





California Energy Commission Clean Transportation Program

## **FINAL PROJECT REPORT**

## Palo Alto Electric Vehicle Scale Project

**Prepared for: California Energy Commission** 

Prepared by: The City of Palo Alto, Sven Thesen & Associates, and

**Reach Strategies** 



Gavin Newsom, Governor

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## **California Energy Commission**

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#### **DISCLAIMER**

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## **ACKNOWLEDGEMENTS**

The authors wish to acknowledge and thank the unsung heroes of the electric car and clean power revolution. For this report, Marc Geller and Bruce Hodge should be mentioned, but there are countless other citizen activists all working to make this world a more just, sustainable place.

Marc Geller co-founded the organization Plug in America, the voice of the electric vehicle driver. Their mission is to accelerate the shift to plug-in vehicles powered by clean, affordable, domestic electricity, and reduce our nation's dependence on petroleum, improve air quality, and reduce greenhouse gas emissions.

Bruce Hodge is the founder of Carbon Free Palo Alto, an organization whose vision of a carbon free grid became a reality for Palo Alto and a model for the globe in 2013 after four years of cajoling the utility and City Council into realizing that that carbon free electricity was not only possible but also in the city's economic interest.

## **PREFACE**

Assembly Bill 118 (Núñez, Chapter 750, Statutes of 2007) created the Clean Transportation Program, formerly known as the Alternative and Renewable Fuel and Vehicle Technology Program. The statute authorizes the California Energy Commission (CEC) to develop and deploy alternative and renewable fuels and advanced transportation technologies to help attain the state's climate change policies. Assembly Bill 8 (Perea, Chapter 401, Statutes of 2013) reauthorizes the Clean Transportation Program through January 1, 2024, and specifies that the CEC allocate up to \$20 million per year (or up to 20 percent of each fiscal year's funds) in funding for hydrogen station development until at least 100 stations are operational.

The Clean Transportation Program has an annual budget of about \$100 million and provides financial support for projects that:

- Reduce California's use and dependence on petroleum transportation fuels and increase the use of alternative and renewable fuels and advanced vehicle technologies.
- Produce sustainable alternative and renewable low-carbon fuels in California.
- Expand alternative fueling infrastructure and fueling stations.
- Improve the efficiency, performance and market viability of alternative light-, medium-, and heavy-duty vehicle technologies.
- Retrofit medium- and heavy-duty on-road and nonroad vehicle fleets to alternative technologies or fuel use.
- Expand the alternative fueling infrastructure available to existing fleets, public transit, and transportation corridors.
- Establish workforce-training programs and conduct public outreach on the benefits of alternative transportation fuels and vehicle technologies.

To be eligible for funding under the Clean Transportation Program, a project must be consistent with the CEC's annual Clean Transportation Program Investment Plan Update. The CEC issued PON-14-607 to fund projects that support new and existing planning efforts for plug - in electric vehicles and fuel cell electric vehicles. In response to PON-14-607, the recipient submitted an application which was proposed for funding in the CEC's notice of proposed awards May 1, 2015 and the agreement was executed as ARV-14-057 on August 15, 2015.

## **ABSTRACT**

As facilitated by a grant from the CEC, the City of Palo Alto, via our subcontractors, conducted a dual faceted approach to electric vehicle outreach and education. Sven Thesen & Associates conducted electric vehicle direct current fast charge siting outreach to potential strategic charging sites while Reach Strategies conducted green car rides via two electric vehicle "ride and drive" events. In conducting the direct current fast chargers' outreach, Sven Thesen & Associates contacted 103 businesses/non-profits, shopping malls and multi-unit dwellings as a result. Sven Thesen & Associates identified 8 entities that have varying degrees of interest in installing direct current fast chargers' systems. In completing the two green car ride events, Reach Strategies enabled over 100 individuals to either drive or ride in an electric vehicle and exposed electric vehicles to approximately 850 members of the greater Palo Alto community.

**Keywords**: City of Palo Alto, direct current fast chargers (DCFC), electric vehicles (EV), electric vehicle ride and drives, multi-unit-dwellings, Sven Thesen & Associates.

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## **EXECUTIVE SUMMARY**

Funded by a grant from the California Energy Commission, the City of Palo Alto, via our subcontractors, conducted a dual faceted approach to electric vehicle outreach and education. Sven Thesen & Associates conducted electric vehicle direct current fast charge siting outreach to potential strategic charging sites while Reach Strategies organized two electric vehicle "ride and drive" events to provide prospective buyers with a direct experience of electric vehicles.

In conducting the direct current fast charge outreach, Sven Thesen & Associates contacted 68 businesses/non-profits, Palo Alto's two shopping malls that do not currently have direct current fast charge and 33 multi-unit dwellings. As a result. Sven Thesen & Associates identified eight entities that are interested and evaluating installing public direct current fast charge systems. In completing the two electric vehicle ride and drive events, one at City Hall, the other at the Stanford Mall, Reach Strategies enabled over 100 individuals to either drive or ride in an electric vehicle and exposed electric vehicles to approximately 850 members of the greater Palo Alto community.

Lessons learned from the direct current fast charge outreach: Property and facility managers for workplaces and multi-unit dwellings need considerable education in electric vehicle charging both from the physicality (charger classification, installation requirements and procedures) and benefits (employee, economic and environmental) perspective. Hence recommendations for future California Energy Commission funded projects include workplace and multi-unit dwelling outreach and education for not only direct current fast charge but also Level 1 and 2 charging systems.

Lessons learned from the electric vehicle ride and drives: The success of ride and drive events is sensitive to event scheduling and would benefit from longer lead times. Participation at the Stanford Mall electric vehicle ride and drive was low as it was held on a workday and in February. Had it been in the warmer months and on a weekend public participation would have been much higher. In addition, longer lead times would have been able to produce a workplace-based event, in that potential workplace site hosts (large corporations) had already participated or were not available in the timeframe. electric vehicle ride and drive recommendations include, holding future electric vehicle ride and drive events which are located at shopping mall on the weekend and during the warmer months; approaching potential site hosts with as long a lead time as possible.

# CHAPTER 1: Grant Background

In 2015, the City of Palo Alto applied for and won a dual faceted CEC grant, ARV-14-057. As stated in the summary section of Appendix A from the application: "Within Category A, the goals of the Palo Alto EV Scale Project are to accelerate the adoption of electric vehicles via 1) Increasing the density of fast charging stations and 2) EV awareness and education. To meet these goals, the City of Palo Alto, with our subcontractors, set specific deliverables and metrics as detailed in this grant application. At the completion of this project, Palo Alto will have conducted two or more green car shows to promote EV ownership and conducted direct outreach to over fifty commercial and multi-family property owners and managers to promote EV fast charging stations." The full tasks under this component are detailed in Appendix A, the Activity Description Sheets from the grant application.

Palo Alto, located in the heart of Silicon Valley has one of the nation's highest EV adoption rates per capita, with 2500 residents currently owning EVs and another 1,000 EV commuters coming into town each day. Both the city and the city-owned public utility recognize the host of benefits associated with EV ownership/ operation and have taken multiple actions to accelerate EV adoption both by Palo Alto residents and by those commuting into and through the city.

Examples of these actions include (but are not limited to):

Implementing strong building codes for new construction that require varying percentages of EV charging infrastructure depending on purpose of the associated building and parking lot size. These codes were put in place in the 2013/14 timeframe and essentially continue to go beyond the 2016 California Green Building Code electric vehicle charging infrastructure requirements<sup>1</sup>;

Obtaining \$250,000 in grants from the Bay Area Air Quality Management District to deploy Level 2 EV charging infrastructure at City parking facilities;

Utilizing Low Carbon Fuel Standard credits to offset the cost of EV charging infrastructure installations at schools, non-profit and multi-unit dwellings through a utility run rebate electric vehicle charging infrastructure program; and

Most recently, partnering with Stanford University, the city held an open to the public free class on EVs. This is believed to be the first time a city has sponsored such a class.

Given the city's focus on EVs, combined with the already high and increasing EV density, the city recognized the value of conducting outreach for DCFC particularly, as

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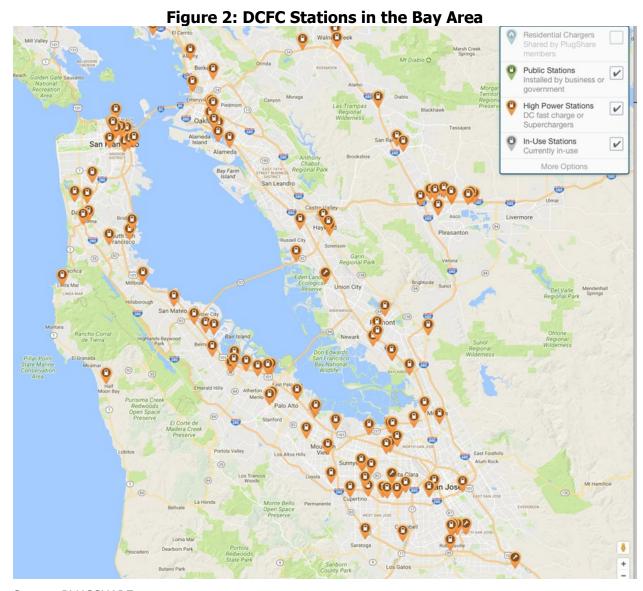
<sup>&</sup>lt;sup>1</sup> <u>2016 California Green Building Code electric vehicle charging infrastructure requirements</u> https://www.green-technology.org/gcsummit18/images/CALGreen-Residential.pdf

the city in 2015, had only three fast chargers available to the public located on Stanford campus, downtown and next to highway 101 as depicted by the map in Figure 1 below.



Source: PLUGSHARE

Bay Area DCFC deployment is shown in Figure 2 below.



