

AchiEVe:

Model Policies to Accelerate Electric Vehicle Adoption

PRESENTED BY THE SIERRA CLUB AND PLUG IN AMERICA



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INTRODUCTION

[The transportation sector is the leading source of greenhouse gas emissions in our country.](#) In order to combat our climate emergency, we must move towards an electric future. Policymakers must prepare for this major shift in how transportation is fueled by implementing bold policies that will support—and accelerate—this transformation to plug-in electric vehicles (EVs). This toolkit is designed to accelerate the switch to these clean vehicles in an effective, sustainable, and equitable way by providing public officials and advocates with model EV policies.

EVs are fast, technologically advanced, quiet, and significantly lower in emissions than conventional vehicles, even when factoring in the emissions from the electricity used to charge them. As we shift to more renewable sources of power, EVs become even cleaner over time. This is great news for public health and climate protection. Thanks to smart and supportive policies that have helped accelerate the widespread adoption of EVs in the United States, EVs have moved from a progressive fad to an industry-wide inevitability and are projected to [account for more than half of all new car sales by 2040.](#) In 2018, EV sales were up 81% in the US compared to the previous year, making it the best year for EV sales so far. To reach our climate and public health goals we need to accelerate adoption even faster.

People often ask what the best policies are that incentivize people to make the switch to EVs, so we have compiled some of the best model EV policies at the state, local, and utility levels in a range of categories.

In this 3.0 version, we have made several updates throughout the document, particularly in the “Expanding Charging Access,” “Evaluating Vehicle Registration Fees,” and “Expanding Equity and Access” sections. We’ve linked to templates or examples for these policies under each section that can be downloaded and customized. We encourage public officials and EV advocates to tailor model policies to best fit the needs of their particular state or community and work with allies to put them into effect.

As the EV market and EV policy evolves, this toolkit will be updated to reflect the best practices in EV policy.

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EXPANDING PERKS AND INCENTIVES

VEHICLE REBATES AND TAX CREDITS

The adoption of financial incentives for EVs has a significant effect on total EV sales, particularly among lower- and middle-income consumers.

VEHICLE PURCHASE REBATE TEMPLATE

Sample States With Vehicle Purchase or Lease Rebates or Tax Credits:

California:

- [Clean Vehicle Rebate Project](#) offers rebates for the purchase or lease of qualified battery electric vehicles of up to \$2,500. Qualified plug-in hybrids are eligible for rebates of up to \$1,500. For individuals with [low and moderate incomes](#), rebates are increased by \$2,000 (Reference: California Health and Safety Code [44274](#) and [44258](#))
- The [Public Fleet Pilot Project](#) (statewide): Rebate of up to \$4,500 for the purchase of battery electric vehicles and \$3,500 for plug-in hybrids; available to state and local entities (Reference: California Health and Safety Code [44274](#) and [44258](#))

Connecticut: The Hydrogen and Electric Automobile Purchase Rebate Program ([CHEAPR](#)) offers rebates up to \$5,000 for the purchase or lease of a fuel cell electric vehicle, \$2,000 for a battery EV, and \$1,000 for a plug-in hybrid. At the time of purchase or lease, the auto dealership will submit an application on your behalf, and you have the option to receive the incentive through Electronic Funds Transfer within 10 days after your application is approved.

Delaware: [The Delaware Clean Vehicle Rebate Program](#) provides up to \$3,500 for the purchase, lease, or conversion of a battery electric vehicle and \$1,500 for a plug-in hybrid; available to businesses, individuals and government.

New York: [Drive Clean Rebate](#) offers up to \$2,000 for the purchase or lease of an EV.

Oregon: The [Zero Emission Vehicle Rebate Program](#) offers cash rebates for purchases of new electric vehicles subject to certain criteria established by the Department of Environmental Quality. Rebates will be \$2,500 for certain EVs with battery capacities of 10 kWh or greater and \$1,500 for EVs with battery capacities less than 10 kWh.

The Charge Ahead Rebate, offered for low-moderate income households, can increase rebates by \$2,500 for new or used battery electric vehicles.

Colorado: Tax credits are [available](#) for the purchase, lease or conversion of light, medium, and heavy duty battery electric vehicles and plug-in hybrids. The amount declines over the next few years, but remains at \$5,000 at least through January 1, 2020.

USED EV INCENTIVES

Federal, state, and local incentives have lowered the effective purchase price of new EVs, which in turn has lowered the cost of used EVs. There are an increasing number of used-EV incentives, which can take the form of a straight rebate, a “cash for clunker” program, or a reduced charging rate from local utilities.

California:

- The [Clean Vehicle Assistance Program](#) offers grants and affordable financing to help low-income Californians purchase a new or used EV. Grants are \$5,000 for a used EV, but the used EV must be no more than eight years old with 75,000 miles or less to qualify.
- [Clean Cars for All program](#) focuses on providing incentives through California Climate Investments (CCI) to lower-income California drivers to scrap their older, high-polluting cars and replace it with a zero emission vehicle.
- San Diego Gas & Electric (SDG&E) offers an [annual credit](#), ranging from \$50 to \$500, to residential customers who own or lease a plug-in electric vehicle, new or used. The credit is available to qualified customers through 2019.
- Southern California Edison’s [Clean Fuel Reward Program](#) provides rebates of up to \$1,000 to residential customers who purchase or lease an eligible new or used plug-in EV. Residential account holders may apply on behalf of a plug-in EV owner in their household.
- Pasadena Water and Power (PWP) [provides rebates of \\$250](#) to residential customers who purchase or lease an eligible new or used plug-in electric vehicle. An additional \$250 is available for eligible plug-in EV purchased or leased from a Pasadena dealership. Customers participating in PWP’s income-qualifying programs may also qualify for an additional \$250 rebate, for a total of \$750.
- The California Air Resources Board will establish the [Zero Emission Assurance Project](#) (ZAP) to offer rebates for the replacement of the battery or other related vehicle

component for eligible used EVs. Rebates will be limited to one per vehicle, and applicants must be at or below 80% of the statewide median income. Rebates will be available through July 31, 2025.

Florida: The Orlando Utilities Commission provides [rebates of \\$200](#) to residential customers who purchase or lease an eligible new or used EV. Applicants must apply within six months of the purchase or lease of the EV.

New Hampshire: The New Hampshire Electric Co-op offers [rebates of \\$1,000](#) for the purchase or lease of a new or used battery electric vehicle, and \$600 for the purchase or lease of a new or used plug-in hybrid. However, the qualifying EV can only receive the credit one time, per the VIN number of the vehicle (so some used EVs might not be eligible).

Oregon:

- [Clean Vehicle Rebate Program](#): Oregon residents that meet low or moderate household income requirements are eligible for rebates up to \$5,000 for the purchase or lease of used battery electric vehicle (not plug-in hybrids).
- Eugene Water and Electric Board: offers a [\\$300 Clean Ride Rebate](#) to pay for clean, electric fuel for a year for most drivers, or to help offset the cost of a home charging station. The incentive is available to customers who purchase or lease a new or used qualifying electric vehicle.

