

# Design and Implementation of the Enhanced Fleet Modernization Plus-Up Pilot Program

Lessons Learned from the San Joaquin Valley and South Coast Air Districts' First Year of Operation



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## Abstract

In June 2015, the California Air Resources Board (ARB) introduced the Enhanced Fleet Modernization Program (EFMP) Plus-Up pilot program to better integrate vehicle retirement and replacement incentive programs in support of low-moderate income households. This study outlines how the EFMP Plus-Up pilot was implemented in the two air districts chosen for the pilot phase, the San Joaquin Valley Air Pollution Control District (Valley Air) and South Coast Air Quality Management District (South Coast), during the first year of program operation. A total of 773 vehicle acquisitions (purchases or leases) were induced in the first year of operation of the EFMP Plus-Up program, with 361 vehicles placed in Valley Air and 412 placed in South Coast.

The primary lesson learned from the experience of both air districts is that the demand for clean, advanced technology vehicle incentives among the low- and moderate-income population in Californian disadvantaged communities is likely to be high for the foreseeable future. Households which took advantage of the program in both air districts were overwhelmingly in the lowest income bracket of program eligibility and lived in a zip code which contained a disadvantaged community.

The broad parameters of program design were common across the two pilot areas. In terms of program administration and outreach, however, the first year of operation in Valley Air and South Coast suggests the viability of two different administrative models tailored to different target populations. Despite the variation in implementation, the number of vehicles, replacement vehicle types and average household incentives were quite similar across the districts. Lessons learned from the first year of the EFMP Plus-Up program are summarized in Table 1.

**Table 1. Summary of Lessons Learned**

<b>Lesson Category</b>	<b>Description</b>
<i><b>Program administration</b></i>	Administration of the program can be implemented by a non-profit organization's in-house staff with high levels of potential customer interaction (Valley Air) or via initial online screening and subsequent customer support by contracted case managers (South Coast)
<i><b>Outreach efforts</b></i>	Multilingual outreach can be integrated over time into pre-existing disadvantaged community outreach efforts (Valley Air) or via mass media which may lead to immediate demand response (South Coast)
<i><b>Application process</b></i>	If a website is used, make this as user-friendly as possible (South Coast). Participant income must be verified to prevent fraud
<i><b>Incentive demand</b></i>	Demand for clean, advanced technology vehicle incentives among the low- and moderate-income population is likely to be high for the foreseeable future
<i><b>Household participation</b></i>	Participating households in both districts were overwhelmingly in the lowest income bracket of program eligibility and lived in a zip code which contained at least one disadvantaged community
<i><b>Retirement vehicle attributes and dismantling</b></i>	A substantial proportion of vehicles retired through the program were unregistered, and most if not all were 15+ years old. Districts have reported no problems with different models of retirement vehicle pick-up and financial incentive for the dismantler
<i><b>Vehicle search process</b></i>	Households approved for the incentive primarily search for a replacement vehicle on the weekend, so an event-based approach (Valley Air) or case manager approach (South Coast) must accommodate this search timing
<i><b>Car dealerships</b></i>	Not all dealership staff have the knowledge or incentive to work with the advanced technology vehicle fleet and the needs of low-moderate income households. Districts need to make individual arrangements with dealerships which will accommodate customer needs. In the long term, dealerships may have trouble meeting the demand for used, program-eligible vehicles
<i><b>Financing institutions and arrangements</b></i>	Among those offered the incentive, some households still do not take up because financing cannot be arranged. Almost all financing arrangements were facilitated by private companies through dealerships, although both districts are seeking a greater role for credit unions and expanded financing options
<i><b>Replacement vehicle attributes</b></i>	More than two-thirds of replacement vehicles were used, partially due to dealership participation. Vehicle type preferences and average incentive levels were similar across districts, with more than half of participants getting an eligible hybrid vehicle.
<i><b>Alternative travel mode incentives</b></i>	Each district is in the process of settling on a standardized procedure which will allow households to receive a transit or rideshare incentive in lieu of a subsidy for clean vehicle purchase, but coordination with local transit agencies and rideshare programs has proved challenging

## Introduction

Attaining California’s ambitious air quality and climate change mitigation goals requires accelerating the turnover of old, heavily-polluting cars and then replacing them with cleaner, more fuel-efficient vehicles. In June 2015, the California Air Resources Board (ARB) introduced the Enhanced Fleet Modernization Program (EFMP) Plus-Up pilot program to increase access for low-moderate income households to vehicle retirement and replacement incentives.