Source: PLUGSHARE

Palo Alto's DCFC density might be described as "average," however, given the greater per capita EV ratio, it is likely to be insufficient in the coming years, particularly with the advent of reasonably priced long range EVs such as the Chevy Bolt and Tesla Model 3, and more in the near future as announced by the Original Equipment Manufacturers and a number of EV startups.

In addition, while Palo Alto has a very high EV adoption rate, the city also has significant carbon reduction goals including electrifying the majority of transportation by 2030, hence the need to build driver awareness and expand supporting infrastructure.

## **CHAPTER 2: DCFC Outreach and Education**

## **Execution and Results**

To conduct the DCFC outreach and education, the first step was to identify likely businesses, shopping malls and Multi-Unit Dwellings that might be interested in installing fast chargers. Sven Thesen & Associates contacted both Palo Alto's Chamber of Commerce and the city's Economic Development Manager to obtain lists of companies having physical locations in Palo Alto. On review of the city's list and in discussions with the Palo Alto Chamber of Commerce it was agreed the city's Business Registry list was the appropriate database to serve as the primary basis for the outreach.

To utilize the city's list, it was sorted based on numbers of employee's in Palo Alto. This sort was a means to approximate parking lot size associated with a given employer based on the assumption the larger the number of employees, the larger the parking lot and the more willing to give up a few parking spots to install the DCFC.

To develop the multi-unit dwelling list, Sven Thesen & Associates did an internet search on the apartment complexes in Palo Alto. This included a number of retirement homes in addition to standard apartment complexes.

Sven Thesen & Associates then researched funding opportunities for DCFC. During the grant period, there have been and currently are multiple funding mechanisms. Each of these programs has their positives and negatives and these were detailed during outreach:

- Bay Area Air Quality Management District, Charge! Programs. There have been
  two iterations of the Bay Area Air Quality Management District's Charge!
  programs that have funded DCFC. These programs provided a rebate of \$15,000
  per charger, require a minimum of 25 percent matching funds from the host
  along with use requirements. Given that a typical DCFC install can run over
  \$50,000, this program, along with its recordkeeping and reporting requirements,
  was considered sub-optimal.
- Tesla Motors Corporation. In late 2016, early 2017, Tesla approached the city, and other landowners, regarding the potential to install a bank of their superchargers and a number of Level two chargers. Under their program, Tesla would cover all installation and equipment costs along with the ongoing maintenance and electricity costs, operating the charging station under Tesla's name. The supercharger component of the station would use Tesla's charging

- protocols and custom EVSE and would be dedicated to Tesla vehicles, with the Level 2 open to the public. Pricing for charging would be set by Tesla.
- Electrify America, beginning in Quarter 3, 2017 is conducting outreach to locate DCFC in both public and private parking lots. Similar to Tesla's program, this would be a turnkey install with the ongoing operation (10 years) by Electrify America. The DCFS would be Combined Charging System and CHAdeMO<sup>2</sup>. Payment for charging is yet to be established, however it would not be under the host's control.
- The City Utility under their Low Carbon Fuel Standard EV charging infrastructure rebate program is also able to partially rebate DCFC installs on a case-by-case basis. Under this program, the host is the station owner and would be responsible for equipment selection, installation, ongoing maintenance and electricity and responsible for setting pricing, if any.

An additional component of the DCFC education component was to complete one or more case studies of the existing three DCFC in Palo Alto. Sven Thesen & Associates made several attempts via email and phone calls to contact the station owners. Unfortunately, there was no response from the station owners, so we were unable to complete this component of the project. This situation was noted in our early Monthly Progress Reports and freed up additional hours for additional outreach which would have otherwise been spent developing the case study so not all was lost.

Once both the target audience and funding sources were identified, the differing means of outreach were evaluated. We determined that phone calls were likely to be more effective than emails and a telephone script developed; this script is included in Appendix B. During the process, follow up emails were also generated. (Examples, including a listing of the various grants and funding opportunities, is provided in Appendix C. In addition, in mid-2016, a proposed DCFC educational webpage was developed for the City's Sustainability Department's website (see Appendix D). Note, as part of the overall revamping of the Sustainability Department's website and the introduction of the utility electric vehicle charging infrastructure rebate program, City of Palo Alto Utilities<sup>3</sup> is considering their own DCFC website for potential future posting.

In contacting potential DCFC hosts via telephone, Sven Thesen & Associates was generally routed to various people within a given organization and would either leave a voice mail (and request a call back) or speak to an individual regarding potential interest in DCFC. The target individual was usually the Facilities Manager or someone in Human Resources responsible for benefits; the rational for including Human Resources is that successful companies are using EV chargers as a means to retain and attract quality employees.

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<sup>&</sup>lt;sup>2</sup> CHAdeMO Home Page https://www.chademo.com/

<sup>&</sup>lt;sup>3</sup> <u>City of Palo Alto Website</u> https://www.cityofpaloalto.org/gov/depts/utl/default.asp

If an organization did not respond to a voice mail within a reasonable time frame, two more additional phone calls would be made. If three attempts to contact the organization failed, and no verbal contact had been made, the organization was deemed not interested.

Once verbal contact had been made, would talk through the script and then essentially backtrack with a basic explanation of EVs (short range commuter EVs, plug in hybrids and long range EVs) their economic environmental benefits and the different charging methods (Level 1, 2 and DCFC). Some organizations had staff who were very familiar with EVs while others were not at all. Generally, each verbal and meeting contact would involve a personal anecdote regarding their own EV (how they charged it, why they liked it) or a story regarding someone they knew with an EV. One interesting quote of many was: "Owning an EV has changed my life; I now have more free time, money and a smoother far less stressful commute. I want more businesses to have chargers!"

Outreach consisted of telephone calls to 68 businesses/non-profits, the management companies responsible for Palo Alto's two shopping malls that do not currently have DCFC and 33 multi-unit dwellings. Sven Thesen & Associates made more than 250 phone calls plus seven site tours/ face to face meetings.

During the outreach, eight entities and nine locations were identified as evaluating installing direct current fast chargers. The list of potential host sites and associated outreach results by site is included in Appendix E.

## **CHAPTER 3: EV Ride and Drives**

## **Execution and Results**

DRIVE CLEAN Palo Alto produced two EV "ride and drive" events aimed at introducing Palo Alto residents to EVs through informational, no sales-pressure events. The first event took place at Palo Alto City Hall on July 26, 2016, with a total of 90 EV experiences—people who rode in or drove an EV. The final event occurred on February 23, 2017 at Stanford Shopping Center, with 19 EV experiences. While the test drive total was down from the previous event, an estimated 100 potential consumers attended the event while an additional 500 potential consumers received exposure through extensive event promotion. In total, the two events exposed an estimated 850 community members to EVs.

These events served as an introduction to electric vehicles for most participants; 45 percent of the City Hall drivers and 57 percent of the Stanford Shopping Center drivers reported that they were getting behind the wheel of an EV for the first time. Surveys at both events showed an improvement in opinion about EVs after taking a test drive. At City Hall, 71 percent of percent drivers reported their overall opinion of an EV was better than before, while 83 percent of Stanford Shopping Center participants said the same. City Hall proved to be a great location to host an event, as city employees and community members could easily attend. Stanford Shopping Center was a great location from a community education standpoint. Overall, these events prove that Palo Alto residents are interested in learning about EVs and how the City is making EV adoption easier through incentives, educational materials, and charger availability. Conducting more EV Ride and Drives in the future would be a great way for the City of Palo Alto to continue to show their support for more sustainable transportation for everyone.

Site host commitment letters are included in Appendix F and the two final reports (one report per site) along with the associated promotional materials (EV comparison chart; 3x3 handout card, etc.) is included in Appendix G.

# **CHAPTER 4: Data Collection and Analysis**

## **Data Collection and Analysis**

As detailed in the Execution and Results sections above, the project team collected, developed and analyzed multiple data sets. Based on this analysis, the we offer following Lessons Learned and Recommendations.

## **DCFC Outreach and Education--Lessons Learned**

In discussing DCFC, with potential hosts, it was often found the potential host had very limited knowledge of EVs in general and the various charging methods in particular. Building owners/ mangers needed considerable education in EV charging both from the physicality (charger classification, installation requirements and procedures) and benefits (employee, economic and environmental) perspective. To address this, Sven Thesen & Associates would typically spend some time explaining EVs and how they are charged. During the conversation, it would be determined the DCFC might not be appropriate for that host but that Level 1 and or Level 2 chargers would be appropriate due to numbers of employees/ residents, parking lot size etc. However, under this grant, the focus being only DCFC, Sven Thesen & Associates was not engaged to detail the other charging methods. To address this issue, Sven Thesen & Associates typically directed them to the following websites: Veloz can be found at https://www.veloz.org/, and PlugInAmerica can be found at https://pluginamerica.org.

## **DCFC Outreach and Education--Recommendations**

Future CEC funded projects to conduct workplace and multi-unit dwelling should consider including outreach and education for not only DCFC but also Level 1 and 2 chargers.

## **EV Ride and Drives--Lessons Learned**

Participation at the Stanford Mall EV ride and drive was low as it was held on a workday and in February. Had it been in the warmer months and on a weekend, public participation would likely have been much higher. In addition, longer lead times would have been able to produce a workplace-based event, in that potential workplace site hosts (large corporations) had already participated or were not available in the timeframe.

## **EV Ride and Drives--Recommendations**

To maximize community participation, future EV ride and drive events which are located at shopping malls should be conducted on the weekend and during the warmer months. In addition, approach potential site hosts with as long a lead time as possible.

