California Environmental Protection Agency

Air Resources Board

PUBLIC MEETING AGENDA

Thursday, June 26, 2014

LOCATION:
Air Resources Board
Byron Sher Auditorium, Second Floor
1001 I Street
Sacramento, California 95814
http://www.calepa.ca.gov/EPAbldg/location.htm

This facility is accessible by public transit. For transit information, call (916) 321-BUSS, website: http://www.sacrt.com
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TO SUBMIT WRITTEN COMMENTS ON AN AGENDA ITEM IN ADVANCE OF THE MEETING GO TO: http://www.arb.ca.gov/lispub/comm/bclist.php

Thursday
June 26, 2014
9:00 a.m.

CONSENT CALENDAR:
The following item on the consent calendar will be presented to the Board immediately after the start of the public meeting, unless removed from the consent calendar either upon a Board member's request or if someone in the audience wishes to speak on it.

Consent Item #

14-5-1: Public Meeting to Consider the Approval of the 8-Hour Ozone State Implementation Plan Emission Inventory Submittal

Staff recommends the Board approve the 2012 summer baseline planning emission inventories for the 8-hour ozone nonattainment areas in California for submittal to the United States Environmental Protection Agency.

DISCUSSION ITEMS:

Note: The following agenda items may be heard in a different order at the Board meeting.

Agenda Item #

14-5-2: The Air Resources Board's Mobile Source Measurement Capabilities

Staff will present to the Board an informational item describing the range of mobile source emission measurement methods and tools that support the Board's on- and off-road regulatory programs. Staff will describe how these methods and tools have improved since the 1960s to address the Air Resources Board's changing mobile source program priorities and how they will need to continue to evolve to meet air quality and climate challenges in the coming decades.

14-5-3: Public Hearing to Consider Amendments to the Enhanced Fleet Modernization Program

The Enhanced Fleet Modernization Program (EFMP) is a voluntary accelerated vehicle retirement or "car scrap" program that provides monetary incentives to vehicle owners to retire older, more polluting vehicles. The program reduces emissions by accelerating the turnover and subsequent replacement of the existing light-duty fleet with newer, cleaner vehicles. Staff will present to the Board proposed amendments to improve EFMP by focusing the program on low-income participants, expanding program flexibility to improve program participation, enhancing emissions benefits by ensuring the vehicles that are retired are functional, and increasing outreach to community-based organizations.

14-5-4: Public Meeting to Consider the Approval of the Proposed Fiscal Year 2014-15 Funding Plan for the Air Quality Improvement Program and Low Carbon Transportation Greenhouse Gas Reduction Fund Investments

Staff will present to the Board the Proposed Fiscal Year 2014-15 Funding Plan which provides staff's recommendations for allocating up to $22 million identified in the Governor's proposed budget for the Air Quality Implementation Plan (AQIP) and $200 million from the Greenhouse Gas Reduction Fund (GGRF) for low carbon transportation projects. Staff is combining the two funding sources (AQIP and GGRF) into one Funding Plan. AQIP provides incentive funding through 2023 for clean vehicle and equipment projects. GGRF receives Cap-and-Trade auction proceeds to support greenhouse gas emission reduction projects. Staff recommends directing most of this year's combined funding to continue incentives for zero-emission and plug-in passenger cars and hybrid and zero-emission trucks and buses. A portion of funding would also be allocated to advanced technology freight demonstration projects and a loan guarantee program for on-road trucks.

14-5-5: Update to the Board on Federal Climate Activities

Staff will present to the Board an update on federal climate activities and the Air Resources Board's role in coordinating State and federal programs.

CLOSED SESSION

The Board will hold a closed session, as authorized by Government Code section 11126(e), to confer with, and receive advice from, its legal counsel regarding the following pending or potential litigation, and as authorized by Government Code section 11126(a):

POET, LLC, et al. v. Corey, et al., Superior Court of California (Fresno County), Case No. 09CECG04850; plaintiffs' appeal, California Court of Appeal, Fifth District, Case No. F064045; California Supreme Court, Case No. S213394.

Rocky Mountain Farmers Union, et al. v. Corey, U.S. District Court (E.D. Cal. Fresno), Case No. 1:09-CV-02234-LJO-DLB; ARB interlocutory appeal, U.S. Court of Appeals, Ninth Circuit, Case No. 09-CV-02234; plaintiffs' petition for certiorari, U.S. Supreme Court, Case No. 13-1148.

American Fuels and Petrochemical Manufacturing Associations, et al. v. Corey, et al., U.S. District Court (E.D. Cal. Fresno), Case No. 1:10-CV-00163-AWI-GSA; ARB's interlocutory appeal, U.S. Court of Appeals, Ninth Circuit, Case No. 10-CV-00163; plaintiffs' petition for certiorari, U.S. Supreme Court, Case No.13-11490.

California Dump Truck Owners Association v. Nichols, U.S. District Court (E.D. Cal. Sacramento), Case No. 2:11-CV-00384-MCE-GGH; plaintiffs' appeal, U.S. Court of Appeals, Ninth Circuit, Case No. 13-15175.

Engine Manufacturers Association v. California Air Resources Board, Sacramento Superior Court, Case No. 34-2010-00082774; ARB's appeal, California Court of Appeal, Third District, Case No. C071891.

Truck and Engine Manufacturers Association v. California Air Resources Board, Sacramento Superior Court, Case No. 34-2013-00150733.

Alliance of Automobile Manufacturers v. California Air Resources Board; Sacramento Superior Court, Case No. 34-2013-00152974.

Citizens Climate Lobby and Our Children's Earth Foundation v. California Air Resources Board, San Francisco Superior Court, Case No. CGC-12-519554, plaintiffs' appeal, California Court of Appeal, First District, Case No. A138830.

California Chamber of Commerce et al. v. California Air Resources Board, Sacramento Superior Court, Case No. 34-2012-80001313; plaintiffs' appeal, California Court of Appeal, Third District, Case No. C075930.

Morning Star Packing Company, et al. v. California Air Resources Board, et al., Sacramento Superior Court, Case No. 34-2013-800001464; plaintiffs' appeal, California Court of Appeal, Third District, Case No. C075954.

Delta Construction Company, et al. v. United States Environmental Protection Agency, U.S. Court of Appeals, District of Columbia Circuit, Case No. 11-1428.

City of Los Angeles through Department of Water and Power v. California Air Resources Board, et al., Los Angeles Superior Court, Case No. BS140620 (transferred to Sacramento Superior Court, Case No. 34-2013-80001451-CU-WM-GDS).

Alliance for California Business v. Nichols et al., Glenn County Superior Court, Case No. 13CV01232.

Dalton Trucking, Inc. v. United States Environmental Protection Agency, U.S. Court of Appeals, District of Columbia Circuit, Case No. 13-1283.

Owner-Operator Independent Drivers Association Inc. et al. v. Richard W. Corey et al., U.S. District Court, (E.D. Cal. Fresno) Case No. 1:13-CV-01998-LJO-SAB (transferred by court to E.D.Cal. Sacramento, Case No. 2:14-CV-00186-MCE-AC).

John R. Lawson Rock & Oil, Inc. et al. v. California Air Resources Board et al., Fresno Superior Court, Case No. 14-CECG01494.

OPPORTUNITY FOR MEMBERS OF THE BOARD TO COMMENT ON MATTERS OF INTEREST

Board members may identify matters they would like to have noticed for consideration at future meetings and comment on topics of interest; no formal action on these topics will be taken without further notice.

OPEN SESSION TO PROVIDE AN OPPORTUNITY FOR MEMBERS OF THE PUBLIC TO ADDRESS THE BOARD ON SUBJECT MATTERS WITHIN THE JURISDICTION OF THE BOARD

Although no formal Board action may be taken, the Board is allowing an opportunity to interested members of the public to address the Board on items of interest that are within the Board's jurisdiction, but that do not specifically appear on the agenda. Each person will be allowed a maximum of three minutes to ensure that everyone has a chance to speak.

TO ELECTRONICALLY SUBMIT WRITTEN COMMENTS ON AN AGENDA ITEM IN ADVANCE OF THE MEETING GO TO:

http://www.arb.ca.gov/lispub/comm/bclist.php

(Note: not all agenda items are available for electronic submittals of written comments.)

IF YOU HAVE ANY QUESTIONS, PLEASE CONTACT THE CLERK OF THE BOARD:
1001 I Street, 23rd Floor, Sacramento, California 95814
(916) 322-5594
ARB Homepage: www.arb.ca.gov

SPECIAL ACCOMMODATION REQUEST

Consistent with California Government Code Section 7296.2, special accommodation or language needs may be provided for any of the following:

- An interpreter to be available at the hearing;
- Documents made available in an alternate format or another language;
- A disability-related reasonable accommodation.

To request these special accommodations or language needs, please contact the Clerk of the Board at (916) 322-5594 or by facsimile at (916) 322-3928 as soon as possible, but no later than 7 business days before the scheduled Board hearing. TTY/TDD/Speech to Speech users may dial 711 for the California Relay Service.

Consecuente con la sección 7296.2 del Código de Gobierno de California, una acomodación especial o necesidades lingüísticas pueden ser suministradas para cualquiera de los siguientes:

- Un intérprete que esté disponible en la audiencia
- Documentos disponibles en un formato alterno u otro idioma
- Una acomodación razonable relacionados con una incapacidad

Para solicitar estas comodidades especiales o necesidades de otro idioma, por favor llame a la oficina del Consejo al (916) 322-5594 o envié un fax a (916) 322-3928 lo más pronto posible, pero no menos de 7 días de trabajo antes del día programado para la audiencia del Consejo. TTY/TDD/Personas que necesiten este servicio pueden marcar el 711 para el Servicio de Retransmisión de Mensajes de California.

SMOKING IS NOT PERMITTED AT MEETINGS OF THE CALIFORNIA AIR RESOURCES BOARD

California Environmental Protection Agency

Air Resources Board

PUBLIC MEETING AGENDA

LOCATION:
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June 26, 2014

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CALIFORNIA AIR RESOURCES BOARD

NOTICE OF PUBLIC MEETING TO CONSIDER THE APPROVAL OF THE 8-HOUR OZONE STATE IMPLEMENTATION PLAN EMISSION INVENTORY SUBMITTAL

The Air Resources Board (ARB or Board) will conduct a public meeting at the time and place noted below to consider approval of the ozone 8-hour emission inventory as a revision to the California State Implementation Plan (SIP) for the State's non-attainment areas for the 2008 8-hour ozone standard. If approved, ARB will submit the emissions inventory to the United States Environmental Protection Agency (U.S. EPA) for approval as a revision to the California SIP.

DATE: June 26, 2014

TIME: 9:00 a.m.

PLACE: California Environmental Protection Agency
Air Resources Board
Byron Sher Auditorium
1001 I Street
Sacramento, California 95814

This item will be considered at a one-day meeting of the Board, which will commence at 9:00 a.m., June 26, 2014. This item is scheduled to be heard on the Board's Consent Calendar. All agenda items on the Consent Calendar – unless removed upon the request of a Board member or if someone in the audience submits a request to speak card on that item – will be voted on by the Board at the beginning of the public meeting.

The federal Clean Air Act (Act) requires states to prepare baseline emission inventories for all areas designated as exceeding a National Ambient Air Quality Standard within two years of the designation. In 2008, U.S. EPA strengthened the ambient air quality standards for 8-hour ground-level ozone from 0.08 to 0.075 parts per million. As of July 20, 2012, U.S. EPA completed area designations for the 2008 ozone standard and classified the following areas as either marginal, moderate, serious, severe, or extreme. These California non-attainment areas are the South Coast Air Basin, San Joaquin Valley, Sacramento Metropolitan Region, Western Mojave Desert, Coachella Valley, Ventura County, San Diego County, Imperial County, Eastern Kern County, East San Luis Obispo County, Western Nevada County, Mariposa County, Butte County, Calaveras County, Tuscan Buttes, and San Francisco Bay Area. Based upon the July 20, 2012 designation date, the baseline emission inventories for these areas are due by July 20, 2014.

The baseline inventories for these areas focus on the warmer and drier summer months (May-October) because the attainment challenges for the ozone NAAQS in California occur during these months. Accordingly the 2012 baseline summer season planning

emission inventories (tons/day) for the two precursors to ozone formation, nitrogen oxides (NOx) and volatile organic compounds (VOCs), have been compiled for the sixteen non-attainment areas listed above.

These ozone planning inventories, if approved by the ARB, will be submitted to U.S. EPA as SIP submittals to meet the requirements of the Act. Further inventory analysis will continue during development of the attainment plans for these areas and any inventory updates will be submitted to U.S. EPA with those plans.

Staff is recommending that the board approve the 2012 summer baseline planning emission inventories for the 8-hour ozone nonattainment areas in California for submittal to U.S. EPA.

ARB staff will release a written Staff Report 30 days prior to the meeting. Copies of the report may be obtained from ARB's Public Information Office,1001 I Street, First Floor, Environmental Services Center, Sacramento, California, 95814, (916) 322-2990. The report may also be obtained from ARB's website at:
http://www.arb.ca.gov/planning/sip/planarea/noticesworkshops.htm

Interested members of the public may present comments orally or in writing at the meeting and may provide comments by postal mail or by electronic submittal before the meeting. To be considered by the Board, written comments not physically submitted at the meeting, must be received **no later than 5:00 pm, June 23, 2014** and addressed to the following:

Postal mail: Clerk of the Board, Air Resources Board
1001 I Street, Sacramento, California 95814

Electronic submittal: http://www.arb.ca.gov/lispub/comm/bclist.php

Please note that under the California Public Records Act (Government Code section 6250 et seq.), your written and verbal comments, attachments, and associated contact information (e.g., your address, phone, email, etc.) become part of the public record and can be released to the public upon request.

ARB requests that written and email statements on this item be filed at least 10 days prior to the meeting so that ARB staff and Board members have additional time to consider each comment. Further inquiries regarding this matter should be directed to Mr. Steve Zelinka, Manager, Emission Inventory Development Section, Air Quality Planning and Science Division at (916) 445-2199 or Ms. Jagjeet Arce, Air Pollution Engineer, Emission Inventory Development Section, Air Quality Planning and Science Division at (916) 322-7148.

SPECIAL ACCOMMODATION REQUEST

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language needs may be provided for any of the following:

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CALIFORNIA AIR RESOURCES BOARD

Richard W. Corey
Executive Officer

Date: May 21, 2014

The energy challenge facing California is real. Every Californian needs to take immediate action to reduce energy consumption. For a list of simple ways you can reduce demand and cut your energy costs, see our website at www.arb.ca.gov.

State of California

California Environmental Protection Agency

AIR RESOURCES BOARD

Staff Report

8-Hour Ozone State Implementation Plan Emission Inventory Submittal

Release Date: May 23, 2014

Meeting Date: June 26, 2014

This document has been reviewed by the staff of the California Air Resources Board (CARB or ARB) and approved for publication. Approval does not signify that the contents necessarily reflect the views and policies of the Air Resources Board, nor does the mention of trade names or commercial products constitute endorsement or recommendation for use.

Electronic copies of this document are available for download from the Air Resources Board's Internet site at: http://www.arb.ca.gov/planning/sip/sip.htm In addition, written copies may be obtained from the Public Information Officer, Air Resources Board, 1001 I Street (1st Floor), Visitors and Environmental Services Center, Sacramento, California 95814, (916) 322-2990.

For individuals with sensory disabilities, this document is available in Braille, large print, audiocassette or computer disk. Please contact ARB's Disability Coordinator at (916) 323-4916 by voice or through the California Relay Services at 711, to place your request for disability services. If you are a person with limited English and would like to request interpreter services, please contact ARB's Bilingual Manager at (916) 323-7053.

For questions, contact:

Mr. Steve Zelinka
Manager, Emission Inventory Development Section
Air Quality Planning and Science Division
Phone: (916) 445-2199
Email: szelinka@arb.ca.gov

Or

Ms. Jagjeet Arce
Air Pollution Engineer
Emission Inventory Development Section
Air Quality Planning and Science Division
Phone: (916) 322-7148
Email: jarce@arb.ca.gov

I. BACKGROUND

The federal Clean Air Act (Act) establishes planning requirements for those areas that exceed the health-based National Ambient Air Quality Standards (standards). Areas are designated as nonattainment based on monitored exceedances of these standards. These nonattainment areas must develop an emission inventory as the basis of a State Implementation Plan (SIP) that demonstrates how they will attain the standards by specified dates.

In 2008, the United States Environmental Protection Agency (U.S. EPA) strengthened the ambient air quality standard for 8-hour ozone from 0.08 to 0.075 parts per million (ppm). Effective July 20, 2012, U.S. EPA completed area designations for the 2008 8-hour ozone standard with sixteen areas in California classified as marginal, serious, severe, or extreme nonattainment (Figure 1).

The Act requires states and local governments to prepare baseline emission inventories for all areas exceeding the National Ambient Air Quality Standards within two years of designation. The Emission Inventory SIP Submittal has been compiled by Air Resources Board (ARB) staff and reflects the most up-to-date emission inventory for all areas. Since the Statewide attainment challenges for the national 8-hour standard occur in the summer months, this document includes the 2012 baseline summer season (May-October) planning emission inventories (tons/day) for nitrogen oxides (NOx) and volatile organic compounds (VOCs), the two precursors to ozone formation, for the sixteen areas.

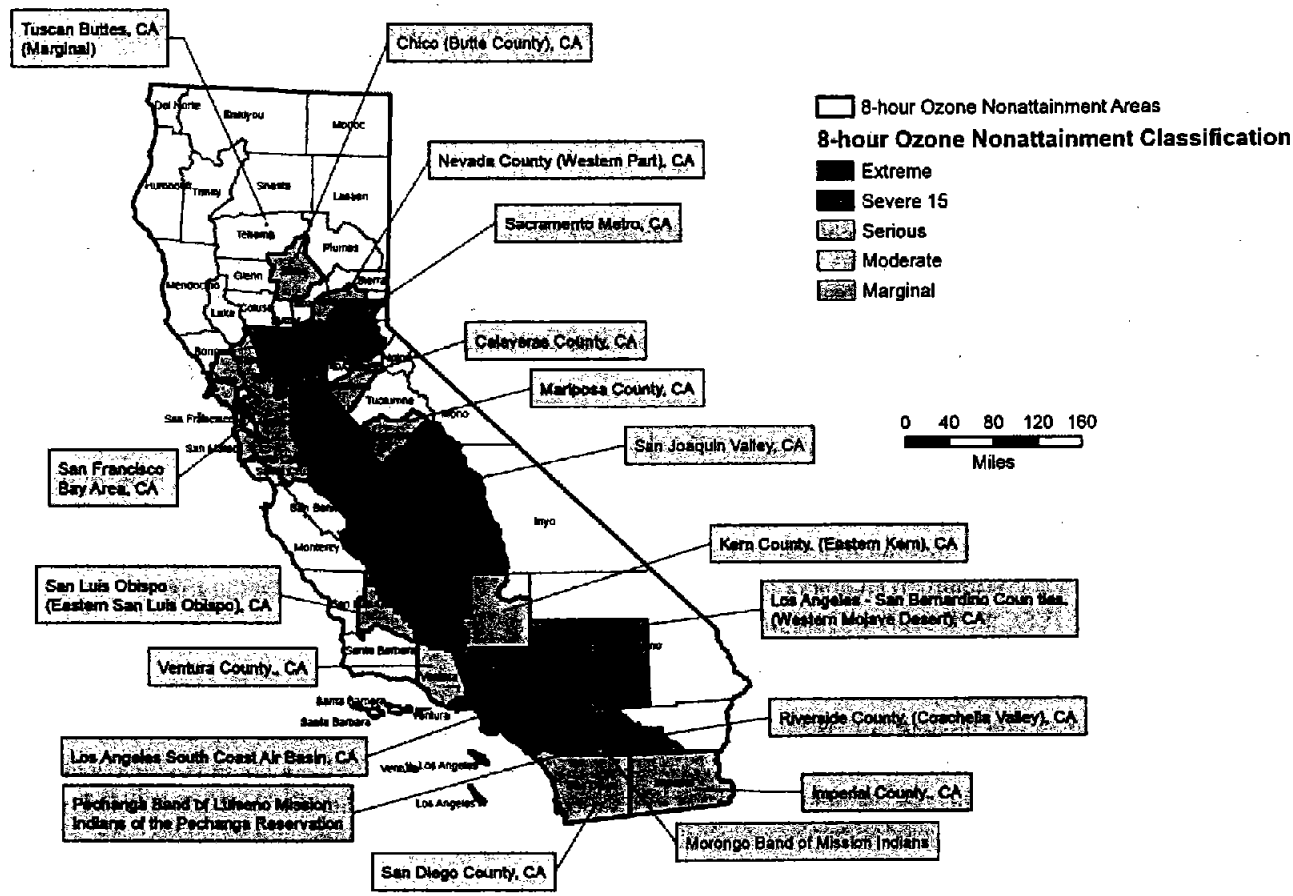
Emission inventory development is an ongoing process as new information becomes available and methodologies and models are improved. Inventories are frequently updated for SIPs to improve accuracy and ensure they reflect the best available data. Further improvements are currently under way and will be incorporated into additional SIP revisions required for the new 8-hour ozone standard for areas with the worst air quality. This includes attainment SIPS in 2016. Ultimately, the inventories are evaluated and approved by U.S. EPA.

The following areas in California have been designated as non-attainment:

1. Chico (Butte County)
2. Imperial County
3. Kern County (Eastern Kern)
4. Los Angeles-San Bernardino Counties (Western Mojave Desert)
5. Los Angeles-South Coast Air Basin
6. Mariposa County
7. Nevada County (Western Nevada)
8. Riverside County (Coachella Valley)
9. Sacramento Metropolitan Area
10. San Diego County
11. San Joaquin Valley
12. San Luis Obispo County (Eastern San Luis Obispo)
13. Ventura County
14. Calaveras County
15. San Francisco Bay Area
16. Tuscan Buttes*

*The Tuscan Buttes non-attainment area is a small high elevation area containing no anthropogenic sources and therefore, no emissions.

Figure 1. Map of EPA's Ozone 8-Hour (2008 Standard) designations for California.



II. EMISSION INVENTORY BACKGROUND

An emission inventory is a systematic listing of air pollutant sources, along with an accounting of the amount of pollutants emitted by each source or category over a given period of time. This accounting is an estimate of emissions, not a direct measurement of ambient concentrations.

The emission inventory is an essential tool to support the evaluation, control, and mitigation of air pollutants. Inventory data are used as primary input for air quality modeling, for developing control strategies, and to provide a means to track progress in meeting emissions reduction commitments. More specifically, the inventories are used to assist in demonstrating attainment of the standards.

California's emission inventory represents emission estimates from many source types. Stationary sources include industrial point sources such as power plants and oil refineries. Area-wide sources include categories where emissions take place over a wide geographic area such as consumer products, cooking, and agricultural burning. Area-wide sources also include smaller point sources, such as gasoline dispensing facilities and residential water heaters, which are not inventoried individually but estimated as a group. On-road mobile sources include passenger vehicles and heavy-

duty trucks while off-road mobile sources include aircraft, trains, ships, and farm equipment. Natural (non-anthropogenic) sources include vegetation (biogenic), petroleum seeps and wildfires. Note that the emission inventories represented in this document include only anthropogenic sources.

The development and maintenance of California's emission inventory is a multi-agency effort involving ARB, 35 local air pollution control and air quality management districts, metropolitan planning organizations, councils of governments, and the California Department of Transportation. Districts work with facility operators to provide stationary point source emission estimates. ARB and the districts use the best available methodologies to estimate emissions from both stationary and area-wide sources. ARB also develops and maintains mobile source emission models such as EMFAC. Metropolitan planning organizations also provide some population and transportation activity forecasts. These detailed stationary, area-wide, and mobile emission estimates, developed and provided by a variety of sources, are compiled and maintained by ARB in a comprehensive database.

A base year inventory contains the latest available data for a given calendar year and is used as a starting point for understanding current emission levels. Future-year inventories are developed by applying category-specific growth and control factors to the base year inventory to estimate projected emissions in future years. Growth and control factors represent the anticipated changes from the base year to the future years based on trends in economic and other human related activity as well as the effects of adopted emission control measures. Comparing base and future year inventories allows progress from emission reduction strategies to be measured. This submittal represents a base year inventory for 2012, chosen because it is the most recent year for which comprehensive emissions estimates are available.

III. UPDATES TO THE EMISSION INVENTORY

The following improvements were made to the 2012 emission inventory since the last comprehensive update conducted for the 2012 24-hour PM2.5 SIPs:

Stationary Sources:

Emission estimates from stationary point sources are updated on an annual basis or as needed by the districts. Updates provided by districts for inventory year 2012 are included in this inventory.

Area-wide Sources:

The Bay Area Air Quality Management District updated the 2011 area source inventory which was projected to 2012 for all area source categories.

Pesticide emissions were updated to reflect actual emissions reported by the Department of Pesticide Regulation for the 2012 inventory year. ARB staff created a merged statewide VOC emission inventory for 2012 from a mixed dataset which included emissions statewide and by ozone nonattainment areas.

On-Road Mobile:

On-road mobile emissions reflect recent draft updates to the EMFAC 2011 model. Updates to EMFAC include vehicle population and activity updates using Department of Motor Vehicles data, vehicle sales and survival rate estimates, fuel sales from Board of Equalization, and updates to mileage accrual rates using Smog Check data. Vehicle model year specific emission rates have been updated for medium-heavy and heavy-heavy duty diesel trucks. Rule compliance assumptions for the Truck and Bus regulation have also

been updated. Lastly, the default vehicle miles traveled (VMT) regional allocations have been adjusted using the 2012 National Transportation Atlas Database.

Off-road:
Off-road mobile emissions were updated with draft off-road data models. The following categories have been updated: ocean going vessels, recreational boats, recreational vehicles, off-road equipment and farm equipment.

The ocean going vessel inventory was updated to account for new information related to goods movement activity. The updates were based on growth projections from the Federal Highway Administrations Freight Analysis Framework model and supported by other forecasts done for the San Pedro Bay Ports.

Other off-road mobile categories such as cargo handling equipment, which use growth factors consistent with ocean going vessels, were also updated.

Off-road farm equipment emissions were updated as part of the in-use regulation development process. The updated inventory relies on newly available information from statewide surveys, economic assessments and a fuel analysis. The survey analysis resulted in an update to the age distribution of the statewide fleet. The agricultural equipment inventory (principally tractors, but also including a wide variety of farm equipment such as harvesters, loaders, cotton pickers, etc.) was completely revised based on a 2008 survey of California farmers, first processors, and equipment rental facilities. The detailed data on California farm practices was combined with statewide data on agricultural fuel use from the Board of Equalization, and United States Department of Agriculture data on farm equipment, to build a new inventory with revised equipment populations, activity, load factors, turnover practices and more.

IV. EMISSION INVENTORY – SPLIT REGIONS

Of the sixteen ozone non-attainment areas, five were split into regions not defined by ARB's county, air basin, and district boundaries. These five regions include: Western Nevada County, Sutter County (Sacramento Metropolitan Area), Eastern Kern County, Los Angeles-San Bernardino (Western Mojave Desert) and Eastern San Luis Obispo County. For these areas, the portion of emissions in the nonattainment area was estimated using category-specific factors based on the spatial distribution of population, employment, VMT and other activity parameters within the non-attainment region. These fractions were developed by ARB and the local air districts.

V. STAFF RECOMMENDATION

ARB staff has developed the 2012 emission inventory for ozone precursors in consultation with district staff and finds that the Emission Inventory SIP Submittal meets all applicable Clean Air Act requirements. Therefore, staff recommends that the Board adopt the 8-Hour Ozone State Implementation Plan Emission Inventory Submittal and recommends that the Executive Officer transmit this submittal to U.S. EPA.

