



POLICY

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Policies can include rules, regulations, guiding principles, and general intentions and, in the context of electric vehicles (EVs), are disseminated from various levels of government to accelerate the integration and acceptance of cleaner transportation. National governments such as China, the United Kingdom, France, the Netherlands, and India are trending toward aggressive vehicle policies that will lead to the eventual phase-out of internal combustion engine (ICE) vehicles (Next 10, 2018). Many U.S. states are adopting zero-emission vehicle regulations, which can be supported by local policies (ICCT, 2019). The level of integration of EVs and charging infrastructure can depend on many local factors. As technology around EVs and charging infrastructure continues to evolve, policies should be revisited and updated accordingly.

This section provides strategies for integrating EVs into existing plans; modifying zoning, codes, and standards to incorporate EVs and charging infrastructure; and updating permitting processes for charging infrastructure both now and in the future. Local policy is most effective when it reflects the needs of the community. A study evaluated the correlation between various EV policies and the relative market share of EVs in the community with the exclusion of California, as its market share of EVs is significantly higher than the rest of the country. This analysis found that EVs are more prevalent in communities with zero-emission vehicle mandates and rebates for vehicles and infrastructure than with policies such as free HOV lane access, decreased licensing fees, and emissions testing exemptions (Cattaneo, 2018). This shows the importance and influence policies have on the EV market.

Who Are the Target Audiences for Strategies Included in This Focus Area?

- Local government officials and policy makers
- Local or regional advocacy groups

Key Messaging

- Prepare the community for the future of electric transportation
- Meet the needs of residents
- Improve local air quality
- Reduce greenhouse gas (GHG) emissions

Typical Barriers

- Public support for EV policy
- Pushback from developers, homebuilders, or homeowners associations
- State regulations that may be in conflict with or restrict local control
- Updated cycles of planning efforts that may not coincide with EV planning timelines

What Are the Most Effective Outreach Channels for These Strategies?

- Community activist organizations
- Municipal staff EV and sustainability working groups
- Community planning departments
- Regional partnerships and coalitions

INTEGRATION WITH OTHER PLANS

This topic area shows how EV planning can be incorporated into other community planning efforts for topics like transportation or land use. EV roadmaps may be developed as a stand-alone document or as part of a larger planning effort. In either case, as the number of EVs on the road increases, so does their impact and relevance to other community planning efforts. It is important for community leaders to understand these impacts and plan appropriately.

Basic Information

For many communities, an EV roadmap is just one of many local and regional planning efforts. As with all plans, cities should be aware of the impact that strategies from their EV roadmap will have on other efforts. Some examples of overlap include:

- **Vehicle Energy Use:** Communities that have renewable energy or energy efficiency goals need to determine how the energy use from EVs fits into them. Often, the electricity use of EVs at charging stations is included in the metered electricity use for the building — meaning that it is not easy to distinguish between the two. In some cases, EV chargers can be sub-metered to separate EV use from building use (Fathy & Carmichael, 2019). In other cases, the community can choose to estimate the electricity use from EVs and subtract it from the building energy use. Additionally, the community can plan for the increased electricity use by incorporating it into the goals and forecasts of other plans. If your community has a commercial building benchmarking ordinance, be sure to clearly explain how you would account for energy use from EV charging stations.
- **Parking:** A community should understand how establishing EV-only parking spaces for charging will affect their existing parking regulations, including the number of spots required for new developments as well as public parking regulations and enforcement. For more information, see [Parking, Signage, and Enforcement](#) section.
- **Transportation Infrastructure Planning:** While promoting the transition to EVs, communities should keep in mind funding gaps that could occur because EVs do not consume traditional fuel and so do not contribute to transportation revenue through ICE vehicle fuel taxes (Next 10, 2018). Policy solutions such as alternative fuel vehicle taxes or road usage fees can be used to address funding gaps.

