



MICHIGAN DEPARTMENT OF
ENVIRONMENT, GREAT LAKES, AND ENERGY

Stakeholder Engagement Meeting Notes
National Electric Vehicle Infrastructure Grant Program Modeling – Utilities
Thursday, May 26, 2022 2:00 – 3:00 via [Teams](#)

Attendees

- Mehrnaz Ghamami, MSU
- Ali Zockaie, MSU
- Amirali Soltanpourkhazaei, MSU
- Mohammad Kavianipour, MSU
- Hamid Mozafari, MSU
- Alireza Darzian Rostami, MSU
- Robert Jackson, EGLE
- Jessie Crawford, EGLE
- Judd Herzer, LEO
- Al Freeman, MPSC
- Katie Abraham, MI Public Power Agency
- Bethany Tabor, Consumers Energy
- Doug Reid, Consumers Energy
- Brett Steudle, DTE
- Kelsey Peterson, DTE
- Craig Morris, American Electric Power
- Jason Whitman, American Electric Power
- Lindsay McWebb, UPPCO
- Bill Hunter, City of South Haven
- Brett Niemi, WPPI
- Don Mueller, Zeeland BPW
- Barry Rutherford, Holland BPW
- Andrew Reynolds, Holland BPW
- Jacob Hardy, Traverse City Light and Power
- Sam Hogg, Wolverine Power
- Gus Pas, Great Lakes Energy
- Thomas Mann, Great Lakes Energy
- Mike Kennedy, City of Gladstone Electric
- Jake Brown, Cloverland
- Gerald Pirkola, City of Escanaba Electric
- Josh Krajniak, City of Escanaba Electric
- Terry Rubenthaler, Midwest Energy
- Josh Duckwall, GDS Associates
- Julio Rovi, GDS Associates
- John Kinch, Michigan Energy Options
- Michael Larson, Michigan Energy Options

Meeting Notes

Introduction

Robert Jackson, Michigan Department of Environment, Great Lakes, and Energy (EGLE), welcomed everyone and suggested forgoing introductions with the exception of Judd Herzer, Director of Strategic Policy at the Department of Labor and Economic Opportunity (LEO), and Al Freeman, Assistant Division Director of Energy Resources at the Michigan Public Service Commission (MPSC), since they are relatively new to this group.

Project Background

Robert Jackson, EGLE, provided a brief overview of related previous work including the electric vehicle charger placement optimization modeling that has been ongoing for [Charge Up Michigan](#) and the [Lake](#)

[Michigan Circuit](#). These initiatives correspond with the modeling work that will be done for the [National Electric Vehicle Infrastructure Grant \(NEVI\)](#).

Dr. Mehrnaz Ghamami, Michigan State University (MSU), presented on the NEVI Charger Placement Program. First, a background of previous electric vehicle (EV) charger placement research was provided. The [Phase 1 analysis](#) was performed a couple years ago to create a model that optimized the placement of DC fast chargers (DCFC) for inter-city trips across the state, which is the basis of Charge Up Michigan. The [Phase 2 analysis](#) looked at optimizing DCFC infrastructure to support EV travel at a smaller scale for intra-city trips in urban areas. Subsequently, the Phase 3 analysis (report pending) investigated how to optimize distributed energy resources to improve grid reliability based on expected EV load in urban areas. MSU is also working on developing a model for the Lake Michigan Circuit to find ideal locations along the Lake Michigan coastline for both level 2 and DCFCs to support coastal tourism for EV drivers.

Moving onto NEVI, the requirements of this funding state that each charging station must have at least 4x 150 kW chargers, be located less than 1 mile from an [Alternative Fuel Corridor \(AFC\)](#), and be sited no more than 50 miles apart from the next charging station. MSU is going to develop an optimization model for these requirements using a 3-step approach.

Step 1 – Basic Feasibility

- Map existing DCFCs
- Find optimal location of >150 kW chargers to support all travel in the state
- Overlay existing DCFCs with optimal locations to identify where upgrades are required

Step 2 – NEVI Plan

- Map existing DCFCs
- Find locations for DCFCs based on NEVI requirements (e.g., 4x 150 kW chargers along AFCs)
- Overlay existing DCFCs with optimal locations to identify where upgrades are required

Step 3 – Future Upgrades

- Explore possibility of future upgrades for >350 kW chargers

To do this, MSU needs to update the demand and network files with current data, modify the modeling framework to consider charging infrastructure, consider the additional assumptions of NEVI as well as increased market share, and consider future upgrades.

With current input data (e.g., locations of DCFCs, road network, traffic analysis zones, traffic demand matrix, electricity provision cost, charging station/charger cost, and vehicle specs), MSU built their first iteration of the model. Assuming a 6% market share with a network that includes barebone infrastructure needs, current infrastructure, and NEVI needs, the total number of charging stations would be 47, with a total of 270 chargers, costing a total of ~\$30 million (\$7.27 million which is already invested).

However, MSU plans to do another iteration of the model to include a 25% market share and with EVs starting their trips at less than 100% state of charge. This change will likely result in an increase in investment that is closer to \$100 million.

QUESTIONS

Q. Brett Steudle, DTE, asked to confirm that the modeling would look at all charging needs across the state, not just necessarily placing one station with 4x 150 kW chargers every 50 miles.

A. Mehrnaz Ghamami, MSU, confirmed that the model looks at charger needs to make any EV trip feasible throughout the state as well as the charger needs every 50 miles per NEVI. Also mentioned that the 50 miles tends to be a maximum distance, but due to several additional considerations, it is more likely that the stations will be located 30-35 miles apart.

