



Fleets for the Future

Lessons in Cooperative Procurement of Alternative Fuel Vehicles and Related Infrastructure

November 2018



Overview

Government agencies and their constituents can benefit greatly from replacing conventional vehicles with alternative fuel vehicles (AFVs), and numerous jurisdictions and states have set ambitious goals for AFV deployment. AFVs, including electric vehicles (EVs), propane autogas vehicles, and compressed natural gas (CNG) vehicles, are becoming increasingly cost effective for government fleets. However, AFV deployment has been hindered by challenges such as the need to justify higher upfront costs, the lack of widespread technical knowledge that could enable appropriate specification of AFV options, the need to obtain sufficient refueling infrastructure and adopt new maintenance practices, and limited time available to capacity-constrained fleet staff as they evaluate vehicle procurement options. As such, the status quo has tended to prevail for fleets that lack the mandate or resources to adopt AFV purchasing strategies. Fleets for the Future (F4F) was a national partnership, funded by the Department of Energy (DOE), designed to reduce these barriers and to provide opportunities for more agencies to procure clean vehicles for their fleets.

Project Definition and Goals

Led by the National Association of Regional Councils (NARC), F4F was comprised of five regional councils, thirteen Clean Cities Coalitions, and five industry and technical advisors, led by Cadmus. With their various extended networks and relationships, all the project partners worked in unison to consolidate bulk orders of alternative fuel vehicles (AFVs) and infrastructure regionally and nationwide.

The goal of F4F was to “positively impact the [AFV] market in a 24-month period through the deployment of replicable fuel-neutral best practices and cooperative procurement templates that will enable competitive pricing and lower the upfront cost by 5-15% for [AFV] acquisition in local, regional, and state jurisdictions, as well as for private fleets through five large regional and one national procurement initiatives.” Additional goals and objectives included:

- 1** The creation of five to ten replicable procurement best practices and templates;
- 2** The development of a strategic nationwide outreach and education campaign, including five regional bootcamps, 40,000 engaged stakeholders, and 100,000 media impressions;
- 3** The development of at least 40 open AFV contracts with documented cost savings through the five regional procurement initiatives; and
- 4** The development of a dozen nationwide AFV contracts with documented savings.

The approaches adopted by F4F were successful in addressing the barriers associated with AFV deployment. F4F developed contracts featuring lower AFV prices, educated local fleet managers and procurement officials on AFV options, provided options for bolstering refueling infrastructure, and provided ready-to-use contracts that could be directly adopted by fleets via cooperative rider clauses. Together with the best practice guides on conducting cooperative procurement of AFVs, this saved member fleets significant administrative time, and enabled them to more easily purchase AFVs matched to their own specific needs.



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Table 1. F4F Outcomes

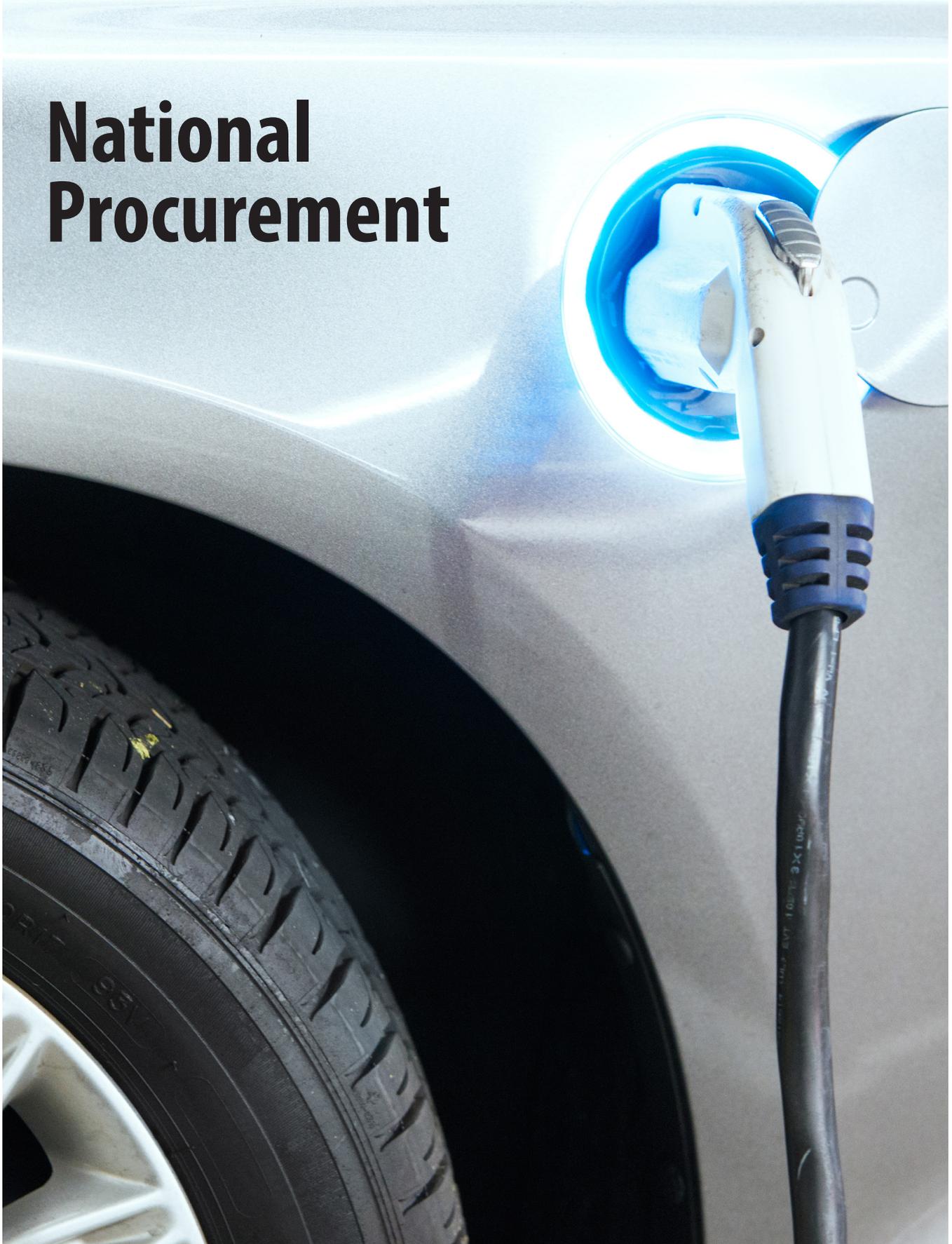
F4F Project Goals & Objectives	Highlighted Achievements
Procurement best practice research	Five best practice guides, a guide to EV charging resources, template timelines, and template procurement processes created.
Education of agencies and fleets	<p>Over 60 webinars and web meetings offered, with a cumulative attendance of 3,661.</p> <p>Dozens of one-on-one conversations between team members and local governments explaining how to use the contracts.</p> <p>Introduction of Los Angeles and the Climate Mayors group to Sourcewell, resulting in a new commitment from 20 cities and 2 counties to use Sourcewell contracts to dramatically expand their EV purchases¹ and a new EV purchasing platform.</p>
Development of cooperative procurement contracts	<p>Nine new contracts for electric vehicle supply equipment (EVSE) and fleet management available nationwide.</p> <p>35 alternative fuel vehicle offerings from 13 dealerships through the Mid-America Regional Council for public procurement metro bid.</p> <p>11 vendors awarded contracts covering EV charging stations, idle reduction, and aftermarket vehicle conversions, available nationwide through Massachusetts' COMMBUYS platform.</p> <p>16 alternative fuel vehicle types through 3 vendors serving the Mid-Atlantic region.</p> <p>An interlocal agreement extending Sourcewell alternative fuel vehicles to all members of NCTCOG through North Texas SHARE, regardless of whether these members are directly members of Sourcewell.</p>
Promotion of contracts	<p>Project population coverage: 61 million residents in 5 metro regions.</p> <p>Over 15,000 new members of Sourcewell since the partnership began.</p> <p>Over 600,000 individuals reached by the project team.</p>