Pennsylvania:

- Duquesne Light Company offers a [one-time bill credit of \\$60](#) to residential customers who purchase or lease a new or used plug-in EV.
- The state [Alternative Fuel Vehicle rebate](#) offers \$750 for “one-time preowned” EVs with less than 75,000 miles.

Texas: Texas offers a [Vehicle Replacement Assistance Program](#) for replacing polluting vehicles with cleaner ones. Qualifying applicants can receive up to \$3,500 for a used EV within three model years, but certain restrictions apply.

PUBLIC AND PRIVATE FLEETS

New York: The New York State Energy Research and Development Authority provides [vouchers](#) to public, private, and nonprofit fleets for the purchase or lease of all-electric vehicles operating 70% of the time.

California: [Alameda County was able to capture the Federal Electric Vehicle Tax Credit](#), which grants a tax credit between \$2,500 and \$7,500 per new EV purchased. Although not popularly used aside from retail purchases of EVs, the credit can be claimed “by the seller of a qualified plug-in electric drive motor vehicle... to a tax-exempt



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organization, [or] government unit...” and passed onto state or local agencies.

SALES TAX EXEMPTIONS

Financial incentives for EVs help to move the market from the early-adopter stage to the mass-market phase. A sales-tax exemption for an EV works to stimulate consumer demand for EVs. For auto dealers, a sales-tax exemption is easy to explain and administer, with no additional steps to take on behalf of the consumer. For the consumer, a sales-tax exemption requires no eligibility requirement and doesn't require the consumer to provide additional cash or a higher loan upfront.

SALES TAX EXEMPTION TEMPLATE

New Jersey: A [sales-tax exemption](#) is available for the purchase or lease of battery electric vehicles. See statute: [N.J.S.A. 54:32B-8.55 Sales Tax Exemption – Zero Emission Vehicle](#)

Washington: The [retail sales tax](#) of 6.5% will not apply to either the sale or lease of new or used vehicles powered exclusively by electricity beginning July 28, 2019. See statute: [HB 2042 – 2019/20](#).

HOV LANE ACCESS

Programs that allow EVs to use highway lanes designated for high-occupancy vehicles (HOV lanes) are an important element in the suite of policies that promote vehicle electrification. For many drivers, HOV lane access can save

drivers an hour or more a day through reduced commute times, thus serving as a powerful driver of EV purchases.

HOV LANE ACCESS TEMPLATE

Arizona: Battery electric vehicles qualify for HOV lanes at any time, regardless of the number of passengers, as long as the battery electric vehicle has a [special license plate](#). See statute: [28-2416. Alternative fuel vehicle special plates; stickers; use of high occupancy vehicle lanes; definition](#).

Florida: Plug-in EVs are eligible for the HOV lane with [Florida's HOV decal](#). Use of the I-95 express lane requires [another specific decal](#) from South Florida Commuter Services. Statute: [316.0741. High Occupancy-Vehicle Lanes](#).

Georgia: Plug-in EVs are [eligible for the HOV lane](#) with the [correct license plate displayed](#). See statutes: Georgia Code 32-9-4, 40-2-86.1, and 40-6-54

Hawaii: Plug-in EVs are [eligible for the HOV lane](#) with the [correct license plate](#) displayed. See statute: [SB 2746 CD-1 A Bill for an Act Relating to Electric Vehicles](#).

New Jersey: Plug-in EVs are [eligible for the HOV lanes](#) on the NJ Turnpike. See statute: [New Jersey Administrative Code 19:9-1.24](#)

Tennessee: Plug-in EVs are eligible for the HOV lane but must apply for the [Smart Pass program](#) and display the decal in the lower right side of the rear window. See statute: [Public Chapter 1121 and Tennessee Code Annotated 55-8-188](#)

ADOPTING CALIFORNIA'S ZEV MANDATE

There are federal clean vehicle standards enforced by the U.S. Environmental Protection Agency and the U.S. Department of Transportation. Federal law also authorizes California to enact vehicle emissions standards stronger than the federal ones, and other states are eligible to adopt and enforce these Low Emission Vehicle (LEV) standards that are identical to the California standard. These states are commonly called “177 states” due to the section of the Clean Air Act that grants them this authority. At this writing, there are 14 states -plus the District of Columbia- that have adopted the LEV standards. Additionally, California has taken the step of enacting Zero Emission Vehicle (ZEV) standards that require automakers

to sell increasing percentages of EVs in that state. As of this writing, ZEV states include California, Oregon, Maine, Massachusetts, Vermont, Connecticut, Colorado, Maryland, New York, New Jersey, and Rhode Island are ZEV states. Successfully advocating for new states to adopt the LEV and then the ZEV standards is one of the most important tools to expand electric vehicle adoption in the United States. At this writing, the Trump administration has proposed to roll back the federal clean car standards and to revoke the EPA waiver that allows for the LEV and ZEV programs. Several states and NGOs will challenge this roll back in the courts.



“THREE CONVERTED PRIUS PLUG-IN HYBRIDS CHARGING” BY FELIXKRAMER IS LICENSED UNDER CC BY-SA 2.0



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ELECTRIFYING PUBLIC VEHICLE FLEETS

Advocating for electrification of fleets owned or leased by states or cities is an effective way to put the importance of prioritizing clean transportation into the public spotlight. EVs save taxpayers money and are good for public health, as shown by recent analysis by the city of Seattle and the state of Washington. Because electricity is significantly less expensive than gasoline per mile, and because EVs require much less service, the city of Seattle [determined](#) it would save \$2 million over 10 years if it purchased 300 Nissan Leafs instead of hybrids for its passenger vehicles, and save more than \$3 million compared to gasoline vehicles.

Some states have created policies that require a fixed percentage or growing share of state-government fleet vehicles be electric, hybrid, and/or “alternative fuel vehicles.” The ideal vehicle-fleet mandate programs require all battery electric vehicles or at least plug-in hybrid vehicles.

[STATE FLEET MANDATE TEMPLATE](#)

GOVERNMENT FLEET MANDATES AND INCENTIVES

Rhode Island: [Executive Order 15-17](#) requires that at least 75% of state motor vehicles be alternative fuel vehicles and the remaining 25% be Hybrid Electric Vehicles (HEVs) to the greatest extent possible. By 2025, 25% of state motor

vehicles must be Zero Emission Vehicles (ZEVs).

Massachusetts: Newly purchased state fleet vehicles must consist of hybrid electric vehicles or alternative fuel vehicles to the maximum extent feasible. Hybrid electric vehicles and alternative fuel vehicles must be acquired at a rate of at least 5% annually for all new motor vehicle purchases so that not less than 50% of state vehicles will be hybrid electric vehicles or alternative fuel vehicles by 2018. (Reference [Massachusetts General Laws](#) Chapter 7, Section 9A; [Executive Order 388](#), 1996)

TRANSIT BUS FLEET UPGRADES

Transit agencies are [committing](#) to switch from fossil-fuel transit bus fleets to fully electric buses. While the upfront costs of electric buses are higher than the cost of diesel buses, the total cost of ownership is far lower than that of diesel or compressed natural gas (CNG) buses. Studies show electric buses are up to eight times more [efficient](#) than compressed natural gas buses. Full environmental and economic benefits of electric buses are [here](#).

