

NORTH Florida TPO

EV Charging Station Network Deployment Project Phase II

Executive Summary

To promote Plug-in Electric Vehicle (PEV) adoption in North Florida, the North Florida Transportation Planning Organization (TPO) with JEA's assistance is establishing a PEV charging station network in the North Florida area using Congestion Mitigation Air Quality (CMAQ) funds. Under Phase I, 25 stations have been installed within the JEA boundary using CMAQ funding. Approximately \$450,000 is available to deploy stations at the beaches and in Clay, Nassau and St. Johns Counties. The project seeds the beginning of a charging station network that will address a major barrier to PEV adoption known as "range anxiety"; wherein vehicle buyers do not purchase PEVs because they fear being stranded without a charging station nearby.

PEV adoption provides the following community benefits:

- Environmental – PEVs are a cleaner alternative fuel source to gasoline even when air emission of the power generated to charge PEVs is consideredⁱ. A cleaner fuel source means better air quality for the community.
- Economic – PEVs generally cost less to operate than gasoline powered vehicles and can result in significant savings that can be redirected to benefit the local economy.
- Energy Independence – PEVs represent less dependence on the import of foreign oil.

For Phase II site selections and application submittals begins February 2017 and will continue to March 17. Locations will be on government-owned land in accordance with the CMAQ funding requirements. Once the equipment and installation are procured, through the established process, installation should begin in mid-summer 2017 and be completed by April 2018 with approximately 30 to 40 charging stations deployed. Once deployed the charging stations will become part of the ChargeWell network brand that provides the PEV driver with reliable infrastructure to recharge and continue driving their PEV to their destination.

