

This document has been prepared as part of the implementation project of Legal Pathways to Deep Decarbonization (Michael B. Gerrard and John C. Dernbach, eds. Environmental Law Institute [2019]) (LPDD). For background information on the project, see <https://lpdd.org>

MODEL MUNICIPAL ORDINANCE FOR USING STREET LIGHT POLES FOR ELECTRIC VEHICLE CHARGING

WITH COMMENTARY IN ITALICS

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Introduction: *"To reduce the United States' greenhouse gas emissions by at least 80% from 1990 levels by 2050 will require... deployment of approximately 300 million alternative fuel vehicles, which for the purposes of this chapter consists of electric vehicles [EVs], hybrids (electric and gas) and hydrogen vehicles ['AFVs']. The goal is to shift 80%-95% of the miles driven from gasoline to lower carbon energy sources like electricity and hydrogen." LPDD, Ch. 14 at 353. AFVs face a number of barriers to reaching these goals, including infrastructure deficiencies. LPDD, Ch. 14 at 361.*

Electric vehicle owners rely primarily on charging their vehicles at home on a daily basis. Even Tesla, which has installed a wide commercial charging network, expects that residential charging will remain dominant. However, in some neighborhoods, many residents live in apartments without garages or access to charging. In general, there seems to be public consensus that funds for infrastructure development would be better spent developing charging stations that are available to the public, especially focusing on neighborhoods where "millions of Americans ... live in apartments or condominiums without charging access at home." LPDD, Ch. 14 at 362.

We propose a solution to this barrier to home charging--having municipalities use their street light poles to support Level Two electrical vehicle chargers. When municipalities convert street light poles to LED lights, they can use the excess electric power freed up by the conversion to power charging stations at the base of the pole, which can be installed by a private company (e.g. Ubitricity) at a cost of the equivalent of 110 US Dollars in 20-30 minutes.^{1/} The adjacent parking space may be reserved for the limited times it takes to charge the EV. We propose that

^{1/} <https://www.ubitricity.com/en/mobilecharging-system-2/qa/>;

<https://www.youtube.com/watch?v=rKaEhBjt1ls>;

<https://www.youtube.com/watch?v=8Gdt8Ygjy4Q>;

<https://www.cleanenergywire.org/news/mobility-start-ubitricity-wants-revolutionise-e-car-charging>

municipalities set a goal of installing by 2025 one charge point or port for every 50 units in neighborhoods or blocks with multi-family residences, to the extent there are sufficient street light poles on the same block. The charge ports would be accessible to those electric vehicle users who bring their own smart cable that allows for immediate charging and billing, so that the municipality does not lose money, and the concern that charging cables might be left on the street and destroyed is eliminated.^{2/} The Bureau of Street Lighting in Los Angeles has installed electric vehicle charging stations on 132 streetlights.^{3/} In addition, curbside charging is being, or has been, piloted in New York City, Indianapolis and Jersey City, as well as in Montreal and Europe.^{4/} Arguably, simply starting piloting programs is insufficient at this time, as the need for infrastructure is imperative for the immediate transition to EVs.

"Level 2 charging is an economical way to jumpstart EV adoption. Level 2 stations present an advantage over other charging options in that they require less power than fast charging alternatives, and align with typical parking habits, allowing users to get an adequate charge in diverse contexts."^{5/} Level 2 chargers can charge 10-20 miles of driving range per hour. Thus, in two hours, a commuter could recharge sufficiently for her daily commute. (While Level 3 chargers can recharge most electric vehicles by 80% in 30 minutes, their "high hardware and installation costs will limit curbside deployments;" they are instead being deployed at public stations, following the gas station model, by large EV charging corporations and by petroleum and automobile companies.)^{6/} "In dense urban centers where off-street parking is limited, the expansion of public access curbside infrastructure is critical to increased local adoption" of EVs.^{7/} Because two hours would generally be sufficient for delivery of a significant charge, "metered curbside spaces, and other time-limited zones can help support favorable charging turnover" at light poles.^{8/}

1. PURPOSE AND INTENT:

- 1.1 The transportation sector is the largest [*a significant*] contributor of greenhouse gas emissions in this state, light duty vehicles account for most of the emissions from the sector, and deployment of electric vehicles can significantly reduce these greenhouse gas emissions.
- 1.2 Electric vehicle owners rely primarily on charging their vehicles at home on a daily basis.
- 1.3 Much of the population lives in neighborhoods where residents must park on the street because they live in large apartment blocks; even some single family

^{2/} <https://www.curbed.com/2017/6/22/15855130/ubitricity-electric-car-charging-lamp-posts>

^{3/} bsl.lacity.org/smartcity-ev-charging.html.

