

Electric Vehicle Readiness Plan

for the Rockford Region



Technical Memorandum #2
Public & Stakeholder Engagement

January 2021

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This document has been prepared by the Region 1 Planning Council in collaboration with its member agencies, partnership organizations, and local stakeholders.

This report was prepared in cooperation with the following:

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The contents, views, policies, and conclusions expressed in this report are not necessarily those of the above agencies.



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Introduction

Year-over-year, more Americans are turning to cleaner alternative energy sources for both their homes and vehicles as a way to reduce their impact on the natural environment. As one of the largest producers of pollution, the automobile and transportation industries are rapidly responding to this shift toward alternative fuel sources for vehicles. In 2018, there were 203 alternative fuel vehicles (AFV) in the U.S. market, of which 100 were either hybrid electric vehicles or electric vehicles (EV).ⁱ As these types of vehicles become more readily available and affordable, their popularity among consumers will continue to increase.

While electric and hybrid electric vehicle registrations are not growing as fast as other regions, the Rockford Region has seen as exponential growth over the past two years. As of August 2020, according to the State of Illinois vehicle registry, there are 291 fully electric vehicles and 5,191 hybrid electric vehicles registered in the study area, consisting of Boone, Ogle, and Winnebago Counties. The number of electric vehicles registered within the three counties has more than doubled (144.5 percent) between August 2018 and August 2020. The county with the highest increase in the number of registered electric vehicles was Boone County, which increased from 11 registered in August 2018 to 48 by August 2020, an increase of 336.4 percent.ⁱⁱ The rapid increase of the number of electric vehicles registered within the study area demonstrates the importance of planning EV charging infrastructure.

Of the publicly accessible alternative fuel stations, nine are electric charging stations with a total of 35 charging outlets. There are seven Level 2 charging stations and two DC Fast Chargers. These stations are publicly accessible but privately owned and includes stations for Tesla vehicles only.ⁱⁱⁱ

Despite the growing number of registered electric and hybrid electric vehicles, the region is lagging behind its peers in the number of publicly accessible electric charging stations and the language needed to support electric vehicle charging in local ordinances and codes. As a way to support local governments in the increasingly changing automobile market, Region 1 Planning Council (RPC), serving as the Metropolitan Planning Organization (MPO) for the Rockford Region, began investigating how to prepare for the proliferation of electric vehicles at a regional level. The goal of the Electric Vehicle Readiness Plan, and future implementation, is to provide a framework for the region to develop a consistent and accessible charging network that allows for future growth and innovation. This plan was identified as a regional need through the update of the Metropolitan Transportation Plan (MTP) which was adopted in July 2020. It aligns with goals and objectives identified in the Illinois Department of Transportation's (IDOT) Long Range Transportation Plan (LRTP) and follows the direction from the Federal Highway Administration (FHWA) and U.S. Department of Energy (DOE).

To achieve these goals, the development process for this plan has been divided into the following three key phases.

The first phase of this planning process was dedicated to researching best practices and national trends. Research conducted included identifying the types of electric vehicles available on the market and the associated electric vehicle supply equipment needed to fuel them, as well as the existing national, state, and local programs supporting electric vehicles. Following this initial research, staff conducted a nationwide scan for best practices of how local governments have incorporated provisions in their zoning ordinances, building codes, and parking ordinances related to EV charging. This research was completed in Summer 2020 and is highlighted further [Technical Memorandum #1: Research and Best Practices](#).

The second phase, and focus of this document, takes into consideration the local perspective on electric vehicles and how ready local governments are to address EV trends. A two-prong approach was taken for this phase of the development process. First, a survey was posted online to gauge public opinion on the likelihood of owning an electric vehicle and some of the reasoning behind their apprehensions in purchasing an EV, as well as some of the challenges current EV owners face within the region. Second, RPC staff meet with various county and municipal staff to discuss their jurisdiction's approach to planning for electric vehicles both within their codes and ordinances, as well as their considerations for electric vehicle fleets. The resulting insights from both the public and local stakeholders are highlighted further within this document.

The third and final phase of the Electric Vehicle Readiness Plan consisted of setting the regional goals and targets aimed at becoming a more EV-ready region and drafting the final plan. The resulting plan provides partners with the tools needed to accomplish the set goals and targets. These tools include draft language and processes for zoning ordinances, residential and commercial building codes, permitting, and parking regulations, as well as a draft sole source procurement process to further coordination between all jurisdictions. Additionally, the plan includes a deployment map with key locations for publicly accessible EV charging infrastructure and identifies several funding sources that may be able to be utilized moving forward.

Public Survey

Important to any transportation planning process is the inclusion of the people who live, work, or travel to the region. While informative data can be gathered from federal and state resources on the proliferation of electric vehicles within the region, understanding the acceptance of this technology is crucial in preparing the region for increased electric vehicle charging demand. For this reason, Region 1 Planning Council (RPC) conducted an online public survey to supplement research and data collected during the first phase of the Electric Vehicle Readiness Plan.

The public survey was conducted online from July 15, 2020 to August 14, 2020. The survey targeted residents and employees of Boone, Ogle, and Winnebago Counties and was offered in both English and Spanish. A total of 139 responses were received during the July/August timeframe. To advertise the survey, a media advisory was sent out by RPC staff to local media outlets and other interested parties on July 15, 2020. The survey was also published on the R1 Planning website and posted on RPC social media accounts.

In total, participants were asked 10 questions. The questions were designed to gather information on the public's acceptance of electric vehicles by asking questions on their likelihood in purchasing an electric vehicle, the factors that would be key in their decision process to purchase one, and the availability of EV charging infrastructure within the community. A variety of question types were utilized for the survey, including multiple choice, essay, and rating.

The charts and tables in this report are subject to rounding errors, and in some cases the totals may not sum to exactly 100 percent. On questions for which multiple responses were allowed, the percentage will sum to more than 100 percent. It should also be noted, that responses from individuals who did not work or live in the region have been removed.

