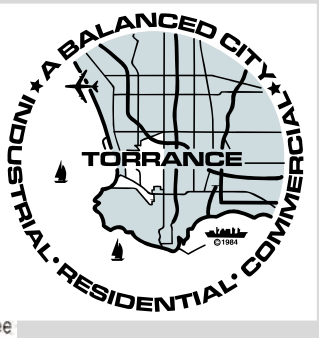
ONE MILE, ONE CHARGER

FINAL PROJECT REPORT

City of Torrance Publicly Accessible Electric Vehicle Infrastructure



Contract #ML14014
January 2017

Prepared for: Mobile Source Air Pollution Review Committee (MSRC) under the AB2766 Discretionary Fund Work Program

Prepared by: City of Torrance

One Mile, One Charger

FINAL PROJECT REPORT

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ACKNOWLEDGEMENTS

The City of Torrance "One Mile, One Charger" project started long before the first trench line was ever initiated. It has its origins in citizen driven interest in sustainable initiatives. It was nurtured by clear leadership of past and current Torrance Mayors and City Council Members that recognized the interests of their community and provided clear policy direction to allow such efforts to progress. It was furthered by dedicated staff that proceeded with a sense of collaboration to ensure the best possible and coordinated product could be delivered to the community they serve. And it was made possible with funding by state (California Energy Commission) and regional partners (Mobile Source Reduction Committee) that supported the concept of promoting electric vehicle charging infrastructure as prevalent and accessible as existing gasoline stations.

Although the Electric Vehicle industry remains in its infancy, significant progress has been made towards removing the common obstacles associated with alternatives to traditional carbon based fueling. The Torrance team selected installation locations, taken directly from community input, to ensure charging infrastructure is visible and accessible to all. Secondly, the project team ensured coordinated design, permitting and utility services, to ensure reliable and uninterrupted service. This report was submitted in fulfillment of ML14014 and "One Mile, One Charger" project by the City of Torrance under the partial sponsorship of the Mobile Source Air Pollution Reduction Review Committee (MSRC). Work was completed as of May 2016 with data collection completed October 2016. The lessons learned throughout the project are valuable and can be applied to future installations ensuring that future funding investments, and their resulting air quality improvements, can be multiplied and experienced by communities beyond the City of Torrance. To that end, the "One Mile, One Charger" project team would like to thank the following organizations and representatives for their role in helping make this project a reality:

City of Torrance Mayor and City Council Members
-Mayor Patrick J. Furey
Council Members:
-Heidi Ann Ashcraft
-Tim Goodrich
-Mike Griffiths,
-Milton S. Herring, I,
-Geoff Rizzo,
-Kurt Weideman
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-Community Development
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-Fire
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-Sharon Yiu

And last but not least…
The **Citizens and Businesses** of "**The Balanced City**" of Torrance.

PREFACE

MSRC Mission:
The mission of the Mobile Source Air Pollution Reduction Review Committee (MSRC) is as follows:

1. Establish and adopt a Work Program for the distribution of AB 2766 discretionary funds, and send the adopted Work Program to the SCAQMD Governing Board for its approval.
2. Establish the TAC as an advisory committee to assist in the development of the request for proposals (RFP), technical evaluation of submitted proposals, and perform other work as assigned by the MSRC.
3. Adopt policies and procedures, as necessary, for the performance of its statutory responsibilities. These include, but are not limited to, the development of an RFP or RFPs, guidelines for the submittal and evaluation of proposals, and selection criteria.
4. Define the work effort and provide policy guidance to any consultant staff selected by the MSRC and funded by the Discretionary Fund in accordance with statutory requirements.
5. Select a Technical Advisor to assist in the development of the RFP and in the technical evaluation of submitted proposals, administer the contracts of the Work Program and any other work as assigned by the MSRC.
6. Perform any other duties it deems necessary, to monitor the Work Program and to publicize its successes.
7. Coordinate reporting and auditing process with the SCAQMD.

Problem Statement:

The City of Torrance continues to experience both residential and commercial growth, which further increases the demand for publicly accessible electric vehicle (EV) fueling infrastructure. This project sought to address the lack of publicly accessible EV charging in the City of Torrance, thereby supporting existing and future EV ownership. According to a public outreach by the City (2011-2013), potential EV drivers were reported to have "range anxiety," a fear that they might be stranded without access to a charging station when their vehicle's battery runs low on power. Prior to the start of this project, the growing demand for EV charging stations exceeded the supply within the City, creating long lines, disputes, frustration and even vandalism at the existing charging stations at City Hall. The implementation of the "One Mile, One Charger" project will help provide greater access to publicly accessible EV charging infrastructure and alleviate the issues described above by increasing the number from 2 level II charging stations at one location to 14 Level II and 6 DC Fast charging stations across six locations, and ensuring that EV owners, while within the City of Torrance boundaries, will always be within one mile of an EV charging station.

ABSTRACT

The City of Torrance undertook the "One Mile, One Charger" Project to address the lack of publicly accessible electric vehicle charging stations within its boundaries. The City was awarded grants from the California Energy Commission and the Mobile Source Reduction Committee to expand EV infrastructure in Torrance, which as a regional employment and shopping destination, serves as a prime location to have a significant impact on the surrounding areas. With a goal of visitors or residents never being more than one mile from a charging station while in the City, the grant team installed 14 Level II and 6 DC Fast charging stations across six publicly owned sites, including: the Civic Center, McMaster Park, Columbia Park, Charles Wilson Park, Walteria Park and Downtown Torrance. Data was collected from the charging stations for the duration of the project and analyzed against goals to determine the overall success of the installations. At the completion of the project, the team observed a 303% increase in the number of vehicles charged at the prior City owned charging stations. In addition, 92% of the City is now within one mile of a charging station and the project as a whole reduced a total of 18,143 kg of greenhouse gas emissions. Through the achievement of these goals it is clear that the demand for EV charging stations is substantial and growing and the One Mile, One Charger project has successfully met that demand. This success can also be attributed to the extensive public outreach that the City undertook in determining the barriers to EV ownership and the locations that the public would like EV charging stations to be located. Placing the EV charging stations in prime locations that would ensure steady usage patterns was the first step in ensuring a successful project.

Keywords: California Energy Commission, Mobile Source Reduction Committee, City of Torrance, One Mile, One Charger, Electric Vehicle (EV), infrastructure, Level II, DC Fast Charger, Greenhouse Gas Emissions, public outreach, successful project

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EXECUTIVE SUMMARY

The City of Torrance's, "One Mile, One Charger" Project was undertaken with the main goal of a resident, area employee or visitor never being more than one mile from a charging station within the boundaries of the City. This goal was established in order to help to achieve Key Performance Indicators that if met, would provide better air quality and promote stewardship of the environment, a new strategic priority of the City's 2008 Strategic Plan. Through the installation of publicly accessible electric vehicle (EV) charging stations in multiple locations, the City hoped to help meet the growing demand for EV infrastructure, thereby promoting the switch to electric vehicles and reducing greenhouse gas emissions from the transportation sector.

To achieve these goals, the City obtained grant funding from the Mobile Source Reduction Committee (MSRC) and the California Energy Commission (CEC) to install a total of 14 Level II charging stations and six DC Fast charging stations. The charging stations were installed across six publicly owned sites that were selected with significant input from members of the public on where EV charging stations would be most beneficial: The Katy Geissert Library and Civic Center Complex, McMaster Park, Columbia Park, Charles Wilson Park, Walteria Park and Library and a City parking lot located in the center of Downtown Torrance. Each of the six sites had a dual port Level II charging station, allowing two vehicles to charge at one time, and a DC Fast charging station, with the exception of the Civic Center location which had one DC Fast Charging station and two dual port Level II chargers, allowing four vehicles to be charged at one of the level two units at one time.

At the conclusion of construction, data was collected from the charging stations in order to analyze the success of the project in achieving the goals that had been established at the outset of the project. The data collected included: total amount of energy expended at each site, the total number of individual charging sessions, the average length of charging sessions, and the amount of greenhouse gas emissions that were reduced. Over the duration of the project, the EV charging stations saved a total of 18,143 kg of greenhouse gas emissions (as of 10/31/2016). This reduction in emissions was due to the 6,309 vehicles charged throughout the project, replacing a total of 214,169 conventional gasoline powered engine miles travelled with electric vehicle miles. While the project fell short of the goal to replace 4 million conventional gas powered engine miles with electric vehicle miles, the total number of vehicles charged within a six month period increased by 303% from the start of the project, indicating a great success in meeting the growing demand for electric vehicle infrastructure. Furthermore, the City successfully achieved the main goal of the project which was to never be more than a mile from a publicly accessible electric vehicle charging station within the City's boundaries, as 92% of the City is now within one mile of a charging station. This percentage of coverage increases to 96% when the publicly available EV charging stations that are planned or currently under construction within the City are taken into account.

The overall success of the City of Torrance's One Mile, One Charger Project is clear from the analysis of the data collected from the charging stations. While the achievements of the project are clearly attributable to the heavy and growing demand for electric vehicle infrastructure, the significant outreach efforts to members of the public to determine barriers to EV ownership and possible locations for future charging stations cannot be discounted. By engaging the community early and often, the City's grant team was able to put together a project that would meet the demand for growing infrastructure in locations where the charging stations would be used most.

CHAPTER 1:
The Road to One Mile, One Charger

Section 1.1: Purpose of the project

1.1.1: Introduction

Prior to the start of the One Mile, One Charger program, the area of Los Angeles County where Torrance is located, collectively referred to as the "South Bay," had limited publicly accessible EV-infrastructure given the number of EV vehicles on the road and available for sale. Aside from being the largest City in the South Bay, the City of Torrance is the business and commercial shopping "Hub" in the area. Torrance also has the largest resident and daytime populations of the South Bay cities, with its daytime population almost doubling from those commuting to work and shop in the City. This exposure to large segments of the local population puts Torrance in a unique position from which to facilitate EV infrastructure and reduce "Range Anxiety" concerns for the greater Los Angeles area.

As awareness of electric vehicle technology and environmental stewardship has grown, members of the public and businesses have expanded the number of charging stations within the City greatly. Prior to the start of this latest EV infrastructure project within the One Mile, One Charger program, there were 37 operational charging stations at over 21 sites, with 10 additional sites that were planned to install 45 chargers as part of projects that were currently under construction or soon to be under construction. Homeowners also installed a total of 32 private garage chargers between 2011 and 2013. Despite this trend of expansion, City staff continued to hear that there was not enough charging infrastructure that was publicly accessible on private property or on public property. In 2013, the Torrance City Council determined that the construction of additional public charging stations at various City venues would further expand the available infrastructure and match the considerable investment made by Torrance residents and corporate citizens to design, sell, purchase and use these vehicles and install their related infrastructure.

Background 1.1.2

The City of Torrance embarked upon the "One Mile, One Charger" Project in 2013, following a long history of support for facilitating the development of alternative fuels and alternative energy sources. In July 2013, an Interdepartmental Team was established to explore the expansion of Electric Vehicle (EV) Infrastructure in the City of Torrance; however the road to accessing an electric vehicle charging station within one mile of any location within the City's boundaries truly began in 2008 with the adoption of the Strategic Plan. Following input from the community, the 2008 Strategic Plan included the addition of a new strategic priority entitled "Stewardship of the Environment" that addresses a wide variety of environmental issues.[1] One

[1] City of Torrance, *Torrance Strategic Plan 2008,* (City of Torrance, 2008). Available at: http://www.torranceca.gov/16594.htm

of the goals of this priority was to "improve air quality" and Key Performance Indicators (KPIs) were correlated to track progress and measure achievement of this goal. KPIs #153 and #154 focused on encouraging and facilitating the development of alternative fuels and alternative energy sources. KPI #153 directed staff to support accommodating at least three types of alternative fueling/charging locations for City and Public Use by 2012.

In 2011, the City Council approved a recommendation to take advantage of the California Energy Commission's (CEC) Re-Connect grant to upgrade the outdated "legacy" Electric Vehicle (EV) charging unit that was previously located at City Hall. Once awarded, the City purchased an additional charging unit which was dual mounted to the grant funded unit, allowing the Civic Center to offer two charging stations for use by municipal fleet vehicles at night and for Civic Center employees and the visiting public during Civic Center hours. The installation of the two charging stations at City Hall provided the City with a third alternative fuel source, in addition to the Bio-diesel cooperative station and Compressed natural gas station on civic property, available for both municipal and public use.

Section 1.1.3: Approach - Electric Vehicle Public Outreach

In 2011, the City also commenced its participation in the Honda Fit-EV pilot project, which has furthered cross-sector collaboration with Honda, Google, Stanford University and the City of Torrance. With KPI #153 successfully achieved, the City saw this collaboration as an excellent opportunity to implement KPI #154, to better understand ways of expanding, facilitating and installing additional alternative fuel infrastructure, thereby encouraging the development of alternative fuels.

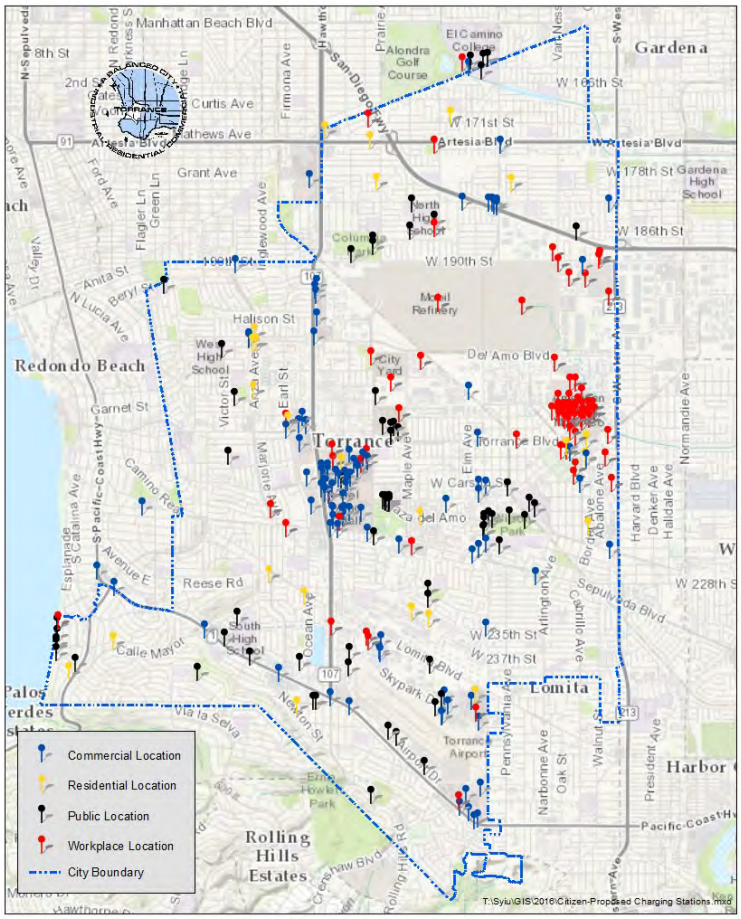
As part of this collaboration, City staff developed an exercise known as the "Plug-(P)in Maps" where members of the public can "plug-in" a pin into aerial maps of the City to reflect their preferred location for EV chargers. This exercise was completed at various environmental functions, such as the Torrance Environmental Fair and Honda Employee Earth Day Fairs, with much success. The exercise was also formatted to the City's web-site to allow individuals to submit their suggestions beyond organized events. Through these exercises, the public was directly engaged regarding the potential use and potential placement of charging locations.

Figure 1: Plug-(P)in Map Exercise, Torrance Environmental Fair (2012)

Photo Credit: City of Torrance Community Development Department

The suggestions were then compiled on an aerial map (included below) to show where there was an interest from the public in seeing additional electric vehicle charging stations throughout the City that would have the potential for being effective in reducing emissions and/or to be highly visible. The most popular suggested locations were large business parks and headquarter facilities, such as Toyota and Honda, the Del Amo Fashion Center, regional shopping centers, such as Torrance Towne Center and Rolling Hills Plaza, and Downtown Torrance. Public venues, such as the Civic Center, Wilson and Columbia parks and Torrance Beach, also received considerable interest from the EV-map participants. This interest was corroborated by the high demand that was observed for the two existing, free charging stations that were available at the Civic Center. Since the installation of these charging stations, it was not uncommon for EV-drivers to wait in employee parking stalls or in non-designated parking areas for a charging space to become available. EV drivers became angry with one another and City staff over station use and a City vehicle was even vandalized for parking there for an extended period while charging. City staff also consistently encountered an inability to charge the Honda Fit-EV and Honda Accord Hybrid on loan to the City as part of the EV Pilot Project, when returning from the field or at the close of business, as both parking spaces were consistently occupied.

Figure 2: Plug-(P)in Map Results, Torrance



Citizen Proposed Charging Stations

Source: Community Development Department, GIS Division

In addition to identifying popular potential charging locations, Staff discovered that the majority of those that participated were predominantly interested in Electric Vehicle technology and would be comfortable with paying for the power associated with their charging. Staff also noted that the public's enthusiasm was balanced with common concerns associated with the higher purchase price of the EVs, the need for additional equipment at their home or business, and the upgrades that would be required to accommodate charging equipment installations. However, overwhelmingly, the largest concern held by survey participants was that of "Range Anxiety", a commonly used reference for a concern with the mileage an electric vehicle can travel before needing a re-charge. In meeting with representatives from Honda, Toyota and GM, they too expressed concerns with finding ways to overcome these consumer concerns.

Section 1.1.4: Interdepartmental Team to Address the EV Charging Station Issue

An interdepartmental team was formed to address these issues and was comprised of members from the City Attorney's Office, City Manager's Office, Community Development, Community Services, General Services, Public Works, and Police Departments. The purpose of this team was to explore how to coordinate the appropriate installation and operation of electric charging stations on City property and to present recommendations to Council. The team met a number of times to discuss the logistics of putting together a successful City project and proposed a phase 1 pilot project to install twelve EV charging stations that would include two charging units to be installed behind the gates in the employee parking lot of the Civic Center, for use by fleet vehicles. The suggested publicly accessible City installs included: Downtown Torrance, Columbia and Wilson parks, and additional units at the Civic Center. A phase 2 of the project was expected to include McMaster and Walteria Parks. The intention of these charging stations was that they would likely be used by local South Bay residents looking for a "top-off" charge to help extend their mileage range. These sites were chosen due to the higher likelihood of exposure, as they are visited by larger segments of the population. When the team proposed phase 1 to the City Council in October 2013, the City Council approved of the concept but collapsed the phases into one project with fourteen level II charging stations across six sites: Civic Center, Columbia Park, Wilson Park, McMaster Park, Walteria Park, and Downtown Torrance.

With the approval of the One Mile, Once Charger project concept, the team was directed to seek out grant funding opportunities. The City was successful in its application for grant funding from the Mobile Source Reduction Committee (MSRC) for a $56,000 grant matched with $56,000 of the City's subvention funds, distributed by the Air Quality Management District for transportation programs such as rideshare. The City Council then asked the grant team to explore the inclusion of a Level III DC Fast Charger in the project, units that provide a much quicker charging time but also require significant power upgrades and additional funding. The grant team was able to find a grant funding opportunity with the California Energy Commission and put forward a proposal to upgrade one charging station at each site to a DC fast charger, using the $112,000 in MSRC and subvention funds as match funding. The City was awarded $405,940 in grant funds by the CEC and the grant team presented the news to the City Council. City Council then directed the grant team to proceed with executing the grant

contracts and preparing a Request for Proposals (RFP) for a contractor that would procure, design, manage and maintain the City-owned charging stations. The grant team released the RFP in June 2014 and the Torrance City Council ultimately selected ChargePoint, Incorporated for the project in January 2015. Additional details about the ChargePoint proposal can be found in Section 2.1: Construction Summary.

Section 1.1.5: Goals of the One Mile, One Charger Project

Through the facilitation and provision of electric vehicle charging stations throughout the City of Torrance, the City has three main objectives for the project: to work towards a "One Mile, One Charger" goal for electric vehicle infrastructure, to meet the growing demand for alternative fuel infrastructure, and to promote stewardship of the environment. All three of these objectives have measures of success which will be evaluated once the project has been completed to determine if goals were achieved. Additional benefits are expected from the project which are more qualitative in nature, rather than quantitative. These measurable goals and expected benefits will be introduced in this section and the project's success in achieving them will be discussed in detail in the Chapter 3: Success of the Project and Advancements in Science.

1.1.5.1: Goal 1 - Work toward a "One Mile, One Charger" Goal for Electric Vehicle Infrastructure

As the Plug-(P)in survey described in Section 1.1.3 indicated, one of the biggest concerns facing EV drivers was determined to be "range anxiety," in which an EV driver worries about the limited range of an electric vehicle and the proximity to electric vehicle charging stations. To combat this concern, electric vehicle charging stations should be highly visible and available, as is currently the case with conventional gas stations. To achieve this availability and visibility, the City began working towards a goal of never being more than one mile away from an available EV charging station within the City boundaries. At the start of the project, a total of 14 EV charging stations were publicly accessible in Torrance, spread across its 20.5 square miles. Along with the continued promotion and facilitation of publicly accessible EV charging stations with its commercial and corporate citizens, the City's installations of six DC fast charging stations and 14 Level II charging stations across six sites would considerably advance the achievement of this goal. To measure the success rate, the City will create a map sectioned by square miles with areas that are within one mile of a publicly accessible EV charging station shaded. The measurable objective of this goal would be to have at least 90% of the grid shaded by the proximity to charging stations by the close-out of the project.

1.1.5.2: Goal 2 - Meet the Growing Demand of Alternative Fuel Infrastructure

The City of Torrance population continues to grow and thousands of people commute to Torrance on a daily basis to work or shop in Torrance's bustling commercial centers. As electric vehicle technology improves and the costs come down, more and more people will make the switch from conventional internal combustion engines (ICE) to electric, or other alternative fuels. In order to facilitate this movement, the prevalence and access to electric vehicle infrastructure must increase to keep pace with the increased demand of additional EVs on the road. To measure the success of increasing access to EV infrastructure, the report will provide

an estimate of the number of vehicles charged before the installations and compare it with the number of vehicles charged after the installations have been completed. This will be measured using the usage data collected from the EV units over a 6 month period to document the total numbers charged and the increased usage over time.

1.1.5.3: Goal 3 - Promote Stewardship of the Environment

As discussed in the introduction section of this report, one of the main drivers of this project was the inclusion of the *Stewardship of the Environment* goal included in the 2008 Strategic Plan. This goal included strategies aimed at: the promotion of green industries, waste reduction and recycling, improving air quality, keeping beaches and oceans clean, and promoting/facilitating environmentally friendly development, landscaping, and water conversation. Businesses and residents in Torrance have been installing alternative fuel infrastructure for some time, helping to establish energy independence, improve air quality, and create a sustainable environment. Prior to the start of the project, the City Yard already provided a publicly accessible Bio-Diesel Co-Operative and a Compressed Natural Gas (CNG) station. Propane fueling is also available at the City Yard, as well as a number of locations throughout the City. Publicly accessible EV infrastructure was considerably limited in 2008, but over time many businesses and residents began to provide this amenity, both to help improve air quality and provide their customers with a valuable draw to patronize their businesses. By providing EV charging infrastructure at public parks and libraries throughout the City, the City of Torrance will be doing its part, along with its corporate citizens and residents, to improve air quality and achieve the goals included in the 2008 Strategic Plan. To measure the success of the project in promoting stewardship of the environment, the City will determine whether the project achieved or will achieve a goal of displacing 4 million ICE vehicle miles within one year of the final DC and Level II Charger Installations. The City will use methodology to determine how many vehicle miles are expended based on the amount of charge utilized over a six month testing period and assume that each electric vehicle mile extended is equal to one mile displaced by a conventional internal combustion vehicle.

Expected Benefits 1.1.5.4

The "One Mile, One Charger" Project is expected to have many benefits to the community and environment, once it is completed. Aside from the obvious expected benefits of greenhouse gas reduction and improved air quality, the prevalence of charging stations throughout the City will also bring economic development opportunities and promote the switch from conventional gas powered vehicles to fully electric or plug-in hybrid models. In addition to construction jobs that will be created as a direct result of the project, certain businesses may choose to locate their offices in Torrance specifically due to the prevalence of EV charging stations and forward thinking of the City's Mayor and Council members. Furthermore, as community members begin to see charging stations available at more and more locations throughout the City, they will be more comfortable, and therefore more likely, to purchase an electric vehicle for their next car. The increased visibility of charging stations and the reduction of "range anxiety" will serve to bring down or break one of the main barriers to EV ownership, resulting in an increase in EVs on the road. With this increase of EVs, the air quality in the immediate vicinity will be

improved as the vehicles do not produce tail pipe emissions when running on solely electric power. These emissions reductions will not only provide cleaner air for the community, but will also reduce greenhouse gas emissions that contribute to climate change. These expected benefits will be analyzed using the data collected at the close of the project in Chapter 3 of this report: Success of the Project and Advancements in Science.

CHAPTER 2:
Construction and Data Collection

Section 2.1: Construction Summary

After the Request for Proposals process was completed, in which two complete proposals were accepted for review, a contract was awarded to ChargePoint, Incorporated on January 27, 2015. ChargePoint's proposal was selected due to the strength of the overall proposal, the technological capabilities of the charging stations to collect data and assist with parking enforcement, and the total proposed budget. ChargePoint's proposal also increased the number of charging stations at each site through the use of dual port charging stations, providing a total of six DC Fast Charging stations and fourteen level II charging stations. Under their proposal, each site included one DC Fast Charging unit and two level II units, with the exception of the Civic Center site, which included one DC Fast Charging unit and four level II units.

The design and construction of the EV Charging Stations spanned a total of 12 months and required multiple meetings with Southern California Edison (SCE) and weekly conference calls with ChargePoint and ChargePoint's subcontractor, Conti Corporation, to finalize site design and provide necessary power upgrades at each site. Initial site designs for all six sites were submitted in February 2015 with additional meetings with SCE and City staff to ensure the correct placement of new power service and the necessary permits were obtained. The start of construction varied for each site, with some starting as early as April 2015. Each site began operating as soon as construction was completed, with site construction on all 6 sites completed by May 1, 2016. Further information about the construction of each site can be found in the individual site summaries below. Wayfinding signage for the project was completed once site construction had concluded.

Over the course of the design work and preliminary construction, staff determined in coordination with the CEC Grant Agreement Manager, that a formal amendment to the grant contract would be required. The formal amendment was required in order to add Conti Corporation, ChargePoint's subcontractor, to the budget as a "Major Subcontractor," correct site addresses in cases where the master park or library address was different than the address of the parking lot where the EVSE would be located, and revise the budget to more accurately represent where project costs would be incurred. The formal amendment was submitted to the CEC in June 2015. The formal amendment was approved and executed by the Torrance City Council on December 8, 2015 and was formally executed by the CEC on December 22, 2015.

Section 2.1.1: Katy Geissert Library and Civic Center Complex

The location of the charging stations at the Civic Center complex was determined to be most effective if placed in what would be considered the center of the site, in the large central parking lot behind the Katy Geissert Library. This location would result in accessible charging stations being in close proximity to all of the different offerings the site has to offer: the Katy Geissert Library, the Victor E. Benstead Plunge, the Torrance Cultural Arts Museum, City Hall, the Los

Angeles County Courthouse, etc. The site required new SCE service, with a transformer vault placed in the grass to the southeast of the Plunge, and the meter box and electrical equipment located against a corner of the perimeter fence for the Plunge. The site Construction at the Civic Center complex began in April 2015. The site work included trenching from the transformer to the electrical equipment and from the electrical equipment to the location of the units, laying of conduit within the trench and pouring of electrical pads. Site construction at the Civic Center was completed during the month of July. The charging units were installed once confirmation had been received from SCE that the units would receive power within a reasonable timeframe, which was in early September. Units received power from SCE on September 10, 2015, bringing about the completion of all construction at this site. The Civic Center location was the site of Torrance Event Ribbon Cutting on September 12, 2015 which coincided with National Drive Electric Week. Further information about the event can be found in Section 2.3: Public Outreach Plan.

