vehicle infrastructure, and to establish minimum requirements for such infrastructure to serve both long-term and short-term parking needs.

3. Definitions

Accessible electric vehicle charging station means an electric vehicle charging station where the battery charging station is located within accessible reach of a barrier-free access aisle and the electric vehicle.

Battery charging station means an electrical component, assembly or cluster of component assemblies designed specifically to charge batteries within electric vehicles.

Battery electric vehicle means any vehicle that operates exclusively on electrical energy from an off-board source that is stored in the vehicle's batteries and produces zero tailpipe emissions or pollution when stationary or operating.

Charging levels means the standardized indicators of electrical force, or voltage, at which an electric vehicle's battery is recharged. The terms 1, 2, and DC are the most common charging levels, and include the following specifications:

- Level 1 provides charging through a 120 volt (V), alternating-current (AC) plug. Level 1 is considered as slow charging. Level 1 charging equipment is standard on vehicles and therefore does not require the installation of charging equipment. The most common place for Level 1 charging is at the vehicle owner's home and is typically conducted overnight.

- Level 2 charging is through a 240V, AC plug and requires installation of home charging or public charging equipment. These units require a dedicated 40 amp circuit. Level 2 chargers are commonly found in residential settings, public parking areas, places of employment and commercial settings.

- Level 3 charging is through a 480V, direct-current (DC) plug. Due to their high cost and extremely high power draw, Level 3 chargers are typically found in commercial or industrial locations rather than residential.

Electric vehicle means a vehicle that operates, either partially or exclusively, on electrical energy from the electrical grid, or an off-grid source, that is stored on board for motive purposes. "Electric vehicle" includes:

- Battery electric vehicle
- Plug-in hybrid electric vehicle

Electric vehicle charging station (EVCS) means a public or private parking space that is served by battery charging station equipment that has as its primary purpose the transfer of electric energy (by conductive or inductive means) to a battery or other energy storage device in an electric vehicle.

Electric vehicle charging station – private restricted use means an electric vehicle charging station that is:

- Privately owned and restricted access (e.g., single-family home, executive parking, designated employee parking, assigned parking at multi-family residential buildings); or
- Publicly owned and restricted (e.g., fleet parking with no access to the general public).

Electric vehicle charging station – public use means an electric vehicle charging station that is:

- Publicly owned and publicly available (e.g., Park & Ride parking, public library parking lot, on-street parking); or
- Privately owned and available to visitors of the use (e.g., shopping center parking).

Electric vehicle infrastructure means conduit/wiring, structures, machinery, and equipment necessary and integral to support an electric vehicle, including battery charging stations.

Electric vehicle parking space means any marked parking space that identifies the use to be exclusively for the parking of an electric vehicle.

Electric vehicle supply equipment (EVSE) means any equipment or electrical component used in charging electric vehicles at a specific location. EVSE does not include equipment located on the electric vehicles themselves.

Electrical capacity shall mean, at minimum:

- Panel capacity to accommodate a dedicated branch circuit and service capacity to install a 208/240V outlet per charger;
- Conduit from an electric panel to future EVCS location(s).

Non-electric vehicle means any motor vehicle that is license and registered for operation on public and private highways, roads, and streets that does not meet the definition of an electric vehicle.

Plug-in hybrid electric vehicle means an electric vehicle that:

- Contains an internal combustion engine and also allows power to be delivered to drive wheels by an electric motor;
- Charges its battery primarily by connecting to the grid or other off-board electrical source;
- May additionally be able to sustain battery charge using an on-board internal-combustion-driven generator; and
- Has the ability to travel powered by electricity.

4. Applicability

4.1. This ordinance shall apply to all electric vehicle infrastructure installed, constructed, or modified after the effective date of this Ordinance.

4.2. Electric vehicle infrastructure in place prior to the effective date of this ordinance shall not be required to meet the requirements of this ordinance unless substantial modification to the infrastructure is proposed in accordance with the criteria identified in Section 6.1.

4.3. All electric vehicle infrastructure shall be designed, built, and installed in accordance with applicable local, state, and federal codes, regulations, and standards.

5. Permitted Locations

5.1. Level 1, Level 2, and Level 3 EVCS are permitted in every zoning district, when accessory to the primary permitted use. Such stations located at single-family, two-family, and multi-family land uses shall be designated as private restricted use only.

5.2. If the primary use of the parcel is the retail electric charging of vehicles, then the use shall be considered a motor fuel station for zoning purposes. Installation shall be located in zoning districts which permit motor fuel stations.