First Steps and Quick Wins

As a first step for integrating EVs into local policy, neighboring communities can be a good resource for sharing ideas and establishing best practices, desired goals, and cross-community regulations. Strategies in this section could include starting a conversation with another community or regulatory agency to build partnerships. Through the foundation of good communication, communities can create cohesive policies that benefit residents throughout the area.

Account for EV Energy Use in Benchmarking Ordinances

Communities leverage voluntary or required energy performance benchmarking ordinances to help entities track and compare energy usage over time, usually with the goal of reducing building energy use. Adding EV charging infrastructure to a building could interfere with building owners' ability to show efficiency improvements over time, potentially creating a disincentive to install EV infrastructure. To mitigate this, ensure that energy performance benchmarking ordinances clearly outline how energy use from EV charging stations would be accounted for, so that it does not artificially inflate a building's total energy use and energy use intensity (EUI). A community can choose to allow buildings to subtract EV charging station energy from their overall energy use before reporting. [ENERGY STAR® Portfolio Manager](#) allows a building to [add a new meter with a negative value](#) to account for EV charging station energy use. This free resource from the U.S. Environmental Protection Agency is used in many communities as a reporting platform for their benchmarking ordinances. If your community is using a different platform, ensure that the guidelines for building owners with EV charging stations are clear.

Coordinate and Advocate Regionally

Learn from and coordinate efforts with neighboring communities and regulatory agencies to provide consistent regulations for customers. When updating plans and codes, look to neighboring communities first to identify best practices, and align with those best practices where feasible. Other regional coordination efforts can include advocating for EV-centric policies at the state or federal level, or conducting joint EV education and outreach campaigns.

Examples of regional partnerships include:

- The [Denver Metro Clean Cities Coalition](#) is a group of stakeholders in the Denver metro area who are working together to help residents “make informed decisions about clean transportation and sustainable mobility.”
- The [Southern Colorado Clean Cities Coalition](#) has a partnership with the American Lung Association in Colorado to promote and encourage the use of clean fuels that result in clean air.
- The [Northern Colorado Clean Cities Coalition](#) is a partnership of various northern Colorado municipalities and businesses supporting local and statewide integration of cleaner fuels.
- The [Twin Cities Clean Cities Coalition](#) focuses on reducing fuel and vehicle emission impacts on environmental and community health in Minnesota.
- [Drive Electric Minnesota](#) brings together all players in the electrical industry to accelerate the adoption of EVs in Minnesota.
- [The Wisconsin Clean Cities Coalition](#) is working with municipal and industrial partners to improve the use of alternative fuels and the advancement of vehicle technologies.

Large Efforts and In-Depth Studies

The strategies in this section outline opportunities to integrate EV planning into the community's overall planning process. This step is important in planning to transition EVs to mainstream transportation but generally requires a greater investment of time and financial resources. Communities should be mindful of other community plan update cycles during collaborative EV strategy development.

Local policy is most effective when it reflects the needs of the community and supports regional and state-level initiatives. Both Colorado and Minnesota have state-level EV planning documents to help guide the electrification of the transportation sector over the next 5-10 years. Additionally, local plans might align with Transportation Electrification Plans produced by local utilities. Aligning policies, programs, and planning efforts with these documents is a great way to leverage existing momentum.

Colorado EV Plan 2020: The Colorado EV Plan 2020 is an update to the 2018 plan and sets clear EV goals and actions. The plan establishes a goal of 940,000 light-duty EVs by 2030 and a long-term vision of 100% electric light-duty vehicles and 100% zero emission medium-duty vehicles. One of the main updates to the Colorado EV Plan was the addition of recommendations related to Policy, Planning, and Guidance. The Policy, Planning, and Guidance section highlights the importance of state-level guidance to facilitate alignment of EV standards across multiple jurisdictions.

Accelerating Electric Vehicle Adoption: A Vision for Minnesota: This plan establishes a vision of 20% EVs on Minnesota roads by 2030 and identifies policy as one of the most important actions a city can take to transform into an EV-ready city.

