Sustainable utility matters: Taking charge of transportation electrification

An interview with Bryan Jungers, director of mobility at E Source
By Sannie Sieper
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This is the second installment of "Sustainable utility matters," a new series on the E Source blog exploring key trends and developments in the utility sector.

In the series, we interview experts to highlight industry trends and challenges utilities are facing. We believe that to become truly sustainable, and, therefore, become The Sustainable Utility, utilities need to drive decarbonization, provide safe and reliable power, and serve all customers equitably—all while ensuring a strong bottom line.

Is your utility ready to be a fuel provider?

Contact our team to learn more about how leading utilities are partnering with federal, state, and local transportation planners to develop holistic and flexible plans for meeting the growing need for TE infrastructure in their communities:

We recently sat down with our director of mobility, Bryan Jungers, to learn more about the challenges and opportunities utilities face as they roll out transportation electrification plans and electric vehicle supply equipment (EVSE).

Sannie Sieper. Many utilities are actively trying to understand the role they should be playing in transportation electrification (TE) generally, and particularly when it comes to deploying EV charging infrastructure. How should they be thinking about this?

Bryan Jungers. Simply put, it's time for electric utilities to start thinking of themselves as fuel providers for the transportation system, which is a role they have little experience with.

Utilities traditionally provide power for stationary applications like homes, offices, and factories. Utilities are obsessively focused on reliably and safely meeting the fluctuating power demands from those stationary loads. Until relatively recently, they've had no good reason to spend time seriously thinking about mobility, transportation, fuel supplies, or other related issues outside of managing their own internal fleets.

Utilities can learn a lot from the folks that understand petroleum fueling requirements and networks, namely groups like transportation agencies and logistics planners.

"The time is now to be thinking and acting holistically, in partnership with other stakeholders, to plan EV infrastructure." —Bryan Jungers

For example, in many ways, the issue of transportation demand management is similar to utility demand-side management. Energy and transportation groups have a lot to learn from each other and cross-pollination will help accelerate TE more effectively and efficiently.

Unfortunately, there are few existing systems or channels in place to foster this collaboration, so we'll mostly need to build them as we go. Utility executives should be having conversations right now with the leaders of transportation agencies about how their organizations can share insights and data, as well as generally work together more closely to develop plans moving forward. We need to expect that there will be language and process barriers and we need to be patient with each other. There will be mistakes and that's OK.

When it comes to utilities and EV charging, I advise utilities to assume that, eventually, any vehicle that can be electrified will one day be electric. So the time is now to be thinking and acting holistically, in partnership with other stakeholders, to plan EV infrastructure. That said, the specifics are going to vary widely from one utility to the next based on:

- What they're legally allowed to do
- Various incentives and financial structures
- Local consumer demand and market conditions
- How proactive an individual utility wants to be in developing these new markets

SS. TE isn't a new concept so what's changed and what does it mean for utilities?

BJ. In the past, the biggest barrier to EV adoption was vehicle availability and cost, but this is changing quickly. Today, a more critical issue is inadequate fueling infrastructure, and, in my mind, this presents a real (and very large) opportunity for utilities.

However, many utilities don't know exactly which of their customers have an EV at this point and may have little involvement in deciding where charging infrastructure is deployed in their communities. Given the grid integration challenges that large-scale TE will bring, utilities need to be taking a more proactive, hands-on role in integrated EV charging infrastructure deployment.

"There's a ton of due diligence in EV charging station development and planning that needs to happen to ensure that EVSE deployments are a good investment." —Bryan Jungers

This isn't to say that utilities have to own and operate all the EV fueling stations, just as big oil companies don't necessarily own and operate all the gas stations. But utilities also shouldn't simply rule

out the possibility of owning these assets right out of the gate. In many situations, it could be a perfect fit.

As we've learned from past mistakes, there's a ton of due diligence in EV charging station development and planning that needs to happen to make sure that EVSE deployments are a good investment. And part of learning from past mistakes involves using the existing data so we can make better decisions about where to place new infrastructure, how much we need, and how best to site and manage it.

This is another reason why it's critical for utilities to be actively engaging with the state Department of Transportation EV planning efforts. The Department of Transportation has transportation planning experience and will be responsible for Federal EVSE funds through the Infrastructure Investment and Jobs Act (IIJA).

SS. Won't utilities also be getting IIJA funding? Can't they use that for TE planning?

BJ. The IIJA funding that we expect to go directly to utilities isn't necessarily earmarked for TE. It's largely intended to support upgrades to and modernization of the electric grid transmission and distribution system, replacing aging infrastructure and addressing current capacity constraints.