Section 2.1.2: McMaster Park

Site design for the McMaster Park location was undertaken in collaboration with SCE and the Community Services Division, due to the renovation of the McMaster Park complex and the location of the new power service from SCE. The original location of the charging stations was in the main parking lot, just south of the existing buildings along Artesia Boulevard. Collaboration with Community Services was required early on in the process to ensure that the location of the charging stations would not conflict with the redesigned entrance and parking lot circulation planned for McMaster Park. Upon further direction from SCE, the future location of the units was moved from the main parking lot, to an additional southern parking lot more conveniently accessed from Yukon Avenue. The meter box and electrical equipment were placed against a perimeter CMU block wall near the charging units. Given the relocation, the units were in much closer proximity to the new service, thereby reducing the length of trenching required for this site considerably and negating the need to trench through asphalt areas. Construction at the site began in June 2015, with all trenching, laying of conduit and pouring of electrical pads completed in the month of September 2015. The units were installed once confirmation was received from SCE that the units would receive power within a reasonable timeframe, which was in October 2015. The units received power from SCE on November 20, 2015, bringing about the completion of construction at this site.

Section 2.1.3: Charles Wilson Park

The location of the charging stations at Wilson Park was also redesigned following discussions with SCE about where the new power service would be located. The charging units, originally to the west of the main driveway entrance of the Park on Jefferson Avenue, were relocated to the east of the main driveway and much closer to the existing SCE transformers. As was the case in McMaster Park, this relocation reduced the length of trenching required considerably and negated the need to trench across the main driveway. During the design phase, it was also determined that the units were located within the public right-of-way, which would require a Construction and Excavation Permit from the City's Engineering Department. Due to the additional permit requirements, construction at Wilson Park did not begin until September

2015, but was put on hold to finalize necessary details. Finalization of the site design with SCE and the Engineering Department continued through November, with construction resuming at the site in mid/late November, 2015. All construction at Wilson Park was completed by January 29, 2016 with energization from SCE on March 11, 2016.

Section 2.1.4: Columbia Park

Site design for Columbia Park originally determined the best location for the charging stations was in the parking lot accessed off of Prairie Avenue. While minor site work preparation began in June 2015, construction was delayed due to further review being necessary for the SCE service drop location. The location of the service drop was determined to be from the power pole near the southern driveway of the parking lot, with the transformer pad placed within the large grassy area of the Park and trenching across the driveway to the center parking lanes. Collaboration with the Community Services Department resulted in the relocation of the planned transformer, meter box and electrical equipment placement to the landscaped parkway along Prairie Avenue. Due to the prominent location of this equipment in the parkway, a Commercial Pedestal configuration was required to enclose the electrical equipment for safety and aesthetic purposes. The redesign of Columbia Park's electrical equipment resulted in delays to the construction schedule, as construction plans had to be revised and then re-reviewed by SCE. Final site design was completed and approved in December 2015 and construction resumed in January, 2016. Site construction at Columbia Park was completed in February, 2016. The site was energized by SCE on April 13 with the units fully operational on April 15, 2016.

Section 2.1.5: Walteria Park and Library

The location of the charging stations at the Walteria Park and Library site was designed to be near the exit of the library parking lot, visible from the street and adjacent to an ADA parking space. While minor site work preparation began in June 2015, construction was delayed due to further review being necessary for the SCE service drop at the location. Following meetings with SCE and the contractor, it was decided that a new power pole would be located in the public right-of-way and as such, Walteria Park also required a C & E Permit. Due to redesign power service location and trenching as well as the necessary C& E Permit, the restart of construction was delayed until the revised permit could be obtained. The C & E Permit was issued in early November 2015, however it was later decided by SCE that due to existing gas infrastructure in the parkway, the power pole needed to be located within the park boundaries, negating the need for the C& E Permit as the trenching would not cross the right-of-way. SCE also required that the transformer pad be relocated to allow for necessary clearances, delaying construction again. Construction at Walteria Park resumed in January, 2016 and was completed in February. Due to the necessary new power pole, SCE required a 45 day window of time in which to install the new power service and energize the site. The site was energized on April 6 and brought online the ChargePoint network on April 8, 2016.

Section 2.1.6: Downtown Torrance Parking Lot on Post Avenue

The location of the charging units for the Downtown Torrance parking lot on Post Avenue was proposed at the rear of the lot, within an existing planter box, in order to be closest to the power

service. The new power service was proposed in the existing transformer vault located in the alley behind the parking lot. As trenching for the laying of conduit would go through the alley, the Downtown site required a C& E Permit as part of its design. Finalization of the site design with SCE and the Engineering Department continued through November 2015 and permits were issued in December, 2015. Construction at the site began on January 27, 2016. While construction proceeded quickly, at the time of "Final Inspection," SCE determined that the approved plans showing where the service equipment would be placed to provide power to the EV units did not match what was implemented in the field. SCE indicated concerns regarding the location of the installed equipment and worked with the grant team and the contractor to revise the plans in order to meet their requirements, while also avoiding large impacts to the existing construction and timeline. The resulting design expanded the planter area where the service equipment had been installed in order to provide a 3-foot clearance on all sides to achieve the required safety buffer and clear workspace for SCE's service and maintenance technicians in the future. This design resulted in only minor impacts to the project site, despite the setback in the timeline of construction. Construction at the Post site resumed upon approval of the design by SCE and City staff and once the permits had been revised and re-issued. Construction at the Downtown Torrance Parking Lot site at Post Avenue was completed on April 15, 2016. SCE energized this final site less than a week later on April 20, 2016 and the units became operational on April 25, 2016.

Section 2.2: Signage Program

The intent behind the City of Torrance "One Mile, One Charger" Public EV Signage Program was to ensure public exposure of the available Electric Vehicle charging infrastructure within the Torrance community and provide directional guidance as to the charging device placement. The grant team assessed each of the different locations to understand where signage would be most appropriate in order to ensure public awareness and achieve safe guidance. The team recognized the predominance of ChargePoint's web based applications and websites which would provide for the majority of the directional guidance to the charging sites and reduced the wayfinding signage to the least number of signs necessary to supplement the web based applications. The team put together a signage proposal and sought quotes from signage companies; however, upon receiving the bids from the signage companies, it became clear that the cost of the project's proposed signage program would be well over the budget that had been allocated for signage. As the team had already noted the heavy reliance of EV drivers on mobile phone applications and on-board navigation systems, the grant team felt that the wayfinding signage program could be reasonably reduced to 1-2 signs per site in order to stay within budget. With this revised signage program, the team was able to remain within budget for the signs and a signage contractor was selected. The wayfinding signage program was completed and installed in the month of August, 2016. *The Final Wayfinding Signage Plan is included as Appendix C.*

Section 2.3: Public Outreach Plan

A requirement of the Mobile Source Reduction Committee's grant funding was to prepare and implement a Public Outreach Plan to promote awareness and usage of the City's EV charging stations. The City of Torrance implemented the following public outreach activities, described in further detail below:

- Advertising
- EV Expo Ride & Drive "EVent" w/ Plug In America
- EV Ribbon Cutting

Section 2.3.1: Advertising

2.3.1.1: Article in Torrance Seasons Fall Newsletter

Torrance Seasons is a Quarterly Newsletter published by the City of Torrance Community Services Department and delivered to all Torrance residents and businesses. Staff submitted background information on the project, the six site locations and an advertisement for the Ribbon Cutting and EV Expo Ride & Drive "EVent." The information was featured as an ad in the Fall Newsletter, which was released in early September, 2015. *The Torrance Seasons Article is included in Appendix F.*

2.3.1.2: News Releases

CitiCABLE – The project was featured in a live news story on the City of Torrance run news channel – CitiCABLE. The feature aired mid-September and included background information on the project (including mention of the Grant Agencies responsible for project funding – the MSRC and CEC), a list of the six sites with new EV charging infrastructure and an announcement of the date, time and location of the EV Ribbon Cutting and EV Expo Ride & Drive "EVent." The CitiCABLE feature was uploaded to the City's **YouTube Channel** and **Facebook** page. *https://www.youtube.com/watch?v=Imcy4VG_Jrw&index=59&list=PL8Y6bT-FttE3jjA6q58d2DXy8PRUboblf (between 8:55-11:19 of episode).*

Daily Breeze – A Press Release was published in the Daily Breeze, a local South Bay Newspaper of general circulation. The Press Release was released on September 12, 2015 and included the information described in the CitiCABLE feature. *The Press Release is included in Appendix F.*

2.3.1.3: Presentations

City Council Proclamation – On September 1, 2015, the City Council adopted a Proclamation at a City Council Meeting, declaring the week of September 12- 20, 2015 as National Drive Electric Week and September 12, 2015 as Plug-In Day. Prior to the proclamation, staff gave a brief overview of the project to the City Council, City staff, and members of the public in attendance, and provided information regarding the Ribbon Cutting and EV Expo Ride & Drive "EVent." *The City Council Proclamation is included in Appendix E.*

2.3.1.4: EV Website

The **City of Torrance Community Development Department Website** has a page devoted to the "One Mile, One Charger" project. The website currently contains background on the project, includes a link to an EV Survey, a link to a map showing suggested EV charging locations and a map showing existing/proposed stations. The EV Website has been continually updated to include further information about the project and a map showing the six locations with new City-owned infrastructure. http://www.torranceca.gov/22841.htm

2.3.1.5: Promotional Flyer for Community Events

The City of Torrance held an EV Ribbon Cutting and EV Expo Ride & Drive, affectionately entitled the "Torrance **EV**ent" (See further information under Community Events, Section 2.3.2).

A **promotional flyer** was created to advertise the EV Ribbon Cutting, Expo and Ride & Drive "EVent" which showcased the City's new infrastructure with a Ribbon Cutting at the Civic Center location. The flyer included logos of the grant entities funding the project as well as information about the "EVent," including time and location. Flyers were distributed to all Auto dealers and displayed at all City public counters. *The promotional flyer is included in Appendix D.*

Section 2.3.2: Community Events

2.3.2.1: EV Ribbon Cutting

In conjunction with the EV Expo Ride & Drive "EVent" described below, the City of Torrance held an **EV Ribbon Cutting** at the Civic Center location on September 12, 2015 at 9:00 AM. Representatives from local, state and federal government were on hand during the Ribbon Cutting ceremony to provide certificates of recognition for the City of Torrance's work in alternative fueling infrastructure and the Executive Director of Plug-In America, Joel Levin, chose to attend Torrance's EVent to speak at the Ribbon Cutting Ceremony. Speakers also gave a brief description of the project, mentioned the five other locations that would eventually have City-owned charging infrastructure, and promoted attendance of the EV Expo Ride & Drive "EVent", which began immediately following the Ribbon Cutting. The formal Ribbon Cutting included a ceremonial "cutting of the gasoline pump" and photo opportunities for the project team and representatives in attendance. *The Ribbon Cutting Invitiation is included in Appendix D.*

Figure 3: Torrance EVent - Ribbon Cutting and EV Expo, Torrance

Photo Credit: Community Development Department. Torrance Mayor, City Council, and City Clerk, representatives from offices of state and federal government officials, and ChargePoint Incorporated cut a ceremonial gas pump at the EVent Ribbon Cutting and EV Expo.

2.3.2.1: "EVent" – EV Expo Ride & Drive with Plug In America

In conjunction with the EV Ribbon Cutting Event described above, the City of Torrance held an **EV Expo Ride & Drive "EVent,"** an official Plug-In America Event, at the Torrance Civic Center on September 12, 2015 at 10:00 AM. This event was held adjacent to the newly installed infrastructure in a fair-like setting and featured a number of informational booths, test drives and giveaways. Attendees and participants were from state, federal, and local government, other City departments, Community and Research Institutions, local Businesses, media outlets, EV enthusiasts, and residents. The partnership with Plug-In America to hold the "EVent" in conjunction with the project's Ribbon Cutting promoted awareness and drew people to the City of Torrance to participate in Plug-In Day and utilize these new amenities in the future. The public in attendance were able to learn about the new charging infrastructure that will be available at the six sites within the City, test drive electric vehicles currently on the market from Ford, Tesla, Volkswagen and Nissan, and engage with other environmentally sustainable initiatives that were showcased at different booths.

Some examples of the booths showcased at the EVent were: City of Torrance Department booths offering: giveaways, information on the "One Mile, One Charger" Project, examples of CNG bus and fleet vehicles, water saving tips and more; EV Vehicle Dealers and OEM booths offering information, viewings and test drives of EV models currently available on the market;

local large development's with publicly accessible EV infrastructure wishing to showcase their new amenities; solar and battery vendor booths; Community/Research Institution booths; and food vendors. *Photos taken at the EVent are included in Appendix G.*

Section 2.4: Data Collected

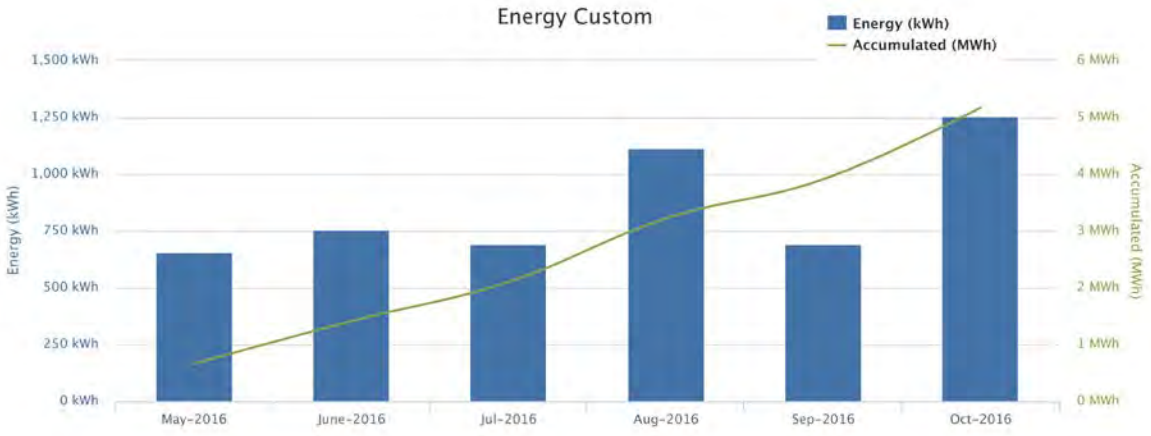
Data was collected for analysis purposes from the EV charging stations across all six sites. Data collection capabilities include a number of possibilities, such as the length of charging sessions, revenue collected, amount of greenhouse gas emissions reduced per day, etc. This report will analyze six months of data from certain data sets for each site including: the amount of energy expended, the amount of greenhouse gas emissions that were reduced, the total number of individual charging sessions, and the average duration of charging sessions. While the sites were completed at different times, the 6 month collection period will cover the period between May 1, 2016 and October 31, 2016, so that data sets for each site are comparable once all six sites were up and running. Brief analysis of the data will be covered in this section including summaries of the results for each data set at an individual site for the six months and summaries of the same data sets for the total of all six sites for the six months. In addition, the total capacity of each site will be included in the 6-month project data analyzing the six sites combined. Lastly, the data sets will also be reviewed from the time the first site became operational in September 2015 through October 31, 2016, so as to note any overall trends not indicated within the past six months. The total project data sets will then be analyzed in relation to the achievement of goals and the expected benefits of the project in Chapter 3.

Section 2.4.1: Civic Center Results

The Civic Center site was completed in the month of September, 2015. Data was collected for the period of May 1, 2016 – October 31, 2016.

2.4.1.1: Energy Usage:

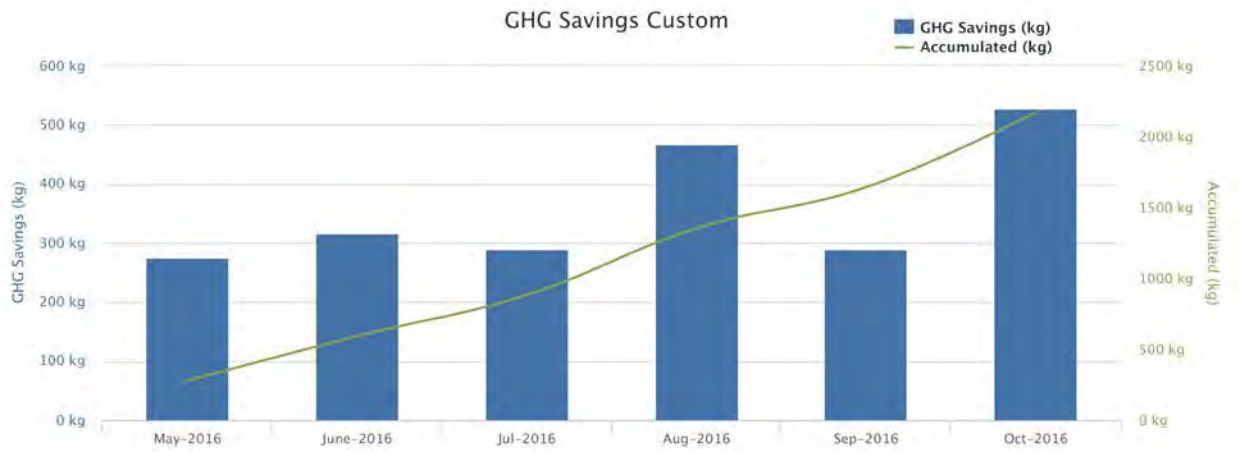
Over the course of the six month data collection period, the Civic Center site expended a total of 5.167 MWh, with an average of 0.86 MWh of energy expended per month. The Max Capacity at one time for this site is: 78.8 kW, listed in Section 2.4.7.1: Energy Usage.



Source: ChargePoint, Incorporated EV Station Analytics Module: https://na.chargepoint.com/home. (2016).

2.4.1.2: Greenhouse Gas Emission Reductions:

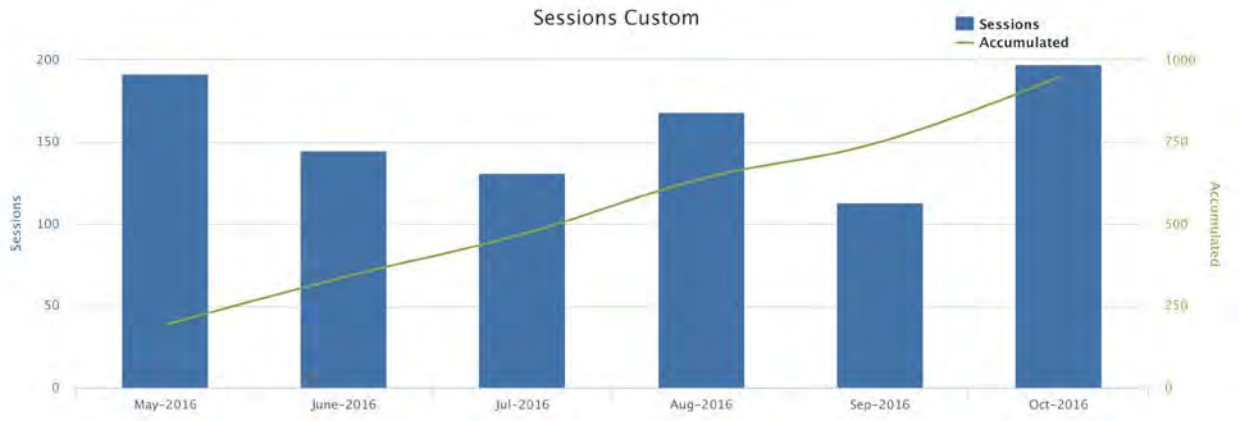
The usage of the charging stations at the Civic Center over the six month data collection period reduced greenhouse gas emissions by a total of 2,170 kg with a monthly average of 361.7 kg in reduced emissions.



Source: ChargePoint, Incorporated EV Station Analytics Module: https://na.chargepoint.com/home. (2016).

2.4.1.3: Number of Charging Sessions:

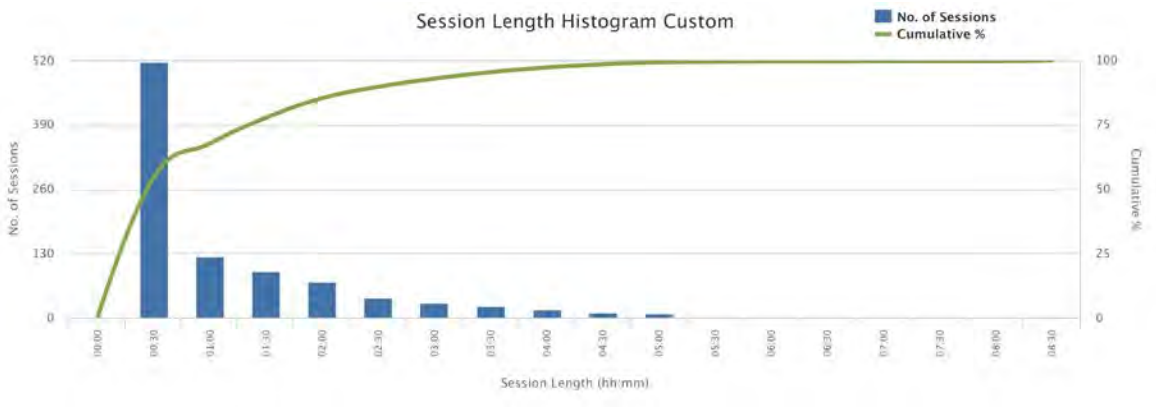
Within the six month data collection period, a total of 946 users charged their cars at the Civic Center location. On average each month, 157.7 users used the Civic Center site to recharge their vehicle.



Source: ChargePoint, Incorporated EV Station Analytics Module: https://na.chargepoint.com/home. (2016).

2.4.1.4: Average Charging Sessions:

Within the six month data collection period, the average charging session length was 53 minutes and 56 seconds at the Civic Center location; however, 54.65% of the charging sessions were within 30 minutes, as indicated in the chart below.



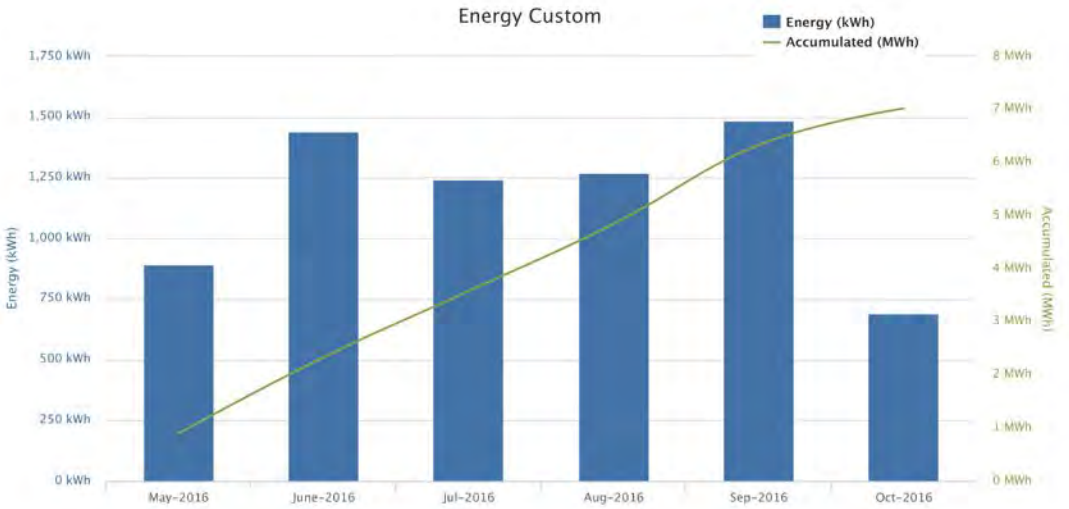
Source: ChargePoint, Incorporated EV Station Analytics Module: https://na.chargepoint.com/home. (2016).

Section 2.4.2: McMaster Park Results

The McMaster Park site was completed in the month of November, 2015. Data was collected for the period of May 1, 2015 – October 31, 2016. Data collection for McMaster Park included periods of time when the park was under construction, meaning data sets may have been impacted. The grant team expects that McMaster Park's usage will continue to increase now that all construction at the park has been completed.

2.4.2.1: Energy Usage:

Over the course of the six month data collection period, the McMaster Park site expended a total of 7.02 MWh, with an average of 1.17 MWh of energy expended per month. The Max Capacity at one time for this site is: 64.4 kW, listed in Section 2.4.7.1: Energy Usage.



Source: ChargePoint, Incorporated EV Station Analytics Module: https://na.chargepoint.com/home. (2016).

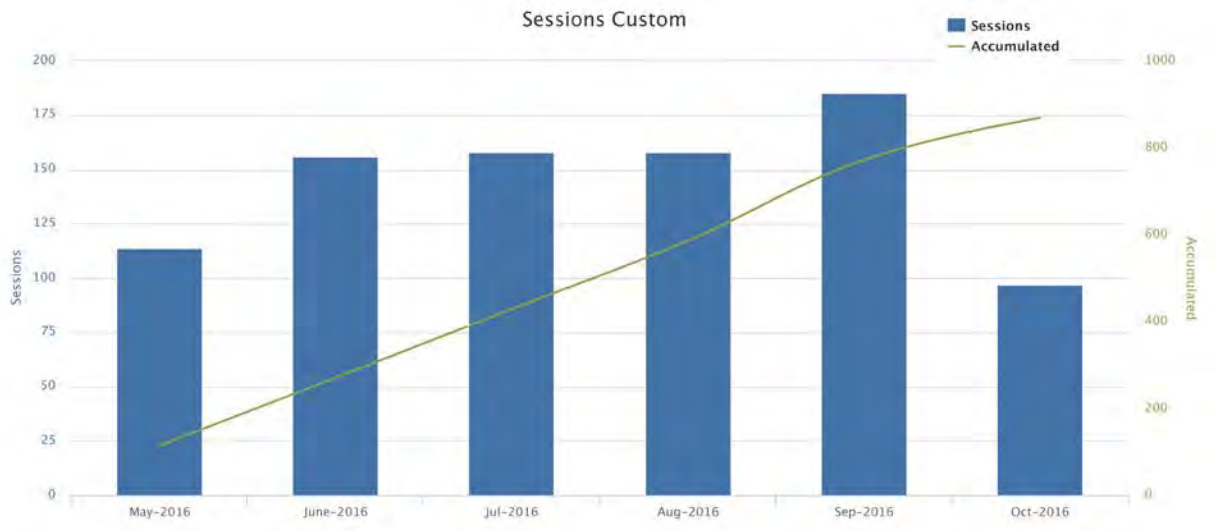
2.4.2.2: Greenhouse Gas Emission Reductions:

The usage of the charging stations at McMaster Park over the six month data collection period reduced greenhouse gas emissions by a total of 2,949 kg with a monthly average of 491.5 kg in reduced emissions.

Source: ChargePoint, Incorporated EV Station Analytics Module: https://na.chargepoint.com/home. (2016).

2.4.2.3: Number of Charging Sessions:

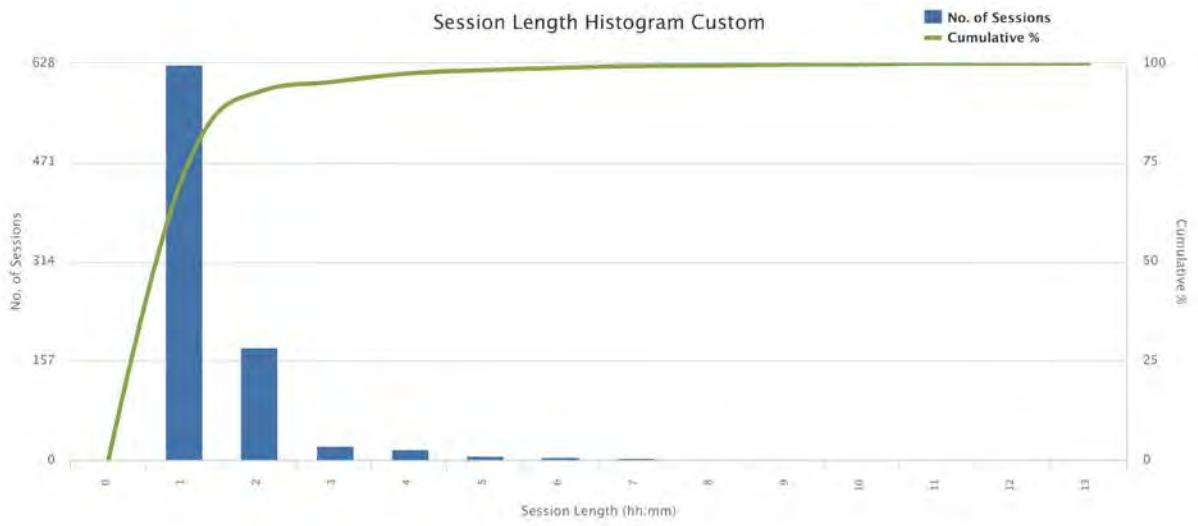
Within the six month collection period, a total of 868 users charged their cars at the McMaster Park location. On average each month, 144.7 users used the McMaster Park site to recharge their vehicle. As mentioned in the introduction to this section, the number of charging sessions in this 6 month period may have been impacted by the construction in other areas of the park. The grant team has observed a steady increase in use at this location over the course of the past year.



