DRAFT PROPOSAL

MAXIMIZING THE AIR QUALITY, CLIMATE, AND SOCIAL EQUITY BENEFITS OF LIGHT-DUTY VEHICLE INCENTIVE PROGRAMS

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Check if applicable:
Animal subjects _____
Human subjects _____X___

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Abstract

Despite the best intentions of the Legislature and the concerted efforts of implementing agencies, voucher incentive programs directed toward low income vehicle owners with the objective of accelerating fleet turnover have been woefully undersubscribed. Myriad reasons have been offered in explanation of the current situation all of which tend to fall in to three broad categories; Lack of program awareness, Problems associated with the enrollment/qualification process, and Problems associated with program execution/completion.

Previous outreach strategies have included a variety of media campaigns including posters, brochures, newspaper, billboards and print advertising. Outreach has also been approached through community-based organizations and institutions including faith based organizations and schools. Given that the Enhanced Fleet Modernization Program (EFMP) regulations restrict implementing entities from spending more than 10 percent of allotted funds (recently increased to 15 percent) on program administration, including outreach and enrollment efforts, it is important to assess how effective these campaigns are and whether a significant increase in enrollment might result from increasing funding directed toward outreach.

Other limitations to program awareness and participation include language and cultural barriers, the real or perceived stigma associated with financial assistance programs in general, and mistrust associated with government run assistance programs specifically. As an example, past outreach efforts have been limited to English and Spanish speakers. Participation in voucher incentive programs may put at risk other financial assistance currently received by potential participants. Potential participants may have legal concerns related to their immigration status, and their vehicles may be uninsured and/or unregistered.

With respect to the enrollment process, potential participants may lack access to the internet which is often the primary source of programmatic information and where the application for participation resides. The requirement to produce certain documentation in order to qualify to participate or verify income may also present significant obstacles to enrollment. In some instances, vehicles to be retired are required to undergo tests for emissions or durability which is not only inconvenient, but may and add an element of uncertainty to the process of qualification. For these reasons, strategies geared toward simplification of the application/enrollment process should also be assessed.

Finally, the process of participation in these program must be studied to identify and remove both real and perceived obstacles, arguably the most important of which include the limitations on vehicle replacement options, the adequacy of incentive amounts, and the ability of low income participants to secure and maintain financing necessary to bridge the gap between the incentive amount and the purchase price of qualifying replacement vehicles.

Introduction

Voluntary accelerated vehicle retirement programs have been operating in California since the early 1990's. First suggested as a means of offsetting excessive emissions from stationary sources, the strategy was included in the 1994 California State Implementation Plan (SIP) for Ozone as control measure M1, which called for the voluntary retirement of 75,000 older vehicles per year in the South Coast Air Basin (SoCAB) in 2010.

The Enhanced Fleet Modernization Program (EFMP) was established in 2007 by Assembly Bill 118 with the objective of accelerating the naturally occurring attrition rate of the on-road fleet resulting in moving forward the benefits achieved as older higher emitting vehicles leave the fleet and are replaced by newer cleaner models. Although the retirement only element of the program, which currently offers between $1,000 per $1,500 per vehicle, has proved widely popular, participation in the replacement option of the program has yet to achieve the levels of participation anticipated when the measure was crafted.

As EFMP's focus is directed toward those areas of the state with the most severe air quality issues, efforts have been directed toward the San Joaquin Valley, where Valley CAN (Clean Air Now) operates the program on behalf of the San Joaquin Valley Air Pollution Control District (SJVAPCD), and the South Coast Air Basin, where the Foundation for California Community Colleges (FCCC) administers the program on behalf of the South Coast Air Quality Management District (SCAQMD). Lessons learned through program implementation and through interviewing program administrators, participants and vendors include the following:

- Financial limits imposed on program administration hindered the conduct of the program.
- Eligibility requirements were found to be overly complicated.
- Some methods of program solicitation were considered inadequate/ineffective.
- Automotive dealers and dismantlers complained that reimbursement was slow resulting in limited program participation.
- Participants complained about the inconvenience of showing compliance with the continuous registration requirement.
- The need for pre-screening, although free, was identified both by participants and automobile dealerships as prohibitive.
- Some participants opted out of the program stating that the fuel economy requirements for replacement vehicles were too restrictive.