Key Findings

Analysis of the responses received during the survey period shows several trends in the general acceptance of EVs and the considerations and concerns related to EV ownership. The key findings are provided below.

- The largest portion of respondents would consider an electric vehicle or hybrid as their next vehicle (38.8 percent), followed by individuals who plan on getting an electric vehicle or hybrid as their next vehicle (15.1 percent). Many individuals who currently own an electric vehicle stated that they would get another electric vehicle, while a couple of current hybrid vehicle owners stated that they would get an all-electric vehicle as their next automobile purchase.
- The primary reasons respondents would consider

purchasing an EV or hybrid for their next vehicle purchase were environmental considerations (76 responses) and lower maintenance and fuel costs (50 responses).

- The primary reason individuals would not consider purchasing an EV or hybrid is the cost to own or operate (65 responses). Main concerns surrounding costs were centered on the higher purchase prices for these vehicles as well as maintenance costs (60 responses). Charging availability and range anxiety was the secondary most cited reason for not considering the purchase of an EV or hybrid for their next vehicle.
- One of the most important considerations in the purchase of an electric vehicle or hybrid vehicle is the ability to charge at home, as well as battery health of the vehicle over its life.
- The largest motivations in purchasing or leasing an electric vehicle are the lower environmental impact (79.9 percent), low purchase price of the vehicle (75.4 percent), and government incentives for purchasing/leasing one (71.6 percent).
- While 75.7 percent of respondents have seen at least one public charging station in the community, 68.9 percent have not seen three or more. This directly corresponds to respondents range anxiety as a main concern in purchasing an electric vehicle.

Results

Results of the survey questions can be found on the following pages of this report.

The complete set of questions as they appeared in the web-based survey are included in Appendix B.

Summary

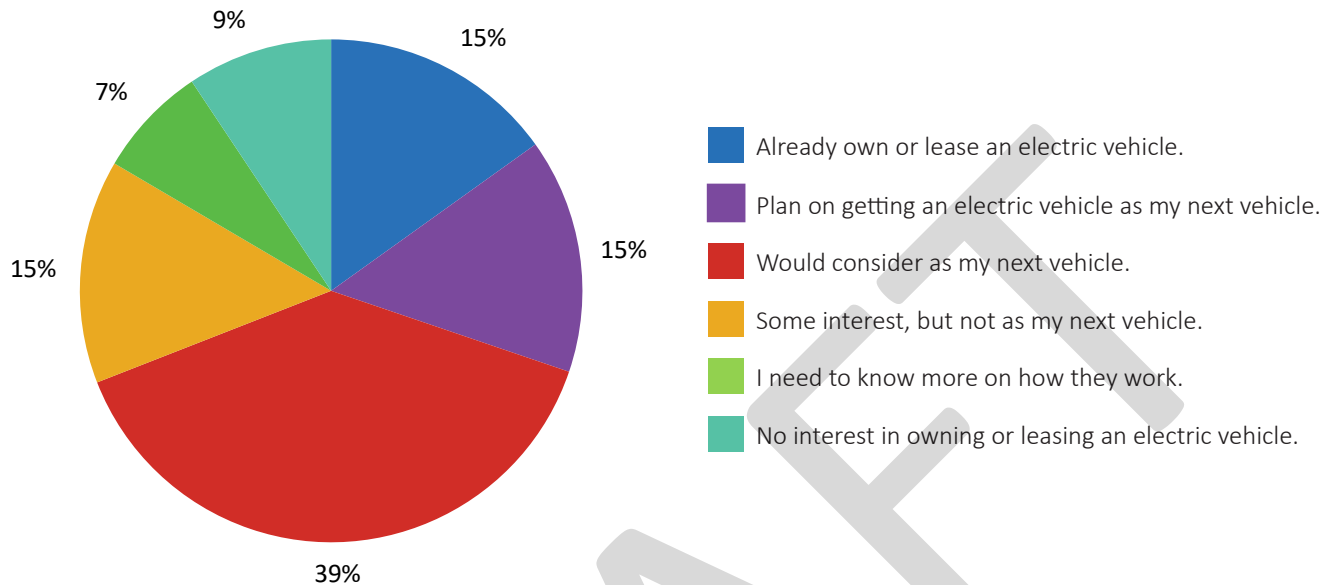
Looking at the results of the public survey, it appears that residents and workers in the three-county region are accepting of electric vehicles and willing to consider purchasing or leasing one in the future. While the RPC and local partners cannot address all of the concerns individuals have surrounding the purchase or lease of an electric vehicle, such as upfront costs or performance limitations of the vehicles themselves, range anxiety can be addressed at a regional level. This can be accomplished by assisting local governments in updating their local codes and ordinances to reflect this emerging trend, as well as identify locations within the region that may be best suited for electric vehicle charging infrastructure.

Question 1. Would you consider an electric vehicle for your next vehicle purchase?

Multiple responses accepted.

Total Responses = 139

Figure 2-1. Public Survey - Question 1 Results

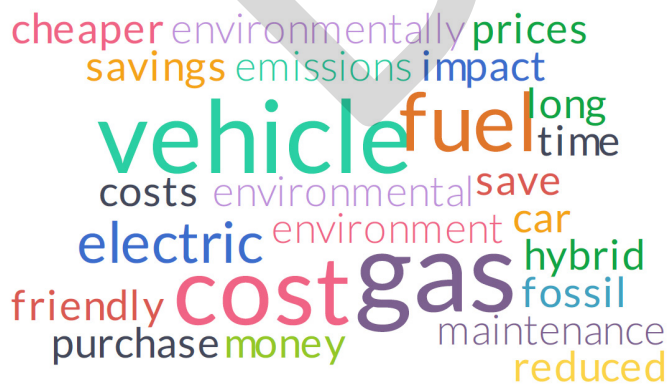


Question 2. What is the primary reason you might consider an electric vehicle or hybrid for your next vehicle purchase or lease?

