EV Coordinating Council

November 7, 2024 Meeting

Welcome! We will begin shortly.

Feel free to change your display name to include your organization and pronouns.

This meeting will be recorded.









Meeting Agenda

- Welcome and Overview
- Bay Area EV Market Update
- Curbside Charging Panel Discussion
- Charging Smart Program for Local Governments
- Roundtable Announcements











Bay Area EV Market Update

Caylee Mercado Grants Specialist cmercado@baaqmd.gov

BAY AREA

ELECTRIC VEHICLE TRENDS AND GOALS



19,431 public charging ports currently

57,700 public charging ports needed by 2030 (NREL)

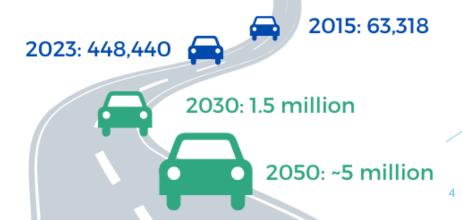
In 2023, 8.1% of the Bay Area fleet were EVs, with a goal of 90% by 2050

In 2024 Q2, 25.7% of all new sales in CA were EVs

Public charging ports



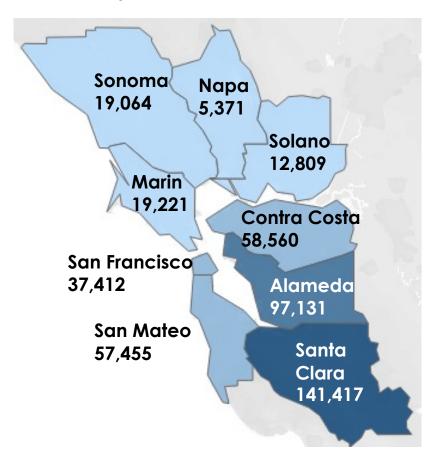
Progress towards our EV Adoption Goals



ZEV Population in the Bay Area



CA Total: 1,516,107



Bay Area Total: 448,440

Panel on Curbside Charging

Themes we will explore:

- Partnerships to enable successful curbside charging projects
- Scaling up to the region
- Overcoming barriers

A Q&A session will follow. Please hold questions until the end of the panel presentations. Moderator will call on those with hands raised or select questions from the chat









Panel on Curbside Charging: Subtitle

Alejandro Echeverry, Arup
Tiya Gordon, it's electric
Luke Mairo, Voltpost

Wendy Chou, Acterra (Moderator)









Meet our Panelists



Alejandro Echeverry is an Associate

who leads the Transportation, Logistics & Urban Planning team for Arup in the West Coast. He provides an integrated approach to cities, combining the fields of engineering, planning, and economics. His 15 years of professional experience include project delivery in the public and private sectors, as well as in multilateral agencies, including comprehensive technical analysis involving master planning, urban design, mobility, bus fleet electrifications and curbside EV charging. Alejandro is committed to building more human-scale, innovative, and resilient cities.



Planning and Siting Curbside EV Charging

Context and Approach



Arup worldwide

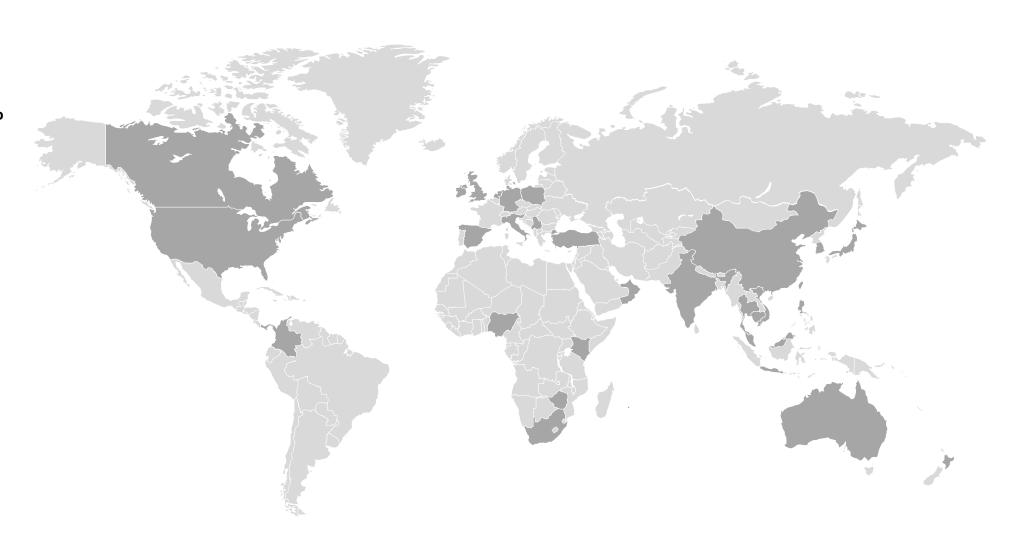
1946

Founded by Sir Ove Arup

18,000+

94 Offices

34
Countries



Arup is responding to the focus on city-wide challenges and opportunities by integrating our services in strategy development, planning, engineering, economics, and operations, all delivered in an urban context.



Climate & Sustainability

We plan for the future.

We plan for risks and hazards arising from climate change and other natural disasters, to build the resilient and sustainable communities of the future.





Urban Energy

Our core services

Urban Energy Infrastructure

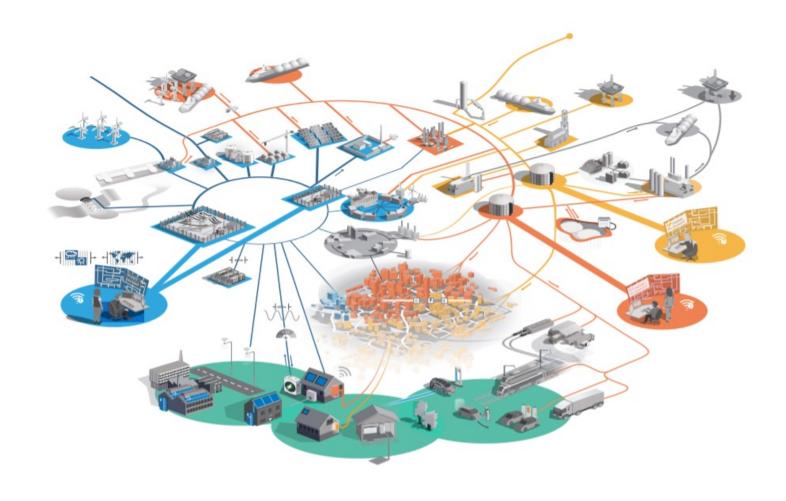
Microgrids
Renewable Energy
Storage & Demand Response
Thermal