Chico (Butte County) - 2012 Average Summer Daily Emissions (tons/day)

Stationary Sources	NOX	VOC
Fuel Combustion - Electric Utilities	0.42	0.15
Fuel Combustion - Cogeneration	0.01	0.00
Fuel Combustion - Oil And Gas Production (Combustion)	0.00	0.00
Fuel Combustion - Manufacturing And Industrial	0.31	0.01
Fuel Combustion - Food And Agricultural Processing	0.92	0.10
Fuel Combustion - Service And Commercial	0.19	0.01
Fuel Combustion - Other (Fuel Combustion)	0.10	0.01
Waste Disposal - Sewage Treatment	0.01	0.01
Waste Disposal - Incinerators	0.01	0.00
Waste Disposal - Other (Waste Disposal)	0.00	0.18
Cleaning And Surface Coatings - Laundering	0.00	0.01
Cleaning And Surface Coatings - Degreasing	0.00	0.47
Cleaning And Surface Coatings - Coatings And Related Process Solvents	0.00	0.35
Cleaning And Surface Coatings - Printing	0.00	0.07
Cleaning And Surface Coatings - Adhesives And Sealants	0.00	0.09
Petroleum Production And Marketing - Oil And Gas Production	0.01	0.09
Petroleum Production And Marketing - Petroleum Marketing	0.00	0.36
Petroleum Production And Marketing - Other (Petroleum Production And Marketing)	0.00	0.11
Industrial Processes - Chemical	0.00	0.02
Industrial Processes - Food And Agriculture	0.03	0.00
Industrial Processes - Mineral Processes	0.03	0.01
Industrial Processes - Metal Processes	0.00	0.00
Industrial Processes - Wood And Paper	0.00	0.02
Industrial Processes - Other (Industrial Processes)	0.00	0.01
Stationary Total	**2.03**	**2.08**
Area-Wide Sources	**NOX**	**VOC**
Solvent Evaporation - Consumer Products	0.00	1.27
Solvent Evaporation - Architectural Coatings And Related Process Solvents	0.00	0.80
Solvent Evaporation - Pesticides/Fertilizers	0.00	1.10
Solvent Evaporation - Asphalt Paving / Roofing	0.00	0.21
Miscellaneous Processes - Residential Fuel Combustion	0.29	0.37
Miscellaneous Processes - Farming Operations	0.00	0.32
Miscellaneous Processes - Fires	0.00	0.01
Miscellaneous Processes - Managed Burning And Disposal	0.37	0.70
Miscellaneous Processes - Cooking	0.00	0.04
Area-Wide Total	**0.67**	**4.81**
Mobile Sources	**NOX**	**VOC**
On-Road Motor Vehicles - Light Duty Passenger (LDA)	0.52	0.93
On-Road Motor Vehicles - Light Duty Trucks - 1 (LDT1)	0.15	0.33
On-Road Motor Vehicles - Light Duty Trucks - 2 (LDT2)	0.59	0.74
On-Road Motor Vehicles - Medium Duty Trucks (MDV)	0.50	0.48
On-Road Motor Vehicles - Light Heavy Duty Gas Trucks - 1 (LHDV1)	0.17	0.17
On-Road Motor Vehicles - Light Heavy Duty Gas Trucks - 2 (LHDV2)	0.01	0.01
On-Road Motor Vehicles - Medium Heavy Duty Gas Trucks (MHDV)	0.03	0.04
On-Road Motor Vehicles - Heavy Heavy Duty Gas Trucks (HHDV)	0.01	0.01

Chico (Butte County) - 2012 Average Summer Daily Emissions (tons/day)

Mobile Sources (Continued)	NOX	VOC
On-Road Motor Vehicles - Light Heavy Duty Diesel Trucks - 1 (LHDV1)	1.00	0.04
On-Road Motor Vehicles - Light Heavy Duty Diesel Trucks - 2 (LHDV2)	0.14	0.01
On-Road Motor Vehicles - Medium Heavy Duty Diesel Trucks (MHDV)	0.64	0.06
On-Road Motor Vehicles - Heavy Heavy Duty Diesel Trucks (HHDV)	3.06	0.24
On-Road Motor Vehicles - Motorcycles (MCY)	0.03	0.22
On-Road Motor Vehicles - Heavy Duty Diesel Urban Buses (UB)	0.05	0.00
On-Road Motor Vehicles - Heavy Duty Gas Urban Buses (UB)	0.01	0.00
On-Road Motor Vehicles - School Buses - Gas (SBG)	0.00	0.00
On-Road Motor Vehicles - School Buses - Diesel (SBD)	0.05	0.00
On-Road Motor Vehicles - Other Buses - Gas (OBG)	0.02	0.01
On-Road Motor Vehicles - Other Buses - Motor Coach - Diesel (OBC)	0.03	0.00
On-Road Motor Vehicles - All Other Buses - Diesel (OBD)	0.03	0.00
On-Road Motor Vehicles - Motor Homes (MH)	0.03	0.01
Other Mobile Sources - Aircraft	0.28	0.62
Other Mobile Sources - Trains	1.72	0.10
Other Mobile Sources - Recreational Boats	0.14	1.00
Other Mobile Sources - Off-Road Recreational Vehicles	0.01	0.36
Other Mobile Sources - Off-Road Equipment	1.33	0.99
Other Mobile Sources - Farm Equipment	4.31	0.77
Other Mobile Sources - Fuel Storage And Handling	0.00	0.16
Mobile Total	**14.85**	**7.32**
Grand Total for Chico (Butte County)	**17.54**	**14.21**

Imperial County - 2012 Average Summer Daily Emissions (tons/day)

Stationary Sources	NOX	VOC
Fuel Combustion - Electric Utilities	0.50	0.05
Fuel Combustion - Cogeneration	0.04	0.00
Fuel Combustion - Manufacturing And Industrial	0.53	0.02
Fuel Combustion - Food And Agricultural Processing	0.25	0.02
Fuel Combustion - Service And Commercial	0.34	0.01
Fuel Combustion - Other (Fuel Combustion)	0.00	0.01
Cleaning And Surface Coatings - Laundering	0.00	0.01
Cleaning And Surface Coatings - Degreasing	0.00	0.25
Cleaning And Surface Coatings - Coatings And Related Process Solvents	0.00	0.17
Cleaning And Surface Coatings - Adhesives And Sealants	0.00	0.07
Petroleum Production And Marketing - Petroleum Refining	0.00	0.00
Petroleum Production And Marketing - Petroleum Marketing	0.00	0.75
Petroleum Production And Marketing - Other (Petroleum Production And Marketing)	0.00	0.01
Industrial Processes - Food And Agriculture	0.02	0.00
Industrial Processes - Mineral Processes	0.01	0.00
Industrial Processes - Other (Industrial Processes)	0.00	0.00
Stationary Total	**1.69**	**1.39**
Area-Wide Sources	**NOX**	**VOC**
Solvent Evaporation - Consumer Products	0.00	1.07
Solvent Evaporation - Architectural Coatings And Related Process Solvents	0.00	0.43
Solvent Evaporation - Pesticides/Fertilizers	0.00	3.11
Solvent Evaporation - Asphalt Paving / Roofing	0.00	2.10
Miscellaneous Processes - Residential Fuel Combustion	0.07	0.01
Miscellaneous Processes - Farming Operations	0.00	5.49
Miscellaneous Processes - Fires	0.00	0.00
Miscellaneous Processes - Managed Burning And Disposal	0.60	1.11
Miscellaneous Processes - Cooking	0.00	0.02
Area-Wide Total	**0.66**	**13.34**
Mobile Sources	**NOX**	**VOC**
On-Road Motor Vehicles - Light Duty Passenger (LDA)	1.19	1.49
On-Road Motor Vehicles - Light Duty Trucks - 1 (LDT1)	0.25	0.60
On-Road Motor Vehicles - Light Duty Trucks - 2 (LDT2)	0.55	0.75
On-Road Motor Vehicles - Medium Duty Trucks (MDV)	0.76	0.69
On-Road Motor Vehicles - Light Heavy Duty Gas Trucks - 1 (LHDV1)	0.16	0.16
On-Road Motor Vehicles - Light Heavy Duty Gas Trucks - 2 (LHDV2)	0.02	0.02
On-Road Motor Vehicles - Medium Heavy Duty Gas Trucks (MHDV)	0.09	0.08
On-Road Motor Vehicles - Heavy Heavy Duty Gas Trucks (HHDV)	0.03	0.02
On-Road Motor Vehicles - Light Heavy Duty Diesel Trucks - 1 (LHDV1)	0.69	0.02
On-Road Motor Vehicles - Light Heavy Duty Diesel Trucks - 2 (LHDV2)	0.14	0.00
On-Road Motor Vehicles - Medium Heavy Duty Diesel Trucks (MHDV)	0.59	0.04
On-Road Motor Vehicles - Heavy Heavy Duty Diesel Trucks (HHDV)	5.92	0.38
On-Road Motor Vehicles - Motorcycles (MCY)	0.03	0.18
On-Road Motor Vehicles - Heavy Duty Diesel Urban Buses (UB)	0.07	0.00
On-Road Motor Vehicles - Heavy Duty Gas Urban Buses (UB)	0.00	0.00
On-Road Motor Vehicles - School Buses - Gas (SBG)	0.01	0.01

Imperial County - 2012 Average Summer Daily Emissions (tons/day)

Mobile Sources (Continued)	NOX	VOC
On-Road Motor Vehicles - School Buses - Diesel (SBD)	0.03	0.00
On-Road Motor Vehicles - Other Buses - Gas (OBG)	0.02	0.02
On-Road Motor Vehicles - Other Buses - Motor Coach - Diesel (OBC)	0.05	0.00
On-Road Motor Vehicles - All Other Buses - Diesel (OBD)	0.07	0.00
On-Road Motor Vehicles - Motor Homes (MH)	0.02	0.01
Other Mobile Sources - Aircraft	1.52	2.21
Other Mobile Sources - Trains	3.42	0.35
Other Mobile Sources - Commercial Harbor Craft	0.02	0.00
Other Mobile Sources - Recreational Boats	0.17	1.10
Other Mobile Sources - Off-Road Recreational Vehicles	0.02	0.58
Other Mobile Sources - Off-Road Equipment	0.94	0.52
Other Mobile Sources - Farm Equipment	2.61	0.47
Other Mobile Sources - Fuel Storage And Handling	0.00	0.13
Mobile Total	**19.40**	**9.82**
Grand Total for Imperial County	**21.75**	**24.55**

Kern County (Eastern Kern) - 2012 Average Summer Daily Emissions (tons/day)

Stationary Sources	NOX	VOC
Fuel Combustion - Cogeneration	0.43	0.03
Fuel Combustion - Manufacturing And Industrial	0.89	0.01
Fuel Combustion - Food And Agricultural Processing	0.02	0.00
Fuel Combustion - Service And Commercial	0.49	0.06
Fuel Combustion - Other (Fuel Combustion)	0.49	0.03
Waste Disposal - Landfills	0.00	0.04
Waste Disposal - Other (Waste Disposal)	0.00	0.00
Cleaning And Surface Coatings - Laundering	0.00	0.00
Cleaning And Surface Coatings - Degreasing	0.00	0.40
Cleaning And Surface Coatings - Coatings And Related Process Solvents	0.00	0.14
Cleaning And Surface Coatings - Adhesives And Sealants	0.00	0.04
Cleaning And Surface Coatings - Other (Cleaning And Surface Coatings)	0.00	0.01
Petroleum Production And Marketing - Petroleum Marketing	0.00	0.15
Petroleum Production And Marketing - Other (Petroleum Production And Marketing)	0.00	0.00
Industrial Processes - Chemical	0.00	0.00
Industrial Processes - Food And Agriculture	0.00	0.09
Industrial Processes - Mineral Processes	14.45	0.09
Industrial Processes - Metal Processes	0.01	0.00
Industrial Processes - Other (Industrial Processes)	0.00	0.00
Stationary Total	**16.78**	**1.00**
Area-Wide Sources	**NOX**	**VOC**
Solvent Evaporation - Consumer Products	0.00	0.61
Solvent Evaporation - Architectural Coatings And Related Process Solvents	0.00	0.24
Solvent Evaporation - Pesticides/Fertilizers	0.00	0.11
Solvent Evaporation - Asphalt Paving / Roofing	0.00	0.05
Miscellaneous Processes - Residential Fuel Combustion	0.12	0.02
Miscellaneous Processes - Farming Operations	0.00	0.09
Miscellaneous Processes - Fires	0.00	0.00
Miscellaneous Processes - Managed Burning And Disposal	0.00	0.01
Miscellaneous Processes - Cooking	0.00	0.01
Area-Wide Total	**0.12**	**1.14**
Mobile Sources	**NOX**	**VOC**
On-Road Motor Vehicles - Light Duty Passenger (LDA)	0.38	0.63
On-Road Motor Vehicles - Light Duty Trucks - 1 (LDT1)	0.09	0.19
On-Road Motor Vehicles - Light Duty Trucks - 2 (LDT2)	0.38	0.45
On-Road Motor Vehicles - Medium Duty Trucks (MDV)	0.32	0.28
On-Road Motor Vehicles - Light Heavy Duty Gas Trucks - 1 (LHDV1)	0.14	0.14
On-Road Motor Vehicles - Light Heavy Duty Gas Trucks - 2 (LHDV2)	0.01	0.01
On-Road Motor Vehicles - Medium Heavy Duty Gas Trucks (MHDV)	0.03	0.02
On-Road Motor Vehicles - Heavy Heavy Duty Gas Trucks (HHDV)	0.01	0.01
On-Road Motor Vehicles - Light Heavy Duty Diesel Trucks - 1 (LHDV1)	0.65	0.03
On-Road Motor Vehicles - Light Heavy Duty Diesel Trucks - 2 (LHDV2)	0.15	0.01
On-Road Motor Vehicles - Medium Heavy Duty Diesel Trucks (MHDV)	0.28	0.02
On-Road Motor Vehicles - Heavy Heavy Duty Diesel Trucks (HHDV)	4.84	0.37
On-Road Motor Vehicles - Motorcycles (MCY)	0.06	0.26

Kern County (Eastern Kern) - 2012 Average Summer Daily Emissions (tons/day)

Mobile Sources (Continued)	NOX	VOC
On-Road Motor Vehicles - Heavy Duty Diesel Urban Buses (UB)	0.05	0.00
On-Road Motor Vehicles - Heavy Duty Gas Urban Buses (UB)	0.00	0.00
On-Road Motor Vehicles - School Buses - Gas (SBG)	0.00	0.00
On-Road Motor Vehicles - School Buses - Diesel (SBD)	0.04	0.00
On-Road Motor Vehicles - Other Buses - Gas (OBG)	0.01	0.01
On-Road Motor Vehicles - Other Buses - Motor Coach - Diesel (OBC)	0.03	0.00
On-Road Motor Vehicles - All Other Buses - Diesel (OBD)	0.04	0.00
On-Road Motor Vehicles - Motor Homes (MH)	0.03	0.01
Other Mobile Sources - Aircraft	1.44	2.75
Other Mobile Sources - Trains	3.11	0.32
Other Mobile Sources - Recreational Boats	0.05	0.30
Other Mobile Sources - Off-Road Recreational Vehicles	0.00	0.06
Other Mobile Sources - Off-Road Equipment	0.52	0.34
Other Mobile Sources - Farm Equipment	0.97	0.18
Other Mobile Sources - Fuel Storage And Handling	0.00	0.07
Mobile Total	**13.64**	**6.43**
Grand Total for Kern County (Eastern Kern)	**30.54**	**8.57**

Los Angeles-San Bernardino Counties (Western Mojave Desert) - 2012 Average Summer Daily Emissions (tons/day)

Stationary Sources	NOX	VOC
Fuel Combustion - Electric Utilities	1.85	0.08
Fuel Combustion - Manufacturing And Industrial	4.14	0.24
Fuel Combustion - Food And Agricultural Processing	0.12	0.01
Fuel Combustion - Service And Commercial	1.43	0.19
Fuel Combustion - Other (Fuel Combustion)	0.64	0.06
Waste Disposal - Sewage Treatment	0.00	0.09
Waste Disposal - Landfills	0.02	0.16
Waste Disposal - Incinerators	0.06	0.00
Waste Disposal - Soil Remediation	0.00	0.00
Waste Disposal - Other (Waste Disposal)	0.00	0.05
Cleaning And Surface Coatings - Laundering	0.00	0.00
Cleaning And Surface Coatings - Degreasing	0.00	3.41
Cleaning And Surface Coatings - Coatings And Related Process Solvents	0.00	1.65
Cleaning And Surface Coatings - Printing	0.00	0.03
Cleaning And Surface Coatings - Adhesives And Sealants	0.00	0.05
Cleaning And Surface Coatings - Other (Cleaning And Surface Coatings)	0.00	0.01
Petroleum Production And Marketing - Oil And Gas Production	0.00	0.00
Petroleum Production And Marketing - Petroleum Refining	0.00	0.00
Petroleum Production And Marketing - Petroleum Marketing	0.00	6.26
Petroleum Production And Marketing - Other (Petroleum Production And Marketing)	0.00	0.00
Industrial Processes - Chemical	0.01	0.28
Industrial Processes - Food And Agriculture	0.00	0.01
Industrial Processes - Mineral Processes	23.71	0.95
Industrial Processes - Metal Processes	0.48	0.00
Industrial Processes - Electronics	0.00	0.01
Industrial Processes - Other (Industrial Processes)	1.60	0.18
Stationary Total	**34.05**	**13.74**
Area-Wide Sources	**NOX**	**VOC**
Solvent Evaporation - Consumer Products	0.00	4.63
Solvent Evaporation - Architectural Coatings And Related Process Solvents	0.00	2.81
Solvent Evaporation - Pesticides/Fertilizers	0.00	0.11
Solvent Evaporation - Asphalt Paving / Roofing	0.00	0.32
Miscellaneous Processes - Residential Fuel Combustion	0.67	0.12
Miscellaneous Processes - Farming Operations	0.00	2.07
Miscellaneous Processes - Fires	0.01	0.02
Miscellaneous Processes - Managed Burning And Disposal	0.28	0.73
Miscellaneous Processes - Cooking	0.00	0.71
Area-Wide Total	**0.96**	**11.51**
Mobile Sources	**NOX**	**VOC**
On-Road Motor Vehicles - Light Duty Passenger (LDA)	3.72	5.99
On-Road Motor Vehicles - Light Duty Trucks - 1 (LDT1)	1.07	1.95
On-Road Motor Vehicles - Light Duty Trucks - 2 (LDT2)	2.53	2.66
On-Road Motor Vehicles - Medium Duty Trucks (MDV)	2.85	2.29
On-Road Motor Vehicles - Light Heavy Duty Gas Trucks - 1 (LHDV1)	0.86	0.76
On-Road Motor Vehicles - Light Heavy Duty Gas Trucks - 2 (LHDV2)	0.09	0.07

Los Angeles-San Bernardino Counties (Western Mojave Desert) - 2012 Average Summer Daily Emissions (tons/day)

Mobile Sources (Continued)	NOX	VOC
On-Road Motor Vehicles - Medium Heavy Duty Gas Trucks (MHDV)	0.21	0.13
On-Road Motor Vehicles - Heavy Heavy Duty Gas Trucks (HHDV)	0.08	0.04
On-Road Motor Vehicles - Light Heavy Duty Diesel Trucks - 1 (LHDV1)	3.83	0.10
On-Road Motor Vehicles - Light Heavy Duty Diesel Trucks - 2 (LHDV2)	1.01	0.03
On-Road Motor Vehicles - Medium Heavy Duty Diesel Trucks (MHDV)	1.77	0.11
On-Road Motor Vehicles - Heavy Heavy Duty Diesel Trucks (HHDV)	20.16	1.36
On-Road Motor Vehicles - Motorcycles (MCY)	0.43	1.71
On-Road Motor Vehicles - Heavy Duty Diesel Urban Buses (UB)	0.98	0.06
On-Road Motor Vehicles - Heavy Duty Gas Urban Buses (UB)	0.09	0.06
On-Road Motor Vehicles - School Buses - Gas (SBG)	0.00	0.00
On-Road Motor Vehicles - School Buses - Diesel (SBD)	0.09	0.01
On-Road Motor Vehicles - Other Buses - Gas (OBG)	0.02	0.01
On-Road Motor Vehicles - Other Buses - Motor Coach - Diesel (OBC)	0.04	0.00
On-Road Motor Vehicles - All Other Buses - Diesel (OBD)	0.06	0.00
On-Road Motor Vehicles - Motor Homes (MH)	0.17	0.05
Other Mobile Sources - Aircraft	1.12	1.39
Other Mobile Sources - Trains	15.73	1.59
Other Mobile Sources - Recreational Boats	0.07	0.45
Other Mobile Sources - Off-Road Recreational Vehicles	0.03	0.99
Other Mobile Sources - Off-Road Equipment	2.23	1.89
Other Mobile Sources - Farm Equipment	0.14	0.04
Other Mobile Sources - Fuel Storage And Handling	0.00	0.53
Mobile Total	**59.39**	**24.24**
Grand Total for Los Angeles-San Bernardino Counties (Western Mojave Desert)	**94.40**	**49.49**

Los Angeles-South Coast Air Basin - 2012 Average Summer Daily Emissions (tons/day)

Stationary Sources	NOX	VOC
Fuel Combustion - Electric Utilities	2.64	1.07
Fuel Combustion - Cogeneration	0.56	0.09
Fuel Combustion - Oil And Gas Production (Combustion)	1.46	0.10
Fuel Combustion - Petroleum Refining (Combustion)	8.35	1.01
Fuel Combustion - Manufacturing And Industrial	16.43	5.14
Fuel Combustion - Food And Agricultural Processing	0.26	0.03
Fuel Combustion - Service And Commercial	11.49	0.93
Fuel Combustion - Other (Fuel Combustion)	5.91	0.63
Waste Disposal - Sewage Treatment	0.01	0.34
Waste Disposal - Landfills	0.59	3.99
Waste Disposal - Incinerators	1.55	0.07
Waste Disposal - Soil Remediation	0.00	0.00
Waste Disposal - Other (Waste Disposal)	0.00	2.84
Cleaning And Surface Coatings - Laundering	0.00	0.13
Cleaning And Surface Coatings - Degreasing	0.00	10.21
Cleaning And Surface Coatings - Coatings And Related Process Solvents	0.02	18.84
Cleaning And Surface Coatings - Printing	0.00	1.81
Cleaning And Surface Coatings - Adhesives And Sealants	0.00	3.50
Cleaning And Surface Coatings - Other (Cleaning And Surface Coatings)	0.08	0.64
Petroleum Production And Marketing - Oil And Gas Production	0.01	1.04
Petroleum Production And Marketing - Petroleum Refining	1.31	4.57
Petroleum Production And Marketing - Petroleum Marketing	0.01	34.32
Petroleum Production And Marketing - Other (Petroleum Production And Marketing)	0.00	0.08
Industrial Processes - Chemical	0.01	5.09
Industrial Processes - Food And Agriculture	0.00	1.14
Industrial Processes - Mineral Processes	0.33	0.65
Industrial Processes - Metal Processes	0.04	0.12
Industrial Processes - Wood And Paper	0.00	0.24
Industrial Processes - Glass And Related Products	0.00	0.00
Industrial Processes - Electronics	0.00	0.02
Industrial Processes - Other (Industrial Processes)	0.02	3.05
Stationary Total	**51.06**	**101.68**
Area-Wide Sources	**NOX**	**VOC**
Solvent Evaporation - Consumer Products	0.00	89.95
Solvent Evaporation - Architectural Coatings And Related Process Solvents	0.00	21.50
Solvent Evaporation - Pesticides/Fertilizers	0.00	1.47
Solvent Evaporation - Asphalt Paving / Roofing	0.00	0.88
Miscellaneous Processes - Residential Fuel Combustion	14.22	2.30
Miscellaneous Processes - Farming Operations	0.00	2.69
Miscellaneous Processes - Fires	0.08	0.24
Miscellaneous Processes - Managed Burning And Disposal	0.02	0.36
Miscellaneous Processes - Cooking	0.00	1.71
Miscellaneous Processes - Other (Miscellaneous Processes)	0.00	0.00
Area-Wide Total	**14.31**	**121.09**

Los Angeles-South Coast Air Basin - 2012 Average Summer Daily Emissions (tons/day)

Mobile Sources	NOX	VOC
On-Road Motor Vehicles - Light Duty Passenger (LDA)	39.16	62.21
On-Road Motor Vehicles - Light Duty Trucks - 1 (LDT1)	9.53	16.67
On-Road Motor Vehicles - Light Duty Trucks - 2 (LDT2)	24.73	23.96
On-Road Motor Vehicles - Medium Duty Trucks (MDV)	25.20	20.01
On-Road Motor Vehicles - Light Heavy Duty Gas Trucks - 1 (LHDV1)	8.47	6.60
On-Road Motor Vehicles - Light Heavy Duty Gas Trucks - 2 (LHDV2)	1.34	0.95
On-Road Motor Vehicles - Medium Heavy Duty Gas Trucks (MHDV)	2.89	1.77
On-Road Motor Vehicles - Heavy Heavy Duty Gas Trucks (HHDV)	0.61	0.37
On-Road Motor Vehicles - Light Heavy Duty Diesel Trucks - 1 (LHDV1)	18.04	0.46
On-Road Motor Vehicles - Light Heavy Duty Diesel Trucks - 2 (LHDV2)	5.67	0.15
On-Road Motor Vehicles - Medium Heavy Duty Diesel Trucks (MHDV)	44.34	2.76
On-Road Motor Vehicles - Heavy Heavy Duty Diesel Trucks (HHDV)	108.74	7.73
On-Road Motor Vehicles - Motorcycles (MCY)	1.78	9.04
On-Road Motor Vehicles - Heavy Duty Diesel Urban Buses (UB)	18.73	1.04
On-Road Motor Vehicles - Heavy Duty Gas Urban Buses (UB)	0.69	0.54
On-Road Motor Vehicles - School Buses - Gas (SBG)	0.09	0.07
On-Road Motor Vehicles - School Buses - Diesel (SBD)	2.16	0.18
On-Road Motor Vehicles - Other Buses - Gas (OBG)	0.86	0.42
On-Road Motor Vehicles - Other Buses - Motor Coach - Diesel (OBC)	2.71	0.13
On-Road Motor Vehicles - All Other Buses - Diesel (OBD)	3.48	0.23
On-Road Motor Vehicles - Motor Homes (MH)	1.10	0.29
Other Mobile Sources - Aircraft	13.51	3.27
Other Mobile Sources - Trains	20.21	1.74
Other Mobile Sources - Ocean Going Vessels	12.67	0.77
Other Mobile Sources - Commercial Harbor Craft	6.04	0.47
Other Mobile Sources - Recreational Boats	7.95	48.14
Other Mobile Sources - Off-Road Recreational Vehicles	0.05	3.97
Other Mobile Sources - Off-Road Equipment	70.03	59.57
Other Mobile Sources - Farm Equipment	3.16	0.88
Other Mobile Sources - Fuel Storage And Handling	0.00	11.42
Mobile Total	**453.91**	**285.77**
Grand Total for Los Angeles-South Coast Air Basin	**519.28**	**508.54**

Mariposa County - 2012 Average Summer Daily Emissions (tons/day)

Stationary Sources	NOX	VOC
Fuel Combustion - Food And Agricultural Processing	0.00	0.00
Fuel Combustion - Other (Fuel Combustion)	0.01	0.00
Cleaning And Surface Coatings - Laundering	0.00	0.00
Cleaning And Surface Coatings - Degreasing	0.00	0.01
Cleaning And Surface Coatings - Coatings And Related Process Solvents	0.00	0.01
Cleaning And Surface Coatings - Adhesives And Sealants	0.00	0.01
Petroleum Production And Marketing - Petroleum Marketing	0.00	0.04
Industrial Processes - Food And Agriculture	0.00	0.00
Industrial Processes - Mineral Processes	0.01	0.00
Stationary Total	**0.02**	**0.08**
Area-Wide Sources	**NOX**	**VOC**
Solvent Evaporation - Consumer Products	0.00	0.10
Solvent Evaporation - Architectural Coatings And Related Process Solvents	0.00	0.07
Solvent Evaporation - Pesticides/Fertilizers	0.00	0.00
Solvent Evaporation - Asphalt Paving / Roofing	0.00	0.57
Miscellaneous Processes - Residential Fuel Combustion	0.01	0.03
Miscellaneous Processes - Farming Operations	0.00	0.36
Miscellaneous Processes - Fires	0.00	0.00
Miscellaneous Processes - Managed Burning And Disposal	0.03	0.75
Miscellaneous Processes - Cooking	0.00	0.00
Area-Wide Total	**0.04**	**1.88**
Mobile Sources	**NOX**	**VOC**
On-Road Motor Vehicles - Light Duty Passenger (LDA)	0.07	0.12
On-Road Motor Vehicles - Light Duty Trucks - 1 (LDT1)	0.06	0.11
On-Road Motor Vehicles - Light Duty Trucks - 2 (LDT2)	0.08	0.10
On-Road Motor Vehicles - Medium Duty Trucks (MDV)	0.10	0.09
On-Road Motor Vehicles - Light Heavy Duty Gas Trucks - 1 (LHDV1)	0.05	0.06
On-Road Motor Vehicles - Light Heavy Duty Gas Trucks - 2 (LHDV2)	0.00	0.00
On-Road Motor Vehicles - Medium Heavy Duty Gas Trucks (MHDV)	0.01	0.01
On-Road Motor Vehicles - Heavy Heavy Duty Gas Trucks (HHDV)	0.00	0.00
On-Road Motor Vehicles - Light Heavy Duty Diesel Trucks - 1 (LHDV1)	0.18	0.01
On-Road Motor Vehicles - Light Heavy Duty Diesel Trucks - 2 (LHDV2)	0.04	0.00
On-Road Motor Vehicles - Medium Heavy Duty Diesel Trucks (MHDV)	0.04	0.00
On-Road Motor Vehicles - Heavy Heavy Duty Diesel Trucks (HHDV)	0.05	0.01
On-Road Motor Vehicles - Motorcycles (MCY)	0.01	0.03
On-Road Motor Vehicles - Heavy Duty Diesel Urban Buses (UB)	0.00	0.00
On-Road Motor Vehicles - Heavy Duty Gas Urban Buses (UB)	0.00	0.00
On-Road Motor Vehicles - School Buses - Gas (SBG)	0.00	0.00
On-Road Motor Vehicles - School Buses - Diesel (SBD)	0.01	0.00
On-Road Motor Vehicles - Other Buses - Gas (OBG)	0.00	0.00
On-Road Motor Vehicles - Other Buses - Motor Coach - Diesel (OBC)	0.00	0.00
On-Road Motor Vehicles - All Other Buses - Diesel (OBD)	0.00	0.00
On-Road Motor Vehicles - Motor Homes (MH)	0.01	0.00
Other Mobile Sources - Aircraft	0.00	0.00
Other Mobile Sources - Recreational Boats	0.20	1.17

Mariposa County - 2012 Average Summer Daily Emissions (tons/day)

Mobile Sources (Continued)	NOX	VOC
Other Mobile Sources - Off-Road Recreational Vehicles	0.01	0.12
Other Mobile Sources - Off-Road Equipment	0.06	0.06
Other Mobile Sources - Farm Equipment	0.06	0.02
Other Mobile Sources - Fuel Storage And Handling	0.00	0.01
Mobile Total	**1.04**	**1.92**
Grand Total for Mariposa County	**1.10**	**3.88**

Nevada County (Western Nevada) - 2012 Average Summer Daily Emissions (tons/day)