This report will first describe the process of setting up F4F's nationwide public sector vehicle procurement, and will then include short synopses of the achievements of each of the project's regional procurements.

¹ www.lamayor.org/mayor-garcetti-hosts-clean-transportation-forum-paris-mayor-hidalgo-announces-new-online-platform



National Procurement



Background

The F4F team developed a national-scale procurement plan and created a 7-step strategic procurement framework to identify models and partnerships to serve public and nonprofit fleet purchases (see Figure 1). The following description highlights the steps taken to research, develop, and implement a national procurement agreement. The final results included a successful partnership with Sourcewell, which incorporated information from F4F partners collected during the research and engagement phase and the market analysis phase for several of its new contracts.

The two main ways in which this collaboration was beneficial were 1) the ability of the F4F team to engage new potential purchasers/members and educate them about existing Sourcewell alternative fuel vehicle contracts, and 2) the contribution of industry expertise and assistance at key stages of the development of new contracts, including EV charging contracts and fleet management services contracts.

Figure 1. The procurement framework that the team developed.

7-Step Procurement Process



1. Research/Engagement:

Research and engagement included identifying the following needs: the motivations of potential participating fleet stakeholders, the scale of the need for a wide variety of vehicle classes across multiple alt fuel platforms, allies and key assets for the development of a procurement campaign, and opportunities for long term sustainability of procurement.

After the assembly of the core team of NARC, the technical experts, the regional councils, and the Clean Cities outreach team, the first step of the process was the development of a survey to best understand what vehicles and fuels were of the highest interest to potential participants. The survey results can be found online.

The next step was to determine whether any of the project partners were capable of and committed to hosting a set of long-term vehicle procurement contracts that would be available nationwide. While many of the regions already had active and successful local procurements, few were appropriately set up and could commit to expanding their operations nationwide. Therefore, the project team interviewed several leading national public procurement entities to determine whether there was a match between any of these cooperatives and the Fleets for the Future objectives. These interviews informed the selection of a single procurement partner to enable bid execution and subsequent steps. The F4F team will continue to monitor available options through Sourcewell, and it is expected that there will be additional aggregated procurement opportunities now that 45+ states have announced their Volkswagen (VW) Environmental Mitigation Trust (EMT) settlement programs.

2. Requirement Identification:

The F4F team's technical advisors researched the types of alternative fuel vehicles that have the highest potential appeal to fleets and that are commercially available nationwide. These were identified as the vehicle types that are the most suited for a national procurement campaign. This research included looking at each fuel type and its infrastructure needs, infrastructure maintenance needs, vehicle types that are well suited to each fuel, vehicle maintenance impacts, existing procurement options, and resources and case studies. It also included obtaining industry guidance on specific requirements to include in RFPs and the development of a "top 10" vehicle list for each alternative fuel, with guidance from the Electrification Coalition, the Propane Education and Research Council, and Yborra and Associates (covering natural gas vehicles). This list was created based on total potential fuel reduction/emissions benefits, financial savings, vehicles that are least likely to be highly customized for individual municipalities, and vehicles that have perennial popularity.

3. Market Analysis:

Market analysis was important to ensure that the vehicles we wanted to provide were readily available and their infrastructure would not create insurmountable barriers to procurement. Market analysis was an ongoing activity for the F4F team, conducted by its technical advisors, regional planning organizations, and Clean Cities coalitions partners. F4F partners reviewed the original equipment manufacturers' (OEMs) and dealerships' current processes and ongoing practices and determined product availability and supplier reliability. The F4F team also analyzed the availability of AFVs through the leading cooperatives they had interviewed in the "Research and Engagement" step to assess gaps in the available contracts and determine which vendors had existing relationships that could be beneficial to local fleet stakeholders. The F4F team encouraged the procurement partner it ultimately selected to develop new contracts to address these gaps – including EV charging equipment and services, and EV leasing and fleet management opportunities – with the goal that these vendors would provide for easy monetization of the federal EV tax credit for municipal entities.

4. Bid Execution:

As a result of the research and engagement, requirement identification, and market analysis steps, the F4F team chose to form a partnership with Sourcewell, a cooperative based in northern Minnesota with a strong history of cooperative procurement of vehicles for government agencies nationwide. The selection of Sourcewell allowed the F4F team to have the advantage of a procurement system already in place. Sourcewell's strong membership base and robust system and structure to manage national contracts ensured that the F4F team not only met its goal of providing cooperative contracts to fleets, but had a partner who could sustain operations beyond the project period.

Sourcewell had the sole responsibility of the bid execution for the F4F national procurement. The organization follows a robust procurement process to meet all necessary requirements for public agencies – bid policies, legally-established procedures, advertisement/notice strategies, bid and contracting documents, proposal evaluations, and established terms and conditions. Sourcewell has a proven track record for thoroughness, legal validity and successful execution, monitoring, and renewal processes. Throughout the project, F4F partners reviewed and observed bid processes to lend subject matter expertise and make suggestions to enhance current practices, including technical assistance on the aforementioned electric vehicle (EV) charging and fleet management solicitations. F4F partners held many conference calls with Sourcewell educating them on alternative fuel vehicles and infrastructure throughout the process.

In addition, the F4F partners assumed outreach support responsibilities to publicize the bid process and encourage AFV manufacturers, upfitters, and other associated vendors to submit proposals and offer discounts on their most popular platforms.