Collaborate through Regional Planning

Establish the desired geography for the planning region, and identify key stakeholders – such as utility representatives, governmental leadership, and policy makers - to convene across that region. Use regional meetings to develop unified EV readiness plans, policies, and regulations and to initiate partnerships through sharing ideas, lessons learned, and best practices. Where feasible, regional agencies can provide support and resources to local governments, such as up-to-date installation checklists, EV projections, and siting analyses. Likewise, coordinate regional training and staff education to allow for consistent information and processes for community staff, residents, businesses, and visitors.

Examples:

- The [Georgetown Climate Center](#) is organizing a collaboration among regulatory agencies in the northeast and mid-Atlantic states to develop an EV charging corridor connecting the states.
- The [Regional Electric Vehicle Planning for the West](#) is a coalition of regulatory agencies from Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, Utah, and Wyoming arranged to create an intermountain EV corridor.
- The [Minnesota Pollution Control Agency](#) intends to administer some of the State's Volkswagen settlement funds to bring regional coordination and electric charging connectivity in the state through [its proposed charging network](#).

Integrate into Master Planning

Include EV-readiness goals, policies, and strategies in community master plans. Comprehensive plans, transportation master plans, and transit master plans are all great venues for integrating EV-readiness.

Often, comprehensive plans already have language that supports the concept of EVs such as being a good environmental steward, supporting green technology and sustainability, and promoting multiple modes of transportation that can be adjusted or expanded to be EV specific. Comprehensive plans are often the foundation for codes and standards, highlighting the importance of including EV-ready language to help set the stage for other efforts.

Transportation master plans can also help drive EV-readiness. These plans establish priorities and strategies to meet diverse transportation needs, typically in alignment with higher-level community priorities outlined in comprehensive plans. More and more, transportation master plans are including electrification as part of their transportation solutions. This is especially true for communities seeking to address air quality issues while unable to meet all travel demand through lower-emission options, such as walking, biking, or taking the bus.

Integrating EV-readiness into master plans can take many forms, but might include establishing goals or strategies related to outreach and education, zoning and codes, investment in public infrastructure, equity, fleet electrification, and transit electrification.

In addition to engaging members of the public to better understand community priorities, key stakeholders could consist of utility representatives, business owners, permitting department staff, zoning administrators, parking enforcement staff, downtown development authorities, local community organizations addressing affordable housing, public health, or environmental justice, and, in some instances, staff from universities and large hospitals.

Through stakeholder engagement, the community can determine the appropriate level of planning and zoning language from the following (Clean Energy Coalition et al., 2011):

1. **Accepting:** There is a desire to ensure no barriers exist, but there is no interest in actively promoting the installation of charging stations.
2. **Encouraging:** There is both a desire to ensure no barriers exist and an interest in promoting the installation of charging stations.
3. **Assertive:** There is both a desire to remove barriers that exist and an interest to require the installation of charging stations.

Examples:

- [Fort Collins City Plan](#) establishes clear EV-readiness policies and seeks to align with their existing [2018 EV Readiness Roadmap](#).
- The [Clean Energy Coalition in Michigan](#) includes sample master planning and zoning language within each of the tiers from above in [Section 6C of their EV roadmap](#).
- The [Raleigh Transportation Electrification Study](#) seeks to align with the City's Strategic Plan, 2030 Comprehensive Plan, and future Community-wide Climate Action Plan.



EV Equity in Master Plans:

Since master planning can serve as the foundation for decision making in many communities, the consideration and incorporation of equitable principles is critical in these documents. Equitable EV goals, policies, and strategies can take many forms, and can include investment in EV infrastructure, EV car-share programs, cash vouchers, or even transit electrification in neighborhoods lacking access to EVs. Evaluating which communities have been disproportionately impacted by pollution from ICE vehicles or other harmful policies and projects can also inform which audiences to target with support.