## **GLOSSARY**

CALIFORNIA AMERICANS WITH DISABILITIES ACT (CA-ADA)— is federal legislation passed in 1990 that prohibits discrimination against people with disabilities. The law made it illegal to discriminate against a disabled person in terms of employment opportunities, access to transportation, public accommodations, communications, and government activities. The law prohibits private employers, state and local governments, employment agencies, and labor unions from discriminating against the disabled.<sup>4</sup>

CALIFORNIA ENERGY COMMISSION (CEC)—The state agency established by the Warren-Alquist State Energy Resources Conservation and Development Act in 1974 (Public Resources Code, Sections 25000 et seq.) responsible for energy policy. The Energy Commission's five major areas of responsibilities are:

- 1. Forecasting future statewide energy needs
- 2. Licensing power plants sufficient to meet those needs
- 3. Promoting energy conservation and efficiency measures
- 4. Developing renewable and alternative energy resources, including providing assistance to develop clean transportation fuels
- 5. Planning for and directing state response to energy emergencies.

DIRECT CURRENT FAST CHARGERS (DCFC), Direct current fast charging, commonly referred to as DC fast charging or DCFC, is the fastest available manner for charging electric vehicles.<sup>5</sup>

ELECTRIC VEHICLE (EV)—A broad category that includes all vehicles that are fully powered by electricity or an electric motor.

FAST CHARGER (FC)— Fast charging is an increasingly popular feature that allows you to power up your device in just a fraction of the time it takes to do it the old-fashioned way. But not all products use the same type of fast charging—and not all chargers support the various standards.<sup>6</sup>

GENERAL MANAGER (GM)— is in charge of part or all of a company's operations, including generating revenue and controlling costs. In small companies, the general manager may be one of the top executives.<sup>7</sup>

<sup>&</sup>lt;sup>4</sup> <u>California Americans with Disabilities Act Website</u> https://www.investopedia.com/terms/a/americans-with-disabilities-act-ada.asp

<sup>&</sup>lt;sup>5</sup> Pluq-In America Website https://pluqinamerica.org/dc-fast-charging-for-electric-vehicles/

<sup>&</sup>lt;sup>6</sup> Fast Charger Definition https://www.pcmag.com/how-to/what-is-fast-charging

<sup>&</sup>lt;sup>7</sup> <u>General Manager Definition</u> https://www.investopedia.com/terms/g/general-manager.asp

LIMITED LIABILTY PARTNERSHIPS (LLP)—are a flexible legal and tax entity that allows partners to benefit from economies of scale by working together while also reducing their liability for the actions of other partners.<sup>8</sup>

VOICEMAIL (VM)— an electronic communication system in which spoken messages are recorded or digitized and stored for later playback to the intended recipient.

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<sup>&</sup>lt;sup>8</sup> <u>Limited Liability Partnership Definition</u> https://www.investopedia.com/articles/investing/090214/limited-liability-partnership-llp-basics.asp

## **APPENDIX A: Activity Description Sheet**

## The City of Palo Alto Activity Description Sheet

The City of Palo Alto subcontracted Thesen & Associates to provide assistance in the EVCS Fast Charge Siting Outreach program. This activity sheet which shows the amount of funds requested can be seen in Figure 4 on this page, and in Figure 5 on the next page.

## **Figure 4: Activity Description Sheet**

## Attachment 1-a Activity Description Sheet

Application Category (check one only)	☐ Category A ☐ Category B ☐ Category C
Activity Title	EVCS Fast Charge Siting Outreach
Amount of Funds Requested for Activity	\$18,000

#### **Activity Summary:**

The City of Palo Alto will conduct EVCS Fast Charge Siting Outreach. With our subcontractor, Thesen & Associates, we will reach out to potential strategic charging sites, such as workplaces, multi-unit dwellings, and corridor sites for fast charging, with a goal of adding at least 1-2 more fast charging stations in Palo Alto. We will educate these community members about the value to them of hosting a charging site, and the benefits of doing so with 100% carbon neutral electricity from Palo Alto municipal owned utility. The materials will include specific metrics of greenhouse gas reductions; direct community benefits; as well as basic EV Infrastructure usage information (aesthetic, costs, permits, etc.) and the potential for financial support.

#### Current Situation, Gap, Means to Conduct the Specific Activities and Goals:

Palo Alto has three EV fast charger installations. The Bay Area PEV Readiness Plan states that there is a need for 75-150 public fast chargers at 35-50 locations in the Bay Area to ease the worry and throughput for EV drivers in the region. Given the current and projected density of EVs in Palo Alto and the Bay Area, Palo Alto's central location along the travel corridor, and the dearth of existing fast chargers, this activity is necessary to increase the fast charger count.

To do so, Palo Alto will conduct EVCS fast charge siting outreach to educate our community about the needs and benefits of adding charging infrastructure in this important Bay Area charging corridor and EV epicenter. In parallel with the PEV Awareness activities that we are proposing, we will reach out to the City's major employers, multi-unit dwellings owners, developers, and others including the Chamber of Commerce, and the Electric Auto Association to identify potential host sites.

We will generate a list of potential host sites which the municipal owned utility will evaluate to identify any potential issues relating to power availability/reliability plus connection costs. The list will then be ranked and prioritized and the potential site managers contacted to discuss the opportunity of becoming a new fast charger site host. Outreach components will include printed and on-line materials portraying the above information in a clear manner, including the following components:

- Using the existing Palo Alto fast charger stations as case-study example of successful sites.
- Data and stories that address the importance and advantages of hosting a fast charger
- Information on incentives and grants plus the city permitting process requirements.

Specifically, over 50 potential sites will be contacted, and in person meetings will be set-up to review outreach materials. We expect to see at least one and potentially more EV fast chargers installed as a result of this activity.

To complete the above activities, we have completed a detailed analysis including breaking down the activity into subtasks. This program and funding request are appropriate because, by targeting our outreach to these priority selected sites represent, we can achieve these outcomes for \$18,000 in funding. Because of existing city budget commitments, this activity cannot be conducted at this time without external support.

Attachment 1-a

Page 1 of 2 Activity Description Sheet PON-14-603 ZEV Readiness

Source: City of Palo Alto

### Figure 5: Page Two of Activity Description Sheet

### Attachment 1-a Activity Description Sheet

Application Category (check one only)	Category A Category B Category C
Activity Title	PEV Awareness
Amount of Funds Requested for Activity	\$35,000

#### **Activity Summary:**

PEV Awareness: To increase PEV awareness and adoption, Palo Alto will host and participate in "Green Car" shows, Ride and Drives, "Electric Vehicle (EV) 101" workshops to promote PEV awareness for consumers, businesses, and local government officials. To accomplish this, Palo Alto and its subcontractors, in parallel with the EVCS fast charge siting outreach, will conduct two Green Car Show and Ride-and-Drive events at large corporate campuses with 1000+ employees. The two events will produce a minimum of 200 test drives and introduce 500+ attendees to PEVs.

#### Current Situation, Gap, Means to Conduct the Specific Activities and Goals:

In 2014, the Bay Area Metropolitan Transportation Commission (MTC) funded a PEV awareness and outreach campaign, "Experience Electric – The Better Ride." Of the 21 PEV test drive events produced, nine at large workplaces, none were conducted in Palo Alto. The Bay Area PEV Readiness Plan confirms that "... a local, well-coordinated PEV educational campaign that specifically targets consumers is needed in order to successfully capture the attention and acceptance of the broader public..."

Although there have been various other ride-and-drives in Palo Alto, none to date have focused on workplace events. Workplace PEV awareness events have proven to be one of the most effect ways at reaching the optimal demographic while providing a stress free, fun, and engaging outreach opportunity. Because of existing city budget commitments, this activity cannot be conducted at this time without external support.

We have identified several large potential workplace hosts, including (but not limited to):

Stanford University, 11,000 employees

VMWare, 3,500 employees

City of Palo Alto, 1,100 employees

SAP, 3,500 employees

The subcontractor will rank and prioritize potential sites, and then contact the potential host to introduce the outreach campaign and arrange event details. Each event will include: 1) A Green Car Show; 2) A 1.2 mile test drive course to evaluate vehicles 3) Various informational booths addressing the importance, advantages, and incentives of driving a PEV. In addition, as part of the outreach, printed and on-line materials will be developed to address and promote the above. (The events and promotion will be free to all hosts, participants, and attendees.)

The requested \$35,000 is in alignment with the MTC PEV awareness grant noted above for this level of activity. As detailed in our attached budget, the funds will allow the city to produce, promote, and staff two Green Car Show and Ride-and-Drive events. Much of the \$35,000 will be directly used for labor while a small portion is for event branding and a small give away for participants. These components are proven elements for successful EV awareness events.

Page 2 of 2 Activity Description Sheet PON-14-603 ZEV Readiness

Source: City of Palo Alto

Attachment 1-a

## APPENDIX B: Telephone Script, DCFC Outreach and Education

### **EV Fast Charge Outreach & Education Phone Script V3 Final**

Hello, Might I please speak to the Facility or Sustainability Manager. {Get phone and/ or email}

Hello, my name is Sven Thesen & I'm an EV consultant for the City of Palo Alto and the California Energy Commission. As you have a moment, I would like to talk to you about electric vehicles and the employees at your Palo Alto facilities.

As you may know, the City and CEC are strongly encouraging the adoption of EVs for multiple reasons including their greenhouse gas and cost reduction potential. Further, the City has several upcoming programs to accelerate EV adoption including educational efforts plus potentially charging infrastructure funding.

First, does your organization have any programs to promote EVs to the employees and/or the company fleet? This could include, for example, providing chargers for employees and/ or customers and / or internal fleets? {Goal is a short discussion on what they are currently doing and what they are thinking/ planning on doing. This 1st question is tailored based on the organization (grocery store vs law office vs school, etc. Depending on response, may ask the following

Are you aware if the organization has considered any programs or charging infrastructure?

