

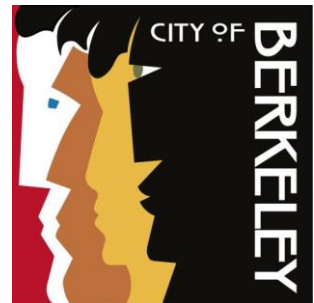
Charging in the Public Right of Way in Berkeley, CA

EV Roadmap 9

July 21, 2016

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Sustainable Development

City of Berkeley



EVs in Berkeley

- High regional & local adoption
- Governor's Executive Order
 - 1.5 million zero-emission vehicles in CA by 2025
- Berkeley Climate Action Plan
 - Transportation is about 55% of our community's greenhouse gas inventory



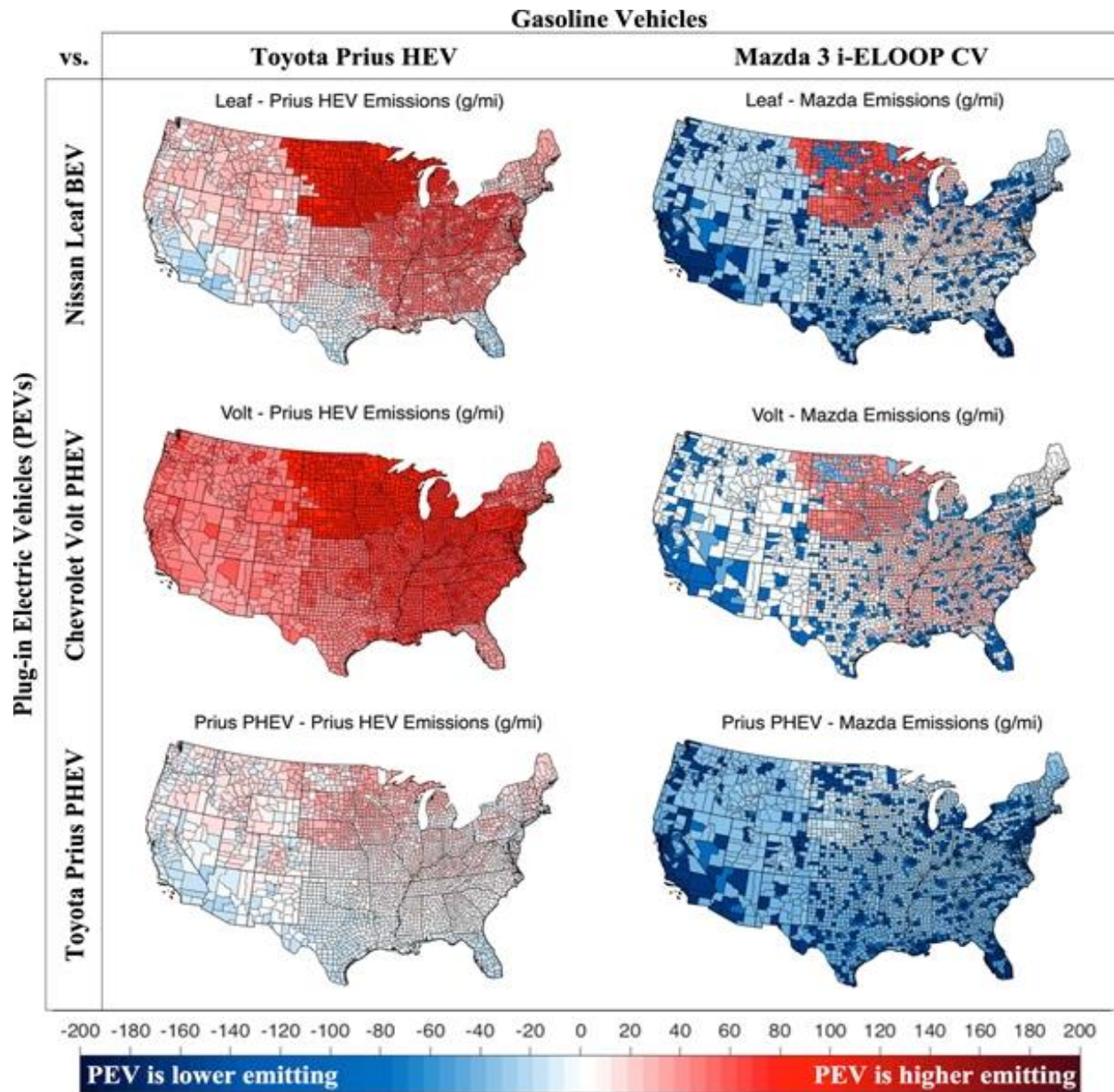