5. Award and Contracts:

Sourcewell was also responsible for issuing awards and contracts. All the policies, contract documents, and terms and conditions are in place and include AFV-related contracts. The award is normally a four-year contracting term with an additional one-year renewal. Having the national procurement entity issue, hold, and monitor the contracts provides the needed longevity for this nationally aggregated procurement initiative, guaranteeing its sustainability. A complete procurement file is maintained by Sourcewell and contract documentation is posted for review.

Sourcewell's awards span light duty through heavy duty vehicles. On the light duty side, Sourcewell has awarded a contract to an auto-fleet specialty contractor to provide light duty vehicles nationwide, including the responsibility to maintain a competitive slate of vendors that can readily supply vehicles with a wide variety of AFV option packages. This vendor covers arranging the alternative fuel options, vehicle prep, and local delivery to the ordering fleet. For medium and heavy-duty vehicles and chassis, Sourcewell has relationships with dozens of vendors that supply alternative fuel options through their contracts. A full list of these contracts current as of August 15, 2018 is provided in the online Appendix.

6. Contract Promotion:

Contract promotion has been the joint responsibility of both Sourcewell and the F4F partner organizations. An outreach strategy was developed and deployed by project partners and their communications networks. A common message was developed, with a quick guide on how to utilize contracts, a Fleets for the Future landing page on Sourcewell's website, and numerous handouts describing the available contracts for vehicles that use alternative fuels and the benefits of those contracts (e.g. percentage discount from MSRP). In addition, Fleets for the Future team members and Sourcewell collaborators attended and presented at numerous fleet and green technology conferences and delivered information about the contracts as part of a series of educational webinars.

7. Evaluation:

Contracts should be periodically reviewed for their effectiveness to inform and facilitate future rounds of the procurement process. Since sales data is proprietary to Sourcewell and its participating vendors, which are not formally funded members of the F4F grant, only limited information could be compiled. Nonetheless, Sourcewell actively tracks performance including overall coop membership, the number of members served by each contract, the dollar value of the business done on these contracts, the satisfaction of members, and the track record of vendors. The F4F partners received key details about contracts developed by Sourcewell with F4F input. Some of the highlights are included below.

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National Results

The partnership with the established national cooperative procurement entity Sourcewell yielded immediate opportunities to access AFVs throughout the nation. The F4F team assisted in elevating the opportunities of the AFV options to the Sourcewell national membership, promoted the visibility of the AFV technology, and provided technical expertise for new contract solicitations. A summary of key highlights is provided in Table 2.

Table 2. Sourcewell Partnership Key Highlights

Number of events and webinars where Sourcewell alternative fuel contracts were promoted	20-25
Number of Sourcewell vendors providing alternative fuel vehicles and/or infrastructure	23
Number of new Sourcewell members since partnership began	15,291
Number of EVSE contracts issued	5
Dollar volume of EVSE sales through Sourcewell through Quarter 2 in 2018	\$1.3 million
Fleet management vendors awarded that offer AFV solutions	4

In addition to the above accomplishments, the national team provided input to help Sourcewell understand the options available in the EV charging market and helped them define the desired scope in its spring 2017 EVSE solicitation. The result was a successful procurement with 5 leading EV charging vendors on contract that offer Level 1, Level 2, and DC Fast Charge equipment; installation services; maintenance; repair; parts and supplies; leasing; warranties; and network services and software. The list of vendors is provided in Table 3.

During the spring and summer of 2018, the national team also worked with Sourcewell on its fleet management solicitation, which aimed to provide comprehensive fleet management services including leasing, vehicle repair and replacement, and preventative maintenance.

Based on F4F's input, the scope of the fleet management solicitation was described with a heavy focus on alternative fuel vehicles, as shown in the language from the solicitation in Figure 2. We defined industry-specific questions that enabled Sourcewell to determine the degree to which vendors were willing to pass along the EV tax credit to public purchasers. The F4F team also notified prospective vendors about the solicitation and informed them that their willingness to pass along a percentage of the tax credit would be considered a value-added attribute. Four vendors were awarded contracts: Automotive Rentals, Inc. (ARI), D&M Leasing, Enterprise Fleet Management, and Merchants Fleet Management.

Table 3. Sourcewell EVSE Vendors and Offerings

	Full catalogue	Discount: hardware	Discount: installation	Add'l volume discounts	Level 1	Level 2	DCFC	Installation
AeroVironment	✓	15%	None	Starting at 100 units	✓	✓		✓
ChargePoint	✓	20-30% (L2) 5% (DCFC)	N/A			✓	✓	Independent network of installers
LilyPad	✓	21% (L2) 5% (DCFC)	5%			✓	✓	✓
Siemens	✓	Up to 75% (L2)	Unknown	Starting at 500 units		✓		✓
Greenlots (Zeco Systems Inc)	✓	0-20% (L2) 6-14% (DCFC)	Unknown	4 volume tiers, each with discounts		✓	✓	✓



Figure 2. Fleet Management Services solicitation language from Sourcewell

3.17 Additional Scope Definitions: In addition to FLEET MANAGEMENT SERVICES, this solicitation should be read to include, but not be limited to:

3.17.1 Fleet Management Services covering the acquisition (by lease or financing) of a wide range of on-road vehicle types spanning all weight classes and vehicle classifications including, but not limited to:

1. Conventional internal combustion vehicles;
2. Battery electric vehicles;
3. Plug-in hybrid vehicles;
4. EPA- (or CARB-) certified, OEM-approved (e.g. QVM, SVM) natural gas vehicles (dedicated or bi-fuel);
5. EPA- (or CARB-) certified, OEM-approved (e.g. QVM, SVM) propane autogas vehicles (dedicated or bi-fuel);
6. Flex-fuel vehicles;
7. Other on-road vehicle assets;

While Fleets for the Future could not obtain comprehensive information about the volume of alternative fuel vehicle purchases versus conventional vehicle purchases on the contracts the team developed and promoted with Sourcewell, F4F has received anecdotal evidence that fleets know and trust Sourcewell, have learned more about the AFV options available on Sourcewell as a result of the project, and are conducting purchases using the platform. For instance, in March 2018, the City of Encinitas, CA announced that it would be using Sourcewell to procure EV charging equipment, battery electric vehicles, and XL Hybrids conversions.² Additionally, at the 2017 ACT Expo, as part of our outreach efforts, national team members participated in a meeting convened by representatives from Los Angeles and its peer cities to discuss large-scale purchases of EVs. Our team introduced this group to Sourcewell and their contracts. Sourcewell was able to leverage this connection to ultimately build an EV procurement platform for the Climate Mayors group, which was unveiled at the Global Climate Action Summit in September 2018. With the launch of the platform, 20 cities and 2 counties have committed to purchase at least 391 EVs through Sourcewell.³

In addition to the Climate Mayors' decision to use Sourcewell, we expect the VW Environmental Mitigation Trust (and the significant amount of associated funding for AFV types that Sourcewell offers) will result in significant increases in the utilization of the Sourcewell contracts soon, particularly the EVSE contracts and the contracts for medium and heavy-duty propane and natural gas vehicles.