Does the organization provide parking for employees? If so, how many and for how many employees? If there are multiple locations, info on all of them? Do you provide EV charging equipment at any of those locations?

Does the organization operate a fleet of vehicles? What types? (heavy medium, light) Are any EVs? Are there plans/ policies to add [more] EVs?

This CEC grant to the City is focused on increasing the number of EV fast charging stations. They are encouraging employers to install them for their employees and potentially the public. Fast Chargers (FC) benefits include:

Facilitating employee workplace charging;

Providing an additional employee benefit (retention & attraction)

Enabling faster fleet charging including potential for bus/van charging

May provide additional revenue stream depending on use;

In addition, to support FC and charging infrastructure, the CEC, the Bay Area Air Quality Management District and the City's utility have or will offer grants to fund EV infrastructure including FC stations. One program just ended in February; would you be interested in being notified about future EV charging grant programs? the City, Stanford and other partners will be hosting EV related activities such as Ride & Drives, EV informational classes and the like in the near future. Would you like to receive this information? {As available, include the Dates for the two ride & Events under this grant}

Would you like to be added to the City's Sustainability Newsletter email list?

Finally, I can send you a summary of this conversation including the benefits of FC and if interested, I would be happy to have a face to face meeting to discuss all of the above. *Note: The word "organization" used above is a generic term for the for profit, non-profit or public agency being contacted. As such, the specific name of the organization will be used as will references and inferences made to known and potential employees, customers, visitors and internal/ external fleets.* 

## APPENDIX C: Example Follow-up Email

## **Follow-Up Email**

In figure 6 below, an email between Sven Thesen and Abby Wittmayer (from Whole Foods) discussing the installation of EV Fast Chargers at the Whole Foods location in Palo Alto.

### Figure 6: Follow-Up Email



Sven Thesen <sventhesen@gmail.com>

## **EV Charging Infrastructure, Whole Foods**

1 message

Sven Thesen <sventhesen@gmail.com> To: Abby.WittMayer@wholefoods.com Fri. Apr 29, 2016 at 5:52 PM

Abby, reiterating our conversation, my name is Sven Thesen & I'm an Electric Vehicle (EV) consultant for the City of Palo Alto and the California Energy Commission (CEC).

As you may know, the City and CEC are strongly encouraging the adoption of EVs for multiple reasons including their greenhouse gas and cost reduction potential. Further, the City has several upcoming programs to accelerate EV adoption including educational efforts plus potentially charging infrastructure funding.

As we discussed, I would be interested in speaking to the Energy Maintenance Coordinator and or your to landlord to discuss installing EV charging infrastructure at the Palo Alto location, particularly a fast charger as Whole Foods has done at a number of locations\*.

I can be reached at 415-225-7645

Cordially.

Sven

\* I have charged (and shopped) several times at the SF Castro Street Whole Foods location.

Sven Thesen
EV Consultant & Founder, ProjectGreenHome.org

Is an Electric Vehicle Right for You? Attend Stanford University's free class on EVs, Thursday May 19th, 5:30 pm-7:00 pm

https://healthimprovement.stanford.edu/classes/register/hipClasses.php?t=1cce34dfd3cbss383d348a508b1be48cc821&tp=Environmental%20Health

ProjectGreenHome.org, the Beyond Platinum LEED, Zero Net Energy, Passive House

Source: City of Palo Alto

## **APPENDIX D:**

# Proposed Web Page for the City's Sustainability Department Website

EV charging stations are good for employee retention and morale. The <u>results</u> can be found at the city's website https://www.cityofpaloalto.org/services/sustainability/default.asp.

## Palo Alto and the California Energy Commission Encourages Businesses to Invest in Workplace and Public EV Charging Stations.

EV charging stations are good for employee retention and morale while accelerating our transportation system to a more sustainable one. EV workplace charging can consist of a simple 110volt outlet (Level 1), a 208volt EV charging station that tracks use, kilo-watthour, and more, (Level 2) to a direct current fast charger and everything in between. The California Plug in Electric Vehicle Collaborative has excellent resources on its website at https://news.cision.com/california-plug-in-electric-vehicle-collaborative.

## **Grant Opportunities**

In 2017, the Bay Area Air Management District is likely to commence a new round of workplace and public charging infrastructure grants. In addition, the Palo Alto Utility Department is also likely to offer a similar grant program.

## Walking the Talk

Palo Alto is taking the lead by installing 40+ Level 2 chargers in city garages for workplace and public charging in the 2nd Quarter of 2016-2nd Quarter of 2017 timeframe. These stations are being primarily paid for by a Bay Area Air Quality Management District grant and the City encourages businesses to likewise do so as noted above.

## **Fast Charging**

In 2016, the California Energy Commission is focused on increasing the number of EV DCFC stations. They are encouraging employers to install them for their employees and potentially the public. DCFC benefits include:

Facilitating employee workplace charging;

Providing an additional employee benefit (retention & attraction);

Enabling faster fleet charging including potential for bus/van charging;

May provide additional revenue stream depending on use;

Assisting in meeting sustainability goals.

if you have any questions regarding installing DCFC infrastructure such as cost, installation procedures and requirements, grants, etc. in the city of Palo Alto, please contact Sven Thesen.

# **APPENDIX E: Site Listing and Associated Outreach Results**

Table 1: Business/Non-Profit/Mall Business-Site Outreach Results

Business Name	#Call	Finish ?	Date Called/ Evaluated	Response
Magnusson's Toyota of palo alto	2	Y	4/29/2016; 5/26/20016	There is no Shelly at the dealership Spoke to Raj who is asking the GM, Eric Toung, to give me a call back. // 5/26/20016: By Kevin Gaddis, GM, they are happy with their single charger
Whole Foods Market	1	Y	4/29/2016;	Mike Folan has moved to another Store. Spoke w/ Abby.WittMayer@wholefoods.co m, store does not own parking lot; EV infrastructure handled by regional Energy Maintenance; Coordinator. Sent email to Abby for her to pass on to P-Lot landlord & E-M Coord. No Chargers; Requires Corporate approval & unlikely to get at this time
AG-JDVP CASA OLGA, LP - DBA THE EPIPHANY HOTEL	3	Y	4/29/2016; 5/26/2016; 6/15/2016	Left voicemail (VM) for GM, Lorenz Maurer (name & phone from PA d-base) Hotel has a Tesla Supercharger//5/26/2016; Spoke with Ralph who is editing the Plugshare entry // 6/15/2016 Left VM for GM, Lorenz Maurer
Crowne Plaza Palo Alto	3	Y	4/29/2016; 5/26/2016; 6/15/2016	Moved to HR; left VM w/ Maria Ocho (sp). No chargers//5/26/16 - Left another VM w/ Maria Ocho (sp)// 5/26/16 - Left another VM w/ Maria Ocho// 6/16/16 - Left another VM w/ Maria Ocho

Business Name	#Call	Finish ?	Date Called/ Evaluated	Response
The Cheesecake Factory Restaurants, Inc.	2	Y	4/29/2016; 5/2/2016	Directed to & left VM w/ Mike Hobs; Real Estate Asset Manager 818-871-3265; No Charger// 5/2/2016 No parking lot to install one (could not catch name on VM)
Palo Alto Creamery Restaurants from Scratch	1	Y	4/29/2016;	Jose(sp) No place for chargers
Leland Stanford Jr. University	2	Υ	4/29/2016; 6/15/2016	4/29/2016; VM Whitney McNair 6/15/2016 From Personal contact list, Ramses Madou in parking; Stanford would be interested if grants/ rebates cover majority of DCFC cost
Hewlett Packard Company	1	Y	4/29/2016;	Ron Freund: HP has chargers, highly unlikely to install unless the chargers were free, and the chargers were only for the employees & guests (not the public)
Varian Medical Systems, Inc.	2	Y	4/29/2016; 5/2/20016	left VM w/ Facilities Manager, Jerry Falconio (name & phone from PA d-base) No Chargers per PlugShare, lots in reality; Craig 2May 16 24, L2 ChargePoint units, all major sites have charges No 480 service for emergency charging too Craig.moro@varian.com 650-424-6326 (Manages the EV Chargers for the company at every major location) Cap at 4 hours charging, free.

Business Name	#Call	Finish ?	Date Called/ Evaluated	Response
VMware, Inc.	3	Y	4/29/2016; 11/14/2017; 11/22/2017	left VM w/ Linda Marie Santiago (name & phone from PA d-base)// 11/14/2017 left VM w/ Linda Marie Santiago// 11/14/2017 Spoke with Linda Marie Santiago, they have enough chargers on campus and do not want any more. They would like to get rebates for those chargers they already installed. (Sorry but no)
Communication s & Power Industries LLC	1	Y	4/29/2016;	Spoke to Marina Remmel; good conversation, they have 2 chargers. Provided info about grant potential; & likelihood of repeating them.
Ford Motor Company	3	Y	4/29/2016;11/6/2017 ; 11/14/2017	Left VM for Alison Truong (name & phone from PA d- base) Ford does not have chargers// 11/6/17Left VM for Alison Truong (name & phone from PA d-base)
Tibco Software Inc.	3	Υ	5/4/2016; 11/6/17; 11/14/2017	Left VM for Mario V. (name & phone from PA d-base)
SAP	3	Y	4/29/2016; 11/14/2017; 11/16/2017	Tracy Prentiss Work VM by LinkedIn now in Germany; 11/16/2017 Geoff Ryder no longer at SAP; Andreas Vogel (number does not work) & email works)
Electric Power Research Institute, Inc.	3	Y	5/4/2016; 5/10/2016; 5/12/2016;	VM Marcus Alexander (name & phone from personal Contacts); VM Marcus Alexander; Conversation, Marcus Alexander, Yes EPRI interested, sent info on grants.
SSL	1	Y	5/4/2016;	Excellent conversation! James.Tarver@Sslmda.Com, has employee L2 chargers and interested in DCFC for the