Multiple responses accepted. Responses have been grouped by topic and should not be construed as a comment in support of or against each topic.

Total Responses = 139

Figure 2-2. Public Survey - Question 2 Results



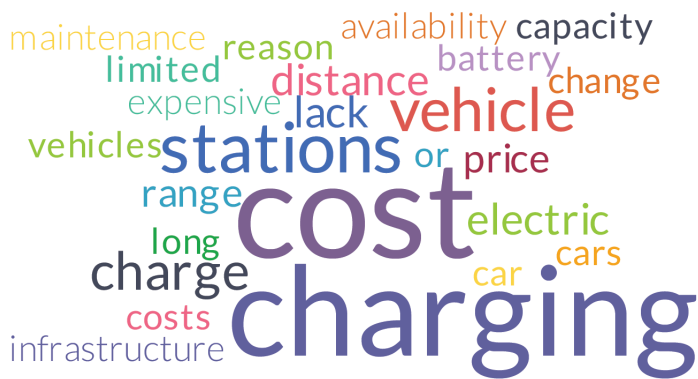
- Environmental considerations (76 responses)
- Cost to own/operator (50 responses)
- Vehicle performance (18 responses)
- No Interest in owning (11 responses)
- Innovative and/or new (9 responses)
- Charging availability (6 responses)

Question 3. What is the primary reason you might not consider an electric vehicle or hybrid for your next vehicle purchase or lease?

Multiple responses accepted. Responses have been grouped by topic and should not be construed as a comment in support of or against each topic.

Total Responses = 138

Figure 2-3. Public Survey - Question 3 Results



- Cost to own/operate (65 responses)
- Charging availability/range distance (60 responses)
- Performance, other than range distance (10 responses)
- No reason/Not applicable (8 responses)
- Style/model options (5 responses)
- Lack of knowledge/information (5 responses)
- Other (5 responses)

Question 4. Please rate the importance of each of the following in your decision to purchase or lease an electric vehicle.

Multiple responses accepted.

Total Responses = 137

Figure 2-4. Public Survey - Question 4 Results

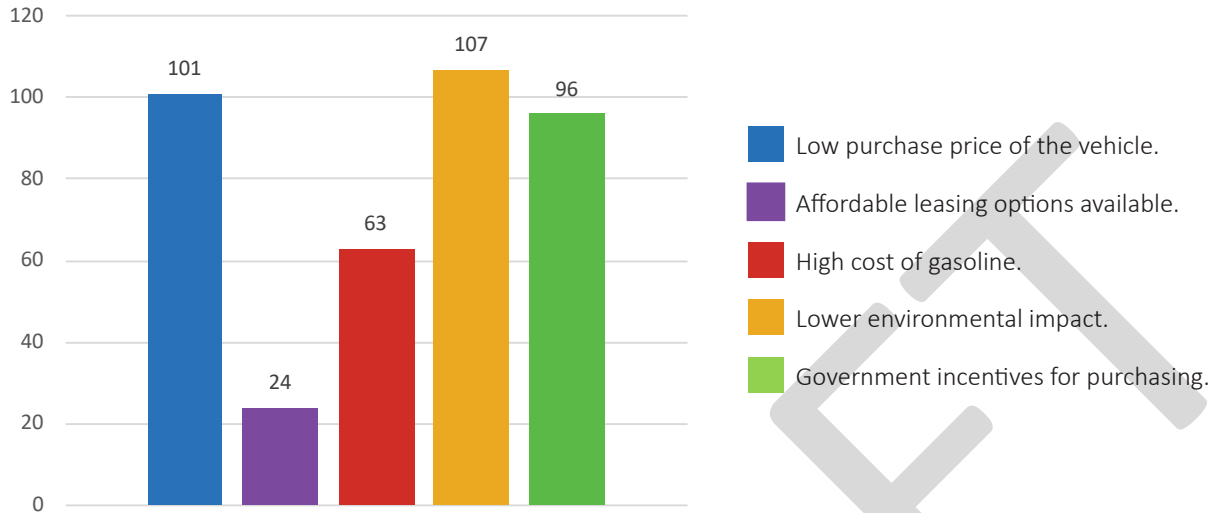
	Not important	Not very important	Neutral	Somewhat important	Very important
Battery health over the life of the vehicle.	0.7%	0.7%	9.5%	25.5%	63.5%
Performance of the vehicle in snow and on dirt roads.	0.7%	2.9%	8.0%	39.4%	48.9%
Purchase price of the vehicle.	0.7%	0.7%	10.3%	33.8%	54.4%
Number of public charging stations available.	2.2%	2.9%	4.4%	29.2%	61.3%
Maintenance costs.	1.5%	2.9%	8.8%	42.3%	44.5%
Cost of charging.	2.9%	5.1%	14.6%	39.4%	38.0%
Ability to charge at my workplace.	9.6%	8.8%	24.3%	33.1%	24.3%
Ability to charge at my home.	0.7%	0.0%	3.6%	6.6%	89.1%
Number of vehicle styles to choose from.	10.2%	7.3%	26.3%	39.4%	16.8%

Question 5. Which of the following statements would motivate you to purchase or lease an electric vehicle?

Multiple responses accepted.