Stationary Sources	NOX	VOC
Fuel Combustion - Electric Utilities	0.00	0.00
Fuel Combustion - Manufacturing And Industrial	0.00	0.00
Fuel Combustion - Food And Agricultural Processing	0.02	0.00
Fuel Combustion - Service And Commercial	0.04	0.00
Fuel Combustion - Other (Fuel Combustion)	0.04	0.00
Waste Disposal - Landfills	0.00	0.00
Waste Disposal - Incinerators	0.00	0.00
Cleaning And Surface Coatings - Degreasing	0.00	0.22
Cleaning And Surface Coatings - Coatings And Related Process Solvents	0.00	0.10
Cleaning And Surface Coatings - Printing	0.00	0.09
Cleaning And Surface Coatings - Adhesives And Sealants	0.00	0.05
Cleaning And Surface Coatings - Other (Cleaning And Surface Coatings)	0.00	0.00
Petroleum Production And Marketing - Petroleum Marketing	0.00	0.20
Industrial Processes - Chemical	0.00	0.06
Industrial Processes - Food And Agriculture	0.00	0.00
Industrial Processes - Mineral Processes	0.02	0.01
Industrial Processes - Metal Processes	0.00	0.00
Stationary Total	**0.12**	**0.73**
Area-Wide Sources	**NOX**	**VOC**
Solvent Evaporation - Consumer Products	0.00	0.46
Solvent Evaporation - Architectural Coatings And Related Process Solvents	0.00	0.31
Solvent Evaporation - Pesticides/Fertilizers	0.00	0.01
Solvent Evaporation - Asphalt Paving / Roofing	0.00	0.26
Miscellaneous Processes - Residential Fuel Combustion	0.13	0.14
Miscellaneous Processes - Farming Operations	0.00	0.12
Miscellaneous Processes - Fires	0.00	0.00
Miscellaneous Processes - Managed Burning And Disposal	0.00	0.09
Miscellaneous Processes - Cooking	0.00	0.02
Area-Wide Total	**0.13**	**1.42**
Mobile Sources	**NOX**	**VOC**
On-Road Motor Vehicles - Light Duty Passenger (LDA)	0.28	0.44
On-Road Motor Vehicles - Light Duty Trucks - 1 (LDT1)	0.08	0.16
On-Road Motor Vehicles - Light Duty Trucks - 2 (LDT2)	0.41	0.43
On-Road Motor Vehicles - Medium Duty Trucks (MDV)	0.33	0.27
On-Road Motor Vehicles - Light Heavy Duty Gas Trucks - 1 (LHDV1)	0.13	0.12
On-Road Motor Vehicles - Light Heavy Duty Gas Trucks - 2 (LHDV2)	0.01	0.01
On-Road Motor Vehicles - Medium Heavy Duty Gas Trucks (MHDV)	0.02	0.01
On-Road Motor Vehicles - Heavy Heavy Duty Gas Trucks (HHDV)	0.00	0.00
On-Road Motor Vehicles - Light Heavy Duty Diesel Trucks - 1 (LHDV1)	0.76	0.03
On-Road Motor Vehicles - Light Heavy Duty Diesel Trucks - 2 (LHDV2)	0.12	0.01
On-Road Motor Vehicles - Medium Heavy Duty Diesel Trucks (MHDV)	0.25	0.02
On-Road Motor Vehicles - Heavy Heavy Duty Diesel Trucks (HHDV)	1.55	0.12
On-Road Motor Vehicles - Motorcycles (MCY)	0.03	0.15
On-Road Motor Vehicles - Heavy Duty Diesel Urban Buses (UB)	0.01	0.00
On-Road Motor Vehicles - Heavy Duty Gas Urban Buses (UB)	0.01	0.00

Nevada County (Western Nevada) - 2012 Average Summer Daily Emissions (tons/day)

Mobile Sources (Continued)	NOX	VOC
On-Road Motor Vehicles - Motor Homes (MH)	0.03	0.01
Other Mobile Sources - Aircraft	0.01	0.05
Other Mobile Sources - Trains	0.10	0.01
Other Mobile Sources - Recreational Boats	0.14	0.86
Other Mobile Sources - Off-Road Recreational Vehicles	0.01	0.15
Other Mobile Sources - Farm Equipment	0.14	0.03
Other Mobile Sources - Fuel Storage And Handling	0.00	0.06
Mobile Total	**4.38**	**2.95**
Grand Total for Nevada County (Western Nevada)	**4.63**	**5.10**

Riverside County (Coachella Valley) - 2012 Average Summer Daily Emissions (tons/day)

Stationary Sources	NOX	VOC
Fuel Combustion - Electric Utilities	0.25	0.07
Fuel Combustion - Cogeneration	0.19	0.00
Fuel Combustion - Manufacturing And Industrial	1.14	0.46
Fuel Combustion - Food And Agricultural Processing	0.03	0.00
Fuel Combustion - Service And Commercial	1.65	0.09
Fuel Combustion - Other (Fuel Combustion)	0.71	0.08
Waste Disposal - Sewage Treatment	0.00	0.08
Waste Disposal - Landfills	0.04	0.71
Waste Disposal - Incinerators	0.06	0.00
Waste Disposal - Soil Remediation	0.00	0.00
Waste Disposal - Other (Waste Disposal)	0.00	0.76
Cleaning And Surface Coatings - Laundering	0.00	0.02
Cleaning And Surface Coatings - Degreasing	0.00	0.69
Cleaning And Surface Coatings - Coatings And Related Process Solvents	0.00	3.89
Cleaning And Surface Coatings - Printing	0.00	0.23
Cleaning And Surface Coatings - Adhesives And Sealants	0.00	0.64
Cleaning And Surface Coatings - Other (Cleaning And Surface Coatings)	0.00	0.06
Petroleum Production And Marketing - Petroleum Refining	0.00	0.00
Petroleum Production And Marketing - Petroleum Marketing	0.00	4.07
Petroleum Production And Marketing - Other (Petroleum Production And Marketing)	0.00	0.00
Industrial Processes - Chemical	0.00	0.88
Industrial Processes - Food And Agriculture	0.00	0.19
Industrial Processes - Mineral Processes	0.02	0.03
Industrial Processes - Metal Processes	0.00	0.00
Industrial Processes - Electronics	0.00	0.00
Industrial Processes - Other (Industrial Processes)	0.01	0.25
Stationary Total	**4.09**	**13.19**
Area-Wide Sources	**NOX**	**VOC**
Solvent Evaporation - Consumer Products	0.00	11.59
Solvent Evaporation - Architectural Coatings And Related Process Solvents	0.00	2.92
Solvent Evaporation - Pesticides/Fertilizers	0.00	0.59
Solvent Evaporation - Asphalt Paving / Roofing	0.00	0.22
Miscellaneous Processes - Residential Fuel Combustion	1.64	0.44
Miscellaneous Processes - Farming Operations	0.00	1.24
Miscellaneous Processes - Fires	0.01	0.03
Miscellaneous Processes - Managed Burning And Disposal	0.00	0.01
Miscellaneous Processes - Cooking	0.00	0.18
Area-Wide Total	**1.65**	**17.21**
Mobile Sources	**NOX**	**VOC**
On-Road Motor Vehicles - Light Duty Passenger (LDA)	4.39	7.44
On-Road Motor Vehicles - Light Duty Trucks - 1 (LDT1)	1.23	2.40
On-Road Motor Vehicles - Light Duty Trucks - 2 (LDT2)	2.75	2.88
On-Road Motor Vehicles - Medium Duty Trucks (MDV)	3.71	3.00
On-Road Motor Vehicles - Light Heavy Duty Gas Trucks - 1 (LHDV1)	1.11	0.85
On-Road Motor Vehicles - Light Heavy Duty Gas Trucks - 2 (LHDV2)	0.15	0.10

Riverside County (Coachella Valley) - 2012 Average Summer Daily Emissions (tons/day)

Mobile Sources (Continued)	NOX	VOC
On-Road Motor Vehicles - Medium Heavy Duty Gas Trucks (MHDV)	0.27	0.17
On-Road Motor Vehicles - Heavy Heavy Duty Gas Trucks (HHDV)	0.07	0.04
On-Road Motor Vehicles - Light Heavy Duty Diesel Trucks - 1 (LHDV1)	4.81	0.11
On-Road Motor Vehicles - Light Heavy Duty Diesel Trucks - 2 (LHDV2)	1.40	0.03
On-Road Motor Vehicles - Medium Heavy Duty Diesel Trucks (MHDV)	5.70	0.33
On-Road Motor Vehicles - Heavy Heavy Duty Diesel Trucks (HHDV)	26.00	1.66
On-Road Motor Vehicles - Motorcycles (MCY)	0.30	1.42
On-Road Motor Vehicles - Heavy Duty Diesel Urban Buses (UB)	0.75	0.04
On-Road Motor Vehicles - Heavy Duty Gas Urban Buses (UB)	0.10	0.06
On-Road Motor Vehicles - School Buses - Gas (SBG)	0.01	0.01
On-Road Motor Vehicles - School Buses - Diesel (SBD)	0.42	0.03
On-Road Motor Vehicles - Other Buses - Gas (OBG)	0.09	0.04
On-Road Motor Vehicles - Other Buses - Motor Coach - Diesel (OBC)	0.18	0.01
On-Road Motor Vehicles - All Other Buses - Diesel (OBD)	0.23	0.01
On-Road Motor Vehicles - Motor Homes (MH)	0.24	0.04
Other Mobile Sources - Aircraft	0.31	0.19
Other Mobile Sources - Trains	4.17	0.39
Other Mobile Sources - Recreational Boats	0.73	4.87
Other Mobile Sources - Off-Road Recreational Vehicles	0.03	1.59
Other Mobile Sources - Off-Road Equipment	10.53	7.97
Other Mobile Sources - Farm Equipment	2.31	0.58
Other Mobile Sources - Fuel Storage And Handling	0.00	1.50
Mobile Total	**71.99**	**37.76**
Grand Total for Riverside County (Coachella Valley)	**77.73**	**68.15**

Sacramento Metropolitan Area - 2012 Average Summer Daily Emissions (tons/day)

Stationary Sources	NOX	VOC
Fuel Combustion - Electric Utilities	0.93	0.18
Fuel Combustion - Cogeneration	0.00	0.00
Fuel Combustion - Oil And Gas Production (Combustion)	0.16	0.06
Fuel Combustion - Manufacturing And Industrial	1.03	0.12
Fuel Combustion - Food And Agricultural Processing	0.96	0.13
Fuel Combustion - Service And Commercial	1.48	0.24
Fuel Combustion - Other (Fuel Combustion)	0.83	0.11
Waste Disposal - Sewage Treatment	0.00	0.03
Waste Disposal - Landfills	0.04	0.78
Waste Disposal - Incinerators	0.02	0.00
Waste Disposal - Soil Remediation	0.00	0.01
Waste Disposal - Other (Waste Disposal)	0.00	2.10
Cleaning And Surface Coatings - Laundering	0.00	0.07
Cleaning And Surface Coatings - Degreasing	0.00	1.57
Cleaning And Surface Coatings - Coatings And Related Process Solvents	0.01	2.57
Cleaning And Surface Coatings - Printing	0.00	1.10
Cleaning And Surface Coatings - Adhesives And Sealants	0.00	0.68
Cleaning And Surface Coatings - Other (Cleaning And Surface Coatings)	0.00	0.16
Petroleum Production And Marketing - Oil And Gas Production	0.00	0.59
Petroleum Production And Marketing - Petroleum Marketing	0.01	4.32
Petroleum Production And Marketing - Other (Petroleum Production And Marketing)	0.00	0.01
Industrial Processes - Chemical	0.04	1.47
Industrial Processes - Food And Agriculture	0.01	0.42
Industrial Processes - Mineral Processes	0.32	0.15
Industrial Processes - Metal Processes	0.01	0.00
Industrial Processes - Wood And Paper	0.04	0.70
Industrial Processes - Electronics	0.00	0.00
Industrial Processes - Other (Industrial Processes)	0.01	0.22
Stationary Total	**5.90**	**17.78**
Area-Wide Sources	**NOX**	**VOC**
Solvent Evaporation - Consumer Products	0.00	11.69
Solvent Evaporation - Architectural Coatings And Related Process Solvents	0.00	7.27
Solvent Evaporation - Pesticides/Fertilizers	0.00	0.75
Solvent Evaporation - Asphalt Paving / Roofing	0.00	0.91
Miscellaneous Processes - Residential Fuel Combustion	2.17	1.86
Miscellaneous Processes - Farming Operations	0.00	2.62
Miscellaneous Processes - Fires	0.01	0.04
Miscellaneous Processes - Managed Burning And Disposal	0.18	0.53
Miscellaneous Processes - Cooking	0.00	0.15
Area-Wide Total	**2.36**	**25.81**
Mobile Sources	**NOX**	**VOC**
On-Road Motor Vehicles - Light Duty Passenger (LDA)	5.68	10.45
On-Road Motor Vehicles - Light Duty Trucks - 1 (LDT1)	1.45	3.30
On-Road Motor Vehicles - Light Duty Trucks - 2 (LDT2)	3.69	4.35
On-Road Motor Vehicles - Medium Duty Trucks (MDV)	4.11	3.81

Sacramento Metropolitan Area - 2012 Average Summer Daily Emissions (tons/day)

Mobile Sources (Continued)	NOX	VOC
On-Road Motor Vehicles - Light Heavy Duty Gas Trucks - 1 (LHDV1)	1.61	1.38
On-Road Motor Vehicles - Light Heavy Duty Gas Trucks - 2 (LHDV2)	0.18	0.14
On-Road Motor Vehicles - Medium Heavy Duty Gas Trucks (MHDV)	0.48	0.44
On-Road Motor Vehicles - Heavy Heavy Duty Gas Trucks (HHDV)	0.16	0.16
On-Road Motor Vehicles - Light Heavy Duty Diesel Trucks - 1 (LHDV1)	6.38	0.26
On-Road Motor Vehicles - Light Heavy Duty Diesel Trucks - 2 (LHDV2)	1.37	0.06
On-Road Motor Vehicles - Medium Heavy Duty Diesel Trucks (MHDV)	6.39	0.53
On-Road Motor Vehicles - Heavy Heavy Duty Diesel Trucks (HHDV)	16.33	1.24
On-Road Motor Vehicles - Motorcycles (MCY)	0.46	2.44
On-Road Motor Vehicles - Heavy Duty Diesel Urban Buses (UB)	1.89	0.11
On-Road Motor Vehicles - Heavy Duty Gas Urban Buses (UB)	0.10	0.06
On-Road Motor Vehicles - School Buses - Gas (SBG)	0.03	0.03
On-Road Motor Vehicles - School Buses - Diesel (SBD)	0.30	0.02
On-Road Motor Vehicles - Other Buses - Gas (OBG)	0.16	0.08
On-Road Motor Vehicles - Other Buses - Motor Coach - Diesel (OBC)	0.38	0.02
On-Road Motor Vehicles - All Other Buses - Diesel (OBD)	0.51	0.04
On-Road Motor Vehicles - Motor Homes (MH)	0.25	0.06
Other Mobile Sources - Aircraft	1.62	0.44
Other Mobile Sources - Trains	5.47	0.33
Other Mobile Sources - Ocean Going Vessels	0.02	0.00
Other Mobile Sources - Commercial Harbor Craft	0.53	0.04
Other Mobile Sources - Recreational Boats	2.03	12.90
Other Mobile Sources - Off-Road Recreational Vehicles	0.04	1.44
Other Mobile Sources - Off-Road Equipment	8.93	7.38
Other Mobile Sources - Farm Equipment	5.33	1.11
Other Mobile Sources - Fuel Storage And Handling	0.00	1.56
Mobile Total	**75.84**	**54.20**
Grand Total for Sacramento Metropolitan Area	**84.10**	**97.79**

San Diego County - 2012 Average Summer Daily Emissions (tons/day)

Stationary Sources	NOX	VOC
Fuel Combustion - Electric Utilities	0.52	0.07
Fuel Combustion - Cogeneration	0.22	0.04
Fuel Combustion - Manufacturing And Industrial	0.91	0.08
Fuel Combustion - Food And Agricultural Processing	0.32	0.03
Fuel Combustion - Service And Commercial	1.07	0.23
Fuel Combustion - Other (Fuel Combustion)	1.43	0.17
Waste Disposal - Sewage Treatment	0.07	0.03
Waste Disposal - Landfills	0.23	2.07
Waste Disposal - Incinerators	0.00	0.00
Waste Disposal - Other (Waste Disposal)	0.00	0.25
Cleaning And Surface Coatings - Laundering	0.00	0.10
Cleaning And Surface Coatings - Degreasing	0.00	1.49
Cleaning And Surface Coatings - Coatings And Related Process Solvents	0.00	6.86
Cleaning And Surface Coatings - Printing	0.00	4.33
Cleaning And Surface Coatings - Adhesives And Sealants	0.00	2.44
Cleaning And Surface Coatings - Other (Cleaning And Surface Coatings)	0.00	0.09
Petroleum Production And Marketing - Petroleum Marketing	0.01	8.81
Petroleum Production And Marketing - Other (Petroleum Production And Marketing)	0.00	0.00
Industrial Processes - Chemical	0.00	1.52
Industrial Processes - Food And Agriculture	0.00	0.05
Industrial Processes - Mineral Processes	0.16	0.19
Industrial Processes - Metal Processes	0.01	0.01
Industrial Processes - Other (Industrial Processes)	0.03	0.54
Stationary Total	**4.96**	**29.41**
Area-Wide Sources	**NOX**	**VOC**
Solvent Evaporation - Consumer Products	0.00	18.47
Solvent Evaporation - Architectural Coatings And Related Process Solvents	0.00	11.67
Solvent Evaporation - Pesticides/Fertilizers	0.00	0.67
Solvent Evaporation - Asphalt Paving / Roofing	0.00	1.83
Miscellaneous Processes - Residential Fuel Combustion	1.68	0.51
Miscellaneous Processes - Farming Operations	0.00	1.27
Miscellaneous Processes - Fires	0.02	0.05
Miscellaneous Processes - Managed Burning And Disposal	0.01	0.10
Miscellaneous Processes - Cooking	0.00	2.04
Area-Wide Total	**1.70**	**36.60**
Mobile Sources	**NOX**	**VOC**
On-Road Motor Vehicles - Light Duty Passenger (LDA)	8.64	12.18
On-Road Motor Vehicles - Light Duty Trucks - 1 (LDT1)	2.06	3.58
On-Road Motor Vehicles - Light Duty Trucks - 2 (LDT2)	5.08	4.71
On-Road Motor Vehicles - Medium Duty Trucks (MDV)	4.69	3.57
On-Road Motor Vehicles - Light Heavy Duty Gas Trucks - 1 (LHDV1)	1.76	1.41
On-Road Motor Vehicles - Light Heavy Duty Gas Trucks - 2 (LHDV2)	0.22	0.16
On-Road Motor Vehicles - Medium Heavy Duty Gas Trucks (MHDV)	0.50	0.32
On-Road Motor Vehicles - Heavy Heavy Duty Gas Trucks (HHDV)	0.11	0.06
On-Road Motor Vehicles - Light Heavy Duty Diesel Trucks - 1 (LHDV1)	5.44	0.22

San Diego County - 2012 Average Summer Daily Emissions (tons/day)

Mobile Sources (Continued)	NOX	VOC
On-Road Motor Vehicles - Light Heavy Duty Diesel Trucks - 2 (LHDV2)	1.30	0.05
On-Road Motor Vehicles - Medium Heavy Duty Diesel Trucks (MHDV)	8.18	0.67
On-Road Motor Vehicles - Heavy Heavy Duty Diesel Trucks (HHDV)	20.07	1.49
On-Road Motor Vehicles - Motorcycles (MCY)	0.67	2.81
On-Road Motor Vehicles - Heavy Duty Diesel Urban Buses (UB)	3.49	0.21
On-Road Motor Vehicles - Heavy Duty Gas Urban Buses (UB)	0.07	0.05
On-Road Motor Vehicles - School Buses - Gas (SBG)	0.03	0.02
On-Road Motor Vehicles - School Buses - Diesel (SBD)	0.50	0.04
On-Road Motor Vehicles - Other Buses - Gas (OBG)	0.20	0.09
On-Road Motor Vehicles - Other Buses - Motor Coach - Diesel (OBC)	0.57	0.03
On-Road Motor Vehicles - All Other Buses - Diesel (OBD)	0.77	0.06
On-Road Motor Vehicles - Motor Homes (MH)	0.42	0.11
Other Mobile Sources - Aircraft	5.76	3.59
Other Mobile Sources - Trains	1.46	0.09
Other Mobile Sources - Ocean Going Vessels	0.96	0.04
Other Mobile Sources - Commercial Harbor Craft	3.66	0.27
Other Mobile Sources - Recreational Boats	2.99	17.62
Other Mobile Sources - Off-Road Recreational Vehicles	0.02	0.99
Other Mobile Sources - Off-Road Equipment	14.06	13.03
Other Mobile Sources - Farm Equipment	2.55	0.60
Other Mobile Sources - Fuel Storage And Handling	0.00	2.25
Mobile Total	**96.21**	**70.32**
Grand Total for San Diego County	**102.87**	**136.33**

San Joaquin Valley - 2012 Average Summer Daily Emissions (tons/day)

Stationary Sources	NOX	VOC
Fuel Combustion - Electric Utilities	4.53	0.22
Fuel Combustion - Cogeneration	1.68	0.49
Fuel Combustion - Oil And Gas Production (Combustion)	2.75	1.17
Fuel Combustion - Petroleum Refining (Combustion)	0.19	0.10
Fuel Combustion - Manufacturing And Industrial	5.21	0.18
Fuel Combustion - Food And Agricultural Processing	15.51	1.68
Fuel Combustion - Service And Commercial	4.23	0.55
Fuel Combustion - Other (Fuel Combustion)	1.11	0.11
Waste Disposal - Sewage Treatment	0.03	0.03
Waste Disposal - Landfills	0.17	1.52
Waste Disposal - Incinerators	0.04	0.01
Waste Disposal - Soil Remediation	0.01	0.11
Waste Disposal - Other (Waste Disposal)	0.00	21.37
Cleaning And Surface Coatings - Laundering	0.00	0.09
Cleaning And Surface Coatings - Degreasing	0.00	1.53
Cleaning And Surface Coatings - Coatings And Related Process Solvents	0.00	7.86
Cleaning And Surface Coatings - Printing	0.00	4.85
Cleaning And Surface Coatings - Adhesives And Sealants	0.00	0.56
Cleaning And Surface Coatings - Other (Cleaning And Surface Coatings)	0.00	4.31
Petroleum Production And Marketing - Oil And Gas Production	0.36	25.94
Petroleum Production And Marketing - Petroleum Refining	0.01	0.79
Petroleum Production And Marketing - Petroleum Marketing	0.04	7.72
Petroleum Production And Marketing - Other (Petroleum Production And Marketing)	0.00	0.02
Industrial Processes - Chemical	0.30	4.80
Industrial Processes - Food And Agriculture	0.00	11.19
Industrial Processes - Mineral Processes	0.22	0.25
Industrial Processes - Metal Processes	0.00	0.16
Industrial Processes - Wood And Paper	0.00	3.34
Industrial Processes - Glass And Related Products	6.04	0.02
Industrial Processes - Electronics	0.00	0.00
Industrial Processes - Other (Industrial Processes)	0.00	0.78
Stationary Total	**42.44**	**101.73**
Area-Wide Sources	**NOX**	**VOC**
Solvent Evaporation - Consumer Products	0.00	22.23
Solvent Evaporation - Architectural Coatings And Related Process Solvents	0.00	10.23
Solvent Evaporation - Pesticides/Fertilizers	0.00	15.84
Solvent Evaporation - Asphalt Paving / Roofing	0.00	0.85
Miscellaneous Processes - Residential Fuel Combustion	3.90	0.50
Miscellaneous Processes - Farming Operations	0.00	107.78
Miscellaneous Processes - Fires	0.03	0.10
Miscellaneous Processes - Managed Burning And Disposal	1.88	2.80
Miscellaneous Processes - Cooking	0.00	0.58
Area-Wide Total	**5.81**	**160.91**

San Joaquin Valley - 2012 Average Summer Daily Emissions (tons/day)

Mobile Sources	NOX	VOC
On-Road Motor Vehicles - Light Duty Passenger (LDA)	9.49	16.91
On-Road Motor Vehicles - Light Duty Trucks - 1 (LDT1)	2.81	6.00
On-Road Motor Vehicles - Light Duty Trucks - 2 (LDT2)	6.91	8.37
On-Road Motor Vehicles - Medium Duty Trucks (MDV)	9.67	8.41
On-Road Motor Vehicles - Light Heavy Duty Gas Trucks - 1 (LHDV1)	2.71	2.39
On-Road Motor Vehicles - Light Heavy Duty Gas Trucks - 2 (LHDV2)	0.37	0.29
On-Road Motor Vehicles - Medium Heavy Duty Gas Trucks (MHDV)	0.74	0.69
On-Road Motor Vehicles - Heavy Heavy Duty Gas Trucks (HHDV)	0.22	0.14
On-Road Motor Vehicles - Light Heavy Duty Diesel Trucks - 1 (LHDV1)	11.32	0.46
On-Road Motor Vehicles - Light Heavy Duty Diesel Trucks - 2 (LHDV2)	2.64	0.11
On-Road Motor Vehicles - Medium Heavy Duty Diesel Trucks (MHDV)	15.63	1.36
On-Road Motor Vehicles - Heavy Heavy Duty Diesel Trucks (HHDV)	107.82	8.16
On-Road Motor Vehicles - Motorcycles (MCY)	0.79	3.76
On-Road Motor Vehicles - Heavy Duty Diesel Urban Buses (UB)	3.31	0.18
On-Road Motor Vehicles - Heavy Duty Gas Urban Buses (UB)	0.22	0.12
On-Road Motor Vehicles - School Buses - Gas (SBG)	0.08	0.05
On-Road Motor Vehicles - School Buses - Diesel (SBD)	0.90	0.07
On-Road Motor Vehicles - Other Buses - Gas (OBG)	0.25	0.13
On-Road Motor Vehicles - Other Buses - Motor Coach - Diesel (OBC)	0.65	0.03
On-Road Motor Vehicles - All Other Buses - Diesel (OBD)	0.91	0.08
On-Road Motor Vehicles - Motor Homes (MH)	0.40	0.10
Other Mobile Sources - Aircraft	2.55	3.00
Other Mobile Sources - Trains	16.42	1.06
Other Mobile Sources - Ocean Going Vessels	0.36	0.02
Other Mobile Sources - Commercial Harbor Craft	0.64	0.05
Other Mobile Sources - Recreational Boats	2.19	13.74
Other Mobile Sources - Off-Road Recreational Vehicles	0.11	3.47
Other Mobile Sources - Off-Road Equipment	26.33	11.76
Other Mobile Sources - Farm Equipment	61.34	11.38
Other Mobile Sources - Fuel Storage And Handling	0.00	2.80
Mobile Total	**287.77**	**105.07**
Grand Total for San Joaquin Valley	**336.01**	**367.71**

San Luis Obispo County (Eastern San Luis Obispo) - 2012 Average Summer Daily Emissions (tons/day)

Stationary Sources	NOX	VOC
Fuel Combustion - Oil And Gas Production (Combustion)	0.07	0.00
Fuel Combustion - Food And Agricultural Processing	0.10	0.03
Fuel Combustion - Service And Commercial	0.01	0.00
Petroleum Production And Marketing - Oil And Gas Production	0.00	0.06
Stationary Total	**0.17**	**0.10**
Area-Wide Sources	**NOX**	**VOC**
Solvent Evaporation - Consumer Products	0.00	0.01
Solvent Evaporation - Architectural Coatings And Related Process Solvents	0.00	0.01
Solvent Evaporation - Pesticides/Fertilizers	0.00	0.14
Solvent Evaporation - Asphalt Paving / Roofing	0.00	0.00
Miscellaneous Processes - Residential Fuel Combustion	0.00	0.01
Miscellaneous Processes - Fires	0.00	0.00
Miscellaneous Processes - Cooking	0.00	0.00
Area-Wide Total	**0.00**	**0.16**
Mobile Sources	**NOX**	**VOC**
On-Road Motor Vehicles - Light Duty Passenger (LDA)	0.04	0.06
On-Road Motor Vehicles - Light Duty Trucks - 1 (LDT1)	0.01	0.01
On-Road Motor Vehicles - Light Duty Trucks - 2 (LDT2)	0.04	0.04
On-Road Motor Vehicles - Medium Duty Trucks (MDV)	0.04	0.02
On-Road Motor Vehicles - Light Heavy Duty Gas Trucks - 1 (LHDV1)	0.01	0.01
On-Road Motor Vehicles - Light Heavy Duty Gas Trucks - 2 (LHDV2)	0.00	0.00
On-Road Motor Vehicles - Medium Heavy Duty Gas Trucks (MHDV)	0.00	0.00
On-Road Motor Vehicles - Heavy Heavy Duty Gas Trucks (HHDV)	0.00	0.00
On-Road Motor Vehicles - Light Heavy Duty Diesel Trucks - 1 (LHDV1)	0.06	0.00
On-Road Motor Vehicles - Light Heavy Duty Diesel Trucks - 2 (LHDV2)	0.01	0.00
On-Road Motor Vehicles - Medium Heavy Duty Diesel Trucks (MHDV)	0.04	0.00
On-Road Motor Vehicles - Heavy Heavy Duty Diesel Trucks (HHDV)	0.08	0.01
On-Road Motor Vehicles - Motorcycles (MCY)	0.00	0.02
On-Road Motor Vehicles - Heavy Duty Diesel Urban Buses (UB)	0.01	0.00
On-Road Motor Vehicles - Heavy Duty Gas Urban Buses (UB)	0.00	0.00
On-Road Motor Vehicles - School Buses - Gas (SBG)	0.00	0.00
On-Road Motor Vehicles - School Buses - Diesel (SBD)	0.00	0.00
On-Road Motor Vehicles - Other Buses - Gas (OBG)	0.00	0.00
On-Road Motor Vehicles - Other Buses - Motor Coach - Diesel (OBC)	0.00	0.00
On-Road Motor Vehicles - All Other Buses - Diesel (OBD)	0.00	0.00
On-Road Motor Vehicles - Motor Homes (MH)	0.00	0.00
Other Mobile Sources - Off-Road Recreational Vehicles	0.00	0.00
Other Mobile Sources - Off-Road Equipment	0.10	0.02
Other Mobile Sources - Farm Equipment	0.04	0.02
Other Mobile Sources - Fuel Storage And Handling	0.00	0.01
Mobile Total	**0.51**	**0.22**
Grand Total for San Luis Obispo County (Eastern San Luis Obispo)	**0.68**	**0.48**

Ventura County - 2012 Average Summer Daily Emissions (tons/day)