Building Decarbonization

Policy, Programs, & Demonstration Design & Electrification Optimization & Commissioning

Zero Emission Vehicles

Fleet Transition Planning,
Design, & Advisory
Equitable Urban Charging
Electrification (BEV/FCEV)
Hydrogen Fueling



ARUP

Collaboration

Some of our partners













































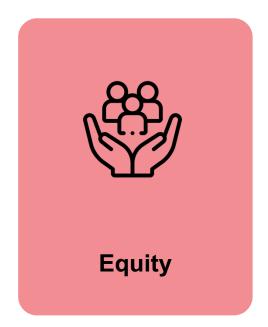






Curbside EV Charging

Our Ethos: approach to curbside EV charging









Equity

EV charging under the equity lens

Address disparities in access to residential charging. Suitability informed by:

- Multi-unit dwellings, typically with limited off-street parking
- Disadvantaged communities including MTC EPC and CalEnviroScreen
- ADA compliance and accessibility considerations
- Vehicle ownership and EV adoption
- Existing electrical utility network



ARUP

Equity

Focus on the user / customer

Provide affordable curbside EV charging service to residents of multi-family units, with limited access to off-street parking.

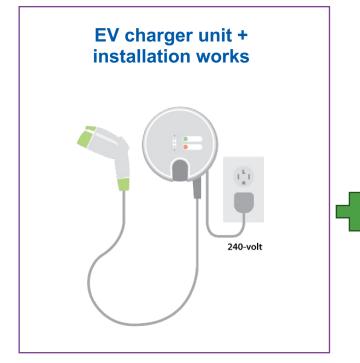




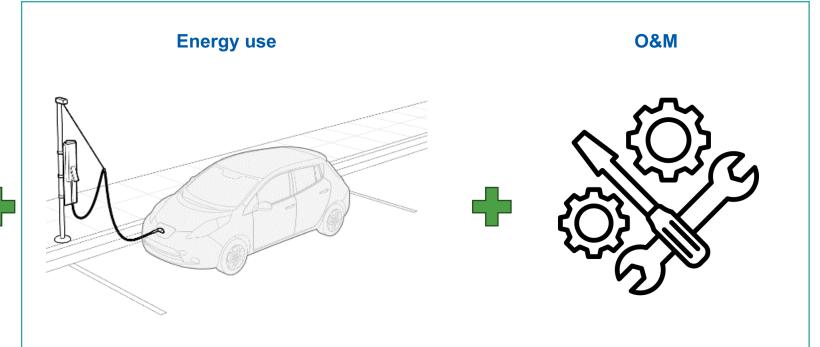
Cost Effectiveness

Cost structure

Capital costs



Operational costs



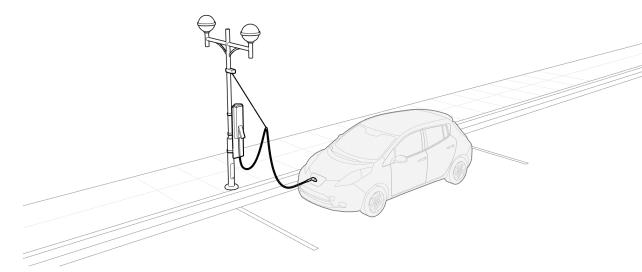
High up-front investment

Low annual investment, higher in a full life-cycle

Cost Effectiveness

Technology and funding to ensure affordability

- Technology selection impacts capital cost of EV charging
 - What level? L1/2/3
 - Pole mounted vs standalone
- Grant funding can alleviate the cost burden to customer.



Pole-mounted solutions to reduce capital cost



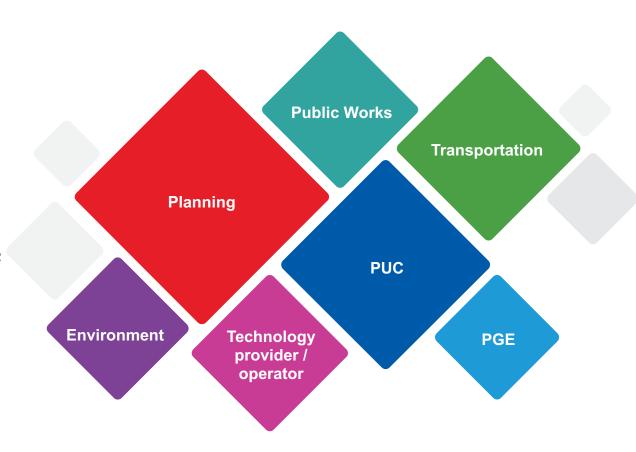
Grant funding to increase affordability



Stakeholder Coordination

Getting goals alignment across agencies

- Stakeholder mapping (who is in charge of what in the public right of way).
- Prepare a stakeholder communications map to determine most appropriate channels.
- Identify priorities and goals for each of the key agencies.
- Focus on goals and priorities alignment when communicating.



Business & Delivery Models

Leverage P3 models to mitigate risk in delivery

- Not a one size fits all solution.
- Understand staff capacity and gaps within city agencies.
- Think about key roles: who will manage, plan, install, operate?
- Determine suitable roles for agencies and technology vendors/operators.