² www.government-fleet.com/news/story/2018/03/calif-city-adopts-zero-emission-fleet-conversion-plan.aspx?utm_source=email&utm_medium=newsletter&utm_campaign=20180321-NL-GF-Enews-BOBCD180321038&omdt=NL-GF-Enews&omid=1004456252

³ www.lamayor.org/mayor-garcetti-hosts-clean-transportation-forum-paris-mayor-hidalgo-announces-new-online-platform

Regional Procurements



Greater Kansas City Region - Mid-America Regional Council

Approach

The F4F Kansas City pilot project was able to join an established metropolitan collaborative vehicle procurement process in the summer of 2016, with the overall goal to introduce alternative fuel vehicle options to the public and nonprofit sectors in the region. F4F representatives were involved in the planning and implementation of the metro vehicle bid process.

The KC project assisted the national team in providing several possible procurement aggregation options for the other participating regions to consider. The strategies deployed, the materials developed, partnerships formed, and lessons learned greatly informed the F4F program and have served as a strong foundation for the overall success of the initiative.

The Kansas City pilot program was able to successfully demonstrate the F4F's overall goal through its regional-based programs:

- The integration of AFV options into the metro vehicle bid for public and nonprofit organizations.
- The consumer EV group purchase program.

The end results showcased successful integration of AFV options in an already established vehicle bid process; documented cost savings through administrative and transactional procurement efficiencies; increased knowledge of AFV technologies and procurement options; discounted pricing to local governments and regional consumers; and, ultimately, increased AFV deployment.

The greater Kansas City region was also involved in EV group purchase programs in 2016-2017 which had two target audiences: Round 1 residents in Kansas City, Missouri; and Round 2 University of Missouri-Kansas City affiliated individuals, such as faculty, staff, students and alumni. Round 1 was originally designed to be a limited six-week campaign but was further expanded to include the Kansas City Power & Light (KCP&L) service territory with a time extension of six months — through June 2017. Round 2 was announced in April 2017 and the offer was valid through June 2017.

Results

The Metropolitan Kansas City Regional Cooperative Procurement AFV Pilot Program succeeded on multiple levels and has established alternative fuel vehicles as viable options for fleet purchases in the future. Key results/findings include:

- The involvement of the Fleets for the Future team provided significant value to the metro Kansas City vehicle bid process.



- The project team successfully integrated AFV options into an established metro vehicle bid process, which should be sustainable through subsequent bid processes.

- Final bid proposals included multiple AFV options on 35 of the 44 vehicle categories awarded.

All in all, 13 dealerships secured contracts with Johnson County, Kansas, in all eight classes of vehicles. 18 CNG, 14 propane, four HEV and three PEV options are now available under the 2016 Mid-America Council for Public Procurement (MACPP) metro vehicle bid.

- The project achieved higher levels of awareness and AFV knowledge on the part of fleet managers, as well as dealership sales and service staff.
- The cost savings derived from purchasing vehicles through a cooperative procurement program is noteworthy. The most significant savings can be shown through the reduction of transaction and administrative costs and the savings extended by volume pricing. Plus, fleet managers are motivated by the simplicity of the process, as well as the ability to deal with local vendors.



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- Through dealership and fleet interviews, the F4F project team confirmed that the 2016 MACPP vehicle bid is an attractive option because of its simplicity, which should not be underestimated. Further streamlining can only enhance the appeal of this process.
- EV Group Buy:
 - » Six area Nissan dealerships participated in Round 1. Due to the success of the initial period, the program was extended until March 31, 2017, and again until June 30. During each quarter throughout the F4F group buy programs, the Kansas City region was ranked the fastest-growing EV market.
 - » The F4F-sponsored group buy program featuring the Nissan LEAF resulted in an 87 percent increase in year-over-year sales in the Kansas City market for the fourth quarter. The consumer savings was \$10,000 per vehicle before applying the federal tax rebate.

The MARC F4F project team's outreach and education efforts to promote the metro vehicle bid and EV Group Buy are demonstrated in the table below:

Communications	Total
Website views	1,078
E-newsletter article	45,334
News releases	123
Direct email (e-blast)	14,215
Facebook posts	10,489
Tweets	8,206
Linkedin posts	2,671
Digital information board	37
Printed newsletters, workshop fliers	4,539
In person events (workshops, meetings, presentations, etc.)	1,448
TOTAL	88,140



Greater Boston Region- Metropolitan Area Planning Council

Approach

The Metropolitan Area Planning Council (MAPC) launched the Green Mobility Group Purchasing Program that leveraged the innovative contracting features of the statewide contract, VEH102, and built on existing partnerships with state agencies to reduce the cost of clean vehicle technologies for public fleets.

Three aspects of the statewide contract innovated beyond past contracts: (1) vendors are asked to provide volume-based discounts along with their product pricing, (2) public entities nationwide can purchase off the contract, and (3) there is a flexible process for approved vendors to add new products and for new vendors to be added to the contract.

In tandem with this contracting process, MAPC carried out public education and engagement to identify which alternative fuels were of the greatest interest to municipal fleets and collect input on program design. Based on the interest collected during spring 2017, MAPC collaborated with MA Department of Energy Resources and MA Operational Services Division on a purchasing agreement with XL Hybrids to aggregate state and municipal purchases of aftermarket hybrid electric conversion systems offered under the statewide contract VEH102. This agreement offered both bulk and accelerated time-frame discounts for purchase orders submitted through VEH102 during the six-month period and was available to public entities in Massachusetts and nationwide.

Drawing on the success of the pilot round of the program, MAPC expanded the Green Mobility Group Purchasing Program in 2018 to facilitate aggregate bids for electric vehicle charging stations.

Results

The Green Mobility Group Purchasing Program succeeded on multiple levels and has established alternative fuel vehicles as viable options for fleet purchases in the future. Key results/findings include:

- 11 vendors offering clean vehicle technologies are available to public entities in Massachusetts and nationwide on the statewide contract VEH102 (six electric vehicle charging station vendors, two idle reduction vendors, and three aftermarket conversion vendors).



- Four public fleets received discounts of 11-19 percent off their purchase orders by participating in the pilot round of the Green Mobility Group Purchasing Program – producing over \$54,000 in cumulative savings for the participating fleets.

- A replicable model for pricing agreements with aftermarket conversion technology vendors on

the statewide contract that allows state agencies and municipalities to buy in bulk together.

- A replicable model for executing a group request for quotes off the statewide contract for electric vehicle charging stations and a streamlined installation process.
- A pilot of the use of telematics to assess EV suitability within the Town of Natick’s municipal fleet for identification of future clean vehicle technology purchasing opportunities.
- Raised awareness of the statewide contract for advanced vehicle technology across the state and nationwide with the support of the Fleets for the Future project partners.