Seattle: The King County Metro Transit committed to acquiring 120 all-electric transit buses by 2020 and has indicated plans to fully electrify its transit fleet. In addition to adopting electric buses, Metro Transit also completed a

[report](#) detailing the feasibility of transitioning to a completely zero-emission carbon-neutral bus fleet by 2034. The report prioritizes the equitable distribution of benefits and the need to avoid negative impacts on communities overburdened by pollution in the Metro area.

Washington, DC: The District Department of Transportation (DDOT) has acquired 14 electric buses, and the Director of DDOT says a fully-electric bus fleet is being considered. The Proterra E2 Catalyst Buses are manufactured in the US and bring clean, quiet, zero-emission transportation to more than 4.8 million annual riders and 189 Circulator drivers across six district routes. Additionally, each bus is equipped with WiFi and a pedestrian safety alert system.

Los Angeles and Southern California: Along with adding 95 electric buses to its fleet, L.A. County Metro has [committed](#) to a fully 100%-electric transit bus fleet by 2030, replacing 2,200 fracked-gas-powered buses. The 2017 council motion can be [found here](#). Transit agencies in Antelope Valley, the city of Los Angeles, Santa Barbara, Santa Monica, and San Bernardino County have also committed to all-electric buses by at least 2030.

California: Additionally, the California Air Resources Board recently passed the [Innovative Clean Transit Rule](#), which sets a statewide requirement for public transit agencies to gradually transition to 100 percent zero-emission bus fleets by 2040, with all new purchases being electric by 2029. The 200 transit agencies across the state will play a pivotal role in reducing emissions by transitioning the state's more than 12,000 buses to zero-emission technology.

USING VW SETTLEMENT FUNDS FOR ELECTRIC BUS ADOPTION

Between 2006 and 2015, [Volkswagen](#) (VW) cheated on emissions tests on 500,000 of its diesel cars in the US, which [spewed](#) up to 40 times the legal limit of pollution while driving. Pollution from these vehicles contributed to high levels of smog, which is [known](#) to cause respiratory problems such as asthma and other health problems. Under the VW settlement terms, the automaker must [pay](#) more than \$15 billion in fines and clean air payments, including upwards of \$3 billion in funds distributed among all 50 states to help mitigate the excess pollution it caused, as well as \$2 billion to be spent by Electrify America on EV infrastructure and advertising programs. The VW settlement provides a well-funded springboard for states to, among other things, replace fossil-fueled transit and school buses with clean [zero-emission buses](#).

Every state faces the challenge of choosing how best to spend the funds granted by the VW settlement. By providing research and advocacy resources [here](#), the Sierra Club seeks to help people advocate for the wise use of these funds, especially through the advancement of zero-emission public bus fleets. Below are some examples of model mitigation plans that incorporate investments in zero-emission bus fleets.

Rhode Island: The state has [announced](#) that an impressive 75% of its \$14.3 million in settlement funds will be spent on replacing 20 diesel-powered transit buses with electric zero-emission buses, and that environmental justice principles will be considered when deciding the routes of these new buses.

Ohio: The state will [allocate](#) \$3 million toward an electric school bus pilot project to demonstrate the viability of electric school bus fleet technology that produces no direct emissions under all possible operational conditions.

Colorado: [The state has awarded \\$14 million](#) to six state transit agencies to replace diesel-gas buses with 24 new electric buses throughout the state.

Virginia: [Governor Ralph Northam announced](#) that Virginia will spend \$14 million on 17 new electric buses throughout the state.



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EXPANDING CHARGING ACCESS

Owners of gas-guzzling vehicles have many options when it comes to gas stations at which to fuel, but for people who drive electric cars, fueling happens differently—whether it’s at home, at work, or on the go. That’s why, as the growth of electric mobility continues to gain momentum, the need for large-scale charging networks is becoming even more pressing. Just as there are many stakeholders and policy pathways on the journey to expand EV charging and remove institutional barriers, so are there unique needs and challenges that face our communities when it comes to charging EVs. Below are several options to address them.

[BUILDING CODES FOR EVS TEMPLATE](#)

Electric Vehicle Supply Equipment (EVSE)

[INSTALLATION AT MUDS TEMPLATE](#)

[RIGHT OF WAY CHARGING TEMPLATE](#)

EV-READY WIRING CODES AND ORDINANCES

Some cities are announcing commitments, adopting building codes, and passing ordinances requiring that new homes, buildings, and parking structures be “EV ready”—having the conduit and wiring in place to accommodate EV charging.

It is much harder and more expensive to retrofit existing buildings. A 2018 [report](#) published by the California Air Resources Board describes ways to avoid retrofitting costs; these after-the-fact costs average around \$7,000 – \$8,000 per parking space, not including the **electric vehicle supply equipment**. Instead, installing EV-friendly wiring at the time of construction can be 64–75% less expensive than post-construction installations, according to some [studies](#).

Atlanta: The City Council passed [ordinance](#) 17-0-1654, which requires that all new residential homes and public parking facilities accommodate EVs. The ordinance requires that 20% of the spaces in all new commercial and multifamily parking structures be EV-ready and that all new development of residential homes be equipped with the infrastructure needed to install EV charging stations, such as conduit, wiring, and electrical capacity.

Washington State: The Washington Administrative Code [Title 51 – WAC 51-50-0427](#) requires that 5% of parking spaces in new buildings be equipped with EV charging infrastructure in compliance with sections 427.3, 427.4 and 427.5. If the calculated parking results in a fraction, the applicant must round up to the next whole number. This statute excludes occupancies with fewer than 20

parking spots. The electrical room must be designed to accommodate 20% of all parking spaces with 208/240 V 40-amp.

California: Building codes for EVs can be found in the California Green Building Standards Code [5.106.5.3](#) and [A5.106.5.3 Electric vehicle \(EV\) charging](#). The required number of parking spots and EV chargers varies according to the number of available spots within the parking lot. There are also stricter voluntary standards under “Tier 1” and “Tier 2” for installing **electric vehicle supply equipment** parking. This standard applies to new buildings in California designated as “green” buildings.

Palo Alto, California: Building codes for EVs can be [found here](#). The ordinance requires all new single-family residences and commercial buildings (including multifamily dwellings, mixed-use facilities, and hotels) be EV-ready. The nonresidential EV additions to the ordinance require a three-tier combination of **electric vehicle supply equipment, electric vehicle supply equipment**–ready outlets, and circuitry for new multifamily and commercial construction. In terms of retrofitting costs, one [study found that electrifying](#) existing single-family homes can cost anywhere from \$2,500 to \$5,000, while associated costs (such as

those for conduit and wiring) can add an additional \$1,000 to \$2,000.