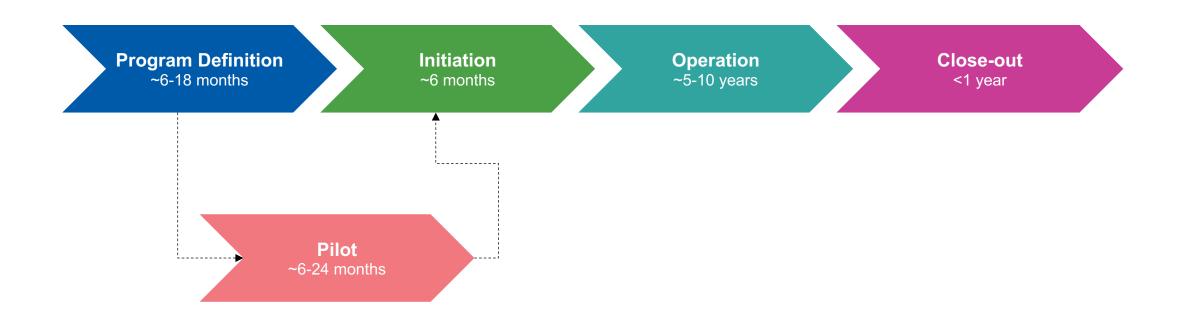


	Turnkey	Separate Packages for Procurement
City/County Department of Public Works role	Permitting	Permitting
PCE Role	Owner, Load serving entity	Owner, Load serving entity
Developer (EPC) role	Financing, commissioning, and package procurement	Commissioning
Operator's role (O&M operator, technology provider, etc.)	Provide service; contracted by EPC	Provide service; contracted by PCE
Procurement Method	The city signs an agreement with PCE and PCE prepares a single RFP	The city signs an agreement with PCE, and PCE prepares separate RFPs
Financing	Developer	Commissioning, technology, and O&M are financed separately
Pros	Single procurement process for the PCE Single stakeholder accountable for the whole project life cycle (wrapping risks) Incentivizes larger bidders (ventures) with more capital	Separate RFPs bring market competition, which can translate into more bidders and potentially lower cost May incentivize specialized providers to bid (less burden of preparing joint ventures) Utility provider transfers the risk to the commissioner and operators
Cons	Limits market competition and may not translate into best value for money (monopoly/oligopoly risk) PCE may be stuck with a single technology solution	PCE has the burden of preparing several separate RFPs Incentivizes smaller bidders (ventures) that have less capital Can potentially bring conflict when an issue appears, and it is not clear who is accountable



Business & Delivery Models

Set up the implementation framework and permitting pathway

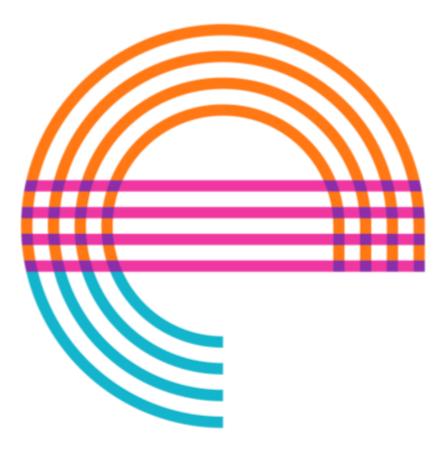


ARUP

Meet our Panelists



Tiya Gordon holds 20 years' experience in design, leadership, and operations across a range of disciplines for some of the country's top firms and institutions. She is now venturing to spend the next 20 years building companies that use design to wage war against the Climate Crisis. Her career accolades include The National Design Award from the Cooper Hewitt, Smithsonian Design Museum; the SXSW Innovation Award for Urban Infrastructure; the Inaugural Cannes Gold Lion for Creative Data; the Emerging Filmmaker Showcase at the Cannes Film Festival; the designation of second most innovative design firm in the world; the 2023 Innovation by Design Award by Fast Company; the 2023 Next Big Thing In Tech; the 2024 Keeling Curve Prize; and was a 2024 Finalist for the Earthshot Innovation Challenge.



Solving the biggest barriers cities face in the deployment of public EV charging

it's electric

AARIAN MARSHALL MATT SIMON BUSINESS JAN 24, 2022 7:00 AM

Wait, So Where Will Urbanites Charge Their EVs?

Homeowners with garages can easily charge their electric cars, but not apartment dwellers. Here's what it'll take to get plugs everywhere in cities.



'Charger Desert' in Big Cities Keeps Electric Cars From Mainstream

For city dwellers who would love an E.V., the biggest hurdle might be keeping it juiced up without a garage or other convenient charging stations.



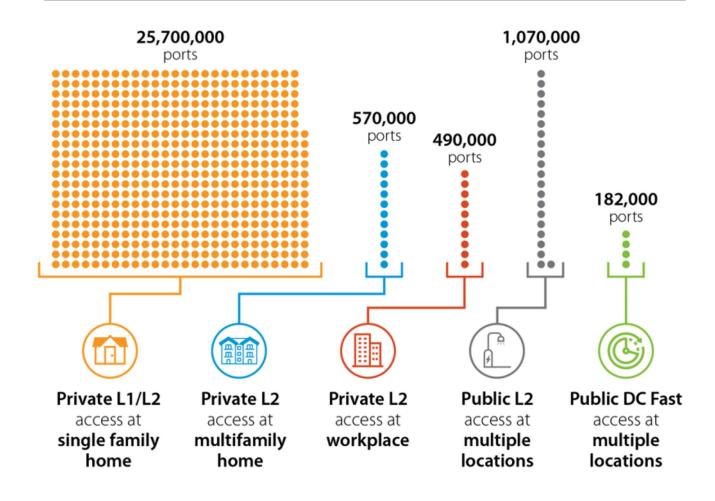
1M public L2 chargers are needed in the US by 2030

For the 48 million EVs expected on the road by the same date

(Currently the US has 126,000 chargers)

FOTW #1334, March 18, 2024: By 2030, the US Will Need 28 million EV Charging Ports to Support 33 million EVs

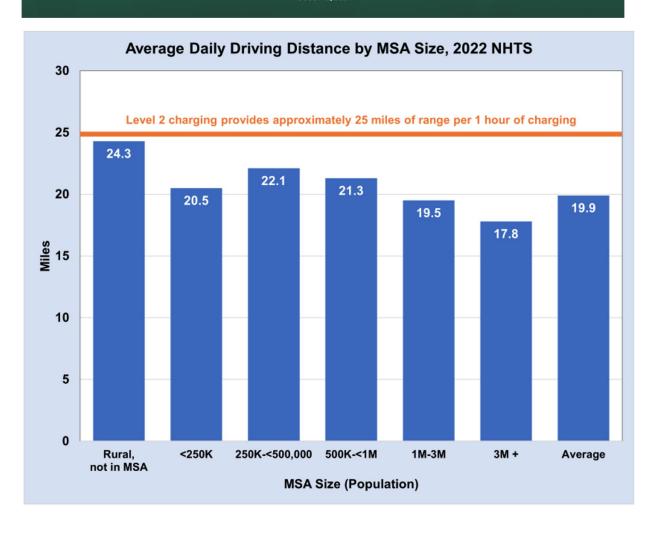
MARCH 18, 2024



Vehicle Technologies Office

FOTW #1355, August 12, 2024: A Driver Can Easily Get More Miles from an Hour of Level 2 Charging while their EV is Parked than the Average Person Drives in a Day