Total Responses = 138

Figure 2-5. Public Survey - Question 5 Results

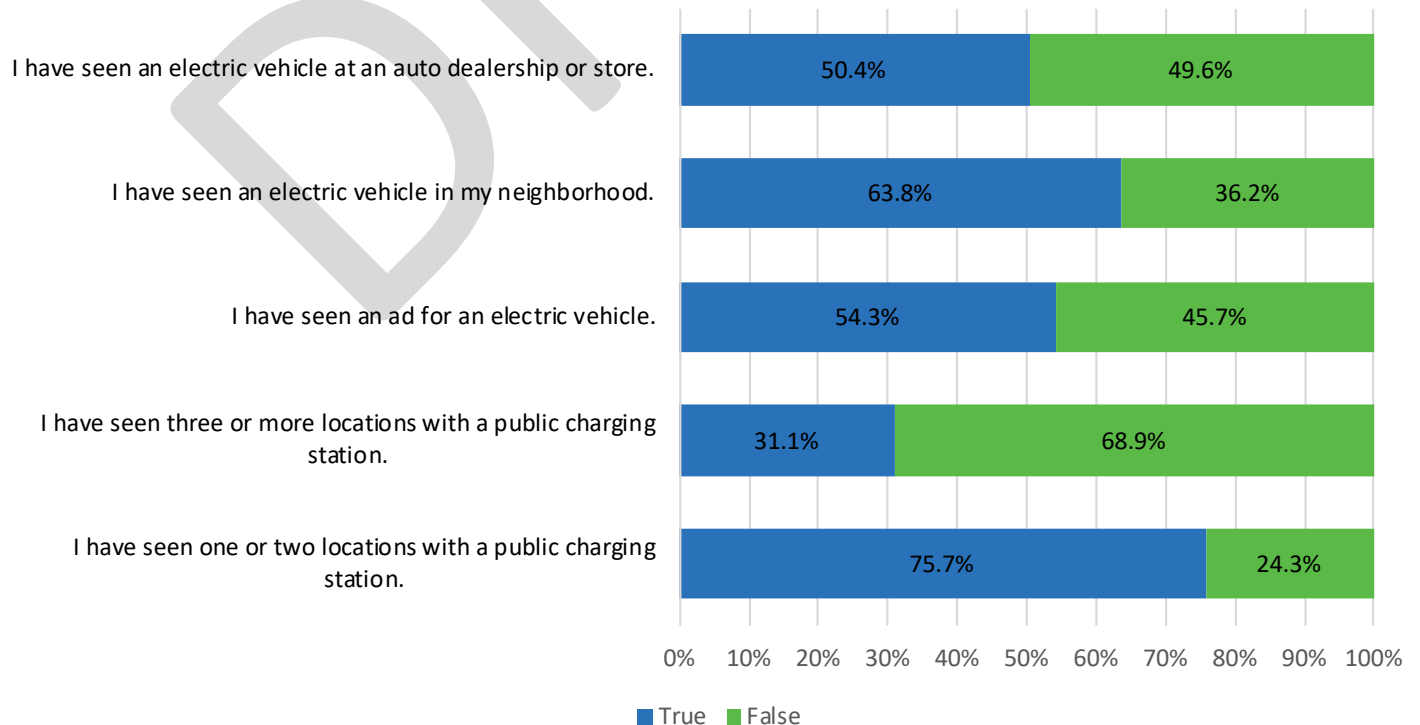


Question 6. What is the availability of electric vehicles and related infrastructure in your community?

Multiple responses accepted.

Total Responses = 138

Figure 2-6. Public Survey - Question 6 Results

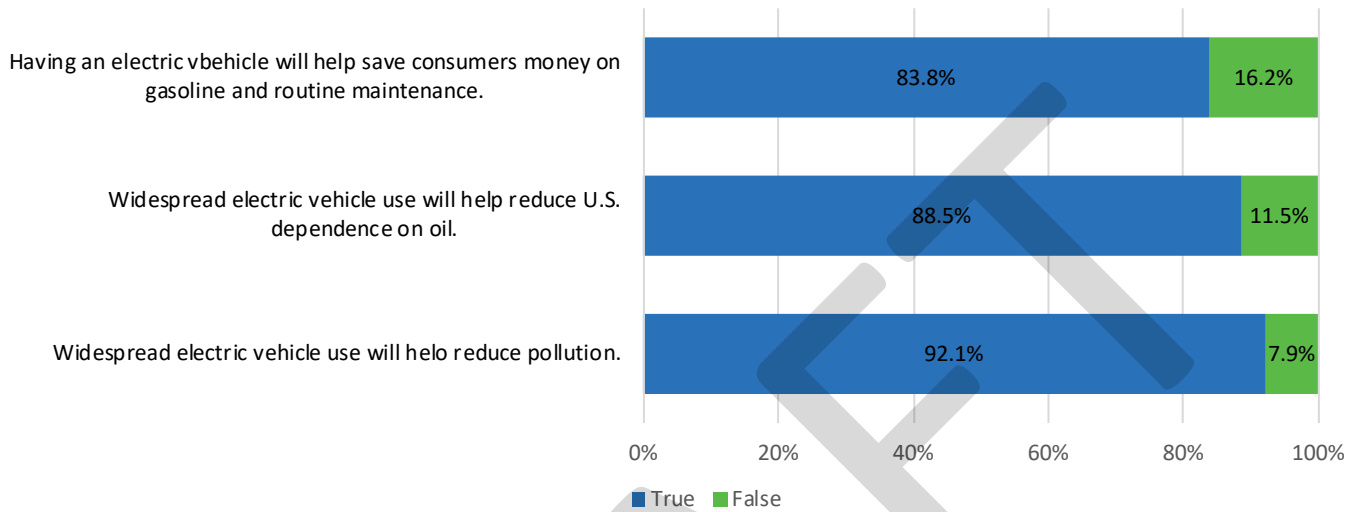


Question 7. Electric vehicles provide what benefits?

Multiple responses accepted.

Total Responses = 139

Figure 2-7. Public Survey - Question 7 Results



Question 8. What city do you live in?

Multiple responses accepted.