This study first describes the origins of the EFMP Plus-Up program, its relation to other vehicle replacement incentive programs, and its funding sources. The study next outlines how the EFMP Plus-Up pilot was implemented in the two air districts chosen for the pilot during the first year of operation. The South Coast Air Quality Management District (South Coast) operates the program for households within the district, including most of Los Angeles, San Bernardino, and Riverside Counties and all of Orange County. San Joaquin Valley Air Pollution Control District (Valley Air) in partnership with nonprofit program manager Valley Clean Air Now operates the program for households within San Joaquin Valley’s eight counties, roughly the southern half of the Central Valley from Stockton to Bakersfield. 773 vehicle acquisitions (purchases or leases) were induced in the first year of operation of the EFMP Plus-Up program, with 361 vehicles placed in Valley Air and 412 placed in South Coast.<sup>1</sup>

These two districts combined serve approximately half of the state’s total population. Eligibility, funding and the intended outcomes of the pilot were similar across both districts, and to date, the two districts have both successfully allotted a comparable number of clean vehicles to eligible participants. To match the program to local needs, the districts were given a considerable deal of discretion from ARB in program implementation and thus pursued different implementation strategies. Lessons learned in program implementation for each district are discussed below in the sequential order of the implementation process.

## Background of EFMP Plus-Up Program Origins, Funding Sources and Design

The EFMP has two distinct component programs: a voluntary retirement-only (scrap) program and a replacement incentive program. The former is focused exclusively on incentivizing drivers to retire their working high-emitting vehicles, while the latter program provides additional money to ensure the retired vehicle is replaced with a newer, cleaner, and more fuel-efficient vehicle, such as hybrid vehicles, plug-in hybrid vehicles (PHEV), battery electric vehicles (BEV), or fuel-cell electric vehicles (FCEVs).<sup>2</sup> The target population of the EFMP is low- and moderate-income households. EFMP was

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<sup>1</sup> Although June 2015 represented the official program start date, the first recorded vehicle transaction occurred on May 25, 2015, as a few pre-pilot transactions were funded by the air districts. Statistics reflected here consequently reflect the period 5/25/2015-5/24/2016.

<sup>2</sup> We define clean, advanced technology replacement vehicle types by three categories provided in ARB’s official EFMP Plus-Up program participant data. We note that while fuel-cell vehicles (which convert hydrogen gas and oxygen into electricity to power the vehicle’s electric motor) were eligible replacement vehicles as well, none of these vehicles were purchased or leased via the EFMP program’s first year. Battery electric vehicles are electric vehicles powered by electric motors and motor controllers instead of internal combustion engines. Plug-in hybrid electric vehicles have characteristics of both a conventional hybrid electric vehicle and a plug-in electric vehicle. Hybrids have both an electric motor and an internal combustion engine. We also note that in the broader EFMP program and self-funded phases of the Plus-Up pilot, both districts also facilitated the purchase of a substantial number of conventional, fuel-efficient vehicles, which have traditional internal combustion engines but high fuel efficiency, and a very limited number of minivan purchases.

originally authorized by Assembly Bill 118 in 2007 (AB 118, “Alternative fuels and vehicle technologies: funding programs,” Nunez), with the overarching goal of reducing smog-forming pollutants by targeting the subset of older passenger vehicles that contribute disproportionately to the state’s mobile source pollution burden. AB 118 authorized a vehicle registration surcharge to fund EFMP, which provides on average \$30 million per year.

The Bureau of Automotive Repair (BAR) operates the retirement-only component of EFMP, which is available statewide to low-income (<225% of federal poverty level (FPL)) drivers. The retirement-only program began operating in 2010 and typical uses around 90 percent of the total EFMP budget each year.

ARB administers the Retire and Replace component of EFMP, which is then implemented by air districts. An initial, largely unsuccessful attempt was made in 2013 to launch the Retire and Replace program. After Senate Bill 459 (Pavley, 2014) led to significant changes to the Retire and Replace program guidelines, it was re-launched in the summer of 2015. Since then, Retire and Replace has received approximately 10 to 20 percent of the available AB 118 EFMP funding.

Using AB 118 funding, EFMP Retire and Replace provides up to \$4,500 for low-income drivers toward the purchase or lease of a clean, advanced technology replacement vehicle. The exact incentive amount varies depending on two factors: Household income and type of replacement vehicle (i.e. fuel efficient vehicles, very fuel-efficient vehicles, or minivans). These incentives were available to any eligible driver in the implementing districts.

Before the revamped EFMP Retire and Replace program was launched, a complementary incentive program called EFMP Plus-Up was added to offer the same households eligible under the base program (those below 400% of the federal poverty level) an additional replacement incentive for advanced technology vehicles if they also lived in zip codes which contained at least one disadvantaged community (DAC) census tract per CalEnviroScreen version 2.0 and as originally determined by Senate Bill 535 (De León, 2012). EFMP Plus-Up utilizes a different funding source – Cap and Trade auction proceeds from the Greenhouse Gas Reduction Fund (GGRF) – to augment the original Retire and Replace program (commonly referred to as the ‘Base’ EFMP program) by adding up to an additional \$5,000 for a total maximum incentive of \$9,500. For example, a low-income participant can receive \$9,500 toward the purchase of a plug-in hybrid vehicle with \$4,500 coming from the base program and \$5,000 from EFMP Plus-Up. The full range of incentives available to low- to moderate-income households living in or near DACs within EFMP Plus-Up pilot territories is shown in Figure 1.