The MAPC F4F project team’s outreach and education efforts to promote the statewide contract, VEH102, and the Green Mobility Group Purchasing Program are demonstrated in the table below:

Communications	Total
Website views	2,168
E-newsletter article	67,307
News releases	500
Direct email (e-blast)	3,964
Facebook posts	3
Tweets	8
Printed newsletters, workshop fliers	519
In person events (workshops, meetings, presentations, etc.)	89*
TOTAL	74,558

**In-person events represent discrete meetings/events/webinars, whereas all other data capture number of impressions. All data represents metrics as of April 10, 2018*

Metropolitan Washington Region- Metropolitan Washington Council of Governments

Approach

Metropolitan Washington Council of Government’s (MWCOG) F4F effort succeeded in promoting AFVs and alternative fuel infrastructure as a key opportunity for public sector fleets to meet their individual sustainability-related objectives. Through this effort, MWCOG advanced the following key concepts:

- Adoption of a green fleet policy or fleet management plan aimed at improving fleet efficiency and reducing emissions of GHGs and other pollutants.
- Incorporating alternative fuel and charging equipment and infrastructure (e.g., natural gas, biofuel, electric, hydrogen) to public sector fueling facilities.
- Provide staff education and training for efficient use of and maintenance on all vehicle types in the fleet with a focus on alternative fuel vehicles.
- Support expansion of publicly accessible EV charging stations systems and other AFV fueling stations.

To do this, MWCOG’s engagement was multi-level and multi-pronged, connecting with policy and technical groups, as well as private entities.

Results

- Identified Co-Benefits: Educated others on the co-benefits of AFVs and infrastructure deployment with existing or future planning goals related to:
 - » Green purchasing: green products and aggregate procurement.
 - » Petroleum reduction goals: reduce reliance on fossil fuels.
 - » Resiliency and climate adaption planning: diversifying mobile fuel supply to mitigate risks.
 - » Clean economy: growing the regional appetite for local fuels and growing the market for EV charging.
- Aggregate Vehicle Bid Awarded: Three vendors were awarded contracts resulting from the bid.
 - » Individual agreements for final quantities are made between the vendor(s) and participating public fleets. Therefore, a



quantification of the number of vehicles purchased using these contracts is not possible at this time.

- » Sixteen vehicle types are available for purchase.
- » Period for pricing is one year, April 9, 2018 - April 8, 2019, with two one-year renewal options.
- » All vehicles that received pricing quotes are available for purchase to participating fleets and other interested public fleets through the rider clause.
- Aggregate Infrastructure Bid:
 - » Expected award – October 2018.

The MWCOG F4F project team’s outreach and education efforts to promote their aggregate vehicle and infrastructure bids are demonstrated in the table below:

Communications	Total
Website views	N/A
Rfi (regional and national dealerships)	220
E-newsletter article (4 sent electronically to 3000+ contacts each)	12,000+
News releases	N/A
Direct email (e-blast)	500
Facebook posts	20
Tweets	20
Webinars	8
Printed newsletters, workshop fliers	550
In person events (workshops, meetings, presentations, etc.)	35
TOTAL	13,353

Dallas-Fort Worth Region - North Central Texas Council of Governments

Approach

Through a collaborative public cooperative procurement initiative, North Central Texas Council of Governments (NCTCOG) sought to facilitate group purchases to increase fleet adoption of alternative fuels, which would contribute toward emissions reductions that assist in ozone attainment efforts.



North Central Texas Council of Governments

To further promote AFV deployment in fleets, NCTCOG planned to create a region-specific cooperative procurement program focusing on select AFVs. Through significant fleet outreach, results of surveys, stakeholder group meetings, and requests for proposals (RFP), NCTCOG found that an additional regional cooperative procurement would not add value to the market, given the strength of Texas-based cooperative procurement entities and the precedent for fleets already using them and other cooperatives.

At the same time NCTCOG determined that a region-specific procurement might not add value, the F4F national procurement was made available. Thus, NCTCOG/DFWCC turned its efforts towards promoting and highlighting the nationally-available procurements being conducted through F4F.

Results

The North Central Texas Regional Cooperative AFV Procurement Program succeeded on multiple levels and has established alternative fuel vehicles as viable options for fleet purchases in the future. Key results/findings include:

- Through the Soft Commitment form, staff received requests for procurement of over 70 alternative fuel vehicles.
- F4F procurement contracts were highlighted in multiple DFWCC webinars, including multiple presentations by MAPC to showcase their contracts that are available nationwide.
- Improved awareness of AFV contract options on the part of fleets in the NCTCOG region will stand the region in good stead as fleets start to develop applications to use VW settlement funding in their AFV deployment initiatives soon.
- Staff developed a user-friendly soft commitment form to collect the quantity of various vehicle platforms desired in the region. The form was designed as a table format, listing all vehicle types with their corresponding alternative fuels available for each of the vehicles. Fleets were asked to fill out desired/anticipated vehicles they planned on purchasing within the next three years for project staff to gauge what vehicles would be included in the request for proposals (RFP). A total of 71 vehicles were requested through the soft commitment forms. The ease of use of the form for both fleet and project staff has led to the form being taken

and used as a basis for Volkswagen Settlement conversations and a version will be used once Volkswagen mitigation plan funds become

available in Texas.

- Pricing forms for each vehicle platform in each fuel type were created for the RFPs. Each pricing form was specifically designed around the alternative fuel component and volume-based discount thresholds, with an optional second year contract option. Each "Added Equipment" listed on the corresponding vehicle type's specification sheet was listed out separately on each pricing form to give fleets the ability to customize their vehicles while still ensuring volume discounts on added options. If the vehicle was not available directly from an OEM, the pricing form also encompassed a portion of required upfit manufacturer information. Finally, to create a competitive response portion of the RFP, the pricing forms comprised sections for vendors to state any added value or infrastructure offerings that they would provide along with their vehicle proposals. These pricing forms will be leveraged in future projects and grants moving forward.
- Landing pages consolidating existing alternative fuel contracts by fuel type were created on the North Texas SHARE website. These streamlined the availability of alternative fuel fleet procurement opportunities to any regional fleet with an interlocal agreement with North Texas SHARE.

The NCTCOG F4F project team's outreach and education efforts to promote their AFV procurement program is demonstrated in the table below:

Communications	Total
Website views	817
E-newsletter article	35,684
News releases	2*
Direct email (e-blast)	32,928
Facebook posts	2
Tweets	0
Printed newsletters, workshop fliers	3,055
In person events (workshops, meetings, presentations, etc.)	927
TOTAL	73,415

*2 sent electronically to media 40 contacts

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Tucson Region - Pima Association of Governments

Approach

There were three focus initiatives for the Pima Association of Governments (PAG) and the Tucson Regional Clean Cities Coalition (TRCCC) including:



1. The region's school districts were interested in a joint procurement for alternative fuel school buses.
2. TRCCC members were interested in outsourcing DERA decommissioning requirements and vehicle disposal to make fleet yard space for alternative fuel infrastructure and vehicles.
3. Local municipalities expressed interest in an electric vehicle "municipal fleet share" program.