Consider within Climate Action and Sustainability Plans

Incorporate EV goals into climate action plans and sustainability plans. Many communities have established such plans to guide efforts to reduce GHG and carbon emissions. With planning efforts already in place that focus on GHG and carbon emissions from energy use from other sources, transportation will soon emerge as the next big target. In places where alternative modes of transportation such as bicycling, public transit, and ride sharing are not feasible for all residents, EVs are an important emissions reduction strategy. Impacts on climate and sustainability can be measured based on the number of ICE vehicles replaced with EVs, as well as vehicle miles traveled by EVs.

Examples:

- The [Mayor of Los Angeles](#) dedicated a chapter in the city's [sustainability plan](#) to mobility and public transportation as well as to zero-emission vehicles.
- The [City of New York](#) developed [climate and sustainability strategies](#) for improving the health of its residents, visitors, and surrounding environment, with mobility and air quality interwoven into each chapter.
- The [City of Seattle](#) published a [climate action plan](#) that considers general transportation as well as EV ease of use and integration into the community.

Incorporate into 100% Renewable Goals

Evaluate the impact of EV adoption goals on 100% renewable energy commitments. Many communities are setting goals to transition to 100% clean, renewable energy. While communities make this transition and continue to promote EVs, those leading community planning efforts should understand that increased use of EVs will result in higher demands on the electrical grid. As technology continues to evolve, EV batteries may become external storage to help balance energy use and send power back to the grid when needed (Next 10, 2018). Communities should work closely with Xcel Energy to understand the impact of EV goals on the electric grid and on renewable energy sources.

Online calculators are available to help communities estimate how much additional annual electricity will be required by an average EV and necessary charging stations:

- The [U.S. Department of Energy](#) developed the [Alternative Fuels Data Center](#), which provides calculators, interactive maps, and data searches to aid in decision-making for community members and regulatory agencies.
- [Energy Innovation Policy & Technology LLC](#) created [Energy Policy Solutions](#), which simulates the impacts of various policy changes on reducing GHG emissions.
- The [Minnesota Department of Transportation](#) has developed a [decarbonizing transportation report](#) that models scenarios for carbon-free transportation by 2050 as well as challenges and opportunities to achieve modeled scenarios.

ZONING, CODES, AND STANDARDS

Developing an EV-friendly community requires adapting local zoning, codes, and standards to make owning and using EVs advantageous to residents, businesses, and visitors. This is often the most effective way to promote EV adoption in your community but can be more difficult to implement than education and outreach efforts.

Basic Information

When a community is choosing to review their zoning, codes, and standards to identify opportunities to promote EVs, three levels of policy language should be considered. Each level requires varying degrees of community support and should be assessed in the context of other local and state policies (Clean Energy Coalition et al., 2011).

1. **Accepting:** At this level, the community's policies do not forbid EV infrastructure. One example is that some community codes classify EV charging station as fueling stations, which may still prohibit their installation in some areas. By reclassifying EV charging stations, the community allows stations to be built while maintaining a laissez-faire approach.
2. **Encouraging:** Zoning, codes, and standards at this level provide additional benefits to community members who choose to install EV infrastructure. Some examples are expedited permitting or allowing exemptions from existing codes (such as a reduced parking requirement).
3. **Assertive:** Under this category, properties are required to install EV infrastructure. One example is building code that mandates all residential homes to be built with a charging infrastructure-ready outlet.

First Steps and Quick Wins

Initial strategies for adjusting zoning, codes, and standards can include parking and street codes. These strategies are a good place to start while a community is building public support for EV policy, as they increase public visibility of EV infrastructure.

Include EVs in Minimum Required Parking Spaces

Allow builders to include EV charging station parking spaces as part of the required off-street parking spaces for new commercial building construction. This allows builders to include EV parking without having to obtain additional areas for parking to meet the minimum requirements. This is a no-cost opportunity for communities to support and encourage builders and building owners to install EV charging stations.

Examples:

- The [City of Indianapolis and Marion County](#) updated the [municipal codes](#) regarding required off-street parking to incorporate EV charging station installation.
- The [State of California](#) legislature adopted a [municipal code](#) allowing for EV parking spaces with accessible charging stations to count as one option for the required off-street parking.
- For several other examples see pg.13 of the [Great Plains Institute Summary of Best Practices in Electric Vehicle Ordinances](#).