Although California Senate Bill 459 (Pavley) addresses some of the issues mentioned above, several obstacles remain.

With respect to advanced technology vehicles, polls have shown that 1 out of 3 Californian's would gladly switch to a hybrid or pure electric vehicle if they were:

- Readily available
- Affordable, and
- Could travel extensive distances

Easily added to this list is the uncertainty regarding cost equivalency of gasoline and electricity (MPGe), the impact of the falling cost of gasoline, lack of information with respect to available financial rebates and tax incentives, the arduous process of applying for and receiving these rebates, the availability, cost, and convenience associated with charging stations, and uncertainty regarding the safety, environmental impact, and financial liability associated with the disposal and replacement of failed or damaged battery packs.

Objectives

This exploratory research project will attempt to determine if an association exists between specific outreach and enrollment strategies and the level of participation and completion in the voucher incentive programs including the EFMP, PLUS UP and CVRP programs.

The Foundation for California Community Colleges (FCCC) proposes to utilize a number of approaches to identify those factors impacting participation and quantifying their relative importance to programmatic outcomes. These approaches include, but are not limited to:

- Review existing literature on barriers to low income participation in social programs in general and incentive based vehicle replacement programs in particular.
- Perform demographic analyses to determine the ethnic makeup, languages spoken, cultural and familial makeup, available support structures, and employment patterns of those household in California that subsist at 400% of Federal Poverty Level (FPL) or less.
- Perform GIS analysis taking into account population and vehicle registration density of lower income households and related air quality conditions in order to identify and rank those areas of the state which would most benefit from program participation.
- Conduct surveys and focus groups of potential participants, current participants, and those who were either rejected or who applied and subsequently chose not to participate in the programs.
- Implement suggested changes to the solicitation, application and execution of the EFMP program and measure the resulting impacts.
- Interview lending institutions, manufacturers of advanced technology vehicles, as well as representatives from federal, state and local government agencies to gain their perspective and insight on improving program enrollment and vehicle sales.
- Develop a multivariate logistic regression model to determine the extent to which specific outreach/enrollment simplification strategies are associated with EFMP, PLUS UP and CVRP outcomes.

Technical Plan

Task 1. Literature Search

FCCC has extensive knowledge and experience with California voucher incentive programs. As part of the literature search, data collected during the conduct of past programs including FCCC's Vehicle Repair, Retirement, and Replacement for Motorists (VRRRM) Program, the SCAQMD's High Emitter Replace or Scrap (HEROS) Programs, previous EFMP efforts, Valley CAN's Tune-In/Tune-up, and the federal Cash for Clunkers program.

Although few studies exist that specifically address the obstacles to participation in vehicle replacement programs, a great deal of literature is available on efforts to increase enrollment in federal and state sponsored social program directed toward low income families including SANP (Supplemental Nutrition Assistance Program [Food Stamps], and the federal Affordable Health Care program. These studies along with those performed by the College of the Desert's Advanced Transportation Technology and Energy program (ATTE), MIT's Energy Initiative Center, the Transportation Technology and Policy Graduate Group at UC Davis and others will form the basis for developing consumer surveys and focus groups.

Task 2. Demographic Analysis

An in-depth understanding of the make up the potential participant pool for vehicle replacement programs is considered essential in crafting an effective outreach strategy and simplifying the application process and eligibility requirements.

According to the US Census 2013 American Community Survey, while the overall poverty rate for California is 15.3 percent, sixteen of California's 58 counties have greater than 20% of the population living below the federal poverty limit:

County	Below Poverty (%)	County	Below Poverty (%)
Butte County	20.4	**Madera County**	**22.8**
Del Norte County	21.8	Mendocino County	20.0
Fresno County	**26.0**	**Merced County**	**25.4**
Humboldt County	20.4	Modoc County	21.0
Imperial County	23.3	Siskiyou County	21.0
Kern County	**22.9**	**Stanislaus County**	**20.3**
Kings County	**21.0**	**Tulare County**	**26.2**
Lake County	25.0	Yuba County	21.6

It is important to note that seven of the eight counties that make up the SJVAPCD (shown in bold above) are included in this list. Using population and air quality data to better assess the potential environmental impact and to assist in identifying a target demographic, we find that although Tulare County has the highest percentage of population living below the poverty level, Fresno County has the highest absolute number of individuals and has more severe air quality issues.

