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EVCS

EV Fast Charging Simplified.

EV Charging Network Roaming Overview Workshop
California Energy Commission

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EVCS

“We’re committed to leading the electric transportation revolution by rapidly expanding access to fast, affordable, reliable, and carbon-neutral public EV charging

- Founded in 2018
- One of the largest and fastest-growing public EV charging networks on the US West Coast
- Powered by 100% renewable energy

Network Overview

EVCS

EVCS develops, owns, and operates a network of fast, publicly accessible, and conveniently located chargers across CA, OR, & WA.

Chargers

- 370+ DC Fast chargers
- 875+ Level 2 chargers

Sites

- 200+ locations
- Hotels, gyms, health facilities, malls, restaurants, public parkings

Locations

- Urban centers
- Highways
- Low-income & disadvantaged communities

Partnerships

Site hosts

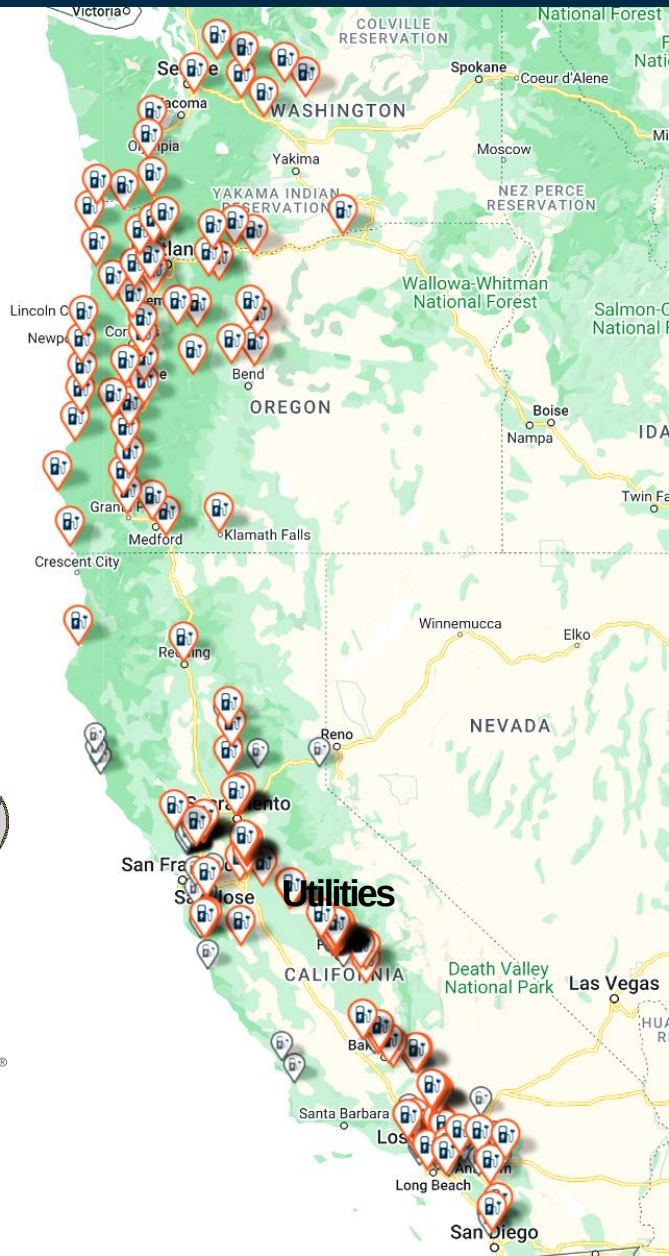
MARRIOTT · Hilton HOTELS & RESORTS · LA FITNESS · CAL STATE LA

Cities, districts, & public agencies

CARB · Oregon Department of Transportation · WSDOT

Utilities

PG&E · SOUTHERN CALIFORNIA EDISON Energy for What's Ahead · LA DWP · SMUD



Customer Solutions

EVCS offers a wide range of charging services, including subscription plans and unlimited charging for rideshare EV drivers.