Source: ChargePoint, Incorporated EV Station Analytics Module: https://na.chargepoint.com/home. (2016).

2.4.2.4: Average Charging Sessions:

Within the six month data collection period, the average charging session length was 27 minutes and 59 seconds at the McMaster Park location. This average is supported by the fact that 72.24% of the charging sessions were within 30 minutes, as indicated in the chart below.



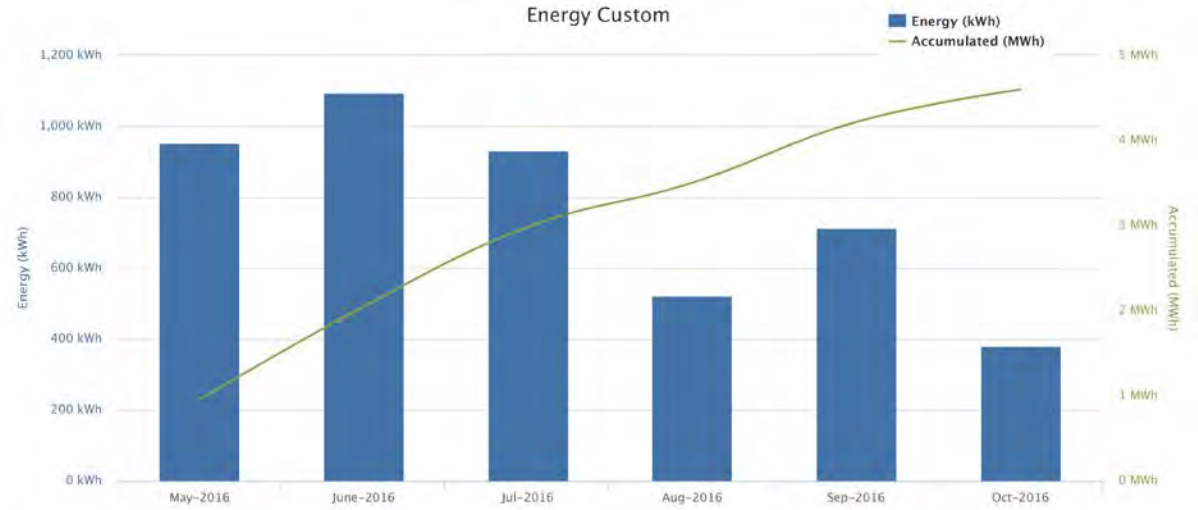
Source: ChargePoint, Incorporated EV Station Analytics Module: https://na.chargepoint.com/home. (2016).

Section 2.4.3: Charles Wilson Park Results

The Charles Wilson Park site was completed in the month of March, 2016. Data was collected for the period of May 1, 2016 – October 31, 2016.

2.4.3.1: Energy Usage:

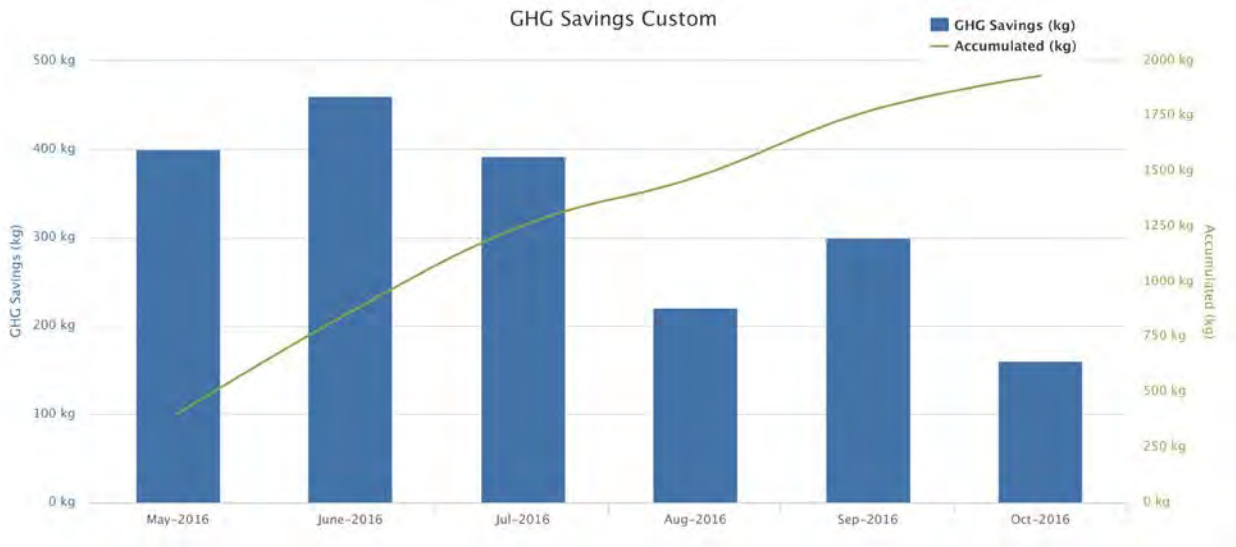
Over the course of the six month data collection period, the Wilson Park site expended a total of 4.599 MWh, with an average of 0.77 MWh of energy expended per month. The Max Capacity at one time for this site is: 64.4 kW, listed in Section 2.4.7.1: Energy Usage.



Source: ChargePoint, Incorporated EV Station Analytics Module: https://na.chargepoint.com/home. (2016).

2.4.3.2: Greenhouse Gas Emission Reductions:

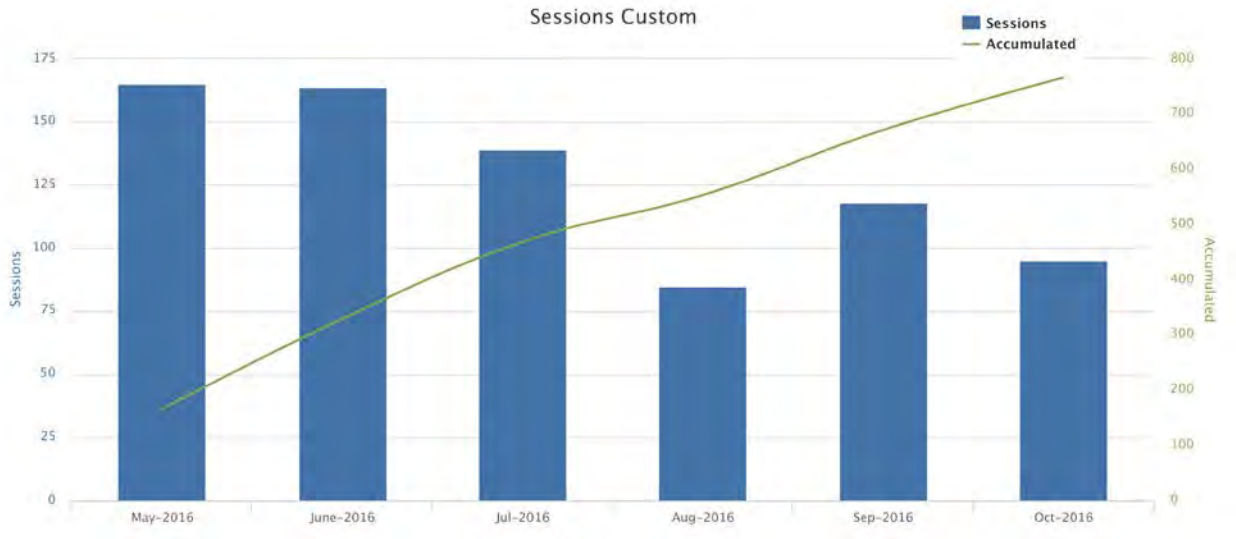
The usage of the charging stations at Wilson Park over the six month collection period reduced greenhouse gas emissions by a total of 1,932 kg with a monthly average of 322 kg in reduced emissions.



Source: ChargePoint, Incorporated EV Station Analytics Module: https://na.chargepoint.com/home. (2016).

2.4.3.3: Number of Charging Sessions:

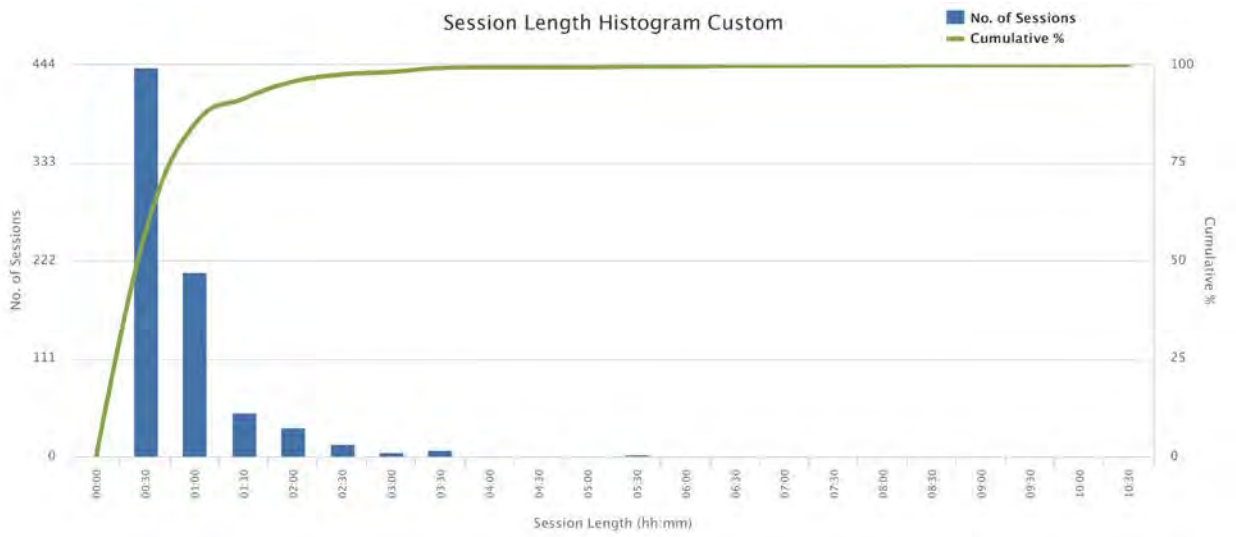
Within the six month collection period, a total of 766 users charged their cars at the Wilson Park location. On average each month, 127.7 users used the Wilson Park site to recharge their vehicle.



Source: ChargePoint, Incorporated EV Station Analytics Module: https://na.chargepoint.com/home. (2016).

2.4.3.4: Average Charging Sessions:

Within the six month data collection period, the average charging session length was 36 minutes and 50 seconds at the Wilson Park location. This average is supported by the fact that 57.57% of the charging sessions were within 30 minutes, as indicated in the chart below.

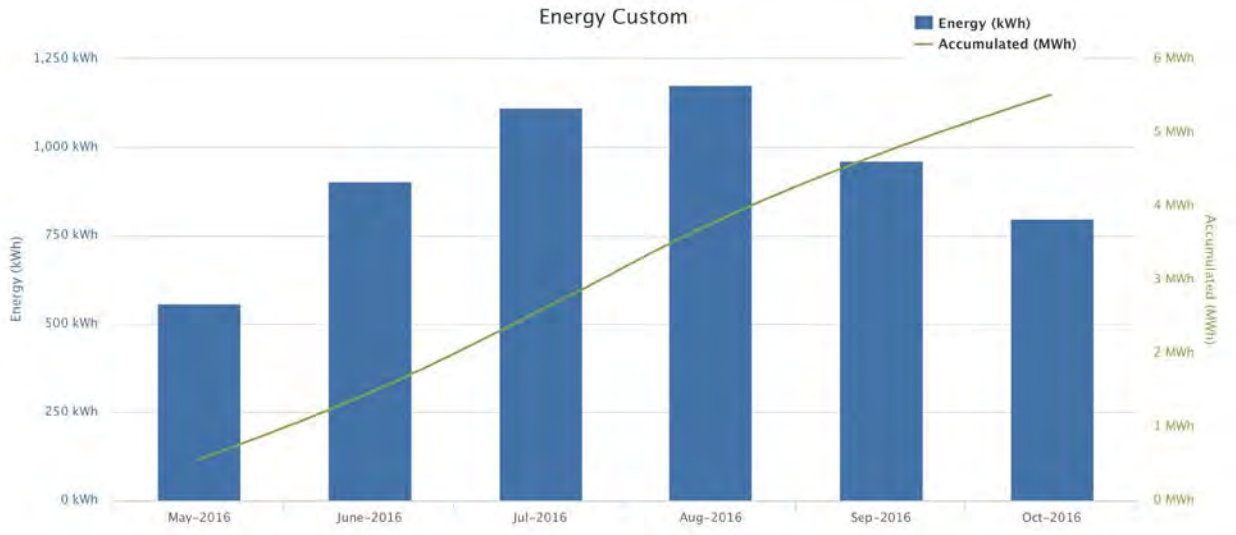


Source: ChargePoint, Incorporated EV Station Analytics Module: https://na.chargepoint.com/home. (2016).

Section 2.4.4: Columbia Park Results

2.4.4.1: Energy Usage:

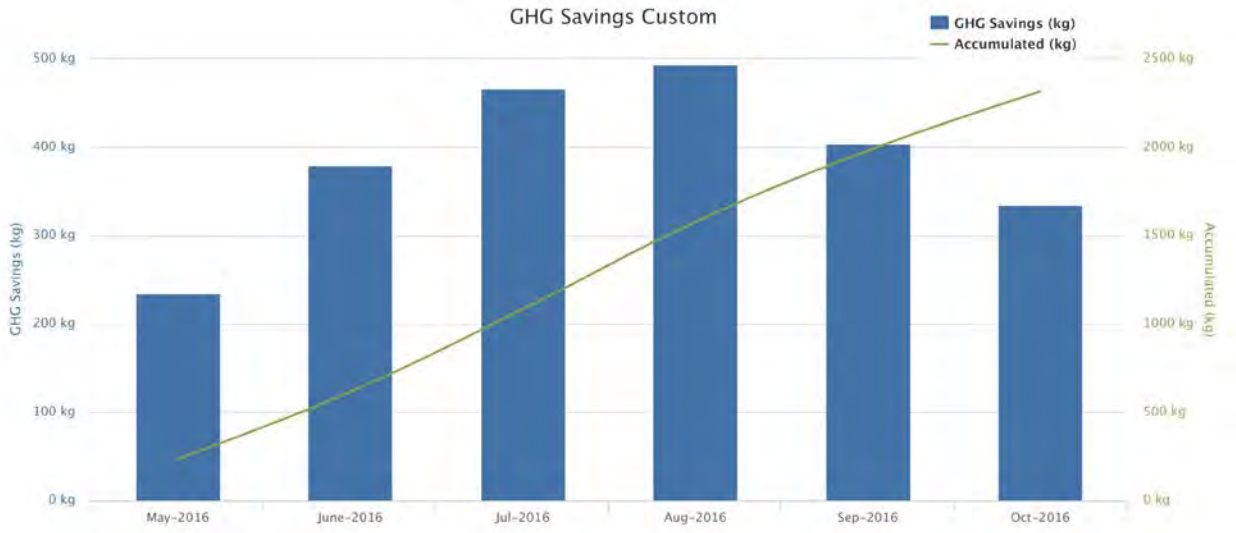
Over the course of the six month data collection period, the Columbia Park site expended a total of 5.51 MWh, with an average of 0.92 MWh of energy expended per month. The Max Capacity at one time for this site is: 64.4 kW, listed in Section 2.4.7.1: Energy Usage.



Source: ChargePoint, Incorporated EV Station Analytics Module: https://na.chargepoint.com/home. (2016).

2.4.4.2: Greenhouse Gas Emission Reductions:

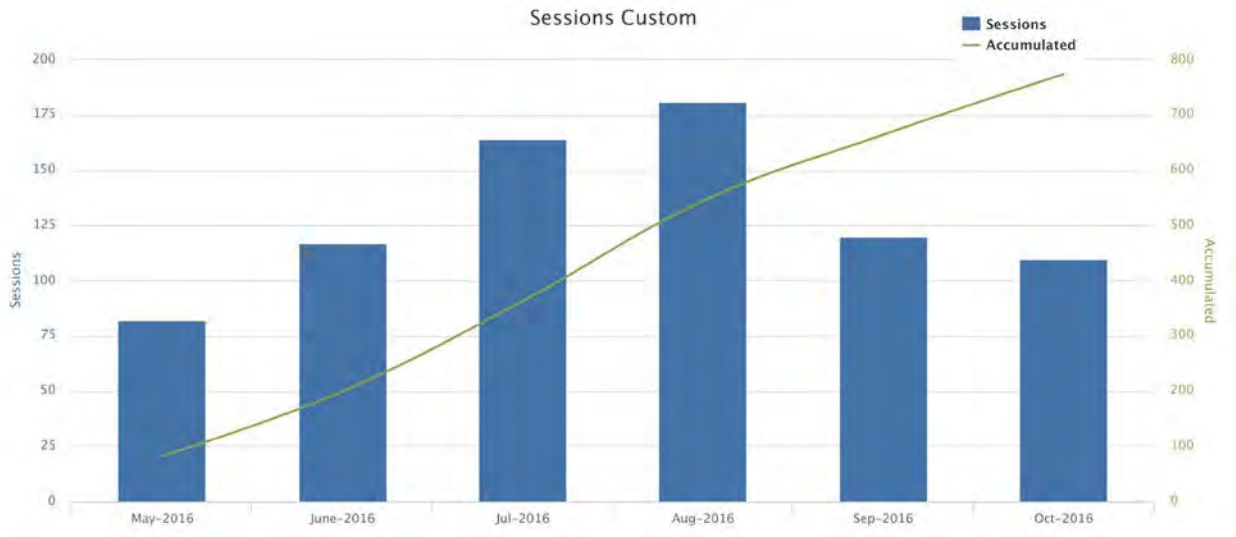
The usage of the charging stations at Columbia Park over the six month collection period reduced greenhouse gas emissions by a total of 2,314 kg with a monthly average of 385.7 kg in reduced emissions.



Source: ChargePoint, Incorporated EV Station Analytics Module: https://na.chargepoint.com/home. (2016).

2.4.4.3: Number of Charging Sessions:

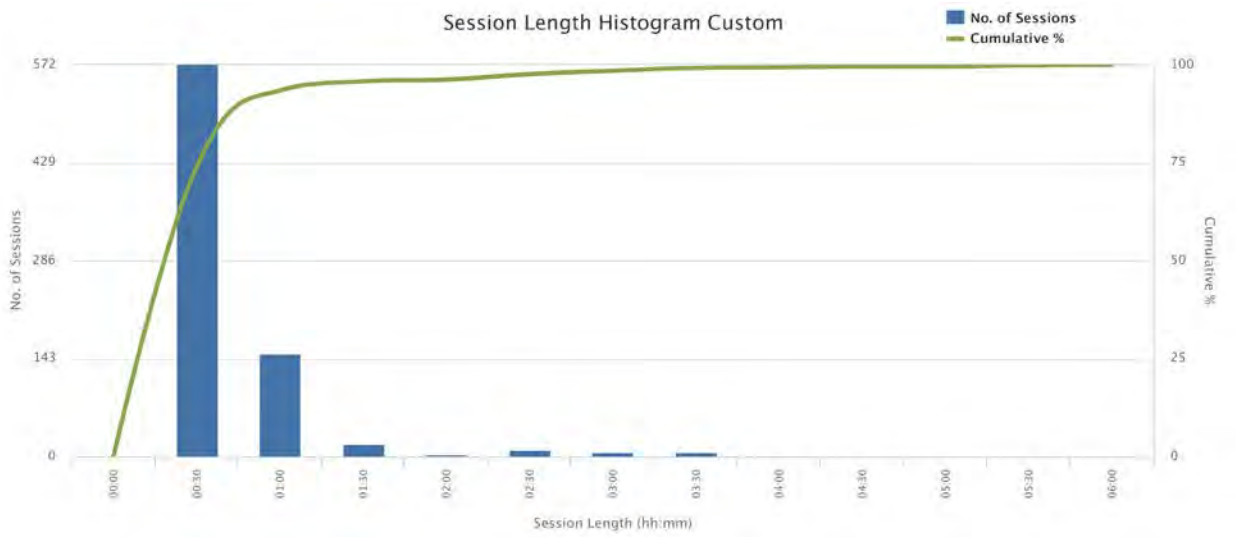
Within the six month collection period, a total of 774 users charged their cars at the Columbia Park location. On average each month, 129 users used the Columbia Park site to recharge their vehicle.



Source: ChargePoint, Incorporated EV Station Analytics Module: https://na.chargepoint.com/home. (2016).

2.4.4.4: Average Charging Sessions:

Within six month data collection period, the average charging session length was 26 minutes and 6 seconds at the Columbia Park location. This average is supported by the fact that 73.9% of the charging sessions were within 30 minutes, as indicated in the chart below.

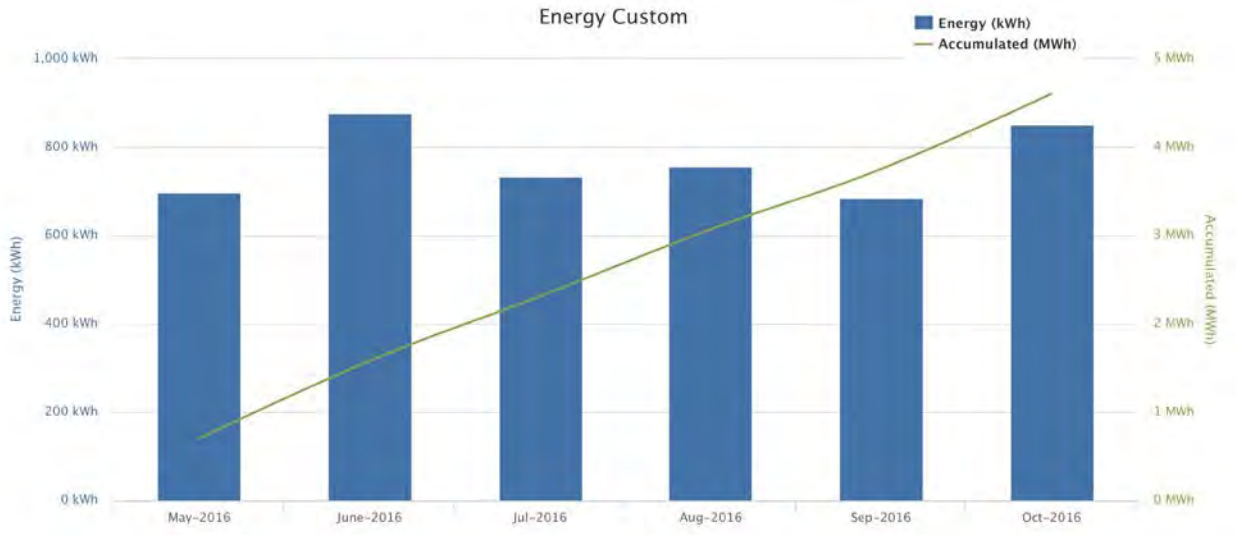


Source: ChargePoint, Incorporated EV Station Analytics Module: https://na.chargepoint.com/home. (2016).

Section 2.4.5: Walteria Park and Library Results

2.4.5.1: Energy Usage:

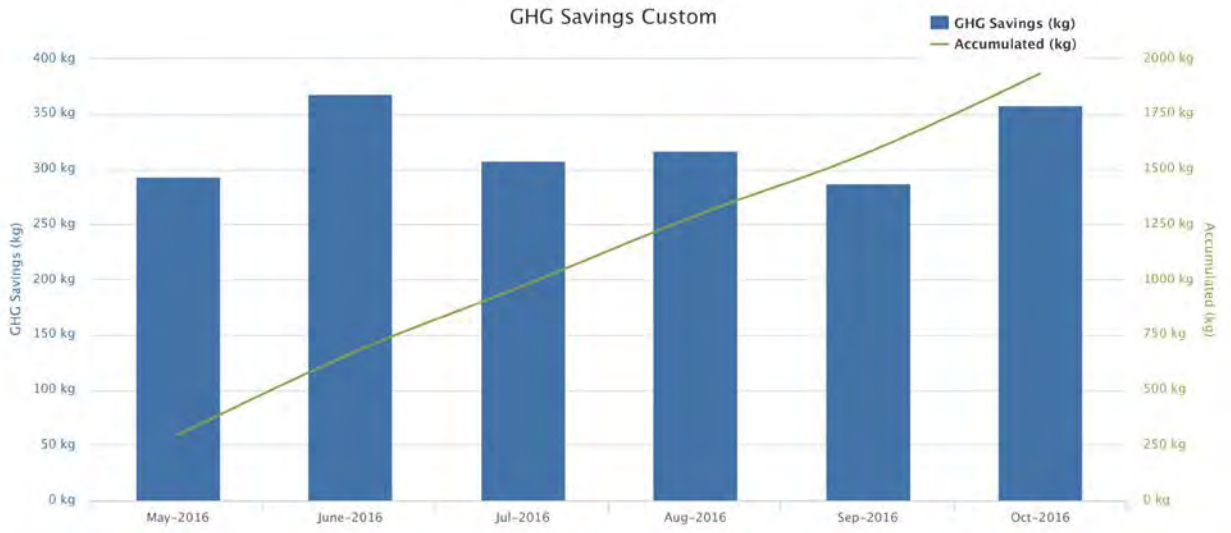
Over the course of the six month data collection period, the Walteria Park site expended a total of 4.602 MWh, with an average of 0.77 MWh of energy expended per month. The Max Capacity at one time for this site is: 64.4 kW, listed in Section 2.4.7.1: Energy Usage.



Source: ChargePoint, Incorporated EV Station Analytics Module: https://na.chargepoint.com/home. (2016).

2.4.5.2: Greenhouse Gas Emission Reductions:

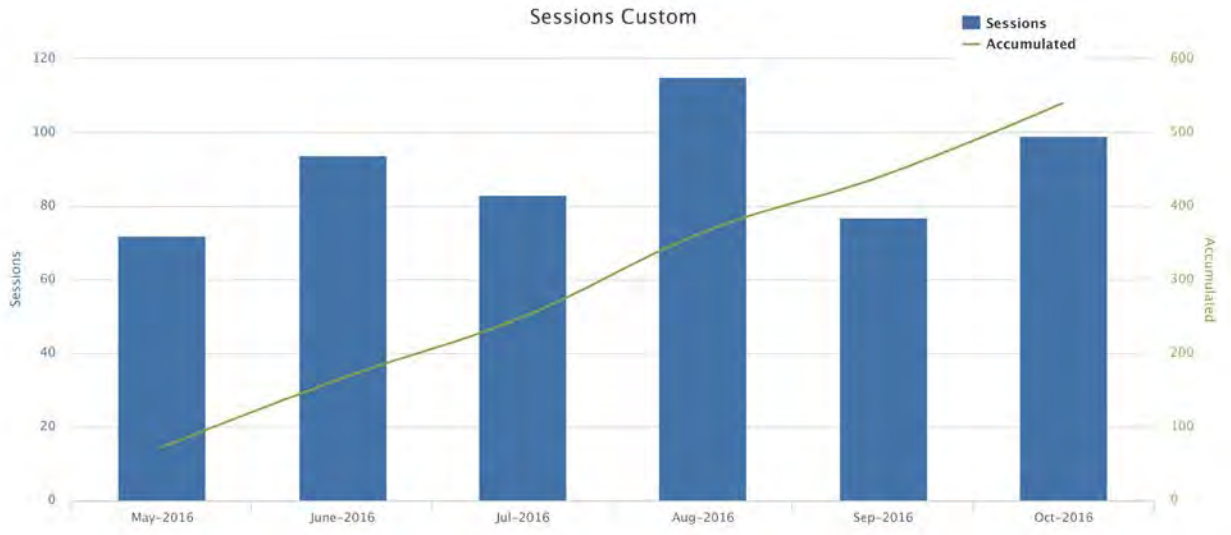
The usage of the charging stations at Walteria Park over the six month collection period reduced greenhouse gas emissions by a total of 1,933 kg with a monthly average of 322.17 kg in reduced emissions.



Source: ChargePoint, Incorporated EV Station Analytics Module: https://na.chargepoint.com/home. (2016).