Amend Street Codes

Amend street codes to allow right-of-way charging locations. By increasing the acceptable locations for EV charging stations, more charging options will become available for drivers who do not have access to reliable charging options at home or at work. Additionally, consistent parking rules and designated EV-only parking signage will make it easier for residents and visitors to use EVs, which will lead to more widespread adoption overall. As EVs become more visible throughout the community, awareness and acceptance of EVs will increase. In communities in Minnesota and Wisconsin, curbside public rights-of-ways are sometimes used for snow storage during the winter, which means additional consideration would be needed regarding plowing operations when siting public charging stations.

Examples:

- The [City of Seattle](#) initiated a [pilot program](#) that allows public EV charging stations to be installed near the curbside in the public right-of-way.
- The [Clean Energy Coalition in Michigan](#) includes sample siting and installation locations for EV chargers in new and existing public right-of-way as well as sample signage and regulations in [Section 6D & 6E of their EV roadmap](#).
- The [City of Berkeley](#) in California published a [manual](#) for installing EV charging stations near the curbside in the public right-of-way on residential properties.

Designate EV Charging as Permitted Land Use

Work to streamline the EV permitting process by explicitly allowing EV charging stations, where appropriate, within the framework of your City's existing zoning regulations. This may be broken out by the type of EV charging station (level 1,2, or 3), the number of chargers to be installed, or whether the stations will be publicly available. For example, you might amend some or all zoning districts that explicitly permit gas stations to include Level 2 or Level 3 EV infrastructure as permitted uses.

Examples:

- For several examples see pg.6 of the [Great Plains Institute Summary of Best Practices in Electric Vehicle Ordinances](#).

Larger Efforts and In-Depth Studies

In some cases, incorporating EVs into community zoning, codes, and standards will require more planning, budget, approval, and coordination. This could include developing new codes specific to charging stations or updating building codes to require EV-ready infrastructure in new construction. Such strategies should be considered and discussed early during the development stage, as some stakeholders may be resistant to pursuing them.

Develop Charging Codes

Create EV charging codes that can be incorporated into existing zoning, codes, and standards. These codes can help ensure that residents will have a consistent experience with public charging stations owned and operated by the community. Considerations for charging codes include:

- **Types of Charging Stations:** These specifications may include the level of charging station (Level 2 or 3) targeted in specific areas of the community as well as any required capabilities of the station, such as connectivity for tracking and billing purposes.
- **Rates and Billing Responsibility:** In some cases, the community owns and operates the system and can set the billing rates for charging. See the [Public Access](#) section for more guidance on setting rates. In other communities, third-party providers maintain ownership and operate the chargers through a contract with the community. In this case, the rates will be set in the contract.
- **Signage and Use Regulations:** This portion of the code specifies the standardized signage for charging stations including regulations and enforcement details. For more information regarding signage, see the [Parking, Signage, and Enforcement](#) section.

Examples:

- The [City of Fort Collins](#) established public availability of EV charging stations and associated fees for charging in its [municipal codes](#).



Equitable Codes: Technology, payment, and language barriers may limit access to EV charging stations. Most stations do not accept credit cards or cash, but rather require customers to pay via credits they have purchased through their smartphone app. This can be a barrier for those who do not have a smartphone or a data plan. Signage can also be a barrier for those with limited English skills. Both barriers can be addressed by incorporating code language requiring multiple payment types and multilingual signage.