PAG and the TRCCC initially started with the concept of aggregated procurement for school buses. School districts are always short of funding and the acquisition of school buses – especially the more expensive alternative fuel propulsion systems such as natural gas, propane, and electric – is often cost prohibitive. Add the cost of charging or filling infrastructure, and the price tag is even higher. Their goal was to provide critical mass and bulk purchasing power to reduce the cost of these school bus acquisitions.

Ultimately, aligning interests and funding resources proved difficult for the alternative fuel school bus procurement. Each school district had different vehicle requirements such as make/model, seat belts, fuel type, air conditioning, WIFI, etc. Additionally, all school districts rely on grants, bonds, or in the case of Arizona, delayed Volkswagen (VW) Settlement monies to acquire bus assets.

During PAG's research for vehicle disposal, they negotiated and secured a contractual relationship with Copart, Inc., an online vehicle auction company. Copart modified their auction database to include alternative fuel vehicles, ultimately resulting in creating a secondary market for alternative fuel vehicles. Copart also provides decal and equipment removal as well as Diesel Emission Reductions Act decommissioning services. The negotiated contract terms are available to all Clean Cities Coalition members nationwide.

With initial local enthusiasm for a municipal fleet share program, PAG solicited a request for information (RFI) from potential vendors. This RFI only resulted in one response and because of personnel changes within their municipal partners, interest waned in the concept.

Results

- PAG and TRCCC will continue to work with the State of Arizona to finalize the VW Settlement distribution and will assist school districts in the procurement of alternative fuel school buses and infrastructure.
- All Clean Cities Coalition members nationwide can participate under the same terms as negotiated by PAG and TRCCC for vehicle decommissioning and resell. PAG and TRCCC negotiated and signed a contract with the international online auction house Copart, Inc. to provide disposal and decommissioning for any vehicle in any condition in any of its 200 service facilities in 11 different countries. Furthermore, Copart updated their online auction site to include categories for alternative fuel and electric vehicles, making it the first auction house to specifically market AFVs to the secondary market. Copart is currently rolling out its services nationwide.
- PAG and TRCCC prepared, solicited, and evaluated an RFI for an electric vehicle "fleetshare" program in urban Tucson. Perhaps because of the novelty of an electric fleet share program, they only received a single response to their RFI. In addition, key staff changes within their municipal partners' organizations left a hole in their internal advocacy for the all-electric fleet share program. PAG and TRCCC will monitor the continuing development of fleetshare programs and initiate one when the time is right.
- A key lesson learned is that vehicle acquisition is a multi-faceted activity with many differing requirements, and timing that is unique to each entity.



Overall Project Outcomes

The key outcome of F4F was to produce economies of scale by reducing transactions and administrative costs associated with purchasing alternative fuel vehicles through the implementation of regional and national aggregation methods. The F4F team wrote five best practice guides, the 7-step strategic procurement process, and a national procurement plan, all of which provided the needed framework to launch the cooperative purchasing initiatives.

Project Reach Results

- 5 regional procurement initiatives covering 10 states.
- Project population coverage: 61 million residents in 5 metro regions.
- 1 national-scale public procurement initiative with open, free membership (over 50,000 members) covering all 50 states.
- 13 Clean Cities Coalitions providing education and outreach within 16 states.
- Direct outreach and stakeholder engagement reaching more than 600,000 individuals.

Communication Education and Outreach Results

- Website views – 32,421
- Stakeholder engagements, events, and workshops – 31,792
- Social media impressions – 113,544
- Printed materials distributions – 35,534



Conclusion

The Fleets for the Future initiative generated advancements in alternative fuel and advanced vehicle technology markets through its work to improve and enhance public aggregated procurement processes. At the end of the grant period, there are a wide variety of alternative fuel vehicle options available in most vehicle classes, whereas there were significantly fewer AFVs options available in regional and national cooperative purchasing programs prior to the project start in 2016. The impact of the F4F efforts can be summarized best by reviewing the proven benefits of the regional and national cooperative procurements, lessons learned, and efforts to sustain the project goals.

Cooperative procurement necessarily involves a balance of providing options for customization and encouraging standardization. Fleets in different parts of the country, states, and even metro areas may have very different needs. But the base vehicle needed is sometimes similar across different fleet use cases. Differing environments can have small or large impacts on needed specifications (e.g. hot/cold climates, urban/rural roadway differences, etc). Achieving the right balance of customization and standardization is a function of how strongly the various customizations are needed by fleets, how price-responsive the fleet is (e.g. can they “make do” with a vehicle that has different specs if it enables significant cost savings), what components of the vehicle have the biggest economies of scale, and what specifications impact the configuration of the alternative fuel upfit system.⁴

Cooperative procurement also requires a balance between time-limited opportunities and long-term procurement contracts. Time-limited opportunities come with much higher risk and require aligning many essential pieces (e.g. municipal budgeting and purchasing cycles, external funding windows, vendor preparedness, strong outreach), though if they can be implemented, they can achieve significant discounts and accelerate vehicle deployment (e.g. the Fleets for the Future XL Hybrids order in 2017 through MAPC). Long-term procurement contracts provide the ability to establish fleet experience and trust in the vendors and the cooperative prior to large purchases. Long-term contracts also enable fleets to have a procurement solution ready to use whenever funding becomes available (e.g. the Volkswagen EMT funding) and provide a consistent process for fleet managers to follow which can save time.

Specific lessons learned are described below and have been grouped thematically. Since efforts to develop national cooperative contracts differ from regional efforts, the lessons learned have been grouped accordingly.

⁴ For instance upfitting a large order of Ford Transits (e.g. with XL Hybrids systems) could help the upfitter order all the same parts for its retrofit kits, and it would not matter in the least whether half of the vehicles are spec'd as cargo vans and the other half as wagons, what the roof height was, whether ADA lifts were required, etc. On the other hand, if you wanted to order some vehicles with different wheelbases, cab configurations, and other customizations, it may require different parts for the alternative fuel upfit kit and preclude economies of scale.



Universal Lessons:

Don't Reinvent the Wheel

1. The value of the expertise and experience of established cooperative procurement entities cannot be overemphasized. The development of a procurement requires long term contract support, which is most logically provided by an entity with a business model and a mission conducive to cooperative procurement. Prior to the Fleets for the Future grant, several of the regional councils had already hosted cooperatives or worked with local cooperatives. They were generally able to hit the ground running when they already had a procurement cooperative on board. Many of the strongest successes of Fleets for the Future were the result of the enhancement of existing offerings from established cooperatives, both at the national level and the regional level.

