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Transforming Minnesota's Electric Vehicle Market:

Comprehensive Plan Best Practices for Local Action

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About the Great Plains Institute

A nonpartisan, nonprofit organization, the Great Plains Institute (GPI) is transforming the energy system to benefit the economy and environment. Working across the US, we combine a unique consensus-building approach, expert knowledge, research and analysis, and local action to find and implement lasting solutions. Learn more at www.betterenergy.org.

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Overview

Comprehensive plans are the primary policy tool for local governments to set long-term priorities for local development, investment, and regulation. Many local governments are recognizing the importance of addressing electric vehicle deployment in development, investment, and regulation. This document summarizes and categorizes the adopted electric vehicle goals and policies of cities and counties in Minnesota. The comprehensive plan language in the sections below are drawn from recently updated local plans in the state, focusing primarily on the Minneapolis-Saint Paul metropolitan area but with some examples drawn from cities in Greater Minnesota. The context for these examples is relevant to most regions of the Midwest. This document identifies five categories of best policy practices used by communities to include electric vehicle-related goals or policies in their comprehensive plans and illuminates the wide variety of approaches to those practices.

The following communities included electric vehicle goals or policies in their comprehensive plans:

- [City of Apple Valley](#)
- [City of Arden Hills](#)
- [City of Austin](#)
- [City of Belle Plaine](#)
- [City of Bloomington](#)
- [City of Burnsville](#)
- [City of Champlin](#)
- [City of Coon Rapids](#)
- [City of Duluth](#)
- [City of Eden Prairie](#)
- [City of Falcon Heights](#)
- [City of Fridley](#)
- [City of Golden Valley](#)
- [City of Hastings](#)
- [City of Jordan](#)
- [City of Lakeville](#)
- [City of Maple Grove](#)
- [City of Marine on St. Croix](#)
- [City of Minneapolis](#)
- [City of North St. Paul](#)
- [City of Oak Grove](#)
- [City of Oakdale](#)
- [County of Ramsey](#)
- [City of Red Wing](#)
- [City of Richfield](#)
- [City of Rogers](#)
- [City of Rosemount](#)
- [County of Scott](#)
- [City of Shakopee](#)
- [City of Shoreview](#)
- [City of St. Anthony](#)
- [City of St. Louis Park](#)
- [City of St. Paul](#)
- [City of Stillwater](#)
- [City of Vadnais Heights](#)
- [City of Victoria](#)
- [City of Virginia](#)
- [City of Wayzata](#)
- [City of West St. Paul](#)
- [City of Winona](#)
- [City of Woodbury](#)

Methodology

This document was generated through a review of all the Minneapolis-Saint Paul metro area 2040 comprehensive plans and a sampling of city comprehensive plans in Greater Minnesota, focusing on cities participating in the GreenStep Cities program, Minnesota's award-winning statewide recognition program for local sustainability. In the metro area, 188 communities (cities, counties, and townships) are required to complete a comprehensive plan every ten years that is consistent with the regional plan developed by the Metropolitan Council, the statutorily-created regional government for the seven-county area. The Council reviews the plans for consistency with the Regional Plan and statutory requirements. This summary draws on this evaluation by the Metropolitan Council.

The Council staff identified 42 cities and counties that at least acknowledged the growing electric vehicle (EV) market and the need to address this in local policies and local controls. Most of the 42 adopted goals are for supporting EVs and EV charging infrastructure. The Great Plains Institute reviewed these comprehensive plans and some additional plans to identify the policy practices that are being adopted in the metropolitan area.

GPI then reviewed the comprehensive plans for another 52 communities located in Greater Minnesota that participate in the GreenStep Cities program. As many of these plans were 5–10 years old, only five had adopted goals or policies related to market expansion or transformation of EVs.

The comprehensive plan EV policies in this document were identified and categorized from the comprehensive plan policies and goals of 45 cities and four counties. Each plan was searched for specific reference to or statements of strategies to support EV's and necessary infrastructure. Any ambiguous statements and mere mentioning of EVs were excluded for consistency and alignment to the document objectives. In total, 38 cities and two counties adopted, in their comprehensive plan, support for EV deployment in their communities, or adopted deployment goals for increasing the use of EVs.