2.4.5.3: Number of Charging Sessions:

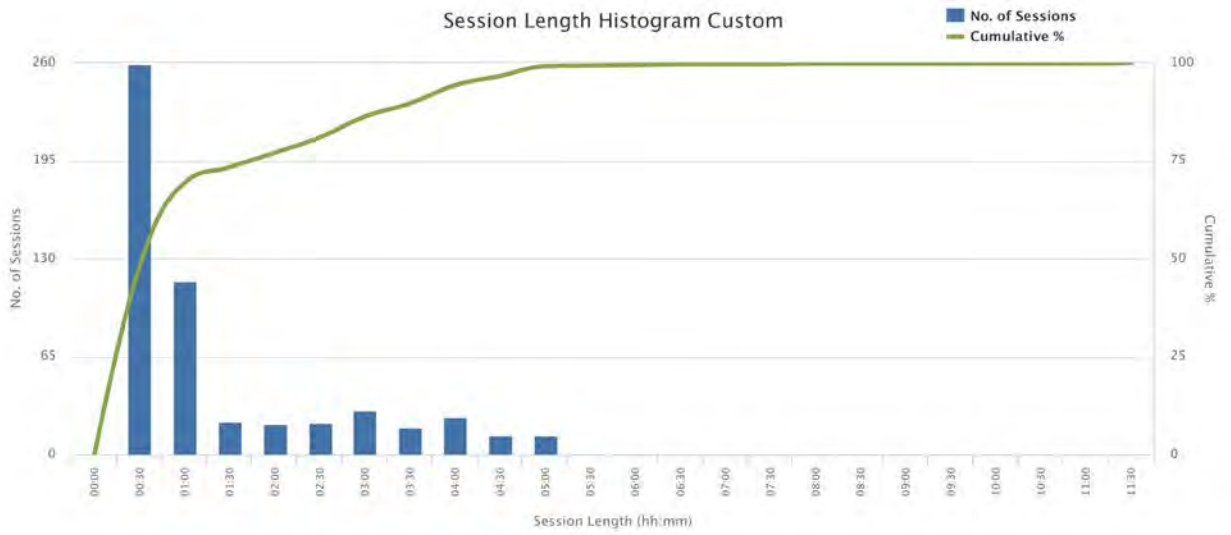
Within the six month collection period, a total of 540 users charged their cars at the Walteria Park location. On average each month, 90 EV drivers used the Walteria Park site to recharge their vehicle.



Source: ChargePoint, Incorporated EV Station Analytics Module: https://na.chargepoint.com/home. (2016).

2.4.5.4: Average Charging Sessions:

Within the six month data collection period, the average charging session length was one hour, 9 minutes and 54 seconds at the Walteria location; However 47.96% of the charging sessions were within 30 minutes, as indicated in the chart below.

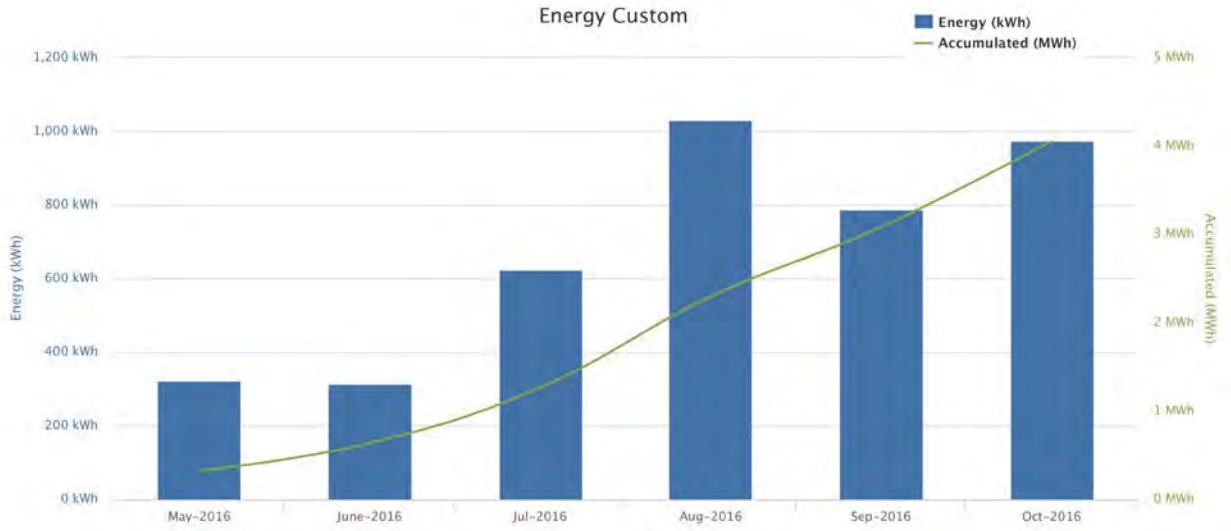


Source: ChargePoint, Incorporated EV Station Analytics Module: https://na.chargepoint.com/home. (2016).

Section 2.4.6: Downtown Parking Lot on Post Avenue Results

2.4.6.1: Energy Usage:

Over the course of the six month data collection period, the Downtown Torrance site expended a total of 4.056 MWh, with an average of 0.68 MWh of energy expended per month. The Max Capacity at one time for this site is: 64.4 kW, listed in Section 2.4.7.1: Energy Usage.



Source: ChargePoint, Incorporated EV Station Analytics Module: https://na.chargepoint.com/home. (2016).

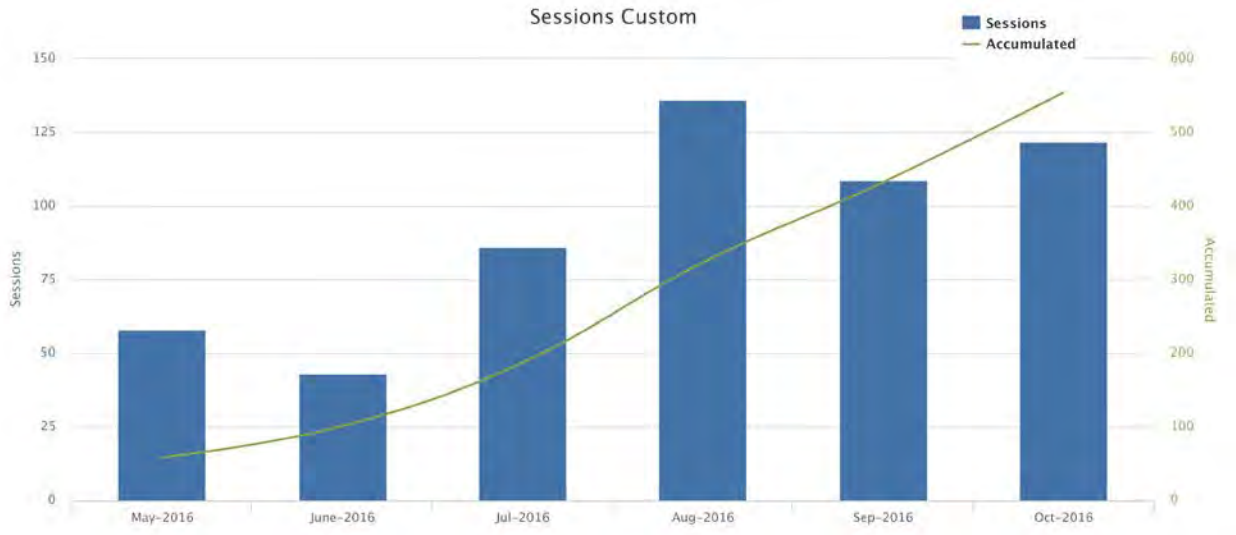
2.4.6.2: Greenhouse Gas Emission Reductions:

The usage of the charging stations at the Downtown Torrance site over the six month collection period reduced greenhouse gas emissions by a total of 1,703 kg with a monthly average of 283.8 kg in reduced emissions.

Source: ChargePoint, Incorporated EV Station Analytics Module: https://na.chargepoint.com/home. (2016).

2.4.6.3: Number of Charging Sessions:

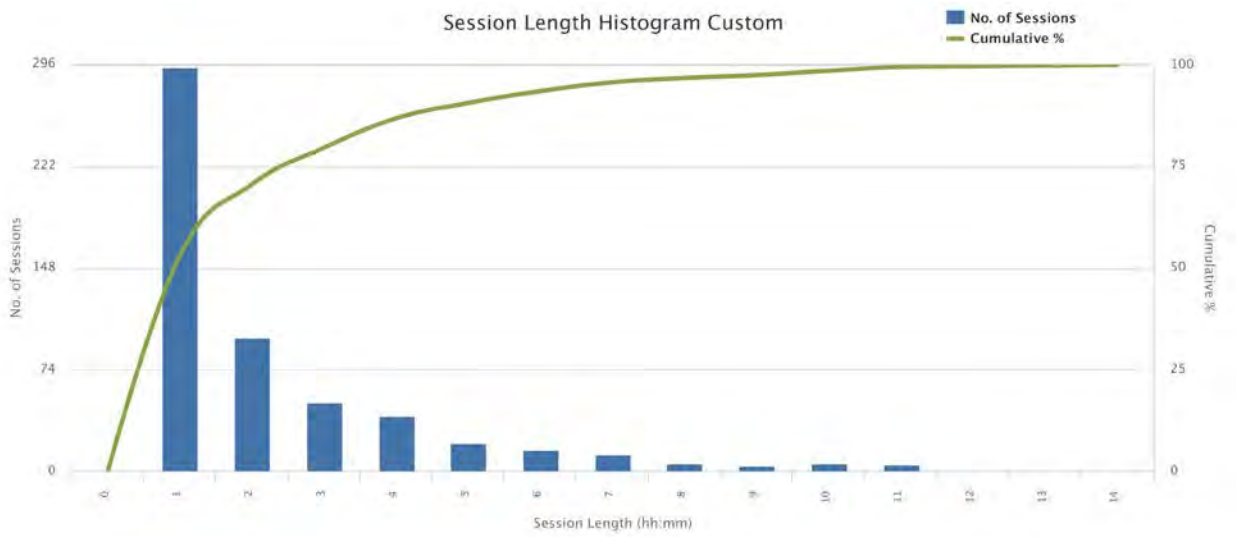
Within the six month collection period, a total of 554 users charged their cars at the Downtown Torrance location. On average each month, 92.3 EV drivers used the Downtown Torrance site to recharge their vehicle.



Source: ChargePoint, Incorporated EV Station Analytics Module: https://na.chargepoint.com/home. (2016).

2.4.6.4: Average Charging Sessions:

Within six month data collection period, the average charging session length was 53 minutes and 45 seconds at the Downtown Torrance location; however, 53.07% of the charging sessions were within 30 minutes, as indicated in the chart below.



Source: ChargePoint, Incorporated EV Station Analytics Module: https://na.chargepoint.com/home. (2016).

Section 2.4.7: Total Project Results - 6-Month Data Collection Period

The following results will include the same data sets reported individually for each site as a total for all six sites, for the six month period when all six sites were operational: between May 1, 2016 and October 31, 3016.

2.4.7.1: Energy Usage:

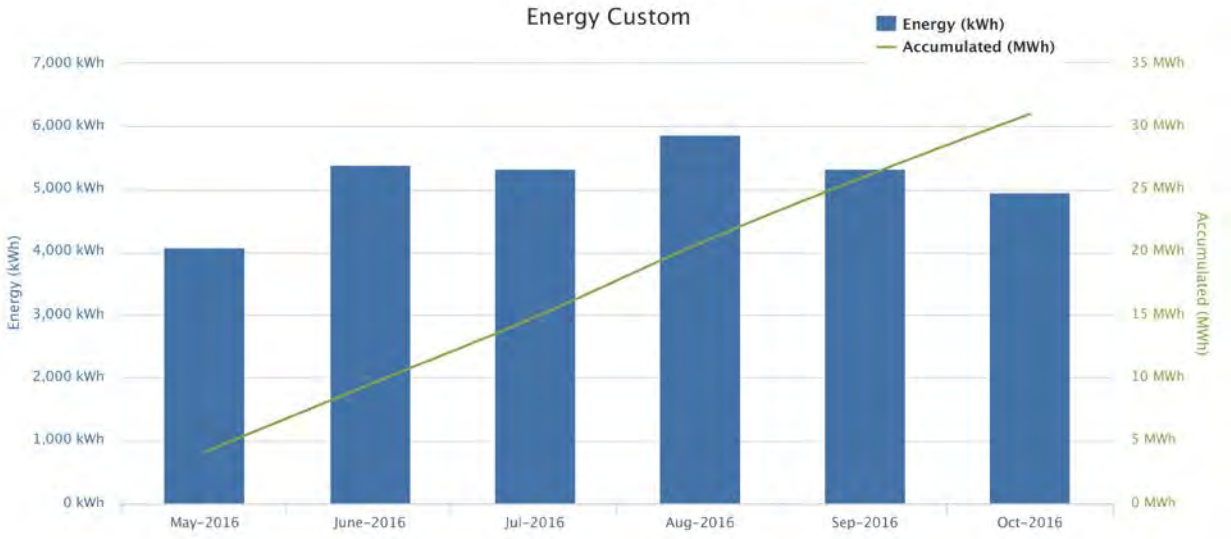
The maximum capacity at one time for the six sites, with the exception of the Civic Center, is 64.4 kW each. The Katy Geissert Library Civic Center Complex has a maximum capacity of 78.8 kW, as shown in the Table below:

Table 1: Maximum Energy Capacity of Each Location

Site	DCFC	Single Port, Dual Connector, CHAdeMo + Combo 1 Connector	L2	L2 Port (J1772)	Total Power per Site
Civic	50kW	1	7.2kW	4	78.8kW
Wilson	50kW	1	7.2kW	2	64.4kW
Walteria	50kW	1	7.2kW	2	64.4kW
Columbia	50kW	1	7.2kW	2	64.4kW
Post	50kW	1	7.2kW	2	64.4kW
McMaster	50kW	1	7.2kW	2	64.4kW

Source: ChargePoint, Incorporated EV Station Analytics Module: https://na.chargepoint.com/home. (2016).

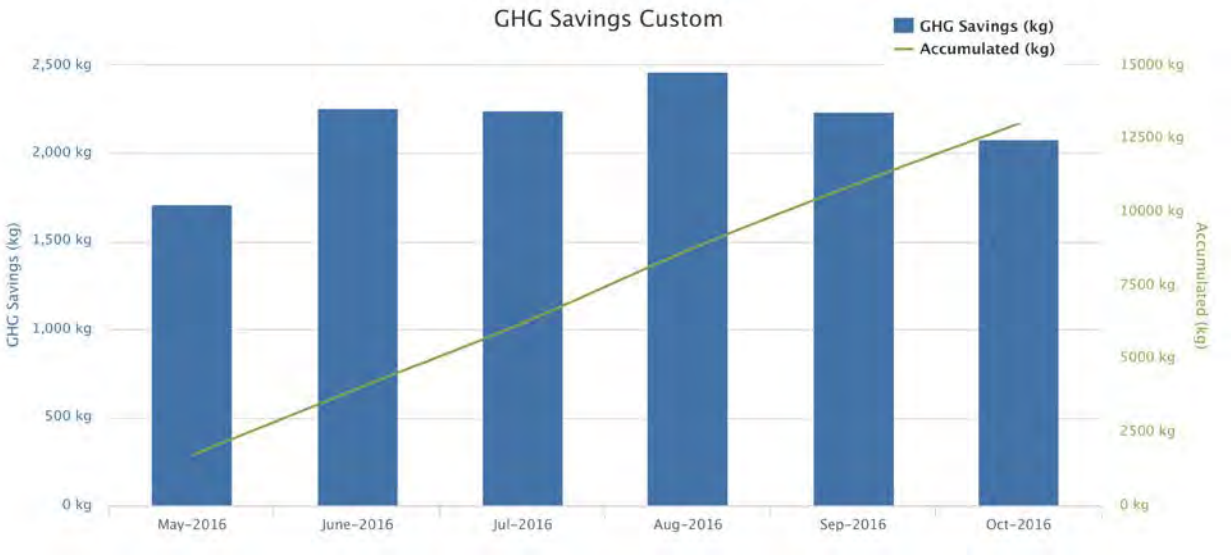
Over the final six month period of the project, the charging stations expended a total of 30.954 MWh, with an average of 5.159 MWh of energy expended per month.



Source: ChargePoint, Incorporated EV Station Analytics Module: https://na.chargepoint.com/home. (2016).

2.4.7.2: Greenhouse Gas Emission Reductions:

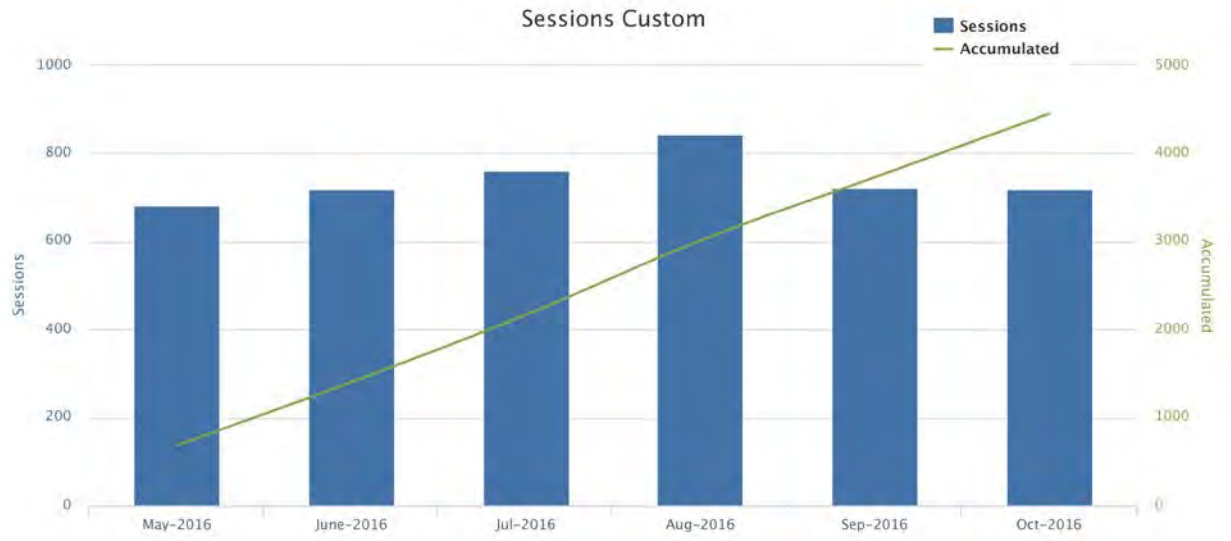
The usage of the charging stations over the final six month period between May 1 – October 31, 2016 reduced greenhouse gas emissions by a total of 13,000 kg, with a monthly average of 2,166.7 kg in reduced emissions.



Source: ChargePoint, Incorporated EV Station Analytics Module: https://na.chargepoint.com/home. (2016).

2.4.7.3: Number of Charging Sessions:

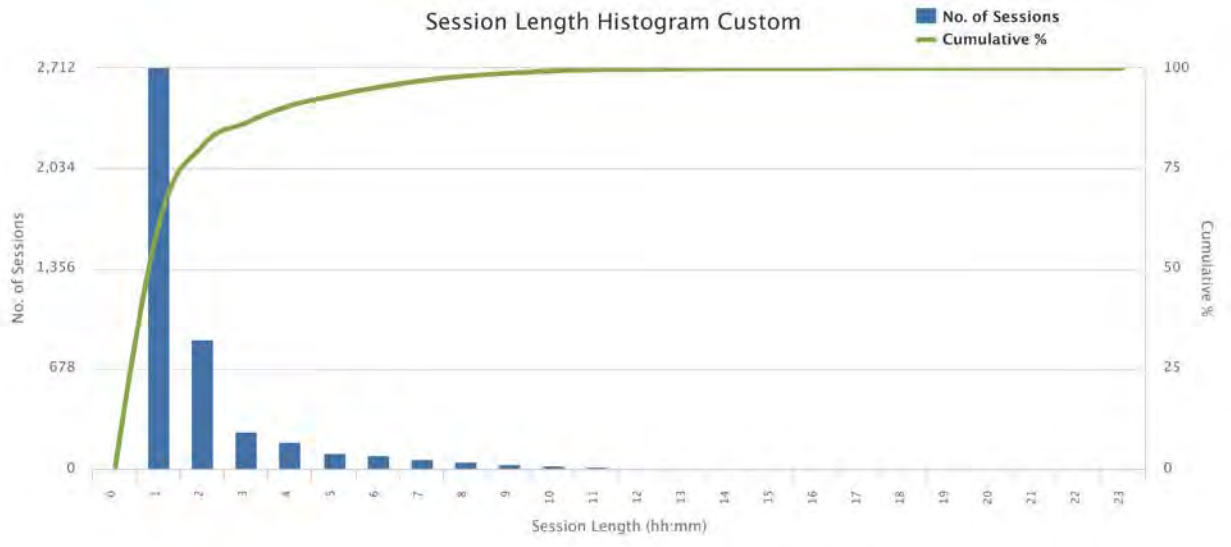
Within six months, a total of 4,448 users charged their cars at one of the six locations. On average each month, 741.3 EV drivers used one of the six sites to recharge their vehicle.



Source: ChargePoint, Incorporated EV Station Analytics Module: https://na.chargepoint.com/home. (2016).

2.4.7.4: Average Charging Session Length:

Within the six month data collection period, the average charging session length was 43 minutes. This average is supported by the fact that 60.93% of the charging sessions were within 30 minutes, as indicated in the chart below.



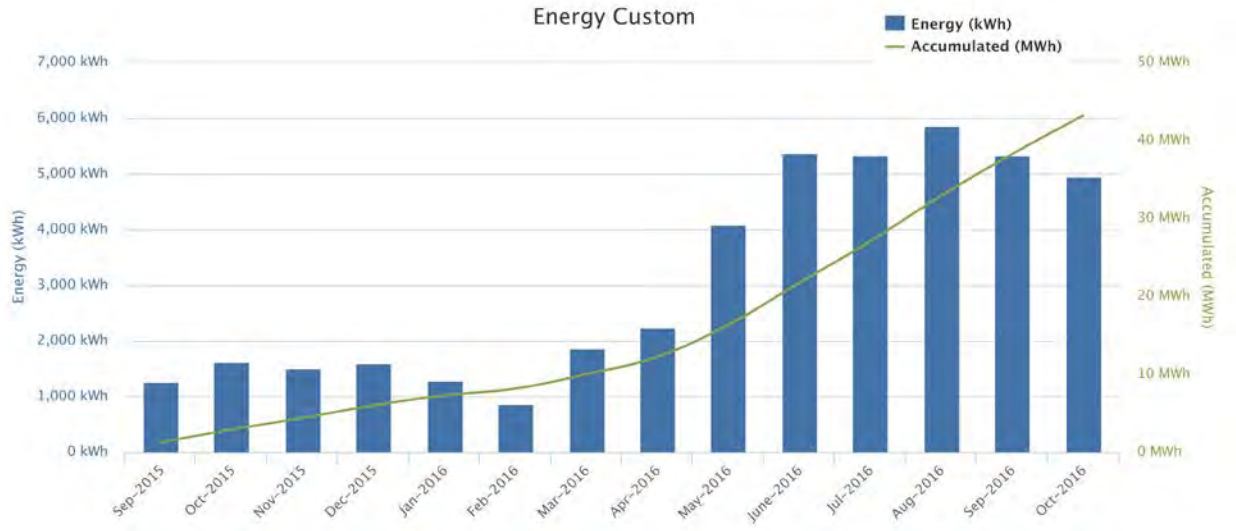
Source: ChargePoint, Incorporated EV Station Analytics Module: https://na.chargepoint.com/home. (2016).

Section 2.4.8: Total Project Results – Past 365 Days

The following results will include the same data sets reported individually for each site as a total for all six sites, for the period between September 10, 2015 – October 31, 2016.

2.4.8.1: Energy Usage:

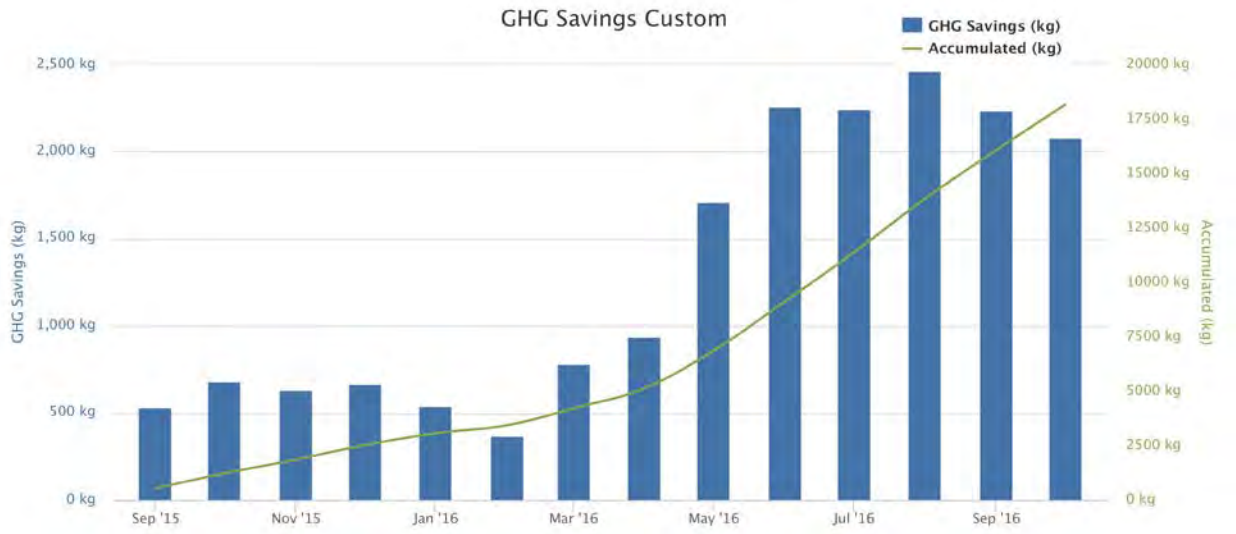
Over the life of the project, the charging stations expended a total of 43.198 MWh, with an average of 3.09 MWh of energy expended per month.



Source: ChargePoint, Incorporated EV Station Analytics Module: https://na.chargepoint.com/home. (2016).

2.4.8.2: Greenhouse Gas Emission Reductions:

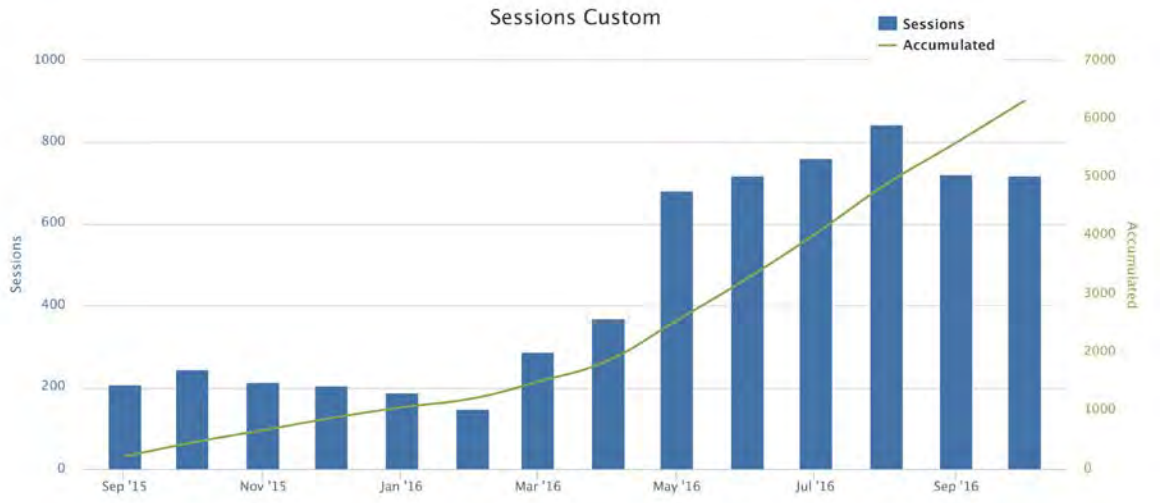
The usage of the charging stations over the life of the project reduced greenhouse gas emissions by a total of 18,143 kg, with a monthly average of 1,296 kg in reduced emissions.



Source: ChargePoint, Incorporated EV Station Analytics Module: https://na.chargepoint.com/home. (2016).