Business Name	#Call	Finish ?	Date Called/ Evaluated	Response
				employees & guests (not public) should stronger funding appear
Wilson Sonsini Goodrich & Rosati, P.C.	3	Y	5/27/2016; 11/4/2016; 11/7/2017	5/27/2016; VM w/ Marilou Ferrer (name & phone from PA d-base) //11/4/2016; VM w/ Marilou Ferrer //11/7/2017 VM w/ Marilou Ferrer
Baker & McKenzie LLP	3	Y	5/27/2016; 11/14/2016*2	VM w/ Carlos Fung (name & phone from PA d-base); Operator to Mersa(?) who gave me Sherry Diradon, Hudson Properties, Palo Alto, not interested in DCFC
Castilleja School Foundation	3	Y	5/27/2016; 11/4/2016; 11/7/2017	5/27/2016; Transferred to Facilities// 11/4/2016; VM Dan Chapman; // 11/7/2017 VM Dan Chapman (who is still responsible for facilities. )
International School of the Peninsula	3	Y	8/29/2016; 11/4/2016; 11/14/2016;	VM at 650-251-8518 for "Ann in Business Office"; VM at 650- 251-8518 for "Ann in the Business Office at 650-251- 8518 for "Ann in Business Office"
Abilities United	1	Y	5/27/2016;	Debbie, Non-Profit, would only install if it was free.
Jazz Pharmaceuticals , Inc.	2	Y	5/27/2016; *2	VM w/ Ron Malouf (name & phone from PA d-base)// He called back; company is relocating & will have employee chargers
Palo Alto Veterans Institute for Research	1	Y	5/27/2016;	Palo Alto Veterans Institute for Research does not have a parking lot per se, employees use the greater Veterans Affairs lot per Dan (did not catch last name)

Business Name	#Call	Finish ?	Date Called/ Evaluated	Response
Palo Alto Commons	2	Y	5/27/2016; 11/6/2017	5/27/2016; VM w/ Flora Altani// 11/6/2017; VM w/ Sue Jordan DUPLICATE FROM multi-unit dwelling LIST
Webster House Health Center (formerly Lytton Gardens Health Care Center)	3	Y	5/27/2016; 11/6/2017	5/27/2016; Generic VM; Call Back later// 11/6/2017 Linda Hibbs, 650-328-3300, Ex- Director for both Health Center & Apartment Complex
CHILDREN'S HEALTH COUNCIL, INC.	3	Y	5/27/2016; 11/6/2017; 11/14/2017	left VM w/ Terry Boyle (name & phone from PA d-base)
Lucile Salter Packard Children's Hospital at Stanford	1	Y	9/29/2016	Part of Stanford U. AKA R. Madou
Palo Alto Foundation Medical Group, Inc.	3	Y	5/27/2016; 11/14/2017*2	VM w/ Krissy Willingham; 11/14/2017 Willingham on leave, no VM. Left VM for Arley Wolf <wolfa2@pamf.org> and emailed info on rebates</wolfa2@pamf.org>
Stangenes Industries, Inc.	2	Y	5/27/2016; 11/6/2017	VM w/ Jay Runge Ex324 Per Admin answering the phone; he is the one to talk to; 11/6/2017 Sopke with Jay = not interested. Leased facility, employees not interested & charging nearby
Lockheed Martin Corporation dba Lockheed Martin Space Systems	3	Y	5/27/2016; 11/6/2017; 11/14/2017	5/27/2016; Generic VM; Call Back later (Closed at 4pm 650- 424-2000)// 11/6/2017 VM with Don Martin)// 11/14/2017 VM with Don Martin

Business Name	#Call	Finish ?	Date Called/ Evaluated	Response
Palo Alto Research Center Inc.	3	Y	5/27/2016; 11/6/2017	5/27/2016; VM w/ David Ham (name & phone from PA d-base) Asked him to say hello to Dr. Eric Bier// 11/6/2017 David Ham's extension no longer works// 11/6/2017 Eric Bier, Bier@parc.com & send him info on DCFC +rebates & he will forward it on.
Danisco US	3	Y	5/27/2016; 11/6/2017; 11/14/2017	5/27/2016; VM w/ Sally Patterson (name & phone from PA d-base) // 11/6/2017 VM w/ Sally Patterson // 11/14/2017 VM w/ Sally Patterson
Palantir Technologies Inc	2	Y	5/27/2016;	Mila Zelkha, Community Ambassador, Company has 2 private lots, a small outdoor one & larger underground lot. If significant funding was available, outdoor one could potentially host a DCFC.
Cloudera	3	Y	5/27/2016; 11/6/2017; 11/14/2017	5/27/2016; VM at 650-644-3975; assumed to be Laura Adams (name & phone from PA d-base) // 11/6/2017 VM Laura Adams // 11/6/2017 (650) 644-3975 no longer works
Morgan Stanley	3	Υ	5/27/2016; 11/6/2017; 11/14/2017	5/27/2016; Generic VM; Call Back later (Closed at 4pm 650- 496-4200)// 11/6/2017 VM, Linda Troxler // 11/14/2017 VM, Linda Troxler
Anacor	4	Y	6/15/2016; 11/7/2017	6/15/2016; VM Nicole // 11/7/2017 Both numbers disconnected

Business Name	#Call	Finish ?	Date Called/ Evaluated	Response
A9. Com, Inc.	2	Y	6/15/2016; 11/7/2017	6/15/2016; Leslie in accounting said the Facilities Manager is Todd Myers, & gave main number, 650-331-2600 & I left a VM there// 11/7/2017 Same Leslie, told me to call the main number from website, realized then that they are next to the downtown DCFC.
IDEO, LP	3	Y	6/15/2016; 11/7/2017; 11/14/2017	6/15/2016; // Left VM at 650- 289-3400; Main VM// 11/7/2017 Left VM at 650-289-3400; Main VM // 11/14/2017 Left VM at 650-289-3400; Main VM
Accellion, Inc.	2	Y	6/15/2016; 11/7/2017	6/15/2016; VM at 650-485-4320, it's the "Finance" V-Mail box // 11/7/2017 Spoke with Michelle Lai, who routed me to Sandra in Facilities, Accellion already has chargers provided by landlord & them are happy.
Stanford Federal Credit Union	3	Y	6/15/2016; 11/7/2017; 11/14/2017	6/15/2016; VM John Montez // 11/7/2017; VM John Montez // 11/14/2017; VM John Montez
Flipboard	1	Υ	6/15/2016;	***Phone dead company
Simpson Thacher & Bartlett LLP	3	Y	6/15/2016; 11/7/2017; 11/14/2017	VM Rick Lopez; VM Rick Lopez; VM Rick Lopez;
McKinsey & Company	3	Y	6/15/2016; 11/7/2017; 11/14/2017	VM Mark DiLorenzo; VM Mark DiLorenzo; VM Mark DiLorenzo;
Houzz	1	Y	6/15/2016;	Houzz does not have/ own a parking lot; employees charge at City Hall chargers - per Julian
Adaptive Insights, Inc.	3	Y	6/15/2016; 11/7/2017; 11/14/2017	VM Lindsay; Talked to Lindsay, they r leasing space, facilities is to get back to me & they are talking 2 Landlord RE Chargers//VM Lindsay.

Business Name	#Call	Finish ?	Date Called/ Evaluated	Response
Palo Alto Family Young Men's Christian Association	3	Y	6/15/2016; 11/7/2017; 11/14/2017	Receptionist at 650-856-9622 transferred to the Facilities Manager & left VM w/ Michael Johnson; No Receptionist, asked to give info to Michael Johnson// Stephanie directed me to VM for Michael Johnson, "Facilities Director"
Pivotal Software Inc	3	Y	8/29/2016; 11/14/2016; 11/7/2017	8/29/2016; VM for Laurie Santana & sent her an email // 11/14/2016; VM for Laurie Santana // 11/7/2017 spoke with Laurie Santana, Company is in limbo if staying in Palo Alto or not.; sent info on rebates.
Oshman Family Jewish Community Center	1	Y	8/29/16	Mark & I have meeting 8/30/16 at 9am
AOL, Inc.	4	Y	5/27/2016; 11/14/2017; 11/21/2017	5/27/2016; Spoke to Sabina in VA; She gave me Leslie Nguyen 650-937-3831 as local contact, left VM 11/14/2017 left VM; 11/21/2017 left VM
Medallia, Inc.	2	Υ	8/29/2016; 11/07/2017	Left VM for Alan G.; Called main number to get Alan G's email; policy is not to give out email. Further, he is an executive. Receptionist does not know who Sustainability or Facilities Manager is & asks that I do more research to determine same. 11/07/2017 Company relocated to San Mateo
RelateIQ (A Salesforce Company)	3	Y	9/31/2016; 11/14/2016; 11/7/2017	9/31/2016; VM: Mauricio Keene // 11/14/2016 // VM: Mauricio Keene //11/7/2017 VM: Mauricio Keene