San Francisco: Since January 2018, the [Electric Vehicle Readiness Ordinance](#) has required all [new residential and commercial buildings to configure 10% of parking spaces](#) to be “turnkey ready” for an EV charger installation, and an additional 10% to be “EV flexible” for potential charger installations and other upgrades. The remaining 80% of parking spaces will be “EV capable,” ensuring conduit is run in the hardest-to-reach areas of a parking garage to avoid future cost barriers.

Seattle: A [law](#) signed by Seattle mayor Jenny Durkan mandates that all new buildings with off-street parking constructed in the city have the necessary wiring to be considered “EV-ready.” This includes single family homes, multi-unit dwellings, and parking structures.

Massachusetts: The Massachusetts Board of Building [Regulations and Standards](#) recently adopted a [very modest] [requirement](#) for new commercial construction to include one dedicated EV parking space in lots with 15 or more spaces.

MULTI-UNIT DWELLINGS

EV Drivers who live in a multiunit dwelling (MUD), such as an



apartment building, should not give up hope of driving and charging EVs at or near home. Policies removing restrictions for **electric vehicle supply equipment** installation at MUDs are on the rise, which is crucial to further EV adoption by this demographic.

California: A MUD, such as a community apartment, condominium, or cooperative development, must not prohibit or restrict the installation or use of **electric vehicle supply equipment** in a homeowner's designated parking space. If installation in the homeowner's designated parking space is not possible, the homeowner may, with authorization, add **electric vehicle supply equipment** in a common area for their use. Specifically, the homeowner must obtain appropriate approvals from the MUD owner or association, comply with applicable architectural standards, engage a licensed installation contractor, provide a certificate of insurance, and pay for the electricity usage associated with the **electric vehicle supply equipment**. If the **electric vehicle supply equipment** is installed in a common area for use by all members of the association, the common-interest development must develop terms for use of the **electric vehicle supply equipment**. (Reference [California Civil Code 4745](#) and [6713](#)).

California also passed [AB 1796](#), which gives apartment renters with a dedicated parking space in rent-controlled units the right to install a Level 1 or Level 2 charging station for their EV.

Colorado: Both individual tenants and landlords of MUDs can install **electric vehicle supply equipment** given certain restrictions in statute, but they are [free from undue prohibitions](#) from landlords and various associations, respectively.

Florida: [House Bill 841](#) took effect on July 1, 2018, which allows unit owners in MUDs to install **electric vehicle supply equipment** equipment at their own expense under certain conditions within the law. Condominium associations are also not allowed to prevent the construction of these spaces as before.

Hawaii: A similar [law](#) in Hawaii allows MUD owners to place **electric vehicle supply equipment** on the property provided they follow certain guidelines. It declares that property owners cannot be unreasonably restricted in their **electric vehicle supply equipment** placement and that private entities cannot prohibit **electric vehicle supply equipment** outright.





Massachusetts: The Massachusetts Legislature, [via Bill H.4069](#), allows the city of Boston to prevent associations from prohibiting or unreasonably restricting owners from installing electric vehicle charging stations, subject to certain constraints laid out in the statute.

Oregon: The Oregon Legislature put forth a similar [bill](#) that allows unit owners to install **electric vehicle supply equipment** in their MUD without being prohibited from doing so by a condominium association, HOA, etc.

STREETLIGHT AND POWER POLE CHARGING ACCESS

One option for curbside EV charging involves using the existing electrical infrastructure provided through streetlights and power poles. Any LED streetlight uses less electricity than what the streetlight was originally equipped for, and thus has the capacity to host EV charging stations. These streetlights can host Level 1 or possibly Level 2 EV charging stations, depending on power supplied to the streetlight and the capacity on the streetlight’s electric circuit.

Seattle: The city of Seattle, the Woodland Park Zoo, and ReachNow installed 20 [Light & Charge](#) systems at the

Woodland Park Zoo. The Light & Charge system transforms existing streetlights and parking lot lights into host sites for EV charging stations as part of the smart city network.

Lancaster, California: The city of Lancaster launched the [BLVD Streetlight EV Charging demonstration](#) in 2017. The project integrates EV charging stations into five streetlights along the popular downtown boulevard.

Los Angeles: The city has installed EV chargers on [82 streetlights across the city](#) and is installing [chargers on utility poles](#) as well.

New York City: The city named Ubitricity, a German company, the winner of its NYCx Climate Action Challenge. Ubitricity is currently conducting a multiyear pilot project around the city to test its technology that converts light poles into [EV charging stations](#).

RIGHT-OF-WAY CHARGING ON PUBLIC SIDEWALKS

New Orleans: The City Council unanimously voted to allow EV owners to apply for permits to install chargers for personal, noncommercial use next to the curb between their home and the street—a necessity in a city where many

homes do not have driveways. Some of the requirements include how much space must remain on the sidewalk for pedestrians to pass and how close the devices can be to fire hydrants. A permit is \$300 with a yearly renewal fee of \$100. The [City Ordinance is here](#).

Seattle: The [Electric Vehicle Charging in the Public Right of Way \(EVCROW\) Program](#) outlines right-of-way charging policies that have been adopted citywide to prioritize allowing EV access to curbside charging spaces in urban centers and villages for short-term and shared use.

Berkeley, California: The city of Berkeley [extended](#) its Residential Curbside Electric Vehicle Charging Pilot project for curbside charging through December 2020. It charges applicants a processing fee of \$397 and has the applicant pay for the purchase and installation of the **electric vehicle supply equipment**. The parking space on the street is to remain free and open to the general public.

Sacramento: In June 2017, the city of Sacramento and EVgo entered into an [agreement](#) for EVgo to build three curbside, 150kWh chargers and three 50kWh chargers in the public right-of-way. The chargers are now available for use, and the city is currently negotiating with other vendors to deploy an additional 15 chargers on public sidewalks.

PROTECTING EV-DESIGNATED PARKING SPOTS

Unfortunately not all drivers on the road are courteous and respect and follow the signs that designate an EV charging spot for EV drivers only. If the driver of an internal combustion engine is parked in an EV only designated spot, someone's plan to charge up while shopping for groceries could be thwarted, and it may become hard to complete the rest of the journey. Some jurisdictions are realizing that preserving areas for EV drivers to charge their cars is an important concern and have begun implementing parking regulations for public charging stations to prevent this.

Arizona: Pursuant to section [28-2416](#), a person who is found responsible for parking a gas-powered motor vehicle within any parking space specifically designated for parking and fueling electric vehicles can be cited and subject to a civil penalty of at least \$350.

Washington State: RCW [46.08.185](#) states it is a parking infraction with a penalty of \$124 for any person who parks a vehicle in an EV charging station on public or private property if the vehicle is not connected to the charge equipment.





EV-UTILITY INVESTMENTS

Utilities have an important role to play in accelerating deployment of EV charging infrastructure, which leads to increased EV adoption and expanded access to the benefits of vehicle electrification to presently underserved market segments. Efforts to ease barriers to charging station infrastructure build-out by utilities are numerous and varied; the ones that follow offer benefits to EV owners, utility companies, and the general public.

