

Community Readiness: How Local Can You Go?

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Summary

Since the United States Department of Energy awarded 16 projects for Electric Vehicle Community Readiness in 2011, there has been a shift towards increasingly “localized” readiness planning. ICF will review at least eight readiness planning efforts to identify the overlap between and differentiation amongst the types of actions communities are prioritizing to facilitate and accelerate the deployment of electric vehicles and charging infrastructure. ICF will review the underlying policy and regulatory drivers for various communities, and review the dynamics of local stakeholders, and how these dynamics impact implementation. The scope of the paper will include readiness actions ranging from public outreach and government fleet adoption to planning and code adoption.

Keywords: policy, EV (electric vehicles), infrastructure, training, education

1 Introduction

In the absence of more coordinated national-level action, state and regional agencies have stepped in to reduce harmful greenhouse gas (GHG) emissions and displace petroleum. These efforts are part of larger plans to improve human health and strengthen local economies. With the transportation sector dependent on petroleum-based fuels and accounting for 28% of the GHG emissions, it is a critical focal point of regulators and policy makers. The deployment of alternative fuel and advanced technology vehicles, particularly plug-in electric vehicles (PEVs), have the potential to reduce GHG emissions and petroleum consumption dramatically, and increase energy independence through the utilization of locally and regionally produced energy. However, the success of long-term decarbonization and petroleum reduction in the transportation sector will depend in part on the near-term deployment of vehicles and fueling infrastructure, and the associated planning required by stakeholders. The value of PEV readiness planning is highlighted by recent work from the U.S. Department of Energy (USDOE) and the International Council on Clean Transportation (ICCT). Researchers at USDOE national laboratories demonstrated a correlation between higher PEV deployments *and* readiness planning, even after isolating for factors such as cold weather and incentive availability [1]. Meanwhile, the ICCT assessed actions taken at the municipal level and concluded that a) there is quantitative support for the “ecosystem approach” as a best practice, where many stakeholders (including local municipalities) have key roles in enabling PEV growth and b) “cities are focal points for collaboration among governments, the auto industry, utilities, and advocates on electric vehicles [2].”

2 Overview of Projects

ICF International (ICF) leads and has led the development of PEV readiness plans in numerous regions of the country, including the San Francisco Bay Area and the Philadelphia metro/Delaware Valley region. By the end of 2016, we will have completed additional PEV readiness planning efforts in the North Jersey and several other

parts of California. Each study area is geographically, politically, and economically different from the others, and the appetite for PEV and charging infrastructure varies both between and within each region. Given that these projects are largely still ongoing, this paper provides a brief background on each project, progress to date, and where appropriate, identified opportunities and challenges.

ICF's engagement in planning efforts has led us to conclude that the challenges associated with the deployment of zero emission vehicles and supporting infrastructure are often over-simplified to singular concepts, such as the technical issues (e.g., vehicle technology and battery prices), regulatory/policy issues (e.g., availability of incentives), or consumer choice (e.g., consumers do/don't want to buy electric vehicles). However, it has become increasingly clear to ICF and other engaged stakeholders understands that the barriers to higher EV adoption cut across all of these areas. Furthermore, local and regional governments increasingly need to develop fluency across the entire EV ecosystem, developing the capability to pivot amongst conversations with local agency planning staff to permitting staff, while also engaging utilities and developing community outreach strategies.

2.1 San Francisco Bay Area, California

ICF developed the Bay Area PEV Readiness Plan in coordination with the Bay Area Air Quality Management District. The plan was the result of a community outreach process and collaboration among local and regional agencies, state and federal funding agencies, members of the California Plug-in Electric Vehicle Coordinating Council, staff from the electric vehicle industry, and other stakeholders that are pursuing numerous avenues to support PEV deployment in the nine-county Bay Area. The Plan highlights strategies and guidance from research, analysis, and public input to help the Bay Area achieve the goal of being "PEV Ready"—that is, well positioned to handle large-scale adoption of PEVs over the next 10 years (i.e., to 2023).

The Bay Area has the highest level of PEV deployment in the country. The planning effort identified strategies, incentives, and educational resources that are needed to help continue the region's leading position by supporting and accelerating regional PEV adoption.