Seamless charging experience

- Portfolio of charging products: pay-as-you-go; subscription plans
- Several contactless payment methods: Scan-and-charge app; secure website; card readers; RFID
- 24/7 US-based customer support
- Continuous network monitoring, and live updates of chargers' status

Affordable charging rates

- Subscription plans, including unlimited plans ideal for high-mileage drivers
- Strategic partnerships, offering discounted pricing for rideshare drivers: Hertz, Lyft

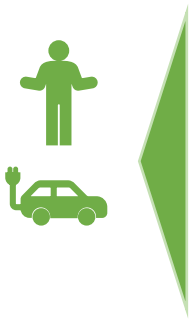
Convenient charging options

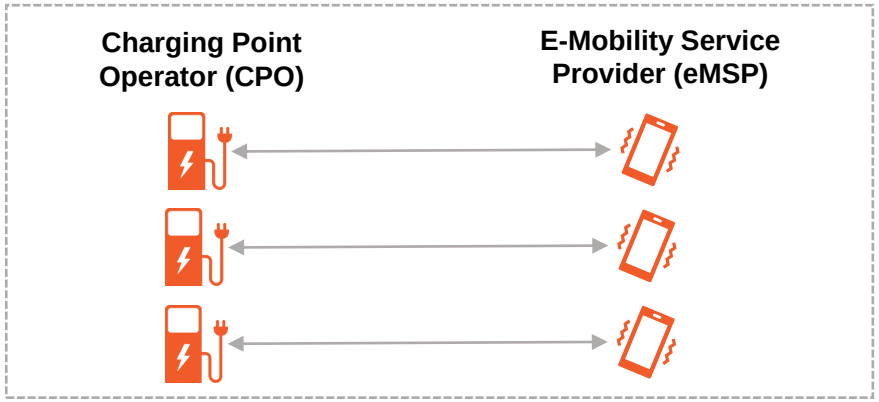
- Variety of charging speeds & locations
- All plugs to charge all EVs: CCS, Tesla, CHAdeMO, J1772
- Live charger availability on multiple apps: e.g. PlugShare, Chargeway
- **Roaming**, both directly and through hubs: e.g. Hubject, ChargeHub, Presto

Roaming: What & How

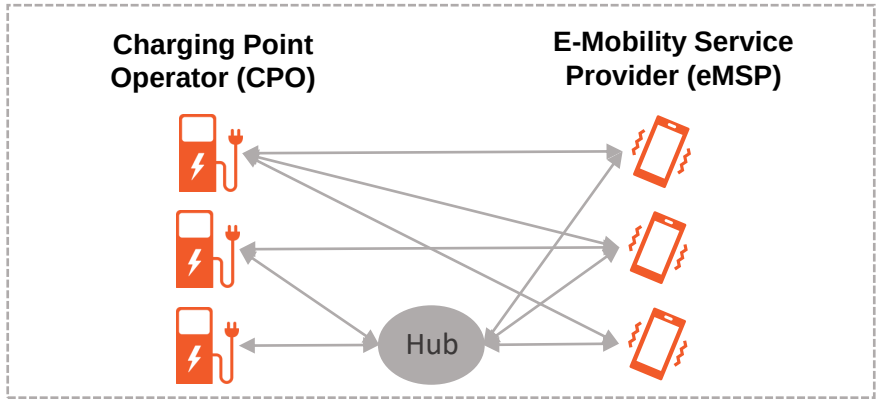
Roaming aims to enhance access and increase optionality for EV drivers, by connecting networks of chargers (CPOs) with apps used for EV charging (eMSPs).

What





Without roaming: EV driver accesses one CPO via one eMSP



With roaming: EV driver can access one CPO via multiple eMSPs, and can access multiple CPOs via one eMSP

How

"Full" vs. "Light"

- **Full roaming**: The eMSP allows the EV driver to (1) locate and see the live status of the charger, (2) start/stop a charging session, and (3) pay for charging
- **Light roaming**: The eMSP allows the EV driver to (1) locate and see the live status of the charger (only)
- **Full roaming** requires OCPI integration. **Light roaming** can be done through OCPI or a simpler API integration

"Direct" vs. "Hub"

- **Direct integration**: A CPO and an eMSP create 1-1 roaming connection
- **Hub integration**: Several CPOs and/or several eMSPs connect to a roaming Hub that acts as an intermediary. A CPO can roam with several eMSPs through the Hub, and an eMSP can roam with several CPOs through the Hub.
- Both **Direct** and **Hub** roaming integrations are governed by well established technical and commercial agreements among the CPOs, eMSPs, and Hubs.