County	Population	Ozone ppm	$PM_{2.5}$ ug/m^3	CO ppm	NOx ppb
Fresno	930,450	.097	93	2	13
Kern	839,631	.099	56	1	15
Kings	152,982	.083	48		9
Madera	150,865	.087	43		8
Merced	255,793	.079	37		7
Stanislaus	514,453	.091	45	2	
Tulare	442,179	.095	54		12

An even closer look at Fresno County demographics reveals that 16% are unemployed, 5.3% of the population are unauthorized immigrants, 63% of the households earning less than 200 percent of Federal Poverty Level are Hispanic, and 15.5% of this substrata state that they "speak English less than very well." For those who are employed in Fresno County, 25% are part time, over 30% are in single earner families, their average commute time in 22 minutes, 12% of commuters carpool, and less than 2% utilize public transportation.

This information would suggest that outreach efforts, surveys and focus groups directed toward Fresno residents should be conducted in Spanish, the message may be better conveyed by community based groups rather than a government agency, incentive levels and the availability of supplemental financing may be important factors, car sharing may be a more attractive alternative compared to transit passes, and vehicle range may play be an important consideration in the purchase of advanced technology vehicles.

According to the US Department of Labor, the challenges facing the working poor include job instability, lack of year round employment, the likelihood of health related issues, a higher likelihood of belonging to a single parent family, and a tendency to decline participation in welfare programs to the extent that they qualify, even though they would benefit from assistance. In carrying out Task 2, a detailed demographic analysis of the kind described above will be performed and will be used to guide our efforts in developing surveys and conducting focus groups under Task 3.

Task 3. Survey and Focus Groups

Under this task the contractors shall develop surveys and outreach materials to gauge the public's awareness with respect to the EFMP, PLUS UP, CVRP and other incentivized vehicle replacement programs, and to gather opinions on what changes might be instituted to current program requirements and practices to increase awareness and program participation.

FCCC, having recently been listed as a California Multiple Award Schedule (CMAS) vendor for survey development, distribution and analysis by the California Department of General Services (DGS), will develop the survey that, upon approval by CARB, will be distributed by mail, phone, E-mail, online, and face to face. The surveys will be designed to capture demographic data, establish elasticity limits with respect to replacement vehicle sales price points, incentive levels, and relative cost of maintenance and fuel of conventional and advanced technology vehicles. Information will also be gathered on various methods of outreach and program advertisement including the impact related to type of media, the message, and the messenger.

As proposed the survey would be presented to a sample of 15,000 households with an anticipated 50 to 80 percent response rate depending upon the method of administration. Some incentive for survey completion may be offered to ensure an adequate return rate and thereby increase the validity of the responses. As mentioned earlier, FCCC is in a unique position to survey participants in the EFMP and PLUS UP pilot programs as we have been contracted by the SCAQMD to conduct the EFMP program in the South Coast. As modifications are made to the outreach efforts, application or eligibility requirements, FCCC will note any resulting changes to the survey response rate, application, and participation rates and changes in overall consumer satisfaction or dissatisfaction with the program.

The information gathered and the analyses performed under Task 2 will provide insight regarding where and how our efforts would best be directed for both survey distribution and conducting focus groups. Face to face interaction with potential program participants is considered the best method available to gain insight into why incentivized vehicle retirement and replacement programs are currently undersubscribed. The ability to ask in-depth follow up questions makes this form of information gathering superior to paper or internet based surveys. As proposed, FCCC would conduct a total of 30, one hour focus groups consisting of 10 to 20 participants each. These focus groups would be conducted on local community college campuses or in other neighborhood venues at times which are most convenient for participation by local residents. Facilitation of the focus groups would be conducted in English, Spanish, or other language considered to be spoken by the majority of potential participants based upon the demographic analysis and response to solicitation for participation. In support of this effort, FCCC intends to enlist local community college students to assist in the conduct of the surveys, in providing translation services, and participating in focus group administration.

