



North Central Texas Council Of Governments

TO: Electrify America

DATE: January 16, 2017

FROM: Chris Klaus
Senior Program Manager

SUBJECT: Proposal to Electrify America for Electric Vehicle Infrastructure Investment

The North Central Texas Council of Governments (NCTCOG) is pleased to submit this proposal to Electrify America. NCTCOG serves as staff to the Regional Transportation Council (RTC), which is the Metropolitan Planning Organization (MPO) for the Dallas-Fort Worth (DFW) metropolitan area. A roster of RTC members is enclosed and includes representatives of municipalities, counties, transit agencies, and Texas Department of Transportation Districts in the 12-county DFW metropolitan planning area.

As staff to an MPO in an ozone nonattainment area, NCTCOG works to implement initiatives that reduce ozone-forming emissions from the transportation sector. NCTCOG also houses the DFW Clean Cities Coalition (DFWCC) and works to promote petroleum reduction and advance alternative fuels throughout the DFW region, which requires coordination with Clean Cities Coalitions in neighboring urban areas. NCTCOG acknowledges the importance of this opportunity in supporting a connected network of roadways where electric vehicle charging infrastructure, otherwise known as electric vehicle supply equipment (EVSE), will facilitate increased adoption of zero-emissions vehicles.

NCTCOG/DFWCC emphasize that the State of Texas should be included as a prominent part of the initial Electrify America investment plan. Texas is the second most populous state, one of the youngest based on median age, and is home to five of the nation's eleven fastest-growing cities. The DFW area, specifically, is home to approximately seven million people, and is forecasted to add a million people each decade, reaching nearly 10.7 million residents by 2040. For these reasons, Texas is a critical piece of the national electric vehicle (EV) and EVSE adoption strategy. Investments made in accordance with the proposed focus areas have a high likelihood of accelerating the use of commercially available electric drive vehicles and, as a result, reducing ozone-forming emissions from the transportation sector. To achieve this, it is recommended that Electrify America direct investment dollars to each state through channels such as the state Department of Transportation or Clean Cities Coalitions, who can provide on the ground support for investment efforts.

NCTCOG/DFWCC have actively supported EV adoption in the DFW metropolitan area for many years. The region boasts the fifth largest number of registered EVs in the country, over 300 public EVSE locations, and hosted the largest National Drive Electric Week event outside of California in 2016. Further, NCTCOG and DFWCC coordinate Electric Vehicles North Texas (EVNT), an EV stakeholders group, to provide support, resources, and networking opportunities for individuals and agencies interested in EVs. Texas is a great place to drive electric, and the DFW region takes pride in leading by example.

NCTCOG/DFWCC is submitting input on two of Electrify America's three primary activities:

1. Investing in EV charging infrastructure, and
2. Increasing awareness and fostering education.

Investing in EV charging infrastructure

Despite the successes in Texas' EV adoption, barriers to large-scale EV deployment persist. Infrastructure gaps are significant between major metropolitan areas within Texas as well as along interstate highways connecting Texas to its neighbors. Further, the availability of EVSE at workplaces and at multi-family homes lags behind that of EVSE at retail and community locations. NCTCOG/DFWCC collaborated with other Clean Cities Coalitions around Texas, EVNT stakeholders, local EV drivers, and the Texas Department of Transportation (TxDOT) to develop the following priorities for investment:

1. Statewide deployment of DC Fast Charging EVSE along State and Interstate Highway System
2. Deployment of EVSE at Multi-Family Residential and Workplace Properties within the DFW metropolitan area

Electrify America Goal: Develop a High-Speed, Cross-Country EVSE Network

Proposed Corridors of Focus:

As EVSE within the DFW area is fairly well-established, a primary goal is to add stations at key intervals between DFW and major neighboring urban areas, both within and outside of Texas.

See Attachment 1, Table 1, which details State and Interstate highways identified as important for inter-regional and interstate EV connectivity. Maps illustrating these roadways, along with the locations of existing EVSE, are also attached. Specifically, corridors identified in Table 1 have been identified because they provide substantial connectivity across and between major urban areas through the State of Texas, including all nonattainment areas. This particular network of corridors is recommended based upon its connectivity within the "Texas Triangle" of San Antonio/Austin, DFW, and Houston, east and west along Interstate 10, Interstate 20, Interstate 30, and north to south along Interstate 35 and Interstate 45. This is particularly relevant for EVSE, as many NCTCOG/DFWCC stakeholders have cited inter-city EVSE availability as a critical obstacle. Where a lower-order roadway has been identified as a priority, the categorization is based on the need for access by a significant target demographic for EVs that is known for extensive travel across Texas (for example, Texas A&M University in College Station, TX).

The Texas Commission on Environmental Quality recommended to the EPA, on August 3, 2016, counties to be designated as nonattainment for the pollutant ozone under the recently lowered eight-hour ozone standard. All counties recommended to be designated as nonattainment, as well as those with ozone design values approaching nonattainment levels, are located along or connected by roadways included in Table 1. This is illustrated in Attachment 1, Map 1. Within these regions, approximately 16.4 million people – about 80 percent of the total population of Texas – are affected by high

ozone concentrations, and would directly benefit from the build-out of a complete network of EVSE to enable EVs to become a mainstream vehicle option. It should also be noted that the Federal Highway Administration has recognized the significance of many of these corridors by designating them as Electric Vehicle Fuel Corridors under Section 1413 of the Fixing America's Surface Transportation Act.

Proposed Placement:

NCTCOG/DFWCC recommends that new DC Fast Chargers be installed in close proximity to Tesla Superchargers, as well as at TxDOT Safety Rest Areas along all identified corridors.