Business Name	#Call	Finish ?	Date Called/ Evaluated	Response
Skadden, Arps, Slate, Meagher & Flom LLP	3	Υ	9/31/2016; 11/14/2016; 11/7/2017	9/31/2016; VM: Kitty, via transfer from 650- number; // 11/14/2016 receptionist answered, asked for facilities & left VM for Ricky // 11/7/2017 Asked for Ricky in facilities, VM Ricky Batista(sp)
Morrison & Foerster LLP	3	Y	9/31/2016; 11/14/2016; 11/7/2017	9/31/2016; VM: Misako Sack // 11/14/2016 // VM: Misako Sack// 11/7/2017 VM: Misako Sack
Pebble Technology Corp	2	Y	9/31/2016	650 number is a full VM; 805 - talked to Greg; Pebble relocated to Redwood City.
Essex Property Trust	2	Y	9/31/2016	650-849-1690 Number requires AT&T verification; 650-494-3700 number just rings.
ComputerCare	1	Y	9/31/2016	Routed to HR: Company Moved to Santa Clara BUT send Grant info: Medens@computercare.net Melissa
Palo Alto Hills Golf and Country Club	3	Y	10/28/2016; 11/14/2016; 11/30/2016	VM: Dirk Zander, General Manager; VM: Dirk Zander, General Manager; VM: Dirk Zander, General Manager
SurveyMonkey Inc.	3	Υ	10/28/2016; 11/14/2016; 11/30/2016	VM: Elanor Lacey; VM: Elanor Lacey
Machine Zone, Inc	2	Y	10/28/2016; 11/14/2016	Mailbox Full; Will Try via email; Mailbox Full; Will Try via email.
Williams- Sonoma Stores, Inc.	1	Y	11/3/16	Woolsey(sp): Parking lot controlled by property owner
Bill.com	3	Y	10/31/2016; 11/14/2016; 11/7/2017	10/31/2016; VM to 650-621-7728; // 11/14/2016; Accounting Dept with request to call back// 11/7/2017 VM to 650-621-7728; Line busy (3

Business Name	#Call	Finish ?	Date Called/ Evaluated	Response
				tries) & no number listed on their website
Walgreens	1	Y	10/31/16	Rely on public parking lots; no parking structures under their control
Jive Software Inc.	4	Y	10/31/2016; 11/14/2016; 11/7/2017	10/31/2016; VM to 650-319- 1920, requested a call back // 11/14/2016; VM to 650-319- 1920, requested a call back// 11/7/17 650-319-1920 No longer working VM to 503-548- 0386 - checked google-maps & this site is closed.
Apple Inc.	1	Y	10/31/16	Rely on public parking lots; no parking structures under their control
EMC Corporation - DBA EMC Ventures	2	Y	11/3/2016; 11/14/2016	VM: Brandon Gobeille; The 508- 435-1000 routes to MA which sends me to a law office in Walnut Creek & they have never been located in Pennsylvania
Morgan, Lewis & Bockius LLP	2	Y	11/3/2016*2	Erika Smith is no longer there; got routed to Teresa who drives a Volt & uses CPoint chargers daily. Teresa said talk to Property Manager, Josh Fernandez, w/ Orchard Commercial, 408-955-1439; Josh said potential for DCFC but would likely only install if rebates/grants covered majority of the cost. Provided info on rebates

Business Name	#Call	Finish ?	Date Called/ Evaluated	Response
Bank of America	2	Y	10/31/2016; 11/7/2017	10/31/2016 Spoke with Shawn; he is going to contact the property management company who is to get back with me. // 11/7/2017 Joyce said facility is located in greater Stanford Mall complex & Stanford Mall Management would be the ones to discuss DCFC with.
Wells Fargo Bank NA	3	Y	10/31/2016; 11/7/2017//11/14/20 17	10/31/2016; Spoke with Amy, she is going to route my request. 11/7/2017 VM for Amy// 11/14/2017 VM for Amy
Ooma, Inc.	3	Y	11/4/2016; 11/14/2016; 11/7/2017	11/4/2016; VM, Minika Esposo(?)// 11/14/2016 // Routed to HR Manager Susan, VM Susan // 11/7/2017 Routed to Minika (sp), who is their EA(?) & left a VM
Theranos, Inc		Υ	9/29/2016;	Assumed to be bankrupt
Google Inc	1	Y	9/29/2016; 11/6/2017	Talked to Will Wyer, send info onto Will & he will distribute it // 11/6/2017Sent update on infrastructure rebates
Tesla Motors, Inc.	3	Y	8/29/2016; 8/31/2016; 11/6/2017	Sent Email to Kurt Kelty asking who's the Sustainability Mgr.// Aug 29 & 31, met with Gene they are interested, though Tesla DCFC only
City of Palo Alto	3	Y	5/24/2017; 11/6/2017; 11/13/2017	5/24/16 Dennis Huebner - City not that interested due to excessive cost & parking space loss//11/6/2017 left VM//11/13/2017 Talked to Dennis regarding Electrify America's program for potentially City Hall; Electrify America is already talking to the city regarding DCFC placement at the golf course/ airport.

Business Name	#Call	Finish ?	Date Called/ Evaluated	Response
PAUSD	4	Y	11/6/2017; 11/14/2017; 11/16/2017;	Rebecca Navarro; School district may be interested - potentially access from Town & Country Mall at PALY High; to: Rebecca Navarro
Hertz Rental Car Co	1	Y	5/24/2016;	By Manager: "EV chargers would have to come from Corporate & is for the next several years a no go. We have never rented EVs before" Requires Corporate approval & unlikely to get at this time
MALL: Town & Country Village	4	Y	10/28/2016; 11/6/2017	Spoke w/ Joan Fantazia @ Town & Country; parking is too tight to install chargers at Town & Country, but send her info on grants; jfantazia@crosspointrealty.com
MALL: Charleston Shopping Center/ Village Property	4	Y	10/31/2016; 11/2/2016; 11/6/2017; 11/15/2017	Damian Cono, Property Manager & EV (Leaf) driver: "Why does the city not have an EV TOU rate? By not having one, the utility sends a signal that they are not supportive." Discussed various charging options and the current grant rebate programs, did a site walk with Damian, and connected him with Electrify America.
State Farm Office (Amanda Martin, Agent)	1	Y	10/31/2016	Rely on public parking lots; no parking structures under their control
Piazza's Market Grocery	1	Y	10/31/16	Rely on public parking lots; no parking structures under their control
Unitarian Univeralist Church	2	Y	5/1/2016	Bill Hilton, Board President, UUCPA power limited, rather L2
Congregation Etz Chayim	1	Y	5/12/2016	Ellen Bob, Exec Director, too expensive

Business Name	#Call s	Finish ?	Date Called/ Evaluated	Response
All Saints Episcopal Church	1	Y	5/20/2016;	Mary Blume Bert (PV lead) Not enough parking spaces, too expensive
Number, Phone Calls:	186		-	
Organizations Contacted:	70			

**Table 2: Multi-Unit Dwelling Outreach Results** 

	lable 2: Multi-Unit Dwelling Outreach Results					
Multi-Unit Dwelling Name	#Calls	Finish?	Date Called/Evaluated	Response		
Woodland Park Apartments	2	Y	11/3/2017; 11/10/2017;	11/09/2017 Emily is going to forward my info over to appropriate person//11/10/2017 Emily transferred to Marko, biz manager at Woodland, they have no extra spaces for even visitors; however, wants info on rebates and will discuss with discuss with other management staff. Emailed materials to him.		
Mia	1	Y	11/3/2017;	Left VM for Property Manager, by SBI - See the Marc below, closed.		
The Marc, Palo Alto	3	Y	11/3/2017; 11/3/2017; 11/8/2017	Left VM for Property Manager, by SBI; Linda Nguyen called me back discussion on units// 11/8/2017 Talked to her assistant RE: charging options as I had transcribed Linda's email incorrectly emailed her lists of rebates and California Americans with Disability Act (CA-ADA) requirements.		
Sheridan Apartments Affordable	2	Y	11/3/2017;	Jim Brandenburg - long conversation on charging options including CA-ADA requirements, rebates etc. Sent him email on rebates & ADA requirements; See notes below		
Levett Properties - Palo Alto Apartment Rentals	1	Y	11/8/17	11/8/2107 Talked to Galina & sent her info on rebate programs		

Multi-Unit Dwelling Name	#Calls	Finish?	Date Called/Evaluated	Response
Webster House, ESC	2	Y	11/3/2017; 11/3/2017;	Left VM for Property Manager// Linda Hibbs called me back; met her & team Tuesday 11/7/2017 & provided info on charging & grant options
The Hamilton, Retirement Home	1	Y	11/8/2017;	11/8/2017 Spoke with David regarding charging at Hamilton, one resident got their own dedicated Tesla charger. Sent info on chargers and rebates
Parkside Apartments	1	Υ	11/8/2017;	Number appears to be dead
Alma Apartments	1	Y	11/3/2017; 11/10/2017;	11/3/2017 Left VM for Resident Manager// 11/10/2017 Aubrie: No tenants have asked about it, please provide info, will hold it, awaiting a tenant to ask about it.
VRENT - Madrono Apartments,	3	Y	11/3/2017; 11/13/2017; 11/17/2017;	11/3/2017; Michael (who has not driven an EV) is going to forward my email to Facilities Maintenance; Covers all VRENT apartments. 11/13/2017 forwarded me to the Louis, the Maintenance Manager & left a VM there. 11/17/2017 said that, yes, Louis, the Maintenance Manager would be the best person to talk to; transferred me & & left a VM there.
California Park Apartments	1	Y	11/8/2017;	11/8/2017 Number requests "remote access code"

Multi-Unit Dwelling Name	#Calls	Finish?	Date Called/Evaluated	Response
Sunrise of Palo Alto, Senior Living	2	Y	11/8/2017// 11/14/2017	11/8/2017 VM for Elizabeth who is Exec- Director; // 11/14/2017 gave me Ms. Elizabeth's email:
Page Mill Court Apartments	3	Y	11/3/2017; 11/8/2017;	11/3/2017 No Answer, No VM. // 11/8/2017 Left a VM // 11/14/2017 Ashley, PageMillCourt@midpenhousing.org (non-profit so \$5k rebate)
Stanford West Apartments	1	Y	11/8/2017;	11/8/2017; Bethany sent me to Orasso, they have one charger and are not interested in more.
Oak Creek Apartments	3	Y	11/3/2017; 11/13/2017;	Left VM for Jackie, her email bounced. By James, Jackie is no longer there. Sabrina is Property Director, was directed to "Ty" Assistant P-D & left a VM for him// 11/13/2017 Ed routed me to Diane Vega who said Susan Landers would take the project; provided Diane V. charging info and rebate list.
Palo Alto Place	3	Y	11/8/2017; 11/9/2017; 11/14/2017;	11/8/2017; Spoke with M, there are residents with EVs currently, not sure how they are charging. Sent program info including info on what L1, L2 & DCFC is. // 11/9/2017, Email bounced, left VM asking for correct email. // 11/14/2017, Moises supplied correct email for complex