As proposed, the focus groups would be held at 15 different locations throughout the state, with two sessions conducted per location. While the "control group" would be asked about their experience and/or perceptions about incentivized vehicle retirement and replacement programs, the "treatment" group will receive outreach materials and an informational presentation about the options and benefits of participation prior to soliciting their opinions. The differences in "likelihood to participate", "likelihood to purchase an advanced technology vehicle", etc., will be assessed between the two groups. It is also the intention of the contractors to interview a number of major vehicle manufacturers of advanced technology vehicles, financial institutions and representatives of government agencies who oversee incentivized programs in order to gather their insights regarding how best to increase interest in vehicle purchases with respect to low-income households.

Task 4. Statistical Analysis – Model Development

The information and data collected in Tasks 1 through 3 will be used to develop a multivariate regression model to estimate the probability of a certain event occurring. In this case, whether an eligible vehicle owner will apply to participate in, and complete the vehicle retirement and replacement process, and whether they are likely to choose a newer, brand new conventional or advanced technology replacement vehicle as a result of modifying various program elements.

The statistical model will be developed to address the relative impact of incentive amounts and types, vehicle replacement options, outreach efforts (dollars spent/applicant dollars spent/vehicle replaced), effectiveness of various outreach strategies, technological barriers, access to supplemental financial assistance (loan guarantees), enrollment simplification strategies, etc., in order to provide insight to decision makers on modifying existing, or crafting future incentive programs. The model will be also designed to assess the likelihood of a particular participant choosing alternative forms of transportation such as transit or car sharing.

Task 5. Reporting

As proposed, FCCC will produce and provide to CARB four different report types and develop presentations for CARB staff explaining our findings.

1) Upon completion of the literature search, a report will be produced stating all findings and relevant efforts of the contractor and other entities to address the issues of program participation and the purchase of advanced technology vehicles. The results of this report may prompt CARB to redirect FCCC's efforts with respect to the remaining tasks.

2) The contractors intend to develop a report upon completion of the demographics analysis which will be used to suggest where surveys and focus groups should be conducted, what languages should be considered by the facilitators, and what alternatives to vehicle replacement are feasible and most desirable.

3) Once the statistical analyses and model development tasks are completed, the contractors shall develop a report recalling the data collected and methods used and present these findings to CARB staff.

4) Comprehensive reports will be generated on a quarterly basis covering all aspects of the project. These reports will include, but will not be limited to:

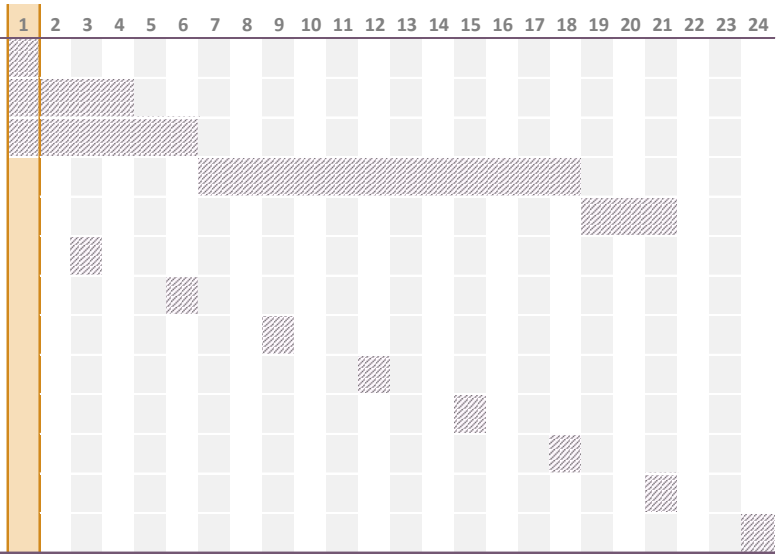
a. Status of all tasks
b. Number of surveys issued by location / response rate
c. Summary of survey responses
d. Number of focus groups conducted by location / attendance
e. Summary of focus group responses
f. Assessment of control focus group vs. treatment focus group responses
g. Manufacturer / Government interviews conducted and results
h. Application rate, completion rate, and replacement choices in EFMP
i. Application rate, completion rate, and replacement choices in Tune-In / Tune-Up
j. Changes in application and completion rates before and after programmatic changes
k. Demographic analysis of households choosing newer, brand new, and advanced technology vehicles, ride sharing, and public transit.