Total Responses = 138

Figure 2-8. Public Survey - Question 8 Results

City	Percent
Rockford, IL	68.3%
Loves Park	9.4%
Belvidere, IL	3.6%
Machesney Park, IL	3.6%
Poplar Grove, IL	2.2%
Winnebago, IL	2.2%
Bryon, IL	1.4%
Cherry Valley, IL	1.4%
Rockton, IL	1.4%
Beloit, WI	0.7%
Cary, IL	0.7%
Durand, IL	0.7%
Janesville, WI	0.7%
Lake Geneva, WI	0.7%
Pecatonica, IL	0.7%
Rochelle, IL	0.7%
Roscoe, IL	0.7%
South Beloit, IL	0.7%

Question 9. What zip code do you work in?

Multiple responses accepted.

Total Responses = 139

Figure 2-9. Public Survey - Question 9 Results

City	Percent
Rockford, IL	72.7%
Loves Park	8.6%
Machesney Park, IL	4.3%
Belvidere, IL	2.9%
Chicago	1.4%
Rochelle, IL	1.4%
Arlington Heights, IL	0.7%
Caledonia, IL	0.7%
Janesville, WI	0.7%
Madison, WI	0.7%
Poplar Grove, IL	0.7%
Riverside, IL	0.7%
Rockton, IL	0.7%
Roscoe, IL	0.7%
Winnebago, IL	0.7%
Unspecified	2.2%

Stakeholder Interviews

As mentioned previously, the goal of the Electric Vehicle Readiness Plan is to provide a framework for the region that develops a consistent and accessible electric vehicle charging network. A key factor in the development of this network is the support and preparedness of the region's various municipalities, counties, and special-purpose governments for electric vehicles (EV) and associated infrastructure. As a way to begin the initial conversations on EV readiness, RPC staff met with representatives of organizations with a stake in transportation, land use, and community development within the region.

Between July and September 2020, Region 1 Planning Council (RPC) staff met with eleven agencies to discuss their current considerations for electric vehicles within the planning processes, codes and ordinances, and agency fleets. Staff spoke with ten agencies in total. The represented agencies at these meetings were:

- Boone County;
- City of Belvidere;
- City of Loves Park;
- City of Rockford;
- Illinois Department of Transportation;
- Ogle County;
- Rockford Park District;
- Rockford Mass Transit District;
- Village of Machesney Park; and
- Winnebago County.

For the local governments, a questionnaire was used as a guide for conversations with stakeholder. In some instances, a request was made to complete the questionnaire if individuals were not available to meet for an interview. It should be noted that while the questions were prepared and sent to stakeholders in advance of the meetings, not all questions were discussed at the meetings or provided answers to. While questionnaires were utilized, free flow conversation was encouraged. As such, some additional dialogue related to electric vehicles and surface transportation, not identified within the questionnaire, may have been discussed at the meetings.

The questionnaire contained the following questions:

- What are some challenges/barriers that your jurisdiction or service area faces regarding electric vehicle infrastructure implementation?
- What are the key planning considerations for EV charging stations or electric vehicle supply equipment (EVSE) within your jurisdiction, such as EVSE locations, utility needs, etc.?
- What steps has your organization or area already taken related to electric vehicle infrastructure implementation?
- What development policies need to be considered in order for your jurisdiction to be better prepared for increased electric vehicle usage and charging needs

- (e.g. parking, zoning, EV-ready new construction, etc.)?
- Does your jurisdiction currently have any development policies related to EVSE? If so, please describe.
- Does your jurisdiction currently have any building codes, permitting, and/or inspection policies related to EVSE? If so, please describe.
- What building codes, permitting, and/or inspection policies should be considered for EVSE?
- Does your agency have electric vehicle infrastructure objectives or strategies? If yes, what are they?
- Are there methods to monitor and evaluate effectiveness of those strategies?
- What needs to be considered to electrify municipal fleets?
- How should municipalities finance EVSE and price charging services?
- What should municipalities think about when developing pricing and parking policies?
- What resources would you need to begin or further implement electric vehicle infrastructure?
- Is there anything else that you think we should know or consider?

Findings

Analysis of the responses received during interviews show that many of the region's municipalities, counties, and special governments are just beginning the process of researching electric vehicles (EV) and how to address EV infrastructure. The key findings are summarized below.

Challenges & Barriers

What are some challenges/barriers that your jurisdiction or service area faces regarding electric vehicle (EV) infrastructure implementation?

Many of the agencies interviewed for this study noted that two of the biggest challenges or barriers in their jurisdiction in regards to EV charging infrastructure are funding for and placement of the charging equipment. In particular, agencies generally wanted to know how locations for electric charging stations would be determined, such as in municipal owned lots, publicly available parking lots, or within privately-operated lots. Funding for the needed infrastructure is noted as a particular barrier or challenge for local governments. Funding concerns centered on where funding for the cost of installation and operations would come from and if a revenue could be collected to offset the costs.

Key Considerations

What are the key planning considerations for EV charging stations or electric vehicle supply equipment (EVSE) within your jurisdiction, such as EVSE locations, utility needs, etc.?

Similar to the challenges faced, the key planning consideration for many governments is the placement of the electric vehicle charging stations. The placement or location of the EV infrastructure is extremely important in determining if current utilities and other related infrastructure are sufficient or if upgrades would be needed. Another common key consideration in planning for electric vehicles is the demand for the EV charging infrastructure and the community support. One of the agencies noted that an important consideration would be who would own the charging equipment, who would operate and maintain the charging station, and who would be legal responsible if an issue or malfunction were to occur.

Steps Already Taken

What steps has your organization or area already taken related to electric vehicle infrastructure implementation?

The majority of the municipalities and counties interviewed have not yet taken actions related to the implementation of electric vehicle charging infrastructure. The agencies who have begun exploring electric vehicles or electric vehicle charging stations are still in the preliminary phases of researching strategies or ideas of how to further incorporate it into their land use planning or transportation planning projects. One of the agencies, the Rockford Park District, has already installed a public electric vehicle charging station at Nicholas Conservatory and Gardens just north of downtown Rockford, but would need more information on funding opportunities before additional stations would be installed at other facilities.