**Figure 1. Clean, Advanced Technology Vehicle Incentives for Low-Moderate Income Households living in DACs and served by EFMP Plus-Up Pilots**

	Hybrid (20 MPG+)	Hybrid (35 MPG+)	Plug-in Hybrid	Electric Vehicle
<b>Low Income</b> <225% of the federal poverty level	\$6,500	\$7,000*	\$9,500*	\$9,500*
			\$1,500**	\$2,500**
<b>Moderate Income</b> 226% - 300% of federal poverty level		\$5,000*	\$7,500*	\$7,500
			\$1,500**	\$2,500**
<b>Above Moderate Income</b> 301% - 400% of federal poverty level			\$5,500*	\$5,500*
			\$1,500**	\$2,500**

\*Enhanced Fleet Modernization Plus Up Program for old vehicle scrap + upgrade to clean car less than 8 years old.

\*\*Clean Vehicle Rebate Project for new vehicle purchases.

The EFMP Plus-Up additional incentives are available to the subset of EFMP Base program participants who live in or near a ZIP code containing a DAC census tract and who choose an advanced technology vehicle replacement (i.e. rather than a conventional vehicle replacement, which aren't eligible for the additional incentive). While criteria pollutant benefits were the primary motivation for the EFMP base program, the goals of EFMP Plus-Up are focused on greenhouse gas (GHG) reductions and advancing the market for advanced technology vehicles among low- and moderate-income households.

Although they have separate funding sources, both EFMP base and EFMP Plus-Up are operated as a unified, single program. The initial funding for Plus-Up in Fiscal Year (FY) 2014-15 was \$2 million. This grew to \$10 million the following year, and then to \$60 million in FY 2016-17. As the funding for the base program remained relatively constant over this same period, EFMP Plus-Up is currently the main drive of the overall Retire and Replace program. ARB now allows Plus-Up funding to cover the full incentive (i.e. both the base and Plus-Up components) for eligible participants. Base funding (i.e. AB 118) is reserved solely for participants who choose conventional internal combustion engine replacement vehicles and for those participants that don't live in zip codes which contain a disadvantaged community.

## EFMP Plus-Up Implementation in Valley Air: Lessons Learned

### ***Program Administration***

The basic Plus-Up program administration strategy employed by the Valley Air District was to partner with a non-profit organization, Valley Clean Air Now (Valley CAN), which in turn used significant staff resources to facilitate a high level of interaction with potential Plus-Up customers. Valley CAN operates air quality improvement programs throughout the Valley's eight counties. Most of the funding resources necessary for pilot program implementation derived directly from ARB, but the district also contributed existing resources to make the program successful. For example, as a "pre-pilot" to show the potential promise of EFMP Plus-Up, Valley Air contributed \$500,000 in the form of \$5,000 incentives to households to purchase high-efficiency, gas powered vehicles.

One of the most unique and beneficial elements of the Valley Air District's administration of the EFMP Plus-Up was that they leveraged their extensive experience and staff infrastructure for the Tune In & Tune Up (TI&TU) program which Valley CAN has operated throughout the San Joaquin Valley for several years. Through its Polluting Automobile Scrap & Salvage (PASS) program, Valley Air contributes \$5 million a year for the TI&TU program, funded by enhanced DMV registration fees assessed based on San Joaquin Valley's status as a severe nonattainment air basin. More than twenty TI&TU events are held annually in all eight counties within the Valley Air boundary, each of which is attended by approximately 500 Valley residents. Eligible participants with high-emitting vehicles may receive a \$500 voucher which they can then use for approved smog repairs at a participating, STAR-certified smog shop once per year.

A substantial proportion of the vehicles brought to each TI&TU event are unregistered, and most fail an emissions screening. 94 percent live in ZIP codes containing a disadvantaged community census tract, and a vast majority of these households qualify as low income. Community response is very strong, likely because many attendees are motivated to resolve their vehicle registration issue. 70 percent of repair vouchers are redeemed for repair, and more than 90 percent of repairs result in smog certification and likely enable subsequent re-registration.

To advertise and operate the TI&TU events, Valley CAN employs 3-4 full time employees and 6-8 additional part-time employees. Each event has a team of 10 qualified smog check technicians administering the emissions testing with an additional 40 part-time paid staff and 20 volunteers from community-based organizations helping to direct traffic, collect customer data, distribute vouchers, and serve food. Non-profit partners staff booths at the event to offer health care services and energy efficiency programs, and the California Department of Insurance promotes its low-income vehicle insurance assistance program.

### Outreach Efforts

First-year outreach for the Plus-Up program was incorporated into pre-existing disadvantaged community outreach efforts conducted within the district. Valley Air maintained information about the EFMP Plus-Up opportunity on its website under a more general description of the PASS program and TI&TU events. However, during the first year of the program, this information was not strongly promoted on the website, and the district preferred residents to attend the events rather than apply online for the program. Accordingly, the primary opportunity to take advantage of the EFMP Plus-Up was by attending a TI&TU program event.