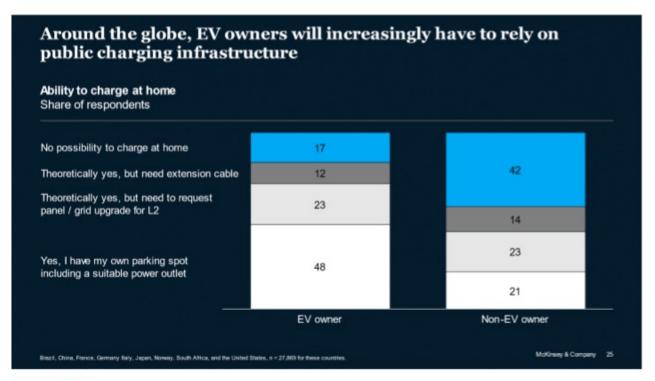
AUGUST 12, 2024





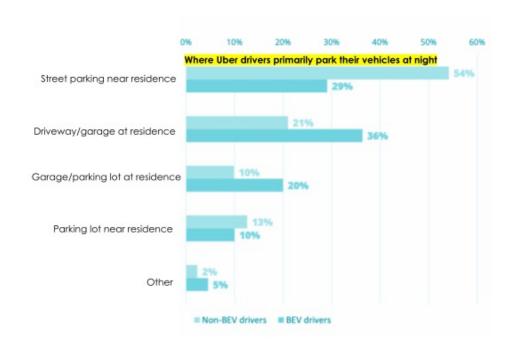


Public Charging is Core to EV Ownership



Source: McKinsey

Uber: For Hire Vehicle Charging



"And the opportunity cost of taking time off to charge at peak hours can sap 20% of a driver's earnings, making at-home, overnight charging far more economical."

Source: HRA Advisors + Uber. February 2023: NYC Electric Vehicle Infrastructure Assessment for Far-Hire Vehicles

Source: WSJ June 2023 Uber's Grand Plan

NYC: Green Rides Initiative



A new city mandate unanimously approved by the Taxi and Limousine Commission will require New York's fleet of 78,000 Uber and Lyft vehicles transition to zero-emission by 2030.

"Most rideshare drivers live in the Queens, Brooklyn and the Bronx, but Manhattan by far has the bulk of the city's chargers, city data shows. The conflict reflects how much of the city's EV chargers were intended for high-income customers—not the working-class who make up the city's gig economy."

Sources: NYC,GOV Crains.NY

Initiatives

News

San Francisco Launches Curbside Electric Vehicles Charging Pilot

New climate action initiative will help meet Mayor Breed's public charging infrastructure goals of installing over 1,500 public chargers by 2030

June 14, 2024



Request for Proposals

For

Alameda Public Electric Vehicle Charging Provider

For The

City of Alameda

Monday, January 8, 2023

CITY # BOSTON

REQUEST FOR PROPOSALS:

Public/Private Partnership to Deploy EV Charging at Curbside Locations

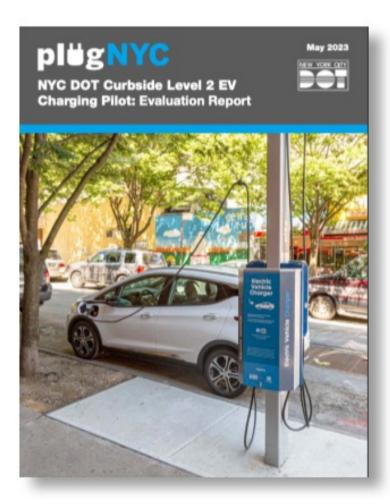


PROJECT SUMMARY:

- The City seeks to establish a public/private partnership with a private operator or operators of EV charging services, that will help the City explore a model of deploying curbside EV charging that can be brought to scale citywide.
- The private operator will deploy EV charging stations at curbside locations in the public right-of-way, at no cost to the City.
- The goal is to demonstrate a successful model of deploying EV charging stations in the public right-of-way, and build momentum towards additional investment from the private and public sectors, with an eye towards future funding opportunities through state and federal grant programs.

"The City recognizes that the demand for public access charging is much greater than what can be provided from off-street public parking lots, and that an approach to curbside charging is needed."

- -Seeks an agreement at **no cost** to the City.
- -With the right to place restrictions on outdoor advertising and in many EJ neighborhoods ads on chargers may not be permitted
- -Highly encouraged to identify locations that are within EJ communities, and/or those designated as overburdened and underserved.
- -Using the City's street lights as infrastructure is not possible due to power capacity and operational limitations.



The first comprehensive U.S. curbside charging performance report.

The program's performance exceeded expectations.

Overall utilization 72% (as of Q1 2024)

 The pilot saw many of the early underutilized sites slowly increase usage (suggesting the pilot had succeeded in encouraging gas-to-EV conversions)

Future expansion of this program:

Explore different charger designs, including units that are smaller and easier and cheaper to install or remove, to maintain flexibility in the use of curb space.

Policy



AB 2427 Co-sponsored by it's electric and FLO

Requires the Governor's Office of Business and Economic
Development to develop permitting tools and best practices so that
local governments can more seamlessly help realize these benefits.