Development Policies

What development policies need to be considered in order for your jurisdiction to be better prepared for increased electric vehicle usage and charging needs (e.g., parking, zoning, EV Ready new construction, etc.)?

Currently, the agencies interviewed do not have commercial or residential development policies in place related to EV or EV charging infrastructure. Responses regarding the types of development policies that need to be considered varied greatly. One agency stated that they would lead the way on incorporating EV charging infrastructure into their properties prior to making it a requirement for developers and that there needs to be a greater volume of electric vehicles in the region before considering zoning and development codes changes. Another agency stated that they would need to review subdivision codes and fueling station requirements prior to any changes to their codes and ordinances. Enforcement of those codes and ordinances would also need to be examined prior to any changes. In addition to further proliferation of electric vehicles and an examination of existing ordinances, agencies stated that a streamlined permitting process and boilerplate language for codes and ordinances could assist in fast-tracking the incorporation of EVs and related infrastructure

into municipal and county codes and ordinances.

Building Codes, Permitting, & Inspections

What building codes, permitting, and/or inspection policies should be considered for EVSE?

While some agencies have begun researching building codes, permitting, and inspection policies related to EVSE, none of the agencies interviewed have incorporated specific language yet. Many agencies follow the National Electric Code and International Residential Codes and stated that any new policies and regulations would need to undergo examination by staff to ensure consistency with the standards set in those documents. While not currently identified within their codes and policies, some agencies have identified how an EV charging station installation request would be handled. For example, the installation of an EV stations on a residential property would be treated the same as the installation of solar panels in terms of permitting and compiling with building codes.

Objectives & Strategies

Does your agency have electric vehicle infrastructure objectives or strategies?

Currently, many of the government agencies in the region do not have specific EV charging infrastructure objectives or strategies. However, several agencies noted that these could be incorporated into upcoming Comprehensive Plan updates, in relation to



On-Street Electric Vehicle Charging (R7-112) plaque, Manual of Uniform Traffic Control Devices for Streets and Highways. Source: FHWA

renewable energy and environmental impact.

Electrifying Fleets

What needs to be considered to electrify municipal fleets?

Cost was the main consideration identified for the electrification of municipal fleets. Mainly, municipalities and counties wanted to ensure that the initial higher upfront cost in purchasing electric vehicles would be outweighed by lower maintenance cost in the long term. While many of the agencies could see replacing their current light-duty internal combustion engine (ICE) vehicles with electric vehicles as vehicles reach their end-of-life cycle, they do not believe the heavy-duty vehicles, such as snow plows, could be replaced with electric models. Several agencies mentioned that the cold winter conditions of the region would be difficult to overcome with electric vehicles as battery performance is known to decrease at lower temperatures.

Three agencies within the region currently own hybrid electric vehicles. For example, Rockford Mass Transit District began replacing their past-useful life diesel fixed route buses with hybrid electric buses. This began in 2019, with the first order of five diesel hybrid-electric buses. RMTD will analyze and test needed utility infrastructure improvements required to power a fully alternative-fueled fleet while slowly absorbing the higher initial-price tag of alternative-fueled buses over the next decade. Should funding or grant opportunities become available, RMTD has expressed interest in purchasing battery electric buses (BEB) over hybrid-electric buses.



EV Charging Station at the Machine Shed. Rockford, IL.

Financing Electric Vehicle Charging Infrastructure

How should municipalities finance EVSE and price charging services? What should municipalities think about when developing pricing and parking policies?

Almost all agencies interviewed stated that grants would be the primary source of funding for financing public electric vehicle charging infrastructure, followed closely by partnerships with the private sector and utility companies. Several agencies noted that public funds are currently limited and being focused on needed surface transportation projects. The recent national health crisis and increase vehicle efficiency have had an impact on capital funds and the motor fuel tax (MFT), the primary source of funding for roadway improvements.

Resources Needed

What resources would you need to begin or further implement electric vehicle infrastructure?

Generally speaking, more information on electric vehicles and the associated charging infrastructure is needed by agencies to begin or further electric vehicle charging infrastructure within their jurisdiction. Some agencies would like more information about placement of the infrastructure and the utilities needed to supply energy to those locations. Other agencies wanted more information on benefits and challenges for public entities in incorporating EV charging infrastructure into codes and ordinances, as well as installing them on municipal owned property. Education for residential and commercial inspectors related to electric vehicle supply equipment would be needed as well.

Summary

While a large amount of work is needed to make the region EV-ready, there is a general consensus from local government agencies that this is something the Rockford Region needs to begin discussing in depth and look for ways to incorporate EV charging stations and equipment into building codes, permitting processes, and ordinances, as well as identifying potential locations and funding opportunities. Moving forward, MPO will keep this consideration and concerns in mind when continuing to develop the Electric Vehicle Readiness Plan and incorporating EVs into future planning products.

Next Steps

While there is progress in the efforts to make the Rockford Region electric vehicle (EV) ready, incremental steps still need to occur in the upcoming years. The public and stakeholder feedback gathered during this planning process has greatly assisted in determining those next steps. Based on the public feedback, the region has a better understanding if trends toward more electric vehicles on the roadways will continue. There is now also a better understanding of the reasoning behind people's choice to consider an electric vehicle for their next vehicle purchase and the major concerns surrounding range anxiety. This will assist in addressing these considerations moving forward.

In addition to the public survey, the stakeholder interviews conducted provided two essential items in the development of the Electric Vehicle Readiness Plan. First, it provided an opportunity to begin a regional dialogue on EVs and the related infrastructure needed to support them. Secondly, the interviews identified the needs of partner agencies moving forward related to electric vehicle charging infrastructure and electric fleets.