Multi-Unit Dwelling Name	#Calls	Finish?	Date Called/Evaluated	Response
Midtown Court Apartments	3	Y	11/8/2017; 11/14/2017; 11/17/2017;	11/8/2017; VM in generic box //11/14/2017; VM in generic box //11/17/2017; VM in generic "office" box
Southwood Apartments	1	Y	11/8/2017;	11/8/2017; By Nicole, the complex's Construction Engineer, David Gallego, is already speaking to someone at the Utility regarding the L2 rebate!
Wellsbury Apartments	2	Y	11/8/2017; 11/14/2017;	11/8/2017; VM "Betsy Smith" (?) who manages multiple properties// 11/14/2017; Got my message, not interested.
Parker Palo Alto Apartments	1	Y	11/8/2017;	11/8/2017; Spoke with Hieu who walks to work. The complex put in a couple of chargers several years ago & wants more info. Sent info on rebates.
Colorado Park Apartments	4	У	11/8/2017; 11/14/2017; 11/17/2017;	11/8/2017; VM to generic complex box// 11/14/2017; VM to generic complex box // 11/12/2017; VM to generic complex box (press 2 for the office)
Stanford Villa Apartments	3	Y	11/9/2017; 11/14/2017; 11/17/2017;	11/9/2017; VM General VM-Box// 11/14/2017 VM General VM-Box // 11/17/2017; VM to generic complex box VM to generic complex box for the office
Boardwalk Apartments	1	Y	11/9/2017;	11/9/2017; Grazyna has not had any resident ask for charging infrastructure. Sent info on charging & rebates.

Multi-Unit Dwelling Name	#Calls	Finish?	Date Called/Evaluated	Response
Casa Carolina Apartments	3	Υ	11/9/2017; 11/14/2017;	11/9/2017; VM General VM-Box// 11/14/2017; VM General VM-Box // 11/17/2017; VM General VM-Box (only one option)
Curtner Square Apartments	1	Y	11/9/2017;	11/9/2017; Janice No interest currently but pls send into to 250Curtner@gmail.com
Villa D'Marcia Apartments	1	Y	11/9/2017;	11/9/2017; (650) 813- 1800 Number disconnected
Park Terrace Apartments	1	Y	11/9/2017;	11/9/2017; Gabriella is to pass my info to the Owner who makes these decisions.
Curtner Apartments (Vrent)	1	Y	11/9/2017;	11/9/2017; Sarah, have to contact main office -part of the VRent group
Alto Riviera	4	Y	11/9/2017; 11/10/2017; 11/14/2017	11/9/2017; Call Patrick on morrow. 11/1 0/2017; Patrick said call the owner Bob Firman 650-941- 6007; Left VM for Bob F.// 11/14/2017 Left VM for Bob F.
Merrilee Terrace Apartments	4	Y	11/9/2017; 11/14/2017; 11/17/2017;	11/9/2017; VM Ann Laberrie and VM-Box is full// 11/14/2017; VM Ann Laberrie (sp) VM-Box is full // 11/17/2017; VM Ann Laberrie (sp), left VM // 11/17/2017; Anne Woodbury returned call; Long conversation, she is interested in EV chargers for her tenants. Unfortunately, DCFC likely does not make sense for a 39-unit complex built in 1968 but several L2s & L1s may. She wants to

Multi-Unit Dwelling Name	#Calls	Finish?	Date Called/Evaluated	Response
				meet with me & confirm DCFC does not work plus Hiromi to discuss the P-A utility rebate program.
The Avant, Senior Residences	2	Y	11/9/2017; 11/14/2017;	11/9/2017; VM for Manager, Sue Jordan// 11/14/2017 Friba(sp) gave me Sue's email: & would not provide unit count
Palo Alto Commons, Senior Residences	2	Y	11/9/2017; 11/14/2017;	11/9/2017; VM for Glen, Maintenance Director// 11/14/2017; provided me with Glen's email - (would not provide unit count)
J K Properties	1	Y	11/9/2017;	11/9/2017; Long conversation with Ms. Soon Kim; She is looking to get a Tesla for herself.
Total Calls:	65			
Complexes Contacted:	33			

# APPENDIX F:

# **Commitment Letters**

# **Copy of Permit Used for the Palo Alto Electric Drive Test Event**

A permit was needed to make the Electric Vehicle Test Drive Event happen. Below in Figure 7, this permit is shown.

					Figure 7:		
APPLICATION F	OR PERM	п то	USE		Shopping Center		
COMMON AREA	A						
Form 138 ((Rev. 3-09)							
Instructions: Please TY/ Name of Individual / Org		nformetio	n		Describe the nature of the	a a shift	
REACh Strategies	enzacon					drive event in partnership	with the City of
88 Dominga Ave City, State, Zip							
Farffax CA 94930							
Telephone No. 4155773561							
DATE REQUESTED	1	IME REC	QUESTED		NAME OF PE	ERSON WHO WOULD BE IN C	HARGE
	From:	MAM.	Ta:	A.M.	Amanda Scarboroug		
2/21/17		P.M.		P.M.			
		P.M.		P.M.			
		_	_	A.M.			
		P.M.		P.M.			
If use of special decorati	ons, signs, displa	ys, or de	vices is requested	, explair	1	(2 A-frames) advertising	
We would like to set	tup one 10x10	pop-up	tent for regis	tration	with minimal signage	(2 A-trames) advertising	the test drive.
			GENERAL	DELE AS	SE AND INDEMNITY		
claims for personal in connected with the us agents, contractors are all liabilities, claims, a Area or the shopping of	njuries, death, di se of the Comm id employees, ar nd actions for an center, or due to	emages, on Area of the Ap y damage any act of	costs, and/or oth or any other part plicant releases a es or injuries either fany employee or ACKN	of the of	nses, including reasonable Shopping Center by the A sarges the shopping center person or property sustain of the shopping center own EDGEMENT discretably)	enants harmless from and against atomey's fees, arising from Applicant, its members, pertner owners, managers and tenan ned by reason of any condition ers, managers and tenants, of the Applicant and that he/she!	or in any way rs, associates, ts from any and of the Common
	Shopping Center	(see reve	erse side) and agr	ees that	permission to use the Co	and Regulations Governing Use mmon Area is expressly conditi	
Name of person complet Amanda Scarborous					Street Address (if different that above)		
Title (if eny) Lead Program Strat	eglest				City, State, Zip		
Signature					Date	Phone No.	
					COMMON AREA Authorized Signature		Date
The Individual/Organization named above has parmission to use the designated portion of the Common Area during the hours and date(s), stated above subject to the Shopping Center's policies and to the Rules and Regulations stated on the reverse side.  If Please locate the exhibit, display, or equipment in the Mail Common Area as indicated on the stached map of the Mail.			i). Iles	Authorized Signature		Date	
					For:		•

# EV Ride & Drive HOST CAMPUS PARTICIPATION AGREEMENT

The following outline summarizes the agreement between REACH Strategies and City of Palo Alto (the "Host") for hosting an EV Ride & Drive event on the HOST campus.

#### 1. Information Table

Company Name: City of Palo Alto Company Contact: Sarah Isabel Moe

Event Name: Drive Clean Palo Alto (the "Event")

Event Date: Tuesday, July 26 Event Timing: 10 AM – 2:30 PM Event Location: Palo Alto City Hall

250 Hamilton Ave, Palo Alto, CA 94301

#### 2. Event Summary

Drive Clean Palo Alto has been invited by HOST to bring the newest electric vehicles to their community to allow employees and citizens to explore this exciting new technology and test drive vehicles of their choosing. The day-long event will include tables hosted by car manufacturers, other EV manufacturers (e.g., motorcycles & bikes), and other companies, utilities, or government agencies that relate to or work to promote electric vehicle transportation with product and other information. The event will be advertised through outreach conducted by the event host to their employees and citizens and will include vehicle exhibit space and a predetermined test drive course.

# 3. Host will provide:

#### **Facilities**

A dedicated external (most likely a portion of a parking lot or a park) for the fair.

- The space will allow for up to 3 10x10 product/table tents
- The space will allow for up to 6 vehicles to be parked for static display (including room to walk around the vehicles)
- The space will allow for easy access for up to 10 vehicles running sequential test drives
- Space for vendors to unload large trucks carrying cars and tents related to the event
- Day-of parking map and instructions (including badging, if needed) for staff and vendors provided 1 week before event date.

#### Communications

Publication of the event through existing channels including the possibility of:

- 2 internal e-mails circulated to its employees/citizens beginning 2 weeks prior to the event.
- Event listed in newsletters, calendars, and other communications materials

Time for employees to visit the fair, consistent with their normal workflow and corporate policies. We estimate the employees will spend up to an estimated 30 minutes at the fair.

Day-of contact for Plug in America (Plug In America will serve as contact for participating vendors).

#### On-Site Support

Event staff support for organizing the space and managing its staff to the event

#### 4. Drive Clean Palo Alto will provide:

Event planning liaison with the host event team and participating vendors to ensure adequate participation and that all liability considerations are addressed.

Test drive route that will support 5-10-minute vehicle rides.

Recruitment and management of vendors that fit the expectations of the event host - in number and nature (Please Note: Participating vendors are not subcontractors of Plug in America)

Advance communications planning support (if desired) – providing content and strategy for internal advance publicity

On-Site event management & coordination of volunteers and team.