A Diversity of Options is Necessary

1. Although many states and procurement entities have contracts for vehicles that public fleets can use, many municipal and other public fleets prefer to evaluate a wide range of procurement options to find the best source for alternative fuel vehicles. While some states are scaling up their offerings of AFV contracts, others are scaling back in deference to buying cooperatives. State contracts may only carry certain types of AFVs and infrastructure and may not have the broad range of available makes and models that a full-service cooperative has. Therefore, there is a strong case to be made for increased roles for national purchasing cooperatives.
2. Offering a diversity of vehicle platforms, vehicle makes, fuel types, and financing options, and ensuring that provisions are made to have local maintenance and warranty service in every metropolitan market served by the contract is important for recruiting potential fleet customers. Full catalogue procurement contracts that enable vendors to add new products and new model years at will are an important technique for ensuring the diversity of products meets the specific needs of a wide range of purchasers.
3. Developing contracts for base vehicle platforms with optional customizations is an effective way to aggregate demand without eliminating the opportunity for vehicles to be customized to match individual fleets' needs. This is the way that many of the Sourcewell contracts are set up.

Significant Education Efforts are Necessary, Both on Procurement and on Alternative Fuels

1. Many fleet managers may not be aware of the legal statutes in their state that enable cooperative procurement and may simply assume that they are required to buy from state contracts or issue their own RFP. Purchasing cooperatives such as Sourcewell can educate local procurement staff to help them understand how cooperatives are compliant with typical local government procurement requirements. If further education is needed, Clean Cities Coordinators, peer governments, and regional councils can all assist.
2. Fleet managers and dealerships have varying degrees of knowledge about alternative fuels, depending on whether they have any previous experience purchasing AFVs. Those that have not yet used alternative fuels need reassurance to feel comfortable that these new vehicles will not adversely affect their operations. Clean Cities Coalitions can provide reassurance in the form of case studies of respected peer fleets, clear knowledge and engagement from the dealership, following practices such as going with the most reputable vendors (and insisting on EPA or CARB certs) to minimize chances of frustrations, ride and drive events, and many other strategies.

Economies of Scale (and the Value Proposition of Cooperative Procurement) Vary from One Vendor to the Next

1. Niche OEMs and early-stage companies that are trying to scale, are more likely to engage with a cooperative procurement project and implement outside the box initiatives. These companies are best able to offer discounts for small and moderate volume orders because they are accustomed to "one-off" purchases and could achieve price breaks on their own inputs and economies of scale from orders as small as a few dozen vehicles. For instance, the order of magnitude necessary to realize component savings for some autogas (LPG), compressed natural gas (CNG), and plug-in hybrid electric vehicle (PHEV) upfitters can be as low as 25 units if they are all the same. Even when wheelbases/and fuel storage sizes change, the same injectors, regulators, and wiring harnesses are common to each engine platform and layout.
2. Although AFV upfront purchase costs remain higher than conventional gasoline and diesel vehicles, savings may be achieved when offered within a cooperative procurement program due to the economies of scale of such cooperatives and the reduced customer acquisition and contracting costs.

Lessons Specific to Implementing Regional Procurements:

Education and Outreach is Paramount

1. Fleet managers and dealerships have varying degrees of knowledge about alternative fuels, depending on whether they had any previous experience purchasing AFVs. It is important for this education and outreach to occur early and frequently and from sources fleet managers know and trust (e.g. their peers, preferred vendors, impartial technical experts). Local Clean Cities Coalitions are a great match for assisting their stakeholders in joining in a cooperative purchase.
2. Those implementing cooperative procurements can use strategies such as providing municipal fleet case studies (local examples in the region, when possible) with information on return on investment and operations and maintenance changes. These can be used as an opportunity to facilitate peer connections to contextualize the potential transition to alternative fuels.
3. Issuing an RFI before a bid or RFP to gauge potential interest can help educate procurement staff on the breadth of industry options and the pros and cons of differing approaches.

Recruiting Enough Participation to Warrant a Cooperative Purchase Requires Significant Strategy and Effort

1. Large fleets can be used as anchors for the procurement, ensuring that vendors are interested in bidding and that economies of scale can be achieved. The organizer of a cooperative purchase should align the purchasing schedules of both large and small fleets (i.e. municipal and state agency purchases in the case of MAPC's program) to enable smaller, less resourced fleets to advance alternative fuels in their fleets.
2. Mandates from leadership are critical opportunities to bolster participation. Encourage municipalities to issue green fleet directives from their municipal chief executives. With clear indication of a mandate from the top, sustainability and energy managers or public works directors will be empowered to get the support of more reluctant staff on board with alternative fuel vehicles procurement.
3. Developing contracts for base vehicle platforms with optional customizations may be a more effective way to aggregate demand without eliminating the opportunity for vehicles to be customized to match individual fleets' needs.

Timing and Alignment with Funding Opportunities and Vendor Sales Cycles will Increase Odds of Success

1. We found that many fleets were planning to "wait and see" as the project progressed, as many of them were looking forward to the opportunity to leverage VW Environmental Mitigation

Trust funding. Organizers of cooperative procurements should identify upcoming federal, state, and local funding opportunities and develop procurement contracts that are ready to use as soon as funding is available (e.g. follow the DERA grant cycle, your state's CMAQ funding process, and the cycle of your state's EMT funding over the next ten years).

2. Dealerships' ability to offer deep discounts may be limited and confined to certain periods in their sales cycles (e.g. bid assistance varies month to month, dealers may have certain motivations for clearing out current model year vehicles to make room for the new model year, and other strategic factors may be at play that will not be clear to the purchaser). If dealership partners and/or multiple OEM programs are desired, anticipate a smaller discount. If deeper discounts are desired, negotiate directly with OEMs and/or large dealership groups under common ownership.

All Stakeholders Need to be Ready to Participate

1. Fleet interaction and involvement are key success factors in developing a successful regional procurement. Fleets are critical in determining specific vehicle types and alternative fuels pursued, as well as purchasing vehicles through the contract after the completion of a vendor RFP. Fleets for the Future efforts were most successful when they aligned with municipal budget cycles and funding opportunities. It is important to know when next year's budgets are typically being developed by potential participants and to alert them in advance of the procurement campaign and its expected timing. Furthermore, it can be beneficial to encourage local fleets to prepare or update their fleet replacement plans so that they can be prepared to participate.
2. Vendor outreach is imperative to make sure that all the players in the alternative fuel value chain have enough time to coordinate. Since public sector fleet vehicles often involve significant customization needs, they go through a complex build process that involves chassis OEMs, body OEMs, manufacturers of aftermarket retrofit systems, installers of these systems, body upfitters, dealers, and more. As soon as it is decided that you will be implementing a cooperative procurement, the research and engagement phase should involve not just outreach to potential customers. Significant outreach to vendors is also necessary so that when an RFP is issued, a sufficient number of respondents will have formed the necessary relationships and agreements to bid full vehicles and turnkey solutions for fleets.
3. Unforeseeable events may require timeline adjustment and flexibility. Factors outside of local control such as tariffs, inability to secure funding, and regional product supply disruptions may all temporarily preclude a successful bulk procurement. For instance, hurricane response was cited by some vendors as a reason they were not able to respond to the NCTCOG RFP.