Stationary Sources	NOX	VOC
Fuel Combustion - Electric Utilities	0.48	0.10
Fuel Combustion - Cogeneration	0.00	0.00
Fuel Combustion - Oil And Gas Production (Combustion)	0.06	0.02
Fuel Combustion - Petroleum Refining (Combustion)	0.00	0.00
Fuel Combustion - Manufacturing And Industrial	0.21	0.02
Fuel Combustion - Food And Agricultural Processing	0.91	0.06
Fuel Combustion - Service And Commercial	0.28	0.03
Fuel Combustion - Other (Fuel Combustion)	0.28	0.03
Waste Disposal - Sewage Treatment	0.01	0.01
Waste Disposal - Landfills	0.09	0.12
Waste Disposal - Incinerators	0.00	0.00
Waste Disposal - Other (Waste Disposal)	0.00	1.68
Cleaning And Surface Coatings - Laundering	0.00	0.04
Cleaning And Surface Coatings - Degreasing	0.00	1.78
Cleaning And Surface Coatings - Coatings And Related Process Solvents	0.00	0.85
Cleaning And Surface Coatings - Printing	0.00	0.27
Cleaning And Surface Coatings - Adhesives And Sealants	0.00	0.40
Cleaning And Surface Coatings - Other (Cleaning And Surface Coatings)	0.00	0.40
Petroleum Production And Marketing - Oil And Gas Production	0.04	1.21
Petroleum Production And Marketing - Petroleum Marketing	0.00	1.07
Industrial Processes - Chemical	0.00	0.06
Industrial Processes - Food And Agriculture	0.00	0.01
Industrial Processes - Mineral Processes	0.00	0.02
Industrial Processes - Metal Processes	0.00	0.01
Industrial Processes - Wood And Paper	0.00	0.10
Industrial Processes - Electronics	0.00	0.02
Industrial Processes - Other (Industrial Processes)	0.06	0.36
Stationary Total	**2.42**	**8.66**
Area-Wide Sources	**NOX**	**VOC**
Solvent Evaporation - Consumer Products	0.00	4.80
Solvent Evaporation - Architectural Coatings And Related Process Solvents	0.00	2.31
Solvent Evaporation - Pesticides/Fertilizers	0.00	3.35
Solvent Evaporation - Asphalt Paving / Roofing	0.00	0.58
Miscellaneous Processes - Residential Fuel Combustion	1.11	0.39
Miscellaneous Processes - Farming Operations	0.00	0.12
Miscellaneous Processes - Fires	0.01	0.01
Miscellaneous Processes - Managed Burning And Disposal	0.08	0.14
Miscellaneous Processes - Cooking	0.00	0.06
Area-Wide Total	**1.20**	**11.76**
Mobile Sources	**NOX**	**VOC**
On-Road Motor Vehicles - Light Duty Passenger (LDA)	1.91	2.99
On-Road Motor Vehicles - Light Duty Trucks - 1 (LDT1)	0.46	0.84
On-Road Motor Vehicles - Light Duty Trucks - 2 (LDT2)	1.18	1.14
On-Road Motor Vehicles - Medium Duty Trucks (MDV)	1.32	1.05
On-Road Motor Vehicles - Light Heavy Duty Gas Trucks - 1 (LHDV1)	0.54	0.42

Ventura County - 2012 Average Summer Daily Emissions (tons/day)

Mobile Sources (Continued)	NOX	VOC
On-Road Motor Vehicles - Light Heavy Duty Gas Trucks - 2 (LHDV2)	0.08	0.05
On-Road Motor Vehicles - Medium Heavy Duty Gas Trucks (MHDV)	0.14	0.09
On-Road Motor Vehicles - Heavy Heavy Duty Gas Trucks (HHDV)	0.02	0.01
On-Road Motor Vehicles - Light Heavy Duty Diesel Trucks - 1 (LHDV1)	1.77	0.04
On-Road Motor Vehicles - Light Heavy Duty Diesel Trucks - 2 (LHDV2)	0.46	0.01
On-Road Motor Vehicles - Medium Heavy Duty Diesel Trucks (MHDV)	2.22	0.13
On-Road Motor Vehicles - Heavy Heavy Duty Diesel Trucks (HHDV)	3.83	0.26
On-Road Motor Vehicles - Motorcycles (MCY)	0.11	0.57
On-Road Motor Vehicles - Heavy Duty Diesel Urban Buses (UB)	0.15	0.01
On-Road Motor Vehicles - Heavy Duty Gas Urban Buses (UB)	0.01	0.01
On-Road Motor Vehicles - School Buses - Gas (SBG)	0.00	0.00
On-Road Motor Vehicles - School Buses - Diesel (SBD)	0.06	0.01
On-Road Motor Vehicles - Other Buses - Gas (OBG)	0.04	0.02
On-Road Motor Vehicles - Other Buses - Motor Coach - Diesel (OBC)	0.04	0.00
On-Road Motor Vehicles - All Other Buses - Diesel (OBD)	0.05	0.00
On-Road Motor Vehicles - Motor Homes (MH)	0.12	0.03
Other Mobile Sources - Aircraft	0.20	0.38
Other Mobile Sources - Trains	1.19	0.08
Other Mobile Sources - Ocean Going Vessels	0.84	0.04
Other Mobile Sources - Commercial Harbor Craft	0.96	0.09
Other Mobile Sources - Recreational Boats	0.57	3.51
Other Mobile Sources - Off-Road Recreational Vehicles	0.01	0.39
Other Mobile Sources - Off-Road Equipment	3.81	3.09
Other Mobile Sources - Farm Equipment	2.61	0.53
Other Mobile Sources - Fuel Storage And Handling	0.00	0.59
Mobile Total	**24.67**	**16.35**
Grand Total for Ventura County	**28.29**	**36.76**

Calaveras County - 2012 Average Summer Daily Emissions (tons/day)

Stationary Sources	NOX	VOC
Fuel Combustion - Manufacturing And Industrial	0.11	0.00
Fuel Combustion - Food And Agricultural Processing	0.01	0.00
Fuel Combustion - Service And Commercial	0.00	0.00
Fuel Combustion - Other (Fuel Combustion)	0.00	0.00
Cleaning And Surface Coatings - Degreasing	0.00	0.03
Cleaning And Surface Coatings - Coatings And Related Process Solvents	0.00	0.03
Cleaning And Surface Coatings - Adhesives And Sealants	0.00	0.06
Petroleum Production And Marketing - Petroleum Marketing	0.00	0.11
Industrial Processes - Food And Agriculture	0.00	0.00
Stationary Total	**0.12**	**0.23**
Area-Wide Sources	**NOX**	**VOC**
Solvent Evaporation - Consumer Products	0.00	0.26
Solvent Evaporation - Architectural Coatings And Related Process Solvents	0.00	0.17
Solvent Evaporation - Pesticides/Fertilizers	0.00	0.01
Solvent Evaporation - Asphalt Paving / Roofing	0.00	0.55
Miscellaneous Processes - Residential Fuel Combustion	0.02	0.11
Miscellaneous Processes - Farming Operations	0.00	0.41
Miscellaneous Processes - Fires	0.00	0.00
Miscellaneous Processes - Managed Burning And Disposal	0.06	0.30
Miscellaneous Processes - Cooking	0.00	0.01
Area-Wide Total	**0.09**	**1.82**
Mobile Sources	**NOX**	**VOC**
On-Road Motor Vehicles - Light Duty Passenger (LDA)	0.16	0.25
On-Road Motor Vehicles - Light Duty Trucks - 1 (LDT1)	0.09	0.19
On-Road Motor Vehicles - Light Duty Trucks - 2 (LDT2)	0.12	0.15
On-Road Motor Vehicles - Medium Duty Trucks (MDV)	0.18	0.17
On-Road Motor Vehicles - Light Heavy Duty Gas Trucks - 1 (LHDV1)	0.09	0.10
On-Road Motor Vehicles - Light Heavy Duty Gas Trucks - 2 (LHDV2)	0.01	0.01
On-Road Motor Vehicles - Medium Heavy Duty Gas Trucks (MHDV)	0.01	0.01
On-Road Motor Vehicles - Heavy Heavy Duty Gas Trucks (HHDV)	0.01	0.01
On-Road Motor Vehicles - Light Heavy Duty Diesel Trucks - 1 (LHDV1)	0.41	0.02
On-Road Motor Vehicles - Light Heavy Duty Diesel Trucks - 2 (LHDV2)	0.07	0.00
On-Road Motor Vehicles - Medium Heavy Duty Diesel Trucks (MHDV)	0.15	0.01
On-Road Motor Vehicles - Heavy Heavy Duty Diesel Trucks (HHDV)	0.33	0.03
On-Road Motor Vehicles - Motorcycles (MCY)	0.01	0.07
On-Road Motor Vehicles - Heavy Duty Diesel Urban Buses (UB)	0.00	0.00
On-Road Motor Vehicles - Heavy Duty Gas Urban Buses (UB)	0.00	0.00
On-Road Motor Vehicles - School Buses - Gas (SBG)	0.00	0.00
On-Road Motor Vehicles - School Buses - Diesel (SBD)	0.02	0.00
On-Road Motor Vehicles - Other Buses - Gas (OBG)	0.01	0.00
On-Road Motor Vehicles - Other Buses - Motor Coach - Diesel (OBC)	0.01	0.00
On-Road Motor Vehicles - All Other Buses - Diesel (OBD)	0.02	0.00
On-Road Motor Vehicles - Motor Homes (MH)	0.02	0.01
Other Mobile Sources - Aircraft	0.00	0.00
Other Mobile Sources - Recreational Boats	0.35	2.07

Calaveras County - 2012 Average Summer Daily Emissions (tons/day)

Mobile Sources (Continued)	NOX	VOC
Other Mobile Sources - Off-Road Recreational Vehicles	0.00	0.12
Other Mobile Sources - Off-Road Equipment	0.27	0.22
Other Mobile Sources - Farm Equipment	0.13	0.04
Other Mobile Sources - Fuel Storage And Handling	0.00	0.04
Mobile Total	**2.45**	**3.52**
Grand Total for Calaveras County	**2.66**	**5.56**

San Francisco Bay Area - 2012 Average Summer Daily Emissions (tons/day)

Stationary Sources	NOX	VOC
Fuel Combustion - Electric Utilities	2.23	0.27
Fuel Combustion - Cogeneration	2.81	0.29
Fuel Combustion - Oil And Gas Production (Combustion)	0.03	0.00
Fuel Combustion - Petroleum Refining (Combustion)	9.56	1.73
Fuel Combustion - Manufacturing And Industrial	11.05	0.64
Fuel Combustion - Food And Agricultural Processing	0.50	0.03
Fuel Combustion - Service And Commercial	5.64	1.24
Fuel Combustion - Other (Fuel Combustion)	3.16	0.32
Waste Disposal - Sewage Treatment	0.30	0.33
Waste Disposal - Landfills	0.01	1.26
Waste Disposal - Incinerators	0.82	1.33
Waste Disposal - Soil Remediation	0.00	0.05
Waste Disposal - Other (Waste Disposal)	0.00	0.68
Cleaning And Surface Coatings - Laundering	0.00	0.48
Cleaning And Surface Coatings - Degreasing	0.00	3.83
Cleaning And Surface Coatings - Coatings And Related Process Solvents	0.02	9.17
Cleaning And Surface Coatings - Printing	0.00	3.99
Cleaning And Surface Coatings - Adhesives And Sealants	0.00	9.33
Cleaning And Surface Coatings - Other (Cleaning And Surface Coatings)	0.00	0.60
Petroleum Production And Marketing - Oil And Gas Production	0.01	0.21
Petroleum Production And Marketing - Petroleum Refining	1.28	6.41
Petroleum Production And Marketing - Petroleum Marketing	0.00	9.16
Petroleum Production And Marketing - Other (Petroleum Production And Marketing)	0.00	0.03
Industrial Processes - Chemical	0.12	2.57
Industrial Processes - Food And Agriculture	0.10	1.99
Industrial Processes - Mineral Processes	2.94	0.72
Industrial Processes - Metal Processes	0.20	0.11
Industrial Processes - Wood And Paper	0.00	0.00
Industrial Processes - Electronics	0.00	0.23
Industrial Processes - Other (Industrial Processes)	0.56	5.14
Stationary Total	**41.33**	**62.13**
Area-Wide Sources	**NOX**	**VOC**
Solvent Evaporation - Consumer Products	0.00	41.24
Solvent Evaporation - Architectural Coatings And Related Process Solvents	0.00	17.64
Solvent Evaporation - Pesticides/Fertilizers	0.00	0.86
Solvent Evaporation - Asphalt Paving / Roofing	0.00	1.01
Miscellaneous Processes - Residential Fuel Combustion	7.87	1.69
Miscellaneous Processes - Farming Operations	0.00	3.21
Miscellaneous Processes - Fires	0.08	0.20
Miscellaneous Processes - Managed Burning And Disposal	0.00	0.00
Miscellaneous Processes - Cooking	0.00	0.63
Miscellaneous Processes - Other (Miscellaneous Processes)	0.03	1.88
Area-Wide Total	**7.99**	**68.37**

San Francisco Bay Area - 2012 Average Summer Daily Emissions (tons/day)

Mobile Sources	NOX	VOC
On-Road Motor Vehicles - Light Duty Passenger (LDA)	18.98	30.89
On-Road Motor Vehicles - Light Duty Trucks - 1 (LDT1)	3.76	7.27
On-Road Motor Vehicles - Light Duty Trucks - 2 (LDT2)	10.18	10.32
On-Road Motor Vehicles - Medium Duty Trucks (MDV)	9.82	7.99
On-Road Motor Vehicles - Light Heavy Duty Gas Trucks - 1 (LHDV1)	3.79	3.06
On-Road Motor Vehicles - Light Heavy Duty Gas Trucks - 2 (LHDV2)	0.49	0.38
On-Road Motor Vehicles - Medium Heavy Duty Gas Trucks (MHDV)	1.14	0.72
On-Road Motor Vehicles - Heavy Heavy Duty Gas Trucks (HHDV)	0.26	0.15
On-Road Motor Vehicles - Light Heavy Duty Diesel Trucks - 1 (LHDV1)	9.27	0.38
On-Road Motor Vehicles - Light Heavy Duty Diesel Trucks - 2 (LHDV2)	2.33	0.10
On-Road Motor Vehicles - Medium Heavy Duty Diesel Trucks (MHDV)	21.06	1.70
On-Road Motor Vehicles - Heavy Heavy Duty Diesel Trucks (HHDV)	49.20	3.71
On-Road Motor Vehicles - Motorcycles (MCY)	1.22	5.71
On-Road Motor Vehicles - Heavy Duty Diesel Urban Buses (UB)	14.55	0.74
On-Road Motor Vehicles - Heavy Duty Gas Urban Buses (UB)	0.24	0.24
On-Road Motor Vehicles - School Buses - Gas (SBG)	0.05	0.03
On-Road Motor Vehicles - School Buses - Diesel (SBD)	1.29	0.10
On-Road Motor Vehicles - Other Buses - Gas (OBG)	0.40	0.18
On-Road Motor Vehicles - Other Buses - Motor Coach - Diesel (OBC)	1.37	0.07
On-Road Motor Vehicles - All Other Buses - Diesel (OBD)	1.84	0.15
On-Road Motor Vehicles - Motor Homes (MH)	0.44	0.12
Other Mobile Sources - Aircraft	12.35	4.79
Other Mobile Sources - Trains	9.99	0.67
Other Mobile Sources - Ocean Going Vessels	9.38	0.50
Other Mobile Sources - Commercial Harbor Craft	15.10	1.14
Other Mobile Sources - Recreational Boats	2.61	17.11
Other Mobile Sources - Off-Road Recreational Vehicles	0.08	2.33
Other Mobile Sources - Off-Road Equipment	34.23	27.28
Other Mobile Sources - Farm Equipment	4.81	1.11
Other Mobile Sources - Fuel Storage And Handling	0.00	5.05
Mobile Total	**240.20**	**134.00**
Grand Total for San Francisco Bay Area	**289.51**	**264.50**

PROPOSED

State of California
AIR RESOURCES BOARD

THE 8-HOUR OZONE STATE IMPLEMENTATION PLAN EMISSION INVENTORY SUBMITTAL

Resolution 14-14

June 26, 2014

Agenda Item No.: 14-5-1

WHEREAS, the Legislature in Health and Safety Code section 39602 has designated the State Air Resources Board (ARB or Board) as the air pollution control agency for all purposes set forth in federal law;

WHEREAS, ARB is responsible for preparing the State Implementation Plan (SIP) for attaining and maintaining the National Ambient Air Quality Standards (NAAQS) as required by the federal Clean Air Act (the Act; 42 U.S.C. section 7401 et seq.), and to this end is directed by the Health and Safety Code section 39602 to coordinate the activities of all local and regional air pollution control and air quality management districts (districts) as necessary to comply with the Act;

WHEREAS, section 39602 of the Health and Safety Code also provides that the SIP shall include only those provisions necessary to meet the requirements of the Act;

WHEREAS, ARB has responsibility pursuant to sections 39002, 39500, 39602, and 41650 of the Health and Safety Code for ensuring that the districts meet their responsibilities under the Act;

WHEREAS, ARB is authorized by section 39600 of the Health and Safety Code to do such acts as may be necessary for the proper execution of its powers and duties;

WHEREAS, sections 39515 and 39516 of the Health and Safety Code provide that any duty may be delegated to the Board's Executive Officer as the Board deems appropriate;

WHEREAS, the districts have primary responsibility for controlling air pollution from non-vehicular sources and for adopting control measures, rules, and regulations to attain the NAAQS within their boundaries pursuant to sections 39002, 40000, 40001, 40701, 40702, and 41650 of the Health and Safety Code;

WHEREAS, in 2008, the United States Environmental Protection Agency (U.S. EPA) lowered the 8-hour NAAQS for ground-level ozone from 0.08 to 0.075 parts per million (ppm);

WHEREAS, effective July 20, 2012, U.S. EPA designated Calaveras County, Chico (Butte County), Imperial County, Kern County (Eastern Kern), Los Angeles-San Bernardino Counties (Western Mojave Desert), Los Angeles-South Coast Air Basin, Mariposa County, Nevada County (Western part), Riverside County (Coachella Valley), Sacramento Metropolitan Area, San Diego County, San Francisco Bay Area, San Joaquin Valley, San Luis Obispo County (Eastern San Luis Obispo),Tuscan Buttes, and Ventura County as nonattainment of the 0.075 ppm 8-hour ozone NAAQS;

WHEREAS subdivision 182(a)(1) of the Act requires states and local governments to prepare baseline emissions inventories for all areas exceeding the NAAQS within two years of designations;

WHEREAS, based upon the July 20, 2012 designation date for the sixteen nonattainment areas identified above, the baseline emission inventories for these areas are due to U.S. EPA by July 20, 2014;

WHEREAS the federal regulations in Title 40, Code of Federal Regulations (CFR), part 51, Subpart A, set forth the requirements for air emissions reporting under the Act;

WHEREAS, ARB, in conjunction with the districts, has developed the 2012 8-Hour Ozone Emission Inventory Submittal to the State Implementation Plan (Emission Inventory SIP Submittal) for the non-attainment areas to address the requirements of the Act;

WHEREAS, the Emission Inventory SIP Submittal contains the most up-to-date information for the following designated 8-hour ozone non-attainment areas: Calaveras County, Chico (Butte County), Imperial County, Kern County (Eastern Kern), Los Angeles-San Bernardino Counties (Western Mojave Desert), Los Angeles-South Coast Air Basin, Mariposa County, Nevada County (Western part), Riverside County (Coachella Valley), Sacramento Metropolitan Area, San Diego County, San Francisco Bay Area, San Joaquin Valley, San Luis Obispo County (Eastern San Luis Obispo),Tuscan Buttes, and Ventura County;

WHEREAS, federal law set forth in section 110(l) of the Act and Title 40, CFR, section 51.102, requires that one or more public hearings, preceded by at least 30 day notice and opportunity for public review, must be conducted prior to the adoption and submittal to the U.S. EPA of any SIP revision;

WHEREAS, as required by federal law, the ARB made the Emission Inventory SIP Submittal available for public review at least 30 days prior to the Board hearing;

WHEREAS, the Board finds that the Emission Inventory SIP Submittal meets all applicable ozone planning requirements established by the Act in that it includes the 2012 baseline planning emission inventories (tons/day) for the two precursors to ozone formation, nitrogen oxides (NOx) and volatile organic compounds (VOCs), for the sixteen areas in California designated non-attainment for the 8-hour NAAQS for ground-level ozone on July 20, 2012;

WHEREAS, for all areas classified as moderate or above for the 8-hour ozone NAAQS, the Act requires states to develop a SIP within four years (July 20, 2016);

WHEREAS, the emission inventory will continue to be improved during the SIP development process and any inventory updates with be submitted to U.S. EPA with those SIPs;

WHEREAS, the California Environmental Quality Act (CEQA) requires that no project which may have significant adverse environmental impacts be adopted as originally proposed if feasible alternatives or mitigation measures are available to reduce or eliminate such impacts;

WHEREAS, the submittal of the Emission Inventory SIP Submittal will not result in a direct or reasonably foreseeable indirect physical change in the environment and is therefore exempt from CEQA; and

WHEREAS, the Board further finds that ARB has reviewed and considered the Emission Inventory SIP Submittal, along with comments presented by interested parties, and finds that it meets the requirements of the Act and CEQA.

NOW, THEREFORE, BE IT RESOLVED that the Board hereby adopts the Emission Inventory SIP Submittal as a revision to the California SIP.

BE IT FURTHER RESOLVED that the Board hereby directs the Executive Officer to forward the Emission Inventory SIP Submittal as approved to U.S. EPA for inclusion in the SIP to be effective, for purposes of federal law, upon approval by U.S. EPA.

BE IT FURTHER RESOLVED that the Board authorizes the Executive Officer to include in the Emission Inventory SIP Submittal any technical corrections, clarifications, additions or updates that may be necessary to secure U.S. EPA approval.

BE IT FURTHER RESOLVED that the Board hereby certifies pursuant to 40 CFR section 51.102 that the Emission Inventory SIP Submittal was adopted after notice and public hearing as required by 40 CFR section 51.102.

TITLE 13. CALIFORNIA AIR RESOURCES BOARD

NOTICE OF PUBLIC HEARING TO CONSIDER AMENDMENTS TO THE ENHANCED FLEET MODERNIZATION PROGRAM

The Air Resources Board (ARB or Board) will conduct a public hearing at the time and place noted below to consider the adoption of the amendments to the AB 118 Enhanced Fleet Modernization Program (EFMP) Regulation.

DATE: June 26, 2014

TIME: 9:00 a.m.

PLACE: California Environmental Protection Agency
Air Resources Board
Byron Sher Auditorium
1001 I Street
Sacramento, California 95814

This item will be considered at a two-day meeting of the Board, which will commence at 9:00 a.m., June 26, 2014, and may continue at 8:30 a.m., on June 27, 2014. This item may not be considered until June 27, 2014. Please consult the agenda for the meeting, which will be available at least 10 days before June 26, 2014, to determine the day on which this item will be considered.

INFORMATIVE DIGEST OF PROPOSED ACTION AND POLICY STATEMENT OVERVIEW PURSUANT TO GOVERNMENT CODE 11346.5(a)(3)

Sections Affected: Proposed amendments to California Code of Regulations, title 13, section(s) 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, and 2630.

Background and Effect of the Proposed Rulemaking:

The EFMP is a voluntary accelerated vehicle retirement or "car scrap" program which provides monetary incentives to vehicle owners to retire older, more polluting vehicles. The program reduces emissions by accelerating the turnover and subsequent replacement of the existing light duty fleet with newer, cleaner vehicles. A one-dollar surcharge on motor vehicle registration provides approximately $30 million annually for EFMP.

ARB adopted EFMP guidelines in 2009 which included two program elements: a Retirement-Only program, and a Pilot Replacement Voucher program.

- *Retirement-Only:* Since August of 2010, the Bureau of Automotive Repair (BAR) has administered the EFMP retirement program, which offers $1,500 to low-income (i.e., those with an income no greater than 225 percent of the Federal

Poverty level) participants and $1,000 to all others. These criteria are aligned with BAR's Consumer Assistance Program (CAP), which is limited to retiring vehicles that have failed a Smog Check Test. The EFMP retirement-only element is extremely popular with motorists, with over 85,000 vehicles retired since its inception. Approximately 60 percent of the participants have been low-income.

- *Pilot Replacement Voucher:* In June 2012, the South Coast Air Quality Management District initiated a pilot program to provide additional incentives for those participants that not only scrapped an old vehicle, but also replaced it with a cleaner vehicle. This pilot consisted of identifying owners of likely high emitting vehicles and offering them an additional $2,000 ($2,500 for low-income) toward the purchase of a newer vehicle less than four years old (or less than 8 years old, if low-income). However, as of November 2013, only 22 people had taken advantage of this offer of additional funds towards vehicle replacement, and the program was suspended.

In 2013, ARB and BAR staff conducted an assessment of vehicles retired through EFMP to determine the program's effectiveness and to identify opportunities for improvement. Staff evaluated a total of 164 vehicles and found that the cost-effectiveness and emissions benefits of the program could be substantially improved by revising the acceptance criteria for retired vehicles. It recommended that the retirement and replacement program be modified to make it easier and more attractive for vehicle owners to participate. These results were presented to the Board in November 2013 and the full report is available at http://www.arb.ca.gov/msprog/aqip/EFMP_Update_Staff_Report_November_2013.pdf

Concurrent with the staff's assessment, Senate Bill 459 Pavley (SB 459, Chapter 437, Statutes of 2013) was enacted, directing ARB to revise the EFMP to increase the benefits of the program for low-income California residents, and increase outreach to community-based organizations.

Objectives and Benefits of Proposed Amendments

The proposed amendments would improve the EFMP by focusing the program on low-income participants, expanding program flexibility to improve program participation, and ensuring that retired vehicles are functional, the last of which will enhance the emissions benefits of the program. Amendments are focused in two areas: a Retirement Only program, and a Pilot Retire and Replace program.

Retirement Only

Staff proposes several modifications to the Retirement-Only portion of the regulation, which would increase the program's effectiveness while retaining its complementary relationship with CAP. The proposed modifications include:

- Offer EFMP retirement only to low-income participants;
- Require the vehicle to complete (but not necessarily pass) a Smog Check test to demonstrate functionality;
- Monitor the program and adjust the incentive levels as necessary to ensure that participation remains high; and
- Provide modifications to ensure consistency with CAP and to simplify implementation.

Pilot Retire and Replace

Staff proposes establishing a new Retire and Replace portion that would:

- Focus the program in the two federal extreme nonattainment areas in California: the San Joaquin Valley and South Coast air basins;
- Provide these two air districts the flexibility necessary to develop their pilot programs for maximum effectiveness, and to allow each district to take one or more approaches to program implementation;
- Limit participation to low- and moderate-income consumers;
- Ensure that the retired vehicle is functional and dismantled at a BAR contracted dismantler;
- Allow minivans that meet minimum fuel economy requirements to be replacement vehicles;
- Require that replacement vehicles be 8 years old or newer;
- Offer additional incentives including advanced technology incentive programs that are still under development;
- Offer the choice of a replacement vehicle or alternative transportation mobility options (e.g., public transportation); and
- Include provisions to protect consumers to ensure that the consumer receives the full benefit of the incentive.

To track pilot program implementation, the districts would be required to report a number of key metrics (e.g., participation and income levels served, etc.) on a quarterly basis. If those reports indicate that participation is low, then ARB and the districts would jointly determine if changes were necessary. Prior to implementation of any changes, the ARB and the districts would be required to conduct public workshops. To ensure the districts have the funding to properly administer the program, the proposed amendments allow up to 10 percent of the total funding provided to pay for program administration and outreach, and an additional 5 percent of the total funding to be used to engage partners or contractors specifically to support low-income populations.

The proposed amendments would require minimum incentives as shown in the table below. Under the proposal, ARB and the districts would monitor program effectiveness, and, if necessary to increase participation, raise the incentives above these minimums.

Proposed Retire and Replace Program Minimum Incentives

Income Eligibility	Replacement Options				
		May be also Eligible Low-Carbon Transportation (CVRP) type incentives[2]			
	8 year old or newer[1]	35+ MPG	Plug-In Hybrid[3]	Zero-Emission Vehicle[3]	Alternative Transportation Mobility Options
Low Income <225% Federal Poverty Level	$4,000	$4,500	$4,500	$4,500	$4,500 Face Value
Moderate Income <300% Federal Poverty Level	Not Available	$3,500	$3,500	$3,500	$3,500 Face Value
Above Moderate Income <400% Federal Poverty Level	Not Available	Not Available	$2,500	$2,500	$2,500 Face Value

1. MPG criteria – Best in class minivan eligible
2. Program concurrently under development: conventional hybrid for low-income only, financing element, may require 3-yr reporting
3. May allow lease used based on market demand

Benefits

The proposed amendments will reduce smog-forming emissions by 1.4 tons per day. Reduction of smog-forming emissions helps to achieve California's mandated air quality standards. Improved air quality provides health benefits to the public and to the environment. In addition, these benefits will target low income populations and disadvantaged communities.

DETERMINATION OF INCONSISTENCY AND INCOMPATIBILITY WITH EXISTING STATE REGULATIONS

During the process of developing the proposed regulatory action, ARB has conducted a search of any similar regulations on this topic, and has concluded that these regulations are neither inconsistent nor incompatible with other state regulations.

COMPARABLE FEDERAL REGULATIONS

There are no federal regulations comparable to the proposed regulation. The proposed regulation defines the EFMP structure and establishes administrative and implementation requirements. Participation by individuals and businesses in the EFMP is strictly voluntary.

STATE IMPLEMENTATION PLAN REVISION

If adopted by ARB, ARB plans to submit the proposed regulatory action to the United States Environmental Protection Agency (U.S. EPA) for approval as a revision to the California State Implementation Plan (SIP) required by the federal Clean Air Act (CAA). The adopted regulatory action would be submitted as a SIP revision because it amends regulations intended to reduce emissions of air pollutants in order to attain and maintain the National Ambient Air Quality Standards promulgated by U.S. EPA pursuant to the CAA.

AVAILABILITY OF DOCUMENTS AND AGENCY CONTACT PERSONS

ARB staff has prepared a Staff Report: Initial Statement of Reasons (ISOR) for the proposed regulatory action, which includes a summary of the economic and environmental impacts of the proposal. The report is entitled: "Staff Report: Initial Statement of Reasons for Rulemaking – Proposed Amendments to the Enhanced Fleet Modernization Program (Car Scrap)."

Copies of the ISOR and the full text of the proposed regulatory language, in underline and strikeout format to allow for comparison with the existing regulations, may be accessed on ARB's web site listed below, or may be obtained from the Public Information Office, Air Resources Board, 1001 I Street, Visitors and Environmental Services Center, First Floor, Sacramento, California, 95814, (916) 322-2990, on May 6, 2014

Final Statement of Reasons Availability

Upon its completion, the Final Statement of Reasons (FSOR) will be available and copies may be requested from the agency contact persons in this notice, or may be accessed on ARB's website listed below.

Agency Contact Persons

Inquiries concerning the substance of the proposed regulation may be directed to Ms. Tess Sicat, Manager of the Alternative Strategies Section, (626) 459-4435, or Mr. Aaron Hilliard, Air Resources Engineer, (916) 322-4781.

Further, the agency representative and designated back-up contact persons, to whom non-substantive inquiries concerning the proposed administrative action may be directed to, Trini Balcazar, Regulations Coordinator, (916) 445-9564. The Board has compiled a record for this rulemaking action, which includes all the information upon which the proposal is based. This material is available for inspection upon request to the contact persons.

Internet Access

This notice, the ISOR and all subsequent regulatory documents, including the FSOR, when completed, are available on the ARB Web site for this rulemaking at http://www.arb.ca.gov/regact/2014/carscrap14/carscrap14.htm

DISCLOSURES REGARDING THE PROPOSED REGULATION

The determinations of the Board's Executive Officer concerning the costs or savings necessarily incurred by public agencies and private persons and businesses in reasonable compliance with the proposed regulations are presented below.