6. Required Facilities

6.1. All new or reconstructed parking structures or lots shall be required to install EVCS according to Table 6.1 when one of the following conditions is met:

- The development includes a new off-street parking facility with more than 10 spaces; or
- The parking capacity of an existing building, site, or parking facility with 20 or more spaces is increased by 30 percent or more (expressed as [number of additional spaces]/[number of existing spaces] x 100).

6.1.1. The number of EV charging stations required to be installed at the time of development is stated as a percentage of the total number of parking spaces in Column A of Table 6.1. Requirements will be rounded to closest whole number but will always be a value of at least one EVCS to be available at the time of development occupancy.

6.1.2. To meet anticipated demand for EV charging stations as the technology becomes more widespread, Column B of Table 6.1 specifies the required increased electrical capacity to enable future EV charging station installations. Electric capacity requirements are met by providing a cabinet, box or enclosure connected to a conduit linking parking spaces with 208/240V or higher voltage AC electrical service for the suitable for the number of charging stations. Capacity requirements will be rounded to the closest whole number.

- Site design must provide electrical, associated ventilation, accessible parking, and wiring connection to transformer to support the additional potential future electric vehicle charging stations.

Table 6.1
EV Charging Requirements for new and reconstructed parking structures

Land Use Type	A. Number of EVCS required (As a % of total parking spaces)	B. Increased Electrical Capacity for future EVCS (As a % of total parking spaces)
Multi-family Residential	10%	10%
Lodging	3%	3%
General Office, Medical	3%	3%
Industrial	1%	1%
Institutional, Municipal	3%	3%
Commercial (Retail, Dining, Recreational, Entertainment, Cultural, etc.)	1%	1%

6.1.3. These requirements may be revised upward or downward by the Planning Board as part of an application for a conditional use permit or planned unit development based on verifiable information pertaining to parking.

7. General Requirements for Electric Vehicle Infrastructure

7.1. Electric vehicle charging stations within single-family and two-family residences are exempt from the below general requirements. This does not exempt electrical or other permit obligations.

7.2. **General station requirements**

7.2.1. Size. A standard size parking space shall be used for an electric vehicle charging station where such a station is required or planned.

7.2.2. Equipment Standards and Protection. Where provided, parking for electric vehicle charging purposes shall meet the standards of subsections 7.2.2 (1) through (4) of this section.

1. Clearance. Charging station equipment mounted on pedestals, light posts, bollards or other devices shall be a minimum of 24 inches clear from the face of curb.

2. Charging Station Equipment. Charging station outlets and connector devices shall be no less than 36 inches or no higher than 48 inches from the top of surface where mounted, and shall be designed and located as to not impede pedestrian travel or create trip hazards on sidewalks.

3. Charging Station Equipment Protection. When the electric vehicle parking space is perpendicular or at an angle to curb face and charging equipment, adequate equipment protection, such as wheel stops or concrete-filled steel bollards shall be used.

4. Maintenance. Charging station equipment shall be maintained in all respects, including the functioning of the charging equipment. A phone number or other contact information shall be provided on the charging station equipment for reporting when the equipment is not functioning or other problems are encountered.

7.2.3. Signage. Electric vehicle charging stations, other than in residential use, shall have posted signage allowing only charging electric vehicles to park in such spaces. For the purposes of this subsection, “charging” means that an electric vehicle is parked at an electric vehicle charging station and is connected to the charging station equipment. Signage for parking of electric vehicles shall include:

- Information on the charging station to identify voltage and amperage levels and any time of use, fees, or safety information.

- Restrictions shall be included on the signage, if removal provisions are to be enforced by the property owner pursuant to Chapter ___.

- As appropriate, directional signs to effectively guide motorists to the charging station space(s).

7.2.4. Lighting. Site lighting shall be provided where EVCS is installed unless charging is for daytime purposes only. Lighting standards should be met pursuant to the (MUNICIPALITY)'s zoning ordinance.

7.2.5. Time limits may be placed on the number of hours that an electric vehicle is allowed to charge, prohibiting indefinite charging/parking. If applicable, warnings shall be posted to alert charging station users about hours of use and possible actions affecting EVCS that are not being used according to posted rules.

7.2.6. The EVCS must be operational during the normal business hours of the use(s) that it serves. EVCS may be de-energized or otherwise restricted after normal business hours of the use(s) it serves.

7.2.7. Usage Fees. The property owner or operator is not restricted from collecting a service fee for the use of an electric vehicle charging station made available to visitors of the property.

7.3. **Accessible Facilities**

7.3.1. Where electric vehicle charging stations are provided in parking lots or parking garages, excluding garages in single-family or two-family residential units, accessible electric vehicle charging stations shall be provided according to the ratios shown in Table 7.3. The first column indicates the number of electric vehicle stations being provided on-site and the second column indicates the number of accessible charging stations that are to be provided for the corresponding number(s) of charging stations.