^{4/} [Curb Enthusiasm/Deployment Guide for On-Street Electric Vehicle Charging](#), November 2018, prepared by WXY Architecture and Barretto Bay Strategies, in partnership with the NYC DOT and NYC Mayor's Office of Sustainability, at page 12.

^{5/} [Curb Enthusiasm](#) at page 12.

^{6/} [Curb Enthusiasm](#) at page 13.

^{7/} [Curb Enthusiasm](#) at page 18.

^{8/} [Curb Enthusiasm](#) at page 19.

private residences cannot readily accommodate an electric vehicle charger on the property in conformity with zoning.

- 1.4 The purpose of this article is to speed the adoption of electric vehicles by permitting the installation of Level 2 electrical vehicle chargers in conjunction with converting street light poles to LED lights.

2. STANDARDS FOR INSTALLATION AND USE OF ELECTRIC VEHICLE CHARGERS ON STREET LIGHT POLES:

- 2.1 In accordance with applicable procurement requirements, the municipality shall issue a solicitation to qualified private vendors for the installation and operation of street light electric vehicle chargers meeting the requirements set forth below.
- 2.2 The municipality shall require the private vendor designated pursuant to such solicitation to install, by no later than [January 1, 2025], and thereafter operate no less than one Level 2 street light electric vehicle charger for every [50] residential units located in any district zoned for multi-family residential use under the zoning code of the municipality, to the extent there are street light poles within [450] yards of a qualified multi-family building. A qualified multi-family building is a lawful multi-family building with 3 or more units.
- 2.3 As may be necessary to free up electricity for the purposes set forth herein, the municipality shall convert any street light designated for the installation of an electric vehicle charger to LED lighting.
- 2.4 The chargers installed hereunder shall not be equipped with cables or other exterior equipment other than a port for connection to the charger, which may be installed on the surface of the pole.
- 2.5 The charger's port shall be accessible to those electric vehicle users who possess a smart cable compatible with the designated vendor, which allows for immediate charging and billing by the vendor, such that the municipality is not supplying free electricity to the electric vehicle operator.
- 2.6 The municipality shall not be responsible for billing or collecting payment for the electricity used for charging.
- 2.7 A space adjacent to the light pole charger will be designated as reserved for charging at all times, on all days, [and will be subject to metered payment for parking,] with a two-hour limit for parking and charging between the hours of [8:00] a.m. and [8:00] p.m., so as to make the space available for multiple charges during the day.
- 2.8 Any vehicle that is parked in a space designated for electric vehicle charging from a light pole charger for longer than [two hours] between the hours of [8:00] a.m. and [8:00] p.m. shall be subject to fines established in accordance with law for such offense. Vehicles that do not operate, in whole or in part, on electricity

transferred to a battery from an external source may not be parked in the reserved space at any time during the daylight hours designated by [the Commissioner of Transportation]; and, should they do so, they may also be towed and fined for illegal parking in accordance with law. Signage alerting drivers to the restrictions herein shall be prominently placed in the vicinity of such designated spaces.

- 2.9 The municipality shall prominently describe this program on its website and invite residents of multi-family buildings in the municipality to submit requests for the installation of a charger on a street light within [450] yards of the entrance to their multi-family building.
- 2.10 Until [January 1, 2021], the municipality shall give first priority to installing chargers that have been requested by residents of multi-family buildings in the municipality.
- 2.11 By [January 1, 2021], the Department of [Traffic and Parking] shall complete a study and submit recommendations to the [City Council] on the optimal locations to install chargers on light poles between until January 1, 2021 and January 1, 2025, to maximize useful charging access for municipal residents.
- 2.12 By [January 1, 2025], the Department of [Traffic and Parking] shall complete a study and submit recommendations to the [City Council] on whether to expand the installation of chargers on light poles beyond residential areas to areas zoned for commercial or industrial uses.