The core of the Bay Area PEV Readiness Plan focused on updated building codes, streamlining permitting processes, and identifying plans and ordinances that can help facilitate charging infrastructure deployment.

2.2 Coachella Valley, California

ICF worked in partnership with the Coachella Valley Association of Governments (CVAG) developed this Coachella Valley Plug-in Electric Vehicle Readiness Plan (the Plan) to help support and accelerate the mass deployment of PEVs in the region. At the time the plan was prepared (in 2013-2014), the Coachella Valley had experienced modest deployment of PEVs, with about 250 PEVs on the road; for the sake of reference, the study region had a light duty vehicle population of 350,000 vehicles. Despite the limited deployment of PEVs, the trends for hybrid electric vehicle (HEV) ownership—generally considered a good indicator for interest in PEVs—have been strong in the Coachella Valley.

The Coachella Valley PEV Readiness Plan had similar planning elements as the Bay Area Plan, including those related to building codes, streamlining permitting processes, and identifying plans and ordinances that can facilitate charging infrastructure deployment.

2.3 Sonoma County, California

ICF is actively engaged with the Sonoma County Transportation Agency (SCTA) and the Regional Climate Protection Authority (RCPA) as part of the *Sonoma Shift Plan*. The Transportation Fuel Shift Plan will provide an opportunity for SCTA/RCPA to contextualize guidance from state and regional plans, such as the Governor's ZEV Action Plan, the Bay Area PEV Readiness Plan, and Plan Bay Area. While these state and regional efforts are important, the transportation electrification transition requires a markedly local approach—bringing together

stakeholders in new ways. The role of local governments is especially important as we think about EVs and charging infrastructure; the deployment of infrastructure is a locally-focused issue in part because local governments in California have exclusive authority over all land use decisions within their jurisdictions. These decisions extend from general plans and other policies that guide the long-term growth of a community to zoning and parking ordinances that regulate the physical form of streets, buildings, and public spaces. At every step of the planning process, local governments have opportunities to prepare to accommodate greater numbers of PEVs. These include establishing a policy framework for PEV readiness as well as adopting standards, guidelines, and requirements for PEV parking and charging stations.

The plan seeks to develop a consensus approach moving forward for Sonoma County. The Transportation Fuel Shift Plan calls for active engagement with as many stakeholders as possible through surveys and outreach, including existing EV owners, potential EV drivers, existing and potential charging infrastructure site hosts, utility providers, and other local planning agencies. We understand that stakeholders will have varying interests and will come to the table with their own view on the best way to accelerate transportation electrification. However, the proposed planning effort is not meant to be all things to all stakeholders; rather, it is a focused project to help SCTA/RCPA develop a plan to accelerate the adoption of EVs and the deployment of charging infrastructure in light of consumer behavior and needs, and the planned actions of other stakeholders. By engaging the diverse stakeholders in this planning effort, the Transportation Fuel Shift Plan can be relevant to stakeholders and be reflective of a consensus approach, developed through extensive outreach, communication, and engagement.

2.4 Santa Clara County, California

ICF is actively engaged with the County of Santa Clara in a project entitled, *Driving to Net Zero–Decarbonizing Transportation in Silicon Valley*. The project a critical component of a broader effort to engage stakeholders, and is an important example of local government proactively engaging the community, and developing/implementing a plan towards meaningful action. The objective of the proposed project is to deliberately and effectively increase ZEV market penetration throughout Santa Clara County.

This project is perhaps the most ambitious of the grouping, with an emphasis on partner jurisdiction capacity building, community alternative fuel infrastructure planning, policy development and support, local jurisdiction training, outreach and marketing, and municipal fleet planning.