Update Building Codes

Incorporate EV-readiness requirements into building codes for new construction to reduce future installation costs. By requiring EV-ready infrastructure for all new construction, installation costs can be reduced by almost 75% compared to retrofitting, due to the cost of post-construction trenching, demolition, and permitting (Pike, Steuben, & Kamei, 2016). Levels of readiness for a building code include (Frommer, 2018):

- **EV-Capable:** Ensure that the electrical panel has a dedicated circuit branch and continuous raceway conduit from the panel for a future EV charger but does not require the installation of the actual 240-volt outlet.
- **Charging-Infrastructure-Ready Outlet:** Install the electrical panel with a dedicated circuit branch and continuous raceway conduit, from the panel to a junction box or to a 240-volt outlet that a Level 2 charger can connect to.
- **Charging Infrastructure Installed:** Include the electrical requirements above, in addition to a minimum number of Level 2 EV charging stations to be installed for immediate use.

The 2021 International Energy Conservation Code (IECC) will include requirements for EV-Capable or Ready charging stations for residential development. The update may also include EV-Capable or Ready requirements for commercial development. Many communities incorporate parts or all of the IECC into their code ordinances. The 2021 updates could significantly enhance the adoption of EV-Capable or Ready standards across communities.

Examples:

- The [City of Boulder](#) requires 1 EV-Ready space per dwelling unit for single family development, 5% EV-Installed, 10% EV-Ready, and 40% EV-Capable (25+ spaces) for multi-family development; and 5% EV-Installed, 10% EV-Ready, and 10% EV-Capable (25+ spaces) for commercial development.
- The [City of Fort Collins](#) requires all new buildings with on-site parking to have 5% of spaces EV-ready and all new single-family homes with attached garages or carports to have EV charging infrastructure in place based on the updated [building codes](#).
- The [City of Atlanta](#) updated its [building code](#) to require all new commercial and multi-family parking structures to have 20% of spaces be EV-ready and all new residential homes to have EV charging infrastructure in place.
- The [Bay Area Air and Quality Management District](#) offers [suggested methods](#) for local governments to adopt standards and requirements based on state government codes.
- The [Southwest Energy Efficiency Project \(SWEET\)](#) offers sample code language for EV readiness in [residential buildings](#) and [multi-family and commercial buildings](#).
- The [City of Bloomington](#) in Minnesota passed an [ordinance](#) in 2019 supporting EV-ready infrastructure such as requiring EV chargers on all new multifamily construction.
- For more examples of Cities with EV Ready requirements see pg.7 of the [Great Plains Institute Summary of Best Practices in Electric Vehicle Ordinances](#).



PERMITTING

Municipal permits are important to help communities ensure the safe and consistent installation and maintenance of charging infrastructure. The strategies in this section describe opportunities for improving the permitting process to help remove barriers that may prevent EV integration.

Basic Information

Municipal permits are often required for structural remodels and alterations of a home or building. This can include roof repairs, load-bearing wall demolition, general structural layout alterations, and new electrical wiring or circuiting. Many municipalities are beginning to require EV-ready infrastructure such as electrical conduits in new construction but retrofitting existing developments can be a costly and complicated process. In some instances, residential buildings already have the capability to support a 240-volt outlet for Level 2 chargers and would not need to obtain an electrical permit prior to installing the charging infrastructure. However, if the residential building is not capable of supporting a 240-volt outlet for Level 2 chargers, the owner would need to obtain an appropriate electrical permit and install new wiring and circuit connections.

Similarly, commercial buildings that do not have the necessary infrastructure to support a 240-volt outlet for Level 2 chargers or that want to upgrade their electrical services to support multi-port Level 2 chargers or Level 3 chargers will need to obtain the appropriate electrical permit. By expediting the permitting process and lowering the cost of the permits, a community can facilitate a swifter integration of EVs through private installation of charging stations.

First Steps and Quick Wins

As a first step toward integrating EVs into the community, adjust the permitting process to make it easy for residents and building owners to install charging infrastructure. This section describes foundational actions that can be used to initiate the EV integration process without extraneous effort or resources from the community.

Standardize the Permitting Process

Offer a standardized permitting template with a separate service fee specifically for charging infrastructure to establish a straightforward and consistent method for residents and businesses to become EV ready. A checklist can provide residents and businesses an explicit understanding of what steps need to be taken for the permitting process. This checklist could include required project information needed in the permit submission letter, architectural components needed on the plans and drawings, any associated fees, and resources for customer support throughout the process.

