



Electric vehicle charging infrastructure in St Helena

Electric Vehicle Service Provider Partnership Opportunity

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Previous activities related to installing charging stations

- City obtain grant funding in 2014 for two Level 2 charging stations
- Grant Program had the following requirements:
 - Electrical infrastructure up to the charger was City's responsibility
 - Required 2 years of Chargepoint Network Management Fees
 - Warrantee and management of station extra cost
- City Staff determined that costs and uncertainties were high and with City Councils blessing, never executed the final agreement to receive charging stations.
- Staff determined the Public Restroom Project would be an excellent opportunity to install charging stations and pursued this option.



Staff charging station research related to Public Restroom project at Oak Street

- Electric vehicle and charging station technology is rapidly changing and evolving
- Many standards for charging technology, OEMs uses different standards for DC Fast Charging
- Electric vehicles with 200 mile of range or more will become standard in 2017/2018
- Given the growth of size of battery packs, common Level 2 Charging Stations become unpractical due to charging duration
- DC Fast Chargers most practical, particularly for public charging in St. Helena
- Costs of DC Fast Charging equipment and installation is high
- Unknown costs of ongoing operations, maintenance and management of charging stations not well known.

Electric Vehicle Charging Technology Summary					
Charging Standard	Level 1	Level 2	DC Fast Charging		
			CHAdEMO	SAE (CCS)	Tesla Super Charger
Power Level	1.2 kW up to 2 kW	2kW up to 20kW but 6.6kW standard	50kW	50kW	120kW to 135kW
OEM	All OEMs	All OEMs	Mostly Japanese OEMs (Nissan, Toyota, Subaru, Mitsubishi, Honda, Kia, etc.)	American and a Group of European OEMs (GM, Ford, VW, BMW, Audi, Mercedes-Benz, etc.)	Tesla Only
Miles/hr of Charging (300 watt/hrs per mile)	4	22	167	167	400







Attracting Electric Vehicle Service Providers

- Following staff research, determined that a DC Fast Charger would be optimal
- Expense for DC Fast Charger and Installation high, maintaining and managing system as an owner potentially risky for City.
- Determined that attracting an Electric Vehicle Service Provider (EVSP) could be an ideal solution for the City.
- June 10th, Released a RFP attracting EVSPs
- Received three proposals, only one provider, EVgo, offering a full turn key, zero-cost solution for the City.
- Evgo was staffs preferred partner for electric vehicle charging services



Evgo Charging Stations

- Largest DC Fast Charging Network in North America
- Over 80 DC Fast Charging Stations in Northern California/Bay Area
- 24 hr customer support and mobile app
- Activated with membership card or credit card kiosk
- All charging stations meet ADA requirements
- Partnerships with BMW, Ford and GM
- Tesla drivers can use Evgo stations with Tesla supplied adapter





Evgo Napa Premium Outlets Location



Supplementary Slides



How many electric vehicles are currently on the road in northern California?

- Data from April 2010-May 2016
- Center for Sustainable Energy Clean Vehicle Rebate Project Data
- Filtering total rebate data by Air District looking specifically Bay Area Air Quality Management District territory
- Only private (individual) ownership was included. No public or private fleet ownership numbers were included.

A total of 153,311 electric vehicles, 61,435 PHEV and 90,973 BEVs within the BAAQMD territory



Household income of electric vehicle drivers

- Clean Vehicle Rebate Project Data from Center for Sustainable Energy
- Filter by Counties within 200 miles of St. Helena
 - 6,781 survey respondents
 - 17% less than \$100,000/yr
 - 83% \$100,000/yr or more
 - 41% \$200,000/yr or more
 - 19% \$300,000/yr or more
 - 10% \$400,000/yr or more
 - 6% \$500,000/yr or more



How much do drivers spend while charging their vehicles

- EVgo surveyed 816 customers in Texas to understand how much money they were spending at retail stores while waiting for their vehicle to charge at an EVgo Fast Charger.

When shopping at the following locations while charging your electric vehicle, how much do you typically spend?

	\$0	\$1-\$19	\$20-\$49	\$50-\$99	\$100-\$199	\$200 or more	Don't Recall
Grocery Store	2%	17%	32%	26%	14%	3%	5%
Drug Store	4%	63%	23%	4%	0%	0%	5%
Shopping Mall	6%	18%	30%	23%	9%	3%	11%
Other Retail Stores	4%	25%	30%	19%	6%	2%	14%
Restaurants	1%	17%	39%	29%	8%	0%	6%
Auto Dealer	69%	9%	6%	2%	0%	1%	12%
Locations not listed	17%	21%	23%	8%	3%	2%	25%

- 90% of respondents typically make a purchase when charging at Walgreens.
- 64% of respondents have switched their choice of shopping destinations based on the availability of electric vehicle charging.
- Assuming the spend data from the survey is accurate, the average Walgreens customer spends \$17.35 per charging session at an EVgo station.
- To date more than 26,000 charging sessions have occurred at the original 23 Texas Walgreens/EVgo locations.
- **NRG EVgo chargers have generated \$454,951 in sales volume for Walgreens in Texas**