Valley CAN has experimented with TI&TU event design and operation for more than a decade to optimize response from disadvantaged communities. The first five years of TI&TU events were held at shopping malls and were advertised via mainstream, English-language media. Staff reports that once they shifted their advertising strategy to emphasize local Spanish-language radio, small community newspapers, and newsletters from local non-profits and social service agencies, they began to have much higher event attendance and repair completion rates. Thousands of flyers (example in Figure 2) are distributed via schools, community partners and flea markets throughout a 20-30 mile radius prior to each event. Valley CAN coordinates with a network of more than one hundred community groups throughout the region to promote its events and incentive programs. TI&TU events have also shifted venues to community colleges and county fairgrounds with large parking lots (which are paid a nominal fee) which have the physical capacity to host their events, and are located in areas that are known and convenient for much of their clientele.

**Figure 2. Sample Valley CAN Flyer for a Tune-In & Tune-Up Event**



## **Application Process**

Valley residents attend TI&TU events because they need to address smog issues that are likely impacting their vehicle registration status, rather than with the explicit intention of obtaining a clean, advanced technology replacement vehicle. Although Valley Air intends to diversify application channels in the future, currently most customers are unaware of the EFMP Plus-Up opportunity until informed by staff at the event. In order to become aware of the vehicle replacement opportunity, attendees must pass a screening process intended to ensure that only those likely to qualify for an incentive will be offered one.

TI&TU attendees have a substantial time cost to attend the event. A line of cars typically begins to form outside the gate of the event at 5 pm the previous evening. Staff actively monitors the line overnight to make sure it is kept in an orderly fashion and that customers are prepared for the event process. By 6:30 AM, the event gate opens and several hundred cars enter, even though the event is officially advertised to commence at 8 AM. Another 200 typically show up in the next hour, and by 9 AM, the event usually reaches its capacity for participants (currently 525 vehicles for a single event).

Once they enter the event lot, cars are queued and participants are asked their household and vehicle characteristics and are requested to share vehicle ownership and testing documentation. TI&TU applications are completed and customer documentation is scanned and copied by Valley CAN staff. Upon initial screening, each vehicle gets one of four color coded tags. Each color denotes a different status for incentives which the vehicle (owner) may be eligible for. To ensure that ARB's intended participants (households below 400% of the Federal Poverty Limit with a functional, but old and high-emitting vehicle, residing in a zip code with at least one disadvantaged community) were the ultimate beneficiaries of the program, Valley CAN administers an additional survey to every attendee that appears to be a good potential fit for EFMP Plus-Up. Customers with older vehicles are asked to provide their address (which in turn allows for verification that they are a Valley resident within a SB 535-designated disadvantaged community) and whether they have documentation that they have owned their vehicle for at least six months. Very few potential customers have no documentation on the vehicle whatsoever, but relatively few customers have a full documentation of an unbroken registration history. The survey also screens applicants to assess whether they are likely to meet household income requirements for the program.

Every vehicle that fails the on-site smog screening, whether eligible for EFMP Plus-Up or not, will be offered a voucher with a face value of \$500 which is good for up to \$850 in qualified emissions repairs and smog certification.<sup>3</sup> At a typical event, 70-80 vehicles will get orange tags based on this initial screening indicating that they are potentially candidates for EFMP Plus-Up. These cars will then proceed to an emissions testing area. Fifty of these cars on average will fail the emissions test. These pre-screened cars which fail emissions are then directed to an area where program staff informs them of the details of the EFMP Plus-Up opportunity. A sample used advanced-technology vehicle, such as a Chevrolet Volt, is also brought to the event to demonstrate the type of car that can be obtained with the Plus-Up incentive. From each event held between 2015 and August 2016, Valley CAN reports completing 25-30 successful replacement vehicle purchases, with 6-8 sales taking place that same day. Same day sales are completed at local Carmax dealerships with event staff that same afternoon.

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<sup>3</sup> Qualified smog shops which can process these vouchers at staff designated tents at each event, which customers can visit immediately upon voucher receipt and schedule an appointment for further testing and repairs. Valley CAN estimates that each smog shop that attends the event ultimately repairs 20-30 vehicles with vouchers.

### ***Incentive Demand***

Much of the learning and adaptation in program design and operation were already undertaken by Valley CAN and thus occurred years prior in the context of the TI&TU program and event implementation strategy. However, at the outset of the EFMP Plus-Up pilot, staff reported having difficulty in conveying the appeal of clean, advanced technology vehicles to eligible participants due to very low awareness among their target audience, which at first slowed program uptake. Within a few months of program launch, however, the demand for incentives among the low- and moderate-income population outstripped the supply, and demand has remained high over time.