Examples:

- The [City of Atlanta](#) provides applicants with an [EV plan review checklist](#) to ensure all permit requirements are included prior to submission.
- The [City of Berkeley](#) in California offers a [code compliance checklist](#) for EV charge station permits.

Expediate the Permitting Process

Use online platforms to streamline the permitting process. Online platforms can be incentivized by offering next-day inspections for residential and commercial installation of charging infrastructure and can be used to easily communicate permitting status updates. Additionally, you can encourage early adoption and installation of charging infrastructure through incentives like offering to waive inspection fees for a set number of permittees on a first-come, first-served basis.

Examples:

- The [State of Oregon](#) offers a [pre-approval program](#) for licensed contractors on electrical, plumbing, and elevator projects that allow contractors to receive 10 permits at a time, which can be used throughout a year and will be subject to at least one on-site inspection. This allows contractors to move forward on projects quicker, which benefits EV owners by speeding up the charging infrastructure installation process.

Offer Educational Workshops

Host educational workshops to guarantee accurate and up-to-date information for local officials, community inspectors, electrical contractors, and others responsible for aiding in the permitting and installation process. This will ensure community members and local businesses experience a smooth and consistent permitting and installation process. These workshops should include:

- Current policies, standards, and codes regarding charging infrastructure permitting, siting, and installation
- Best practices and troubleshooting for charging infrastructure installation and maintenance
- Inspector guidance and specifications pre- and post-charging infrastructure installation

An existing organization that offers educational workshops about charging infrastructure installations is the [National Electrical Contractors Association \(NECA\)](#), which provides courses and resources for electrical contractors across the country to maintain current industry knowledge as well as to ensure safety and quality. Members of the [Clean Cities Coalition Network](#) often host educational workshops and webinars.

Larger Efforts and In-Depth Studies

Significant changes to the permitting process will require additional planning, budget approval, and coordination. However, the strategy in this section could address stakeholder concerns and remove barriers to EV adoption.

Review and Update Taxes and Fees

Review projected EV adoption trends and anticipated transportation revenue required to plan appropriate EV taxes and fees. As the trend of vehicle use shifts from ICE vehicles to EVs, revenues from motor vehicle fuel taxes will decrease. For communities to maintain transportation revenue needed to fund projects for road safety, upkeep, and improvements, other fees such as road usage charges or annual vehicle fees may need to be implemented. It is important that the fees be rightsized — enough to maintain the appropriate infrastructure but not so high as to disincentivize EV adoption.

Examples:

- The [City of Raleigh](#) in North Carolina applies [thoroughfare facility fees](#) to all vehicle traffic to support street improvement projects.
- The [State of Oregon](#) developed the [Road Usage Charge Program](#), which is a pay-by-the-mile tax to ensure funds are collected from EV owners in addition to ICE vehicle owners. Fuel taxes paid at the pump are credited back to ICE vehicle owners.
- The [State of Washington](#) piloted the [Road Usage Charge Program](#) in 2019 to evaluate other methods of collecting revenue for capital improvement funds without the standard fuel tax. Findings and decisions regarding the program will be released in early 2020.
- The [State of Georgia](#) uses [annual alternative fuel vehicle fees](#) to gather funds from non-ICE vehicle owners to support capital improvement projects.

Resources

Many organizations have developed toolkits and other guidance documents to help communities find the policies and strategies that are best for them. Examples of these policy toolkits include:

- The [Southwest Energy Efficiency Project \(SWEET\)](#) in partnership with multiple Colorado agencies developed a local [policy toolkit](#) for electric transportation.
- The [Clean Energy Coalition in Michigan](#) established an [EV-preparedness plan](#) with sample policy and planning methods.
- The [Sierra Club](#) and [Plug In America](#) created a [model of state and local policies](#) for EV adoption.
- The [New York State Energy Research and Development Authority](#) published a [guide](#) for creating EV-ready towns and cities through planning and policy tools.