GPI assessed and categorized the policies and goals to identify the best practices now being used by local governments in EV policy. Policy practices fell into five categories:

- **Electric Vehicles in the Zoning Code:** Set goals to amend the zoning code or other local regulations to address EVs or EV supply equipment.
- **Electric Vehicles in a City's Fleet:** Consider or set goals to include EV and charging infrastructure in the local government's fleet.
- **Broad Support for Deployment of Charging Infrastructure:** Support EVs by encouraging deployment of or providing charging stations.
- **Support for Charging Infrastructure in Public Areas:** Consider or set goals to install charging stations in public area (including parks, public parking lots, city campuses, etc.) to allow accessibility for EV owners.
- **General Support for Electric Vehicles:** Support, encourage, or promote the use of EVs.

Each of these five policy practice categories was then subcategorized into specific community actions. Each practice category has two to four actions.

1. Support Electric Vehicles in Zoning Code

By incorporating EVs in zoning code, cities can turn policy goals into land use regulations and other implementation of the policies. Cities can determine when, where, and how EV infrastructure will be developed for the good of the city and the public. Policies that specifically support changes to local land use controls, including zoning, provide guidance to local staff and the planning commission that the city is committed to establishing the infrastructure to encourage the use of EVs.

Actions categories	Language Example		
	City/County:	Text:	Citation:
Setting requirements for housing development to install EV charging stations	Falcon Heights	“Housing Policies [...] Consider requiring new construction of multi-family and residential housing units to include Electric Vehicle readiness.”	Page 31
		“Housing Goals [...] Promote the following practices: a. Residential access to electric vehicle infrastructure.”	Page 31
	Fridley	“Consider Zoning Code text amendment that requires new, large commercial and multi-family housing developments to include EV charging stations.”	Page 335
Establishing incentives and regulations to encourage EV infrastructure in private development	Minneapolis	“Action steps [...] Explore incentives and requirements for electric vehicle charging infrastructure in new development and in the public right-of-way.”	Page 140
		“Action steps [...] Encourage and support electric vehicles by prioritizing associated public and private infrastructure including in the right of way, and ensure that electric vehicle charging infrastructure incentivizes the use of renewably generated electricity.”	Page 153
	St. Louis Park	“[...] the city is committed to working with private businesses to offer charging stations for EVs. This could be accomplished through encouragement and city development standards that require EV parking spaces with new developments.”	Page 6-261
		“Reduce greenhouse gas emissions generated as a result of the roadway	Page

		network. Strategies [...] Expand regulations that provide for electric vehicle charging ports in new developments and public right-of-way.”	6-261
	Coon Rapids	“The City will consider and promote as appropriate the expansion of electric vehicle charging stations in conjunction with new development or redevelopment.”	Page 3-16
	Maple Grove	“Explore electric vehicle conversion. [...] Encourage and promote ‘plug-in’ parking spaces for electric vehicles in developments.”	Chapter 1 Page 53
Consider amending zoning code to incorporate EV infrastructures as part of development standards	Fridley	“Action Step: [...] the city should [...] evaluate the potential need to amend the Zoning Code to permit EV charging stations in various zoning districts.”	Page 55
		“Consider Zoning Code text amendment that requires new, large commercial and multi-family housing developments to include EV charging stations.”	Page 335
	Maple Grove	“[...] electric vehicles will require charging stations, which should be considered at public and private facilities in Maple Grove’s land use planning and zoning ordinance. The placement of these charging stations should complement existing infrastructure, encourage equitable resource development, and enhance intermodal connections.”	Chapter 7 Page 6
	Rosemount	“[...] electric vehicles will require charging stations, which should be considered at public and private facilities in Rosemount’s land use planning and zoning ordinance. The placement of these charging stations should complement existing infrastructure, encourage equitable resource development and enhance intermodal connections.”	Page 8-6
Allow or encourage installations of charging stations	Bloomington	“The City does not currently have standards to regulate EV charging stations, although developing such standards has been identified as a near-term project.”	Page 4-26

	Ramsey County	“Therefore, it is essential for Ramsey County to encourage commercial, residential and institutional building improvements and new construction to be as energy efficient as possible and to be ‘renewable energy ready’ and ‘electric vehicle ready’ and/or incorporate renewable energy wherever possible.”	Page 150
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2. Electric Vehicles in a City's Fleet

Cities can lead by example by incorporating EVs into their fleet. By doing so, cities can reduce their fossil fuel consumption, greenhouse gas emissions, and expense on fuels as well as embrace emerging technology.

