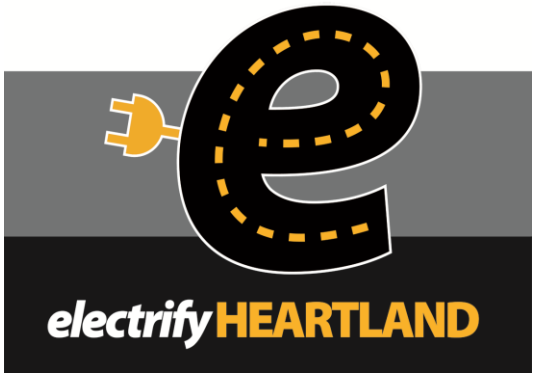
Electrify Heartland Plan

Section 6: Updated EVSE Zoning and Parking Plans



Project title: Kansas – Missouri
Community Readiness for EV and EVSE

Funded by: US DOE DE-EE0005551

By: Metropolitan Energy Center

and Kansas City Regional Clean Cities Coalition

With: Black & Veatch

Metropolitan ENERGY CENTER

Kansas City Regional Clean Cities

BLACK & VEATCH

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U.S. Department of Energy Acknowledgement and Disclaimer:

This material is based upon work supported by the Department of Energy under Award Number DE-EE0005551.

This work was developed in response to the federal funding opportunity announcement titled Clean Cities Community Readiness and Planning for Plug-in Electric Vehicles and Charging Infrastructure. FOA: DE-FOA-0000451

CFDA Number 81.086

Electrify Heartland Plan

Electrify Heartland Project Abstract

Electrify Heartland is an electric vehicle planning project managed by Metropolitan Energy Center. It is a product of the Greater Kansas City Plug-In Readiness Initiative, co-chaired by Kansas City Regional Clean Cities Coalition. Our goal is to produce a regional plan to prepare public resources and secure the economic and environmental benefits of plug-in vehicles within targeted metro areas with estimated 2.7M population. The targeted metro areas include Kansas City, MO & KS; Jefferson City, MO, Wichita, KS; Salina, KS; Lawrence, KS; and Topeka, KS. (14 Counties: Cass, Clay, Cole, Douglas, Jackson, Johnson, Leavenworth, Miami, Platte, Ray, Saline, Sedgwick, Shawnee, Wyandotte).

Electrify Heartland Steering Committee

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Exhibit i-i. Electrify Heartland Steering Committee Members

Section 6: Updated EVSE Zoning and Parking Plans

Section Abstract

In this section Electrify Heartland discusses a strategic approach to signage that will accommodate widespread adoption of electric vehicles. Signage increases visibility for both plug-in electric vehicle (PEV) drivers and non-PEV drivers, increasing public awareness about charging availability. This section also discusses recommended locations for PEV charging/parking spots as incentives and associated enforcement policies.

Section Author:

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6 Updated EVSE Zoning and Parking Plans

6.1 Develop signage and parking markings requirements

When properly utilized street signs can serve three important functions for the adoption of EVs. First and most obviously, they direct EV drivers to the nearest public charging infrastructure locations. Second, they serve to educate non-PEV drivers about the availability of charging stations and thus decrease apprehension about range anxiety. Third, they can evidence and publicize any premium reserve parking spots, should the government choose to utilize the parking location as an incentive.

Roadway signage is regulated by the U.S. Department of Transportation, Federal Highway Administration (FHWA). Specifically, approved signage requirements are contained within the Manual of Uniform Traffic Control Devices (MUTCD), published under 23 Code of Federal Regulations (CFR) Part 655, Subpart F. The MUTCD defines the standards used to install and maintain traffic control devices including color, size, shape, letters or other symbols, as well as standards for placement of signs to ensure they are visible, legible, and enforceable.

Currently, the MUTCD does not contain any required signage for EVSE. However, there is a process by which state transportation agencies may submit a request for so-called "experimental" signage. If approved, the experimental signs may be used within the state subject to certain requirements and restrictions.

In 2011, the Departments of Transportation for the States of Washington and Oregon submitted a request for the FHWA to consider an EV Charging General Service symbol. The FHWA granted those states an interim approval, a copy of which is provided as Appendix E.

Exhibit 6-1 Recommended Signage

After evaluating a number of alternative symbols for EVSE, Electrify Heartland recommends that the local jurisdictions petition the Missouri and Kansas Departments of Transportation to submit a request and obtain approval from the FHWA to utilize the symbols proposed by the States of Washington and Oregon and approved by the FHWA. These symbols have been thoroughly evaluated by the FHWA and were found to be highly visible and comprehensible by a large segment of the population. Additionally, adopting a symbol that is being utilized in other jurisdictions across the country increases the effectiveness of the symbols by promoting uniformity and recognizability.