### ***Household Participation***

As Table 2 (see Appendix) shows, all but one San Joaquin Valley household who participated in the EFMP Plus-Up in the first year of the program was in the lowest income bracket of program eligibility, below 225% of the federal poverty level (FPL). More than 91% of households lived in zip codes which contained a disadvantaged community (DAC).<sup>4</sup> In other words, beneficiaries of the program in the San Joaquin Valley were nearly all low-income households situated in or near disadvantaged communities.<sup>5</sup>

### ***Retirement Vehicle Attributes and Dismantling***

Current vehicle registration for the retirement vehicle is not a pre-condition of eligibility in the program. Moreover, one of the particular appeals of the broader TI&TU program in Valley Air is that getting a smog repair voucher can make re-registration much more affordable for low-moderate income households. As Table 3 shows, in the first year of program implementation, more than half of the successfully-retired vehicles in the district were unregistered, and the average retirement vehicle was nearly 25 years old. In other words, the program was effective at bringing about the retirement of functioning very old vehicles which were not in compliance with state requirements.

To retire their old vehicle, the customer leaves their keys and title in an envelope at the dealership when they complete the transaction for their replacement car. An authorized dismantler then picks up the retired cars at the dealership and transports them to the scrap yard. The retired vehicle will be held at the dismantler location for a minimum of five days, as both a consumer protection and to match the time period the consumer has to return their replacement vehicle, following the completion of the replacement transaction before the vehicle is dismantled.

Dismantlers do not charge for their service, but also receive the car for no cost. After dismantling, the dismantler sends a verification letter including the Vehicle Identification Number (VIN) to Valley CAN to complete that customer's file. The dismantler also sends a copy of the final record of dismantling once the Bureau of Automotive Repair publishes those records (approximately 90 days following dismantling).

### ***Replacement Vehicle Search Process***

In the first year of the Valley Air pilot, many replacement vehicle transactions were completed the same weekend, and sometimes the same day, in which the participant received the program voucher. Valley CAN has one of the most popular replacement models, the Chevrolet Volt, on display at its

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<sup>4</sup> Per Cal EnviroScreen 2.0, corresponding to the SB 535 designation of disadvantaged communities.

<sup>5</sup> This is also true of households who only received the base EFMP incentive in San Joaquin.

TI&TU events. Staff also notify local dealerships in advance so that they are prepared to accommodate each voucher recipient's search process the weekend of an event in a particular county.

### ***Car Dealerships***

Not all dealerships or dealership staff have the knowledge or incentive to work with the advanced technology vehicle fleet and/or the needs of low-moderate income households, particularly in the San Joaquin Valley. Valley CAN staff report that qualified used advanced-technology replacement vehicles are most commonly available at the three CarMax showrooms operating in the San Joaquin Valley. CarMax only sells used vehicles, and is one of the only automobile dealers in the San Joaquin Valley with a consistently large supply of used, advanced technology cars eligible for the program. All first year EFMP Plus-Up recipients consequently obtained used replacement vehicles. CarMax was also one of the only dealers who readily indicated willingness to comply with the program's consumer protection guidelines.

### ***Financing Institutions and Arrangements***

In Valley Air, given the constraints of participating dealerships, no participating households leased their replacement vehicles during the first year of the program. As Table 4 shows, customers received an average incentive of over \$8,100, and consequently had to finance around \$11,000 to make up the difference between the EFMP incentive and the price of their replacement vehicle. Valley CAN reports that, once offered the EFMP Plus-Up voucher, the primary reasons customers do not take advantage of the program are:

- The customer opts to keep their current vehicle, often to avoid creating a monthly car payment
- Another family member advises them not to trust the offer
- Vehicle financing cannot be arranged.

Valley CAN provided support for the replacement vehicle financing process for interested applicants, as making monthly finance payments can present a major obstacle to low-income households in purchasing any vehicle, especially an advanced technology vehicle. Non-profit financial institutions such as the Kern County Federal Credit Union host a booth at TI&TU events in Kern County to discuss financing options for a new or used vehicle with attendees, provide financial counseling, and assist interested participants in securing lower-interest loans for replacement vehicles. A majority of replacement vehicles are financed through private lenders via the CarMax finance system. Valley Air has set an upper limit of 15.9% interest for EFMP Plus-Up purchases, but the average interest rate for successful applicants is slightly over 7%.

Valley CAN also facilitates creative financing solutions for interested applicants to the EFMP Plus-Up program. Nearly all interested participants have either individual tax identification numbers (ITIN) or social security ID (SSID), which allows lenders to perform a credit check. Valley CAN strongly recommends that customers find a family member to serve as a co-signer to improve potential loan terms. This co-signer most often has a SSID.

### **Replacement Vehicle Attributes**

As Table 5 shows, none of the cars purchased in the first year of program implementation in Valley Air were new, while the average model year for replacement vehicles was 2012.<sup>6</sup> In Valley Air, hybrids represented over 50% of all vehicles, with plug-in hybrid electric vehicles representing nearly 30%, and battery electric vehicles just under 20% of all vehicles.

### **Alternative Travel Mode Incentives**

Alternative mobility incentive options (with a value of up to \$4,500) are available if program participants are interested, as is required by statute. Alternative transportation options are not included in EFMP Plus-Up, but required to be offered for base EFMP, regardless of participation. Due to very low levels of demand and relatively low levels of transit access throughout the San Joaquin Valley, Valley CAN does not yet offer transit or ride-sharing incentive alternatives as part of the EFMP Plus-Up program. However, a plan for this option is envisioned as the program continues to grow. Requests for this option are currently dealt with on a case-by-case basis.