With the information collected during this phase, in conjunction with the research conducted in the first phase 1 of the Electric Vehicle Readiness Plan development, the RPC can begin developing the final Electric Vehicle Readiness Plan. This plan can serve as a toolbox for local government agencies to utilize when reviewing and updating local codes and ordinances for commercial and residential development, as well as identifying potential funding mechanisms for electric vehicle charging infrastructure.

References

Introduction

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ⁱⁱ Office of the Illinois Secretary of State. “Electric Vehicles in Illinois.” Totals as of August, 15, 2020. <https://www.cyberdriveillinois.com/departments/vehicles/statistics/electric/electric031520.pdf>.

ⁱⁱⁱ U.S. Department of Energy, Office of Energy Efficiency and Renewable Energy. “Alternative Fuel Station Locator.” Accessed September 26, 2020. <https://afdc.energy.gov/stations/#/find/nearest>.

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Appendix A: Glossary of Terms

Acroymns & Abbreviations

A

AFC Alternative Fuel Corridors
AFDC Alternative Fuels Data Center
AFV Alternative Fuel Vehicle

B

BEB Battery electric buses
BEV Battery electric vehicle

D

DOE U.S. Department of Energy
DOT U.S. Department of Transportation

E

EV Electric vehicle
EVSE Electric vehicle supply equipment

F

FHWA Federal Highway Administration

H

HEV Hybrid electric vehicle

I

IDOE Illinois Department of Energy
IDOT Illinois Department of Transportation

L

L RTP Long Range Transportation Plan

M

MPA Rockford Metropolitan Planning Area
MPO Metropolitan Transportation Organization
MTP Metropolitan Transportation Plan

R

RMTD Rockford Mass Transit District
RPC Region 1 Planning Council

Glossary of Terms

A

Alternative Fuel Vehicle

Vehicles that run on pure methanol, ethanol, and other alcohols; blends of 85% or more of alcohol with gasoline; natural gas and liquid fuels domestically produced from natural gas; propane; coal-derived liquid fuels; hydrogen; electricity; pure biodiesel (B100); fuels, other than alcohol, derived from biological materials; or P-Series fuels.

Source: U.S. Department of Energy

C

Charge Port

The charge port allows the vehicle to connect to an external power supply in order to charge the traction battery pack.

Source: U.S. Department of Energy

D

DC Fast Charging Equipment

Direct-current (DC) fast charging equipment (typically 208/480V AC three-phase input), enables rapid charging along heavy traffic corridors at installed stations.

Source: U.S. Department of Energy

E

Electric Vehicle

Vehicles that use a battery pack to store the electrical energy that powers the motor. Also referred to as battery electric vehicles.

Source: U.S. Department of Energy

Electric Vehicle Supply Equipment

All equipment needed to deliver electrical energy from an electricity source to a plug-in electric vehicle battery.

Source: U.S. Department of Energy

H

Hybrid Electric Vehicle

Vehicles powered by an internal combustion engine in combination with one or more electric motors that use energy stored in batteries.

Source: U.S. Department of Energy

L

Land Use

Land use is a term used to describe the human use of land. It represents the economic and cultural activities (e.g. agricultural, residential, industrial, mining, and recreational) that are practiced at a given area.

Source: U.S. Environmental Protection Agency

Level 1 Charging Equipment

Alternating Current (AC) equipment that provides charging

through a 120 volt (V) AC plug.

Source: U.S. Department of Energy

Level 2 Charging Equipment

Alternating Current (AC) equipment that offers charging through 240V (typical in residential applications) or 208V (typical in commercial applications) electrical service.

Source: U.S. Department of Energy

M

Metropolitan Planning Area

The geographic area in which the metropolitan transportation planning process required by 23 U.S.C. 134 and section 8 of the Federal Transit Act (49 U.S.C. app. 1607) must be carried out.

Source: Federal Highway Administration

Metropolitan Planning Organization

A regional policy body, required in urbanized areas with populations over 50,000, and designated by local officials and the governor of the state to carry out the metropolitan transportation requirements of federal highway and transit legislation.

Source: Federal Highway Administration

P

Plug-In Hybrid Electric Vehicle

Vehicles that use batteries to power an electric motor and use another fuel, such as gasoline or diesel, to power an internal combustion engine or other propulsion source.

Source: U.S. Department of Energy

Appendix B: Public Survey

2020 Electric Vehicle Infrastructure - General Survey 1

Electric Vehicle General Survey

1. Would you consider an electric vehicle for your next vehicle purchase?

- Already own or lease an electric vehicle.
- Plan on getting an electric vehicle as my next vehicle.
- Would consider as my next vehicle.
- Some interest, but not as my next vehicle.
- I need to know more on how they work.
- No interest in owning or leasing an electric vehicle.

2. What is the primary reason you **might** consider an electric vehicle or hybrid for your next vehicle purchase or lease? *

3. What is the primary reason you **might not** consider an electric vehicle or hybrid for your next vehicle purchase or lease? *

4. Please rate the importance of each of the following in your decision to purchase or lease an electric vehicle.

	Not Important	Not Very Important	Neutral	Somewhat Important	Very Important
Battery health over the life of the vehicle.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Performance of the vehicle in snow and on dirt roads.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Purchase price of the vehicle.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Number of public charging stations available.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Maintenance costs.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cost of charging.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ability to charge at my workplace.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ability to charge at my home.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Number of vehicle styles to choose from.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

5. Which of the following statements would motivate you to purchase or lease an electric vehicle? **(Select all that apply.)**

- Low purchase price of the vehicle.
- Affordable leasing options available.
- High cost of gasoline.
- Lower environmental impact.
- Government incentives for purchasing.