2.4.8.3: Number of Charging Sessions:

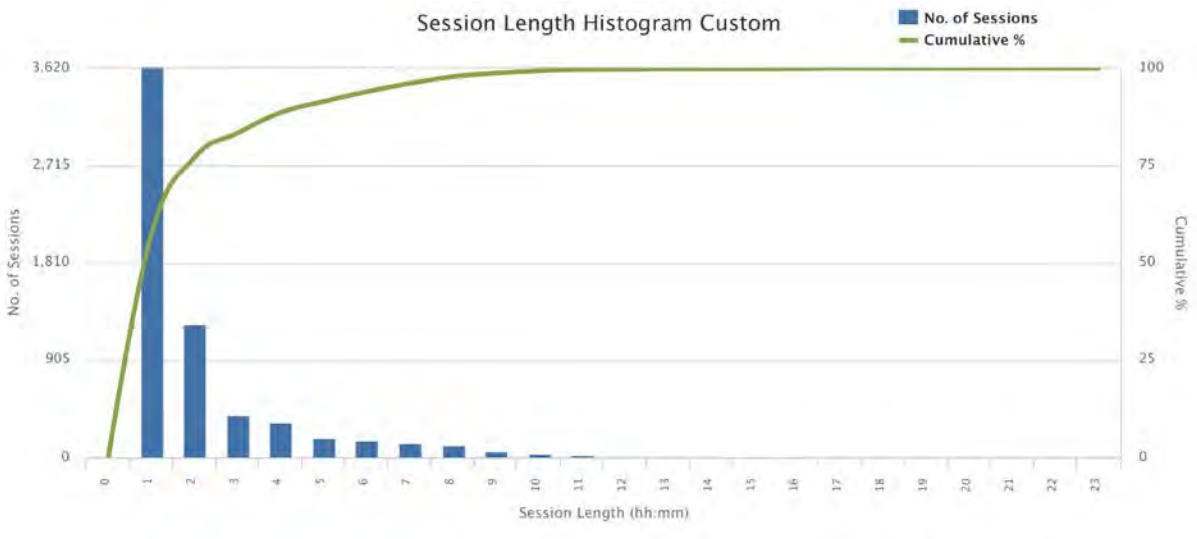
Over the duration of the project, a total of 6,309 users charged their cars at one of the six locations. On average each month, 450.6 EV drivers used one of the six sites to recharge their vehicle.



Source: ChargePoint, Incorporated EV Station Analytics Module: https://na.chargepoint.com/home. (2016).

2.4.8.4: Average Charging Session Length:

Over the course of the project, the average charging session length was 47 minutes and 46 seconds long; however, 57.41% of sessions were within 30 minutes, as indicated in the chart below.



Source: ChargePoint, Incorporated EV Station Analytics Module: https://na.chargepoint.com/home. (2016).

Section 2.4.9: Summary of Data Collected

Once the data was collected, it was reviewed to determine any overall trends observed and then analyzed to determine whether the project successfully achieved its goals and attained its

expected benefits. The analysis of the data in regards to achievement of goals and expected benefits will be discussed in Chapter 3: Project Success and Advancement in Science.

The first trend of note reflects an overall slow but steady growth in the usage of the charging stations. The project has now continuously had over 700 sessions a month for 5 consecutive months, with May, 2016 not being included as it fell just short of 700 with 683 sessions. As more of the public becomes aware of the charging stations and/or makes the switch from conventional gasoline powered vehicles to electric vehicles, this number is expected to continue to grow with demand.

The second observation concerns the average length of charging sessions. The data indicates that the sites have an average charging session length of 43 minutes, with 61% of the sessions completed within the first 30 minutes and 80.6% of the sessions completed within 1 hour. When the data is further reduced to 15 minute increments, 34.22 % of the charging sessions are completed within the first 15 minutes, likely due to the DC fast charger infrastructure. This data can be used to support the notion that these charging stations predominately serve as a "top-off" for EV drivers hoping to extend the range of their EV batteries in order to reach their next destination. Additionally, both McMaster and Columbia Parks maintain the shortest average charging session durations, at 27 minutes, 59 seconds, and 26 minutes, 6 seconds, respectively. The average session length at these two sites likely indicates a predominate utilization by commuters, due to the close proximity of these two locations to the 405 freeway corridor.

Lastly, five of the six sites experienced a considerably stronger August month, which had 101.7 more charging sessions than the 6-month average of 741.3 sessions. The one outlier to these results is the Wilson Park location which, with only 85 sessions in the month of August, experienced a 33% percent lower usage than its 6-month average of 127.7 sessions. As there were no apparent service disruptions at the Wilson Park site, this appears to be an unexplained anomaly.

CHAPTER 3:
Success of the Project and Advancements in Science

Section 3.1: Achievement of Goals

Section 3.1.1: Goal 1 – One Mile, One Charger

One of the main goals of the One Mile, One Charger Project was to construct and facilitate the construction of publicly accessible charging stations so that one would never be more than a mile from a charging station within the City's boundaries. To measure whether the project was successful, the City created a map with areas that are within one mile of a publicly accessible EV charging station shaded in. By the end of the project, the goal was to have at least 90% of the grid shaded by the proximity to accessible charging stations. The map, included in the following pages, shows the City-owned ChargePoint charging stations in orange, commercial charging stations in purple, and forthcoming charging stations that are planned or under construction in yellow. As this map indicates, the majority of the City is within a mile of publicly accessible charging stations. As of the submittal of this report, the City has achieved 92% coverage. When the forthcoming charging stations are also taken into consideration, the City will have achieved 96% of coverage, once these charging stations are also brought online. Based on the percentage of coverage, the City has successfully achieved the goal of never being more than one mile of a charging station within the City boundaries. Future City projects or businesses looking to provide their customers with charging stations while they visit will likely bring the City even closer to reaching 100% coverage.

Figure 4: Area within One Mile of Exisiting Publicly Accessible EV Charging Stations, Torrance

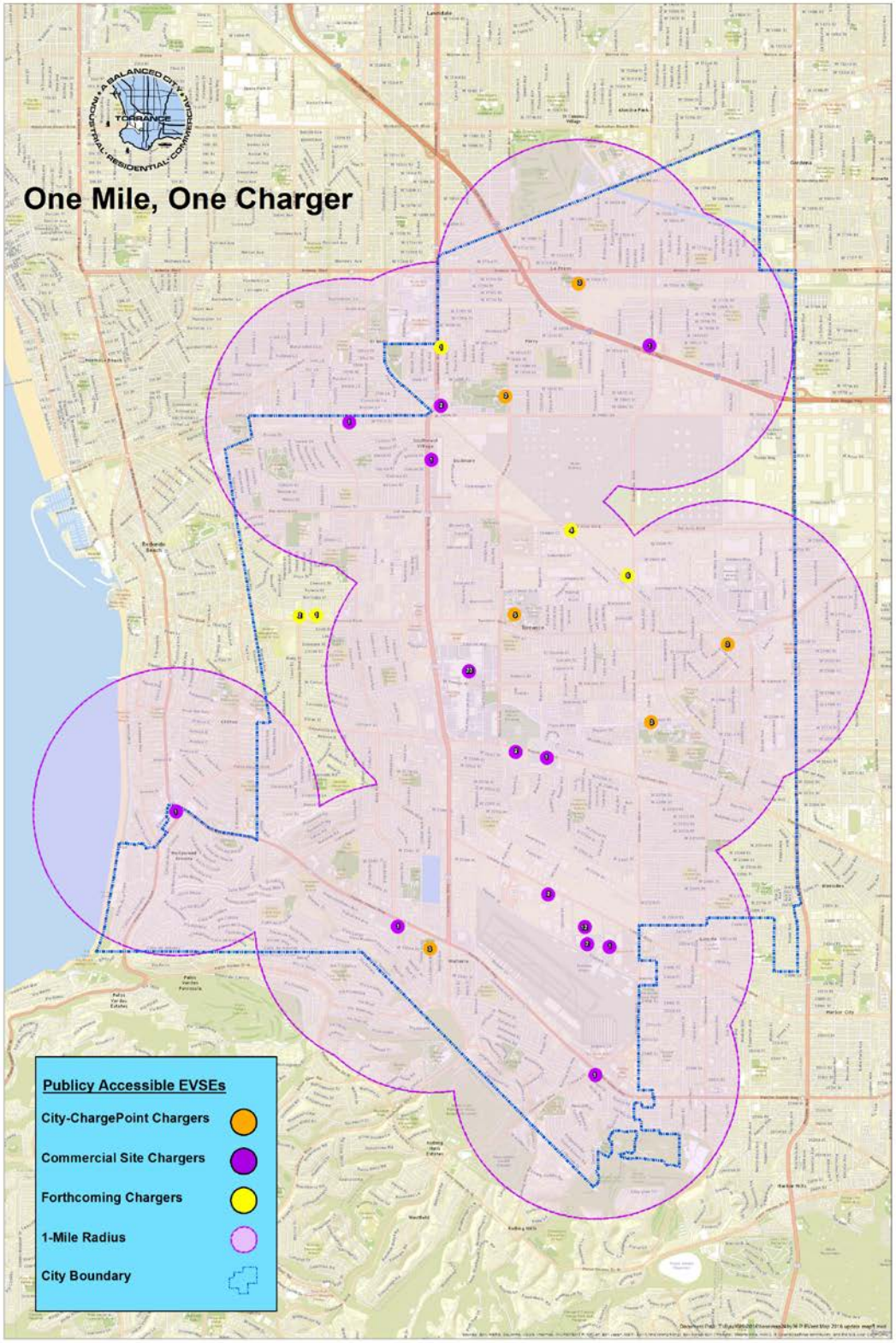


Image produced by the Community Development Department, GIS Division

Figure 5: Area within One Mile of Existing and Forthcoming Publicly Accessible EV Charging Stations, Torrance

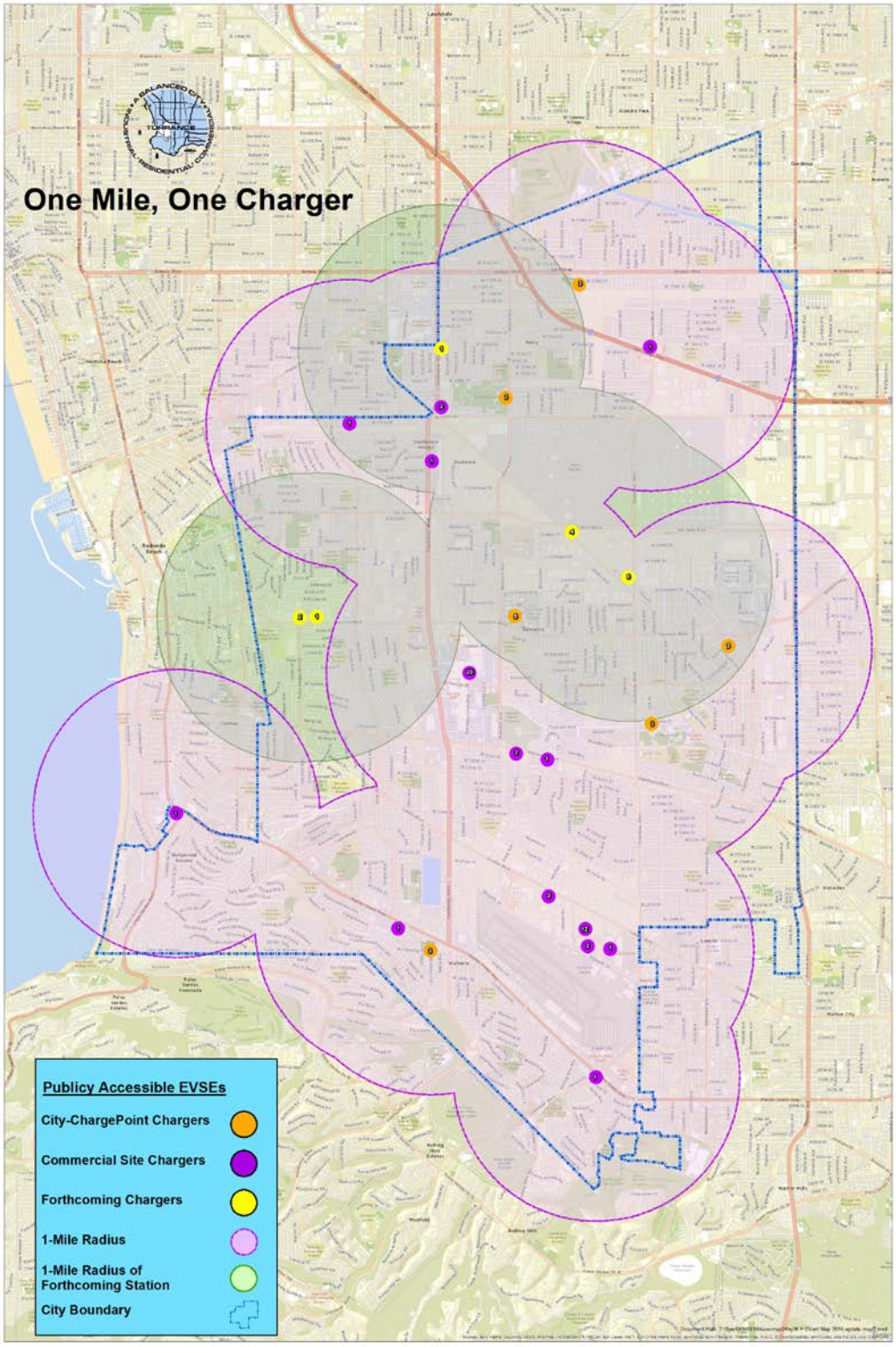


Image produced by the Community Development Department, GIS Division

Section 3.1.2: Goal 2 – Meet the Growing Demand for Infrastructure

As electric vehicle technology improves over time, increasing the range of the vehicles and bringing costs down, more and more people will make the switch from conventional gasoline powered vehicles to electric models and the demand for charging stations will increase. To keep up with the increasing number of electric vehicles, the access to charging stations must be considered. As a measure to determine whether the project has been successful in increasing access to EV infrastructure, an estimate of the number of vehicles charged at the two existing charging stations at the Civic Center, before the new charging stations were installed will be compared with the number of vehicles charged after the installations were completed, using the usage data collected from the EV units over a the 6 month period between May 1, 2016 and October 31, 2016. To determine how many vehicles were estimated to have been charged prior to this project at the Civic Center, based on the Level II nature of the prior equipment and Civic Center operating hours, the team assumed that each of the two charge ports would allow up to 3 charging sessions a day, for a total of 6 sessions per day. Using this methodology, the number of vehicles charged prior to the completion of this project in a given six month period, between May 1 and October 31, would have been 1,104. During the six month time frame when data was collected for the project, a total of 4,448 EV drivers charged their vehicle at one of the six City-owned charging stations, a 303% increase when compared to the 1,104 sessions. This increase in usage is considerable when accounting for the fact that the prior units were free while the new charging stations collect a fee. Usage of the charging stations has remained relatively constant since all six sites came online, but the City expects this usage to increase over time, as more EVs are put on the road.

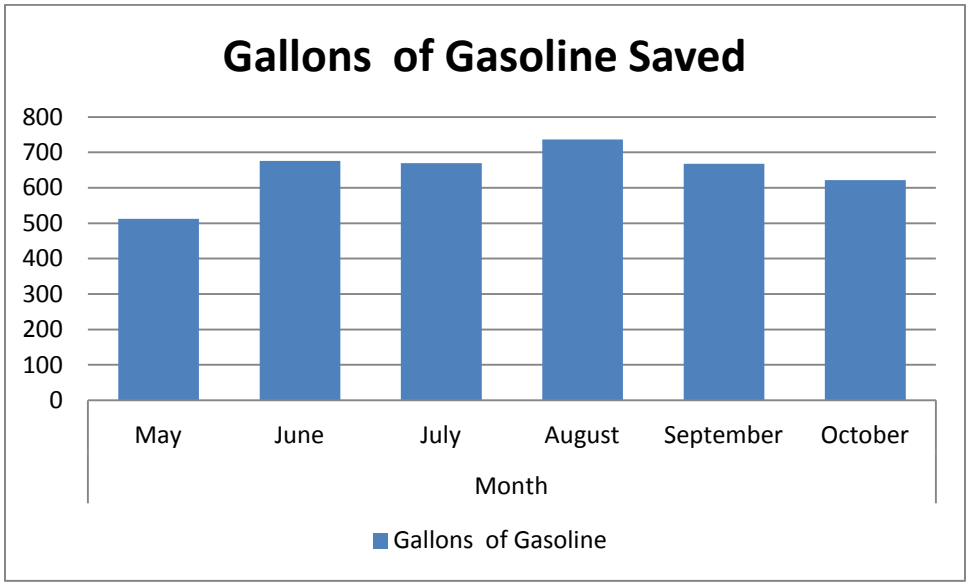
In addition, this data is limited to the City-owned charging stations, which have experienced a significant increase, while the number of publicly accessible charging stations on private commercial properties has tripled over this same time period.

Section 3.1.3: Goal 3 – Emissions Benefits (Stewardship of the Environment)

As electric vehicles replace conventional gasoline powered models, air quality will improve and greenhouse gas emissions will decrease. By promoting the ownership of EVs through increasing access to charging infrastructure, the project will assist with and promote the care and protection of our environment. To measure the success of this project in promoting stewardship of the environment, the City will determine whether the project achieved or will achieve a goal of displacing 4 million internal combustion engine (ICE) vehicle miles within one year of the final DC Fast Charge Installations. This will be determined using the ChargePoint data source of "How much gasoline have we saved?" for the past six months and comparing it with the EPA's Fuel Economy Standards to determine how many ICE vehicle miles were displaced. This number would then be extrapolated out for a one year period to determine if this goal has been achieved. According to the Environmental Protection Agency's website, the Fuel Economy Standard rose from 2013 at 34.7 miles per gallon (mpg) to 39.5 mpg in 2016.[2]

[2] U.S. Environmental Protection Agency, *EPA and NHTSA Finalize Historic National Program to Reduce Greenhouse Gases and Improve Fuel Economy for Cars and Trucks,* (Office of Transportation and Air Quality, April 2010), EPA-420-F-10-014. Available at: *nepis.**epa**.gov/Exe/ZyPURL.cgi?Dockey=P100AKHW.TXT*

Although the project development occurred in 2013- 2014, construction was completed in 2016, so the 2016 standard will be used for this report at 39.5 mpg. According to the data collected on ChargePoint's website between May 1 – October 31, 2016, a total of 3,884.6 gallons of gasoline were saved. These 3,884.6 gallons of gasoline that were saved resulted in a reduction of 13,000 kg of greenhouse gas emissions.



Source: ChargePoint, Incorporated EV Station Analytics Module: https://na.chargepoint.com/home. (2016).

When using the methodology described above, the amount of ICE vehicle miles saved in the six month period is 153,441.7 ICE miles. In addition the total project gasoline savings, from the time the first site became available in September 2015 until October 31, 2016, are 5,422 gallons, which equates to a total of 214,169 ICE miles displaced and 18,143 kg of greenhouse gas emissions saved. When extrapolated out to a 12 month period, the number of ICE miles displaced are 306,883.4 ICE miles. While this number is far below the goal of displacing 4 million vehicle miles, this number accounts solely for the City charging stations and the number is expected to grow substantially as more electric vehicles are put on the road and the public continues to grow in awareness of the EV charging stations. It must also be noted that gasoline prices have been incharacteristictly low in the recent past, which has likely contributed to a slower acceleration of the financial benefits of conversion to EVs. In addition, any decrease in greenhouse gas emissions locally and regionally should be considered a success and this number will continue to grow along with the total number of ICE vehilce miles displaced and gallons of gasoline saved.

Section 3.2: Expected Benefits – Outcomes of the Project

The expansion of the publicly accessible charging stations has resulted in construction hours during the project's build out and raised the profile of Torrance's support for alternative fuels to promote economic investment. During construction, the project supported approximately 1,350 Foreman and apprentice level construction hours, resulting in a one-time infusion of wages into

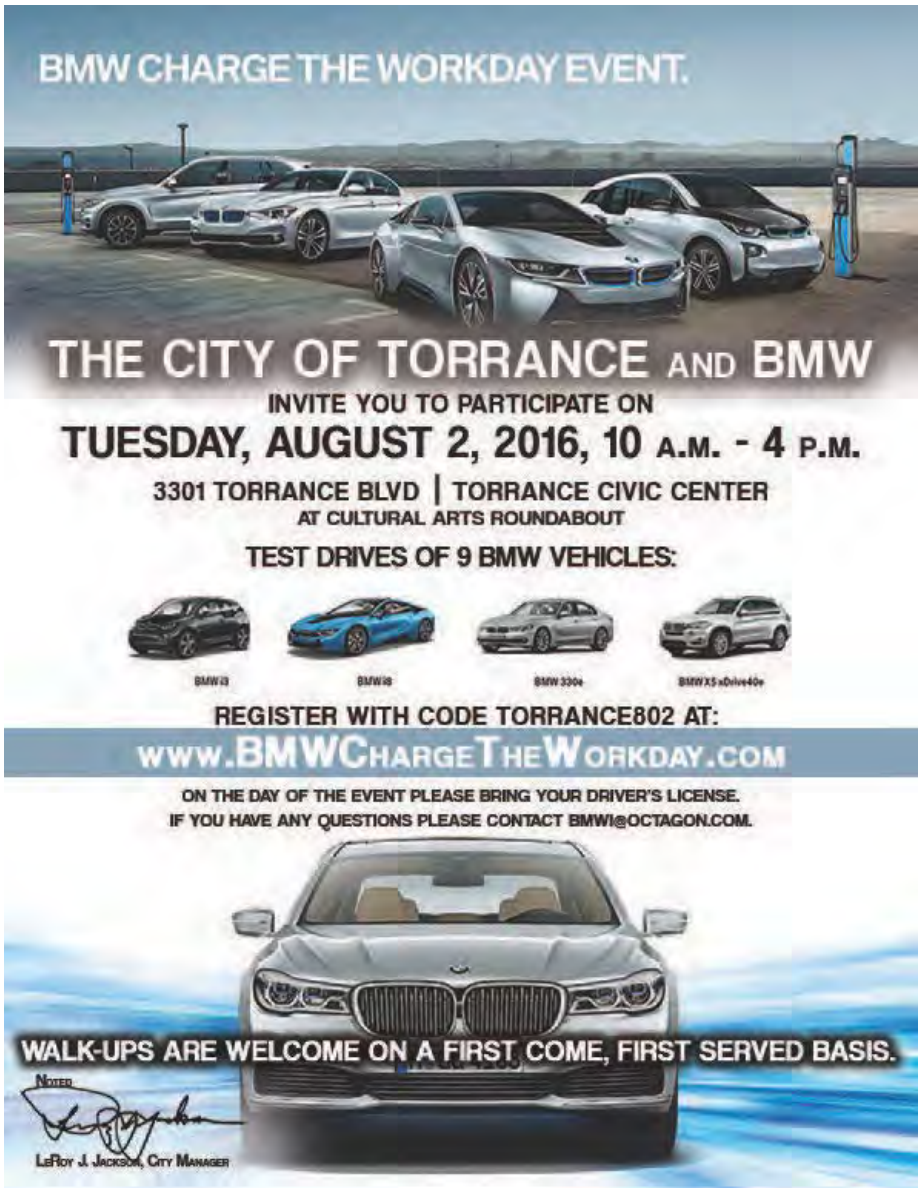
the regional economy and access to continued training and experience in this field. Secondly, these efforts to support the Electric Vehicle industry, have resonated with two recent additions to the Torrance business community and played a role in attracting them to Torrance. Regionally, Faraday Futures has been a rapidly expanding corporation. They have recently signed a lease to occupy a 150,000 sf industrial building formerly occupied by Panasonic at 525 Maple Avenue in Torrance. They intend to staff the facility with R&D, Design and Testing elements of their operation, with approximately 80 to 100 design and engineering professionals. When they approached the City of Torrance with interest in the facility, they indicated the City's support for electric vehicle infrastructure helped spur the appeal in locating their new facility in Torrance.

At an international level, Tritium, an Australian DC fast charger manufacturer and servicer, announced plans to expand their US presence in 2017. They indicated to the City that they were interested in being located in a central location to both the Los Angeles region and to where there is a significant presence and support of EV charging infrastructure. In addition, Tritium manufactures the DC Fast chargers that were installed for this project, and representatives of the company stated that the presence of their own units as well as the large number of charging stations in the City was one of the primary reasons for choosing Torrance for their first international office in the United States. They have signed a lease for a vacant 7,500 sf industrial facility at 2972 Columbia Avenue in Torrance to serve as their service, final charger product assembly and testing, warehouse and administrative offices. They plan to commence with 8 staff of service/assembly technicians and administrative personnel but expect to grow to 20 staff members as the industry grows.

Lastly, the expansion of the publicly accessible charging infrastructure and way-finding signage, at very publicly visible and publicly utilized facilities by the local and sub-regional community residents/employees, increases awareness of access and support for those on the fence of making the switch to electricity. The City has continued to support such efforts of promoting EV vehicles and promote awareness of the available infrastructure, by playing host to BMW's Charge the Workday Event on August 2, 2016. BMW brought 8 of their BEV and PHEV models, including the I8, I3, 300E and X5 XDrive40e for Civic Center employees and community members to test drive (See informational Flyer on the next page).

With the increased number of EV options available at California car dealerships, continuous improvements in battery range and the visibility of EV-infrastructure, the city of Torrance expects the region will continue to support a steady increase in replacing solely gas powered vehicles to BEV/PHEV options.

Figure 6: BMW Charge the Workday Promotional Flyer, Torrance, CA



A Promotional flyer prepared by the Torrance Community Relations office and distributed to City Hall Employees and adjacent businesses to test drive the BMW EV fleet to promote EV ownership and City Charging Stations.

Section 3.3: Advancements in Science and Technology

The project did not result in advancements in Science and Technology of note. When researching the different DC fast charger charging points prior to selection of ChargePoint, it was determined that there were three types of standard charge ports on the market: the CHAdeMO, the SAE Combo, and the Tesla Supercharger. As no global standard has been determined for DC charge ports, the grant team needed to determine which charge port to use for the project, in hopes of meeting the needs of the majority of EV drivers. ChargePoint's proposal included a DC fast charger unit with dual ports, one CHAdeMO and one SAE Combo. While the charge ports cannot both be used at once, the presence of both types allows for the

charging stations to be accessible to an even greater number of EV drivers. In addition, while Tesla offers their own charging stations for owners of Tesla vehicles, they do provide a chargeport adapter at time of purchase that can be fit to the other types of chargeports. By providing access to both the CHAdeMO and SAE Combo DC Fast charger charging ports, the City's charging stations will allow any vehicle that is capable of using a DCFC fast charger to charge at one of the stations. Until a standardized charge port is established, the team felt this was the best approach to addressing this issue.

It must be noted, that although not correlated to the project's construction, battery range has been improving since the commencement of the One Mile, One Charger public outreach. The extended range of the vehicles should assist in promoting vehicle sales, as EV battery ranges approach 300 miles per charge. In prior conversations with members of the public, this marker could be a game changing advancement, when combined with vehicles' DC Fast charge capabilities and the growing accessibility of DC Fast chargers.

CHAPTER 4:
Conclusions and Recommendations

Section 4.1: Lessons Learned

While the project itself was successful, the implementation of the One Mile, One Charger Project provided some learning experiences throughout the process. One of the biggest lessons learned was the potential building in of flexibility to the project, whether it is in regards to a timeline for construction, addition of a contractor or subcontractor, re-organization of a budget, or a change of address. It became clear early on to the grant team that the realities of implementing the project were often quite different from the conceptual grant proposals used when finalizing the contracts. These differences are not problematic in and of themselves, but the process to revise grant contracts can be onerous and time consuming. As such, building in flexibility to the greatest extent possible should be considered when finalizing a project's contracts with the granting entity, as well as the contractor. For example, the grant team had to undertake a formal amendment process with the CEC to add a major subcontractor to the budget, rearrange the budget to more accurately reflect where costs would be incurred, and revise the addresses of the EV sites (the overall sites of the EV charging stations did not change but the location in specific parking lots in some cases had different addresses than the main park addresses). Given the difficulties and length of formal amendments, grant entities should consider reserving formal contract amendments for wholesale project revisions and/or requests for additional funding. Construction projects that involve significant infrastructure upgrades and multiple sites can expect revisions that modify the original implimentation approach during the course of construction. If a contract entity remains within the approved award and overall project budget, formal amendments should be avoided.