Charging Infrastructure Principles for Utilities and Public Officials

Electric utilities—and their regulators—must not only take an active role in planning for an electric future but also should assume a supportive role, given the electricity grid, economic, and societal benefits of widespread transportation electrification. In particular, electric utilities are well-positioned to address infrastructure and market-education challenges.

Addressing key barriers to EV adoption and realizing the benefits of EVs will require careful guidance from utility regulators and support from state public officials. The key roles for utility regulators are to

- support the “EV conversation” among key stakeholders;
- integrate transportation electrification into resource-planning processes;

- identify, and, where appropriate, resolve key issues that will define utility and market roles;
- review and approve reasonable, no-regrets utility EV charging investment programs that are in the “public interest.”

In the EV context, the public interest should refer to programs that will integrate new electricity load to the benefit of all utility customers, deploy infrastructure in locations where it will be used and useful, equitably serve all customers, and define utility and market roles to support the growth of an innovative and competitive market for EV service providers.

Defining the principles that should guide EV-Utility investment from the start can put all stakeholders on the same page and guide utilities in designing programs and regulators’ review of those proposed investments. One good example is the Transportation Electrification Accord.

[The Transportation Electrification Accord](#) was primarily crafted by NGOs and has now been signed by more than 50 vehicle manufacturers; electric utilities; EV infrastructure and technology companies; consumer advocates; and public interest groups representing interests ranging from labor to environmental. The accord spells out high-level principles that explain how to electrify the transportation sector in a way that maximizes economic, social, and environmental

benefits. The accord is made up of 11 principles that address what transportation electrification should encompass and where stations are needed. Specifically, the principles highlight the need and some of the means to intelligently integrate new electricity load with the grid. They emphasize the need to serve all electricity customers. They prioritize consumer protection and open access in the deployment of new infrastructure. And they address the role that electric utilities—which are critical stakeholders—must play in moving transportation electrification forward.

Authorizing Legislation

State public officials also have important roles. New legislation can provide certainty regarding state utility commission authority and the role of utilities in the transportation electrification context by resolving basic legal and policy issues and/or encouraging state utility regulators to invite and approve EV programs by utilities.

Massachusetts: [H4781](#) was passed in 2017, authorizes electric utilities to propose EV-related investments, and establishes the test that the state’s utility commission, the Department of Public Utilities, must use to review any proposed investments.

New Hampshire: [SB 575](#) does not define the electric utility role, but it does resolve another basic issue that is important to the development of the EV charging market: it clarifies that nonutility owners or operators of charging stations are not public utilities subject to regulation by the state’s utility commission solely by virtue of operating a charging station.

California: [SB 350](#) was signed by Governor Brown in 2015 and finds that “widespread transportation electrification requires electrical corporations to increase access to the use of electricity as a transportation fuel.” It directs the California Public Utilities Commission to order electric utilities within its jurisdiction to propose projects and programs to support electrification of California’s transportation sector in order to meet the state’s air quality targets, reduce oil use, and limit greenhouse-gas emissions.

DC Fast Charging: Demand Charge Mitigation

Utilities can also help mitigate one of the primary near-term barriers to deployment of DC fast chargers: demand charges. At low levels of utilization, demand charges (charges that are based on maximum instantaneous usage at a site) can swamp volumetric charges for DCFC, eroding the business case for installing these critical stations.

Examples of how utilities have proposed to address the demand charge disincentive:

1. [PGE in California:](#) Subscription fee based on throughput of chargers plus strong time-of-use rates; no demand charge (subscription fee acts like a modest demand charge).
2. [Southern California Edison:](#) Five-year demand charge holiday; demand charges phased back in over the following five years.
3. [New York utilities:](#) Public Service Commission approved an off-bill demand charge discount that declines over time and is intended to offset the disincentive to invest in DCFC while utilization rates are low.

Investor-Owned Utility Programs

In several states, regulators have approved programs for investor-owned electric utilities to support the adoption of EVs, including investments in EV charging infrastructure. These include utilities installing thousands of charging stations and investing money in EV outreach and education. Well-conceived programs ensure that utility investments increase access to clean transportation options in low-income neighborhoods and underserved communities; increase deployment of EV chargers in multi-unit dwellings, workplaces, fast charge locations, and other settings that are currently poorly served by the competitive market; and ensure that programs or rate structures are implemented to manage the new EV load to minimize strain on the grid and facilitate integration of renewable energy. Here are links to examples of programs or proposals worth considering:

Ohio: [AEP Ohio](#) (\$10M light-duty vehicle charging infrastructure program approved in 2018) (pages 26-32).

Florida: [Duke Energy Florida](#) (\$8M light-duty vehicle charging infrastructure program approved 2017) (pages 40-44).

Maryland: [Baltimore Gas & Electric, Potomac Electric Power Co., Delmarva Power, and Potomac Edison Co.](#) (\$104M EV charging infrastructure proposal filed in January 2018 that was partially approved in January 2019, which includes charging infrastructure targeting multiple market segments, multiple ownership models, funding for education and outreach, and innovation funding to support electrified transportation for low-income communities).

California: [San Diego Gas & Electric](#) (\$45M investment in light-duty vehicle charging infrastructure approved in 2016). [San Diego Gas & Electric, Southern California Edison and Pacific Gas & Electric](#) (\$43M of pilot programs to electrify light-, medium- and heavy-duty vehicles approved in 2018).

Massachusetts: [National Grid](#) ([\\$166.5 million proposal from](#)

[November 2018](#) including make-ready and utility-owned infrastructure options, offerings targeting overburdened communities, residential smart charger rebates, off-peak charging incentive, DCFC discount)

Municipal Utility Programs

Municipal, or publicly owned utilities are controlled by a city or local government body that administers utility services. These nonprofit organizations are run either by public employees or by locally elected officials, as opposed to private investor-owned utilities that select their leadership via a shareholder-elected board. Around 2,000 [“munis”](#) supply power to [14%](#) of the US population, varying in size from fewer than 1,000 customers in Fonda, Iowa, to around 4 million customers in the LADWP service area. Resources vary given the size differences between municipal utilities, although most serve fewer than [4,000](#) customers. Below are the best ways for municipal utilities to help increase the awareness and adoption of EVs in their service areas.

Westerville Electric Division, Westerville, OH: The city of Westerville’s Electric Division offers a [rebate](#) to offset the purchase, installation, and maintenance costs of Level 2 **electric vehicle supply equipment**. Single-family homes are not yet eligible for the rebate, but MUDs, hotels, offices, and retail spaces all qualify. This is important because as more people purchase plug-in electric vehicles, utilities should encourage more public charging points to allow accessible, hassle-free refueling.

City of Azusa, Azusa, CA: Azusa Light and Power offers residential customers a \$150 rebate toward the purchase and installation of a Level 2 **electric vehicle supply equipment**, and the utility also offers an off-peak charging [rate](#). Its website also has links to public charging stations in the area, a link to federal incentives, and links to other state-level incentives in California. While the **electric vehicle supply equipment** rebate is not large compared with other programs, anything municipal utilities can do to help decrease the barriers to plug-in electric vehicle adoption is critical. Even if a muni does not offer any incentives, it is good practice to provide basic information on charging stations and available incentives at the state and federal levels.