\$1.5M National Curbside Charging Toolkit







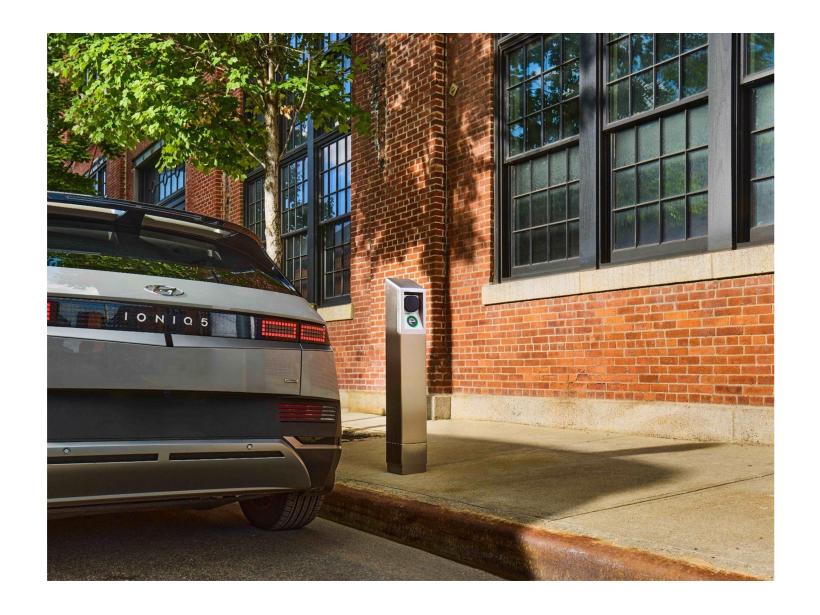


Install 60 curbside chargers
Train 80 EVSE technicians
Onboard 240-600 drivers

Differentiation

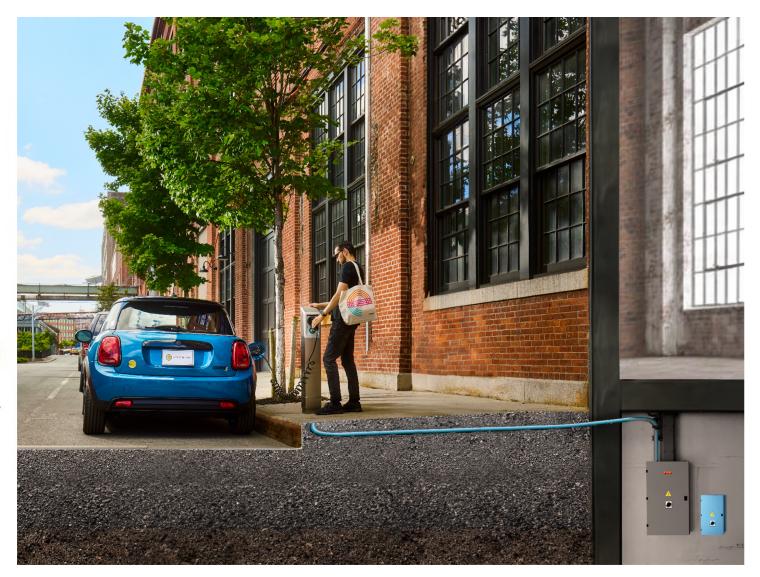
it's electric is the world's first public charging system powered by buildings

Solving the biggest barrier cities face in the deployment of chargers



We utilize existing residential and commercial infrastructure to power our chargers

We simply run a shallow conduit from the building's panel to the curb to power a public charger



There are no hardware or installation costs for cities or for property owners

We are the only curbside charging company with revenue share



A simple but revolutionary idea













CRAIN'S The Atlantic Forbes













BYOC

The First UL Certified Detachable Cable Charger

it's electric

J3400 will also update the North American charging landscape to allow for carry-along cord set. (and that will really drive curbside charging)

-Rodney McGee, Chairman SAE J3400 NACS Task Force

SAE Technical Information Report J3400







Ubitricity (Germany)



Belib (France)



Connected Kerb (UK)



char.gy (UK)

Community Requested Chargers



Figure 1: Existing Public EV Charging Locations

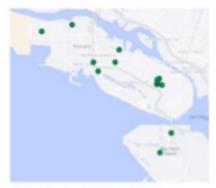


Figure 2: Proposed Public Charging Locations



O.C. Boston Los Ange an Francisco Yonke LX Jersey City Alam

The future it's electric

Tiya@itselectric.us



Meet our Panelists



Luke Mairo is an environmentalist, financial professional, and social entrepreneur. He is the Co-Founder and COO of Voltpost, a hardware-as-a-service company where he leads finance, operations, and business development. Prior to Voltpost, he was a banker at Barclays Bank and co-chaired the Barclays Environment Network. He received a Masters in Sustainability Management from Columbia University's Climate School where he was President of the Environmental Entrepreneurs. He is also an Impact Society Member at NEXUS.



bay area electric vehicle charging council november 2024



advancing an electrified bay area.

BAAQMD targets 1.5 million EVs in 2030.

34,000

\$15 million

L2 chargers required.

CFI funding received.

accessible, convenient, and reliable charging is required to meet EV targets.







the top electric car adoption barrier for drivers is the lack of charging.

1%

cars on the road today are electric.

60%

car sales must be electric by 2030.

50%

city drivers do not have private garages.

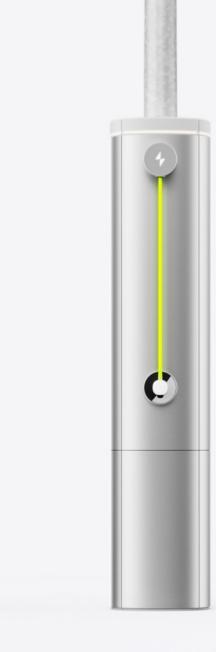
charging is scarce and inconvenient.

from lamppost to

voltpost

the retrofit lamppost charger.

increasing public charging access to spur electric vehicle adoption.





the most convenient, reliable, flexible charging experience.

software

application: charging discovery, status,billing, parking, and impact features.dashboard: charging utilization data,insights, benchmarking, and forecasting.





features: weatherproof, utility meter, integrated cable, mobile connection. **benefits**: inexpensive deployment, streamlined O&M, upgrade ready.





voltpost

platform services

current

charging

software

data

maintenance

roadmap

connectivity

sensors

grid

media



progressing broad pipeline of potential partners to unlock scale, distribution, and defensibility.

deployment















sales + distribution





revel







development





















selling to public, private, and utility customers

with projects in new york, michigan, illinois, massachusetts, and more.



metro new york

NYCDOT pilot in 2023 and NYS expansion in 2024/5.