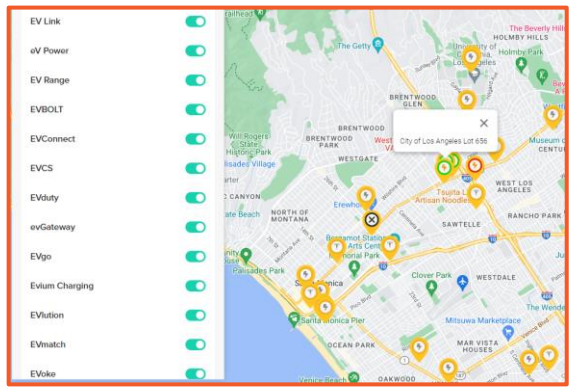
Roaming: EVCS Initiatives & Perspective

EVCS is a leader in roaming, having already engaged in “Full”, “Light”, “Direct” and “Hub” roaming initiatives.

“Full” Roaming

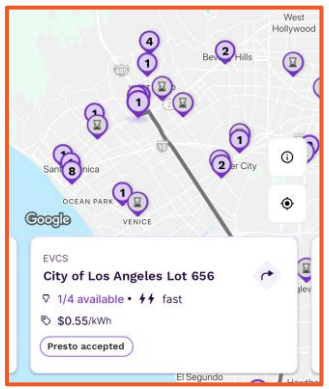
“Hub” roaming

EVCS ChargeHub



“Direct” roaming

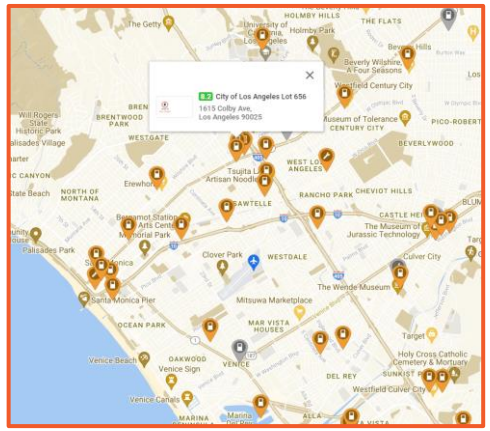
EVCS presto



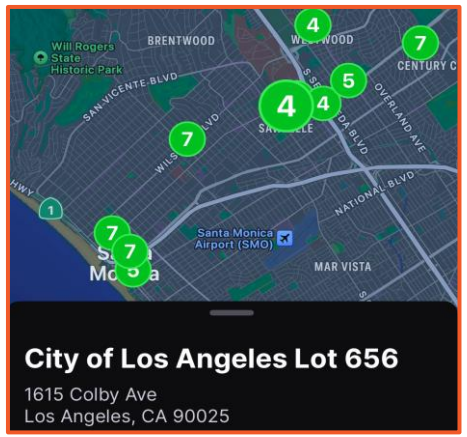
For each roaming initiative, EVCS and the roaming partner sign a roaming agreement that contains provisions for data-sharing and data-privacy.

“Light” Roaming

EVCS PlugShare



EVCS Chargeway.