Q. Sam Hogg, Wolverine Power, encouraged MSU/EGLE to think about the site hosts and not just the cost of putting a charger in the ground since the site host is taking a significant risk on the capacity side, so the bill is going to be increased significantly. Followed up by saying that a potential mitigation strategy could be that the utilities get a demand holiday which could potentially act as their match contribution.

A. Robert Jackson, EGLE, acknowledged this as an important consideration. Suggested that the modeling will provide guidance on the build out, and exceptions can be explored where infrastructure already exists.

Q. Bethany Tabor, Consumers Energy, stated that all the existing chargers in place to date through [PowerMIDrive](#) are less than 150 kW per unit. Asked about EGLE's thoughts on if those sites will have right to first refusal to upgrade under NEVI. Also commented how Consumers Energy is getting ready to re-launch PowerMIDrive and is working with EGLE to require new rebate recipients to have at least 1x 150 kW charger and will consider futureproofing the make-ready infrastructure for some of these sites.

A. Robert Jackson, EGLE, stated that site hosts that have already invested in chargers will be first in line for upgrades if their site is indicated as eligible through the NEVI modeling.

Q. Brett Steudle, DTE, asked what match will look like under NEVI.

A. Robert Jackson, EGLE, said the State is starting to have those conversations now on what the split will be. It is possible that the 1/3 split used in Charge Up Michigan won't work with NEVI.

A. Judd Herzer, LEO, recognized that cost per site will go up. But also said that to reach the charger goals that the State has, there will likely be a need for more investment than is allotted in NEVI, so continued cost-share and partnership is critical. Plus, considering the rising inflation in materials and labor markets, the State is trying to carry a healthy amount of caution in terms of how much match will be needed to support NEVI deployment.

Q. Bethany Tabor, Consumers Energy, asked if the State is considering partnering with specific charging vendors moving forward as some utilities have done to date by establishing an approved charger list and acquiring data sharing agreements.

A. Judd Herzer, LEO, said that the State wants to leave the market as open as possible. Also mentioned to keep watch of the Weights and Measures Act since it may require charging units to display price of electrical commodity, so this may be an additional factor worth considering in the future when it comes to chargers.

Q. Gus Paz, Great Lakes Energy, asked if there are price limits for charging price whether it be for the 150 kW chargers or 350 kW chargers.

A. Robert Jackson, EGLE, stated he is unaware of any legislation that restricts pricing as of now.

Q. Gus Paz, Great Lakes Energy, asked about NEVI criteria, specifically, if the 4x 150 kW chargers means that each charger has to supply the full amount of power to a single vehicle.

A. Brett Steudle, DTE, answered yes, stating that the guidance document mentions a requirement of at least 4x 150 kW chargers capable of simultaneously charging 4 EVs.

Q. Jake Brown, Cloverland, asked if there will be any additional consideration for level 2s or lower powered chargers considering that in the UP it is going to be very difficult to get some of these higher powered DCFCs.

A. Robert Jackson, EGLE, said the State will use NEVI funds on NEVI-eligible projects where possible and fill in the gaps with Charge Up Michigan funds, which don't have as high of power capacity requirements for chargers.

A. Judd Herzer, LEO, said that the new [Federal Joint Office of Energy and Transportation](#) will develop an exemption process for some sites, but the details of what that entails have not been released yet. However, suggested that the utilities start gathering info now to provide a somewhat detailed explanation of the foreseeable problems, and the State can start sharing that info with the Joint Office to see if they may be amenable sooner than later.

Q. Jake Brown, Cloverland, asked what the timeline is for spending the NEVI funds.

A. Judd Herzer, LEO, stated that based on the current guidance, these funds will go through fiscal year 2026 and any funds that are not spent will likely be subject to callback.

A. Robert Jackson, EGLE, stated that MSU will be done with the modeling mid-June, which will provide an estimate of location and number of chargers needed to inform the state's EV Infrastructure Deployment Plan. The Plan will be submitted in August with hopes that it will be approved by September, making funds available in October. However, now is the time to start getting projects lined

up for NEVI. It takes time for these projects to get prepped, so the State can accept applications now, and just use Volkswagen funds in the interim and swap those expenses out with NEVI funds once that money arrives.

Q. Bethany Tabor, Consumers Energy, asked to confirm that for the NEVI-eligible sites, the site hosts should be pricing out the 4x 150 kW chargers and the utilities should be doing the same for accompanying make-ready expenses.

A. Robert Jackson, EGLE, stated yes, the goal is to start building up these sites now.

Q. Brett Steudle, DTE, asked how to determine what site hosts to be talking to in the interim until the modeling is done, e.g., if a site host is only 25 miles away from the next closest charging station, should they be considered?

A. Robert Jackson, EGLE, stated that ultimately, there needs to be as many chargers installed as possible and that will look like stations being closer than 50 miles apart, probably more like 25 miles apart. That means conversations need to be had with site hosts that fall in between the 50-mile intervals as well.

A. Judd Herzer, LEO, emphasized the importance of starting to flag sites now. Not only for NEVI, but also flagging sites for medium-to-heavy duty chargers because that will be important down the road for initiatives like [REV Midwest](#).

NEXT STEPS

Action Required for Utilities

Send the following information to MSU (Mehrnaz Ghamami, ghamamim@egr.msu.edu) ASAP:

- What sites of those that have already been built can be upgraded to 4x 150 kW chargers?
- What are the updated make-ready costs associated with these upgrades?

Future Meeting

MSU will run another iteration of the model to include 25% market share of EVs that start their trip with a lower state of charge. This version will likely be used to inform the State's EV Infrastructure Deployment Plan. This group will reconvene in the next 2 weeks after this version of the model is complete and talk next steps for build out and additional considerations.