Table 7.3
Minimum Number of Accessible Electric Vehicle (EV) Charging Stations

Number of EV charging stations	Minimum accessible EV charging stations
5–50	1
51–100	2
101–150	3

7.3.2. It is strongly encouraged, but not required, that a minimum of one accessible EVCS be provided at sites with less than 5 EVCS.

7.3.3. Accessible electric vehicle charging stations should be located in close proximity to the building or facility entrance and shall be connected to a barrier-free accessible route of travel. It is not necessary to designate the accessible electric vehicle charging station exclusively for the use of disabled persons.

7.4. **Charging and Parking**

7.4.1. EVCS parking spaces are to be included in the calculation for both the number of minimum and maximum parking spaces required, as provided by [Chapter and Section number for Parking Requirements].

7.4.2. EVCS parking spaces, where provided for public use, are reserved for parking and charging electric vehicles only, except as otherwise provided by this [chapter/section].

7.4.3. Electric vehicles may be parked in any space designated for public parking, subject to the restrictions that would apply to any other vehicle that would park in that space.

7.5. **Parking Restrictions**

7.5.1. No person shall stop, stand or park any non-electric vehicle in a space designated through signage as an electric vehicle charging station. Any non-electric vehicle is subject to removal by the property owner or the property owner's agent.

7.5.2. Any electric vehicle in an electric vehicle parking stall that is signed exclusively for electric vehicle charging and that either (1) is not electrically charging or (2) is parked beyond the days and hours designated on regulatory signs posted at or near the space shall be subject to removal as posted by the property owner or the property owner's agent. For purposes of this subsection, "charging" means an electric vehicle is parked at an electric vehicle charging station and is connected to the charging station equipment.

7.6. **Decommissioning**: Unless otherwise directed by the (MUNICIPALITY). Within ninety (90) days of cessation of use of the EVCS, the property owner or operator shall restore the site to its original condition. Should the property owner or operator fail to complete said removal within ninety (90) days, the (MUNICIPALITY) shall conduct the removal and disposal of improvements at the property owner or operator's sole cost and expense.

8. **Violations**

8.1. If the owner of an EVCS is found to be in violation of the provisions of this Ordinance, Code Enforcement Officer shall be responsible for administering the violation.

9. **Effectiveness, Interpretation, Severability**

9.1. This ordinance shall become effective immediately upon its adoption.

9.2. All other portions, parts, and provisions of the Zoning Ordinance of (MUNICIPALITY) as heretofore enacted and amended shall remain in force and effect.

9.3. The invalidity of any section or provision of the ordinance shall not be held to invalidate any other section or provision of this Ordinance.

9.4. If any part of this ordinance conflicts with any other applicable federal, state, or local regulation, the more restrictive regulation shall control.

Appendix B: Additional Resources

These best practices are based on the synthesis of the recommendations and experiences of many cities, counties, and regional planning organizations across the United States. The following documents and websites are the source of this material and provide examples of ordinance language adopted in other communities.

1. Alternative Fuels Data Center Plug-In Electric Vehicle Readiness
2. Aspen Community Electric Vehicle Readiness Plan
3. Chittenden County RPC Electric Vehicle Charging Station Guidebook
4. Delaware Valley Electric Vehicle Resource Kit for Municipalities
5. Electric Vehicle Infrastructure: A Guide for Local Governments in Washington State
6. Fairfield, CT EV Readiness Study
7. Great Plains Institute Summary of Best Practices in Electric Vehicle Ordinances
8. Iowa Clean cities Coalition Leading the Charge: City Codes and Electric Vehicles
9. Metropolitan Mayors Caucus EV Readiness Checklist
10. North Jersey Transportation Planning Authority: Alternative Fuel vehicle Readiness
11. Plug-in Electric Vehicle Best Practices Compendium
12. Ready Set Charge California
13. Recommended Bylaw Updates for Electric Vehicle Charging
14. Southern Georgia Regional Commission Model Ordinance for the Development of Electric Vehicle Infrastructure
15. St. Louis Park Zoning Ordinance Article V: Electric Vehicle Supply Equipment
16. Transportation and Climate Initiative Creating EV-ready Towns and Cities
17. US DOE Guide to the Lessons Learned from the Clean Cities Community Electric Vehicle Readiness Projects

CAP Amendment Process

IDENTIFY CHANGE NEEDED

DISCUSS OPTIONS

SEEK PUBLIC INPUT

DRAFT AMENDMENT

SEEK APPROVALS