Fiscal Impact / Local Mandate

Pursuant to Government Code sections 11346.5(a) (5) and 11346.5(a) (6), the Executive Officer has determined that the proposed regulatory action would create slight costs to ARB in the implementation of the EFMP. Except for these costs, the proposed regulatory action would not create costs or savings to any other State agency, or in federal funding to the State, costs or mandate to any local agency or school district whether or not reimbursable by the State pursuant to part 7 (commencing with section 17500), division 4, title 2 of the Government Code, or other nondiscretionary cost or savings to the State or local agencies.

Significant Statewide Adverse Economic Impact Directly Affecting Business, Including Ability to Compete

The Executive Officer has made an initial determination that the proposed regulatory action would not have a significant statewide adverse economic impact directly affecting businesses, including the ability of California businesses to compete with businesses in other states, or on representative private persons.

In accordance with Government Code section 11346.3, the Executive Officer has determined that the proposed regulatory action – which sets implementation requirements for the EFMP – would have no impact on the creation of jobs within the State of California. Businesses that may be slightly affected by the changes to the existing program include licensed dismantlers and car dealerships as increased incentives per vehicle may slightly reduce the number of vehicle retired and also replaced. These impacts would be short-term; because the regulation sunsets in 2023, there would be no economic impacts to either dismantlers or dealers over the long term. An assessment of the economic impacts of the proposed regulatory action can be found in the ISOR.

The Executive Officer has also determined, pursuant to California Code of Regulations, title 1, section 4, that the proposed regulatory action may affect small businesses such as dismantlers, although participation in the EFMP is strictly voluntary and there are no

mandated requirements for those small businesses that choose to participate in the EFMP.

Cost Impacts on Representative Private Persons or Businesses

In developing this regulatory proposal, the ARB staff evaluated the potential economic impacts on representative private persons or businesses. ARB is not aware of any cost impacts that a representative private person or business would necessarily incur in reasonable compliance with the proposed action. The EFMP is purely voluntary; businesses, individuals, and public agencies will not participate unless it is economically beneficial for them to do so.

An assessment of the economic impacts of the proposed regulatory action and its effect on California businesses can be found in the ISOR.

Results of the Economic Impact Analysis/Assessment Prepared Pursuant to Gov. Code sec. 11346.3(b).

Effect on Jobs/Businesses:

The Executive Officer has determined that the proposed regulatory action would not affect the creation or elimination of jobs within the State of California, the creation of new businesses or elimination of existing businesses within the State of California, or the expansion of businesses currently doing business within the State of California. The EFMP is a voluntary incentive program that impacts, on a short-term basis, less than 2 percent of all vehicles retired each year. There are no compliance costs; the EFMP is a voluntary incentive program that does not require mandatory participation by businesses. The amendments to the program are not expected to significantly adversely impact California businesses since they will participate only if it is financially beneficial. A detailed assessment of the economic impacts of the proposed regulatory action can be found in the Economic Impact Analysis in the ISOR.

Benefits of the Proposed Regulation:

The objective of the proposed amendments is to reduce fleet emissions by accelerating both the turnover of the existing fleet and the consequent replacement with newer, cleaner vehicles. Reducing emissions from the existing fleet is a critical part of California's SIP. Under current funding, staff expects total retirements of 18,000 vehicles each year. It is anticipated that the Pilot Retire and Replace element will provide incentives for approximately 700 participants, divided equally between the South Coast and San Joaquin Valley air basins. The majority of the program's benefits will be derived from the retirement of older vehicles and subsequent replacement with fleet average vehicles. The overall program is expected to reduce smog-forming emissions by 1.4 tons per day. Reduction of smog-forming emissions will result in health benefits to the public by reducing instances of smog-related medical problems, including asthma. Reduction in smog-related medical issues also reduces related costs, such as emergency room visits and other medical costs.

Effect on Small Business

The Executive Officer has also determined, pursuant to California Code of Regulations, title 1, section 4, that the proposed regulatory action may affect small businesses.

Housing Costs

The Executive Officer has also made the initial determination that the proposed regulatory action will not have a significant effect on housing costs.

Business Reports

The proposed regulation will not impose reporting requirements on private persons or businesses. The program is designed to provide access to cleaner, safer vehicles and reduce health impacts and related medical costs.

Alternatives

Before taking final action on the proposed regulatory action, the Board must determine that no reasonable alternative considered by the Board or that has otherwise been identified and brought to the attention of the Board would be more effective in carrying out the purpose for which the action is proposed or would be as effective and less burdensome to affected private persons than the proposed action, or would be more cost-effective to affected private persons and equally effective in implementing the statutory policy or other provisions of law.

Environmental Analysis

ARB, as the lead agency for the proposed regulatory action, has concluded that this action is exempt from CEQA, pursuant to CEQA Guidelines §15308 ("class 8" exemption) – Actions Taken by Regulatory Agencies for Protection of the Environment; and it is also exempt pursuant to CEQA Guidelines §15061(b)(3) ("common sense" exemption) because it can be seen with certainty that there is no possibility that the proposed action may result in a significant adverse impact on the environment. A brief explanation of the basis for reaching this conclusion is included in Chapter IV of the Staff Report.

WRITTEN COMMENT PERIOD AND SUBMITTAL OF COMMENTS

Interested members of the public may also present comments relating to the proposed amendments orally or in writing at the hearing, and comments may be submitted by postal mail or electronic submittal before the hearing. The public comment period for this regulatory action will begin on May 9, 2014. To be considered by the Board, written comments not physically submitted at the meeting must be received **no later than 5:00p.m., Pacific Daylight Time, June 23, 2014,** and addressed to the following:

Postal mail: Clerk of the Board, Air Resources Board
1001 I Street, Sacramento, California 95814

Electronic submittal: http://www.arb.ca.gov/lispub/comm/bclist.php

Please note that under the California Public Records Act (Gov. Code, § 6250 et seq.), all written and oral comments, attachments, and associated contact information (e.g., your address, phone, email, etc.) become part of the public record and can be released to the public upon request.

ARB requests that written and email statements on this item be filed at least 10 days prior to the hearing so that ARB staff and Board Members have additional time to consider each comment. The Board encourages members of the public to bring to the attention of staff in advance of the hearing any suggestions for modification of the proposed regulatory action.

Additionally, the Board requests but does not require that persons who submit written comments to the Board reference the title of the proposal in their comments to facilitate review.

AUTHORITY AND REFERENCES

This regulatory action is proposed under that authority granted in Health and Safety Code, sections 39600, 39601, and 44125. This action is proposed to implement, interpret and make specific sections Health and Safety Code sections 39600, 39601, and 44125.

HEARING PROCEDURES

The public hearing will be conducted in accordance with the California Administrative Procedure Act, Government Code, title 2, division 3, part 1, chapter 3.5 (commencing with section 11340).

Following the public hearing, the Board may adopt the regulatory language as originally proposed, or with non substantial or grammatical modifications. The Board may also adopt the proposed regulatory language with other modifications if the text as modified is sufficiently related to the originally proposed text that the public was adequately placed on notice and that the regulatory language as modified could result from the proposed regulatory action; in such event, the full regulatory text, with the modifications clearly indicated, will be made available to the public for written comment at least 15 days before it is adopted.

The public may request a copy of the modified regulatory text from ARB's Public Information Office, Air Resources Board, 1001 I Street, Visitors and Environmental Services Center, First Floor, Sacramento, California, 95814, (916) 322-2990.

SPECIAL ACCOMMODATION REQUEST

Consistent with California Government Code Section 7296.2, special accommodation or language needs may be provided for any of the following:

- An interpreter to be available at the hearing;
- Documents made available in an alternate format or another language;
- A disability-related reasonable accommodation.

To request these special accommodations or language needs, please contact the Clerk of the Board at (916) 322-5594 or by facsimile at (916) 322-3928 as soon as possible, but no later than 10 business days before the scheduled Board hearing. TTY/TDD/Speech to Speech users may dial 711 for the California Relay Service.

Consecuente con la sección 7296.2 del Código de Gobierno de California, una acomodación especial o necesidades lingüísticas pueden ser suministradas para cualquiera de los siguientes:

- Un intérprete que esté disponible en la audiencia;
- Documentos disponibles en un formato alterno u otro idioma;
- Una acomodación razonable relacionados con una incapacidad.

Para solicitar estas comodidades especiales o necesidades de otro idioma, por favor llame a la oficina del Consejo al (916) 322-5594 o envié un fax a (916) 322-3928 lo más pronto posible, pero no menos de 10 días de trabajo antes del día programado para la audiencia del Consejo. TTY/TDD/Personas que necesiten este servicio pueden marcar el 711 para el Servicio de Retransmisión de Mensajes de California.

Richard W. Corey
Executive Officer

Date: April 22, 2014

The energy challenge facing California is real. Every Californian needs to take immediate action to reduce energy consumption. For a list of simple ways you can reduce demand and cut your energy costs, see our website at www.arb.ca.gov.

State of California
AIR RESOURCES BOARD

STAFF REPORT: INITIAL STATEMENT OF REASONS FOR PROPOSED RULEMAKING

Proposed Amendments to the Enhanced Fleet Modernization Program (Car Scrap)

Date of Release: **May 6, 2014**
Scheduled for Consideration: **June 26, 2014**

This report has been reviewed by the staff of the Air Resources Board (ARB or Board) and approved for publication. Approval does not signify that the contents necessarily reflect the views and policies of ARB, nor does mention of trade names or commercial products constitute endorsement or recommendation for use.

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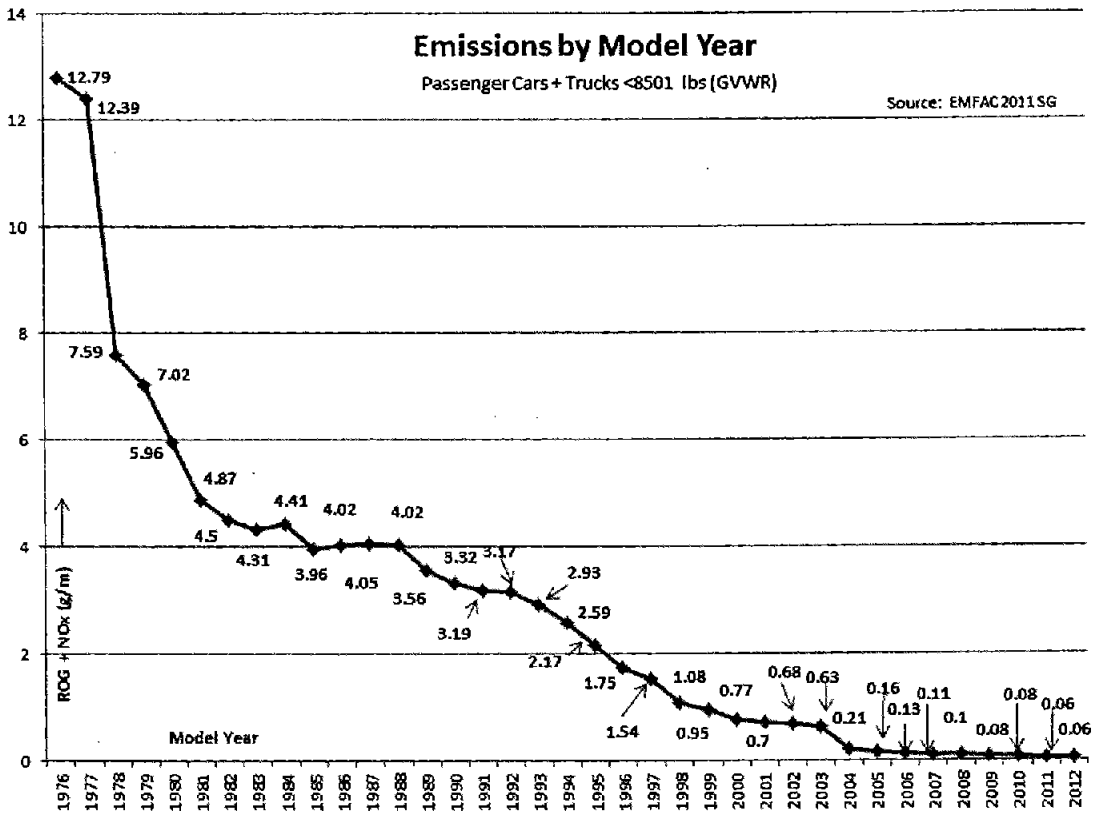
I. INTRODUCTION AND BACKGROUND

Although California has been the nation's leader in efforts to reduce air pollution, the State -- and in particular the South Coast and the San Joaquin Valley air basins, home to nearly 50 percent of the State's passenger vehicles[1] -- continues to struggle with air quality problems. California's 23 million passenger cars and light- and medium-duty trucks, which travel close to 865 million miles per day, contribute significantly to the problem[2]. Older vehicles, which are certified at higher emission levels, account for a larger share of these emissions than newer models that comply with more stringent emission standards.

The emission rate of a 20 year old vehicle, in terms of grams per mile of oxides of nitrogen (NOx) plus reactive organic gases (ROG), is about 30 times that of a model vehicle as shown below in Figure I-1. Vehicles that are 20 years old and older account for only 5 percent of all miles traveled, but are responsible for 40 percent of daily smog-forming emissions from motor vehicles[3]. These facts make retirement of older vehicles an attractive strategy to combat excess emission of pollutants from on-road motor vehicles.

Figure I-1: Vehicle Emission Rate by Model Year



[1] EMFAC2011 (http://www.arb.ca.gov/emfac/.
[2] Ibid.
[3] Ibid.

There are currently more than one million[4] vehicles retired every year as part of normal fleet turnover in California. California's low-emission new car standards are dependent on this natural turnover for significant emission reductions. However, extra emission reduction benefits can be achieved through the early retirement of fully functional but high emitting vehicles. Providing monetary incentives can provide the necessary and cost-effective "push" for retiring many of these older, inherently higher-emitting vehicles. Additional incentives for fuel efficient vehicles can help transition consumers into newer vehicles which provide additional air quality benefits and reduce fuel costs.

A. Vehicle Retirement Programs

There are currently several vehicle retirement programs that are offered to consumers throughout the State.

1. Enhanced Fleet Modernization Program (EFMP)

EFMP is a vehicle retirement and replacement program authorized by Assembly Bill (AB) 118 (Nunez, Chapter 750, Statutes of 2007, California Health and Safety Code Section 44125, amended 2010, 2013). EFMP is funded by a $1 surcharge on motor vehicle registration, translating into about $30 million each fiscal year.

The purpose of the program is to retire high-polluting passenger vehicles and light-duty and medium-duty trucks by voluntary means. Statute directs that the program should be focused on the areas with the greatest air quality impact and considers cost-effectiveness and impacts on disadvantaged and low-income populations. Low-income is defined as 225 percent of the federal poverty level, consistent with Bureau of Automotive Repair (BAR) Consumer Assistance Program (CAP) income eligibility requirement[5]. EFMP's authorizing statute also directs that compensation should take into account the age, emission benefits of retirement, and the impact of any replacement vehicle.

ARB, in consultation with BAR, adopted guidelines in 2009 to administer two separate program elements: a Retirement-Only program, and a Pilot Replacement Voucher program.

- *Retirement-Only*: This element was implemented in August 2010 and is administered by BAR. Motorists are offered $1,000 ($1,500 for low-income) to permanently retire their vehicles. The EFMP Retirement-Only element is extremely popular with motorists. BAR has retired over 85,000 vehicles (66 percent low-income) since inception and funds are typically exhausted within the first eight months of the fiscal year.

[4] EMFAC2011 (http://www.arb.ca.gov/emfac/) difference between new model year population and total population growth.
[5] Specific income eligibility criteria can be found in 16 California Code of Regulations § 3394.4.

- *Pilot Replacement Voucher.* This element was implemented in June 2012 in the South Coast Air Quality Management District (SCAQMD). About $3 million (10 percent of total annual funds) was allocated for a pilot voucher program which solicited over 12,000 motorists in the SCAQMD with vehicles either known or suspected to be the highest emitters and offered an additional $2,000 ($2,500 for low-income) above the retirement-only incentive towards the purchase of a newer vehicle less than four years old (or less than 8 years old, if low-income). However, as of November 2013, only 22 people had taken advantage of this offer of additional funds towards vehicle replacement, and the program was suspended in December 2013.

The popularity of the retirement-only element has developed without any formal advertising or promotion. However, this popularity is in stark contrast to the very limited participation in the replacement element which offered a larger incentive, but was only available to high polluters identified by ARB and BAR based on existing vehicle Smog Check emissions data and located in the South Coast air basin.

2. Statewide Consumer Assistance Program

The other statewide retirement program is the vehicle retirement element of CAP, which is also administered by BAR and receives roughly the same annual funding as EFMP. CAP is designed to assist motorists to comply with the Smog Check vehicle inspection program. CAP provides qualified consumers who fail a Smog Check test the option to retire a vehicle and receive $1,000. As with EFMP, consumers meeting low income eligibility requirements (i.e., that are below 225 percent of the federal poverty level) may receive $1,500. CAP also provides qualified consumers up to $500 in financial assistance toward emissions-related repairs.

Although CAP and EFMP have different goals, the two programs are generally perceived by the public as a single program because EFMP is administered by BAR under the CAP label using the existing CAP application. The objective of CAP is to provide options for Californians facing difficulties in registering their vehicles resulting from a failing Smog Check, while EFMP's goal is to improve air quality though the voluntary retirement of light- and medium-duty vehicles. Many consumers are familiar with the CAP name, but the name EFMP exists only in statute and regulation.

3. Other Existing Retirement Programs

There are seven other publicly funded vehicle retirement programs either planned or currently operating within the State. Six of the seven are local programs operated by air districts using Carl Moyer Program, AB 923, or other local funds. These local programs have been in operation three to seven years and are collectively much smaller than EFMP in terms of total funding, with approximately $21 million expended to date as shown in Table I-1: Vehicle Retirement Programs Implemented by Air Districts.

Table I-1: Vehicle Retirement Programs Implemented by Air Districts

Air District	Funding[1]
Antelope Valley Air Quality Management District	$350,000
Bay Area Air Quality Management District	$16,000,000
Mojave Desert Air Quality Management District	$475,000
San Luis Obispo Air Pollution Control District	$200,000
Santa Barbara Air Pollution Control District	$1,200,000
South Coast Air Quality Management District	$2,780,000[2]

[1] As of November 2013.

[2] Depending on the final approved changes to EFMP, the South Coast Air Quality Management District may continue its High Emitter Repair or Scrap voluntary pilot program, which uses remote sensing to detect "gross-polluting" cars, pickups, SUVs and vans, and provides incentives to repair them or scrap and replace them.

The 2007 State Implementation Plan (SIP) includes a commitment to expand the State's existing program to achieve reductions equivalent to the early retirement of 50,000 and 10,000 vehicles per year in the South Coast and San Joaquin Valley air basins, respectively. These totals represent about half of one percent of the vehicles subject to Smog Check in each region and would provide emission benefits equal to 2 percent of light-duty vehicle emissions in 2014. AB 118 funding for EFMP represents a significant step in the State's effort in meeting these ambitious SIP commitments.

B. Purpose for Amendment of Regulation

1. 2013 Program Assessment

In 2013, ARB and BAR staff conducted an assessment of vehicles retired through EFMP to determine the program's effectiveness and to identify opportunities for improvement. These results were presented to the Board in November 2013 and the presentation and full report are available at http://www.arb.ca.gov/msprog/aqip/efmp/efmp.htm.

a. Retirement Element

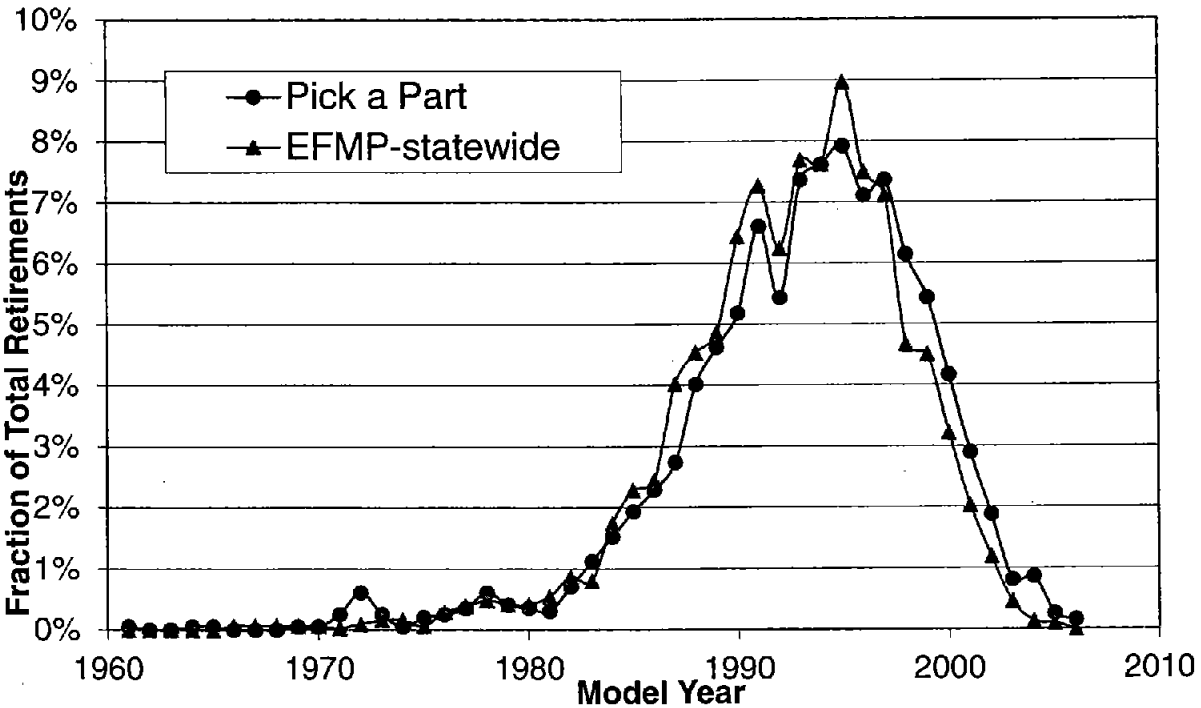
ARB and BAR staff conducted a study of EFMP vehicles retired over a period of several weeks and stored at auto dismantlers in Rialto and Ontario in early 2013. The purpose of the study was to determine the program's effectiveness and to identify opportunities for improvement.

A total of 164 vehicles were assessed as a part of the study. All of the vehicles were assessed qualitatively, and 140 were assessed quantitatively using the standard Acceleration Simulation Mode (ASM), roadside Smog Check dynamometer test. The key findings from this study confirm that the vehicles entering the EFMP are generally high emitters, but are also generally vehicles with limited functionality. Sixty percent of the vehicles tested failed the Smog Check test, with 21 percent failing as gross

polluters[6]. For comparison, on average, 25 percent of similarly aged vehicles across the entire statewide fleet fail the Smog Check test, with only six percent failing as gross polluters[7].

Figure I-2 shows the model year distribution of EFMP vehicles retired statewide in December 2012 and non-EFMP vehicles naturally retired at the Ontario dismantler (Pick-A-Part) during approximately the same period (dismantler data is based on vehicle inventory on January 18, 2013--vehicles are held for 6 weeks prior to destruction). The model year profile of vehicles entering EFMP also suggests high levels of effectively nonfunctional vehicles because it is almost exactly the same as vehicles retired naturally during the same time period at the dismantlers where the study was conducted. The data make it apparent that consumers have already decided their vehicles are not capable of continued function prior to participating in the Retirement-Only element.

Figure I-2: Distribution by Model Year of Vehicles Retired by EFMP vs. Natural Retirement



Note that the mean age of the EFMP vehicles computed using data from the chart above was 21 years which is nearly the same as the 20 year mean age of naturally

[6] The emission level at which a vehicle fails as a Gross Polluter varies according the vehicle type and year. Specific test limits for gross polluters can be found in 16 CCR § 3340.42.
[7] BAR Random Roadside data, 2010-2012

retired vehicles.[8] On average, the program purchased slightly older vehicles that were nearly identical to those naturally scrapped during the same time period.

The prevalence of high emitters in the sample population is encouraging, but the lack of remaining useful life in retired vehicles seriously limits the program's effectiveness for reducing pollution. Roughly 60 percent of the vehicles had expired registration and could not legally be used without repairs to pass the Smog Check test and re-register, and about 30 percent of the vehicles could not physically be used without mechanical repairs.[9]

The key findings from the program assessment confirm that the vehicles entering EFMP retirement are generally high emitters, but also generally at the end of their useful life. The overall conclusion of the assessment of the sample of participating vehicles is that while EFMP is meeting program goals by purchasing and retiring high emitting vehicles, the cost-effectiveness and emission benefits of the program could be substantially improved by ensuring that only vehicles with significant remaining useful life are allowed to participate.

b. Pilot Replacement Voucher Element

In addition to assessing the performance of the retirement program, staff investigated the replacement element's low response rate and whether the incentives offered were appropriate for the target audiences and vehicles. Specifically, staff looked at whether the retirement incentive offered was sufficient to cover the value of the retired vehicle that could be received elsewhere, and whether the replacement amount was sufficient to enable low-income participants to purchase a cleaner replacement vehicle.

Staff review of classified ads found the mean advertised price of vehicles offered for sale in running condition and similar to those solicited for participation in the EFMP retirement plus replacement voucher element range from $4,000 listed by a dealer and $5,000 listed by a private party.[10] That value is approximately equal to, and perhaps slightly less than, the $3,000 to $4,000 total retirement plus voucher incentive amount offered by the program. This generally means the pilot program has, on average, not offered motorists an incentive above the current value of their existing vehicle to retire it and upgrade in EFMP. Considering this, likely program participants were those people who had coincidentally already decided to replace their vehicle and/or outliers at the lower end of the value distribution.

In addition, the direct solicitation in the pilot replacement program has proven to be inefficient both in terms of administrative costs and participation rates. Over 12,000

[8] Posted vehicle inventory at http://www.pickapartauto.com/inventory/ontinv.html on 1/18/13 compared to EFMP participating vehicles during December 2012.
[9] This analysis conducted for vehicles still displaying license plates and vehicle test histories from http://www.bar.ca.gov/pubwebquery/vehicle/pubtstqry.aspx.
[10] www.autotrader.com and www.craigslist.com (multiple access dates May to July 2013) for vehicles advertised for sale in the SCAQMD.

owners of likely high emitting vehicles were contacted by mail for participation in the replacement program with 1,436 expressing interest by returning a postage-paid card. Each respondent was subsequently contacted via phone by BAR staff, which then mailed 211 applications to the most interested responders. Ninety-five of those vehicle owners received approval and BAR staff provided them with direction on how to purchase a vehicle and claim the additional incentive. Of those 95 approved to participate, 72 elected for retirement only, and by the end of the program, only 22 opted to claim the full retirement and replacement incentive. These consumers then retired their vehicle before applying again for the replacement incentive and subsequent use at a dealership in the program. This complex process and narrow outreach to a relatively small population combined to result in low program usage.

2. Legislation Affecting EFMP - SB 459 Pavley

In addition to the Assessment, Governor Brown signed Senate Bill 459 Pavley (SB 459, Chapter 437, Statutes of 2013) on September 30, 2014, which directs ARB to improve EFMP to increase the benefits of the program for low-income California residents, promote cleaner replacement vehicles, enhance emission reductions, and increase outreach to community-based organizations.

SB 459 goals include ensuring that vehicles have sufficient remaining life, streamlining administration to simplify participation, coordinating with CAP, and ensuring that the replacement component focuses in federal nonattainment areas. In updating the guidelines, SB 459 requires ARB to study and consider methods of financial assistance other than vouchers, incentives with varied amounts, increased outreach efforts to community-based organizations, and increasing incentives for cleaner vehicles, increasing public transit use, and reducing greenhouse gas emissions. Per SB 459, ARB is required to update the program no later than June 30, 2015.

II. STATEMENT OF REASONS

The proposed amendments improve EFMP by focusing the program on low-income participants, expanding program flexibility to improve program participation, and ensuring the vehicles that are retired are functional, which enhances emissions benefits. The proposed amendments will address issues arising from the 2013 Program Assessment described above. Amendments are focused in two areas: a Retirement-Only program, and a new Pilot Retire and Replace program (which replaces the Pilot Replacement Voucher element). Staff's proposal to separate the BAR-implemented Retirement-Only program from the air district-administered Retire and Replace program allows flexibility to address regional needs by piloting various approaches while continuing to focus the Retirement-Only portion on statewide implementation. In addition, the new Pilot Retire and Replace program seeks to improve participation in the Retire and Replace aspect of EFMP. The proposed regulation text is contained in Appendix A.

A. Retirement-Only Program

The EFMP Retirement-Only program exists to incentivize California motorists to voluntarily retire older, higher polluting passenger vehicles and light and medium-duty trucks. The proposed Retirement-Only requirements are listed below:

1. Limit EFMP Retirement-Only to low-income participants

Staff proposes limiting participation in the Retirement-Only portion of EFMP to low-income participants with less than or equal to 225 percent of the Federal Poverty Level. The EFMP Retirement-Only program is oversubscribed, typically exhausting the funding within the first eight months of each fiscal year, with approximately 60 percent of the participants meeting the aforementioned income eligibility criteria. Restricting program participation will ensure that the limited funds go to the target population and meet the directive of SB 459 that the EFMP focus on low-income participants.

2. Require the vehicle to complete a Smog Check test to demonstrate functionality

A more sophisticated acceptance inspection would ascertain sufficient vehicle functionality. While the current acceptance inspection requires the participant to drive the vehicle to the dismantler and demonstrate starting the vehicle engine and 30 feet of forward motion upon arrival, there is no practicable way for the dismantler to verify the vehicle was actually driven to the facility. An improved and objective acceptance test could enhance the quality of participating vehicles, and significantly increase the benefits of the program. The ASM dynamometer test is a good candidate for a universally available, widely accepted, and objective operating test.

Staff proposes requiring a vehicle to take (or have taken within the previous 180 days) a Smog Check test as a simple means of determining its functionality. Successful completion of a Smog Check test, whether the end result is a pass or a fail, is a good indication that a vehicle is in sufficient condition to be driven on the road, and that retiring the vehicle will provide real air quality benefits.