Austin Energy, Austin, TX: Austin Energy is a larger municipal utility that [offers](#) to cover 50% of the purchase and installation costs of a Level 2 **electric vehicle supply equipment** for qualifying customers, up to \$1,200 for a WiFi-enabled charging station. The utility also offers a time-of-use charging rate and allows its customers to charge for a flat rate across its “Plug-In EVerywhere” charging network.

Madison Gas & Electric (MG&E), Madison, WI: MG&E is another larger municipal utility and situates its “Charge@ Home” [program](#) on the center of its website’s home page. Making it simple for consumers to navigate a website is preferable to burying plug-in electric vehicle information in multiple tabs on a clunky web interface. MG&E will install a Level 2 charger at no cost to the homeowner, who then only has to sign up for a TOU rate and pay a \$20/month charge on top of existing electrical fees. As noted on MG&E’s website, utilities should want to invest in EV programs because it gives them valuable information on how to best manage plug-in electric vehicle charging as the market expands.

USING VW SETTLEMENT FUNDS TO GROW EV CHARGING NETWORKS

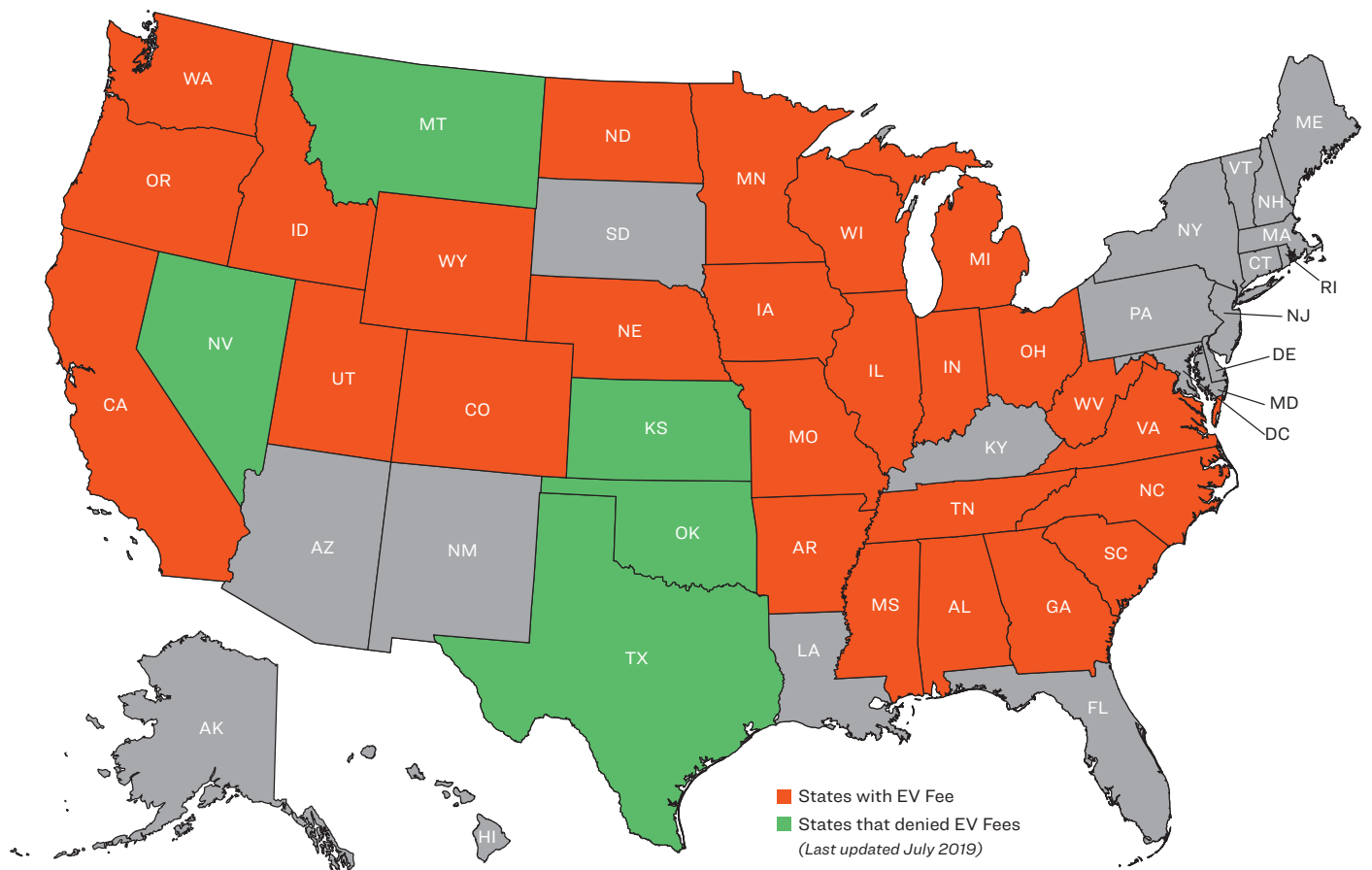
As mentioned in the Electrifying Vehicle Fleets section, the [Volkswagen settlement](#) provides tens of millions of dollars in funds available for states to build new—and expand existing—charging networks. Every state has the option of investing a maximum of 15% of its settlement funds in building out EV charging networks.

Increasing EV adoption will require significant investment in EV charging stations. Experts have identified key areas where adding charging stations will accelerate EV adoption, such as apartments and condominiums, workplaces, and highway corridors. Certain states have outlined plans to install charging stations in a variety of neighborhoods, including underserved communities and areas that endure the greatest harm from air pollution.

Colorado: The state’s final plan [carves out](#) 15% of funds (\$10.4 million) toward EV charging along interstate corridors and also ensures environmental justice communities will have equal access in the installation plan. Charging-station placement will also be based on major “points of interest” such as grocery stores, malls, and landmarks.

California: The state [has committed](#) 35% of the funds allocated for charging stations to be invested in disadvantaged communities.

Washington, DC: Will [prioritize](#) investment that benefits areas of the city that bear a disproportionate share of the air pollution burden. These regions were determined by looking at asthma rates in the district and underrepresented neighborhoods as defined by income levels.



EVALUATING VEHICLE REGISTRATION FEES

Unfortunately, annual registration fees or penalties for EV drivers are on the rise. Before 2017, fewer than 10 states had EV fees. Currently, EV fees are enacted in at least 26 states, with the highest set at \$248 annually. These fees are an impediment to widespread EV adoption and add to the already higher upfront cost of EVs.

Lawmakers who support EV registration fees claim they are necessary to make up for the lost revenue from the gasoline tax, since EVs use less or no gas compared with their counterparts. In fact, these annual fees are used by states to exploit EV drivers by billing them an amount often more per year than what drivers of conventional vehicles pay in gas taxes.

