CITY OF SANTA ANA

PUBLIC WORKS AGENCY

20 Civic Center Plaza ● P.O. Box 1988
Santa Ana, California 92702
www.santa-ana.org

CONTRACT NUMBER: ML12014
CITY OF SANTA ANA
FACILITIES, FLEET, AND CENTRAL STORES

FINAL REPORT
FEBRUARY 7, 2022

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

ACKNOWLEDGEMENTS

We are most grateful to our staff here at the City of Santa Ana who over the years has worked diligently in the execution of this agreement. We are also appreciative for the valuable assistance the Air Quality Management District (AQMD) and the Mobile Source Air Pollution Reduction Review Committee (MSRC) have provided the City throughout this project.

This report was submitted in fulfillment of ML 12014 and the
Mobile Source Air Pollution Reduction Review Committee
CLEAN TRANSPORTATION FUNDING, LOCAL GOVERNMENT MATCH
2012 PROGRAM TO FINANCE ALTERNATIVE FUEL INFRASTRUCTURE PROJECTS,
by the CITY OF SANTA ANA under the partial sponsorship of the
Mobile Source Air Pollution Reduction Review Committee (MSRC).
Work was completed as of May 2021.

PROJECT DESCRIPTION

In April, and June, 2012, the City of Santa Ana Facilities, Fleet and Central Stores (FFCS) submitted applications to the Clean Transportation Local Government Match Program 2012 for following clean air projects.

- Purchase of nine heavy-duty alternative fuel vehicles (AFVs)
- Improvements to the City's Compressed Natural Gas (CNG) station
- Installation of seven electric vehicle charging (EVCs) stations

All three projects aligned with the City's strategic plan to increase the proportion of AFVs in its fleet, and develop alternative energy fueling facilities to support AFVs. In June 2012, the South Coast Air Quality Management District (AQMD) Board approved $384,000 in matching funds for the projects.

In October 2012, the Santa Ana City Council approved acceptance of the award, and on November 8, 2013, the contract was executed between the City and South Coast AQMD. In the contract, the CITY will:

- Purchase nine compressed natural gas (CNG) and liquefied petroleum gas (LPG) heavy-duty vehicles for a matching award amount, not to exceed, $270,000
- Improve and expand the City's CNG station for $46,000, in matching funds
- Install seven EVC infrastructure for a not to exceed combined amount of $68,000
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VEHICLES PURCHASED

In the initial contract, the City was approved for two CNG transit vehicles and seven LPG utility vehicles. However, at the time, with the LPG fueling system being a rather new system to manufacture, the LPG configuration proved hard to come by in the vehicle makes and models the City needed. Additionally, delivery timelines of vehicles and related outfitting equipment ordered were unpredictable, which created challenges in meeting contract deadlines. Therefore, in May 2020, City requested, and was approved for contract modifications. Changes included extending the contract term, and switching four of the initial seven heavy-duty LPG fueled vehicles to CNG. Summarized are the resulting AFV purchases:

- 2 - CNG Ford Starcraft transit vehicles, placed in service 11/03/2015


- 2 - CNG Freightliners
  - 2015 Hydro-excavator, placed in service 04/30/2015

  - 2016 Sewer Truck, placed in service 03/09/2016

- 5 - LPG Ford HD/SD utility vehicles
  - 4 – F550 placed in service between May – Dec. 2014




  - 1 – F250 placed in service 04/02/2014

Since the placement of these vehicles into service, the total combined usage in miles has exceeded 272,000 miles as of 12/31/2021. The greenhouse gas emissions in carbon dioxide would have been over 52 metric tons, annually, using the average miles per gallon of each vehicle with gasoline-fueled systems. The greenhouse gas emitted would have been equal to: one average passenger vehicle driven almost 131,000 miles in a year, or over 57.5 pounds of coal burned, or 6.3 million smartphones charged. Although the nine AFVs purchased are not zero emissions, replacement of gasoline fueled vehicles with AFVs have taken the City in the direction to reduce our community's carbon footprint.