3. Monitoring Program Participation

Setting a more stringent standard for participation runs the risk that the current incentive offered may not be sufficient to attract the higher quality vehicles needed. With the change in eligibility to ensure that scrapped vehicles provide an emissions benefit, ARB and BAR staff would monitor the program to ensure that scrap participation remains high. Specifically, staff proposes to incorporate a provision that if participation has dropped sufficiently to indicate that the retirement program will fall short of expending its annual funding, then incentive amounts for vehicles passing the Smog Check test could be raised incrementally up to $2,500 total per vehicle to improve participation.

4. Provide modifications to ensure consistency with CAP and to simplify implementation

Staff also proposes a number of additional changes to simplify the program and expand potential participation, including clearly defining the documentation needed in the application (insurance documents, registration, etc.) and allowing the participation of vehicles with salvage titles, provided they are currently registered. These changes have been closely coordinated with BAR to ensure compatibility with CAP.

Increasing the basic incentive for retirement would impact CAP. Administration of CAP and EFMP is indistinguishable to the consumer, and an increase in the incentive amount for EFMP alone would generate confusion among program participants. However, the goals and mandates of CAP and EFMP are different; CAP is designed to purchase end-of-life vehicles, while EFMP is designed to purchase vehicles before end-of-life. While marketplace data indicate a difference in price between these types of vehicles and suggest the incentives should differ, changes in the eligibility requirements for CAP and/or EFMP will need to be carefully considered before any action is taken.

B. Pilot Retire and Replace Program

The current proposed funding for the EFMP Pilot Retire and Replace Program is approximately $3 million per year in federal extreme non-attainment areas (the South Coast and San Joaquin Valley air basins), consistent with the previous Pilot Replacement Voucher program. To ensure that the proposed program has sufficient resources to be viable in each region, staff proposes that the air district grants for the program be split evenly between the South Coast and San Joaquin Valley air basins resulting in annual funding of approximately $1.5 million each. Staff will pursue increasing funding from the Retirement-Only program in future years based on program success and demand.

Staff is proposing that air districts have the flexibility necessary to develop their pilot programs for maximum effectiveness, and to determine a sustainable replacement vehicle solution for low-income participants. Each air district may take one or more approaches to program implementation using specific minimum program requirements.

To accurately measure that success and demand, staff proposes that the air districts provide quarterly reports to ARB detailing participation rates, vehicles retired, replacement vehicles purchased, administrative costs, outreach efforts, and other metrics. ARB staff would evaluate the data and determine whether incentive amounts or other program criteria need to be adjusted to improve the program's performance.

Staff proposes the following minimum Pilot Retire and Replace criteria:

1. Income Eligibility/Outreach

- The program must restrict program eligibility to motorists with household incomes of 400 percent of the federal poverty level (FPL) or less. The Federal Poverty guidelines[11] are updated annually and vary by household size as shown in Appendix C. Income eligibility thresholds defined at 225 percent, 300 percent, 400 percent provide various replacement options for qualified participants. For a household size of 4 persons, the qualifying incomes by income eligibility thresholds are $53,663, $71,550, and $95,400 respectively. The 225 percent FPL income threshold is consistent with CAP[12], while the 300 percent FPL and 400 percent FPL align well relative to income eligibility requirements of other California benefit programs (the California Homebuyer's Down Payment Assistance program has an income eligibility requirement of around 325 percent FPL while Covered California is 400 percent FPL).
- The program must provide significant assistance to program participants to complete transactions. This assistance could take the form of financial education, access to low-cost loans, or other assistance to address issues faced by low-income participants.
- The program must include significant outreach to low-income communities and individuals. Engaging low-income individuals poses several obstacles including lack of trust for the government, language and cultural barriers, and a lack of knowledge or understanding of air quality issues. These obstacles cannot be addressed by methods employed in more traditional air quality incentive programs. Simply increasing incentive amounts as a means to increase participation by low-income motorists is nullified if the target audience does not believe participation to be personally beneficial. Developing meaningful relationships with community-based organizations and leaders to leverage the trust that they have developed within targeted communities is important to mitigate these issues. Table II-1: Potential Outreach Methods lists a variety of possible methods that could be included in an outreach plan, but are not intended to prevent other approaches that an air district believes will be successful.

[11] U.S. Department of Health and Human Services, Office of the Assistant Secretary for Planning and Evaluation: http://aspe.hhs.gov/poverty/14poverty.cfm.

[12] Section 3394.4 of title 16 of Division 33, Article 11 of the California Code of Regulations.

Table II-1: Potential Outreach Methods

General	• Develop call centers to assist potential applicants • Develop program websites • Distribute program materials through existing mailing lists • Leverage existing dealership advertising methods
Low-income specific	• Advertising on radio/television/newspapers based in targeted communities • Identify and establish relationships with trusted community organizations (e.g., community advocates, faith-based institutions, etc.) • Distribute materials at schools/health clinics/social assistance offices • Leverage existing outreach done by local or community-based organizations or agencies • Leverage existing financial assistance programs for motorists • Administer program in conjunction with community-based events • Develop partnerships with Community Development Financial Institutions (CDFI)

2. Retirement

- The program must include a mechanism for targeting high-emitting vehicles. This could include a model year cut-off or another approach.
- The program must include a mechanism to ensure vehicles with sufficient functionality to be currently driven. This could include a functional test or an alternative.
- The program must require that retired vehicles be dismantled at a BAR contracted dismantler.

3. Replacement

The program will allow for additional tiered incentives for purchase of a more environmentally friendly replacement vehiclewhen a vehicle is retired. The initial incentive levels are shown below in Table II-2: Proposed Retire and Replace Program Minimum Incentives. The incentive levels are designed to be significant enough to assist consumers into newer vehicles at a manageable cost while being as cost-effective as possible and attracting as large a pool as possible. Also, as discussed further below, staff will work with the air districts to enable coordination with other state and local programs such as the Clean Vehicle Rebate Project (CVRP), Carl Moyer Program, and other light-duty low-carbon transportation funding to maximize participation opportunities for low-income participants to acquire either a new or used hybrid or advanced technology vehicle.

Table II-2: Proposed Retire and Replace Program Minimum Incentives

Income Eligibility	Replacement Options				
	8 year old or newer	*May be also Eligible Low-Carbon Transportation (CVRP) type incentives*			Alternative Transportation Mobility Options
		35+ MPG	Plug-In Hybrid[3]	Zero-Emission Vehicle	
Low Income <225% Federal Poverty Level	$4,000	$4,500	$4,500	$4,500	$4,500 Face Value
Moderate Income <300% Federal Poverty Level	Not Available	$3,500	$3,500	$3,500	$3,500 Face Value
Above Moderate Income <400% Federal Poverty Level	Not Available	Not Available	$2,500	$2,500	$2,500 Face Value

In establishing these proposed incentive levels, staff has evaluated existing economic data to estimate what resources participants would require to purchase a replacement vehicle in an effort to gauge how well the incentives proposed correspond with the financial needs of potential participants. Appendix C contains details of the analysis. Staff's conclusion is that the incentives proposed are consistent with the financial capabilities of the target population and the anticipated replacement vehicles available for sale.

As an example, assuming that 15 percent of income is used for transportation[13], the data indicate that a participant in a household of four with an adjusted income at 225 percent of FPL could use the proposed EFMP incentive of $4,500 as a down payment on an affordable loan towards the purchase of a used hybrid vehicle that meets the 35+ mpg.

a) Minimum Fuel Economy Ratings

For low-income participants replacement vehicles must be 8 years old or newer and meet minimum fuel economy ratings as determined by the United States Environmental Protection Agency (U.S. EPA) and published by the United States Department of Energy to be eligible for EFMP funding as shown for each model year in table below. Alternative fuel economy standards are provided to allow for the purchase of minivans 8 years old or newer for participants with larger families or a

[13] U.S. Bureau of Labor Statistics: Consumer Expenditures Report 9/25/12.

need for increased vehicle utility. Additional incentives are provided for more efficient vehicles, achieving at least 35 miles per gallon, per the goals of SB 459.

Table II-3: Replacement Vehicle Minimum Fuel Economy Requirements

Model Year	Minimum U.S. EPA Combined Fuel Economy Rating	Minivans Minimum U.S. EPA Combined Fuel Economy Rating
2006 - 2009	20	19
2010	22	19
2011	25	21
2012	28	21
2013	29	21
2014	30	21
2015	31	21

b) Advanced Technology

In addition to the higher incentive offered by EFMP for a more efficient advanced-technology vehicle, there are other incentives still under development, such as the Low-Carbon Transportation Greenhouse Gas Reduction Fund Investments (LCT-GGRF) pilot programs, which represent the initial steps in meeting the long-term goal of widespread use of advanced technology vehicles in California. These pilot programs are included in a parallel process with the development of the AB 118 Air Quality Improvement Program Funding Plan and Recommendations for LCT-GGRF, also scheduled for Board approval at the June 2014 meeting.

To determine a sustainable advanced-technology replacement vehicle solution for low-income participants in disadvantaged communities, staff believes that different approaches to provide assistance must be evaluated and tested. Assistance could be provided in different ways, but at this time staff believes the most promising would be to add an additional total incentive amount which would translate into a higher down payment for a new or used advanced-technology vehicle, or providing finance assistance to reduce interest rates. CVRP could provide additional financial assistance for the purchase of new plug-in hybrid and zero-emission vehicles. In addition, the LCT-GGRF pilot programs are expected to include EFMP Plus-up and Financing Assistance Programs. EFMP Plus-up will provide additional financial assistance for used advanced technology cleaner vehicles under EFMP or other vehicle retirement programs. The Financing Assistance Program will evaluate the feasibility of programs that provide financing assistance, such as loan loss guarantee for financial institutions or programs that buy down interest rates for consumers, in order to improve financing options for low-income individuals interested in moving into cleaner vehicles.

c) Consumer Protections

During the development process, consumer advocates commented that regardless of which approach is used, consumer protection and assistance in the purchasing

process are critical to the program's success. However, dealerships contend that consumer protection laws are already in existence at both state and federal levels and that additional consumer protection measures would merely complicate the program. In developing its proposal, staff determined that consumer protection is essential to ensuring that the program benefits are realized by the participants. In many cases, low-income motorists have fewer available options for car ownership due to constrained budgets and limited access to low-cost loans, making them particularly susceptible to predatory sales and lending practices. To implement a successful program, there must be a balance between protecting program participants and ease of implementation.

Allowing the air districts flexibility to determine appropriate consumer protections ensures that they are seamlessly integrated into the pilot program avoiding unnecessary complications with program implementation. Concepts to be considered during the development of the program include, but are not limited to, those identified in Table II-4: Consumer Protections to Consider. Staff will review pilot program proposals to ensure that consumer protections are considered and included where feasible. The program must include consumer protection during the purchase and financing of the vehicle to ensure that the benefits of the incentives accrue to the final consumer.

Table II-4: Consumer Protections to Consider

Loans	• Require or encourage/educate program participants to borrow from reputable lending institutions and even join credit unions to establish credit prior to purchase • Leverage financial counseling offered by most credit unions by directing participants to those resources • Suggest/require program participants be pre-approved before visiting dealership • Administer program through consumer advocacy group to provide financial counseling • Direct program participants to California's low-cost auto insurance program • Provide an estimate for total cost of car ownership with the truth-in-lending statement (now required by law)
Vehicle	• Require vehicle inspection by reliable, licensed professional auto mechanic • Require vehicle history to be provided and attached to paperwork • Work with dealers to set pre-fixed pricing for used vehicles • Require vehicle warranty for specified timeframe

4. Alternative Transportation Mobility Options

Under the current regulations, EFMP replacement incentives can be redeemed for transit passes instead of a replacement vehicle. However, providing monetary incentive for alternate mobility options will not entice individuals if the options

available do not meet their daily mobility needs. Public transportation is not available in many areas and where available, may be insufficient given daily time constraints, the need to traverse multiple transit systems, or the need for transporting goods or equipment. To help mitigate these concerns, staff proposes to expand the alternative transportation mobility options that can be utilized with EFMP funding to include items such as car-sharing memberships and to expressly permit the option of splitting the incentives among several different travel modes (e.g. train, bus, paratransit, etc.) to better meet the participants' needs. The face value air districts would need to provide (at a minimum) for the Alternative Transportation Mobility Options incentive must be no less than the amounts listed in Table II-2. However, air districts are encouraged to pursue ways in which the incentives could be leveraged to provide a greater overall benefit to participants.

In addition, as with advanced-technology replacement vehicles, staff proposes that EFMP be coordinated with other state programs to maximize the benefits to participants taking advantage of these options. For example, one LCT-GGRF pilot program affecting alternative transportation mobility options is the Targeted Car Sharing in Disadvantaged Communities Pilot Program. The Targeted Car Sharing in Disadvantaged Communities pilot may allocate funding to establish hybrid and advanced clean car sharing and vanpool fleets in disadvantaged communities to offer an alternate mode of transportation and encourage the use of clean cars. The pilot would be used to gather data that could help support larger scale advanced technology car share programs.

5. Administration

To allow ARB to track pilot program implementation, air districts will be required to report to ARB a number of key metrics (e.g., participation and income levels served, etc.) on a quarterly basis. If those reports indicate that participation is low, then ARB and the air districts would jointly determine if changes were necessary and what they may be. To ensure air districts have the funding to properly administer the program, the proposed amendments allow a maximum of 10 percent of the total funding to pay for program administration and outreach, and an additional 5 percent of the total funding to engage partners or contractors specifically to support low-income populations.

Air districts must develop basic program requirements and agreements with participating dealers or financial institutions to ensure the intended incentives are being received by the consumer. The dismantler is subject to the existing BAR oversight protocols to ensure the vehicle turned into EFMP is scrapped.

6. Other Revisions

As with the retirement program, staff proposes a number of additional changes to simplify the program and expand potential participation, including clearly defining the documentation needed in the application (insurance documents, proof of California operation, registration, etc.) and allowing the participation of vehicles with salvage titles, provided they are currently registered.

7. Pilot Models

To help illustrate approaches that would be available under the proposed criteria, staff has identified three implementation models (described below) that hold promise to increase participation in the EFMP Pilot Replacement program. While ARB proposes specific minimum program requirements and are responsible for program review, the air districts will have the flexibility to choose an approach that is best suited for their district. Each model would include outreach in environmental justice communities and provide provisions for targeting high emitting vehicles with remaining useful life.

a) Event-Driven Model

This model utilizes infrastructure from existing community events in low-income and disadvantaged communities. Staff believes a pilot replacement program can be integrated into existing events. For example, San Joaquin Valley Air Pollution Control District (SJVAPCD) already hosts Tune-In Tune-up events biweekly throughout the San Joaquin Valley geared toward repair assistance of high-emitting vehicles where the focal point of outreach are low-income motorists. The program could potentially be expanded to include vehicle retirement and replacement. The event-driven model also provides an opportunity for access to other facets of a sustainable replacement vehicle such as low-interest loans, financial counseling, and low-cost vehicle insurance.

b) Dealer-Driven Model

Under this model, outreach and function of the program could be moved to an arena where people are already motivated to make a change: the vehicle dealership. The proposed model would incentivize everyone at the dealership who has an older vehicle to make a cleaner replacement choice. All older vehicles could be eligible for retirement with an additional tiered incentive for purchase of more environmentally friendly replacement vehicles. This approach could be coordinated with other programs such as CVRP and the LCT-GGRF pilot programs to maximize opportunity for low-income participants.

Many vehicles sold to dealerships as trade-ins are relatively high emitters due to age and also have significant useful life remaining and thus make good candidates for EFMP retirement. Dealerships typically purchase these vehicles for less than retail resale value and the vehicle is subsequently sold into another household. Those vehicles could be intercepted at a price that is advantageous to both the dealer and the consumer and scrapped instead of eventually returning to the road under new ownership. This model would significantly streamline program implementation.

c) Financial Institution-Driven Model

Many low-income California motorists lack the credit worthiness to qualify for financing for newer, cleaner replacement vehicles and often purchase older, higher-polluting vehicles with cash or financing through dealerships with high loan rates. Participation in EFMP could break the cycle of low-income motorists purchasing older

replacement vehicles simply because they are the only option available due to financial constraints.

This model could incorporate a network of financial institutions capable of providing pre-approved low-interest financing, financial counseling, and other assistance to low-income motorists that may not be available through a traditional loan process. Once pre-approval is obtained, participants would redeem the voucher at any licensed dealership, which would provide a larger pool of dealership options and replacement vehicles.

These models are presented as examples only. Staff does not intend to limit implementation to one of the models described above. The fundamental aspect of the staff's proposal is that air districts have the flexibility to develop and refine a program that works for their air quality needs and low-income constituents.

C. Rationale Supporting Amendments to EFMP Regulations

This proposal is intended to address the findings of the 2013 EFMP review and address the clear directives of SB 459. The proposed changes will improve EFMP by providing greater focus on low-income residents, promote the use of cleaner and more efficient replacement vehicles and enhance the emission benefits of the current program.

III. PROPOSED ACTION

Staff recommends that the Board adopt the proposed amendments in this Initial Statement of Reasons. It must be recognized that the issue of incentivizing vehicle retirement and replacement is complex, with many complicating factors. Because of this, staff proposes that a review of the program occur by the end of June 2015, to determine program effectiveness and to recommend modifications as appropriate.

IV. AIR QUALITY

The overall program is expected to reduce smog-forming emissions by 1.4 tons per day. A more detailed analysis of the estimated emission benefits is provided in Appendix D. Under current funding, staff expects total retirements of 18,000 vehicles each year. It is anticipated that the retirement and replacement element will provide incentives for approximately 700 participants divided equally in the South Coast and San Joaquin Valley air basins.

Table IV-1: Estimated Emission Benefits details the estimated oxides of nitrogen (NOx) and hydrocarbon (HC) reductions for both the Retirement-only and Pilot Retire and Replace portions of EFMP. The majority of the program's benefits will be derived from the retirement of older vehicles and subsequent replacement with newer,

cleaner vehicles. While the emission benefits are greater on a per vehicle basis for vehicles receiving a replacement incentive, there are far fewer vehicles funded through the Pilot Retire and Replace Program.

Table IV-1: Estimated Emission Benefits

	Vehicles	NO_x and HC (tons per day)
Retirement-only	18,000	1.3
Pilot Retire and Replace	700	0.1
	18,700	1.4

As the program matures and participation increases, staff anticipates that the greenhouse gas reductions achieved by the EFMP will increase, but at this time, the effect is minimal. In the Retirement-only program, there is no guarantee that as to what specifically will be used in place of the retired vehicles. Therefore, staff has assumed that the consumers will replace them with vehicles that on average look like the fleet as a whole. Since the federal corporate average fuel economy requirements remained unchanged for several years, there is at the current time little impact of this element on greenhouse gas emissions. The Retire and Replace program steers participants to replacement choices that are better than the fleet average, and thus produce a greater greenhouse gas benefit per vehicle, but the number of vehicles replaced is small. However, as the composition of the fleet as a whole becomes more fuel efficient and the participation in the Retire and Replace increases, the greenhouse gas reductions achieved will increase.

V. ENVIRONMENTAL IMPACTS ANALYSIS

A. Introduction

That portion of ARB's regulatory program that involves the adoption, approval, amendment, or repeal of standards, rules, regulations, or plans for the protection and enhancement of the State's ambient air quality has been certified by the Secretary for Natural Resources pursuant to Public Resources Code section 21080.5 of the California Environmental Quality Act (CEQA Guidelines section 15251(d)). Public Resources Code section 21080.5 exempts public agencies with certified regulatory programs from certain CEQA requirements, including but not limited to, preparing environmental impact reports, negative declarations, and initial studies. Under its certified program, ARB as a lead agency prepares a substitute environmental document (referred to as an Environmental Analysis or EA) as part of the Staff Report to comply with CEQA's goals and policies and to provide public review of the analysis. (California Code of Regulations, title 17, sections 60000 – 60008).

B. Proposed Amendments

ARB staff has determined the proposed regulatory amendments to the EFMP are exempt from the requirements of CEQA, as described in CEQA Guidelines §15061, because the action is both an Action Taken by Regulatory Agencies for Protection of the Environment (as described in CEQA Guidelines §15308 for "class 8" exemptions), and it is also exempt as described in CEQA Guidelines §15061(b)(3) ("common sense" exemption) because it can be seen with certainty that there is no possibility that the proposed action may result in a significant adverse impact on the environment.

The EFMP is a voluntary accelerated vehicle retirement or "car scrap" program that provides monetary incentives to vehicle owners to retire older, more polluting vehicles. There is no change to the overall funding of the program, but the proposed amendments aim to increase the participation of low-income motorists and offer additional financial incentives for advanced technology as directed in SB 459. This is expected to reduce the number of vehicles scrapped by directing more of the available funding toward the purchase of more reliable, efficient, and cleaner vehicles by participants who would not otherwise have the opportunity to purchase a cleaner vehicle. The proposed amendments would not require any new actions that could affect the physical environment and result in significant adverse impacts to the environment. After the amendments are adopted, a Notice of Exemption will be filed with the Office of Planning and Research and the Secretary for Natural Resources for public inspection.

C. Alternatives Considered

No alternative considered by the agency would be more effective in carrying out the purpose for which the regulation is proposed or would be as effective or less burdensome to affected private persons than the proposed regulation

1. No Change

This alternative was rejected because leaving the program as is would fail to address the program issues identified in the program study and would not be responsive to the requirements of SB 459.

2. Immediately Increase Retirement Incentive Amounts

This alternative was rejected because evidence suggests that the current retirement incentive levels are less than needed to attract operational vehicles with remaining useful life into the program. An increase in the incentive amount was considered to better reflect the actual value of vehicles intended to be captured by the program. Larger incentives that reflect both the market value of an operating vehicle and the added cost of a Smog Check ASM test could improve the program by providing a better balance between remaining useful life, vehicle value, and cost-effectiveness.

However this alternative was rejected because increasing the basic incentive for retirement would lower consumer participation, negatively affect cost-effectiveness,

and affect other existing retirement programs, in particular, CAP. As noted above, the proposal does allow for adjustment in the incentive values, if the data suggests that participation has dropped significantly. Similarly, the value for Retire and Replace incentives could be increased under the proposal provided the participation data supports it.

3. Allow Moderate Income to Participate in Retirement

This alternative was rejected because staff believes that limiting the retirement-only portion of EFMP to low-income consumers is consistent with the goals set forth in SB 459 to increase access to funding for low-income motorists and disadvantaged communities. The initial decrease in the eligible pool of participants is mitigated by the fact that the retirement-only portion of the program is over-subscribed and the proposed amendments provide a mechanism to adjust incentive amounts and income eligibility based on quarterly participation reports if necessary.

VI. ENVIRONMENTAL JUSTICE

State law defines environmental justice as the fair treatment of people of all races, cultures, and incomes with respect to the development, adoption, implementation, and enforcement of environmental laws, regulations, and policies. ARB is committed to making environmental justice an integral part of its activities. The Board approved its Environmental Justice Policies and Actions (Policies) on December 13, 2001, to establish a framework for incorporating environmental justice into ARB's programs consistent with the directives of State law (CARB 2001). These policies apply to all communities in California, but recognize that environmental justice issues have been raised more in the context of low-income and minority communities.

As directed by SB 459, the proposed amendments to EFMP focus program incentives primarily toward low-income consumers and disadvantaged communities. As proposed, the retirement-only portion of the program would be restricted to low-income participants statewide while retirement and replacement incentives would be limited to only low- and moderate-income consumers (those with incomes of less than 400 percent of the Federal Poverty Level). Moreover, low-income eligible participants taking advantage of the replacement incentive would receive a higher voucher amount and be able to choose from a wider pool of replacement vehicles than moderate-income consumers.

The proposed event-driven model for Retire and Replace is designed to leverage the infrastructure of existing community events in low-income and disadvantaged communities. As mentioned above, SJVAPCD currently funds weekend events throughout the San Joaquin Valley providing repair assistance of high-emitting vehicles with focused outreach to low-income motorists and has indicated it will work to expand these events to include vehicle retirement and replacement. These events provide an opportunity to leverage existing community development organizations that provide families striving to gain greater economic self-sufficiency with a

combination of personal focused financial education, low-interest loans for reliable vehicles, and case management to support the success during the loan repayment program.

VII. ECONOMIC IMPACTS ANALYSIS/ASSESSMENT

A. Potential Cost Impacts of the Proposed Regulation

The proposed amendments do not significantly affect or otherwise alter the economic benefit that businesses have received or will continue to receive from their participation in voluntary incentive programs for EFMP. There are no compliance costs because EFMP is a voluntary incentive program and does not require mandatory participation by businesses. The proposed amended regulation will not adversely impact California businesses or consumers since they will participate only if it is financially beneficial. Businesses that may be slightly affected by the changes to the existing program include licensed dismantlers and car dealerships, as increased incentives per vehicle will slightly reduce the number of vehicle retired and also replaced. These impacts are short-term; over the long-term there are no economic impacts to either dismantlers or dealers. This is because EFMP could cause an infusion of activity, especially as the program is rolled out in focused areas. Given the scale of normal vehicle attrition or purchase these effects would be early, not necessarily extra, and would likely even out over time. In addition, the funds sunset in 2023.

The proposed amendments cause no additional work load or cost increases for BAR, SCAQMD, SJVAPCD or ARB, as these agencies are already implementing and plan to continue to implement these programs. Furthermore, EFMP guidelines provide funding for administration of the program to air districts.

1. Alternatives: Impact on Small Business

The Board has not identified any alternatives that would lessen any adverse impact on small business.

2. No alternative considered by the agency would be more effective in carrying out the purpose for which the regulation is proposed or would be as effective or less burdensome to affected private persons than the proposed regulation.

B. Major Regulations

HSC Section 57005 requires ARB to perform an economic impact analysis of submitted alternatives to a proposed measure before adopting any major regulation. A major regulation is defined as a regulation that will have a potential cost to California business enterprises in an amount exceeding $10 million. Staff estimates

the cost of the proposed amendments to California is significantly less than $10 million and is therefore not a major regulation.

C. Significant Adverse Economic Impact Directly Affecting Business

EFMP was implemented beginning in 2010 and has funding through the end of 2024[14]. The threshold for determining a significant adverse economic impact is $1,000,000 per year; staff projects that the financial impacts to the existing program will be less than $1,000,000 annually to dismantlers and car dealerships. Based on the directives of SB 459, the proposal would positively impact low-income consumers by limiting retirement funding to their participation.

Businesses that may benefit include those dismantlers participating in the EFMP Retirement-only program and car dealerships. For dismantlers that are not participating in the Retirement-only program, the amended program will slightly decrease the total number of vehicles retired annually, whereas for car dealerships, it is expected to modestly increase vehicle sales by increasing the number of vehicles replaced. This modest increase for car dealerships will not be great enough to result in the expansion of current businesses.

This regulation amends existing regulations for the scrapping and replacement of vehicles. Therefore, the regulation is not expected to have any effect on the creation or elimination of jobs. The regulation is also not expected to affect the creation or elimination of any businesses.

Cost-effectiveness is a metric used to ensure that public funds are well spent and achieve the maximum air quality benefit. As an example, the Carl Moyer Program Incentives Program limits projects to those not exceeding a cost-effectiveness of $17,720 per weighted ton of HC, NOx and particulate matter reduced. AB 118 directs that cost-effectiveness be considered, but does not specify a cost-effectiveness limit.

Table VII-1: Estimated Cost Effectiveness summarizes the cost-effectiveness for both retirement and typical replacement scenarios. Cost-effectiveness will vary and depend on the age of the retired vehicle, whether a voucher is used, and in cases where additional incentives are provided for low-income participants. As shown, cost effectiveness is estimated to range from $19,000 per ton for retirement-only to as much as $43,000 per ton for Pilot Retire and Replace for a low-income consumer purchasing a 35 mile per gallon vehicle. As discussed above, roughly 90 percent of the funding is allocated to Retirement-Only, so overall cost-effectiveness is greatly skewed toward that element's cost-effectiveness and is estimated to be $20,000 per ton. The assumptions used to weight the average replacement cost-effectiveness and a detailed explanation of the methodology are contained in Appendix E.

[14] AB 8, Perea. Alternative Fuels and Technology: Funding Programs.

Table VII-1: Estimated Cost Effectiveness

Consumer Replacement Option	Retirement-Only	Pilot Retire and Replace	Dollar per ton (NO_X + HC)
Low-Income	$1,500	N/A	$19,000
Low-Income < 8 yr old	$0	$4,000	$39,000
Low-Income 35 MPG	$0	$4,500	$43,000
Moderate-Income 35 MPG	$0	$3,500	$34,000
Moderate-Income ZEV	$0	$3,500 + $2,500* = $6,000	$40,000
Overall Program			$20,000

*This incentive amount represents an estimated contribution from LCT-GGRF Plus-up pilot. Actual incentive amount would be discussed by the LCT workgroup.

D. Justification for Adoption of Regulations Different from Federal Regulations Contained in the Code of Federal Regulations

This proposed regulation is unique; there are no similar federal regulations contained in the Code of Federal Regulations.

E. Benefits of the Proposed Regulation

The majority of the program's benefits will be derived from the retirement of older vehicles and subsequent replacement with fleet average vehicles. The overall program is expected to reduce smog-forming emissions by 1.4 tons per day. Reduction of smog-forming emissions will result in health benefits to the public by reducing instances of smog-related medical problems, including asthma and other respiratory ailments. Reduction in smog-related medical issues also reduces related costs, such as emergency room visits and other medical costs.

VIII. Summary and Rationale for Each Regulatory Provision

A summary of the proposed regulation elements and their rationale is provided below. The proposed regulatory text to amend title 13, California Code of Regulations, sections 2620-2630 is contained in Appendix A.

A. Section 2620 Purpose

Summary: The purpose of the regulation is to provide guidelines to implement the AB 118 EFMP to improve California air quality through the voluntary early retirement of vehicles as directed by the California Alternative and Renewable Fuel, Vehicle Technology, Clean Air, and Carbon Reduction Act of 2007 (AB 118, Statutes of 2007, Chapter 750; Health and Safety Code sections 44125-44126) section 44125(a). This section is needed for continued statewide implementation of the Retirement-Only portion of EFMP as well as development of the targeted Pilot Retire and Replace Program implemented by SJVAPCD and the SCAQMD as directed by SB 459.

Rationale: Describes authority and context for regulation.

B. Section 2621 Definitions

Summary: This section provides definitions of the terms used in the regulation and is needed to provide clarity and support for the requirements presented within the proposed regulation. Many of the definitions are unique to this proposed regulation, but where possible the definitions come from existing regulations and state and federal guideline documents.

Rationale: Many of the definitions are unique to this proposed regulation.