Action Categories	Language Example		
	City/County:	Text:	Citation:
Setting goals to acquire EVs for the city's fleet to lower its emissions	Shoreview	"The City will consider acquiring low-emission vehicles and equipment, installing electric vehicle charging stations at the Shoreview Commons, and installing retrofitting devices on existing vehicles or equipment, as part of its fleet program."	Page 308
	Woodbury	"Energy Use: » Research ways to lower emissions related to the City fleet and install appropriate infrastructure; such as alternative fuel or electric vehicle charging stations, at City facilities."	Page 194
	Jordan	"[...] the city has opportunities to accelerate market transformation and reduce GHG emissions associated with transportation fuels and vehicle use. For example, including EVs in city fleets, [...]."	Page 7-7
	Arden Hills	"Although the City has limited ability to regulate these roads, the City can encourage other governmental units to use these tools to help lower emissions: [...] Using fuel efficient, hybrid and/or alternative fuel buses [...] Using electric cars or personal vehicles."	Page 12-3
	Winona	Continuing to promote the use of renewable energy in city facilities, including the use of alternative fuels for city vehicles.	Page 43
	Oakdale	"[...] explore options for City fleet use of electric vehicles."	Page 65

Consider integrating EV into a city's fleet	Eden Prairie	"Opportunities to incorporate sustainable practices include: [...] Electrify fleet vehicles."	Page 7-167
	Bloomington	"[...] It is also likely the City will eventually add electric vehicles into its fleet."	Page 4-26
	Rogers	"Energy Dependency. Integrate electric, hybrid and/or other alternative energy powered and fuel-efficient vehicles into the City's fleet."	Chapter 11 Page 157
	Richfield	"Goal: Encourage the use of alternative power sources for public vehicles. Policies: Make fuel efficiency and alternative fuels a high priority when purchasing vehicles for use by the city."	Page 40
	Ramsey County	"Ramsey County has installed seven public electric vehicle charging stations and owns three all electric vehicles. The county will continue to integrate hybrid and electric vehicles into its fleet to meet its fleet needs and will expand its use of technology that results in lower vehicle miles travelled to conduct county business."	Page 155
	Red Wing	Develop a capital improvement plan to convert the city's fleet of vehicles to electric.	Env., page 44

3. Support Deployment of Charging Infrastructure

As the number of EVs on the road is rising, there is also an increasing demand for charging stations. Cities can set policies for deployment of charging infrastructure or prioritize EV use and the future expansion of charging infrastructure to accommodate EV purchases and use.

Action Categories	Language Example		
	City/County:	Text:	Citation:
Support private and public EV charging stations	Oakdale	“Support private and public infrastructure that accommodates and encourages use of electric and autonomous vehicles [...]”	Page 65
	Apple Valley	“The city seeks to minimize energy waste and increase the role of renewables in the public and private sectors. [...] The City will encourage electric vehicle charging stations where they are needed and appropriate.”	Page 4-34
	St. Louis Park	“Support the development and deployment of new transportation technologies that positions St. Louis Park to benefit from these advancements. Strategies [...] Encourage and support electric vehicles by prioritizing associated public and private infrastructure.”	Page 6-261
Support charging infrastructures as part of sustainability initiatives	Burnsville	“Economic Development Sustainability Approaches: [...] Allow for and support electronic vehicle charging stations.”	Page 3-160
	Burnsville	“Transportation Plan Sustainability Approaches [...] Incorporate electric charging infrastructure.”	Page 7-401
	Burnsville	“Account and plan for the assimilation of new transportation technologies. [...] Encourage the installation of charging stations on private property [...]”	Page 7-326
	Marine on St. Croix	“The City is proud of its GreenStep Cities accomplishments, and will continue to work towards further advancing the Best Practices defined by the program. [...] Examples for consideration may include installation of EV charging stations, [...]”	Page 32
	Victoria	“Support thoughtful design and integration of renewable energy strategies, bike parking, electric car	Page 47