DSPL pilot in 2023 and MI expansion in 2024/5.





BOSCH BEDROCK



chicago

deployments in cook county planned in 2024.









experienced team with proven track record of success

across product, business, and policy development.



Jeff Prosserman Co-Founder, CEO

SAMSUNG

COLUMBIA UNIVERSITY



Jörn Vicari Co-Founder, CPO

SAMSUNG





Luke Mairo Co-Founder, COO

BARCLAYS

COLUMBIA UNIVERSITY



Alejandro Vallejo Senior Director, Hardware

SAMSUNG

SAN JOSÉ STATE UNIVERSITY



RWE







exelon

TWYNAM

Good news

NOMADIC



Laura Fox Government

Cheikh Drame Utility

Jayson Pankin Enterprise + IP

Alby Shale Financing



Shelby Thompson Project Manager





John Bindel Senior Director, Software

match. Omindbody



Aditi Desai Director, Partnerships

BARCLAYS

COLUMBIA UNIVERSITY



Alvin Li Senior Product Manager







preferred model

hardware-as-a-service

voltpost bundled services plan billed on an annual basis.

key services

- + charging
- + software
- + network
- + maintenance

customer benefits

- + generate revenue
- + low upfront cost
- + flat rate
- + reliable service

alternate models

- + sell and service
- + grant and charge





poised to support BAAQMD to rapidly deploy chargers.

carbon

increasing public charging access to reduce carbon and air pollution.

community

building stronger communities with inclusive and equitable planning.

jobs

creating jobs for workers in low to moderate income communities.

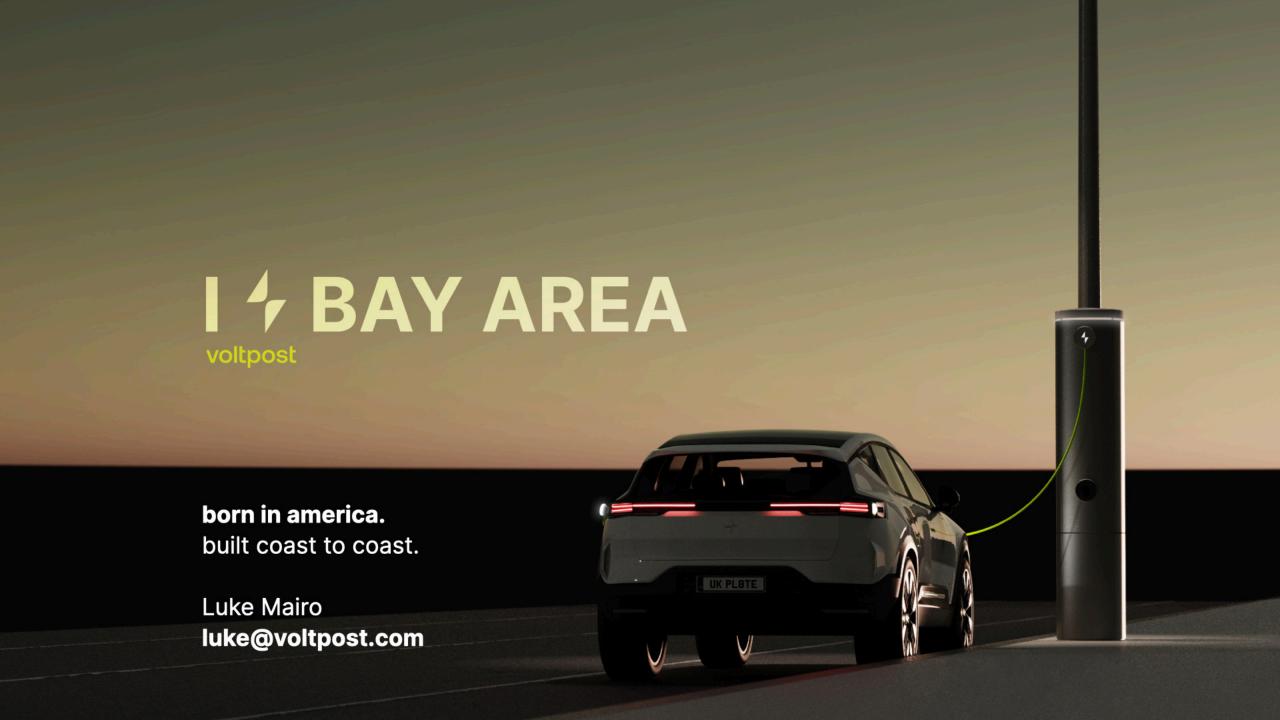


voltpost bay area charging program

deploy voltpost to enable reliable, convenient, and accessible public lamppost charging access in the bay area and across california.

BAY AREA AIR QUALITY MANAGEMENT DISTRICT





Questions and Discussion

- We invite you to share your experience with planning, collaborating, implementing, managing curbside charging in your jurisdiction — and join the conversation
- Questions will be taken in the order of raised hands
- Please contribute questions in the chat









Charging Smart Program

- Context-setting for Bay Area local governments (James Choe, MTC)
- Ed Gilliland, Senior Director, Interstate Renewable Energy Council (IREC)
- Edith Makra, Director of Environmental Initiatives, Metropolitan Mayors Caucus









CHARGING SIVART

NATIONALLY DISTINGUISHED. LOCALLY POWERED.

Bay Area Electric
Vehicle Coordinating
Council
November 7, 2024





Ed Gilliland

Senior Director

Interstate Renewable Energy Council edg@irecusa.org

Edith Makra

Director of Environmental Initiatives Metropolitan Mayors Caucus



Independent leadership.
Trusted clean energy expertise.

Energy Ready: Free Technical Assistance

CHARGING* NATIONALLY DISTINGUISHED. LOCALLY POWERED

- Free technical assistance & recognition to local governments
- Strategically manage the expansion of clean energy technologies
- Energy-Ready.org



Energy Ready

NATIONALLY DISTINGUISHED. LOCALLY POWERED.



What is Charging Smart?