WHY EV DRIVER ANNUAL REGISTRATION FEES SHOULDN'T EXIST

- States often do not impose similar fees on trucks, despite their far greater weight and impact on roads. EVs are typically lighter than both trucks and conventional cars.
- The average driver pays \$71 in gas taxes each year, but the average EV fee is significantly higher. Such disproportionate fees threaten to deter potential EV buyers at a time when EV technology is just starting to

gain a foothold and should be incentivized rather than penalized.

- States often subsidize fracked gas and liquefied petroleum vehicles and waive annual fees for owners, despite these vehicles not contributing to gas-tax revenue.
- EVs do not contribute to tailpipe air pollution; less tailpipe pollution means improved air quality and public health.
- Most EV fees force owners to pay more than their fair share of the transportation fund—more in annual EV registration fees than drivers of conventional cars pay in gas tax. In some states, EV owners already pay electricity taxes to utilities, and many pay higher-than-average sales tax on their vehicle purchases.
- As is often the case, transportation-fund deficits average in the *tens to hundreds of millions of dollars*. Increased registration on EVs, which average less than 1% of a state's total registered vehicles, would do little in the near-term to address these enormous deficits.

For more information and talking points, see the [PIA factsheet](#) and the [Sierra Club factsheet](#).

[REDUCED REGISTRATION FEE TEMPLATE](#)

STATES WITH WAIVED OR REDUCED VEHICLE REGISTRATION FEES FOR EV DRIVERS

Connecticut: Offers [reduced registration fees](#): \$80 for a passenger car; \$38 for an electric-vehicle passenger car. (Reference [Chapter 246](#) Sections 14-31 and 14-49 of General Statutes of Connecticut)

Vermont: The [registration fee](#) for electric-powered vehicles is \$74 for one year, or \$136 for two—compared with what conventional vehicles pay: \$132 for one year, or \$242 for two. In 2016, Vermont’s Agency of Transportation released a [study](#) of whether it would be fiscally effective to charge EV owners a higher registration fee. Leaders have recommended refraining from an EV fee until EVs constitute at least 15% of the state’s vehicles.

PRIORITIZING EQUITY AND EXPANDING ACCESS

Though EV deployment has increased in recent years, low-income communities and communities overburdened by pollution are likely to encounter the strongest barriers to EV adoption. EVs are much more [affordable](#) than gasoline-powered cars when factoring in lowered maintenance and fuel costs, but today, the up-front price tag can still be larger than the price of gas-powered cars. For low-income and many moderate-income families, the \$7,500 federal tax credit doesn’t fully address the economic barrier that many people face when buying or leasing their next car. Additionally, many low-income individuals will not be able to access the \$7,500 credit, given that they won’t have the tax liability. They can access it indirectly if they lease, but it’s not

always guaranteed that the financing company or dealership will pass on the savings to the consumer.

Overburdened communities also face charging-access challenges, and are often people who live in multiunit buildings without dedicated charging spaces.

Overburdened communities typically experience more severe health impacts from vehicle tailpipe emissions because they’re often located near major roadways and transportation hubs. These emissions increase the risks of asthma, cancer, and other pollution-related illnesses. For a mass transition to clean vehicles to happen, they will have to be adopted by and made affordable for low-income communities and communities disproportionately impacted



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by vehicle pollution. States, cities, and utilities should adopt programs that increase electric transportation for all communities because everyone deserves to breathe clean air and access clean transportation choices, regardless of income, race, or location.

REBATES FOR LOW-INCOME DRIVERS

California: [Charge Ahead California Initiative](#) aims to bring one million electric cars, trucks, and buses to California by 2023. [SB 1275](#) directs the California Air Resources Board (CARB) to create equity programs that increase access to and use of EVs among low- and moderate-income individuals. For example, rebate payments to low-income consumers are prioritized through the [Clean Cars 4 All Program](#), and low-income [eligible](#) applicants may receive additional compensation of \$7,500 toward replacing a [high-emitting motor vehicle](#). Through CARB, the Community Housing Development Corporation has a Transportation Program that serves low-income residents in six Bay Area counties by providing a [vehicle-financing option](#) for the purchase of a used hybrid electric vehicle, plug-in hybrid, EV, or fuel cell electric vehicle. The pilot program went statewide in June 2018. The [Clean Vehicle Assistance Program](#), launched June 2018, helps low- to moderate-income California residents with grants of up to \$5,000 to purchase a new or used hybrid or electric vehicle.

Oregon: In addition to the \$750 to \$2,500 rebate for the purchase or lease of a plug-in hybrid or EV, drivers with low to moderate income who live in areas with elevated concentrations of air pollution are eligible for an additional [rebate](#) up to \$2,500 to replace a car that is at least 20 years old. The state's [Clean Vehicle Rebate Project](#) provides \$2,500 for used plug-in electric vehicles and \$5,000 for new plug-in electric vehicles to qualifying low-income individuals.

Pennsylvania: The Department of Environmental Protection offers \$750 for a one-time preowned alternative-fuel vehicle through its [Alternative Fuels Incentive Grant Program](#). Qualifying low-income individuals are eligible for an additional \$500 rebate.

Texas: The Texas Commission on Environmental Quality runs the “AirCheckTexas Drive a Clean Machine” program. Qualifying Texans are eligible for up to \$3,500 to replace their old, polluting vehicle with a cleaner one. However, as of [May 2, 2019](#), the program is no longer accepting applications—hopefully legislative action will continue its funding.

Vermont: Burlington Electric Department offers a \$1,200 [rebate](#) to its customers, as well as an additional \$600 and \$300 for moderate-income consumers buying battery electric vehicle and plug-in hybrids, respectively.

EV CAR-SHARING PROGRAMS

Los Angeles: [BlueLA](#) is a 100% EV car-sharing program geared toward low-income residents. Members are not required to return the vehicle to the same place they picked it up. This means working families can pick up an EV from near their home and drop it off near a public transportation hub, making the program more flexible and convenient. It's an excellent example that demonstrates how a community-invested car-sharing program can increase the mobility of underserved communities in a successful and sustainable way. See also [BlueIndy](#) in Indianapolis for another example of the Blue car-sharing family.

CHARGING ACCESS IN UNDERSERVED COMMUNITIES

California: [CARB's Clean Cars for All and Clean Vehicle Assistance Program](#): As part of these two programs, CARB offers an additional \$2,000 for the purchase and installation of a charging station if the consumer purchased a battery-electric vehicle. It will soon expand eligibility to those consumers who purchased a plug-in hybrid vehicle to address charging no matter the plug-in vehicle purchased.

San Diego: The San Diego Gas & Electric (SDG&E) [Power Your Drive Program](#) has installed more than 3,000 charging stations at 255 locations, which include workplaces, multiunit dwellings, and in underserved communities. SDG&E pays for the EV stations and installation; the site host pays a one-time participation payment: \$630/port for workplaces, \$235/port for multiunit dwellings, and \$0 for underserved community installations.