Figure 2 from Effect of regional grid mix, driving patterns and climate on the comparative carbon footprint of gasoline and plug-in electric vehicles in the United States; Tugce Yuksel et al 2016 Environmental Research Letters, Volume 11, Number 4
<http://iopscience.iop.org/article/10.1088/1748-9326/11/4/044007>

City of Berkeley's Charging Priorities

1. Home charging

Primary charging location for most EV drivers

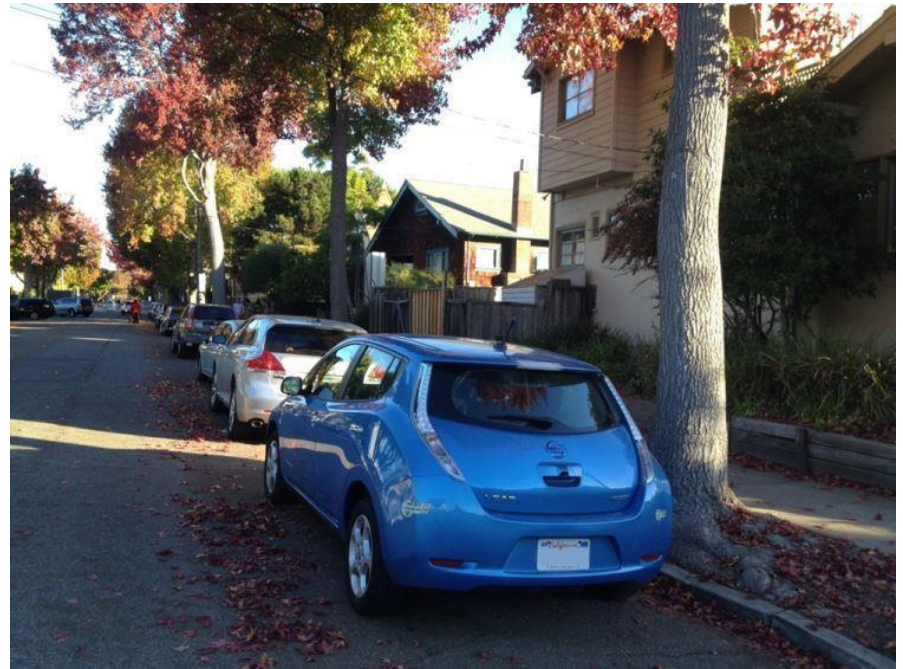
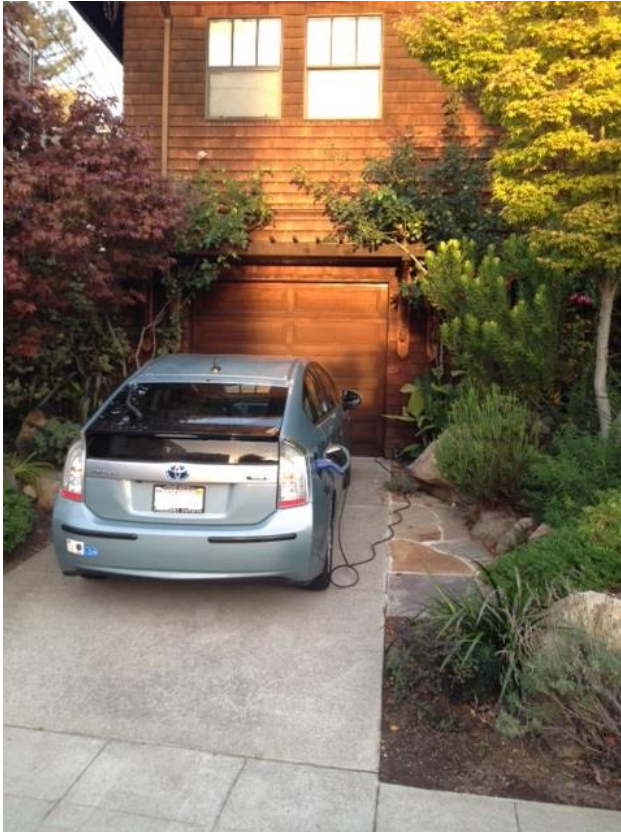
2. Non-residential charging