- A national technical assistance and designation program that supports local governments in setting and achieving EVreadiness goals. Technical assistance is available at no cost.
- Provides tools for communities to support local electric vehicle (EV) adoption and EV charger deployment.
- Charging Smart is modeled on the evidence-based experience of the DOE-funded **SolSmart** program—a national designation and technical assistance program that reduces barriers to solar deployment

Charging Smart Partners



































Industry Advisory Partners







-chargepoint



Charging Smart Action Categories

- 1. Planning
- 2. Regulation
- 3. Utility Engagement
- 4. Education and Incentives
- 5. Government Operations
- 6. Shared Mobility

Designation Structure









Bronze designees have successfully standardized EV charging infrastructure permitting, identified zoning restrictions, and discussed collaboration with utility providers.

In addition to completing all criteria for Bronze designation, Silver designees have successfully completed a fleet analysis and changed zoning requirements to allow the easier and cheaper deployment of EV chargers.

In addition to completing all criteria for Bronze and Silver designation, Gold designees have purchased EVs for use in their municipal fleet, adopted standard approval and review timelines, installed a public charger, adopted relevant ordinances for new construction, and updated their comprehensive plan.

Designation Requirements: Bronze

Total General Points: 80 EVs for All Points: 15

Specific Required Criteria:

R1.5	15 Points	Review zoning requirements and identify restrictions that intentionally or unintentionally prohibit EVSE development. Compile findings in a memo.
R4.1	10 Points	Adopt a standard EV charging infrastructure permit application process and post to a public website.
R4.4	5 Points	Develop a charging infrastructure permitting checklist and post it online.
U1.1	5 Points	Meet with utilities to discuss EV collaboration opportunities.

Required Points from Specific Categories:

Planning: 10 Points Education and Incentives: 15 Points

Points from Any Action: 20

Designation Requirements: Silver

All Specific Bronze Requirements plus:

Total General Points: 150 EVs for All Points: 30

Specific Required Criteria:

R1.1	10 Points	Permit chargers as an accessory use to parking lots in all zoning districts, by right
R2.8	10 Points	Allow all EVSE parking stalls to count toward minimum parking requirements, when applicable.
G2.2	10 Points	Complete a fleet analysis (also consider plans for future EV purchases.)

Required Points from Specific Categories:

Utility Engagement: 20 Points

Points from Any Action: 40

Designation Requirements: Gold

All Specific Bronze and Silver Requirements plus:

Total General Points: 300 EVs for All Points: 60

Specific Required Criteria:

G1.6 G2.4	20 Points	Purchase EVs for fleet use to meet adopted goals.
G1.4 –	20 Points	Install a public charger.
R2.1	10 Points	Adopt a technology neutral EV-ready ordinance or plan for new construction, informed by established national standards
R1.4	10 Points	Establish standard approval timelines for EVSE installations and limit review comments to one round.
P4.1 – P4.4	10 Points	Complete an action in the 'Address EVs and charging infrastructure in comprehensive plan' Best Practice.

Points from Any Action: 115

EVs for All



Flexible structure for communities to identify and address any barriers that may prevent certain groups from benefiting from electric vehicles and related infrastructure

5 Points	10 Points	15 Points	20 Points
Acknowledging awareness of barriers and communicating inclusively	Assessing community needs and planning strategic actions	Making formal commitments and developing funded initiatives	Taking direct action and incorporating accountability

Example #3	R2.4 - Require 40% of multifamily parking to be EV-capable, EV-ready, or EVSE-installed			
5 Points	10 Points	15 Points	20 Points	
Acknowledge that requirements for parking to be EV-capable, EV-ready, or EVSE-installed at multifamily housing could increase costs for people with low income	Assess the situations in which requirements for parking to be EV-capable, EV-ready, or EVSE-installed at multifamily housing may negatively impact low-income individuals. Consider potential methods of mitigating this, including looking to peer local governments for precedent.	Address the potential that requirements for parking to be EV-capable, EV-ready, or EVSE-installed at multifamily housing increase costs for low-income individuals by establishing a program that helps reduce costs for developers or helps cover costs for residents	Proactively address the potential that requirements for parking to be EV-capable, EV-ready, or EVSE-installed at multifamily housing increase costs for low-income individuals by passing an ordinance that obligates the local government to provide support to low-income housing before the requirements go into effect	

Program Guide

CHARGING SINGLED SMART

- Designation levels and requirements
- Criteria categories
 - 31 of 145 criteria addressed in detail
- **■** EVs for All
- www.chargingsmart.org

R1.1 10 Permit chargers as an accessory use to parking lots in all (Silver) zoning districts, by right [Enable EV charging infrastructure in land use regulations]	R1.1 (Silver)
--	------------------

<u>Objective and Description</u>: This criterion requires communities to update zoning codes to explicitly permit electric vehicle charging stations as an accessory use within parking lots across all major zoning districts. Specifically, communities must codify in the zoning ordinance that EV charging stations are allowed by right in parking lots as an accessory use across residential, commercial, industrial, and other major zoning categories. Allowing charging infrastructure as an accessory use provides clarity to property owners and developers.

Recommended Verification:

 Provide a link to the municipal code and a description of where the statement can be found (i.e., article and section numbers). If applicable, provide a description/memo of how EVs for All points are addressed/were achieved in this action.

Community Examples:

- New Jersey P.L. 2021, Chapter 171 | State of New Jersey
- Applicable Zoning Provisions for Electric Vehicle Charging Spaces | County of Fairfax, Virginia
- <u>Electric Vehicle Supply Equipment Permitting: A checklist template for local governments</u> | Great Plains Institute

Resources:

Charge Up Your Town: Best Management Practices to Ensure Your Town is EV Ready |
New Jersey Department of Environmental Protection

Benefits of Charging Smart



- No cost TA
- Provides a well vetted, menu driven approach to improve practices
- Tailored to communities at all levels
- An efficient way to identify gaps in advancing EV infrastructure
- Access to peer learning from other communities

Benefits of Charging Smart



- An effective way to address critical concerns
 - Underserved communities
 - Regulatory: permitting
- Increases efficiency, cutting costs and staff time
- Showcases your achievements via the Charging Smart website, media opportunities, and public events and announcements
- Amplifies the impact of state programs and incentives
- Sends a signal to the private sector that the locality is open for investment