City submitted subsequent requests to MSRC to extend the term of contract ML 12014. SCAQMD approved the extensions, which allowed all nine AFVs purchased to meet the contract's 5-year operational requirement.

CNG STATION IMPROVEMENTS

In 2014, preliminary discussions were held with current in-house stakeholders, and CNG contractors as to what improvements were desired, along with the contract approved compressor and canopy cover (noted in ML 12014 Statement of Work). Over the next five years, there were also numerous meetings on making available the improved station to outside commercial users. However, access by non-city vehicles brought up additional concerns of security for the area and equipment, infrastructure improvements allowing for access by multiple users, tracking of usage, and ongoing maintenance of the facility. Scope of work for the project kept expanding, as did the list of concerns and anticipated project costs. This pushed the necessary matching funds from the City way beyond our means to complete the improvements. Then in 2020, unable to find alternative sources of funding, City requested, and was approved by SCAQMD the modifications to remove the CNG Station Improvement project and related funding of $46,000 from ML 12014.

EV CHARGING STATIONS

Upon the award of $68,000 in matching funds from SCAQMD, for the installation of seven EV charging stations, City met with perspective consultants and contractors to educate staff in the fueling systems, related equipment, and maintenance of these systems. In October 2013, as our first installation of EV chargers in the City, FFCS had installed two single nozzle chargers at City Hall. These chargers were for use by fleet vehicles assigned to the Planning and Building department. City received reimbursement in 2013 from SCAQMD upon completion of the installation. Then in 2017, FFCS selected an EVC contractor for installation, and an EVC operating maintenance contractor for the remaining five approved, EV charging stations. City Council approved on February 6, 2018, both agreements with the selected contractors, as well as the necessary City matching funds to complete the project. The following are the five remaining ML 12014 EVC stations that were approved by Council:

- 2 - EVCs located at the Corporate Yard. Both locations: General Parking and Employee Parking, installation completed, January 2019.


- 2 - EVCs located at City Hall, 20 Civic Center for Employee and Fleet Parking, each with dual nozzles, installed and activated in November 2020.


- 1 - EVC located in a public parking structure located within the Civic Center. Installation was completed in January 2019.

Again, due to the approved term extensions of ML 12014, and the continued assistance of SCAQMD staff, we were able to complete the installation of all seven EV charging stations. Since their activations, the remaining five charging units have recorded usage of almost 20,000 kilo-watt hours, or over 600 gallons of gasoline per U .S. Department of Energy's gasoline gallon equivalent (GGE) calculation. Entering the equivalent gasoline usage in the Environmental Protection Agency's Greenhouse Gas Equivalencies Calculator on epa.gov, the greenhouse gas emissions is equal to over 5 metric tons of carbon dioxide, or over 6,000 pounds of coal burned, or the charging of almost 666,000 smartphones. Again, electric fueling is not zero emissions, but a definite reduction of emissions compared to the use of petrol.

PUBLIC OUTREACH

A requirement in contract ML 12014 is for the contractor to develop and implement a Public Outreach Plan. In 2013, the City developed a core public outreach plan for green initiatives. In the plan, City addressed informing the public of "green" eco-friendly infrastructure projects in the community, and the funding of these projects by funding agencies (such as AQMD) through taxes and fees. Upon SCAQMD's approval of the plan, staff began its outreach within City Hall, and outside to the community. FFCS with the assistance of a consultant created and distributed informational pamphlets, flyers and articles on the City's website and in newsletters.

CHALLENGES ENCOUNTERED

Our first challenge, after familiarizing staff to the alternative fueling systems and related fueling infrastructure and equipment, was locating and purchasing the AFVs. Due to the recent introduction and limited manufacturing of AFVs at the time, on top of the growing demand to purchase them, City experienced, supply chain issues. Such issues required staff to be more: resourceful and creative in finding the needed AFV vehicles by reaching out to other agencies and entities; employ unconventional means to procure AFVs; and flexible in the makeup of a vehicle's make, model, and fueling system purchased.