2.5 Truckee-Tahoe Region, California and Nevada

The objective of the planning effort in Tahoe-Truckee is to develop a strategic plan that will serve as a road map to establishing the Tahoe-Truckee region as a PEV destination, corridor, and gateway. The PEV Readiness Plan will identify barriers to the rapid deployment of public and private PEV charging within the region and provide a comprehensive and actionable approach to reduce such barriers through effective outreach and infrastructure development. The project is highlighted by sector specific toolkits targeting local governments, fleet owners and operators (public and private), energy wholesalers/retailers, vehicle dealers, Tahoe-Truckee residents, visitors to the Tahoe-Truckee region, second homeowners, and tourist destinations (e.g., state parks, ski resorts, casinos, and commercial core areas). For each key sector, ICF is working with the project partners to cover: funding strategies, best practices, available training, and outreach materials.

2.6 Solano County, California

ICF is working with the Solano Transportation Authority to implement the *Solano Electric Vehicle Transition Program*. The objective of the proposed project is to implement solutions in Solano County to previously identified PEV readiness barriers. This objective will be achieved by building upon and updating previous planning work and by conducting targeted outreach to stakeholders and consumers. The project is highlighted by

the following high-level goals: a streamlined permitting and inspection process for charging infrastructure; an improved charging infrastructure installation process; the development of a Solano-specific charging infrastructure siting plan; the deployment of trailblazer signs in the county; conducting awareness activities; and providing training related to building codes.

2.7 Delaware Valley, Pennsylvania

Ready to Roll! Southeastern Pennsylvania's Regional EV Action Plan provides a comprehensive, regionally coordinated approach to the introduction of EVs and electric vehicle supply equipment (EVSE) into the five counties of the region (Bucks, Chester, Delaware, Montgomery, and Philadelphia). This plan is the result of a partnership between the Delaware Valley Regional Planning Commission (DVRPC), the City of Philadelphia, PECO Energy (the region's electricity provider), and the Greater Philadelphia Clean Cities Program (GPCCP). The plan incorporates feedback from key regional stakeholders, national best practices, and research to assess the southeastern Pennsylvania EV market and consumers, identify current market barriers, and develop strategies to facilitate vehicle and infrastructure deployment.

The plan was a natural extension of Southeastern Pennsylvania's deep commitment to energy efficiency and conservation efforts. For instance, the City of Philadelphia is devoting significant resources to become the nation's greenest city, and the region is following suit. The region's long-range plan, *Connections*, identifies "Building an Energy Efficient Economy" as one of four key regional goals. Philadelphia is the site of the U.S. Department of Energy's (DOE) Energy Efficient Buildings System Design Hub and the City of Philadelphia is administering the "Retrofit Ramp-up" building energy-efficiency program for southeastern Pennsylvania's five counties. In keeping with its commitment to energy efficiency and conservation efforts, southeastern Pennsylvania is turning its attention to opportunities associated with EV deployment.

2.8 North Jersey

This project is still in contractual negotiations, and as such is not discussed in this paper. However, the project will certainly be underway by the time of EVS29 and will be included in the presentation.

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Authors



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Stacy Noblet leads ICF's alternative fuel and advanced transportation work. She provides management, outreach, technical, and research support to projects, programs, and initiatives that aim to reduce emissions and petroleum consumption in the transportation sector. For more than 11 years, Stacy has worked to increase the use of alternative fuels and advanced vehicles through the U.S. Department of Energy's Clean Cities program and the Alternative Fuels Data Center (AFDC). Stacy's

clients include the National Renewable Energy Laboratory (NREL) and the National Park Service (NPS), as well as federal, state, and local governments, and utilities. Stacy earned her MS in Environmental Sciences and Policy from the Johns Hopkins University and her BS in Geography, Environmental Analysis and Natural Resource Management from Western Michigan University.

Eliot Rose is a Manager at ICF International and has eight years of experience as a transportation planner and policy analyst. His work focuses on helping communities address many different aspects of sustainability, including equity, accessibility, public health, and GHG emissions through the planning process. Mr. Rose has served as the technical lead on planning issues for regional PEV readiness plans in the San Francisco Bay Area, Delaware Valley, and Coachella Valley. He has reviewed codes and ordinances, interviewed planners, and analyzed PEV demand in order to produce practical, straightforward guidance for public agencies on preparing for PEVs in the context of financial and political constraints. Eliot earned his Masters of City Planning in Transportation Planning from the University of California, Berkeley and his BA in Literature from Yale University.