Next Steps

- Approach
 - Individual
 - Cohort
- Commitment letter
- Self-assessment





EV Readiness Program Our Cohort Approach

Metropolitan Mayors Caucus









- Regional council of governments
- 275 municipal members in the 7-county Chicago area
- Public policy and collaboration:
 - Governance and legislation
 - Environment
 - Housing
 - Diversity, equity and inclusion



Foundation for EV Readiness (EVR) and Recruitment

Roscoe

Harvard

Village of Round Lake Wat Jan

McHenry

Wilage of Libertyville

Sycamore

Rochelle

Rochelle

Rochelle

Rochelle

Rochelle

Rochelle

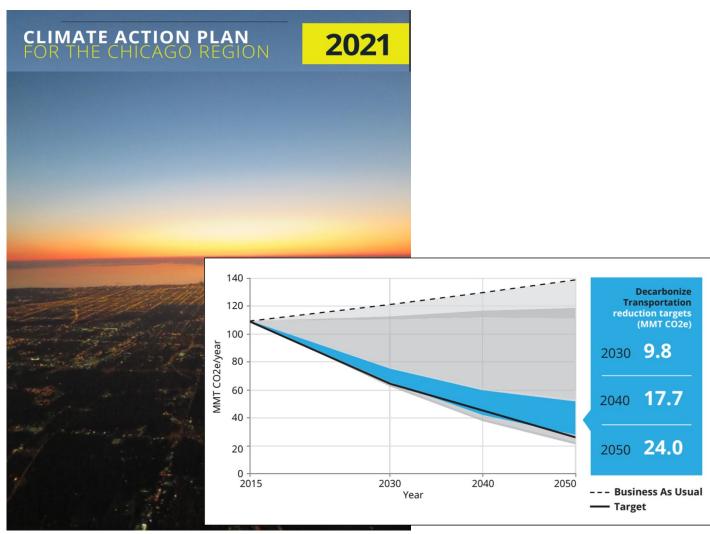
Rochelle

Roche

Google My Maps

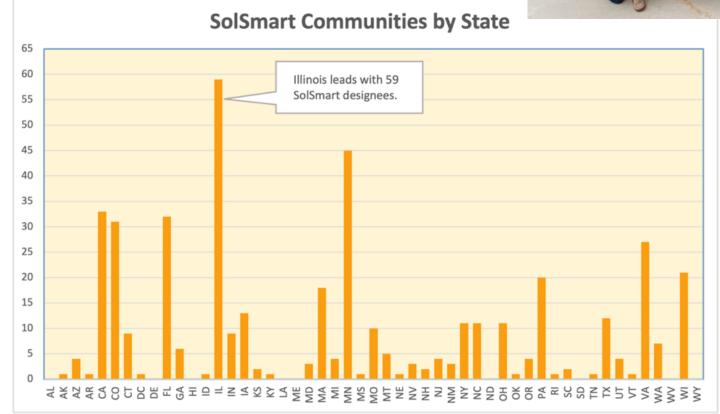


10 COGs



SolSmart Cohort Model



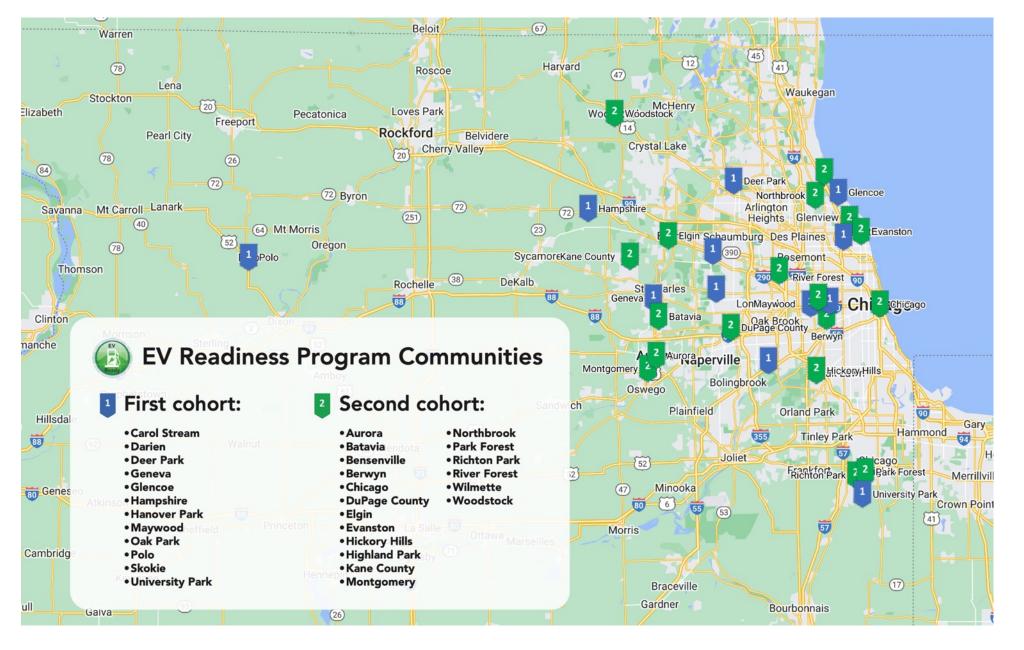


- Caucus led 2 cohorts in 2017-18
 - 35 communities
- Recruited 10 more in 2021



Setting Up EVR Cohorts

- Membership outreach
- Share success, About EVR webinar
- Application, letter of commitment, GRC adoption (or planned)
- Assemble diverse cohort 16-18 communities



EVR Cohorts

- First "learning" cohort - 12
- Second cohort- 15 (11 finished)
- Third cohort 18 with rollovers

Designation and Press





Designation, Press





University Park earned the second-highest score of a dozen municipalities participating in the first cohort of a Metropolitan Mayors Caucus program to boost electric vehicle adoption.



Local News | Glencoe and Skokie recognized for electronic...

Glencoe and Skokie recognized for electronic vehicle readiness



Oak Park receives gold designation in EV Readiness Program

SHAW LOCAL News Network

Montgomery unveils plan for electric vehicle readiness

Thank you!

Edith Makra emakra@mayorscaucus.org









Announcements

- A link to today's meeting recording will be provided in the follow-up email.
- Next EV Council meeting date is TBD in 2025.
- The second meeting in 2025 will likely be in-person.