Another important lesson learned throughout the construction phase of the project was the importance of early collaboration with the local utility company to understand the existing infrastructure capacity and the building in of a contingency in the budget for higher than expected utility fees. The City engaged with representatives from SCE prior to the release of the Request for Proposals to gauge expected costs of service upgrades and connections at each site. Once design was underway, it became clear that these estimates were well below what the actual costs would likely be and oftentimes, the location of power service access was changed as sites moved closer to construction and more in depth service access was researched. In order to avoid delays to project timelines and ensure accurate construction bids, it should be clear from the beginning that all designs are preliminary until approved by SCE and the plans are subject to change until approved, with no additional costs to the project. Additionally, a contingency should be built in specifically for utility fees, as they can often be higher than expected and as described above, grants often have limits on the amount of funds moved from one category to another. Early and frequent collaboration with the local utility as well as planning for the potential for utility fees to exceed the budget will avoid significant delays to the project through avoiding design revisions and/or formal amendments to the project budget.

Section 4.2: Recommendations

Using the lessons learned throughout the project, the grant team recommends some revisions to the grant administration process related to the Formal Amendment process. Formal amendments should be reserved for wholesale project revisions and requests for additional funding, not the types of revisions that typically characterize the transition from conceptual projects to actual construction and implementation.

As previously mentioned, the project incorporated dual port DC fast chargers despite the additional cost of approximately $11,000 per unit. Standardization across the industry would be of assistance to future installation projects from a cost standpoint, as the savings could either be utilized to keep project costs under control or allow for additional infrastructure to be installed. The potential $66,000 savings that would have resulted from our project could have resulted in the installation of up to 3 additional DC fast chargers elsewhere, if the industry had come to an agreement on the port handle configurations. This would also remove unneeded confusion to consumers who are slowly considering EVs as an alternative. Additional confusion, or inconsistency across the Auto Manufacturers, does not help when gasoline has remained uncharacteristically low for the last few years.

As far as recommendations for grant funding of future projects within or outside the City of Torrance, the City's grant team recommends that funding opportunities be allocated for the retrofit of existing multi-family housing developments, which have been slow to install EV charging stations. As more cities and businesses continue to install publicly accessible charging stations in their jurisdictions and provide these amenities to their constituents and patrons, providing funding incentives in an area that has been slow to retrofit for charging stations will ensure a greater saturation throughout an entire community, further supporting EV ownership. One of the biggest barriers to installation of charging stations in multi-family housing is the funding necessary to provide the power infrastructure upgrades and the charging stations themselves. By removing this barrier, it could help to spur these upgrades in this remaining sector of the community to ensure a coordinated expansion of infrastructure from all sides of development.

Section 4.3: Conclusions

While the grant team experienced some challenges over the course of construction, the overall success of the charging stations and the project as a whole make clear that the effort to expand publicly accessible infrastructure in the City of Torrance was well worth it. Data collected from the charging stations at the completion of construction indicate that the majority of goals were met or even exceeded. In addition, the data collected over the course of the entire project indicates that the EV charging stations saved a total of 18,143 kg of greenhouse gas emissions, which can be attributed to the 6,309 total vehicles charged at one of the six sites and the 5,422 gallons of gasoline that were saved. While the project fell short of the goal to replace 4 million conventional gas powered engine miles with electric vehicle miles, the total number of vehicles charged within a six month period increased by 303% from the start of the project, indicating a

great success in meeting the growing demand for electric vehicle infrastructure. Furthermore, the City successfully achieved the main goal of the project which was to never be more than a mile from a publicly accessible electric vehicle charging station within the City's boundaries, as 92% of the City is now within one mile of a charging station. Once the publicly accessible EV charging stations that are planned or currently under construction within the City are completed, this percentage of coverage increases to 96%. The achievements of the project are clearly attributable to the heavy and growing demand for electric vehicle infrastructure, however, the significant outreach efforts to members of the public to determine barriers to EV ownership and possible locations for future charging stations cannot be discounted. By engaging the community early and often, the City's grant team was able to put together a project that would meet the demand for growing infrastructure in locations where the charging stations would be used most. Future projects that expand alternative fueling infrastructure should always include a public outreach component in the planning and design phases to ensure utilization and success.

Acronyms

Alternative Fuel Vehicle (AFV)

Alternative and Renewable Fuels and Vehicle Technology Program (ARFVTP)

American Society for Testing and Materials (ASTM)

Battery Electric Vehicles (BEV)

Plug-In Hybrid Electric Vehicles (PHEV)

Commission Agreement Manager (CAM)

California Code of Regulations (CCR)

California Energy Commission (CEC)

California Environmental Quality Act (CEQA)

EV (Electric Vehicles)

Greenhouse gas (GHG)

Internal Combustion Engine (ICE)

Mobile Source Reduction Committee (MSRC)

Southern California Edison (SCE)

United States Environmental Protection Agency (U.S. EPA)

APPENDIX A

Site Installation Photos

Katy Geissert Library & Civic Center Complex (City of Torrance)

Photo Credit: City of Torrance Community Development Department Staff

Photo Credit: City of Torrance Community Development Department Staff

Columbia Park (City of Torrance)

Photo Credit: City of Torrance Community Development Department Staff

Photo Credit: City of Torrance Community Development Department Staff

Walteria Park & Library (City of Torrance)

Photo Credit: City of Torrance Community Development Department Staff

Photo Credit: City of Torrance Community Development Department Staff

Charles Wilson Park (City of Torrance)

Photo Credit: City of Torrance Community Development Department Staff

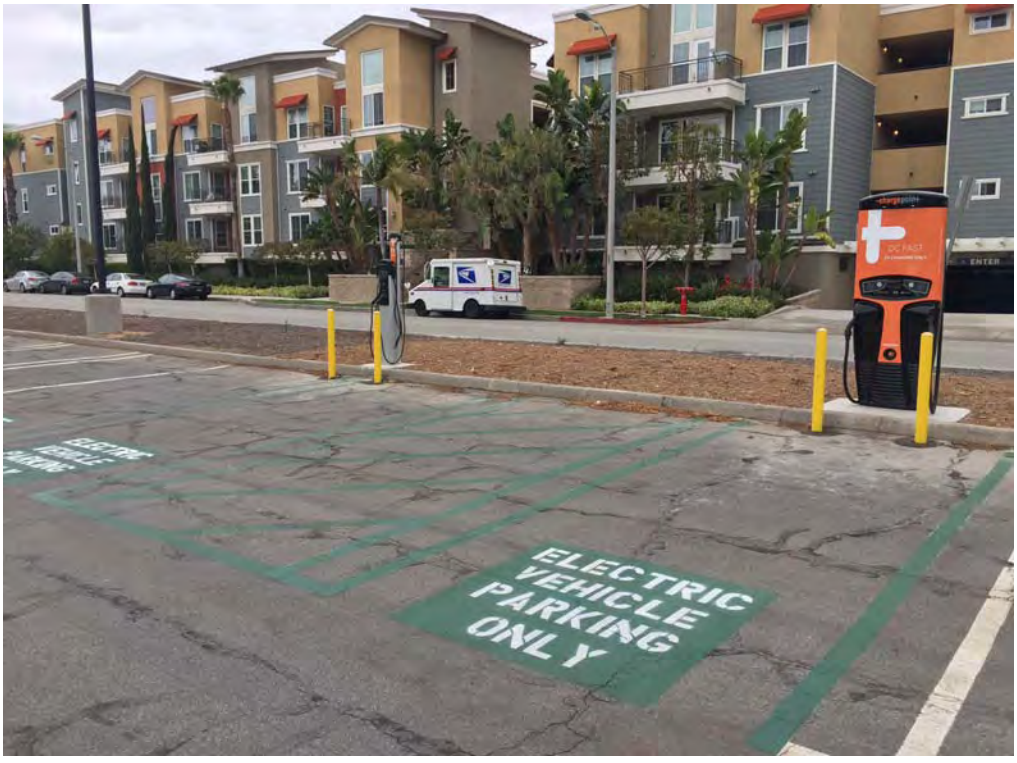


Photo Credit: City of Torrance Community Development Department Staff

McMaster Park (City of Torrance)

Photo Credit: City of Torrance Community Development Department Staff

Photo Credit: City of Torrance Community Development Department Staff

Downtown Torrance Parking Lot on Post Avenue (City of Torrance)

Photo Credit: City of Torrance Community Development Department Staff

Photo Credit: City of Torrance Community Development Department Staff

APPENDIX B

Permit Summaries

WORKFLOW SUMMARY

ALL ITEMS BELOW MUST HAVE "APPROVED" OR ' CONDITIONS REQUIRED" STATUS PRIOR TO PERMIT ISSUANCE

Workflow Summary

RECORD ID	DESCRIPTION	ADDR FULL LINE#
ELE15-00450	INSTALL 80A CIRCUIT AND 40A CIRCUIT FOR (2) NEW EV CHARGING STATION IN PARKING LOT, NEW SERVICE 200A AND NEW VAULT **CITY JOB NO FEE**	17537 YUKON AVE, #EV, Torrance, CA 90504

Application Submittal

STATUS	DATE STATUS	UPDATED DATE	UPDATED BY	COMMENTS
Received	4/2/2015	4/2/2015 2:00:51 PM	EMARTINEZ	

Closed

STATUS	DATE STATUS	UPDATED DATE	UPDATED BY	COMMENTS
Archiving	9/9/2015	9/9/2015 10:21:58 AM	JBAUTISTA	

Electrical Review

STATUS	DATE STATUS	UPDATED DATE	UPDATED BY	COMMENTS
Approved	5/11/2015	5/11/2015 8:11:18 AM	RGOLDEN	

Inspection

STATUS	DATE STATUS	UPDATED DATE	UPDATED BY	COMMENTS
Finaled	9/2/2015	9/9/2015 10:21:30 AM	JBAUTISTA	
Notify So California Edison	11/2/2015	11/2/2015 9:22:05 AM	JBAUTISTA	**200 amp u/g**

Permit Issuance

STATUS	DATE STATUS	UPDATED DATE	UPDATED BY	COMMENTS
Issued	6/11/2015	6/11/2015 2:13:58 PM	JBAUTISTA	

WORKFLOW SUMMARY

ALL ITEMS BELOW MUST HAVE "APPROVED" OR ' CONDITIONS REQUIRED" STATUS PRIOR TO PERMIT ISSUANCE

Workflow Summary

RECORD ID	DESCRIPTION	ADDR FULL LINE#
ELE15-00665	INSTALL 80A CIRCUIT AND 40A CIRCUIT FOR (2) NEW EV CHARGING STATION IN PARKING LOT, NEW SERVICE 200A **CITY JOB**	1332 POST AVE, #EV, Torrance, CA 90501

Application Submittal

STATUS	DATE STATUS	UPDATED DATE	UPDATED BY	COMMENTS
Received	5/8/2015	5/8/2015 2:54:27 PM	EMARTINEZ	
Revision Received	11/24/2015	11/24/2015 4:42:54 PM	EMARTINEZ	
Revision Received	3/21/2016	3/21/2016 11:17:54 AM	RCHOLAKIAN	**(2) NEW SETS SUBMITTED**

Closed

STATUS	DATE STATUS	UPDATED DATE	UPDATED BY	COMMENTS
Archiving	4/18/2016	4/18/2016 9:16:39 AM	JBAUTISTA	

Electrical Review

STATUS	DATE STATUS	UPDATED DATE	UPDATED BY	COMMENTS
Approved	5/11/2015	5/11/2015 8:12:19 AM	RGOLDEN	
Approved	12/2/2015	12/2/2015 3:59:23 PM	RGOLDEN	
Approved	3/21/2016	3/21/2016 4:25:11 PM	RGOLDEN	

Inspection

STATUS	DATE STATUS	UPDATED DATE	UPDATED BY	COMMENTS
Finaled	4/18/2016	4/18/2016 8:01:10 AM	RGOLDEN	
Notify So California Edison	4/18/2016	4/18/2016 9:16:10 AM	JBAUTISTA	**200 amp u/g EV**

Permit Issuance

STATUS	DATE STATUS	UPDATED DATE	UPDATED BY	COMMENTS
Revision to Plan	11/24/2015	11/24/2015 4:42:44 PM	EMARTINEZ	
Issued	1/26/2016	1/26/2016 12:51:18 PM	EMARTINEZ	
Revision Issued	3/22/2016	3/22/2016 11:27:38 AM	CDDPERMIT1	
Issued	1/26/2016	4/14/2016 2:41:34 PM	RCHOLAKIAN	

WORKFLOW SUMMARY

ALL ITEMS BELOW MUST HAVE "APPROVED" OR ' CONDITIONS REQUIRED" STATUS PRIOR TO PERMIT ISSUANCE

Workflow Summary

RECORD ID	DESCRIPTION	ADDR FULL LINE#
ELE15-00670	INSTALL 80A CIRCUIT AND 40A CIRCUIT FOR (2) NEW EV CHARGING STATION IN PARKING LOT, NEW SERVICE 200A **CITY JOB**	3855 242ND ST, #EV, Torrance, CA 90505

Application Submittal

STATUS	DATE STATUS	UPDATED DATE	UPDATED BY	COMMENTS
Received	5/8/2015	5/8/2015 3:25:06 PM	EMARTINEZ	
Revision Received	11/24/2015	11/24/2015 4:38:50 PM	EMARTINEZ	

Closed

STATUS	DATE STATUS	UPDATED DATE	UPDATED BY	COMMENTS
Archiving	4/28/2016	4/28/2016 9:08:08 AM	JBAUTISTA	

Electrical Review

STATUS	DATE STATUS	UPDATED DATE	UPDATED BY	COMMENTS
Approved	5/11/2015	5/11/2015 8:13:26 AM	RGOLDEN	
Approved	11/24/2015	11/24/2015 4:57:11 PM	RGOLDEN	

Inspection

STATUS	DATE STATUS	UPDATED DATE	UPDATED BY	COMMENTS
Revision to Plan	11/24/2015	11/24/2015 4:37:31 PM	EMARTINEZ	
Notify So California Edison	2/1/2016	2/1/2016 9:09:47 AM	JBAUTISTA	**200 AMP U/G**
Finaled	4/27/2016	4/27/2016 4:36:37 PM	RGOLDEN	**Updated by Inspection Result**

Permit Issuance

STATUS	DATE STATUS	UPDATED DATE	UPDATED BY	COMMENTS
Issued	6/25/2015	6/25/2015 2:40:24 PM	CDDPERMIT1	
Revision Issued	12/30/2015	12/30/2015 2:25:41 PM	JBAUTISTA	
Issued	6/25/2015	12/30/2015 2:28:42 PM	JBAUTISTA	

WORKFLOW SUMMARY

ALL ITEMS BELOW MUST HAVE "APPROVED" OR ' CONDITIONS REQUIRED" STATUS PRIOR TO PERMIT ISSUANCE

Workflow Summary

RECORD ID	DESCRIPTION	ADDR FULL LINE#
ELE15-00671	>>AS BUILT<< INSTALL 80A CIRCUIT AND 40A CIRCUIT FOR (2) NEW EV CHARGING STATION IN PARKING LOT, NEW SERVICE 200A **CITY JOB** >>AS BUILT CIRCA 2015<<	2200 CRENSHAW BLVD, #EV, Torrance, CA 90501

Application Submittal

STATUS	DATE STATUS	UPDATED DATE	UPDATED BY	COMMENTS
Received	5/8/2015	5/8/2015 3:44:01 PM	EMARTINEZ	

Closed

STATUS	DATE STATUS	UPDATED DATE	UPDATED BY	COMMENTS
Archiving	4/28/2016	4/28/2016 9:08:28 AM	JBAUTISTA	

Electrical Review

STATUS	DATE STATUS	UPDATED DATE	UPDATED BY	COMMENTS
Approved	5/11/2015	5/11/2015 8:14:23 AM	RGOLDEN	

Inspection

STATUS	DATE STATUS	UPDATED DATE	UPDATED BY	COMMENTS
Notify So California Edison	1/29/2016	1/29/2016 11:20:46 AM	JBAUTISTA	**200 AMP U/G**
Finaled	4/27/2016	4/27/2016 4:36:45 PM	RGOLDEN	**Updated by Inspection Result**

Permit Issuance

STATUS	DATE STATUS	UPDATED DATE	UPDATED BY	COMMENTS
Issued	11/24/2015	11/24/2015 11:09:46 AM	EMARTINEZ	

WORKFLOW SUMMARY

ALL ITEMS BELOW MUST HAVE "APPROVED" OR ' CONDITIONS REQUIRED" STATUS PRIOR TO PERMIT ISSUANCE

Workflow Summary

RECORD ID	DESCRIPTION	ADDR FULL LINE#
ELE15-00672	INSTALL 80A CIRCUIT AND 40A CIRCUIT FOR (3) NEW EV CHARGING STATION IN PARKING LOT, NEW SERVICE 200A **CITY JOB**	3301 TORRANCE BLVD, #PED, Torrance, CA 90503

Application Submittal

STATUS	DATE STATUS	UPDATED DATE	UPDATED BY	COMMENTS
Received	5/8/2015	5/8/2015 3:57:32 PM	EMARTINEZ	

Closed

STATUS	DATE STATUS	UPDATED DATE	UPDATED BY	COMMENTS
Archiving	9/10/2015	9/10/2015 10:10:58 AM	JBAUTISTA	

Electrical Review

STATUS	DATE STATUS	UPDATED DATE	UPDATED BY	COMMENTS
Approved	5/11/2015	5/11/2015 8:11:51 AM	RGOLDEN	

Inspection

STATUS	DATE STATUS	UPDATED DATE	UPDATED BY	COMMENTS
Notify So California Edison	8/19/2015	8/19/2015 10:52:05 AM	JBAUTISTA	**400 amp u/g**
Finaled	9/8/2015	9/10/2015 10:10:33 AM	JBAUTISTA	

Permit Issuance

STATUS	DATE STATUS	UPDATED DATE	UPDATED BY	COMMENTS
Issued	5/27/2015	5/27/2015 4:49:39 PM	JBAUTISTA	

WORKFLOW SUMMARY

ALL ITEMS BELOW MUST HAVE "APPROVED" OR ' CONDITIONS REQUIRED" STATUS PRIOR TO PERMIT ISSUANCE

Workflow Summary

RECORD ID	DESCRIPTION	ADDR FULL LINE#
ELE15-00673	INSTALL 80A CIRCUIT AND 40A CIRCUIT FOR (2) NEW EV CHARGING STATION IN PARKING LOT, NEW SERVICE 200A **CITY JOB**	18727 PRAIRIE AVE, #EV, Torrance, CA 90504

Application Submittal

STATUS	DATE STATUS	UPDATED DATE	UPDATED BY	COMMENTS
Received	5/8/2015	5/8/2015 4:26:57 PM	EMARTINEZ	
Received Resubmittal	12/3/2015	12/3/2015 4:00:54 PM	EMARTINEZ	

Electrical Review

STATUS	DATE STATUS	UPDATED DATE	UPDATED BY	COMMENTS
Approved	5/11/2015	5/11/2015 8:13:59 AM	RGOLDEN	
Approved	12/15/2015	12/15/2015 4:07:54 PM	RGOLDEN	

Inspection

STATUS	DATE STATUS	UPDATED DATE	UPDATED BY	COMMENTS
Revision to Plan	12/3/2015	12/3/2015 4:00:41 PM	EMARTINEZ	
Notify So California Edison	2/23/2016	2/23/2016 8:17:47 AM	JBARRERA	**200A U/G**
Finaled	2/22/2016	3/21/2016 8:01:09 AM	CDDPERMIT1	

Permit Issuance

STATUS	DATE STATUS	UPDATED DATE	UPDATED BY	COMMENTS
Issued	6/25/2015	6/25/2015 2:38:08 PM	CDDPERMIT1	
Issued	1/26/2016	1/26/2016 12:36:28 PM	EMARTINEZ	**REVISION ISSUED**

APPENDIX C

Sign Program

One Mile, One Charger Public EV Signage Program

Project Description

The intent behind the City of Torrance "One Mile, One Charger" Public EV Signage Program is to ensure public exposure of the available Electric Vehicle charging infrastructure within the Torrance community and provide directional guidance as to the charging device placement. The Torrance "One Mile, One Charger" EV network of stations includes six (6) different installation locations, each with multiple number of stations and two-kinds of charging levels. The number and the type of charging levels at each of the six locations are provided in the table below:

Katy Geissert Library - Civic Center Complex 3301 Torrance Boulevard	One Level III DC Fast Charging Unit Four Level II units
Columbia Park 18727 Prairie Avenue	One Level III DC Fast Charging Unit Two Level II units
Charles Wilson Park 2200 Crenshaw Boulevard	One Level III DC Fast Charging Unit Two Level II units
Downtown Torrance Parking Lot 1332 Post Avenue	One Level III DC Fast Charging Unit Two Level II units
Walteria Library and Park 3855 242nd Street	One Level III DC Fast Charging Unit Two Level II units
McMaster Park, Library and Police Substation 17537 Yukon Avenue	One Level III DC Fast Charging Unit Two Level II units

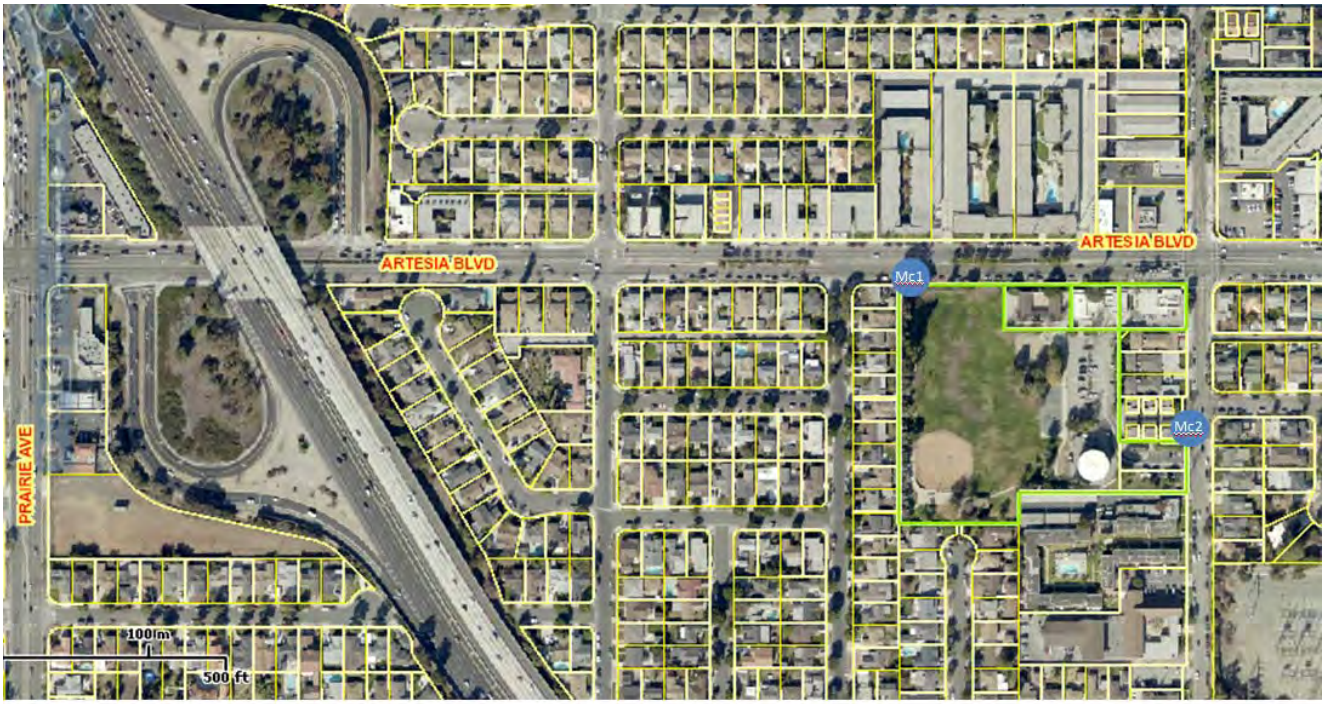
Planning staff has assessed each of the different locations to understand where signage would be most appropriate in order to ensure public awareness and achieve safe guidance. Planning Staff has also carefully considered the type of signage selected to limit not only the number of signage installation locations but also the number of signs at each signage installation location. In light of this consideration, staff recognized the predominance of web based applications and websites which would provide for the majority of the directional guidance to the charging sites. As such, the wayfinding signage has been reduced to the least number of necessary signs to supplement the web based applications and provide clear and safe guidance to the charging station locations. Staff has developed the following criteria when evaluating potential signage installation locations and signage options. All selected signage will ensure the following elements are achieved:

1) Clear understanding as to the availability of Public Charging Stations along main arterials and thoroughfares;

2) Clear guidance as to the placement of charging units is provided;

3) Limit the amount of EV Signs that are required for each Public Charging Installation.

Location #1 McMaster Park, Library & Police Substation (17537 Yukon Ave)



Map Created by: City of Torrance Community Development Department Staff

Photo Credit: City of Torrance Community Development Department Staff

The McMaster charging station location is within a 0.4 Miles of the I-405 Freeway Artesia On/ Off-Ramps. This location provides an ideal placement for advertisement as part of the State Electric Corridor being considered for both the I-405 and I-5 freeways and is pending additional funding being identified. Non-freeway Wayfinding signage is needed on both on the arterial (Artesia Blvd) and collector (Yukon Ave) that are utilized to get to/from the 405 freeway. The following signage installation locations and designs have been selected:

Sign #Mc1: Eastbound Artesia, west of Yukon @ McMaster Park Artesia entrance: Mount on existing street light pole in existing Southside parkway a single-sided EV sign (D9-11b, 24”x24”) with southward directing arrow above existing “No Parking” sign. Bottom of EV sign and arrow should be a minimum of 7 feet above grass parkway.

Photo Credit: City of Torrance Community Development Department Staff

#Mc1 Zoomed In

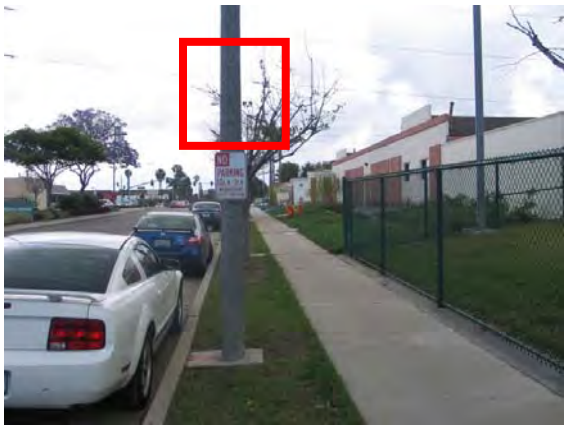


Photo Credit: City of Torrance Community Development Department Staff

Sign #Mc2: Southbound Yukon, just south of 175th St intersection: Install a new pole within existing Westside parkway with a north facing single sided EV sign (D9-11b, 24”x24”) with westward directing arrow. Bottom of EV sign and arrow should be a minimum of 7 feet above adjacent sidewalk.

Photo Credit: City of Torrance Community Development Department Staff

Location #2 Columbia Park (18727 Prairie Ave)

Map Created by: City of Torrance Community Development Department Staff

Photo Credit: City of Torrance Community Development Department Staff

The Columbia Park charging station location is within a 0.9 Miles of the I-405 Freeway Artesia On/ Off-Ramps. While farther from the freeway than the McMaster Park location, this location also provides an ideal placement for advertisement as part of the State Electric Corridor being considered for both the I-405 and I-5 freeways. Signage has been proposed on the freeway itself for both the McMaster Park and Columbia Park locations and is pending additional funding being identified. Wayfinding signage will be placed on the Prairie Avenue to direct patrons to this location. The following signage installation location and design has been selected:

Sign #C1: Southbound on Prairie, @ 187th St: Replace existing sign pole, within westside landscape median, for both “No Parking” and one north facing and one south facing single-sided EV signs (D9-11b, 24”x24”) with Westward directing arrows. Bottom of EV sign and arrow should be a minimum of 7 feet above grass parkway.

