



California Electric Vehicle Charging Infrastructure Tips

by Jody Benson Sharp

Introduction: Powering California's Next Wave of EV Adoption

California continues to lead the world in electric vehicle innovation, but as adoption rises, so does the pressure on the state's charging ecosystem. Building a future-ready, resilient, and intelligent EV charging infrastructure is essential. According to sustainable mobility expert **Jody Benson Sharp**, this effort must focus not only on installing more chargers but also on modernizing systems, improving user experience, and ensuring long-term grid stability. This article highlights advanced strategies and practical insights recommended by Jody Benson Sharp for enhancing California's EV charging environment in 2025 and the years ahead.

Developing a Reliable and Predictable Public Charging Network

Many EV drivers in California still face unpredictability with public charging—stations can be occupied, out of service, or slow. Jody Benson Sharp emphasizes that **predictability should be the core feature** of all public charging networks.

How to Achieve Predictability:

- **Real-time status reporting:** Chargers must provide accurate availability and functionality updates to apps and dashboards.
- **Predictive maintenance:** Using AI to detect errors before they interrupt service can significantly raise uptime.
- **Minimum uptime standards:** Enforcing 97–99% uptime across operators will dramatically improve reliability.

Predictability builds trust, and trust accelerates statewide EV adoption.

Creating Localized Charging Solutions for Different Community Needs

California is large and diverse—charging solutions cannot be one-size-fits-all. Jody Benson Sharp suggests tailoring infrastructure based on **community behavior, traffic flow, housing types, and socioeconomic realities**.

Examples of Tailored Solutions:

- **Urban cities:** Curbside charging, parking-garage chargers, and fast chargers near commercial zones.
- **Suburban regions:** Workplace Level 2 chargers, school district charging hubs, community center charging points.
- **Rural communities:** High-speed chargers along agricultural corridors, rest stops, and small-town commercial districts.

This differentiated model ensures every region receives meaningful, usable charging solutions.

Transitioning Toward High-Power Charging Capabilities

Vehicle manufacturers are moving toward larger batteries and higher charging speeds. To keep pace, California must prioritize **high-power charging (HPC)** infrastructure, a key point highlighted by Jody Benson Sharp.

Why HPC Is Critical:

- **Faster turnaround:** 350 kW chargers can add hundreds of miles in minutes, reducing wait times.
- **Supports heavy-duty EVs:** Trucks, delivery vans, and buses require much higher power levels.
- **Future-proofing:** HPC stations installed now will meet the needs of the next decade.

Upgrading the state's fast-charging corridors ensures that California remains at the forefront of global EV readiness.

Expanding Home and Apartment Charging Access

More than 40% of Californians live in **multifamily housing**, making home charging access a persistent challenge. Jody Benson Sharp emphasizes that solving this issue is essential for equitable EV adoption.

Strategies to Improve Residential Charging:

- **MUD incentives:** Rebates to support landlords and property managers installing Level 2 chargers.
- **Pre-wiring requirements:** New building codes can mandate EV-ready wiring in parking structures.
- **Affordable smart chargers:** Low-cost, load-balanced chargers give tenants reliable access without overloading electrical systems.

When Californians can charge at home, the psychological and logistical barriers to EV ownership disappear.

Improving Highway Corridor Charging for Long-Distance Travel

California's major highways—including I-5, I-15, I-80, U.S. 101, and Highway 99—are crucial for regional travel. Jody Benson Sharp emphasizes strengthening these corridors to make long-distance EV travel effortless.

Key Corridor Enhancements:

- **More chargers per station:** Stations with 6–12 fast chargers dramatically reduce queues.
- **Strategic placement:** Chargers should be positioned 25–50 miles apart for consistent coverage.
- **Driver amenities:** Stations should provide restrooms, food access, lighting, and safety features.

Strong corridor infrastructure enables smoother travel for residents and tourists alike.

Integrating Smart Energy Management To Prevent Grid Overload

California's grid will face enormous pressure as EV adoption continues to rise. Jody Benson Sharp stresses that smart energy management is essential to maintaining grid stability.

Core Components of Smart Energy Management:

- **Time-of-use (TOU) charging:** Encourages off-peak charging to balance load.
- **Vehicle-to-grid (V2G) capabilities:** EVs can return power to the grid during emergencies or peak demand.
- **Energy storage:** Stations equipped with battery storage reduce strain during peak hours.
- **AI-based load balancing:** Distributes power efficiently across stations and neighborhoods.

Smart charging supports both EV growth and grid resilience.

Enhancing User Experience Across Charging Locations

A charging station must be more than functional—it must be **comfortable, intuitive, and welcoming**. Jody Benson Sharp believes that user experience is one of the most overlooked aspects of infrastructure design.

Elements of Better User Experience:

- **Clear instructions and interface simplicity**
- **Strong lighting, surveillance, and safe parking**
- **Shade structures or canopies for weather protection**
- **Contactless payment options**
- **Reliable mobile network coverage at charging sites**

When charging is easy and pleasant, users are more satisfied and more likely to stick to electric vehicles.

Incorporating Renewable Energy Into Chargers

California's charging stations must align with the state's renewable energy targets. Jody Benson Sharp highlights the importance of integrating **solar power, wind generation, and on-site energy storage**.

Benefits of Renewable-Powered Chargers:

- **Reduces the carbon footprint of charging**
- **Decreases electricity costs for station operators**
- **Ensures operation during outages**
- **Creates cleaner and more sustainable infrastructure**

Charging infrastructure powered by renewables helps California lead the world in green mobility.

Accelerating Deployment Through Policy and Collaboration

Public agencies, utilities, and private companies must work hand-in-hand. Jody Benson Sharp states that **policy alignment and streamlined bureaucracy** are essential for rapid deployment.

Ways To Accelerate Deployment:

- **Simplify permitting:** Reduce the time required for approvals.
- **Improve utility coordination:** Ensure transformers and grid upgrades are available when needed.
- **Public–private investment programs:** Combine government grants with private capital.
- **Data-sharing systems:** Improve transparency and cooperation among all operators.

Effective collaboration can cut deployment timelines by months or even years.

Conclusion: A Smarter, Stronger, and More Connected EV Future

California's EV revolution is only gaining momentum, but its success depends heavily on the charging ecosystem supporting it. Through expert insights from **Jody Benson Sharp**, it's clear that reliability, equitable access, smart energy management, and driver-focused design are the pillars of a successful EV infrastructure strategy.

With thoughtful planning, technological innovation, and collaborative execution, California can build a charging network that is not only large in scale but strong, efficient, and inclusive. Such a system will empower millions of drivers and set a global example for sustainable electric mobility.