Funding for EV charging infrastructure, on the other hand, will largely flow through state transportation offices, and that means state offices will determine where the charging infrastructure is deployed. And, like it or not, utilities will probably have to serve these large new loads.

Every state office has received guidance to work with utilities in developing state plans, but we don't know the extent to which that will happen in practice.

"The potential worst-case scenario would place utilities squarely at the center of the bottleneck to widespread transportation electrification." —Bryan Jungers

This is precisely why an integrated approach to planning is so critical. It's a choice between going it alone and reacting to decisions made by other stakeholders, or aligning objectives and working together to determine where support is needed.

Today we're mostly working toward light-duty EV integration, but all-electric fleets and heavy-duty vehicles will present entirely new grid-resource challenges that will make integrated planning and implementation that much more critical.

Not actively planning for these eventualities today, in partnership with transportation planning bodies, could result in the perception that utilities lack competence or oppose TE goals. The potential worst-case scenario would place utilities squarely at the center of the bottleneck to widespread TE. We still have time to get in front of these changes, but it's not unlimited. The clock is ticking now.

SS. What do you recommend that utilities start doing now to prepare, aside from coordinating with transportation planning stakeholders?

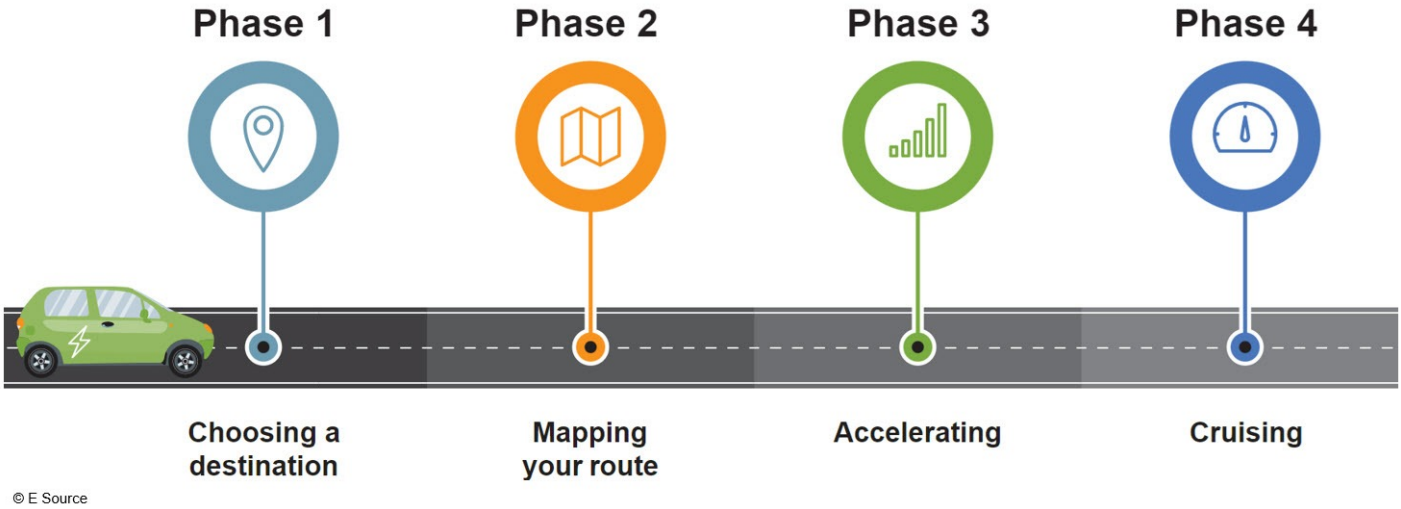
BJ. Every utility is approaching the TE challenge from a different starting point, so it's important to understand where they're at now and where they need support.

For some in the earliest phases (**figure 1**), setting goals and priorities is a critical first step. Others have already built out a portfolio of projects and programs including pilots, incentives, targeted

services, and EVSE investments. These folks can measure performance, benchmark against other programs (utility or not), partner with service providers, and generally engage in continuous-improvement efforts to put themselves in a better position to capture EV revenues and emerging business opportunities.

Figure 1: Phases of utility TE maturity

The first two phases of developing and implementing a TE plan are determining goals and how you're going to get there.



As I mentioned before, utilities need to better understand EV use in their territories. And not just the total number of EVs in any given service territory, but exactly where they are, what types of vehicles they are, how they're being used, and what their charging patterns look like.

And utilities need to use predictive data science to get better at forecasting growth and grid impacts than most are today.

E Source and our >data science team are uniquely positioned to help with this effort. Without good data, it's unlikely that the industry will make sound business decisions about where to place new infrastructure, how much is needed, and how best to site and manage it.

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