## **EFMP Plus-Up Implementation in the South Coast: Lessons Learned**

### **Program Administration**

The basic Plus-Up program administration strategy employed by South Coast was to screen potential applicants online and subsequently support customers via contracted case managers, rather than in-house district staff. In order to implement the EFMP Plus-Up pilot, South Coast designated some of its own staff and monetary resources. Most of the resources necessary for implementation derived directly from ARB, but the district also contributed existing resources to make the program successful. Four existing South Coast staff work to support the EFMP Plus-Up pilot, with three of these employees working full-time and one-half time exclusively to support the pilot implementation.

South Coast reports that 15% of the funding provided by ARB for the program goes to operational overhead incurred by the district. Due to the administrative demands of the program, this implementation cost in the first year of the program includes the outsourcing of contract management to 6-8 case managers not directly employed by South Coast, to administrate EFMP and EFMP Plus-Up applications.

### **Outreach Efforts**

In order to ensure that households in the region were aware of the EFMP Plus-Up opportunity, South Coast employed a multi-faceted, mass media publicity strategy. In addition to the creation of the user-friendly Replace Your Ride website (<http://www.replaceyourride.com>), "Replace Your Ride" pamphlets were designed and printed in both English and Spanish, and handed out at "Smog-Less" Saturday events held at routine intervals throughout the district. The pamphlets explain to customers that they could receive up to \$9,500 towards the purchase of an eligible replacement vehicle. The pamphlets also explain the benefits of advanced technology vehicles including lower-cost of fuel and lower emissions. The pamphlet directs customers to the Replace Your Ride website to fill out a formal application to the program.

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<sup>6</sup> Program participant data provided did not contain a new versus used classification for replacement vehicles. Accordingly, vehicles were considered new if they were driven less than 200 miles and were a 2015 or newer model.

Around the time of program initiation, there was also local television and internet news coverage of the EFMP Plus-Up opportunity for residents of the area. Initially, concerted efforts were made to publicize the program through public events and other forms of community outreach performed by bilingual, contracted case managers. South Coast staff indicated, however, that initial outreach almost immediately induced more online applications than the program could support with the first fiscal year of funds. By September 2015, there was a waiting list for applications, and by March 2016, this waiting list had over 1,200 households. As the waitlist grew, South Coast deemed extensive additional outreach to be imprudent given that it would encourage households to apply and grow the waitlist.

### ***Application Process***

South Coast devoted significant resources to developing a user-friendly website for applications. Because of this investment, applications to the program were primarily designed to be submitted online, but applications could also be submitted via physical mail or over the phone. Applications were processed strictly in the order in which they were received. South Coast has always advertised the program as “first come, first serve” as long as a household meets the minimum eligible criteria.

To ensure that ARB’s intended participants were the ultimate beneficiaries of the program, South Coast employed a sophisticated procedure to verify an online applicant’s income and vehicle eligibility. In addition to the self-reported eligibility criteria further described below in the Customer Experience section, South Coast required that applicants who had filled out an online application also show evidence of their income.

Since South Coast discovered that many interested participants did not file tax returns, the district adapted mid-program and developed an income affidavit form which participants were required to fill out and have notarized in order to receive a voucher.<sup>7</sup> Additionally, South Coast required that participants show proof of title for the vehicle they were submitting for replacement, along with two years of records indicating continuous ownership of the vehicle. These requirements helped minimize program leakage, or the ultimate allocation of program funds to households for whom it was not designed.

While South Coast residents may have become aware of the program through a number of means, they could most quickly apply for a replacement vehicle voucher via the Replace Your Ride website. The website contains information, in both English and Spanish, on eligibility, vehicle replacement options, in-person events, as well as other resources and program coordinator contact information. The core function of the website, however, was to allow participants to directly apply for the program via a simple six-field survey (with the attachments of supporting documentation). Applicants need to provide the following information on a user-friendly, single-screen interface.

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<sup>7</sup> This income affidavit form and subsequently notarization was incorporated in the District’s implementation plan and approved by ARB.

### **Online Application Steps:**

1. Customers must verify that they live in a zip code (within South Coast jurisdiction). The zip code in turn is used by South Coast to determine whether the area contains a DAC.
2. Customer must verify the size of their household to allow for determination of whether household is below various federal poverty line thresholds which correspond with different vehicle replacement incentive amounts.
3. Customers must report household modified adjusted gross income to allow for determination of whether household is below various federal poverty line thresholds which correspond with different vehicle replacement incentive sizes.
4. Customers can either upload a copy of their most recent income tax return or a notarized income affidavit as described above.
5. Customers specify their desired vehicle replacement option as a New or Newer Vehicle, Transit Pass or a Rideshare Subscription.
6. Customers indicate whether they “wish to purchase a conventional hybrid, plug-in hybrid, or zero-emission vehicle.”