Additionally, while the FHWA approval process is being pursued, we recommend that this signage be presented to local businesses for adoption on private property, similar to what many businesses use currently for "Pregnant Mother" parking spaces. Of course, such signage would be unofficial and entirely without the force of law, but its adoption would signal that the business recognizes and supports the needs of its EV-driving clientele. This also serves the added function of signaling to the community that EV adoption is happening and EVSE are readily available, thus providing more important social proof to facilitate further adoption in the future.

6.2 Recommendations regarding incentives or fines to reserve public EVSE spaces for EV only or for EV charging only

As a related issue to EVSE signage, once the stations are installed and the signs are put up, public and private parking facilities owners will need to determine whether and to what extent such signs will be enforced. The enforcement of street signs on public property is currently a prerogative of the local jurisdictions, and thus each community within the

Electrify Heartland planning area will need to determine the level of enforcement that is most appropriate for its populace.

"…the Electrify Heartland recommends that local communities consider promoting the placement of EVSE in locations that are convenient and accessible, but not necessarily in the most prominent or advantageous locations."

Electrify Heartland recommends that the communities carefully weigh several competing interests when making this decision. First, it is important to note that during the early years of EV adoption, EV parking spots may be vacant for large periods of time. If these spots are located in high-traffic areas and parking by non-EVs is prohibited and heavily enforced, a negative sentiment could develop around the adoption of EVs. On the other hand, the availability of these charging locations is critically important for fostering range confidence for EV drivers, promoting the public's confidence that EV charging is readily available, and possible encouraging adoption due to parking preferences.

To successfully balance these various concerns, we recommend that local communities consider promoting the placement of EVSE in locations that are convenient and accessible, but not necessarily in the most prominent or advantageous locations. Additionally, if the community is considering adopting punitive actions for parking a non-EV in an EV spot, we recommend foregoing implementation or enforcement of those penalties until the level of EV adoption in the community is significant enough to ensure that the spots are filled for a significant period of time. Similarly, if the community is considering implementing an ordinance to penalize EVs or non-EVs that are parked in an EV charging-only spot, we recommend that the communities should be reasonably confident that the problem is widespread enough to justify the potential anxiety that might be created among EV drivers who may park in the spot without charging or continue parking in a spot after charging is complete.

6.3 About the Author

Alan Claus Anderson is the vice chair of the firm's national Energy practice group. He has extensive experience representing and serving as lead deal counsel and outside general counsel to public and private companies in the energy industry. He advises domestic and international oil and gas, wind and solar companies in all phases of the development and finance process. Mr. Anderson also regularly represents oil & gas companies and serves as their outside general counsel. He advises energy clients in the full range of activities including reviewing, structuring and negotiating acquisitions and development projects both domestically and internationally, and was selected for membership in the Association of International Petroleum Negotiators. A former in-house counsel at a publicly traded oil

and gas company, he has led numerous successful negotiated oil and gas acquisitions and joint development projects domestically and internationally.

Mr. Anderson also represents developers, lenders, investors and suppliers in renewable energy projects throughout the country that represent more than 3,500 MW in wind and solar projects under development and more than $2billion in wind and solar projects in operation. He also has significant experience assisting non–United States companies on their entry into the United States market; including one of the largest Germany-based solar companies on its entry into the United States and successful projects throughout North America.

An active participant in the energy industry, Mr. Anderson is a frequent speaker and writer on energy issues. Mr. Anderson has also been selected to lead two U.S. Department of Energy projects related to distributed solar finance issue and electric vehicle deployment as well serving as the Chair of the Kansas City Area Development Council's Advanced Energy and Manufacturing Advisory Council. He received his undergraduate degree from Washington State University and his law degree from the University of Oklahoma.

Kansas City Regional Clean Cities Coalition Administered by Metropolitan Energy Center, the coalition is a public-private partnership among fleet managers and manufacturers, vendors and service providers in the alternative fuels and vehicle industries. It works in communities across Kansas and in western Missouri. Kansas City's coalition is a partner since 1998 with the U.S. Department of Energy's Clean Cities Program, whose mission is to advance the energy, economic, and environmental security of the United States by supporting local actions to reduce petroleum use in transportation. The coalition administers more than $40 million in clean transportation projects in Kansas, Missouri, Iowa and Nebraska. For more information visit www.metroenergy.org/kccleancities.aspx.About

Metropolitan Energy Center is a nonprofit organization with a threefold mission to create resource efficiency, environmental health, and economic vitality in the Kansas City region. Over the past three decades, MEC has grown to be a recognized catalyst for regional energy partnerships that satisfy the triple-bottom-line approach. Founded in 1980, MEC is a catalyst for community partnerships focused on energy conservation. It works through a variety of educational and training programs, including Kansas City Regional Clean Cities Coalition, Home Performance, Project Living Proof and EnergyWorks KC. Every energy dollar conserved through MEC's work remains available for investment in the local economy. MEC was awarded more than $17 million in federal funding for transportation projects in recent years and is a partner in other multi-million-dollar projects in Kansas and Missouri.

MEC has been the recipient of many awards recognizing its contribution to energy conservation and was host of the national Affordable Comfort Conference in 2003 and 2009