As illustrated in yellow on Attachment 1, Map 2, the vast majority of existing brand-neutral DC Fast Charging in Texas is limited to locations within specific urban areas. Red indicates Tesla Supercharger sites, which provide an extensive EVSE network available along major Texas Interstate highways, but can only serve Tesla drivers. Stakeholders have indicated that this Tesla supercharger network is well-placed to serve drivers' needs. Tesla EVSE are generally located at 100-120 mile intervals, which appears to be a strategy to maintain an "80 percent charge between stations" target based on the range of the original 60 kilowatt hour Model S, the rate of charge of Tesla chargers, as well as compensation for higher highway speeds, wind, cooler temperatures, and heater/air conditioning use. While the Tesla strategy provides a useful model, the vehicle with the longest all-electric range other than Tesla – the Chevrolet Bolt – charges at a much slower speed (an 80 percent charge takes approximately an hour), even at DC Fast Chargers. It is assumed that other vehicles with a range greater than 200 miles will also charge at this speed. To compensate for this reduced range, NCTCOG proposes that DC Fast Chargers installed using Electrify America funding along the identified Texas corridors be located at more frequent intervals.

Visibility, convenience, and promotion of overall EV awareness are also important factors when determining EVSE location. TxDOT has recently updated the state's Safety Rest Areas, and new facilities are being constructed throughout the state incorporating a variety of features to provide more services and a safer experience for Texas highway travelers. Per TxDOT literature, "The unique, regional character of each facility not only attracts visitors to stop but also serves these facilities as cultural gateways to nearby communities." NCTCOG/DFWCC believes that these rest stops provide an exceptional opportunity to support the Electrify America goals for EVSE installation. While distances between the rest areas vary, the average is approximately 84 miles between locations. Given the added visibility and convenience, locating EVSE installations at these rest areas presents a compelling strategy for providing the needed fast charging at appropriate distances, with the added benefits of high visibility and convenience. NCTCOG/DFWCC recommends that Electrify America work with TxDOT to determine feasibility and implementation process of deploying DC Fast Chargers at these sites.

Electrify America Goal: Multi-Family Residential and Workplace Charging

Significant infrastructure gaps still exist for multi-family residential buildings. Very few of the EVSE in the DFW region are at multi-family residential properties. Approximately 35 percent of the population in the DFW metropolitan area lives in multi-family housing, so this gap is a critical obstacle to large-scale EV adoption. Likewise, major employers have expressed interest in installing EVSE during a Workplace Charging Challenge workshop hosted by NCTCOG/DFWCC in 2014, but have been slow to implement installation. Despite availability of numerous resources to guide workplace charging decisions, financial considerations and a lack of impetus remain as important barriers to widespread adoption.

NCTCOG/DFWCC does not have specific multi-family properties or workplaces identified, as the agency's own competitive processes did not allow for such specific identification based on currently available information or timeframe. However, NCTCOG/DFWCC will work with Electrify America to identify and prioritize workplace and multi-family residential properties best suited to support Electrify America EVSE goals throughout implementation.

Other Considerations:

NCTCOG/DFWCC strongly encourages Electrify America to make charger/vehicle interoperability a priority when determining all project investments. Charging network exclusivity remains a relic of a niche market and is inconsistent with the push for significant adoption and market share that characterizes the goals of Electrify America.

Electrify America may also consider setting aside a portion of available funds to be awarded to state departments of transportation for the purpose of installing Federal Highway Administration-approved signage along corridors to indicate the availability of charging.

The DFW metropolitan area already boasts a significant network of public charging stations (Attachment 1, Map 3) in community and retail locations, and a few new installations in these categories have been identified with stakeholder input based on knowledge of particular demand. These locations, which already have EVSE installed but could benefit from additional or faster chargers, are summarized in Exhibit 1.

Exhibit 1


Entity Name	Proposed Property	Location Benefits
AT&T Stadium	Stadium Visitors Lot	High visibility, high traffic, centrally located
City of Irving	West Irving Library	Centrally located in the DFW metropolitan area; Located off of Highway 161; Currently hosts 2 Level 2 Chargers
Dallas-Fort Worth International Airport	Terminals B and C Employee-specific parking lots	First carbon-neutral airport in the country, serves approximately 143,000 permanent employees
Downtown Dallas	Various Locations	Existing EVSE highly trafficked and point of congestion for charging

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Downtown Addison	Various Locations	Existing EVSE highly trafficked and point of congestion for charging
Downtown Coppell	Various Locations	Existing EVSE highly trafficked and point of congestion for charging
Simon Outlets	Grapevine Mills Mall	High visibility; existing EVSE highly trafficked and point of congestion for charging

Increasing awareness and fostering education

In addition to the investment needed in EV charging infrastructure, Texas is in need of awareness and education. In many cases, this education is needed not among the general public, but among car dealer sales staff who are ill-equipped or uneducated, or at times seem reluctant, to sell EVs offered by their dealership. NCTCOG/DFWCC staff has first-hand experience in multiple manufacturers trying to steer prospective car buyers away from EVs even after those buyers specifically requested to see an EV model. To respond to this challenge, NCTCOG/DFWCC advises Electrify America to set aside a portion of investment dollars to fund dealer staff trainings. Moreover, it is recommended that these funds be directed through the national network of Clean Cities Coalitions, who can provide the trainings in an avenue that is brand-neutral and unbiased, with the backing of the national Department of Energy program.

Letters of Support for this proposal are provided as Attachment 2. Thank you for the opportunity to submit this proposal. NCTCOG stands in support of the goals of Electrify America, and we look forward to this new partnership as we work together toward EV adoption and cleaner air. If you have any questions, please feel free to contact Lori Clark, Principal Air Quality Planner, at 817-695-9232 or lclark@nctcog.org.



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RL:mg
Attachments

cc: Lori Clark, Principal Air Quality Planner, NCTCOG

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