After customers filled out all six online fields and submitted their responses, they received an immediate, on-screen response regarding whether they were eligible and the size of their potential subsidy. If the customer was deemed eligible, they were assigned a case manager. While there was still funding available, the next step was that the case manager subsequently reviewed their application and provided them with a pre-approval letter. This letter essentially is the last step before the applicant purchases or leases a car. The letter provides proof that the district will provide the dealer with the appropriate incentive amount. It also informs the applicants of how much time they have to make the purchase (one month), and other pertinent program information to keep in mind while shopping for a vehicle. However, after funds for the program in the current fiscal year were fully subscribed, eligible applicants were placed on a waitlist rather than issued a pre-approval letter.

### ***Incentive Demand***

The major lesson learned from South Coast’s initial implementation of the program is that the demand for clean, advanced technology vehicle incentives among the low-moderate income population in the area is likely to be high for the foreseeable future. Only four months after the program started, the program had received so many applicants that a waitlist was created for customers which met all eligibility criteria and submitted a full application. The waitlist remained open throughout, and South Coast processed applications on the waitlist as its administrative capacity allowed.

### ***Household Participation***

As Table 2 (see Appendix) shows, nearly 90% of households in the South Coast were also below 225% of the federal poverty level. Further, more than 85% of households lived in zip codes which contained a disadvantaged community census tract per CalEnviroScreen version 2.0. In other words, beneficiaries of the program in the South Coast were overwhelmingly low-income households situated in or near disadvantaged communities.

### ***Retirement Vehicle Attributes and Dismantling***

Current vehicle registration for the retirement vehicle was not a pre-condition of eligibility in the program. Before purchasing or leasing a replacement vehicle, customers must first have a functional, high-emitting vehicle. To qualify as a high-emitter, the vehicle must be either: (1) older than model year 2000 or (2) younger than model year 2000 but fails smog check either at a South Coast sponsored “Smog-Less Saturday” event or at an authorized smog check station. As Table 3 shows, in the first year of program implementation, about one-sixth of the successfully retired vehicles were unregistered, and the average retirement vehicle was nearly 20 years old. In other words, the program was effective at bringing about the retirement of very old vehicles, some of which were not in compliance with state requirements.

EFMP Plus-up customers are required to scrap their old vehicle at an authorized dismantler in the same manner as in the state’s standalone scrappage program. Upon receipt of a vehicle, dismantlers pay South Coast \$200. These funds are then returned to the Replace Your Ride program within South Coast.

### ***Replacement Vehicle Search Process***

When customers receive a pre-approval letter, it is then the job of their contracted case manager to support them in redeeming their incentive to replace their vehicle. Upon being issued a pre-approval letter, South Coast granted customers up to two months (currently only allow one month, with the option to extend on appeal) to search for and purchase or lease a replacement vehicle.

Another challenge, which South Coast has been actively planning to overcome, was that the outsourcing of voucher use to case managers (contractors) did not function as well as was hoped. One of the primary reasons for this shortcoming was that voucher recipients did most of their searching for a replacement vehicle on the weekends, but case managers primarily worked Monday through Friday and had limited availability to answer customer questions on weekends.

### ***Car Dealerships***

One of the major lessons learned by both districts is that not all dealerships or dealership staff have the knowledge or incentive to work with the advanced technology vehicle fleet and/or the needs of low-moderate income households. At the outset of the program, the customer could take their pre-approval letter to one of 50 local participating car dealerships which South Coast had approved, and the customer could subsequently select their replacement vehicle. Challenges occurred, however, in terms of the support provided by automobile dealerships to customers in finding an ideal replacement vehicle.

While 50 dealerships were originally authorized as participating program partners, South Coast has subsequently revoked some dealership authorizations due to inadequate knowledge by dealership sales staff to help EFMP Plus-Up customers adequately, or, more problematically, dealerships requiring customers to pay out of pocket for vehicles even though the customers had vouchers in hand. South Coast is actively consolidating its dealership partnership list to address this problem. CarMax dealers proved particularly adept at supporting the program.

## ***Financing Institutions and Arrangements***

South Coast also provided support for the replacement vehicle financing process for interested applicants, as financing can represent a major obstacle to low and moderate income households in purchasing any vehicle, especially an advanced technology vehicle. In South Coast, just over 4% of households chose to lease their replacement vehicles. As Table 4 shows, in the purchase process, on average customers used an incentive of around \$7,900, and consequently had to finance around \$13,300 to make up the difference between the value of their voucher and the price of their desired replacement vehicle.<sup>8</sup> The choice made by some households to lease or purchase newer, more expensive vehicles in South Coast as compared to Valley Air likely reflects both the lack of new vehicles available in the Valley Air territory and the higher income level of South Coast customers.

Non-profit financial institutions such as credit unions attended the district's community events to discuss financing options for a new or used vehicle with attendees, provided financial counseling, and helped interested participants secure no-interest or low-interest loans for replacement vehicles. Nearly all replacement vehicles, however, were still financed through private lenders at dealerships.

