

From: Alvarez, Lina
To: [VWSettle](#)
Subject: New Electric Vehicle Charging are best placed in Brownsville, Texas
Date: Friday, March 23, 2018 11:47:40 AM
Attachments: [image001.png](#)

Good morning,

My name is Lina Alvarez, I work for BPUB the municipal utility in Brownsville, Texas. I am an electrical engineer currently performing energy risk management duties. I would like to recommend Brownsville Texas as the best option to place electric vehicle charging stations. Below please find some details as to what I recommend as a good project. Brownsville is only 20 miles away from South Padre Island and borders Mexico. There are no existing charging stations near us with the closest being 4 hours away. Below, for your reference, please find a brief summary for the recommended installation of electric vehicle charging stations at Brownsville Texas.

PROJECT SUMMARY

The project is to construct a 5 to 7 charger XFC station with an improved design to charge EV batteries faster and electric storage battery which will minimize the impact of uncoordinated charging on the Brownsville local distribution system. .

PROJECT OBJECTIVE

- **Proposed Technology:** Retail charging station with 8 to 10 XFC charging stations, serving light, medium, and heavy duty vehicles with an integrated lithium battery, solar panels, and smart meter to allow for seamless integration with the local distribution system with regard to load as well as incorporate peak shaving functions.
- **Vehicle Types:** Nissan LEAF (light), Tesla Model S (medium), and Tesla Semi (heavy duty).
- **Decreased Charging Times:** The system will be sized to decrease charging time by adjusting the XFC station regulator while maintaining currents to less than 400 amps per station, increasing the vehicle battery state of charge by at least 50% at a 3C or greater charge rate.
- **Planned Charger Location:** Brownsville, Texas is a community that could be an ideal charging destination for a high volume of electric vehicles desiring to travel to South Padre Island beaches and resorts, the SpaceX spaceport launch facilities, and through the international border crossings at Brownsville (a Tesla 'first generation' charger is being built in Monterrey, Mexico, within a 200 mile charging range).
- **Government and Non-Profit Partnerships:** BPUB, the local utility, and Tenaska will partner with the City of Brownsville to develop a strong marketing plan, to promote and advertise the Extreme Fast Charging System for Electric Vehicles.

TECHNOLOGY DESCRIPTION

- **Innovative Approach:** The XFC station will be connected using a dual-servicing generation (connected to the grid and a solar generation roof top). The study will include AC and DC connections to consider the best option.
- **Current State of the Art:** Charging a battery can take between 30 minutes and up to 12 hours, depending on the battery and the speed of the charger station, and the uncoordinated charging of vehicles in large (5 to 10) XFC stations can create a negative impact on the electrical grid. Upgrades to the utility for the connection of XFC chargers can significantly increase the cost of a charger.
- **Potential Impact:** A new generation of XFC stations and an opportunity to reduce the financial risk for retail charging station developers and providing beneficial value to local utilities via ancillary services, a successful project would encourage private sector investment and reduce the technical interconnection barriers that can slow development.

TIMELINE

The project will take approximately 36 months to complete.

RESOURCE ESTIMATES

We estimate the cost to be between 3-4 million dollars to complete the study and installation of the project.

In advance, thank you for your consideration.

Thank you,

Lina Alvarez
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