		charging stations, or other emerging technologies.”	
	Eden Prairie	“Opportunities to incorporate sustainable practices include: [...] Provide charging stations for electric vehicles.”	Page 7-167
	Stillwater	“The community also aspires to be more sustainable when it comes to transportation. This includes a stronger emphasis on biking and walking, while embracing new technologies that support electric vehicles (providing charging stations) and autonomous vehicles.”	Page 12-14
	Woodbury	“Sustainable Transportation System. [...] The following transportation planning efforts will support guiding principles [...] Advocate and plan for electric charging stations.”	Page 137
	Apple Valley	“Likewise, the City will encourage electric vehicles by providing sufficient plug-in locations. Electric vehicles could be incorporated as part of a broader sustainable transportation strategy [...]”	Page 4-16
General support for EV charging stations	Champlin	“The City of Champlin does not have the authority to require that public utilities offer a off peak electrical program. However, the City is open to the development of charging stations and would support the development of off peak electrical programs developed by electrical providers.”	Page 5-21
	Hastings	“Encourage fuel/charging stations or supporting infrastructure for low emissions vehicles.”	Page 4-58
	Lakeville	“Adapt and expand infrastructure to meet demand for emerging forms of transportation including electric or gas-powered vehicles and the accommodate of autonomous vehicles.”	Page 1-44
	Oak Grove	“Encourage fuel/charging stations or supporting infrastructure for low emissions vehicles.”	Page 3-8
	Woodbury	“Increase access to electric vehicle charging stations, transit options, and safe biking and walking.”	Page 195
	Marine on St. Croix	“The primary Transportation Goals for Marine on St. Croix are: [...] 4) Although	Page 45

		Marine on St. Croix is on the outskirts of the metropolitan area and not necessarily conducive to mass public transportation, the City will [...] support private electric vehicle charging services.”	
	Rogers	“Reducing vehicle miles and planning for alternative modes of transportation such as public transit and electric vehicles by providing charging stations.”	Chapter 10 Page 140
	Rogers	“Integrate smart car technologies within the community, including installation of charging stations for electric vehicles and support for the development of other new transportation technologies that enables Rogers to benefit from those advancements.”	Chapter 11 Page 154
	Shakopee	“Encourage energy-efficient practices in private facilities: [...] Allow for and encourage electronic vehicle charging stations.”	Page 357
	St. Louis Park	“Reduce vehicle miles traveled (VMT) by encouraging residents and businesses to replace existing vehicles with more fuel-efficient models, including electric vehicles (EVs), and by expanding EV charging infrastructure.”	Page 4-44
	Scott County	“Goal #VI-4 Provide ALTERNATIVE MODES OF TRANSPORTATION. [...] b. Explore ways to improve and increase efficiency of transit systems in Scott County. [...] Support electric vehicles by implementing supporting infrastructure.”	Page VI-68

4. Support for Charging Infrastructure in Public Areas

Cities can enhance access to charging infrastructure for EV owners, and reduce range anxiety, by installing stations in public spaces including, but not limited to, public parking lots, city campuses, parks, schools, and commercial sites. Moreover, by installing infrastructure in public areas, the city demonstrates its own commitment to charging as a parking amenity before requiring the private sector to meet standards for similarly providing charging infrastructure.

Action Categories	Language Example		
	City/County:	Text:	Citation:
Consider installing EV charging stations at city-owned properties	Rogers	“As electric vehicles (EV) become more affordable, new-car sales of EVs will significantly increase by 2030. [...] The City will need to consider the increased need for charging stations within parking lots associated with City-owned buildings, City parks and school buildings, and in commercial areas and employment centers.”	Page 140
	Fridley	“One thing being considered at the new Civic Campus is installation of an electric vehicle charging station for customers.”	Page 331
	Golden Valley	“Install alternative fuel stations, electric vehicle charging stations, and supporting infrastructure for low emissions vehicles at City campuses and public parking areas.”	Page 7-24
	Golden Valley	“Install alternative fuel/charging stations on a City campus. Make low-carbon fuel or electricity available on City property for community members with low emissions/electric vehicles.”	Page 7-30
	St. Louis Park	“The city would like to accelerate the adoption of electric vehicles by installing chargers in public parking lots. This will include parking lots associated with city-owned buildings, city parks, and school buildings. The charging stations will be highly visible, educational, and incorporate branding the city develops as part of its climate action efforts. “	Page 6-261