FFCS' major and lingering challenges have been the numerous changes in management of the division(s) and turnover of support staff. Since awarded contract ML 12014, FFCS has seen numerous staff members leave, from the highest executive management positions to senior support staff and assistants. The division(s) also transitioned from Finance to Public Works in 2019. The departure of staff members, along with the move from one agency to another, created difficulty in imparting MSRC contract knowledge and expertise, and finding and accessing project file folders. Over the years, staff boxed printed files and placed them in various locations throughout the City, while electronic files were saved on agency and division specific drives not accessible to other agencies without departmental and IT approvals. Despite FFCS creating these files, they cannot retrieve their files because they are now under a different agency. The COVID-19 State shutdown and protection protocols only amplified this challenge of accessing files when staff transitioned to remote work. This disconnect in accessing historical files was especially problematic in locating and documenting our public outreach efforts. The pandemic, also redirected staff's attention away from on-going projects to emergency issues such as: installing protective barriers, acquiring PPEs, and arranging for additional security services monitoring individuals entering City facilities.

The installation of EV chargers had its challenges as well. In March 2020, while nearing the completion of the City Hall installation, the State COVID-19 shutdown occurred. City service levels slowed, which delayed the inspection and permit approvals of the chargers. Contact with the installation contractor, and scheduling onsite work was difficult. We also encountered infrastructure issues such as insufficient power source, and ADA accessibility issues. Such infrastructure challenges increased the costs of installation, and prolonged project schedules due to the involvement of the utility company.

SUMMARY & CONCLUSIONS

In 2012, the City of Santa Ana was awarded MSRC contract ML 12014 for three clean air projects totaling $384,000 in matching funds from the South Coast Air Quality Management District. Since then, City staff has completed two of the three projects as follows:

- Purchased 9 Alternative Fuel Vehicles
- Installed 7 Electric Vehicle Charging Stations

Per the request of the City and approval by SCAQMD, the third project of expanding the City's Compressed Natural Gas fueling facility was removed from the agreement after staff experienced delays in finalizing the scope of work, and was unsuccessful in locating additional matching funds. It also became evident that staff would not be able to meet the 5-year operational requirement of the project before the contract term ended. While City staff experienced challenges in maintaining consistent staffing levels, access to project files, and supply chain issues, staff did not stop in their efforts to complete the projects. As of May 2021, the final invoice for the installation of EVCs was paid, but due to errors later noticed, we are now awaiting a revised invoice from the contractor. Also, ML 12014 noted two of the seven chargers needed to be publicly accessible. Due to growing security concerns at the Corporate Yard, the charger installed in the General Parking location, is now restricted from public access. Therefore, at this time, only one of two chargers is located in a public accessible location. City staff has also reached out to our Information Technology Services department to allow former FFCS-Finance files be accessible, and for project files to be saved in one depository instead of on separate agency and divisional drives.

Overall, although completion of the contract took staff longer than first imagined, it was a great opportunity for the City with financing assistance from SCAQMD to introduce alternative fueled service vehicles and fueling infrastructure to the community. Recognized usage of the installed EVCs has encouraged staff to continue placement of these chargers for use by the public and City personnel. Moreover, due to growing climate concerns, State mandates to replace fleet vehicles with near zero- and zero-emission units are now compulsory. In fact, these "green" projects have become even more essential for organizations, as well as AQMD's support. City staff is also very excited in pursuing the expansion of the City's CNG fueling station. With financial assistance from other City divisions, we have a City Council approved contractor on board, plans drawn, and financing for the first of two phases of the project. The City of Santa Ana's FFCS feels inspired and eager to continue working with SCAQMD on future MSRC contracts.