## ***Replacement Vehicle Attributes***

About one-third of the vehicles purchased in the first year of program implementation in South Coast were new and the average model year for vehicles purchased was 2013. Similar to Valley Air, in South Coast hybrids represented over 51% of all replacement vehicles, with plug-in hybrid electric vehicles representing above 27%, and battery electric vehicles representing over 21% of all vehicles sold through the Plus-Up program.

## ***Alternative Travel Mode Incentives***

Alternative mobility options to vehicle purchase are available if program participants are interested, as is required by statute. The district deals with these requests on a case-by-case basis. While South Coast made efforts to develop a comprehensive transit pass and rideshare incentive option as part of the program, the details of rideshare subscriptions were never fully fleshed out, and initial conversations to create a trans-agency transit pass for interested participants were stymied by private suppliers, who asked to be compensated for a guaranteed number of passes issued to customers. South Coast reports that it is working on a prospective resolution to enhance this dimension of the EFMP Plus-Up program.

## **Conclusion**

This case study describes how the EFMP Plus-Up pilot was implemented in the two air districts chosen for the pilot, San Joaquin Valley and South Coast, during the first year of program operation. The experience of both air districts suggests that the demand for clean, advanced technology vehicle incentives provided by the EFMP Plus-Up program among the low- and moderate-income population in California is likely to be high for the foreseeable future. Moreover, results from the first year of the program show that, despite different implementation strategies employed by each district, households received a similar average benefit and had a strong preference for hybrid vehicles

<sup>8</sup> Upon successfully redeeming a state-funded incentive for vehicle purchase, South Coast deemed it most prudent to issue each customer a 1099 tax form commensurate with the value of the incentive benefit. Successful customers are responsible for paying taxes on the value of the voucher itself.

followed by PHEVs types in both areas. Additionally, households who benefited from the program were overwhelmingly low income and represented a distribution of benefits to disadvantaged communities within each district.

Given the approval of additional funding for the EFMP Plus-Up pilots to continue operating in the two districts, this study provides guidance regarding future program enhancement in these areas. Since the first year of program operation, both districts have proactively enhanced their strategies, especially to include and support the diverse needs of their potential customers. South Coast has made efforts to ensure that case management assistance is provided when customers most need it. Valley Air is working to make program application available online. Moreover, both districts are seeking to work more closely with financiers which will cater to the particular needs of the Plus-Up customer base.

Common challenging implementation elements of the program which have not yet been resolved largely depend on the cooperation of external stakeholders. While an absolute shortage of Plus-Up eligible replacement vehicles has not yet occurred, both districts have encountered prolonged difficulty in ensuring that local dealerships maintain a large supply and diversity of such vehicles for Plus-Up customers. Moreover, neither district has yet been able to successfully coordinate across local transit agencies, rideshare companies, or other private sector firms which might be able to provide a universal travel pass envisioned as an alternative mobility option to vehicle purchase in the Plus-Up program.

This case study also serves as a potential resource for the thirty-three other air quality management and air pollution control districts across California considering EFMP Plus-Up program design and operation decisions in the future. Finally, lessons learned from this study can be applied by other air quality districts outside of California which seek to follow California's lead in aggressively seeking joint improvements in air quality and environmental justice through paired, vehicle retirement and replacement programs.

## Appendix 1. First Year of EFMP Plus-Up Program Statistics: Participation, Retirement and Replacement Vehicle Attributes, and Replacement Vehicle Financing

**Table 2. EFMP Plus-Up Participants by Household Income Category**

Income Category	Valley Air	South Coast
Below 225% of FPL	99.7% (360)	88.4% (364)
225% - 300% of FPL	0.3% (1)	7.2 (30)
300 - 400% of FPL	0% (0)	4.4% (18)
Total	361	412

**Table 3. Retirement Vehicle Attributes**

Vehicle Status	Valley Air <sup>9</sup>	South Coast
Registered	43.6% (152)	83.8% (345)
Unregistered	56.4% (197)	16.3% (67)
Average Model Year of Retired Vehicle	1991	1997

**Table 4. Replacement Vehicle Financing Characteristics**

Financing Attributes	Valley Air	South Coast
Average total incentive	\$8,120	\$7,888
Total Purchase	\$19,159	\$21,194
Price (if purchased)		
Leased (v. purchased)	0%	4.1%

**Table 5. Replacement Vehicle Attributes**

Vehicle Technology	Valley Air	South Coast
Average Model Year of Replacement Vehicle	2012	2013
Replacement vehicle is new <sup>10</sup>	0 (0%)	120 (29.1%)
Battery electric (BEV)	60 (16.6%)	88 (21.4%)
Hybrid	197 (54.6%)	210 (51.0%)
Plug-in Hybrid Electric (PHEV)	104 (28.8%)	114 (27.7%)
Total	361	412

<sup>9</sup> Data on retirement vehicle registration were left blank for 6 households, and 8 retirement vehicles were classified as "non-operational." We exclude these from registration figures shown here as their exact status is unclear.

<sup>10</sup> Calculated as having less than 200 miles on the odometer and being 2015 or newer model.



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