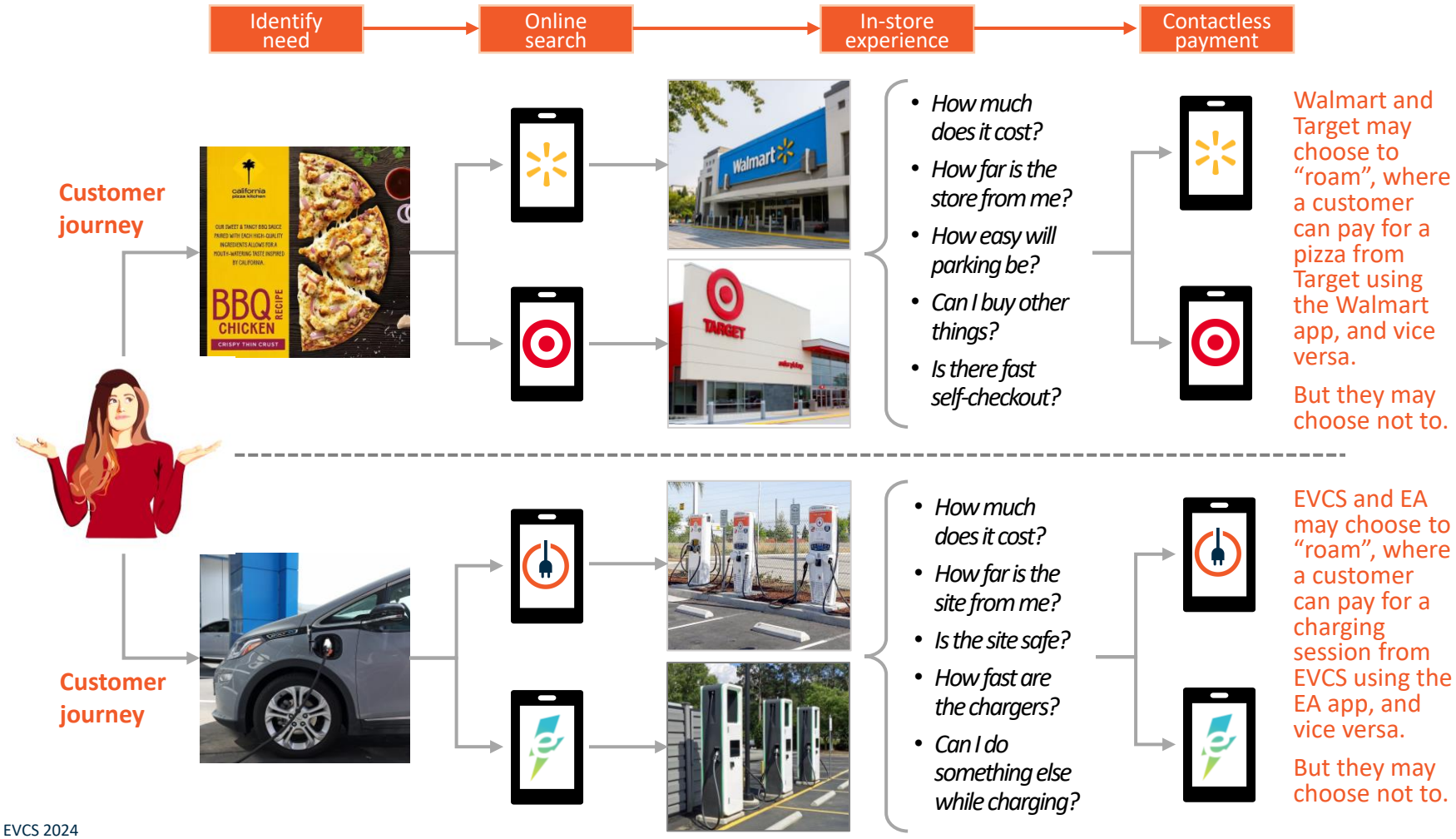


Main Takeaways: Our Perspective

- Roaming technical solutions already exist today, and roaming business initiatives are well underway in CA & US broadly.
- Safe data-sharing is critical to ensure successful roaming integrations. Roaming agreements should always contain provisions on data-privacy & data-sharing.
- Roaming is neither easy nor free. Cost is a material factor in the decision to engage in roaming.

Roaming: EVCS Initiatives & Perspective

EVCS' approach is anchored in the principle that EV charging is a "retail" experience. Roaming initiatives are market-driven, based on business model & customer needs.



Main Takeaways: Our Perspective

- Different CPOs and eMSPs have different business models, which translate into different roaming needs and interests.
- Given the "retail" nature of EV charging, the most effective way to grow the roaming ecosystem is to let the free-market drive its implementation.

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Thank you. Questions?

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