For employees, customers, and/or public

3. Public (municipal) charging


Currently 12 ports with a \$1.50/hour fee and a 4 hour limit during daytime hours

Challenges to Home Charging




Residential Curbside EV Charging Pilot

- 3-year Pilot, launched Dec 2014
- Prioritizes new on-site locations
- 25 curbside chargers
- Connected to home electrical system
- EV charging station; not outlet alone
- Parking remains available to all
- www.CityofBerkeley.info/evcurbside
- Grant from The 11th Hour Project



CITY OF
BERKELEY
PLANNING & DEVELOPMENT DEPARTMENT
PUBLIC WORKS DEPARTMENT

Pilot Manual:
Residential Curbside
Electrical Vehicle (EV)
Charging Pilot Program

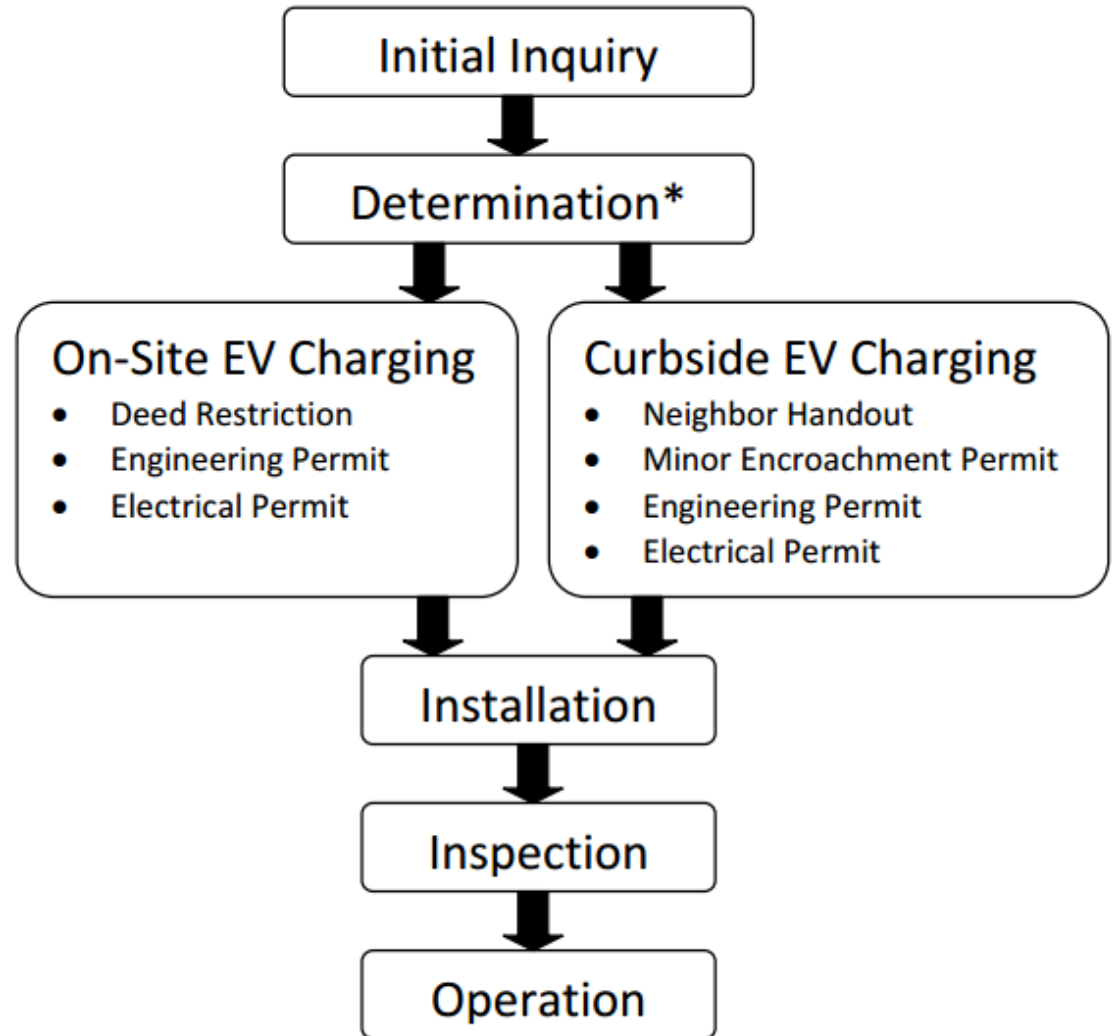


www.CityofBerkeley.info/evcurbside
(510) 981-7494
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Version: December 18, 2014