	Saint Paul	“Policy PR-17: Support innovative and sustainable transportation options that enhance access to and use of Parks and Recreation facilities, such as electric vehicles, bike share and ride share.”	Page 111
	Wayzata	“The City of Wayzata needs to consider the increased need for charging stations within parking lots associated with city-owned buildings, city parks and school buildings.”	Page 5-34
Consider investing in public charging stations	Belle Plaine	“[...] Begin to make Belle Plaine “EV-ready” by incorporating electric vehicle charging stations in public parking lots.”	Page 1-21
	Burnsville	“Account and plan for the assimilation of new transportation technologies. [...] implement a plan for public charging stations.”	Page 7-326
	Falcon Heights	“The City’s Energy Goals are as follows: [...] Make the community ‘EV-ready’ with electric vehicle charging stations in every public and private parking lot or ramp by 2030.”	Chapter 1 Page 6
	Jordan	“[...] the city has opportunities to accelerate market transformation and reduce GHG emissions associated with transportation fuels and vehicle use. For example, [...]investing in public charging stations, [...]”	Page 7-7
	St. Louis Park	“In order to help the community transition into the CAP [climate action plan] and create momentum, the CAP identifies three kick-start projects: [...] Install electric vehicle charging infrastructure in public parking lots.”	Page 4-37
	St. Louis Park	“The city is focused on providing the infrastructure needed to meet its commitment to climate action; this will be accomplished by implementing a number of improvements to help reduce carbon emissions and thus the impact on the environment, including but not limited to: [...] Providing electric vehicle charging stations at public and private facilities to facilitate use of this alternative.”	Page 6-206
	Woodbury	“Energy Use: [...] Encourage the installation of electric vehicle charging	Page 194

		stations, and supporting infrastructure for low emissions vehicles in public and private parking areas.”	
	Virginia	Continue to accommodate alternative fuel vehicles in public parking infrastructure and encourage in private sector parking.	Page 54
Encourage or incentivize installation of charging station at commercial sites	Fridley	“Policy: The City of Fridley will investigate electric vehicle networks including the implementation of charging stations in retail parking lots.”	Page 299
	Fridley	“In order to have economically competitive commercial areas along the I-694 corridor through Fridley, the City should encourage existing retailers along the corridor to install (Electric Vehicle) EV charging stations, [...]”	Page 335
	Red Wing	Build infrastructure enabling EVs with “permitting” that makes it easier to install charging units for buildings/parking lots—require for all new buildings (residential/commercial).	Env., page 44
	Golden Valley	“Encourage alternative fuel stations, electric vehicle charging stations, and supporting infrastructure at commercial sites, office sites, and parking ramps.”	Page 7-24

5. Prioritize Benefits of Electric Vehicles

Support for EVs also supports other objectives such as reducing air emissions, increasing energy conservation, or improving transportation options and accessibility. Comprehensive plans should note the benefits of “vehicle electrification” and “EV-ready” policies to indicate that communities are supporting EV market transformation and the broad ranges of co-benefits that come with greater use of EVs.

Action Categories	Language Example		
	City/County:	Text:	Citation:
Support, encourage, or promote electric vehicles in general	North St. Paul	“Areas of Focus and Consideration for Energy Conservation and Reduction [...] Bicycling and walking trails, green transit, fuel efficient vehicles, electric vehicle plug-ins, open space retention, green infrastructure, urban forests, connectivity, shared parking to reduce impervious surfaces.”	Page 9-5
	St. Anthony	“Goals [...] Become an electric vehicle and autonomous vehicle-ready city.”	Page 176
	St. Paul	“Policy T-4. Significantly reduce carbon emissions from motor vehicles by developing infrastructure that supports vehicle electrification.”	Page 71
	St. Louis Park	“Items that the city has identified for consideration going forward: [...] Electric Vehicles.”	Page 6-259
	Vadnais Heights	“GOAL: Maintain and improve the transportation system for drivers, transit riders, bicyclists and pedestrians. Policies: [...] Study and implement policies concerning emerging trends and technologies in transportation, including autonomous vehicles, electric vehicles, shared use of right-of-way, and dockless scooters/bicycles.”	Page 110
	West St. Paul	“Areas of focus and considerations for energy conservation and reduction. Transportation and Land Use: Bicycling and walking trails, green transit, fuel efficient vehicles, electric vehicle plug-ins, open space retention, green	Chapter 9 Page 6

		infrastructure, urban forests, connectivity, shared parking to reduce impervious.”	
	Ramsey County	“To address emissions and energy usage from the transportation sector Ramsey County will reduce vehicle miles travelled by employees, clients, and the providers of goods and services related to county business. We will encourage electric vehicles and cleaner burning fuels be used for transportation of goods and people.”	Page 155
	Duluth	Plan for an increase in use of electric vehicles, and support implementation of necessary infrastructure to allow for a seamless transition from internal combustion engines.	Trans., page 1