A compendium of the milestone and quarterly reports will be compiled into a draft final report deliverable to CARB a least 45 days prior to the end of the contract. Questions, comments and suggestions offered by CARB staff will be addressed and incorporated into a final report prior to be submitted prior to project completion.

Project Schedule

As proposed, the project is expected to take 24 months to complete. The schedule by task is shown below. In addition to a "Kickoff Meeting", the contractors intend to meet with CARB staff to present significant findings at the completion of each task.

ACTIVITY	PLAN START	PLAN DURATION
Kickoff Meeting	1	1
TAKS 1	1	4
TAKS 2	1	6
TAKS 3	7	12
TASK 4	19	3
Q1 Report	3	1
Q2 Report	6	1
Q3 Report	9	1
Q4 Report	12	1
Q5 Report	15	1
Q6 Report	18	1
Draft Final	21	1
Final Report	24	1



Contractor Experience

The Foundation for California Community Colleges (FCCC)

The Foundation for California Community Colleges is a unique 501(c)(3) nonprofit that provides effective services and innovative solutions for the largest higher education system in the world. With over 15 years' experience in developing, implementing, and administering large-scale programs, including voucher incentive and fleet modernization programs, the Foundation possesses the expertise, administrative infrastructure, and public outreach experience necessary to seamlessly implement this scope of work.

More specifically, the Foundation has forged successful relationships with automobile dealers, dismantlers, local air management districts including the SCAQMD and the San Joaquin Valley Air Pollution Control District, as well as with government agencies, including the Bureau of Automotive Repair (BAR) and the California Air Resources Board. The Foundation is the official auxiliary to the California Community Colleges Chancellor's Office, and it is this unique relationship that provides unprecedented access to the 112 campuses and over 2.4 million students encompassed by the California Community Colleges.

Since 2004, the Foundation has administered BAR's Smog Check Referee and technician training programs currently situated on 31 Community College campuses located throughout the state. In partnership with SCAQMD, the Foundation conducted the High Emitter Repair or Scrap (HEROS) voucher incentive program in2007, and the Foundation and SCAQMD again partnered in 2012 to design and execute the HEROS2 and EFMP programs. As mentioned earlier, FCCC has entered into an agreement with SCAQMD to conduct the new EFMP Pilot project. The Foundation has also work with CARB, BAR and other state agencies in conducting various research studies.

In 2010, financed by a $20 million grant from the Reformulated Gasoline Settlement Fund, the Foundation was tasked with implementing a program designed to secure air quality benefits for all Californians, with an emphasis on those living in the South Coast and San Joaquin Valley air basins. To achieve this goal, the Foundation solicited input form key stakeholders including representatives from SCAQMD, SJVAPCD, CARB and BAR, resulting in the development of te Vehicle Repair, Retirement, and Replacement for Motorists (VRRRM) Programs. Under VRRRM, cash incentives were offered to consumers to incentivize the repair, retirement, or replacement of their vehicle and the purchase of newer, cleaner, more fuel-efficient models, an objective which is directly related to this RFP. During the conduct of these programs, some 9,000 vehicles were retired or repaired and another 1,700 were replaced. It is estimated that over 600 tons of exhaust and evaporative emissions were reduced as a result.

The Foundation, along with its strategic partner, Valley CAN, seek to build upon our prior experience with EFMP to determine how best to reach those who would most benefit from participating in the program, while simplifying and streamlining the process to optimize participation. designed and implemented the $20 million grant funded Vehicle Repair, Retirement, and Replacement for Motorists (VRRRM) program, which offered incentives to repair, retire, or replace thousands of high emitting vehicles in California, securing both emission reductions and fuel economy improvements.