Austin, Texas: Austin Energy implemented a program that also helps underserved communities by targeting owners of multiunit dwellings, which house more than 40% of the city's population. Under this program, Austin Energy provides a rebate of up to \$4,000, or 50% of the cost, to install approved Level 2 (240V) charging stations and/or Level 1 (120V) outlets. The utility also provides rebates up to \$10,000 to hosts who want to install a DC Fast Charger. To qualify for these credits, the charging station must be open to all property residents.



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CONSUMER EDUCATION AND PROTECTION

EV PROCLAMATIONS AND DRIVER BILL OF RIGHTS

EV Proclamations: One of the easiest ways to show support for EVs is through a proclamation or resolution that emphasizes their benefits. These proclamations or resolutions can be adopted at the local, city, or state level. These actions are strong tools to continue building momentum for the transition to EVs and to show which public officials will take a stand by signing on. [Here is a link to an example.](#)

EV Driver Bill of Rights: The switch to driving an electric vehicle is a lifestyle switch. The vehicle uses different technology than a gas vehicle and owning the vehicle presents different challenges and opportunities. For these reasons, consumers need to be assured that they have certain rights when it comes to driving an EV. These can be summed up by a resolution called an EV Driver Bill of Rights. A resolution does not hold the force of law, but represents the optimal guidelines for specific EV policies and on specific EV issues. However, the resolution can instruct state or local agencies to adopt policies that do have the force of law and comply with the intent specified in the EV Driver Bill of Rights.

A [sample EV Driver Bill of Rights](#) could include sections

about the consumer purchase experience, the consumer charging experience, and the consumer ownership experience

RIDE AND DRIVE EVENTS

Ride and Drive Events: Nothing gets people more excited and sold on the idea that an EV could work for them than a ride and drive event. These opportunities give people the chance to kick the tires and check out EVs for themselves, so they can see just how easy a transition it is.

The annual [National Drive Electric Week](#) events, presented nationally by the Sierra Club, Plug In America, and the Electric Auto Association, alongside with many other local partners, allow people to organize their own pro-EV events. These might include parades, an EV showcase at existing festivals, or just an event where people can swap EV stories with neighbors at a driveway party. The best events include opportunities for test drives as well as for public officials to attend and announce new EV policies. Many drive electric events aim to combat the stereotypes and myths often associated with EVs and EV drivers, and work to promote EVs in lower-income and more diverse communities that face higher barriers to EV adoption.



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OPEN ACCESS AND INTEROPERABILITY

States must resolve basic issues related to access, payment, and pricing at EV charging stations in order to support current or would-be EV drivers. This is particularly important in a world with an ever-increasing number of EV service providers who offer varied models for access and pricing. To provide EV drivers with a positive charging experience, public officials should set basic ground rules for charging-station access, payment options, and pricing transparency.

“Open access” is the ability to get a charge at any public charger, including Level 1, Level 2, and DC Fast Charging. This means that the public charging station is not locked behind a gate or wall but is essentially open for access by the public. Open access also means that one or more methods of payment are available to enable the charge to begin, for example via a credit card swipe or a mobile app.

Electric vehicle drivers should never be stranded at a public charging location where they cannot actually charge. Pricing transparency is the clarity of price of a charge when the EV driver connects to the charger, including any roaming fees or demand charges. The price should be available through online mapping applications to help drivers select a charging station. Front-end interoperability is a key principle for the entire charging infrastructure ecosystem. Currently, many companies have their own card or key, which means drivers

must either join multiple “clubs” or risk being unable to charge; this should be remedied.

Providing mapping data is another key criteria aligned with consumer protection. All electric vehicle service providers should provide mapping data for charging locations, including costs for charging (both in and out of network).

California: [SB 454](#) created the Electric Vehicle Charging Stations Open Access Act. [Regulations](#) for the legislation were adopted by the CA Air Resources Board in June 2019.

Massachusetts: [Chapter 448 of the Laws of 2016](#) included some provisions on open access and prohibitions on subscription fees for public charging stations.

New Hampshire: [SB 575](#) prohibits an owner or operator of a charging station from requiring a membership or subscription fee for use of a charging station, requires that charging stations support multiple payment options, and mandates reporting of charging-station location and other data to the Department of Energy’s Alternative Fuels Data Center.

UNIFORM SIGNAGE REQUIREMENTS

There is a critical need for charging station signage, from highway visibility down to the last several hundred feet around a station. Even if charging station locations are noted on smartphone mapping tools, car navigation systems, and web-based maps, the stations can still be challenging

to locate because the physical hardware is not that large. Directional signage installed on streets near charging stations will aid navigation and also help to generally reduce EV driver “range anxiety.”

[A SAMPLE TEMPLATE TO USE IS LINKED HERE.](#)

Federal: The federal government provides guidance for EV signage through its Manual on Uniform Traffic Control Devices, but it is often up to state transportation agencies to decide whether to use the signs and how to implement the policy guidelines. For highways that have been designated as Alternative Fuels Corridors, there is [specific guidance](#) on the design and appropriate use of signs. States designating an Alternative Fuels Corridor must also use [appropriate signs](#) in advance of each exit that has charging infrastructure and on the exit ramps as well as provide “trailblazing” signs further along the route to the charging site. A corridor-designation sign alone is insufficient. The Federal Highway

Administration also [provides guidance](#) for standardized parking signs close to the EV charging station.

West Coast Green Highway: A [standardized symbol](#) to mark public charging stations along major highways has been adopted in Washington, Oregon, and California. Standards for local street signs to indicate charging-station locations, parking signs, and pavement markings are also specified.

Washington: [RCW 46.08.185](#) details the charging-station signage required, as well as the monetary penalty for parking a gas car in the charging spot. Charging-station signage must also meet the requirements in [RCW 47.36.030](#).

California: The California Health & Safety Code, Division 26, Part 5, Chapter 8.7, [Section 44268.2](#) requires that charging stations be labeled in accordance with Part 309 of Title 16 of the Code of Federal Regulations. The PEV Collaborative has also [proposed recommendations](#) for charging-station signs and accessibility.

CONCLUSION

Electric vehicle adoption is a win-win for people, governments, and the environment. Many groups and diverse stakeholders with a broad range of concerns and interests stand to benefit from state and local policies that advance electric transportation and charging infrastructure.

Many environmental justice and public health advocates have been pushing for EV policies because EVs result in large reductions in emissions and improved air quality, particularly for overburdened communities located along freeways and major transportation hubs and who experience disproportionate health impacts from pollution. State and local governments benefit from savings in fuel and maintenance costs for public transportation, as well as from opportunities to meet health and climate protection goals. EV drivers benefit from savings in fuel costs. Everyone benefits from reductions in public health risks. Unionized workers, such as electrical and utility workers, benefit from

increases in work needed to install and maintain charging infrastructure as well as to manufacture EVs and parts. Bus drivers benefit from the elimination of exposure to harmful emissions while on the job. And transit riders and school children benefit from breathing cleaner air on rides to work and school.

As this toolkit shows, we need an all-hands-on-deck effort from government, utilities, and transit agencies, and we have a full range of actions and policies that are proven to accelerate EV adoption, both effectively and equitably, in any state and local community that wants cleaner vehicles and cleaner air.

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