Day-of liability and waiver management

#### 5. Participating Vendors will provide:

Tent for the event

Table to show product information

Product information

Event staff (at least 1) for their product table

Vehicles for test drives

Insurance covering test drives

Staff to support test drives (at least 1 staff person per test drive vehicle)

Food/beverage for participating staff

#### 6. Insurance:

All participants (REACH Strategies and participating vendors) will provide the following Insurance:

Auto Liability Insurance with coverage limits of not less than \$1,000,000 per occurrence for bodily injury and property damage

Commercial General Liability insurance on an occurrence basis for bodily injury, death, "broad form" property damage, and personal injury, with coverage limits of not less than \$1,000,000 per occurrence

All supplied insurance certificates must name HOST as an additionally insured

#### 7. Waiver:

All test drive participants will be required to show a valid driver license and sign the following waiver prior to entering a vehicle.

# **DRIVER CONSENT AGREEMENT & WAIVER:**

Please provide a signed copy of this waiver for each, individual driver.

Notice – While riding in or operating vehicles:

Follow all instructions and directions of staff, manufacturers and their agents; Stay on the set course while riding in or driving vehicles;

event. I am participating in these activities	I hazards presented by my participation in this Test Drive is freely and voluntarily and assume all risk of harm and injury operty of others, which may result from my participation in
the Host, the City of Palo Alto, REACH Se vehicle dealerships and providers, owners affiliates, members, shareholders, and age all claims, causes of action, liabilities and of defense and reasonable attorney fees, a however, that I shall not have any obligate arising from the sole and active negligence promptly pay the amount of any judgment indemnified claims, and reasonable costs	agree to indemnify, defend and hold harmless strategies, all employees and agents, vehicle manufacturers, lessees or lessors, and their employees, officers, directors, ents (collectively, "the Indemnified Parties") from and against damages for injuries to persons and property, including costs rising from my participation in the Test Drive; provided, on to indemnify, defend or hold harmless for any claims e or willful misconduct of the Indemnified Parties. I agree to trendered against the Indemnified Parties for any such and expert and attorney fees incurred by the Indemnified
legal claims for myself, my spouse (if app for the opportunity to participate in this T Strategies, partner, nor any vehicle manuf agents, nor agents or representatives made premises where I will be participating in t	and realized that I am waiving, releasing, and surrendering any blicable), legal representatives, heirs, and assigns in exchange est Drive. Neither the Host, the City of Palo Alto, REACH acture, owner, lessee or lessor, nor any of their employees or any promises to me about the condition of the vehicles or the hese activities.
Date: Driver's License #	Signature: Print Name:
Driver's License #	Print Name:
X	
For Host	
Date Signed	-
X	
For REACH Strategies	
Date Signed	_

# APPENDIX G: Ride and Drive Reports and Example Promotion Materials

# **Drive Clean Palo Alto Electric Vehicle Ride & Drive Campaign**

The flyer in Figure 3 below, presents the Stanford Shopping Center EV Ride and Drive that was the second of two DRIVE CLEAN Palo Alto events. While test drive numbers were lower than the first event, the Stanford Shopping Center ride and drive introduced a more varied swath of consumers to EVs. Attendees expressed interest in learning about electric vehicles as they stopped by on their way to and from the shopping center.

Figure 3: Flyer Promoting the Stanford Shopping Center EV Ride and Drive Event

FREE ELECTRIC VEHICLE

TEST DRIVE!

Stanford Shopping Center

Parking Lot Between PF Changs & Bloomingdales

10:30AM-2:30PM • Thursday, February 23

ON THE ROAD TO CLEAN AIR

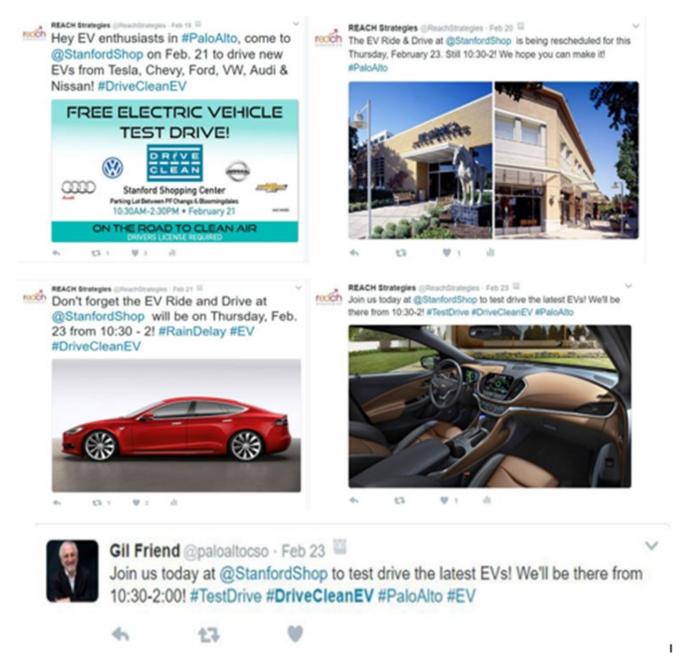
DRIVERS LICENSE REQUIRED

Source: City of Palo Alto

#### **Promotions**

Figure 4 on the next page shows many of the different ways that Reach Strategies used to promote the EV Ride and Drive Event. The original date of this event can be shown in the upper right corner of Figure 4, this particular day was rescheduled due to rain, and the new date of the event became Thursday, February 23. The updated flyer can be seen in Figure 3 above.

Figure 4: Screen Shots of Reach Strategies Promoting the EV Ride and Drive



## **Diamond Street Drive and Ride Event Overview**

The City Hall EV ride and drive, the first of two DRIVE CLEAN Palo Alto events, was held on July 26 at the Diamond Street Fair in Palo Alto, CA.

## **Original Equipment Manufacturers & Vendors**

This event had a wide variety of vehicles. The interested participants often test drove more than one vehicle.

Four Original Equipment Manufacturers participated with a total of 6 vehicles

Participants included: Audi, Fiat, Nissan, Volkswagen

There were two display vehicles: Audi A3i E-Tron and Kia Soul EV

Table 3 below shows the number of test drives taken by the number of passengers that participated in the first DRIVE CLEAN event, which was held on July 26 at the Diamond Street Fair.

**Table 3: Test Drive Tally, Diamond Street Fair Event** 

Vehicles	Test Drives (recorded)	Passengers
Audi A3 E-Tron	14	8
Fiat 500e	11	9
Nissan LEAF	5	2
Nissan LEAF	3	1
VW e-Golf	7	3
Total Test Drives	67	
Passengers	23	
Total EV Experiences	90	

Source: City of Palo Alto

## **Key Insights**

Exposure: 350-400 community members

Attendees were very excited to test drive and learn about a variety of EVs

Would like to engage the Chamber of Commerce in promotion for the next event.

After test driving, 71.4 percent report their overall opinion of an EV is better than before.

After test driving, 50 percent report that they are more likely to purchase an EV.

45.5 percent report that they have not personally driven an EV prior to the event.

Figures 5-10 below, are photos of the first DRIVE CLEAN Event that was held at the Diamond Street Fair in Palo Alto CA on July 26 of the previous year.





Figure 6: Drive Clean Set-Up Booth





Figure 7: Drive Clean Set-Up Booth Photo 2

Source: City of Palo Alto



Figure 9: Audi A3i E-Tron and Kia Soul EV Display Vehicles



Figure 10: Audi A3i E-Tron Display Vehicle



Source: City of Palo Alto

# **Equipment Manufacturers & Vendors Presented at the Stanford Shopping Center**

This DRIVE CLEAN Event had a wide variety of vehicles including the latest release, the Chevy Bolt. While the test drive total was down from the previous event, an estimated 100 potential consumers attended the event:

- Six Original Equipment Manufacturers participated with a total of eight vehicles
- Participants included: Audi, Nissan, Volkswagen, Tesla, Chevrolet and Ford
- There was one display vehicle: Tesla Model X

Table 4, on the next page, shows the make and models of the vehicles presented at the Stanford Shopping Center, and the number of test drives taken by the number of participants that participated.

**Table 4: Test Drive Tally, Stanford Shopping Center Event** 

Vehicles	Test Drives (recorded)	Passengers
Ford Fusion	0	0
Ford CMAX	0	0
Volkswagen E-golf	1	1
Audi E tron	0	0
Chevrolet Bolt	1	1
Nissan Leaf	0	0
Tesla Model X	4	4
Tesla Model S	3	4
Total Test Drives	9	
Passengers	10	
Total EV Experiences	19	

Source: City of Palo Alto

### **Key Insights**

Exposure: 400-500 community members

The event was originally scheduled for Tuesday, February 21 but was postponed due to rain.

Although many community members did not have time to take a test drive, they were very interested to learn more about the vehicles present.

Many attendees inquired as to how the City of Palo Alto was supporting EV adoption.

The majority of drivers, 57 percent, had never driven an EV prior to the Stanford Shopping Center event.

Post test drive, 83 percent stated EVs were about the same or better value than a gas vehicle.

Pre-test drive surveys revealed 85 percent thought the driving range was a barrier. After their test drives, that number dropped to 66 percent.

Figures 11-18, on the preceding pages, show an account of this day's events. There are multiple photos of the vehicles that were used and the participants that attended this DRIVE CLEAN Event at the Stanford Shopping Center.











Figure 13: Test Vehicles Lined Up in a Row

Source: City of Palo Alto



Figure 14: Employees Standing at the Clean Drive Booth



Figure 15: A View of the Inside of one of the Test Vehicles





Figure 17: Tesla Vehicle Parked next to the Tesla Booth

Source: City of Palo Alto