Staff Qualifications

The Foundation's air quality personnel and entire staff are all experienced and highly qualified to manage a project of this scope. Mark Carlock,PhD, Vice President of Air Quality Programs for the Foundation, spent 25 years in California state service with the Air Resources Board and the Bureau of Automotive Repair where he gained extensive experience and demonstrated his expertise in the successful design and execution of multimillion dollar, high stakes projects, including the I/M equivalency demonstration and the Accelerated Vehicle Retirement Pilot Project (2001 – Report No. SR01-05-02). Since leaving state service, Dr. Carlock has acted as an independent consultant whose clients included the Ports of San Diego, Los Angeles, Long Beach, New York and New Jersey, the Hong Kong Environmental Protection Department, and various engine and vehicle manufacturers and refineries. Dr. Carlock was employed as a Senior Engineer for Sierra Research prior to assuming his current position with the Foundation in 2011. As Chief of ARB's Mobile Source Analysis Branch, and over his 30+ years in air quality modeling and management, Dr. Carlock has forged lasting relationships with representatives of government, industry, and the private sector that are directly applicable to CARB's current needs.

Milo (Mike) Sheldon, who acted as Program Manager for VRRRM, and is currently the Program Manager for the EFMP program, has over 30 years of experience in the areas of automotive repair, business management, computer operations and automotive training. Mr. Sheldon has worked as a training and certification instructor for San Bernardino City schools, International Technical School and currently serves as adjunct faculty at Chaffey College. In his role as Program Manager for the HEROS and EFMP programs, Mr. Sheldon managed the day-to-day operational aspects of the Programs; plans schedules and tracked project timelines and milestones; developed, implemented and executed program policies and procedures and training programs.

Keetha Mills, President and Chief Executive Officer, joined the Foundation in 2008 as Vice President of Finance and Chief Financial Officer. As CFO, Ms. Mills provided strategic leadership and financial oversight of the Foundation's over $40 million annual operating budget. Ms. Mills has also overseen the Foundation's investment policies for its $10 million investment fund to support nursing education and the $67.7 million Bernard Osher Student Scholarship Endowment, in addition to actively managing several of the Foundation's largest programs including the Foundation's air quality programs which generate approximately $10 million in annual revenues. Ms. Mills was instrumental in the development and implementation of the Foundation's Vehicle Repair, Retirement and Replacement for Motorists program (VRRRM) and provided strategic leadership and oversight over the Foundation's Bureau of Automotive Repair Smog Check Referee Program operations.

John O'Sullivan, Vice President of Finance and Chief Financial Officer, joined the Foundation in 2005 and has held the position of Director of Accounting and Financial Reporting for the past two and half years. As Director of Accounting and Financial Reporting, Mr. O'Sullivan has provided leadership and management of the finance department and the financial reporting of the Foundation's numerous grants and contracts. Mr. O'Sullivan has also been responsible for preparation of the monthly financial reporting package used by management, annual budgeting process management, periodic forecast updates, and overseeing the annual audit and reporting process, including the annual tax return. Mr. O'Sullivan has also been responsible for financial oversight of the Foundation's Air Quality programs which include the Bureau of Automotive Repair Smog Check Referee Program and the Vehicle Repair, Retirement and Replacement for Motorists program (VRRRM).

Communications, marketing, and outreach have been an integral part of every Foundation-administered program, and the Foundation has an award-winning in-house marketing and communications team to support the EFMP. This team works closely with program staff to identify key audiences, phone messages, and develop effective strategies and materials to inspire program stakeholders to action. In support of the VRRRM program, the communications and marketing team launched a program website with downloadable resources, conducted a Google AdWords search marketing campaign, and created marketing collateral (such as brochures, rack cards, and floor mats) targeted to vendors, Gold Shield repair stations, and consumers. In addition, the team wrote and placed informative articles about the VRRRM program in industry publications and newsletters. The marketing team created and provided program graphics and marketing material consultation services to ensure brand consistency and help vendors maximize their marketing efforts for the benefit of the program.

Estimated Cost by Task

Task	Labor	Employee Fringe benefits	Subs, Consultants	Travel Subsist	Copy Print	Mail Phone Fax	Misc.	Overhead	Total
1	23,324	8,163	-	3,000	2,000	-	-	5,473	41,961
2	23,961	8,386	-	3,000	1,000	-	-	5,452	41,799
3	67,621	23,667	5,000	43,000	50,000	10,000	54,000	37,993	291,282
4	15,046	5,266	-	3,000	1,000	-	-	3,647	27,958
5	25,000	9,565	-	3,000	3,000	-	-	6,435	47,000
Total	154,952	55,048	5,000	55,000	57,000	10,000	54,000	59,000	450,000