6. What is the availability of electric vehicles and related infrastructure in your community?

	True	False
I have seen one or two locations with a public charging station.	<input type="radio"/>	<input type="radio"/>
I have seen three or more locations with a public charging station.	<input type="radio"/>	<input type="radio"/>
I have seen an ad for an electric vehicle.	<input type="radio"/>	<input type="radio"/>
I have seen an electric vehicle in my neighborhood.	<input type="radio"/>	<input type="radio"/>
I have seen an electric vehicle at an auto dealership or store.	<input type="radio"/>	<input type="radio"/>

7. Electric vehicles provide what benefits?

	True	False
Widespread electric vehicle use will help reduce pollution.	<input type="radio"/>	<input type="radio"/>
Widespread electric vehicle use will help reduce U.S. dependence on oil.	<input type="radio"/>	<input type="radio"/>
Having an electric vehicle will help save consumers money on gasoline and routine maintenance.	<input type="radio"/>	<input type="radio"/>

8. What city do you live in? *

Zip Code

9. What city do you work in? *

Zip Code

10. Would you like more information on electric vehicle infrastructure efforts in the region?

Please provide your email if yes.

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Appendix C: Public Survey Marketing Materials



COLLABORATIVE PLANNING FOR NORTHERN ILLINOIS

For Immediate Release

Date: July 15, 2020

Contact: Margaret Campbell, Metropolitan Planner, Region 1 Planning Council

Email: mcampbell@r1planning.org | **Office:** 815-319-4193

Electric Vehicle Infrastructure – General Survey

ROCKFORD, IL — Region 1 Planning Council is currently in the process of developing an Electric Vehicle Readiness Plan. The purpose of this plan is to promote awareness of future automobile technology, and prepare our region for the needed infrastructure to accommodate it. Help us shape our government's approach to this rapidly growing infrastructure need by sharing your views and opinions on electric vehicles (e.g. plug-in electric and hybrids) in our short survey. The current survey is designed to gain feedback from those who live, work, and play in the Rockford Region. The first round of surveys is available from July 15 – August 7, 2020.

The survey in English and Spanish can be found at: <http://r1planning.org/planning-activities>

About the Electric Vehicle Readiness Plan

The goal of the Electric Vehicle Readiness plan, and its future implementation, is to provide a framework for the region to develop a consistent and accessible electric vehicle charging network for future growth and innovation. The Electric Vehicle Readiness Plan was identified as a regional need through the update of the 2050 Metropolitan Transportation Plan for the Rockford Region (2050 MTP), which is tentatively scheduled for adoption in July 2020. The EV Readiness Plan also supports goals and objectives identified in the Illinois Department of Transportation's (IDOT) Long Range Transportation Plan (LRTP) as well as aligns with U.S. Department of Transportation (DOT) and U.S. Department of Energy (DOE) initiatives. Through this document, and the recommendations identified within it, the region can plan for appropriate future public and private infrastructure investment and identify potential policy changes that would allow for a robust charging network in Boone, Winnebago, and northeastern Ogle Counties. For more information for current and historic transportation planning efforts, visit www.r1planning.org.

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127 N Wyman St, Suite 100, Rockford, IL 61101 | 815-319-4180 | info@r1planning.org

www.r1planning.org





Region 1 Planning Council

July 15 · 🌐



Region 1 Planning Council is currently in the process of developing an Electric Vehicle Readiness Plan. The purpose of this plan is to promote awareness of future automobile technology, and prepare our region for the needed infrastructure to accommodate it. Help us shape our government's approach to this rapidly growing infrastructure need by sharing your views and opinions on electric vehicles (e.g. plug-in electric and hybrids) in our short survey. The current survey is designed to gain feedback from those who live, work, and play in the Rockford Region. The first round of surveys is available from July 15 – August 7, 2020.

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Region 1 Planning Council

July 31 · 🌐



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Electric Vehicle Infrastructure Survey

July 15, 2020 - August 7, 2020



COLLABORATIVE PLANNING FOR NORTHERN ILLINOIS



4

5 Shares



Appendix D: Public Stakeholder Questionnaire

EV Public Stakeholder Questionnaire

Region 1 Planning Council (RPC) is conducting a survey to understand the needs and existing strategies relating to electric vehicle infrastructure. Please provide your perspective regarding electric vehicles (e.g. plug-in electric and hybrids) and electric vehicle infrastructure. Your insight will contribute towards the Electric Vehicle Readiness Plan.

1. What are some challenges/barriers that your jurisdiction or service area faces regarding electric vehicle (EV) infrastructure implementation?
2. What are the key planning considerations for EV charging stations or electric vehicle supply equipment (EVSE) within your jurisdiction, such as EVSE locations, utility needs, etc.?
3. What steps has your organization or area already taken related to electric vehicle infrastructure implementation?
4. What development policies need to be considered in order for your jurisdiction to be better prepared for increased electric vehicle usage and charging needs (e.g., parking, zoning, EV Ready new construction, etc.)?
 - a. Does your jurisdiction currently have any development policies related to EVSE?
 - b. If so, please describe.
5. Does your jurisdiction currently have any building codes, permitting, and/or inspection policies related to EVSE?
 - a. Yes
 - b. No

If yes, please describe.
6. What building codes, permitting, and/or inspection policies should be considered for EVSE?

7. Does your agency have electric vehicle infrastructure objectives or strategies?

- a. Yes
- b. No

If yes, what are they?

Are there methods to monitor and evaluate effectiveness of those strategies?

8. What needs to be considered to electrify municipal fleets?

9. How should municipalities finance EVSE and price charging services? What should municipalities think about when developing pricing and parking policies?

10. What resources would you need to begin or further implement electric vehicle infrastructure?

11. Is there anything else that you think we should know or consider?

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Additional Resources

Region 1 Planning Council Website

<http://r1planning.org/>

Electric Vehicle Readiness Plan

<http://r1planning.org/planning-activities>

2050 Metropolitan Transportation Plan Webpage

<http://r1planning.org/mtp>

2050 Metropolitan Transportation Plan for the Rockford Region

<http://r1planning.org/mtp>

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