Project Sustainability

Key elements of the F4F initiative have a strong likelihood to sustain its overall goal established during the DOE aggregation procurement challenge grant. The regional, national, and industry partners will continue to engage their local government stakeholders through their support networks. The best practices guides will continue to be promoted through partners websites, including the project site hosted by NARC. Specific online resources that were developed by F4F partners will also be maintained and promoted (e.g. Sourcewell alternative fuels landing page, the inclusion of AFVs in the greater Kansas City metro vehicle bid process, etc). The F4F team will also encourage and assist their member local governments in exploring alternatives to diesel engine vehicles in years to come.

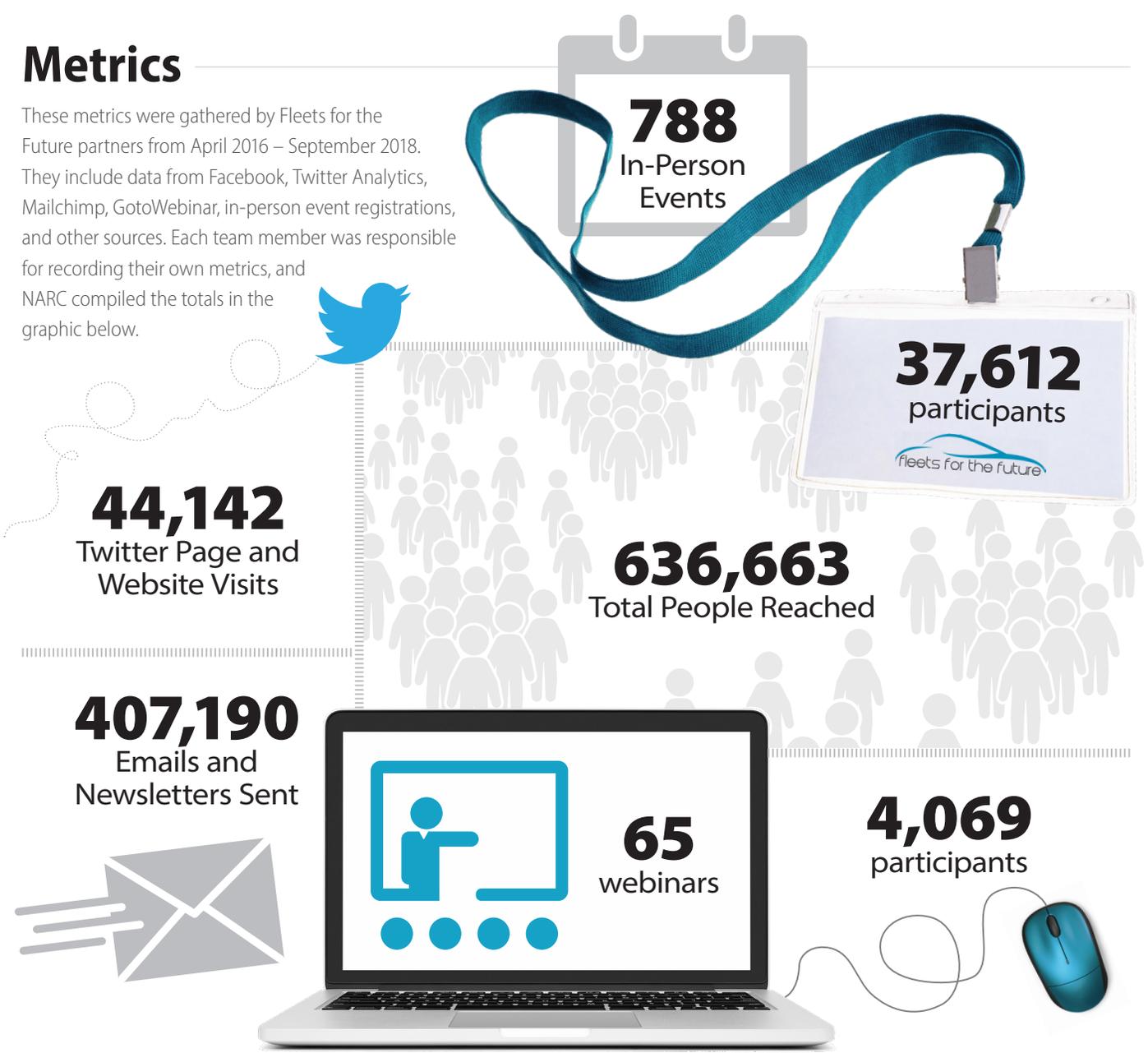
Resources List found on F4F website

fleetsforthefuture.org/

- Best Practice Guides
- Fleet Transition Planning for Alternative Fuel Vehicles
- Electric Vehicle Procurement Best Practices
- Gaseous Fuel Vehicle Procurement Best Practices
- Guide to Financing Alternative Fuel Vehicle Procurement
- Guide to the Guides
- Handouts and Templates

Metrics

These metrics were gathered by Fleets for the Future partners from April 2016 – September 2018. They include data from Facebook, Twitter Analytics, Mailchimp, GotoWebinar, in-person event registrations, and other sources. Each team member was responsible for recording their own metrics, and NARC compiled the totals in the graphic below.



Fleets for the Future Project Team

Regional Council Partners	Clean Cities Coalitions		Industry and Technical Partners
Mid-America Regional Council, Kansas City, Missouri	Metropolitan Energy Center/ KC Regional Clean Cities	Western Washington Clean Cities	The Cadmus Group
Metropolitan Washington COG, Washington, DC	Clean Communities of Central New York	Clean Fuels Ohio	Electrification Coalition
Metropolitan Area Planning Council, Boston, MA	Dallas-Fort Worth Clean Cities Coalition	Triangle Clean Cities	Yborra & Associates, LLC
North Central Texas COG, Dallas/Fort Worth, Texas	Greater Washington Region Clean Cities Coalition	Centralina Clean Fuels Coalition	ICM, Inc.
Pima Association of Governments, Tucson, Arizona	Massachusetts Clean Cities Coalition	Tulsa Clean Cities	Propane Education & Research Council
	Tucson Regional Clean Cities Coalition	Southeast Louisiana Clean Fuel Partnership	
	Utah Clean Cities		

Vehicle Replacement

In 2-3 years

The project team surveyed fleets across the country and found that many vehicles were due for replacement over the next two-three years





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