Photo Credit: City of Torrance Community Development Department Staff

Location #3 Katy Geissert Library/Civic Center Complex (3301 Torrance Blvd)

Map Created by: City of Torrance Community Development Department Staff

Photo Credit: City of Torrance Community Development Department Staff

The Katy Geissert Library/Civic Center Charging Station location was the original charging station location installed by the City. The original charging stations located at City Hall experienced a very high demand from the time they were installed in large part due to the many amenities available to the public at the Civic Center. The main public library (Katy Geissert), Victor Benstead Plunge, Torrance Cultural Arts Center, Police Department, LA County Courthouse, Torrance City Hall and One-Stop Permit Center all provide major draws to this location and will result in heavy usage of the charging stations. The charging stations are set in from the major boulevards but are centrally located in the Civic Center Complex, behind the library and plunge, so as to serve as many of the public amenities as possible. The Civic Center Complex is situated on the northeast corner of the

intersection of Madrona Avenue and Torrance Boulevard. While there are many entrances to the Civic Center Complex, EV drivers will be directed to the driveway on Madrona Avenue, going Northbound just northwest of the plunge, and to enter the Civic Center driveway going south from Civic Center Way. The following signage installation locations and designs have been selected:

Sign #CC1: Eastbound on Civic Center Dr, @ Driveway. Add to existing light pole on south side of parkway, with one west facing and one east facing single-sided EV signs (D9-11b, 24”x24”) with Southward directing arrows. Bottom of EV sign and arrow should be a minimum of 7 feet above existing sidewalk.

Photo Credit: City of Torrance Community Development Department Staff

Sign #CC2: Northbound on Madrona Ave, at driveway entrance to Civic Center north of Torrance Blvd: Add single-sided EV sign (D9-11b, 24”x24”) to existing sign pole below existing signs with Eastward directing arrow.

Photo Credit: City of Torrance Community Development Department Staff

Location #4 Downtown Torrance Parking Lot (1332 Post Ave)

Map Created by: City of Torrance Community Development Department Staff

Photo Credit: City of Torrance Community Development Department Staff

The Downtown Torrance Parking Lot Charging station location is set-in from the major corridors on Post Avenue in the "Old Torrance" commercial area. There is no visibility from the major arterials, Torrance Boulevard and Carson Street, or the collector streets, Cabrillo and Cravens Avenues; however, EV drivers should be able to locate the general area of the charging stations using their mobile applications. EV drivers will be directed from Torrance Boulevard to the EV charging stations by a sign that indicates EV charging stations are present in the "Post Ave Lot." A sign at the entrance of the parking lot on Post Avenue will guide the drivers to the correct parking lot once

they are within the Downtown area. In order to keep the number of signs necessary to a minimum, the following signage installation locations and designs have been selected:

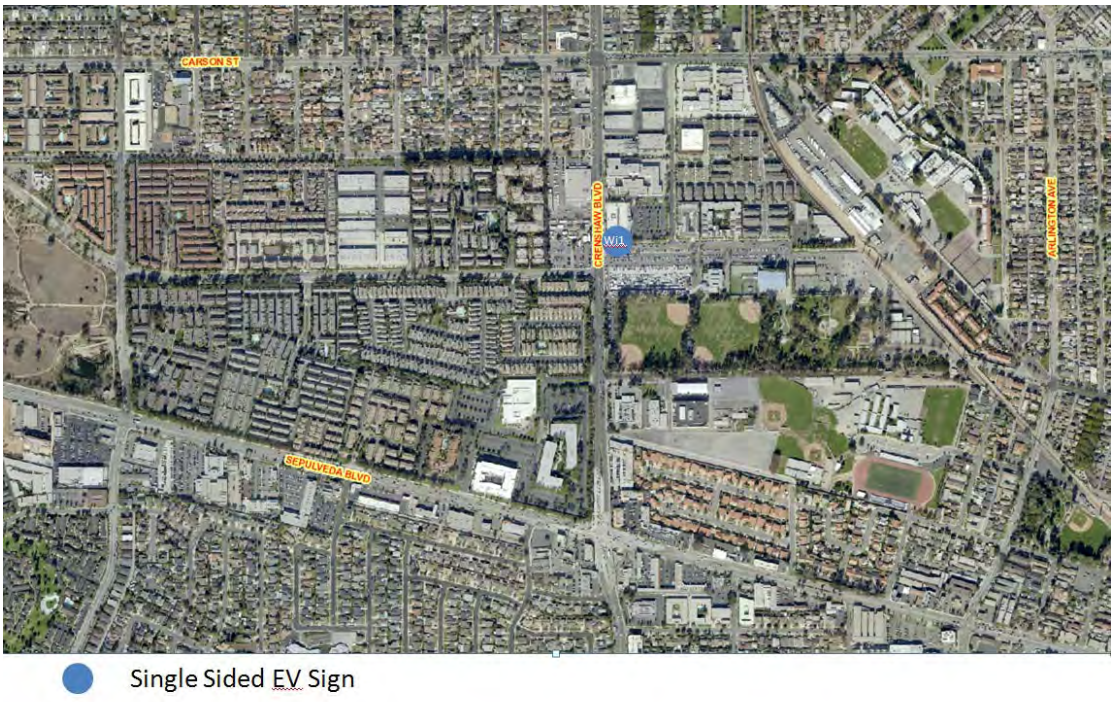
Sign #P1: Westbound on Torrance, west of Van Ness: Add to existing light pole, within northern Torrance Blvd sidewalk, above existing "Speed Limit" sign a single sided EV sign (D9-11b, 24"x24") with add-on blue panel at the bottom with white lettering stating "Post Ave Lot" instead of an arrow.

Photo Credit: City of Torrance Community Development Department Staff

Sign #P2: south and northbound on Post, @ Parking Lot. Using existing sign pole, mount immediately beneath existing "Public Parking" sign, located within eastside of parkway, with one northeast facing and one southwest facing single-sided EV signs (D9-11b, 24"x24") with southeastwardly directing arrows.

Photo Credit: City of Torrance Community Development Department Staff

Location #5 Wilson Park (2200 Crenshaw Blvd)



Map Created by: City of Torrance Community Development Department Staff

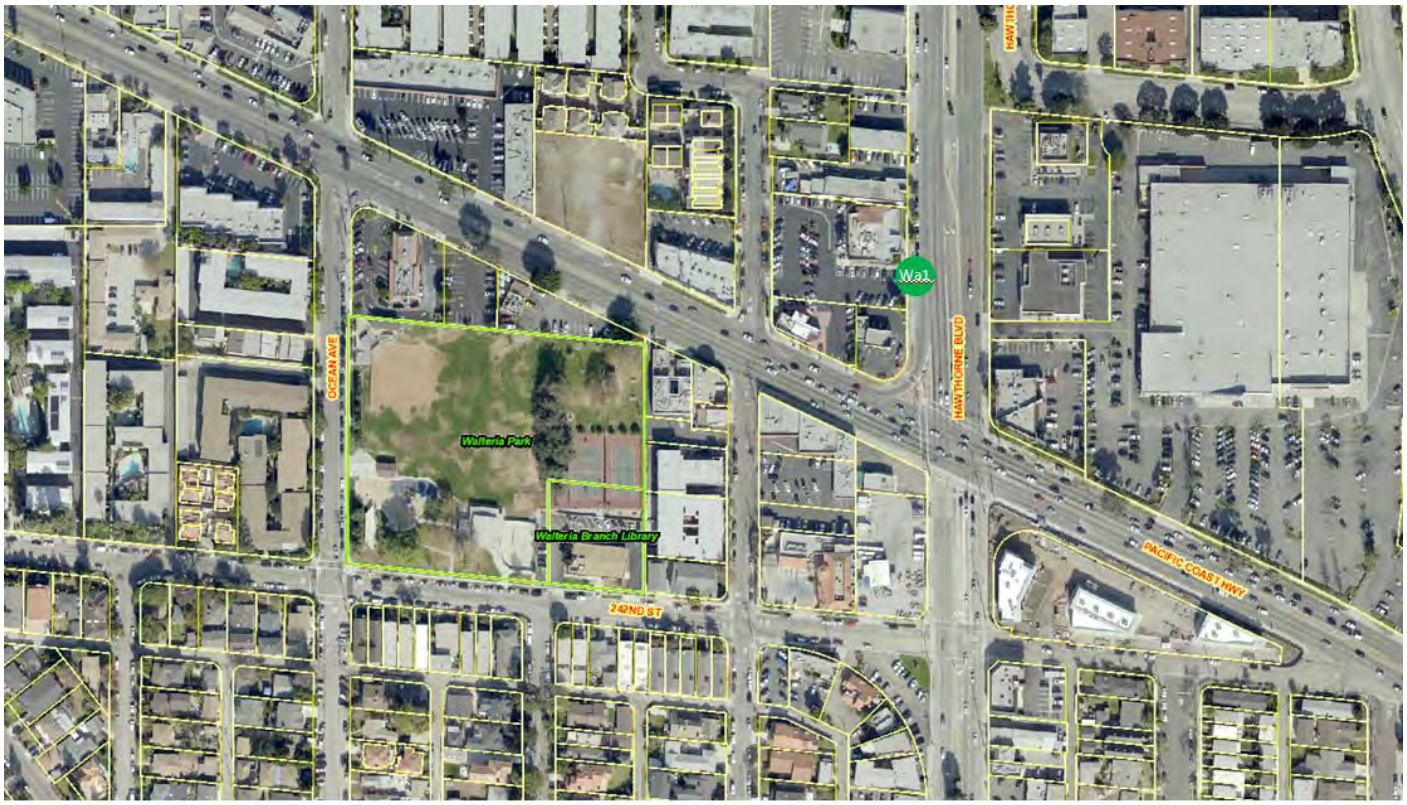
Photo Credit: City of Torrance Community Development Department Staff

The Wilson Park Charging station location is set-in from the major corridor of Crenshaw Boulevard frontage but in the most utilized Park parking areas with both the best access and the least event obstructions that would restrict usage. Wilson Park is one of the largest regional parks and experiences heavy utilization by youth and adult sports leagues as well as a year-round twice a week Certified Farmer's Market. The Charging station placement is also across the street from approximately 500 multiple family residential units, half of which do not have attached unit parking, located on the north side of Jefferson Street. The following signage installation location and design has been selected:

Sign #Wi1: Eastbound on Jefferson, east of Crenshaw Blvd: Replace existing sign pole, within southside Jefferson mulched parkway, for both “No Stopping Anytime” and single-sided EV sign (D9-11b, 24”x24”) eastward (forward) facing arrow. Bottom of EV sign and arrow should be a minimum of 7 feet above existing mulched parkway.

Photo Credit: City of Torrance Community Development Department Staff

Location #6 Walteria Library, Park and Senior Citizen Center (3855 242nd St)



Map Created by: City of Torrance Community Development Department Staff

Photo Credit: City of Torrance Community Development Department Staff

The Walteria Charging station location is set-in from major corridors with respect to visibility but, ideal in terms of proximity to two of the busiest Transportation corridors in the County. There is no visibility from the major arterials, Hawthorne Boulevard and Pacific Coast Highway; however, EV drivers should be able to locate the general area of the charging stations using their mobile applications. EV drivers will be directed from Hawthorne Boulevard to the EV charging stations by a sign that indicates EV charging stations are present at the "Walteria Library." Immediately

northwest of the apex of the Hawthorne Boulevard and Pacific Coast Highway, in order to maintain primary access via traditional high volume corridors, the following signage installation location and design has been selected:

Sign #Wa1: Southbound on Hawthorne Boulevard, North of Pacific Coast Highway: Add to existing light pole, within western Hawthorne Blvd sidewalk, a single sided EV sign (D9-11b, 24”x24”) with add-on blue panel at the bottom with white lettering stating “Walteria Library” instead of an arrow. Bottom of EV sign and add-on panel should be a minimum of 7 feet above existing sidewalk.

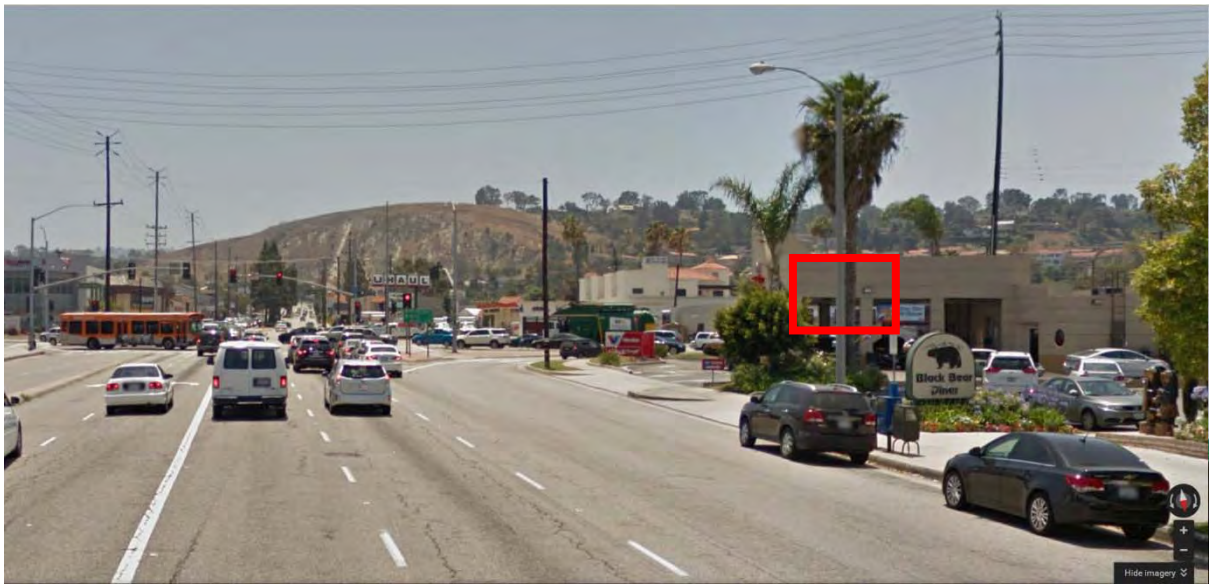


Photo Credit: City of Torrance Community Development Department Staff

APPENDIX D

Torrance EVent Promotions

PART OF THE NATIONAL DRIVE ELECTRIC WEEK CELEBRATIONS

Torrance EVent

Charging Station Ribbon Cutting and *EV* Expo/*EV* Ride & Drive!

Grant funding provided by:

Clean Transportation Funding from the MSRC
Mobile Source Air Pollution Reduction Review Committee

Saturday, September 12, 2015

Torrance Civic Center | 3301 Torrance Blvd. Torrance, CA
(behind the Benstead Plunge/Katy Geissert Library)

9 a.m.
Electric Charging Station Ribbon Cutting Ceremony

10 a.m. to 2 p.m.
EV Expo/Ride & Drive *EV*ent
An official Plug In America Event

ChargePoint public charging stations available soon at 6 locations!

Katy Geissert Library- Civic Center Complex
3301 Torrance Boulevard

Columbia Park
18727 Prairie Avenue

Charles Wilson Park
2200 Crenshaw Boulevard

Downtown Torrance Parking Lot
1332 Post Avenue

Walteria Library and Park
3855 242nd Street

McMaster Park, Library and Police Substation
17537 Yukon Avenue

Level II Unit

Level III DC Fast Charging Unit

For more details, visit www.DriveElectricWeek.org/event.php?eventid=399

DRIVE ELECTRIC
National Drive Electric Week
Nissan LEAF® is the exclusive automotive sponsor

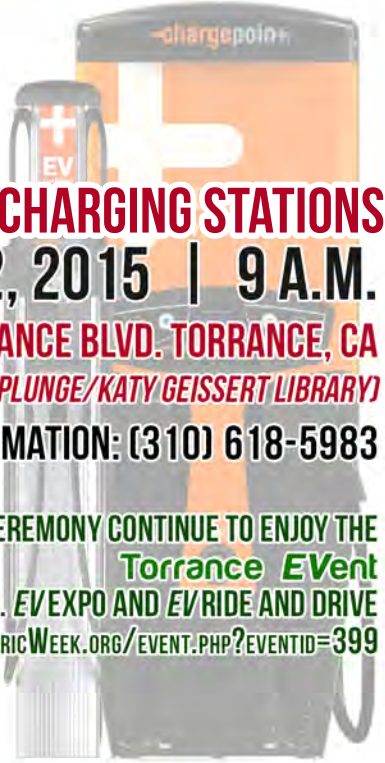
Plug In America
WE DRIVE ELECTRIC. YOU CAN TOO.

Sierra Club
FOUNDED 1892

Electric Auto Association

YOU'RE INVITED TO A RIBBON CUTTING CEREMONY

A PART OF THE Torrance EVent



CHARGEPOINT ELECTRIC VEHICLE CHARGING STATIONS

SATURDAY, SEPTEMBER 12, 2015 | 9 A.M.

TORRANCE CIVIC CENTER | 3301 TORRANCE BLVD. TORRANCE, CA

(BEHIND THE BENSTEAD PLUNGE/KATY GEISSERT LIBRARY)

FOR MORE INFORMATION: (310) 618-5983

FOLLOWING THE CEREMONY CONTINUE TO ENJOY THE
Torrance EVent
10 A.M. - 2 P.M. *EV* EXPO AND *EV* RIDE AND DRIVE
WWW.DRIVEELECTRICWEEK.ORG/EVENT.PHP?EVENTID=399

GRANT FUNDING PROVIDED BY:

Clean Transportation
Funding from the MSRC

PART OF THE NATIONAL DRIVE ELECTRIC WEEK CELEBRATIONS

DRIVE ELECTRIC

Nissan LEAF® is the exclusive automotive sponsor

Plug In America

SIERRA CLUB

Electric Auto Association

APPENDIX E

City Council EV Proclamation

Proclamation

WHEREAS, The City of Torrance 2008 Strategic Plan's goal to *improve air quality* focused on encouraging and facilitating the development of alternative fuels and energy sources in the City of Torrance; and

WHEREAS, to help achieve the Strategic Plan's goal, the City pursued grant funding to provide publicly-accessible Electric Vehicle charging stations throughout the City so a resident or visitor would never be more than one mile from a charging station; and

WHEREAS, the City of Torrance will provide a total of 14 Level II charging stations and six Level III DC Fast Charging stations across six publicly-owned sites in the City; and

WHEREAS, to commemorate the City's efforts and promote the grand opening of the newly installed infrastructure, a ribbon cutting event was planned to coincide with Plug-In America's "National Drive Electric Week" celebrations during the week of September 12 – 20, 2015; and

WHEREAS, in conjunction with Plug-In America, an EV Expo entitled the Torrance "EVent," will begin immediately following the ribbon cutting on September 12, 2015 at the Torrance Civic Center.

NOW, THEREFORE, I, PATRICK J. FUREY, as Mayor of the City of Torrance, California, do hereby proclaim the week of September 12-20, 2015 as

NATIONAL DRIVE ELECTRIC WEEK

in the City of Torrance and urge all residents and visitors to attend the Torrance "EVent" Ribbon Cutting and EV Expo on *Plug-In Day*, Saturday, September 12, 2015.

Signed this 1st day of September 2015.

Mayor Patrick J. Furey

ATTEST:

Rebecca Poirier, City Clerk

Office of the Mayor
City of Torrance

APPENDIX F

Torrance EVent News Publications

T O R R A N C E

FOR IMMEDIATE RELEASE

Contact: Danny Santana
Lead Senior Planning Associate
(310) 618-2250
DSantana@TorranceCA.Gov
www.TorranceCA.Gov

Torrance Opens Public Charging Stations as Part of National Drive Electric Week

Torrance, Calif., Sept. 12, 2015 – On Saturday, Sept. 12, the City of Torrance marked the opening of six electric vehicle charging stations throughout the City with a ceremony at the new ChargePoint electric vehicle charging stations behind the Katy Geissert Civic Center Library, located at 3301 Torrance Blvd.

Mayor Patrick J. Furey and members of the City Council, along with representatives for other elected officials, cut a symbolic gas hose in place of the traditional ribbon.

“As a City that encourages environmental sustainability, this is one more way that we can move forward with our efforts,” Mayor Furey said. “With these new charging stations in Torrance, we become part of a larger, regional network. And as growth continues in the electric vehicle market, this is just one more resource we can offer our community and our visitors.”

Following the ribbon cutting, attendees took part in the National Drive Electric Week Ride and Drive/EV-Expo. The “Torrance EVent” included representatives from nine automakers, as well as 41 EV owners to talk about owning an electric vehicle. Also on hand were 36 exhibitors offering information about a range of other environmental concerns including recycling, water conservation, gray water systems and solar energy.

Visitors were given the opportunity to ride in or drive electric vehicles and to obtain information showing the locations of existing and future charging stations throughout the City.

(Continued)

(Continued)

National Drive Electric Week is sponsored by Plug In America, the Sierra Club and the Electric Auto Association.

The six ChargePoint public charging stations in the City of Torrance are located at:

- Katy Geissert Civic Center Library, 3301 Torrance Blvd.
- Columbia Park, 18727 Prairie Avenue
- Charles H. Wilson Park, 2200 Crenshaw Blvd.
- Downtown Torrance Parking Lot, 1332 Post Avenue
- Walteria Library and Park, 3855 242nd Street
- McMaster Park, Library and Police Substation, 17537 Yukon Avenue

The City of Torrance is proud to unveil the new, publicly available charging stations at six locations throughout the City, including both Level II chargers and Level III DC fast chargers.

###

California Energy Commission Blog

THE OFFICIAL BLOG OF THE ENERGY COMMISSION

City of Torrance Dedicates the First of Six Electric Vehicle Charging Stations

The City of Torrance dedicated the first of six electric vehicle charging stations planned at libraries, parks and its civic center complex on the opening day of National Drive Electric Week. Four Level 2 chargers and one DC Level 3 charger were installed at the Katy Giesser Library-Civic Center Complex, while four Level 2 chargers and one Level 3 charger are planned for other sites – all with funding from the California Energy Commission.

About the Energy Commission

The California Energy Commission is the state's primary energy policy and planning agency created by the Legislature in 1974.

Read more about the California Energy Commission.

Categories

- Alternative & Renewable Fuel and Vehicle Technology Program
- Appliance Efficiency Standards
- Building Efficiency Standards
- California Drought
- California Energy Commission
- China
- Climate Change
- Consumer Tips
- DRECP
- Electric Program Investment Charge Program (EPIC)
- Energy
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- Integrated Energy Policy Report (IEPR)
- New Solar Homes Partnership
- Next 10
- Offshore Wind
- Piezoelectric
- Power Plant Licensing
- Proposition 39
- Public Participation

The September 12 dedication was combined with an Electric Vehicle Expo and Electric Vehicle Ride & Drive to help drivers get better acquainted with plug-in electric vehicles available on the market and the network of chargers being installed around California. The Energy Commission recently invited public and private entities to seek grant funding to install electric vehicle chargers on major north-south highways to allow electric vehicle drivers to travel from San Diego to the Oregon border.

Since 2009, the Energy Commission has invested $38 million to fund 7,754 charging stations throughout the state. The charging infrastructure will help the state meet its goal of getting 1.5 million electric vehicles on California roads by 2025. It's an important goal because 36 percent of the state's greenhouse gases come from transportation.

"Electric vehicles are fun to drive, less costly to fuel and maintain, and help California achieve its clean air and greenhouse gas reduction goals," said Janea A. Scott, lead commissioner on transportation for the Energy Commission.

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CITY OF TORRANCE 2015 FALL

SEASONS

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hairspray

• THE BROADWAY MUSICAL •

James R. Armstrong Theatre August 8–22, 2015

For more information visit www.TorranceTheatreCompany.com

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NEWSLETTER & GUIDE

- City of Torrance
- Newsletter & Guide
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- Recreation
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- & all things fun

TORRANCE TIGHTENS THE NOZZLE ON WATER USAGE, URGES RESIDENTS TO DO THE SAME

As California's drought lingers well into its fourth year, the City of Torrance has stepped up conservation efforts. Gov. Jerry Brown mandated in April that there must be a 25 percent reduction of urban potable water use statewide.

For Torrance, it boiled down to reducing water use across the City by 20 percent. This includes residential and business consumers, but it also includes City facilities such as parks, sports fields, City offices and the entire Civic Center area.

The Park Services Division of the Community Services Department has been very proactive in the past several years to manage and conserve water use in city parks. Over the past seven years, they have been successful in converting 11 of 33 parks to recycled water. In addition, SMART Water Controller Systems have been installed at all city parks. These controllers will turn off irrigation systems when it rains, and allow staff to schedule a rain delay for each irrigation system.

The Park Services Division also implemented a Water Conservation Plan to meet the State of California Tier II water conservation levels. This plan identifies three areas at city parks that require water: Passive Turf, Active Sport Turf and Tree Areas.

All passive turf and shrub areas that do not have trees have been reduced to the Tier II water levels. These passive areas also include the Civic Center, rough areas within the Sea Aire Golf Course and the City Yard.

All active sports turf areas will be slowly reduced while monitoring the moisture levels in the soil in order to maintain safe active play spaces for the community.

As the governor has exempted all trees from this Tier II Water Conservation Plan, all trees within the Parks are not included within this plan.

Torrance is continually looking for ways to save water. City Parks use 183,972,844 gallons of water annually to keep them healthy for use by our community. Of this total amount of water used on City Parks, 41.5 percent is recycled water. By having the foresight of using recycled water, the City is saving 76,397,728 gallons of potable water annually.

There are 858 irrigation stations in City Parks that use potable water. With the implementation of the Water Conservation Plan in our City Parks, 216 of those irrigation stations have been reduced to the Tier II level, which equates to a 25 percent reduction in all irrigation stations within City Parks.

Go to **www.TorranceCA.Gov/Water** to find out more about the Torrance Water Conservation Ordinance, the City's efforts to conserve water and links to rebate programs.

TORRANCE UNVEILS EV CHARGING STATIONS AS PART OF NATIONAL DRIVE ELECTRIC WEEK

Torrance, known as a booming oil town in the 1920s, is embracing electric vehicle technology with the addition of six EV charging stations in the City. The City will commemorate the opening of these new EV charging units in conjunction with National Drive Electric week, which this year takes place from September 12-20.

California has long been known for being ahead of the curve when it comes to our car culture. And our drive to embrace new car technologies including electric vehicles is no exception.

A total of 142,886 plug-in electric vehicles were registered in California between December 2010 and March 2015, according to HybridCars.Com. This puts California ahead of not only the rest of the United States, but ahead of the rest of the world for electric vehicle ownership. Within the state, the Los Angeles metro area is home to more electric vehicles than another place in the U.S.

As the eighth largest city in L.A. County, Torrance is a logical place to expand the EV infrastructure. With an eye toward this fast-growing automotive sector, City staff has been working for the past two years to expand the EV charging options for our residents, work force and visitors.

On January 27, 2015, the City Council awarded a contract to ChargePoint, Inc. to install, operate and maintain publicly accessible EV infrastructure at six locations:

Katy Geissert Library - Civic Center Complex 3301 Torrance Boulevard	One Level III DC Fast Charging Unit Four Level II units
Columbia Park 18727 Prairie Avenue	One Level III DC Fast Charging Unit Two Level II units
Charles Wilson Park 2200 Crenshaw Boulevard	One Level III DC Fast Charging Unit Two Level II units
Downtown Torrance Parking Lot 1332 Post Avenue	One Level III DC Fast Charging Unit Two Level II units
Walteria Library and Park 3855 242nd Street	One Level III DC Fast Charging Unit Two Level II units
McMaster Park, Library and Police Substation 17537 Yukon Avenue	One Level III DC Fast Charging Unit Two Level II units

Grant funding for the project allows for two Level II charging stations and one Level III DC Fast Charging station at each of the six locations, with the exception of the Katy Geissert Library at the Civic Center, which would have one Level III DC Fast Charger and four Level II Charging stations under the grant.

To mark National Drive Electric Week in Torrance, the public is invited to attend a ribbon cutting of the ChargePoint station at the Katy Geissert Library – Civic Center Complex on Saturday, September 12 at 9:00am. After the ribbon cutting, there will be an EV Ride & Drive Event and Expo from 10:00am to 2:00pm, where visitors can get more information about electric vehicles.

TerriAnn in Torrance

A Fabulous Torrance Event

By TerriAnn Ferren
Photos by TerriAnn Ferren

Ever since I was a teenager, I have been driving a car. In the beginning, I drove the family car and later, I drove other cars that I bought, but I have never purchased a hybrid or electric car. The thought of a car running on a battery, sunshine, or some other organic material always sounded a bit like science fiction to me. Granted, I always did want to zoom around the solar system like George Jetson. How about you? Have you ever wished you could drive a brand new car with super powers?

Well, it might not be as dramatic as flying above traffic, but the breakthrough of the electric and hybrid automobile is making its mark in the highly competitive automobile industry. Last Saturday morning, the city of Torrance entered into an elite club when Mayor Patrick Furey, and Council Members; Heidi Ann Ashcraft, Tim Goodrich, Mike Griffiths, Geoff Rizzo, and Kurt Weideman joined with City Clerk, Rebecca Poirier welcoming additional electric charging stations into the city.