C. Section 2622 Program Administration

Summary: This section outlines administration requirements for both the Retirement-Only and Pilot Retire and Replace portions of EFMP. The proposed regulation specifies that the retirement-only portion will be implemented by BAR and the Pilot Retire and Replace portion will be implemented by the SJVAPCD and SCAQMD. All implementing agencies may contract with third parties including dismantlers to facilitate implementation of the EFMP and are required to report program participation and performance to ARB quarterly.

Rationale: These administration provisions are necessary for carrying out the purpose of the authorizing statute. Health and Safety Code section 44125 requires the program to be focused where the greatest air quality impact can be identified. The San Joaquin Valley and the South Coast Air Basin are the areas in the state with the most severe air pollution. In addition, South Coast and San Joaquin Valley air districts already have vehicle scrap programs in operation similar to the regulation being amended. Health and Safety Code section 44125(c)(8) requires "streamlined administration" and "accountability of moneys spent." The quarterly reporting enables ARB to monitor "accountability of moneys spent."

D. Section 2623 Program Limits

Summary: The text in this section provides the means to quickly adjust program requirements should the initial requirements decrease program participation and provides firm limits for those adjustments to the incentive amounts. The criteria for

adjusting the incentive amounts are based on quarterly reporting of program performance. Should program participation fall more than 15 percent below the previous year's average level, incentive amounts and eligibility requirements can be administratively adjusted by the ARB Executive Officer after at least one public workshop in each implementing air district.

Rationale: This section is needed to provide needed flexibility in the proposed regulation to support implementation of the Pilot Retire and Replace program and carry out the purpose of the authorizing statute. This section allows ARB to respond in a timely manner if a shift of resources is warranted by the levels of participation in the respective districts. It also allows ARB to monitor the effectiveness of the districts' outreach activities.

E. Section 2624 Retired Vehicle Minimum Eligibility Requirements

Summary: The retired vehicle eligibility criteria section provides eligibility criteria and requirements for all vehicles to be retired through EFMP, including those participating in the Pilot Retire and Replace program.

Rationale: This section is needed to clearly define the eligibility criteria required to retire vehicles through EFMP, which includes some form of a functionality test to ensure that vehicles have sufficient functionality to be driven on the road. The functionality requirement is necessary to ascertain that the program is retiring vehicles that have useful life remaining, rather than vehicles that would be retired anyway because they are at the end of their useful lives. Retiring vehicles that have no useful life remaining does not result in a worthwhile and cost-effective air pollution benefit.

F. Section 2625 Ineligible Vehicles

Summary: This section describes vehicles that are not eligible for participation in either the Retirement-Only or the Pilot Retire and Replace portions of EFMP. This section is needed to clearly define the types of vehicles that do not meet the minimum participation requirements of the program.

Rationale: These provisions are designed to specifically ensure that all vehicles participating in the program are privately owned and being driven in California.

G. Section 2626 Retirement-Only Program

Summary: This section provides the minimum eligibility requirements to participate in the statewide Retirement-Only portion of EFMP. Applications must be submitted with original signatures to BAR and the applicant must be the registered owner and hold the title for the vehicle. All vehicles must meet all the requirements of both this section and the retired vehicle eligibility requirements including completing a Smog Check test and passing the visual inspection required by CAP. The Retirement-only portion requires separately defined guidelines and requirements to align with CAP and to ensure that vehicles are dismantled at BAR contracted dismantlers.

Rationale: This section carries out the purpose of the authorizing statute by ensuring vehicles are dismantled at BAR contracted dismantlers. Health and Safety Code section 44125(c)(3) requires the vehicles to be continuously registered or primarily driven in California for two years prior to acceptance for the program. This section makes specific the statute's requirements and how they may be proved. Health and Safety Code section 44125(c)(7) requires that these regulations coordinate with the vehicle retirement and replacement components of the Bureau of Auto Repair's Consumer Assistance Program.

H. Section 2627 Pilot Retire and Replace Program

Summary: This section provides the minimum implementation criteria for EFMP Pilot Retire and Replace Program. Implementing air districts must submit an implementation proposal to ARB prior to receiving initial grant disbursements. These proposals must include methods for targeting high-emitting vehicles, ensuring that retired vehicles have sufficient functionality to be driven, and that the program incorporates some form of consumer protections.

Rationale: This section is to provide minimum criteria that must be met by both air districts, yet leave enough flexibility to address regional implementation needs and the experimental nature of a pilot program. Because this is a pilot program, the air districts need flexibility to try different approaches to see what will work for them. For example, a method for targeting high-emitting vehicles that works for primarily urban South Coast may not work for the more rural San Joaquin Valley. Thus the districts need flexibility to change their methods quickly to ensure the timely implementation of the statute.

I. Section 2628 Parts Recycling and Resale

Summary: This section provides requirements to dismantlers and other contractors accepting vehicles for retirement under EFMP. This section prohibits dismantlers and other contractors from removing emission or drive train related parts from retired vehicles. Vehicles and all activities associated with retiring them must be conducted in accordance with all local, state, and federal laws.

Rationale: This section is needed to ensure that emission reductions gained through the program are real and that parts from retired vehicles are not sold and re-used. It also ensures that the dismantling process is conducted legally, minimizing adverse environmental impact.

J. Section 2629 Records and Auditing

Summary: This section provides record keeping requirements for dismantlers and air districts implementing EFMP.

Rationale: This section is required so that records are kept to track and evaluate program participation and performance.

K. Section 2630 Severability

Summary: This section defines each section of the proposed regulation as severable and is needed to clearly define that if one provision within the proposed regulation is deemed invalid, the remaining parts are still deemed to be valid.

Rationale: This section preserves regulations to carry out purpose of authorizing statute, even if one section of th regulation is deemed invalid.

IX. PUBLIC PROCESS FOR DEVELOPMENT OF PROPOSED ACTIONS (PRE-REGULATORY INFORMATION)

This section describes the public process conducted by ARB during the development of the proposed regulation. ARB conducted a workshop series and met with stakeholders to present a proposal and solicit public input.

An informational report was presented to the Board in November 2013, indicating issues identified during an assessment of the program and potential areas of improvement. Subsequently, workshops were held in series on March 4-6, 2014 in Diamond Bar, Fresno, and Sacramento. The Fresno workshop included video telecast to Bakersfield and Modesto and the Sacramento workshop was webcast to increase participation. At these workshops, staff provided background information; proposed revisions to both the Retirement-Only and Pilot Retire and Replace programs; reviewed potential pilot program models and consumer protections; and the next steps in the regulatory process.

Notices of the workshop were sent via the electronic EFMP list serve and the general Mobile Source Mailings list serve and are posted on the respective webpages[15],[16]. ARB also posted the workshop material on its EFMP webpage[13].

In addition to the public workshops, ARB staff worked extensively with nonprofits interested in issues where income and transportation needs intersect. Concepts like vehicle affordability, reliability and safety, and alternative transportation mobility options were discussed. ARB staff attended SJVAPCD's Tune-In Tune-Up events hosted by Valley Clean Air Now to better understand how the logistics of a vehicle repair program using community-based outreach and local business partners may be leveraged into a replacement program.

[15] http://www.arb.ca.gov/msprog/aqip/efmp/efmp.htm
[16] http://www.arb.ca.gov/msprog/mailouts/mouts_14.htm

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APPENDIX A
PROPOSED REGULATION ORDER

Appendix A – Proposed Regulation Order

Regulation for AB 118 Enhanced Fleet Modernization Program

NOTE: Set forth below is proposed amendments to title 13, of the California Code of Regulations. Amendments to existing sections proposed and subject to comment in this rulemaking are shown in underline to indicate additions and ~~strikeout~~ to indicate deletions.

Amend title 13, California Code of Regulations, sections 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630 to read as follows:

Article 2. AB 118 Enhanced Fleet Modernization Program

§ 2620. Purpose.

The purpose of this regulation is to improve California air quality through the voluntary early retirement of vehicles as directed by the California Alternative and Renewable Fuel, Vehicle Technology, Clean Air, and Carbon Reduction Act of 2007 (Assembly Bill 118, Statutes of 2007, Chapter 750; Health and Safety Code sections 44125-44126) section 44125(a). Vehicle owners who meet certain eligibility requirements are offered the following:
(a) Payment for the voluntary retirement from operation of a motor vehicle and/or;

(b) Additional payment~~, in the form of a voucher, to owners of targeted vehicles~~ for the purchase of a replacement vehicle meeting emission and/or model year requirements, ~~if they~~ to a vehicle owner who voluntarily retires a ~~targeted~~ vehicle. A district administering a ~~voucher~~ replacement program may offer this additional payment ~~in the form of a voucher~~ for alternative transportation mobility options such as public transportation and/ or car sharing in lieu of a ~~voucher for the purchase of a~~ replacement vehicle.

NOTE: Authority cited: 39600, 39601 and 44125, Health and Safety Code. Reference: Sections 39600, 39601 and 44125, Health and Safety Code.

§ 2621. Definitions.

(a) **"ARB" or "Board"** means the California Air Resources Board.

(b) **"BAR"** or **"Bureau"** means the Bureau of Automotive Repair in the Department of Consumer Affairs.

(c) **"Consumer Protections"** means any method, provision, or requirement designed to ensure that program participants accrue the full benefit of the incentives offered through the program.

~~(c)~~(d) **"Dismantle"** means to, crush, stamp, shred, or otherwise render permanently and irreversibly incapable of functioning as originally intended, any vehicle or vehicle part.

~~(d)~~(e)**"Dismantler"** means the person or business, defined and licensed according to the requirements of California Vehicle Code sections 220,221,11500, et seq., and other business codes and the regulations of the Department of Motor Vehicles (DMV), who under contract with BAR dismantles or otherwise removes from service those vehicles obtained in the Enhanced Fleet Modernization Program.

~~(e)~~(f) **"District"** means a local air quality management district or air pollution control district, as defined by California Health and Safety Code, Part 3, Section 40000 et seq., which has responsibility for administering air pollution control programs.

~~(f)~~(g) **"Drive Train Parts"** means all parts associated with the drive train such as engine, drive mechanism, transmission, differential, axles, and brakes.

~~(g)~~(h) **"EFMP"** means the Enhanced Fleet Modernization Program.

~~(h)~~(i) **"Emissions-Related Part"** means any vehicle part which affects any regulated emissions from a vehicle that is subject to California or federal emissions standards and includes, but is not limited to, those parts specified in the "Emissions-Related Parts List," adopted by the State Board on November 4, 1977, as last amended June 1, 1990.

~~(i) ***"Income Eligible"*** means a person whose income does not exceed 225 percent of the federal poverty level, as published quarterly in the Federal Register by the United States Department of Health and Human Services.~~

~~(j) ***"Solicited Vehicle"*** means a vehicle identified by the Bureau and the Board and solicited by the Bureau for participation in the EFMP retirement program. These vehicles are identified by probability of being a high polluting vehicle. Solicited vehicles include: all pre-1976 model year vehicles; diesel vehicles; and additional vehicles identified by analysis of~~ the ~~data generated by the Smog Check program~~.

(j) **"Federal Poverty Level"** or **"FPL"** means the income level published in the poverty guidelines which are updated periodically in the Federal Register by the U.S. Department of Health and Human Services under the authority of 42 U.S.C. 9902(2)." The guidelines are a simplification of the poverty thresholds for use for **administrative** purposes — for instance, determining financial eligibility for certain federal programs.

(k) **"Functionality Test"** means a method for determining that a vehicle has sufficient functionality to be driven on road.

~~(k) ***"Targeted Vehicle"*** means a vehicle identified by the Bureau, the Board, or the district to be eligible for a voucher and retirement under the EFMP. These vehicles are identified by probability of being a high polluting vehicle. Targeted vehicles include: all~~

~~pre-1976 model year vehicles; diesel vehicles; and additional vehicles identified by analysis of the data generated by the Smog Check programs or vehicles identified by other means accepted by the Board, such as remote sensing. Targeted vehicles identified by analysis of emissions data will have a higher probability of high emissions than solicited vehicles; targeted vehicles are a subset of solicited vehicles.~~

~~(l) *"Voucher"* means a document with a specified redemption value issued by the district, and redeemed at a vehicle dealer for the purchase of a replacement vehicle meeting emissions and/or model year requirements or redeemed at a public transit agency for the purchase of transportation.~~

(l) **"Hybrid Vehicle"** means a vehicle with two or more distinct power sources on the drive train.

(m) **"Alternative Transportation Mobility Option"** means additional methods of transportation including but not limited to: public transportation passes, car sharing memberships, or a combination thereof.

(n) **"Plug-In Hybrid Vehicle"** means a vehicle that can be driven solely by an electric motor without consuming any gasoline, and with batteries that can be recharged by plugging it into a wall outlet.

(o) **"Zero-Emission Vehicle"** means a vehicle which produces no emissions from the on-board source of power.

NOTE: Authority cited: 39600, 39601 and 44125, Health and Safety Code. Reference: Sections 39600, 39601, 44062.1 and 44125, Health and Safety Code

§ 2622. Program Administration.

(a) The Enhanced Fleet Modernization Program retirement-only portion shall be administered by the Bureau through contracts with dismantlers~~, districts,~~ and other appropriate entities as necessary.

(b) ~~The Bureau may contract annually with local air pollution control districts to administer the voucher portion of the EFMP. Districts may use up to 5% of program funds to recover administrative costs incurred.~~The Enhanced Fleet Modernization Program Retire and Replace program shall be administered by the San Joaquin Valley Air Pollution Control District and the South Coast Air Quality Management District. The Districts may contract with dismantlers, dealerships, financial institutions, and other appropriate entities as necessary.

(c) The Bureau shall coordinate ~~annually~~ with the Board to determine the appropriate budget for the ~~voucher~~ Retire and Replace program, given past performance.
(d) The Bureau and the Districts shall submit quarterly reports to ARB detailing program participation and performance. At a minimum the Bureau report shall include items (1) and (2), while the District reports shall include items (1) through (6) below:

(1) Program participation rates

(2) Retired vehicle information, including make, model, model year, license number, mileage at retirement and registration status at retirement

(3) Replacement Vehicle Information, including make, model, model year, license number, and mileage at time of purchase

(4) A summary of the incentives delivered, by demographic categories established in section 2627 (l)

(5) A summary of feedback received from participants, including those participants that ultimately did not receive any incentive, if available.

(6) Copies of any reports from District contractors or partner agencies concerning the performance of the program, if appropriate.

NOTE: Authority cited: Sections 39600, 39601 and 44125, Health and Safety Code. Reference: Sections 39600, 39601, and 44125, Health and Safety Code.

§ 2623. Program Limits.

~~An applicant determined to be eligible under the Enhanced Fleet Modernization Program may receive the following assistance:~~

(a) Retirement Program: If the quarterly reports indicate that participation in the EFMP retirement program is insufficient to enable expenditure of the funds by the end of the fiscal year, or if participation has dropped more than 15 percent below the average level of participation for the same quarter of the previous year, the Executive Officer, in consultation with BAR, may administratively adjust the incentive amounts offered and eligibility requirements. Such an adjustment may be implemented only after a public workshop.

(b) Retire and Replace Program: If the quarterly reports indicate that participation in the EFMP Retire and Replace program is insufficient to enable expenditure of the funds by the end of the fiscal year, or if participation has dropped more than 15 percent below the average level of participation for the same quarter of the previous year, the Executive Officer , in consultation with the implementing Air Districts, may administratively adjust the incentive amounts offered and eligibility requirements. Such an adjustment may be implemented only after at least one public workshop in each implementing Air District.

(c) Should the program incentive amounts be modified, the maximum incentive amounts for the Enhanced Fleet Modernization Program shall be limited as follows:

~~(a) For income eligible participants, payment of $1,500.00 for each vehicle retired from operation at a dismantler operating under contract with BAR;~~

~~(b) For all other vehicle owners, payment of $1,000.00 for each vehicle retired from operation at a dismantler operating under contract with the Bureau of Automotive Repair;~~

~~(c) Once the dismantler has purchased the vehicle, the consumer's eligibility status or the amount paid to the consumer cannot change.~~

~~Targeted Vehicles may also qualify for:~~

~~(d) Payment, in the form of a voucher, of $2,000.00 toward the purchase of a replacement vehicle four years old or newer, or up to $2,000.00 toward the purchase of transportation by a public transit agency; or~~

~~(e) For income eligible participants, payment, in the form of a voucher, of $2,500.00 toward the purchase of a replacement vehicle eight years old or newer, or up to $2,500.00 toward the purchase of transportation by a public transit agency.~~

(1) For eligible participants with household income less than or equal to 225% of FPL, payment, not to exceed $2,500.00, for each vehicle retired from operation at a dismantler operating under contract with BAR

(2) For eligible participants with household income less than or equal to 225% of FPL, payment, not to exceed $5,000.00, toward the purchase of a replacement vehicle eight years old or newer

(3) For eligible participants with household income less than or equal to 225% of FPL, payment, not to exceed $5,500.00, toward the purchase of a replacement vehicle with a minimum 35 miles per gallon (mpg) fuel economy.

(4) For eligible participants with household income less than or equal to 225% of FPL, payment of $5,500.00, toward the purchase of a hybrid, plug-in hybrid, or zero-emission replacement vehicle.

(5) For eligible participants with household income less than or equal to 225% FPL, payment of $5,500.00, toward the purchase of alternative transportation mobility options.

(6) For eligible participants with household income greater than 225% of FPL and less than or equal to 300% of the FPL, payment not to exceed $4,500.00 toward the purchase of a replacement vehicle with a minimum 35 miles per gallon (mpg) fuel economy.

(7) For eligible participants with household income greater than 225% of FPL and less than or equal to 300% of the FPL, payment, not to exceed $4,500.00 toward the purchase of a hybrid, plug-in hybrid, or zero-emission replacement vehicle.

(8) For eligible participants with household greater than 225% of FPL and less than or equal to 300% of the FPL, payment, not to exceed $4,500.00 toward the purchase of alternative transportation mobility options.

(9) For eligible participants with household income greater than 300% of the FPL and less than or equal to 400% of the FPL, payment, not to exceed $3,500.00 toward the purchase of a hybrid, plug-in hybrid, or zero-emission replacement vehicle.

(10) For eligible participants with household income greater than 300% of the FPL and less than or equal to 400% of the FPL, payment, not to exceed $3,500.00 toward the purchase of alternative transportation mobility options.

~~(f)~~(d) Consumers who have received ~~federal funds~~ EFMP incentives for a replacement vehicle may ~~not~~ receive ~~funds under EFMP~~ additional incentives toward the purchase of ~~for~~ the same vehicle, subject to the requirements of the other incentive program(s).

NOTE: Authority cited: Sections 39600, 39601 and 44125, Health and Safety Code. Reference: Sections 39600, 39601, 44062.1 and 44125, Health and Safety Code.

§ 2624. Retired Vehicle Minimum Eligibility Requirements.

~~(a) In order to apply for participation in the EFMP, an individual must submit a completed application as specified at section 3394.6 of title 16 of Division 33, Article 11 of the California Code of Regulations, to BAR with original signature(s).~~

~~(b)~~ (a) In order to participate in the EFMP, an individual must be the registered owner of the vehicle with vehicle title issued in their name~~;~~. ~~and t~~

(b) Vehicles that hold a salvage title are eligible for participation if registered at the time of application.

(c) The vehicle must meet one of the following requirements~~, as applicable~~:

~~(1) It shall be voluntarily sold to a Dismantler under contract with BAR;~~

(1)~~(2)~~ It shall ~~be currently registered with~~meet the DMV requirements as specified in sections 3394.4 (b)(6)(C) and 3394.4 (b)(6)(D) of Title 16 of Division 33, Article 11 of the California Code of Regulations ~~as an operable vehicle and shall have been so registered continuously for at least 24 months prior to the postmarked date of application to an address or addresses within the state, or~~

~~(A) A vehicle may also be eligible if the owner of the vehicle placed the vehicle in planned non-operational status per Vehicle Code section 4604, et seq., for a total of 60 or fewer days during the continuous 24 months registration period and occurring at least 90 days prior to the postmarked date of application, or~~

~~(B) A vehicle may also be eligible if the registration has lapsed for fewer than 121 days during the previous 24 months, pursuant to Health and Safety Code section 44094, and all appropriate registration fees and late penalties have been paid to the DMV, provided that the vehicle is registered for at least 90 days immediately prior to the postmarked date of application;~~

~~(C) Determination of an individual vehicle's registration history shall be based on:~~

~~1. Registration data for that vehicle obtained from DMV records; and~~

~~2. If (C)1 provides inconclusive results for an individual vehicle, then copies of the applicable vehicle registration certificates may be used;~~

~~(D)~~(2) An unregistered vehicle may also be eligible if proven to have been driven primarily in California for the last two years and not to have been registered in any other state or country in the last two years. Documentation of operation in California includes the following:

~~1.~~(A) Proof of continuous insurance coverage for the ~~last~~ two ~~years~~ consecutive years preceding application to the EFMP, without lapses in insurance coverage totaling more than 120 days; or

~~2.~~(B) At least two ~~i~~Invoice~~(s)~~ from an Automotive Repair Dealer registered at the time of the repair with the Bureau pursuant to section 9884.6 of the Business and Professions Code ~~(~~showing the following:

1. The Automotive Repair Dealer's valid registration number, as issued by the Bureau

2. The name and address of the Automotive Repair Dealer, as shown on the Bureau's records

3. Description of a repair or maintenance operation performed to the vehicle

4. The vehicle year, make, model, and vehicle identification ~~number) for~~ or license plate number matching the vehicle to be retired

5. The date of the ~~vehicle repairs and/or~~repair or maintenance visit ~~during the previous two years and proof of owner's residence in the state during the same period.~~

(C) Invoices submitted for the purpose of satisfying the requirements of section (B) shall be from two separate calendar years. The oldest invoice may not be older than twenty-four months prior to the date of application receipt.

~~(3) It shall be a vehicle with up to 10,000 pounds gross vehicle weight rating: including a passenger vehicle, truck, sports utility vehicle (SUV), or van;~~

~~(4) It may be operating under a Smog Check repair cost waiver or economic hardship extension issued pursuant to Health and Safety Code section 44017 or 44017.1;~~

~~(5) Vehicles that are tampered, pursuant to section 3340.41.5 of hold a salvage title 16, Division 33, Article 5.5 of the California Code of Regulations or Health and Safety Code section 43012, shall be are eligible acceptance into the EFMP program.~~

~~(c) Each vehicle shall pass the visual and operational inspection required by the Consumer Assistance Program, performed by the dismantler or BAR representative, and conducted on-site~~ at the ~~dismantler location. The inspection requirements for the Consumer Assistance Program are defined pursuant to sections 3394.4(c)(8) and~~

~~3394.4(c)(9) of title 16 of Division 33, Article 11 of the California Code of Regulations. Vehicles failing the inspection requirements may be re-inspected by the dismantler for compliance with these requirements at any time after modifications have been made to the vehicle to correct the deficiency(ies).~~

~~(d) An applicant shall not have retired another vehicle through the EFMP or the BAR Consumer Assistance Program within the preceding 12-month period; and a vehicle owner who is a joint owner of a vehicle shall not have retired more than two vehicles through the EFMP or BAR Consumer Assistance Program within a 12-month period.~~

(d) Vehicles shall be voluntarily dismantled at a Dismantler under contract with BAR;

(e) Vehicles shall be up to 10,000 pounds gross vehicle weight rating: including a passenger vehicle, truck, sports utility vehicle (SUV), or van;

(f) Vehicles must complete a functionality test to ensure that the vehicle is capable of being driven on the road. Examples of acceptable functionality tests include but are not limited to: smog check tests as defined in section 2626(g), or another demonstration of functionality such as the inspection requirements listed in section 2626(b).

NOTE: Authority cited: Sections 39600, 39601 and 44125, Health and Safety Code. Reference: Sections 39600, 39601 and 44125, Health and Safety Code.

§ 2625. Ineligible Vehicles.

(a) A dismantled or salvaged vehicle that has not been reregistered pursuant to section 11519 of the Vehicle Code.

(b) A vehicle registered to a non-profit organization or a business.

(c) A vehicle operated by a public agency or fleet licensed and registered pursuant to Health and Safety Code sections 44019 and 44020.

(d) A vehicle being initially registered in California.

NOTE: Authority cited: Sections 39600, 39601 and 44125, Health and Safety Code. Reference: Sections 39600, 39601 and 44125, Health and Safety Code.

§ 2626. ~~Targeted Vehicles and Vehicle Solicitation~~Retirement-only Program.

~~(a) The Bureau, the Districts, and the Board will solicit vehicles with the greatest potential for having the highest emissions for participation in the EFMP. BAR shall use existing vehicle emissions data to identify and solicit program participation beginning with vehicles with the highest emissions potential first. "Solicited vehicle" is defined pursuant to subdivision (j) of section 2621.~~

~~(b) The Bureau shall primarily focus outreach efforts and solicit vehicles in the South Coast and San Joaquin Valley air basins.~~

~~(c) The Board, the Bureau, and the Districts may solicit Targeted Vehicles as defined pursuant to subdivision (k) of section 2621 as appropriate for participation in the voucher portion of the EFMP.~~

(a) In order to apply for participation in the Retirement-only program of the EFMP, an individual must submit a completed application as specified at section 3394.6 of the title 16 of Division 33, Article 11 of the California Code of Regulations, to BAR with original signature(s).

(b) Each vehicle must pass the visual and operational inspection required by the Consumer Assistance Program, performed by the dismantler or BAR representative, and conducted on-site at the dismantler location. The inspection requirements for the Consumer Assistance Program are defined pursuant to sections 3394.4 (b)(7) and 3394.4 (b)(8) of title 16 of Division 33, Article 11 of the California Code of Regulations. Vehicles failing the inspection requirements may be re-inspected by the dismantler for compliance with these requirements at any time after modifications have been made to the vehicle to correct the deficiency(ies)

(c) In order to participate in the EFMP retirement program, an individual must have household income less than or equal to 225% of FPL.

(d) An applicant determined to be eligible under the retirement-only portion of the EFMP shall voluntarily sell the vehicle to the dismantler and may receive payment of $1,500.00 for each vehicle retired from operation at a dismantler operating under contract with the Bureau.

(e) Once the dismantler has purchased the vehicle, the consumer's eligibility status or the amount paid to the consumer cannot change.

(f) Model year 1976 and newer vehicles must have successfully completed a Smog Check inspection (pass or fail) within 180 days of the date of application to the EFMP. A Smog Check inspection shall not include aborted, manual mode, or training mode tests. Vehicles exempt from the Smog Check program as defined in Title 16 of the California Code of Regulations section 3340.5 do not require a Smog Check inspection to qualify for the EFMP.

(g)An applicant shall not have retired another vehicle through the EFMP or the BAR Consumer Assistance Program within the preceding 12-month period; and a vehicle owner who is a joint owner of a vehicle shall not have retired more than two vehicles through the EFMP or BAR Consumer Assistance Program within a 12-month period.

NOTE: Authority cited: Sections 39600, 39601 and 44125, Health and Safety Code. Reference: 39600, 39601 and 44125, Health and Safety Code.

§ 2627. ~~Vouchers~~ Pilot Retire and Replace Program.

(a) ~~Vouchers~~ The Retire and Replace program will be offered in the South Coast and San Joaquin Valley air basins. The Bureau shall consult with the Board annually regarding the status of the ~~voucher~~ Retire and Replace program.

(b) ~~BAR or t~~ The Board shall contract with the districts to administer the ~~voucher~~ pilot Retire and Replace program.

(c) The districts shall use not more than 10% of grant funds received to cover the cost of program administration.

(d) The districts may use an additional 5% of grant funds received to contract with third party entities to address issues associated with participation of lower-income consumers.

(e) The districts must submit a pilot Retire and Replace program implementation proposal to the Board prior to receiving initial grant disbursements.

(f) The pilot Retire and Replace program must include the following elements:

(1) Targeted outreach in low-income and disadvantaged communities. The program must target outreach and restrict program eligibility to motorists with household incomes of 400 percent of the federal poverty level or less. This does not prohibit outreach being conducted in conjunction with one or more other programs that are targeted at other populations.

(2) Methods for ensuring that retired vehicles have sufficient remaining useful life. The program must include a mechanism to ensure vehicles with sufficient functionality to be currently driven. This could include, but is not limited to, the completion of a smog check test.

(3) Methods to target high-emitting vehicles. The program must include a mechanism for targeting high-emitting vehicles to be retired. This could include, but is not limited to, emissions testing, remote sensing, determination of a model year limitation or other mechanisms.

(4) Methods for providing significant assistance to program participants to complete Retire and Replace transactions. This assistance could take the form of financial education, access to low cost loans, or other ways to address the challenges to vehicle ownership faced by low-income participants. ARB staff will

work with the Districts to enable coordination with light-duty low-carbon transportation funding to maximize participation opportunities for low-income participants.

(5) Consumer protections during the purchase and financing of the vehicle to ensure that the benefits of the incentives accrue to the final consumer. These could include, but are not limited to the following:

(A) Require or encourage/educate program participants to borrow from reputable lending institutions and/or join credit unions to establish credit prior to purchase

(B) Prohibit vehicle loans by selling dealership

(C) Leverage financial counseling offered by most credit unions by directing participants to those resources

(D) Suggest/require program participants be pre-approved before visiting dealership

(E) Administer program in collaboration with consumer advocacy groups that provide financial counseling

(F) Direct program participants to California's low-cost auto insurance program

(G) Require an estimate for total cost of car ownership with the truth-in-lending statement (now required by law)

(H) Establish pre-approved pricing for used vehicles

(I) Require vehicle inspection and disclosure by an independent auto mechanic

(J) Require vehicle history be provided and attached to paperwork

(K) Require vehicle warranty for specified timeframe

(6) Regular review of contractors and partners to ensure that the requirements of the plan and of these regulations are being met.

(7) Provisions to require contractor and partners to provide information to be used in the quarterly reporting to ARB as required by Section 2622.

(8) Dismantle of retired vehicles by a BAR contracted dismantler. This may require an air district to develop and enter into a separate contract or agreement with the dismantler.

~~(c) The district administering the voucher program shall submit applications pursuant to subdivision (a) of section 2624 for EFMP retirement to the Bureau for approval. The Bureau shall provide the District with its determination of an applicant's income eligibility~~

~~for the purpose of a voucher. If approved, the Bureau shall issue a Letter of Eligibility (LOE), which the district will give to the applicant.~~

(g)~~(d)~~ A~~The~~ district administering the ~~voucher~~ pilot Retire and Replace program shall contract with participating vehicle dealers, ~~or~~ financial institutions, public transit agencies, and other entities as necessary for redemption of the ~~vouchers~~Retire and Replace incentives.

