



# Approaches to EV Infrastructure

A Primer for Community Leaders, Planners and Elected Officials

## Your Role

As a decision maker, you are in a unique position to guide the development of electric vehicle charging infrastructure for your community. EV users need to “fill-up” with electricity at battery charging sites. Developing a plan for your community EV charging infrastructure helps to orchestrate an effective rollout of this burgeoning technology and anticipate uncertainties.

## Issues to Consider

- What is the forecast for the adoption of EVs in your area for commercial and private use?
- Are you planning to use EVs as a part of your municipal fleet? When? What type?
- Are other communities in your area planning or deploying EV charging infrastructure?
- Does your community have goals related to climate change mitigation, reducing petroleum use, or improving air quality that EVs can help achieve?

## Approaches to EV Infrastructure

Electric vehicle planning is scalable to communities of different sizes and different degrees of infrastructure development need. Approaches vary from little more than developing an electric vehicle charging infrastructure ordinance to more comprehensive regional infrastructure planning. The latitude of these approaches allows your community to decide to what degree to commit to electric Vehicle infrastructure. Nationally, other leaders have grappled with this issue and developed a number of strategies to accommodate electric vehicles within their communities. One resource that offers strategy support is the Plug-in Ready Michigan plan, released in 2012.<sup>1</sup> These strategies include:

- Developing a municipal electric vehicle charging infrastructure ordinance;
- Streamlining permitting processes and costs for electric vehicle charging;
- Installing public charging infrastructure for electric vehicles;
- Integrating Electric Vehicles into municipal fleets

## Approaches to Developing an EV Infrastructure Municipal Ordinance

Developing an electric vehicle infrastructure ordinance is the first step toward integrating EVs into your community. Communities should consider to what degree they wish to promote this technology and should tailor an approach to meet the needs of their community. The Plug-in Ready Michigan Plan outlines three levels of commitment many communities take.

**1. EV Accepting Approach** – This approach anticipates the desire of residents and business owners to install EV charging equipment by providing basic guidelines for the placement and installation of charging equipment. An example of this approach comes from **THE CITY OF AUBURN HILLS**, the first municipality in Michigan to adopt a comprehensive EV ordinance. The ordinance not only raises awareness about EV’s among city staff and the public, but makes EV charging stations easier to permit and get installed.

**2. EV Encouraging Approach** – The encouraging approach goes one step further by also including provisions that promote the development of EV infrastructure and EV use in your community. For example, the Auburn Hills Electric Vehicle Infrastructure Ordinance also contains language promoting, but not requiring, new developments to “rough in” their garages or parking lots for future charging station installations. This provision allows planning officials to engage in a discussion with property owners about the benefits of planning for future infrastructure needs, and has so far led to many businesses voluntarily installing EV charging stations or at least the conduit for future charging needs.

**THE CITY OF GRAND RAPIDS, MICHIGAN** has taken a different but equally effective approach to encourage EV infrastructure, Grand Rapids’ zoning ordinance incentivizes developers to install charging stations by giving a parking bonus for each EV charging site developed:

*"[Electric vehicle spaces] may count as four (4) regular parking spaces. Electric car spaces shall include a charging outlet for use by the parked car..."* (City of Grand Rapids, Michigan, Zoning Ordinance §5.10.05.B.2 Alternative Vehicles)

**3. EV Assertive Approach** – An assertive approach is intended for communities that want to be leaders in the development of EV infrastructure to support EV use. As an example, rather than recommending that new construction projects install conduit in anticipation of future charging, an assertive approach might require that such steps be taken. This particular policy example is untested here in Michigan, however, and municipalities may lack the authority to require these additional measures since they exceed state building codes.

An assertive approach might also require accommodation of EV infrastructure through actions like requiring EV charging spaces as a percentage of total parking. For example, **THE CITY OF MOUNT LAKE TERRACE, WASHINGTON** has adopted a minimum percentage approach as an amendment to their city master plan. Ordinance No. 2553 - 19.126.040 includes language such as *"a minimum percentage of the facility's parking spaces shall provide a connection to electric vehicle parking stations..."*

### Streamlined Permitting for Electric Vehicle Charging

One of the other potential barriers to infrastructure installation is the permitting process that homeowners and businesses must follow within their municipality. Inspectors need to be trained and have firsthand knowledge about EV infrastructure. The permitting process can be further streamlined by updating permitting templates to include a specific service fee for "AC Level 2 EV Charging Stations." Additional measures to encourage EV adoption could include waiving fees for a certain number of EV charging stations, offering same day online permitting, and offering next-day inspections for EV charging station installations.

### Public and Workplace Charging Infrastructure

A number of Michigan cities are blazing the way by installing public EV charging stations. Cities such as Holland, Kalamazoo, Grand Rapids, Ann Arbor, Dearborn, Muskegon, and others have installed stations in municipal

parking lots and parking garages. The highly visible station installations promote EVs by alleviating the reluctance some drivers may have in considering EVs for fear of not finding a charging station when they are away from home. In many of these communities, private businesses have followed suit by installing charging equipment as an added perk for employees. Workplace charging opportunities may be even more important for potential EV drivers, and can have benefits for employers and building owners too as a marketing tool or in attracting and retaining employees.

### Integrating EVs into Municipal Fleets

Municipalities can also directly promote EVs by incorporating them into their city fleets. Combined with the installation of public charging stations and public education, fleet purchases can help demonstrate EV benefits on a broader community level. Some cities have also adopted forward-thinking acquisition requirements for motor vehicles purchases by the city. For example, the City of Indianapolis has recently announced its intent to replace all of its non-police sedans with electric or plug-in vehicles as older vehicles are retired. Similar commitments by private fleet managers leverage their purchasing power to show a strong commitment to the future of these technologies.

### Take Action

Cities across the nation are preparing for electric vehicles. The examples above highlight the many ways to support electric vehicles within your community. For more information on electric vehicles and electric vehicle readiness, visit [www.builtbymichigan.org](http://www.builtbymichigan.org) or email [info@builtbymichigan.org](mailto:info@builtbymichigan.org).

### Who We Are - Built by Michigan

Built By Michigan brings together businesses, workers, families, electric vehicle owners, environmental organizations, and community leaders to advance the manufacture and sale of electric vehicles in Michigan. We are working with cities and industry leaders to develop and disseminate best practices for electric vehicle integration and adoption at the municipal level.

**Built By Michigan | [www.builtbymichigan.org](http://www.builtbymichigan.org)**

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<sup>1</sup> Access Plug in Ready Michigan at: <http://cec-mi.org/mobility/programs/pluginreadymichigan/>