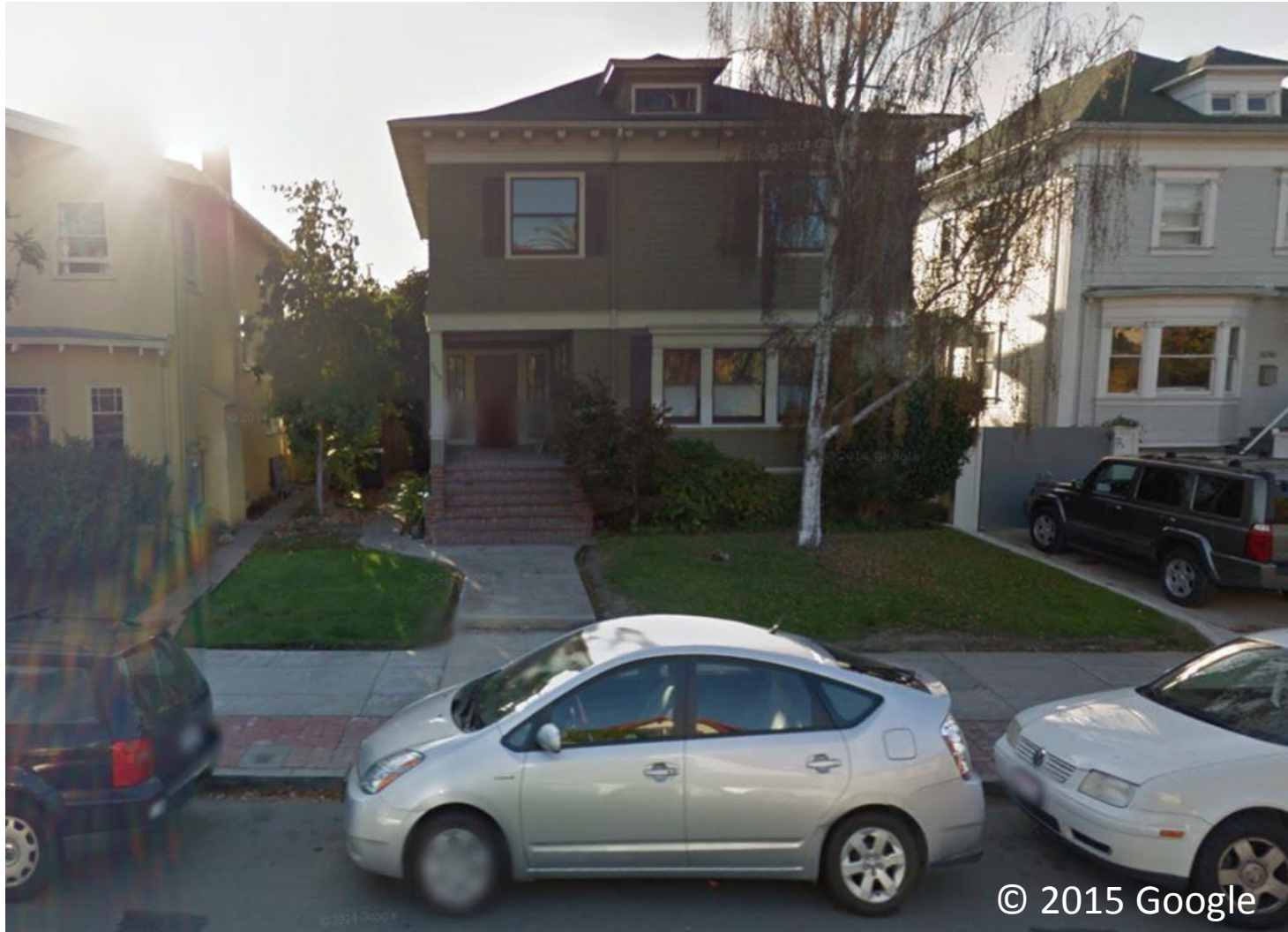
Pilot Applicants

35 Initial Inquiries
(in first 18 months)

- 6 for on-site charging
- 20 for curbside charging
- 7 didn't qualify
- 1 withdrawn
- 1 pending determination



On-Site Charging Example



On-Site Charging Example



Curbside Charging



PLANNING & DEVELOPMENT DEPARTMENT
PUBLIC WORKS DEPARTMENT

Neighbor Handout: Residential Curbside Electric Vehicle (EV) Charging Pilot

Date _____

Your neighbor at _____ is applying to install an electric vehicle (EV)
Applicant's address

charging station at the curb adjacent to their home, as a participant in the City of Berkeley's Residential Curbside Electrical Vehicle (EV) Charging Pilot. The charging station will allow your neighbor to charge their electric vehicle while it is parked on the street. The adjacent street parking will remain available to everyone. The charging station will belong to your neighbor and the City of Berkeley will permit its installation near the curb, in the parkway strip. The permitting process requires that the charging station be safely installed and properly maintained. Curbside installations are only allowed when EV charging cannot be accommodated on private property.

What is an electric vehicle charging station and is it safe?

An electric vehicle charging station is a "box" and a special cable designed for safe transfer of electricity to an electric vehicle. The charging station contains special electronics that sense when the cable has been connected to an EV and only allows electricity to flow through the cable while connected to the vehicle. Most home charging stations provide "Level 2" charging at 240 volt AC power. Level 2 charging typically adds 10-15 miles of range to an EV per hour of charging.