Director of Southwest Sales for ChargePoint, Brendan O'Donnell filling up with electricity.

Linda Cessna told me, "We got two grants – first for the Level Two chargers and then a second one for the DC fast chargers. The stations are [located] at city hall, Columbia Park, Walteria Park, McMaster Park, Wilson Park and a parking lot on Post Avenue in downtown Torrance. The stations take credit cards, or you can sign up through the Charge Point System and have an account." This special ribbon cutting event, or rather hose cutting event, celebrating the new EV (Electric Vehicle) Charging Stations in Torrance, was coupled with the 'National Drive Electric Week' celebrations. In attendance was Joel Levin, Executive Director of the nation's leading non-profit electric vehicle advocacy organization, 'Plug In America', based in San Francisco, which helped sponsor the event. Community Development Director of the city of Torrance, Jeffery Gibson hosted the expo, which included electric car dealers, private owners exhibiting their electric/hybrid cars, a model of a of solar EV station, companies promoting home solar panels, and booths from several departments of the city of Torrance committed to environmental issues.

David Greenfader of EV ARC with a solar fueling station.

Mayor Furey said, "We are here today to talk about electric cars and I don't know why people are so 'charged up' with electric cars. I once drove an electric car back in the 1980s, truly and I never had to wait for a charge . . . the only problem I had was just as I got up

See TerriAnn, page 8

Cutting the 'hose' at the EV Event (l-r) Betty Lieu, Council members; Michael Griffiths, Kurt Weideman, Heidi Ann Ashcraft, Mayor Pat Furey, Council Members; Tim Goodrich, Geoff Rizzo and City Clerk Rebecca Poirier.

Showing off our fleet - Service Manager, Art Estrada.

Former Councilman Tom Brewer and Former Mayor Frank Scotto.

TerriAnn

from page 6

to the speed limit, the cord would pull out of the wall. We've come a long way from that. Seriously, there are some great cars here today. I hope you are all charged up for this event, pun intended. It is sure to be a powerful presentation, pun intended – the technology for electric vehicles and the charging stations has come a long way to help consumers save money on gas, reduce their carbon footprint, and improve air quality – and that's what we are here to do. As a city that encourages environmental sustainability, this is one more way that we can move forward with our efforts. . . ."

Hamilton Cloud, Representing Congresswoman, Maxine Waters and Mayor Pat Furey.

For those of you who are not aware, our wonderful city has been busy working on ways to encourage the use of electric cars for many years, and this event is special for many reasons. Torrance has been in the forefront of providing charging stations in convenient locations around the city. And more are coming. As the electric vehicle market grows, so shall our efforts to accommodate that growth. As our mayor said, "With these new charging stations in Torrance, we become part of a larger, regional network. And as growth continues in the electric vehicle market, this is just one more resource we can offer our community and our visitors. I hope this brings more people to visit Torrance and see what we have to offer as far as shopping, and dining, and other city programs. This ribbon cutting ceremony, the EV Expo, and EV Ride and Drive Event is a testament to Torrance's commitment to environmental sustainability."

Both our former and present mayors and council members, approved and directed efforts by the Community Development Department to pursue grant funding to help the city in supporting alternative fuel strategies by insuring that access to alternative fuels is readily available. Former Mayor Frank Scotto led the charge for this huge leap for the city along with former council members, Tom Brewer, and Bill Sutherland, who were present for the festivities. Mayor Furey reminded the crowd gathered that afternoon, that while Frank Scotto was mayor, the then, Councilman Pat Furey, along with his colleagues on the council, traveled to Kansas City, Missouri to present our bid for the All American City title. It was then, armed with information from the Community Development Department, among others, that our leaders presented the future of Torrance, which included electric vehicles. "Those people and the rest of the country looked at us like there was something wrong with us. What's this whole thing about electric vehicles? This was about 6 years ago. It's been an ongoing thing. We didn't just make this up last week. It took a long time to get where we are. I want to thank the California Energy Commission for its more than $400,000 grant, and the clean transportation from the Mobil source air pollution reduction review committee for their contribution of more than $50,000 – both of which helped make this come to fruition," said Mayor Pat Furey. Well-deserved certificates were presented to the city of Torrance by legislators and frankly, hearing all of the hard work the city staff has done, under the leadership of City Manager, LeRoy Jackson, with the elected officials, and the Environmental Quality and Energy Conservation Commission, catapulting Torrance into the modern age, made me proud to be a citizen of this very special town called Torrance.

We shouldn't be surprised that Torrance is a leader – in encouraging electric vehicles, because it was Torrance that pioneered one of the first publically accessible hydrogen fueling stations, hand in hand with Toyota and Shell, located at 190th Street. We also have allocated space for both CNG (Compressed Natural Gas) and bio-diesel refueling at the City Yard, and by the end of the year, will have an 'all green' fleet for the city of Torrance Transit busses. That is no small feat for the fleet. Our city is working tirelessly to achieve the goal of sustainability and I can't think of another city in the country who works together more cohesively than the city of Torrance to provide these opportunities for everyone; residents, businesses, and business employees. Torrance doesn't just do one thing, - we do it all.

Sarah Wilfong, representing State Assemblyman, David Hadley and Mayor Patrick Furey.

The Community Development Department Team, including; Linda Cessna, Deputy CCD Director, Danny Santana, Senior Planning Associate, and Nina Lang, Planning Associate, among many others, were pivotal in organizing the Torrance EVent. As I roamed around the parking lot checking out the many booths and electric cars in the back of the Victor E. Benstead Plunge and the Katy Geissert Library, I met David Greenfader, of EV ARC, who explained solar charging stations to me. The idea of solar energy powering the pump was amazing. Using the sun to power an automobile. Wow! Torrance is one of the top cities as far as charging infrastructure in the United States! Excellent!

The city of Torrance is very special, and this event highlighted that fact yet again. Now, I am up to the mark concerning electric and hybrid cars. And although these new cars cannot fly – yet, the idea of 'plugging in' as opposed to 'pumping' is very appealing. So if you are fortunate enough to own an electric vehicle, you now have more stations in Torrance in which to 'plug in' and recharge. •

Former Torrance Environmental Quality and Energy Commissioner, Betty Lieu representing Congressman, Ted Lieu, and Mayor Patrick Furey.

School Board

from front page

students with different disabilities and "their mainstream peers," Wood Elementary School students will attend the event alongside fellow deaf and hard-of-hearing students as Los Angeles County Office of Education's guests [LACOE].

The Music Center also hosts special productions, such as festivals and music events for children and families, including the Very Special Arts Festival. The Music Center has earned national recognition as a leader in arts education and for providing resources to students and teachers in schools and community centers all across the region.

Costs associated with the program, such as transportation, and expenses for students to attend the Very Special Arts Festival will be paid for by a grant given to LACOE, making the Music Center Artist in Residency Program a no-cost event for the Torrance School District.

Wood Elementary Teacher Scheduled To Attend 95th National Council for Social Studies Conference

Wood Elementary School teacher Karen McCormick was green-lighted by the Torrance School Board to attend the 95th National Council for Social Studies Annual Conference in New Orleans from Nov. 13-15. The cost of registration to the conference will be paid through the Wood Elementary School Supplemental Funds Account, with all other costs associated with the conference being paid for by McCormick.

The NCSS was founded in founded in 1921 and is now one of the largest associations across the country that is dedicated exclusively to social studies education. By supporting and engaging teachers in all 50 states, NCSS works to strengthen and advocate social studies.

"Conference highlights include speakers and community meetings of varied topics," states the staff report. "Including teacher education and professional development, early childhood/elementary, teaching world history, and others."

There are also NCSS members in the District of Columbia and 69 foreign countries. The NCSS serves as an umbrella organization for elementary, secondary, and college teachers in the subjects of history, civics, geography, economics, political science, sociology, psychology, anthropology, and law. NCSS membership represents teachers in the K-12 grades, as well as college and university faculty members, curriculum designers and specialists, social studies supervisors and leaders in the multiple disciplines that make up the field of social studies.

"Also included are three compelling films on contemporary issues with discussions on the documentaries, their use as classroom resources, and the current issues around the subject matters shown," stated the staff report. •

City Council

from front page

This is just another step in the progression of a lot of hard work over the years and we are starting to see the fruits of that labor now with the filling of these positions by a couple of long-time, well-trained and highly professional library staffers."

The staff report states that the Civil Service Commission approved the allocation of two incumbents from the position of Junior Library Clerk II to Library Technician at their Sept. 14 meeting. The incumbents are said to have been in their position for "a number of years." Furthermore, due to the hiring freeze in the library, the incumbents have extensive knowledge and were temporarily appointed to the Library Assistant I and II, which was replaced by the Library Technician and Senior Library Technician classifications.

"I think it is one of those rare opportunities that is thankfully here in the city where we can do some restructuring with minimum cost to the organization and provide more flexibility to our employees," Vinke said. "Hopefully as we go through the civil service selection process we will see a lot more of the employees taking the entrance position." •

South Bay Environmental Services Center
South Bay Council of Governments
Torrance Opens Public Charging Stations as Part of National Drive Electric Week

On Saturday, Sept. 12, the City of Torrance marked the opening of six public electric vehicle charging stations throughout the City with a ceremony at the new ChargePoint electric vehicle charging stations behind the Katy Geissert Civic Center Library.

Mayor Patrick J. Furey and members of the City Council, along with representatives for other elected officials, cut a symbolic gas hose in place of the traditional ribbon.

"As a City that encourages environmental sustainability, this is one more way that we can move forward with our efforts," Mayor Furey said. "With these new charging stations in Torrance, we become part of a larger, regional network. And as growth continues in the electric vehicle market, this is just one more resource we can offer our community and our visitors."

Following the ribbon cutting, attendees took part in the National Drive Electric Week Ride and Drive/EV-Expo. The "Torrance EVent" included representatives from nine automakers, as well as 41 EV owners who talked about owning an electric vehicle. Also on hand were 36 exhibitors offering information about a range of other environmental concerns including recycling, water conservation, gray water systems and solar energy.

Visitors were given the opportunity to ride in or drive electric vehicles and to obtain information showing the locations of existing and future charging stations throughout the City. With the exception of the Civic Center Library which has four Level II chargers, all of the stations will have two Level II and one Level III DC Fast Charger stations.

National Drive Electric Week is sponsored by Plug In America, the Sierra Club and the Electric Auto Association.

Once complete, the six ChargePoint public charging station locations are:

- Katy Geissert Civic Center Library, 3301 Torrance Bl.
- Columbia Park, 18727 Prairie Avenue

- Charles H. Wilson Park, 2200 Crenshaw Blvd.
- Downtown Torrance Parking Lot, 1332 Post Avenue
- Walteria Library and Park, 3855 242nd Street
- McMaster Park, Library and Police Substation, 17537 Yukon Avenue

This event was a result of an over two year effort by the Torrance City Council and an interdepartmental City team to complete public outreach as to citing the locations, securing grant funding and proceeding with design and construction of the sites. By expanding the City's electric vehicle charging infrastructure, the project assists in the achievement of a 2008 Strategic Plan goal to "improve air quality" and responds to an ever increasing demand for EV charging at existing stations currently in place at the City Hall. Funding in part was through grants awarded the City from the California Energy Commission, Mobile Source Committee (MSRC) and AB 2766 Subvention funds.

For further information, contact Lead Senior Planning Associate Danny Santana at (310) 618-2250; dsantana@torranceca.gov.

Photos to insert:

Left to right: Sarah Wiltfong From Assemblyman David Hadley's Office, , Councilman Mike Griffiths, Councilman Kurt Weideman, Torrance Environmental Commissioner, and wife of Congressman Ted Lieu, Betty Chin, Councilman Mike Griffiths Councilman Kurt Weideman, Councilwoman Heidi Ann Ashcraft, Mayor Patrick Furey, Councilman Tim Goodrich, Councilman Geoff Rizzo, City Clerk Rebecca Poirier, ChargePoint, Inc. Director of Southwest Sales, Brendan O'Donnell and Hamilton Cloud, from Congresswoman Maxine Waters' Office

APPENDIX G

Torrance EVent Photos

Torrance Mayor, members of the City Council, Torrance City Clerk, representatives for Congressmen Lieu and Assembly member Hadley offices and ChargePoint representative. (City of Torrance). Photo Credit: City of Torrance Staff

Members of the Torrance Environmental Quality and Energy Conservation Commission. (City of Torrance). Photo Credit: City of Torrance Staff

Mayor Furey initiating the Official First Charging Session. (City of Torrance). Photo Credit: City of Torrance Staff

Mayor Furey being interviewed by Torrance CitiCable. (City of Torrance). Photo Credit: City of Torrance Staff

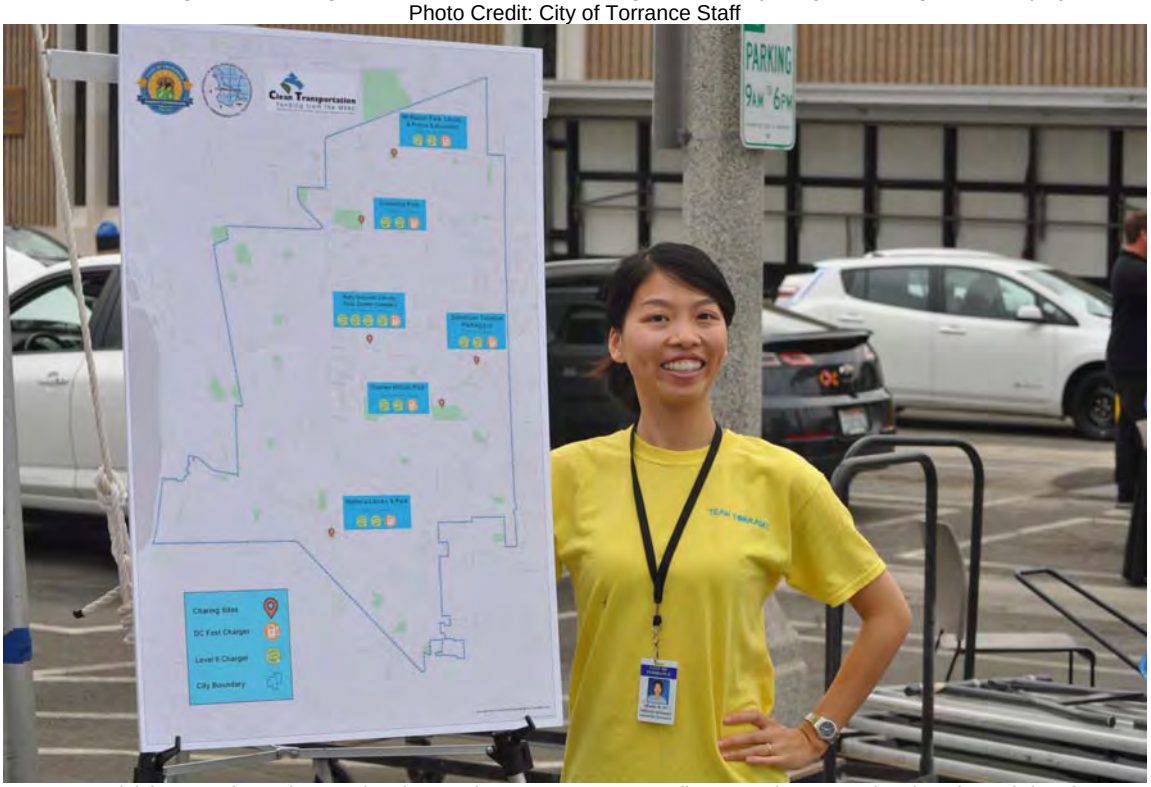
Mayor Furey with the members of the City's Grant Team. (City of Torrance). Photo Credit: City of Torrance Staff

Joel Levin, Plug-In America Executive Director giving opening remarks. (City of Torrance). Photo Credit: City of Torrance Staff

Envision Solar International's Display of the EVArc Solar Charging station model. (City of Torrance). Photo Credit: City of Torrance Staff

A representative of Hollywood Electrics showcasing Zero Motorcycles models. (City of Torrance). Photo Credit: City of Torrance Staff

Representatives of ChargePoint showing attendees how to use the chargers and completing on-site registrations. (City of Torrance).
Photo Credit: City of Torrance Staff



Torrance GIS Division member, Sharon Yiu, showcasing Torrance's One Mile, One Charger project locations. (City of Torrance).
Photo Credit: City of Torrance Staff

Torrance Environmental Commissioner Wright showing EVent attendees the vast array of publicly accessible charging stations at both City facilities and Commercial locations. (City of Torrance). Photo Credit: City of Torrance Staff

Representative for Electric Car Insider Magazine. (City of Torrance). Photo Credit: City of Torrance Staff

Nissan Test-Drive sign-in booth. (City of Torrance). Photo Credit: City of Torrance Staff

Ford Test-Drive sign-in booth. (City of Torrance). Photo Credit: City of Torrance Staff

Torrance EVent Test Drive Vehicle queue. (City of Torrance). Photo Credit: City of Torrance Staff

Toyota RAV4 EV display vehicle during the Torrance EVent EV Expo. (City of Torrance). Photo Credit: City of Torrance Staff

Torrance Transit representatives showcasing the forthcoming Torrance Regional Transit Center project (est. 2018) and an example of their 100% alternative fuel fleet with one of their CNG buses. (City of Torrance). Photo Credit: City of Torrance Staff

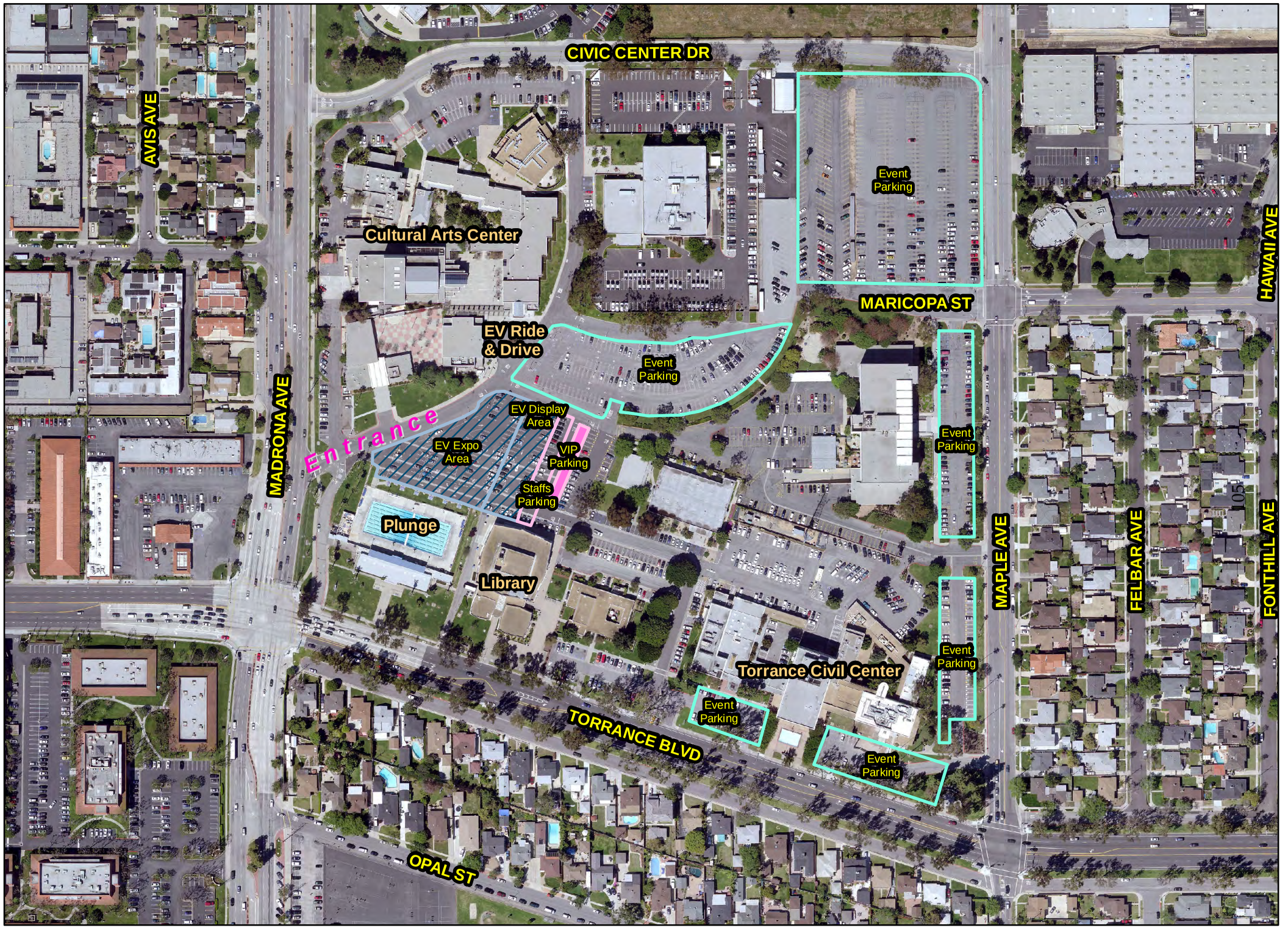
City of Torrance Sustainable give-away 'SWAG' for EVent attendees. (City of Torrance). Photo Credit: City of Torrance Staff

A representative for Second Generation Water Solutions explaining the merits of Greywater systems to an EVent Attendee. (City of Torrance). Photo Credit: City of Torrance Staff

Torrance EVent attendees discussing the latest in EV model options. (City of Torrance). Photo Credit: City of Torrance Staff

APPENDIX H

Torrance EVent Logistics

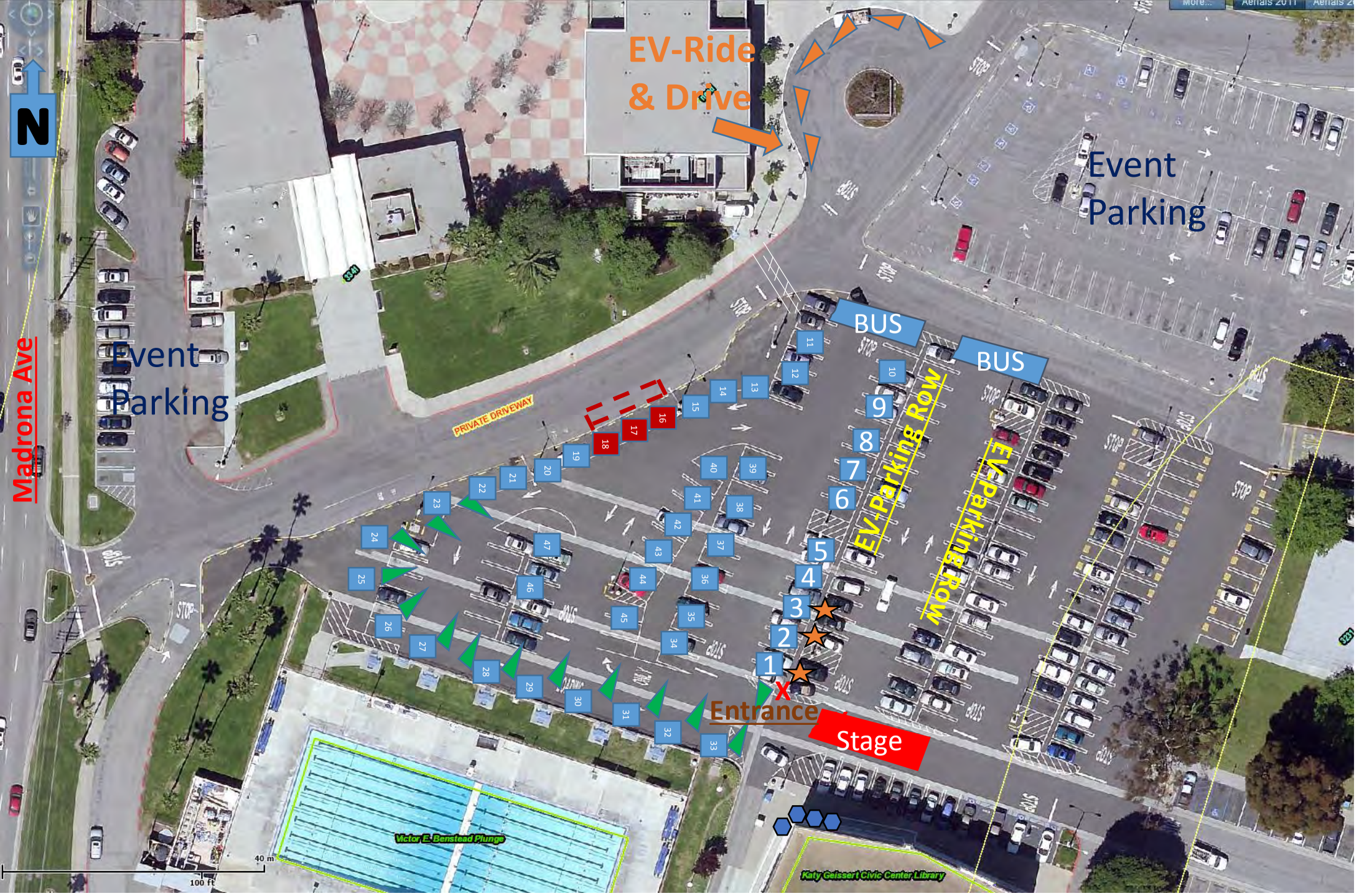


T:\Mlai\PDF\2015\aerials8by11L EV Event Parking Map.pdf

Lines and photos are approximate, not to be used for establishing absolute or relative positions

EV Event Parking Map

Jeffery W. Gibson
Community Development Department


EV-Ride & Drive
Event Parking
Event Parking
Madrona Ave
BUS
BUS
EV-Parking Row
EV-Parking Row
PRIVATE DRIVEWAY
Entrance
Stage
Victor E. Benstead Plunge
Katy Geissert Civic Center Library
N
Expo Display EVs
Ride & Drive EVs
Booth #s
EV-Chargers
Porta-Potties
Area reserved for Food Truck

9/12/15

EV Ribbon Cutting

Ride & Drive Test Route

10:00 am – 2:00 pm

1) Depart Cultural Arts Round About
2) Right onto Madrona
3) Right onto Del Amo
4) Right onto Maple
5) Right into Civic Ctr Parking Lot just South of Court House Tower)
6) Proceed through Parking Lot to Round About

PART OF THE NATIONAL DRIVE ELECTRIC WEEK CELEBRATIONS

Torrance EVent

Charging Station Ribbon Cutting and *EV* Expo/*EV* Ride & Drive!

Grant funding provided by:

Clean Transportation Funding from the MSRC

9 a.m.
Electric Charging Station Ribbon Cutting Ceremony

10 a.m. to 2 p.m.
EV Expo/Ride & Drive *EV*ent
An official Plug In America Event

Saturday, September 12, 2015

Torrance Civic Center | 3301 Torrance Blvd. Torrance, CA

(behind the Benstead Plunge/Katy Geissert Library)

PARTICIPANT REGISTRATION FORM

NAME OF ORGANIZATION: _____

CONTACT PERSON: _____

ADDRESS: _____

CITY: _____ STATE: _____ ZIP: _____

PHONE: _____ FAX: _____

EMAIL ADDRESS: _____ CELL PHONE: _____

Please indicate which Torrance EVent aspects your organization will be participating in: (check all that apply)

☐ Participation in the EV-Expo
If displaying EV-vehicle(s), please indicate which model(s) in the description area below.

☐ Participation in the EV-Ride & Drive
If participating in the EV-Ride & Drive, please indicate which model(s) will be offered for test drive in the description area below and ensure you bring your own Insurance release/waiver documentation for participants to sign before commencing the test drive.

NUMBER OF PERSONS STAFFING THE BOOTH: _____

PLEASE PROVIDE A BRIEF DESCRIPTION OF YOUR DISPLAY/BOOTH:

_____

_____

_____

_____

Booth space can be reserved by completing this registration form and returning it by e-mail, no later than **Thursday, September 3rd, 2015** to: rsabosky@torranceca.gov
If interested in having tents, tables and chairs, please be sure to bring your own tent (maximum area of 10' x 10'), table(s) and chairs. **Participant set-up must be completed by 8:45 a.m. as Ribbon Cutting will commence promptly at 9:00 a.m. with opening of EV-Expo to follow until 2:00 p.m. Breakdown commences at 2:00 p.m.**

Questions regarding the Torrance EVent can be referred to Linda Cessna, Danny Santana or Nina Lang at 310-618-5990.