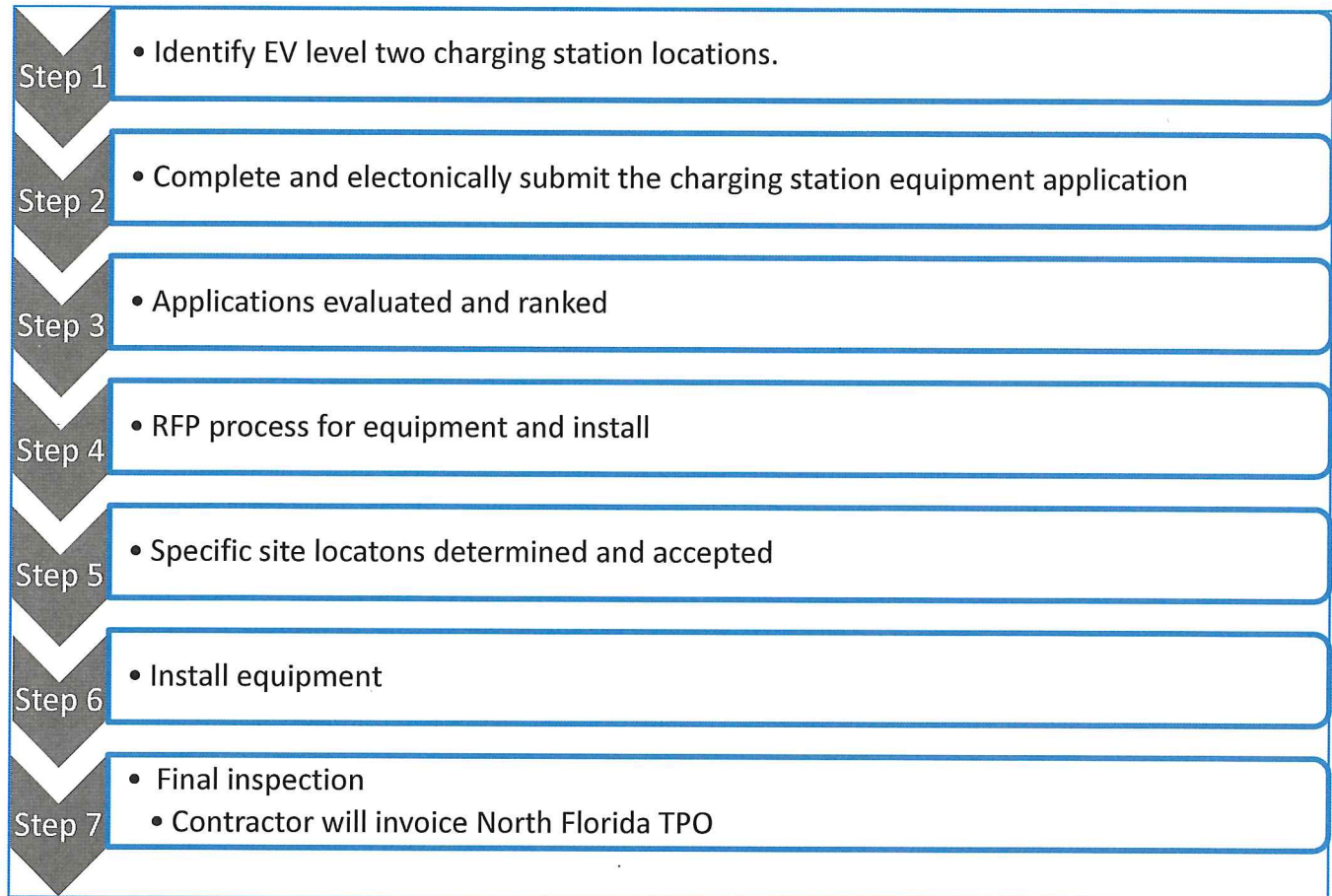
Estimated Timeline for 2017/2018

TASK	Feb 2017	Mar 2017	Apr 2017	May 2017	Jun 2017	Jul 2017	Aug 2017	Sep 2017	Oct 2017	Nov 2017	Dec 2017	Jan 2018	Feb 2018	Mar 2018	April 2018
Applications Submitted															
Site Locations Selected															
Procurement Process															
Site Installations															

Access to a network charging station will take place through either a credit card transaction or a network branded charge pass card. Vehicle charging station owners, as part of the network, will be restricted for the first two years to a maximum allowable charge of \$0.25/kWhⁱⁱ per charging session.

EV Charging Station Deployment Process

The application process intends to provide a maximum area-wide dispersion throughout the North Florida TPO Boundary and award as many installations as possible using the allocated CMAQ funds.



1. Applications will be prioritized by the following criteria:
 - a. Physical Location
 - i. Visibility
 - ii. Total public accessible hours/week
 - iii. Proximity to a power source
 - iv. Proximity to land uses that support using EV stations such as office space, restaurants, retail, and other attractions.
 - b. The applicant's plan to promote using the EV charging station(s)
2. The number of awards will depend on applications received up to a maximum amount allowable by available CMAQ funds.

FAQs

What is Range Anxiety? – This is the uncertainty felt because of limited battery range and limited charging station infrastructure to re-charge a battery before it fully discharges. Range anxiety is perceived as a barrier to wide adoption of electric vehicles.

What is ChargeWell?

ChargeWell is a branded network of electric vehicle charging stations developed by the North Florida TPO for the purpose of eliminating range anxiety and promoting wide adoption of electric vehicles.

Where is the funding for these EV charging stations coming from?

The funding is federal Congestion Mitigation and Air Quality (CMAQ) funds that the North Florida TPO receives.

How does public charging work?

An EV driver parks the vehicle in the designated parking space. The driver swipes either a card or QR code from phone (depending on owner's configuration) then connects the charging station lead to the electric vehicle by plugging in a standard connector found on all currently available EVs. When the charge is complete the driver unplugs the connector from the vehicle and then drives away.

What is the voltage of the charging station?

The charging stations are Level 2 stations (240 volts), which are capable of providing up to 7.2 kWh per hour of charging. This is the same voltage of a household clothes dryer, electric water heater or an electric range.

Is there any danger using a Level 2 charging station?

All charging station equipment meets national safety standards. Final inspection and accepting the charging station are contingent on passing required electrical inspection. Electric vehicles do not start charging until proper connection is made and the vehicle's on-board computer system confirms proper connection.

What type of connector to the vehicle is located on the charging station equipment?

The stations connect to electric vehicles using a special 5-prong plug called an SAE J1772. This standard meets all national safety standards.

Are these charging stations considered a "fast charger"?

No. Level 2 charging stations are not considered "fast chargers". While Level 2 stations charge at a faster rate than plugging an EV into a standard wall outlet, a "fast charger" is a different type of equipment that has higher electrical requirements.

How long does it take to completely recharge an electric vehicle at a Level 2 station?

The amount of time to recharge depends on the vehicle battery size and the amount of charge remaining in the battery. Most plug-in electric vehicles range from 1.5 hours to 8.0 hours for a complete recharge for an empty battery at a Level 2 station.

How far can a plug-in electric vehicle travel from one hour of charging at a Level 2 station?

This distance will vary by each model of plug-in vehicle, but a user can expect to get enough charge to travel between 10 to 25 miles from one hour of Level 2 charging.

Who provides the electricity for the stations?

The electricity consumed by the charging station will be provided by the utility account holder at location the charging station is installed.

What is the electricity cost to operate a charging station per hour?

The amount of electricity consumed in one hour at the equipment's maximum rated 7.2 kWh is less than one dollar.

Can a charging station recipient charge more than the utility rate for electricity?

FL Statute 366.94 Allows EV charging stations owners to resell electricity through an electric vehicle charging station. However, a requirement of this program is that the charging station recipients not charge more than \$0.25/kWh for at least a two year period.

What costs will a charging station equipment recipient be required to pay after the initial two years?

The station recipients will continue to be responsible for the cost of the electricity consumed from the charging station equipment and annual network provider fees.

ⁱ Based on JEA's 2013 generation mix, charging a PEV would be 14% to 50% reduction in CO2 when compared to EPA average mileage gasoline vehicle.

ⁱⁱ Florida State statute 366.94 allows for resale of electricity via electric vehicle charging station