Examples of electric vehicle charging stations, also known as electric vehicle supply equipment

Charging stations have built-in safety protection that are tested and certified to national codes and standards. They are safe to operate, even in wet weather. The special cable of the charging station has a standardized connector, known as SAE J1772, which can only be plugged into an electric vehicle. As a safety feature, no electricity can flow to the cable or connector unless it is properly plugged into an electric vehicle.

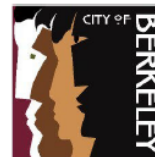


SAE J1772 electric vehicle connector (and inlet that would be present on an EV)



Street parking at this location is available to
all vehicles

All posted street parking restrictions for this
block remain in effect at this location



This is a privately-owned electric vehicle (EV) charging station for personal use, permitted through the City of Berkeley's Residential Curbside EV Charging Pilot

Curbside Charging Examples



Curbside Charging Examples



Curbside Charging Examples



Curbside Charging Examples



Curbside Charging Examples



Where in Berkeley?

Where in Berkeley?

May 4, 2016 7:00 am by [Berkeleyside Editors](#)



Pilot Findings

- High interest
- Expensive installations
- Pilot clarifications
- Need other solutions for public charging
 - California Vehicle Code
- No parking conflicts to date
- Has influenced EV adoption



Pilot Manual: Residential Curbside Electrical Vehicle (EV) Charging Pilot Program



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Questions and further information:

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