~~(1) All vehicle dealers under contract to redeem vouchers must be licensed as dealers; private party vehicle transactions are not eligible for voucher redemption.~~

(1)~~(2)~~ The ~~voucher~~ Retire and Replace incentive may not be redeemed for the purchase of a dismantled ~~or salvaged~~ vehicle.~~(3) The voucher may not be redeemed for the purchase of~~ or a vehicle with a salvaged title (as described in Vehicle Code section 544).

~~(4)~~ (2) The ~~voucher~~ Retire and Replace incentive may only be redeemed for replacement vehicles that meet or exceed one of the following minimum criteria:

(A) A replacement vehicle 8 years old or newer with an EPA combined fuel economy ratings[17]:

Model Year	Minimum U.S. EPA Combined Fuel Economy Rating	Minivans Minimum U.S. EPA Combined Fuel Economy Rating
~~2002~~ 2006 - 2009	20	19
2010	22	19
2011	25	21
2012	28	21
2013	29	21
2014	30	21
2015	31	21

(B) A replacement vehicle that meets or exceeds 35 miles per gallon combined fuel economy rating

~~The EPA combined fuel economy rating used to determine voucher eligibility shall be the rating calculated by the EPA using the methodology for model year 2008 and later vehicles. The EPA combined fuel economy rating may be found on the "EPA Fuel Economy Estimates" window sticker of any new vehicle, and the ratings for all vehicles are currently available at http://www.fueleconomy.gov~~

[17] The EPA combined fuel economy rating used to determine Retire and Replace eligibility shall be the rating calculated by the EPA using the methodology for the model year 2008 and later vehicles. The EPA combined fuel economy rating may be found on the "EPA Fuel Economy Estimates" window sticker of any new vehicle, and the ratings for all vehicles are currently available at http://fueleconomy.gov

(C) A plug-in hybrid replacement vehicle

(D) A zero-emission replacement vehicle

~~(e)~~(h) A vehicle owner or joint vehicle owner may not receive more than one ~~voucher~~ Retire and Replace incentive under the EFMP.

~~(f)~~(i) Vehicles shall not be eligible for a ~~voucher~~ Retire and Replace incentive unless they meet the requirements of section 2624~~(b)~~(c) at an address in the district where the ~~voucher~~ Retire and Replace incentive is issued.

(j) In order to participate in the EFMP pilot Retire and Replace incentive program, an individual must have a household income less than or equal to 400% of FPL.

(k) Vehicles shall not be eligible for a Retire and Replace incentive unless they pass a functionality test.

(l) An applicant determined to be eligible under the EFMP pilot Retire and Replace incentive program may receive the following minimum incentives depending on income eligibility:

Retire and Replace Program Incentives

Income Eligibility	8 year old or newer	35+ MPG	Plug-In Hybrid	Zero-Emission Vehicle	Alternative Transportation Mobility Options
Low Income <225% Federal Poverty Level	$4,000	$4,500	$4,500	$4,500	$4,500 Face Value
Moderate Income <300% Federal Poverty Level	Not Available	$3,500	$3,500	$3,500	$3,500 Face Value
Above Moderate Income <400% Federal Poverty Level	Not Available	Not Available	$2,500	$2,500	$2,500 Face Value

(1) For eligible participants with household income less than or equal to 225% of FPL, payment of $4,000.00 toward the purchase of a replacement vehicle 8 years old or newer.

(2) For eligible participants with household income less than or equal to 225% of FPL, payment of $4,500.00 toward the purchase of a replacement vehicle with a minimum 35 mpg fuel economy.

(3) For eligible participants with household income less than or equal to 225% of FPL, payment of $4,500.00 toward the purchase of a hybrid, plug-in hybrid, or zero-emission replacement vehicle.

(4) For eligible participants with household income less than or equal to 225% of FPL, payment of $4,500.00 toward the purchase of alternative transportation mobility options.

(5) For eligible participants with household income greater than 225% of FPL and less than or equal to 300% of the FPL, payment of $3,500.00 toward the purchase of a replacement vehicle with a minimum 35 mpg fuel economy.

(6) For eligible participants with household income greater than 225% of FPL and less than or equal to 300% of the FPL, payment of $3,500.00 toward the purchase of a hybrid, plug-in hybrid, or zero-emission replacement vehicle.

(7) For eligible participants with household income greater than 225% of FPL and less than or equal to 300% of the FPL, payment of $3,500.00 toward the purchase of alternative transportation mobility options.

(8) For eligible participants with household income less than or equal to 400% of the federal poverty level, payment of $2,500.00 toward the purchase of a hybrid, plug-in hybrid, or zero-emission replacement vehicle.

(9) For eligible participants with household income less than or equal to 400% of the federal poverty level, payment of $2,500.00 toward the purchase of alternative transportation mobility options.

NOTE: Authority cited: Sections 39600, 39601 and 44125, Health and Safety Code. Reference: Sections 39600, 39601 and 44125, Health and Safety Code.

§ 2628. Parts Recycling and Resale.

Dismantlers and any other contractor accepting vehicles for retirement under EFMP, and their agents, contractors and employees shall not remove any parts from an EFMP purchased vehicle for resale or reuse unless specifically exempted ~~by~~per BAR ~~through~~ contract.

(a) No compensation with public funds from the EFMP shall be granted for any vehicle from which emission-related or drive train parts, as defined in section 2621, have been sold.

(b) All activities associated with retiring vehicles, including but not limited to the disposal of vehicle fluids and vehicle components, shall comply with:

(1) Local water conservation regulations;

(2) State, county, and city energy and hazardous materials response regulations; and

(3) Local water agency soil, surface, and ground water contamination regulations.

NOTE: Authority cited: Sections 39600, 39601 and 44125, Health and Safety Code. Reference: Sections 39600, 39601 and 44125, Health and Safety Code.

§ 2629. Records and Auditing.

(a) Records shall be securely maintained by the ~~dismantler~~ dismantlers and all contractors accepting vehicles for retirement under EFMP for each vehicle purchase and transaction in the EFMP. The records shall be kept for a minimum of three years following the date of vehicle retirement.

(b) Records shall be maintained by the district for each ~~voucher redemption~~ Retire and Replace transaction in the EFMP. The records shall be kept for a minimum of three years following the date of replacement vehicle purchase.

NOTE: Authority cited: 39600, 39601, and 44125, Health and Safety Code. Reference: 39600, 39601, and 44125, Health and Safety Code.

§ 2630. Severability.

Each part of this article shall be deemed severable, and in the event that any provision of this article is held to be invalid, the remainder of this article shall continue in full force and effect.

NOTE: Authority cited: Sections 39600, 39601 and 44125, Health and Safety Code. Reference: Sections 39600, 39601 and 44125, Health and Safety Code.

APPENDIX B
HEALTH AND SAFETY CODE SECTION 44125-44126

APPENDIX B: HEALTH AND SAFETY CODE SECTION 44125-44126

44125. Voluntary retirement of high-polluting vehicles; Guidelines

(a) No later than July 1, 2009, the state board, in consultation with the bureau, shall adopt a program to commence on January 1, 2010, that allows for the voluntary retirement of passenger vehicles and light-duty and medium-duty trucks that are high polluters. The program shall be administered by the bureau pursuant to guidelines adopted by the state board.

(b) No later than June 30, 2015, the state board, in consultation with the bureau, shall update the program established pursuant to subdivision (a). The program shall continue to be administered by the bureau pursuant to guidelines updated and adopted by the state board.

(c) The guidelines shall ensure all of the following:

(1) Vehicles retired pursuant to the program are permanently removed from operation and retired at a dismantler under contract with the bureau.

(2) Districts retain their authority to administer vehicle retirement programs otherwise authorized under law.

(3) The program is available for high polluting passenger vehicles and light-duty and medium-duty trucks that have been continuously registered in California for two years prior to acceptance into the program or otherwise proven to have been driven primarily in California for the last two years and have not been registered in another state or country in the last two years. The guidelines may require a vehicle to take, complete, or pass a smog check inspection.

(4) The program is focused where the greatest air quality impact can be identified.

(5) (A) Compensation for retired vehicles shall be at least one thousand five hundred dollars ($1,500) for a low-income motor vehicle owner, as defined in Section 44062.1, and no more than one thousand dollars ($1,000) for all other motor vehicle owners.

(B) Replacement may be an option for all motor vehicle owners and may be in addition to compensation for vehicles retired pursuant to subparagraph (A). For low-income motor vehicle owners, as defined in Section 44062.1, compensation shall be no less than two thousand five hundred dollars ($2,500). Compensation for all other motor vehicle owners may not exceed compensation for low-income motor vehicle owners.

(C) Compensation for either retired or replacement vehicles for low-income motor vehicle owners may be increased as necessary to maximize the air quality benefits of the program while also ensuring participation by low-income motor vehicle owners, as defined in Section 44062.1. Increases in compensation amounts may be based on factors, including, but not limited to, the age of the retired or replaced vehicle, the emissions benefits of the retired or replaced vehicle, the emissions impact of any replacement vehicle, participation by low-income motor vehicle owners, as defined in Section 44062.1, and the location of the vehicle in an area of the state with the poorest air quality.

(6) Cost-effectiveness and impacts on disadvantaged and low-income populations are considered. Program eligibility may be limited on the basis of income to ensure the program adequately serves persons of low or moderate income.

(7) Provisions that coordinate the vehicle retirement and replacement components of the program with the vehicle retirement component of the bureau's Consumer Assistance Program, established pursuant to other provisions of this chapter, to ensure vehicle owners participate in the appropriate program to maximize emissions reductions.

(8) Streamlined administration to simplify participation while protecting the accountability of moneys spent.

(9) Specific steps to ensure the vehicle replacement component of the program is available in areas designated as federal extreme nonattainment.

(10) A requirement that vehicles eligible for retirement have sufficient remaining life. Demonstration of sufficient remaining life may include proof of current registration, passing a recent smog check inspection, or passing another test similar to a smog check inspection.

(d) When updating the guidelines to the program established pursuant to subdivision (a), the state board shall study and consider all the following elements:

(1) Methods of financial assistance other than vouchers.

(2) An option for automobile dealerships or other used car sellers to accept cars for retirement, provided the cars are dismantled consistent with the requirements of the program.

(3) An incentive structure with varied incentive amounts to maximize program participation and cost-effective emissions reductions.

(4) Increased emphasis on the replacement of high polluters with cleaner vehicles or the increased use of public transit that results in the increased utilization of the vehicle replacement component of the program.

(5) Increased emphasis on the reduction of greenhouse gas emissions through increased vehicle efficiency or transit use as a result of the program.

(6) Increased partnerships and outreach with community-based organizations.

44126. Enhanced Fleet Modernization Subaccount

The Enhanced Fleet Modernization Subaccount is hereby created in the High Polluter Repair or Removal Account. All moneys deposited in the subaccount shall be available to the department and the BAR, upon appropriation by the Legislature, to establish and implement the program created pursuant to this article.

APPENDIX C
INCOME ELIGIBILITY AND VEHICLE AFFORDABILITY

APPENDIX C: INCOME ELIGIBILITY AND VEHICLE AFFORDABILITY

Staff reviewed existing economic data to estimate what resources participants would require to purchase a replacement vehicle to gauge how well the incentives offered correspond with the financial needs of potential participants.

Table C-1 shows how the proposed income eligibility thresholds based on the Federal Poverty guidelines currently translate to annual gross income. It should be noted that the Federal poverty guidelines are updated annually and vary by household size.

Table C-1
INCOME ELIGIBILITY TABLE
Based on the 2014 Federal Poverty Level[1] (FPL)

Persons in Household	100%	225%	300%	400%
1	$ 11,670	$ 26,258	$ 35,010	$ 46,680
2	$ 15,730	$ 35,393	$ 47,190	$ 62,920
3	$ 19,790	$ 44,528	$ 59,370	$ 79,160
4	$ 23,850	$ 53,663	$ 71,550	$ 95,400
5	$ 27,910[2]	$ 62,798	$ 83,730	$ 111,640

1. U. S. Department of Health and Human Services, 2014 Poverty Guidelines for the 48 Contiguous States and the District of Columbia, http://aspe.hhs.gov/poverty/14poverty.cfm.
2. For families/households with more than 5 persons, add $4,060 for each additional person.

Income eligibility thresholds defined at 225 percent, 300 percent, 400 percent provide various replacement options for qualified participants. Section 3394.4 of title 16 of Division 33, Article 11 of the California Code of Regulations defines the income eligibility for CAP at 225 percent FPL while the 300 percent FPL and 400 percent FPL align well relative to income eligibility requirements of other California benefit programs. The California Homebuyer's Down Payment Assistance program has an income eligibility requirement of around 325 percent FPL while Covered California is 400 percent FPL. The income eligibility requirements for basic assistance programs addressing childhood nutrition like CalFresh or California National School Breakfast and Lunch Program are around 180 percent FPL or less.

According to the Bureau of Labor Statistics, the average household expenditure on transportation is approximately 15 percent of gross annual income. This is a fairly constant figure across all income groups, but some individual households spend more, and some spend less. The U.S. Census Bureau states the national average budget is 12 percent. The following tables estimate how expenses for a newer, cleaner car might fit into the transportation budget of a household size of four people at the EFMP income eligibility thresholds. Table C-2 calculates the potential available household transportation budget as 15 percent of the annual gross monthly income while Table C-3 shows the estimated operating expenses associated with vehicle ownership. It should be noted that the operational costs of the proposed EFMP

replacement vehicles are less than those of the base vehicle. Although insurance and registration costs are higher, the savings in fuel cost and repair bills are more significant.

The transportation budget for smaller income households, like a household earning 100 percent FPL has an estimated transportation budget less than the average monthly operating expense for a model year 1995 vehicle, would not cover the estimated operating expenses for gas, insurance, maintenance, etc; these households either do not own a vehicle or have to balance transportation costs with other household necessities. Larger households have a higher income eligibility limit and staff analysis shows, that on average, those households may have enough resources to carry a vehicle loan.

Table C-2
CALCULATED AVERAGE AVAILABLE MONTHLY TRANSPORTATION BUDGET FOR A HOUSEHOLD OF FOUR PEOPLE

Income Eligibility	100%	225%	300%	400%
Annual Gross Income	$ 23,850	$ 53,663	$ 71,500	$ 95,400
Monthly Gross Income	$ 1,988	$ 4,472	$ 5,963	$ 7,950
15% Monthly Transportation Budget	$ 298	$ 671	$ 894	$ 1,193

Table C-3
AVERAGE MONTHLY VEHICLE OPERATING EXPENSES

Replacement Options	MY1995	Replace with 8 Yrs	Replace with 35+ MPG	Replace with Plug-In Hybrid	Replace with ZEV
Fuel Cost [1]	$ 179	$ 142	$ 81	$ 36	$ 28
Insurance [2,3]	$ 65	$ 97	$ 103	$ 107	$ 118
Registration/License [2,4]	$ 7	$ 10	$ 13	$ 17	$ 20
Maintenance/ Repair [2,5]	$ 93	$ 73	$ 65	$ 68	$ 38
Average Monthly Vehicle Operating Costs	$ 343	$ 322	$ 262	$ 228	$ 203

1. Assumes 10,000 miles annually at $3.86/gal
2. Varies based on the value or age of the vehicle
3. Insurance rates taken from edmunds.com "True Cost to Own" calculator and adjusted for 10,000mi/yr
4. California Department of Motor Vehicles, Registration Fee Calculator (annual registration and licensing fees)
5. Edmunds.com "True Cost to Own" calculator (adjusted for 10,000mi/yr)

Using the difference in operating costs provided in table C-3 and assuming the MY 1995 as the current vehicle, table C-4 estimates the potential cost savings of replacing an older vehicle with a more fuel efficient vehicle.

Table C-4.
ESTIMATED MONTHLY OPERATING COST SAVINGS

Replace with 8 Yrs	Replace with 35+ MPG	Replace with Plug-In Hybrid	Replace with ZEV
$21	$81	$115	$140

Staff also examined a sampling of cars currently available for sale, grouped by possible replacement option. There is much variability in retail price by model year, make and models, and odometer readings as shown in Table C-5.

Table C-5
CURRENT CARS AVAILABLE FOR SALE BY REPLACEMENT OPTION

Replacement Option	Model Year	Make/Model	Odometer	Retail Price
< 8 Yrs old, current MPG requirements	2006	Pontiac/G6	111,113	$ 5,999
	2009	Toyota/Camry SE	128,244	$ 9,231
	2006	Ford/Escape Hybrid	85,540	$ 9,995
	2008	Honda/Civic EX	60,785	$ 11,500
	2008	Saturn/ Vue 2WD	94,062	$ 11,980
	2010	Hyundai/Sonata GLS	42,720	$ 11,995
	2006	Toyota/Prius	64,157	$ 12,900
	2013	Ford/ Fiesta S	16,139	$ 12,983
	2013	Hyundai/Elantra GLS	38,410	$ 12,985
	2012	Nissan/Altima	50,991	$ 13,500
	2010	Honda/Accord	43,479	$ 13,995
	2008	Toyota/Camry Hybrid	62,447	$ 13,995
	2008	Mercedes-Benz/E320 Bluetec	118,541	$ 13,999
	2012	Chevrolet/Malibu	41,704	$ 14,890
Minivan MPG > 19	2006	Dodge/Grand Caravan	112,712	$ 4,999
	2006	Ford/Freestar	140,714	$ 6,403
	2008	Chevrolet/Uplander	97,832	$ 6,995
	2007	Toyota/Sienna	97,613	$ 10,850
	2007	Honda/Odyssey	119,736	$ 10,888
	2009	Dodge/Grand Caravan	80,303	$ 11,444
	2008	Nissan/Quest S	87,513	$ 11,888
	2012	Nissan/Quest S	55,489	$ 15,999
	2012	Toyota/Sienna LE	47,050	$ 21,995
	2013	Chrysler/Town & Country	34,655	$ 21,995

Table C-5 (continued) CURRENT CARS AVAILABLE FOR SALE BY REPLACEMENT OPTION				
Replacement Option	**Model Year**	**Make/Model**	**Odometer**	**Retail Price**
Minivan MPG > 19	2013	Mazda/5	14,256	$ 21,999
	2011	Honda/Odyssey LX	33,411	$ 22,350
	2014	Kia/Sedona Lx	11,945	$ 22,495
	2013	Toyota/Sienna	22,423	$ 22,942
	2013	Chrysler/Town & Country	12,165	$ 23,991
	2014	Honda/Odyssey	3,973	$ 33,998
35+ MPG	2010	Honda/Insight EX	99,991	$ 9,957
	2012	Chevrolet/Cruze ECO	121,468	$ 10,924
	2011	Honda/Insight	25,930	$ 13,995
	2013	Toyota/Prius C	8,000	$ 13,995
	2010	Volkswagen/Jetta TDI	83,511	$ 14,321
	2013	Ford/Fiesta/SE	4,329	$ 14,388
	2010	Volkswagen/Jetta TDI	102,352	$ 14,990
	2012	Toyota/Prius	28,000	$ 14,995
	2011	Honda/Insight	34,374	$ 14,996
	2010	Toyota/Prius II	35,706	$ 14,998
Plug-In Hybrids & ZEV	2012	Mitsubishi/iMiEV ES	113	$ 15,400
	2012	Nissan/Leaf SL	2,174	$ 15,900
	2011	Nissan/Leaf SV	25,569	$ 15,986
	2012	Nissan/Leaf SV	4,307	$ 16,150
	2012	Mitsubishi/iMiEV ES	7,107	$ 17,516
	2012	Mitsubishi/iMiEV SE	7,274	$ 17,650
	2013	Toyota/Prius C	7,612	$ 17,827
	2011	Honda/Civic Hybrid	7,765	$ 17,900
	2012	Nissan/Leaf SL	12,873	$ 18,000
	2013	Nissan/Leaf S	2,502	$ 18,488
	2012	Mazda/3	16,207	$ 18,998
	2014	Toyota/Corolla LE ECO	18,536	$ 19,907
	2013	Volkswagen/Jetta TDI	25,198	$ 19,995
	2012	Nissan/Leaf SV	25,200	$ 20,985
	2013	Smart/fortwo	2,427	$ 21,995
	2013	Ford/Focus-Electirc	1,490	$ 22,988
	2013	Ford/C-Max SEL	30,271	$ 23,988
	2013	Ford/Fusion SE— Plug-In Hybrid	15,291	$ 23,991
	2013	Nissan/Leaf SV	4,696	$ 24,542
	2012	Toyota/Prius--Plug-In Hybrid	29,577	$ 25,399
	2013	Toyota/Prius--Plug-In Hybrid	20,829	$ 26,995
	2012	Chevrolet/Volt	17,890	$ 26,999

Table C-5 (continued) CURRENT CARS AVAILABLE FOR SALE BY REPLACEMENT OPTION				
Replacement Option	**Model Year**	**Make/Model**	**Odometer**	**Retail Price**
Plug-In Hybrids & ZEV	2013	Chevrolet/Volt	5,617	$ 27,995
	2014	Chevrolet/Volt	6,758	$ 35,055
	2013	Ford/Fusion SE--Plug-In Hybrid	4,378	$ 35,651
	2013	Toyota/RAV4--Electric	1,967	$ 35,995
	2012	Fisker/Karma EcoSport	10,755	$ 53,990
	2012	Fisker/Karma EcoSport	8,755	$ 59,990

Autotrader.com as of MAR2014: Dealer-only within 150 miles of 91731

The main determining factor in vehicle affordability is securing low-cost financing. Interest rates are generally lower for new car purchases than for used cars, but both are highly dependent on an individual's specific credit history. For example a typical subprime credit score of 550 to 619 could have a 6 percent interest rate for a new car while the used car interest rate could be around 9 percent. If the credit score was lower than 550, the interest rates could be 12 percent and 18 percent respectively.

To determine an appropriate interest rate to use in this analysis, staff relied upon information gathered by a group that provides assistance to low-income participants to purchase newer, more reliable vehicles, Ways to Work. Ways To Work is a federally certified Community Development Financial Institution (CDFI) which offers access to low-cost loans for families with low-to-moderate household income and challenging credit histories, which matches the target audience for EFMP. According to the 2011 Ways To Work Program Study[18] prepared by ICF International, Ways to Work program participants have an average credit score of 571, which indicates that an interest rate of 9 percent would be appropriate.

For the 8 year-old and 35+ MPG replacements, table C-6 estimates the potential monthly payment amount after factoring in the incentive amounts provided by EFMP used as the sole down-payment for a loan with an interest rate of 9 percent and a 60-month repayment term.

[18] http://www.waystowork.org/docs/evaluations/2011EvalReport.pdf

Table C-6.
Estimated Monthly Payment for Conventional Replacement Vehicles

Income Eligibility	Replace with 8 year-old vehicle	Replace with 35+ MPG
Low Income <225% Federal Poverty Level	Purchase price $12,000 EFMP incentive $ 4,000 Monthly Payment $ 166	Purchase price $16,000 EFMP incentive $ 4,500 Monthly Payment $ 239
Moderate Income <300% Federal Poverty Level	--	Purchase price $16,000 Down Payment $ 3,500 Monthly Payment $ 259

For the advanced technology replacement vehicles, table C-7 estimates the potential monthly payment amount after the EFMP incentive and an additional $5,500 in public funding (such as from Low-Carbon Transportation Funding) is applied as a down payment, with a loan with an interest rate of 9% and a 60-month repayment term for the balance of the purchase price.

Table C-7
Estimated Monthly Payment for Advanced Technology Replacement Vehicles

Income Eligibility	Replace with Plug-In Hybrid [3]	Replace with ZEV [4]
Low Income <225% Federal Poverty Level	Purchase price $25,000 EFMP incentive $ 4,500 Other funds $ 5,500 Monthly Payment $ 311	Purchase price $30,000 EFMP incentive $ 4,500 Other funds $ 5,500 Monthly Payment $ 415
Moderate Income <300% Federal Poverty Level	Purchase price $25,000 EFMP incentive $ 3,500 Other funds $ 5,500 Monthly Payment $ 332	Purchase price $30,000 EFMP incentive $ 3,500 Other funds $ 5,500 Monthly Payment $ 436
Above Moderate Income <400% Federal Poverty Level	Purchase price $25,000 EFMP incentive $ 2,500 Other funds $ 5,500 Monthly Payment $ 353	Purchase price $30,000 EFMP incentive $ 2,500 Other funds $ 5,500 Monthly Payment $ 457

A comparison of vehicle affordability based on vehicle replacement option can be determined by subtracting the cost savings summarized in table C-4 from the estimated monthly payments in tables C-6 and C-7 above. Staff's conclusion is that the incentives proposed are consistent with the financial capabilities of the target population and the anticipated replacement vehicles available for sale. However, widespread deployment of advanced technology replacements will be dependent on additional sources of funding.

APPENDIX D
ESTIMATED EMISSIONS BENEFITS

APPENDIX D – ESTIMATED EMISSIONS BENEFITS

The proposed change to focus all retirement toward low-income consumers, who are eligible for a higher incentive amount, will decrease the number of vehicles retired by approximately 3,000 vehicles each year. Under current funding, staff expects total retirements of 18,000 vehicles each year. This decrease in emissions benefits will be offset to a certain extent by the proposed requirement to require a recent Smog Check to ensure greater remaining useful life of those in the program. It is anticipated that the retirement and replacement element will provide incentives for approximately 700 participants divided equally in the South Coast and San Joaquin Valley air basins.

Emission benefits were estimated by taking the emissions difference between the retired vehicle and the replacement vehicle as calculated using EMFAC (the state's mobile source emission inventory model). The EMFAC model output of the total daily emissions for the model year(s) of interest was divided by the total number of vehicles of that model year in order to arrive at the estimated daily emissions for a vehicle of that model year. The difference in estimated daily emissions between the vehicles of each model year is then multiplied by the expected life of the benefit; i.e. the expected remaining life of the retired vehicle. This difference is the estimated benefit per vehicle participating in the program.

Emissions for the retired vehicle are based on the average of 1988-1993 model years, as these vehicles are common in the existing program. The retirement element assumes that the replacement vehicle will be fleet average.

For the pilot replacement, emissions for the high efficiency (35 mile per gallon) vehicle are based on the average of the newest 4 model years. Emission rates for 8 years and newer are based on an average of the emissions from 5-,6-,7-, and 8-year old vehicles. The table below provides a summary of the emissions per vehicle.

Calendar Year 2014 "Light-Medium Duty Fleet[1]" Statewide Annual ROG and NOx Emissions Per Vehicle[2]				
	ROG (lbs)	NOx (lbs)	ROG (grams/mile)	NOx (grams/mile)
Model Years 1988-1993	0.11	0.09	2.02	1.59
All Model Years	0.02	0.03	0.29	0.34
4 Years Old and Newer	0.0030	0.0064	0.03	0.06
5 to 8 Years Old	0.0048	0.0090	0.06	0.11

[1] Passenger Cars and Trucks up to 10,000 pounds GVWR.

[2] EMFAC2011LDV.

Note that the total number of tons shown is calculated by multiplying the total per vehicle benefit by 18,000 retired vehicles. The tons per day estimate is the total benefit in tons divided by 365 days per year and then divided by three (benefit is assumed to be over a three year period as discussed earlier).

CY 2014 ROG and NOx Emissions Benefits (tons per day) of Replacing 18,000 "1988-1993" Vehicles with 18,000 "Fleet Average" Vehicles[1]			
	ROG (tpd)	NOx (tpd)	ROG+NOx (tpd)
Model Years 1988-1993	1.00	0.79	1.79
All Model Years	0.21	0.25	0.46
Benefit	0.79	0.54	1.33

[1] Passenger Cars and Trucks up to 10,000 pounds GVWR.

APPENDIX E
CALCULATION OF COST EFFECTIVENESS OF EFMP

APPENDIX E – CALCULATION OF COST EFFECTIVENESS OF EFMP

The cost effectiveness of the EFMP will vary based on the types of vehicles retired, the number of vouchers granted, and the actual funds appropriated. An estimate for the each element and the total program is shown below.

Estimated Cost Effectiveness

Consumer Replacement Option	Retirement-only	Pilot Retire and Replace	Dollar per ton (NO_X + HC)
Low-Income	$1,500	N/A	$19,000
Low-Income < 8 yr old	$0	$4,000	$39,000
Low-Income 35 MPG	$0	$4,500	$43,000
Moderate-Income 35 MPG	$0	$3,500	$34,000
Moderate-Income ZEV	$0	$3,500 + $2,500* = $6,000	$40,000
Overall Program			$20,000

*This incentive amount represents the estimated contribution from LCT-GGRF Plus-up pilot. Actual incentive amount would be discussed by the LCT workgroup.

Notes:

1) Assumes the following:
   a) Total funding of $27 million for retirement and $2.8 million for Retire and Replace.
   b) 25 percent of pilot funds used for low-income with 8 year old replacement.
   c) 50 percent of pilot funds used for pilot replace with HEV or ZEV
   d) 20 percent of pilot funds used for vehicles with better than 35 miles per gallon
   e) Emissions benefits from EMFAC as described in appendix of estimated emission benefits.
   f) Retired vehicle is 1988-1993 model year.
   g) Emissions for 8-year and newer replacement based average of 5,6,7,8 year old vehicles
   h) Emissions for high efficiency vehicle based on average of 1,2,3,4 year old vehicles
   i) Overall cost-effectiveness weighted: 18,000 vehicles at $19,000 per ton/ 700 vehicles at $40,000 per ton
2) Consistent with other incentive programs, administration costs are not included in cost effectiveness calculations.

CALIFORNIA AIR RESOURCES BOARD

NOTICE OF PUBLIC MEETING TO CONSIDER THE APPROVAL OF THE PROPOSED FISCAL YEAR 2014-15 FUNDING PLAN FOR THE AIR QUALITY IMPROVEMENT PROGRAM AND LOW CARBON TRANSPORTATION GREENHOUSE GAS REDUCTION FUND INVESTMENTS

The Air Resources Board (ARB or Board) will conduct a public meeting at the time and place noted below to consider the approval of the Proposed Funding Plan for the Assembly Bill 118 Air Quality Improvement Program and Low Carbon Transportation Greenhouse Gas Reduction Fund Investments for Fiscal Year 2014-15 (Funding Plan).

DATE: June 26, 2014

TIME: 9:00 a.m.

PLACE: California Environmental Protection Agency
Air Resources Board
Byron Sher Auditorium
1001 I Street
Sacramento, California 95814

This item may be considered at a two-day meeting of the Board, which will commence at 9:00 a.m., June 26, 2014. Please consult the agenda for the meeting, which will be available at least 10 days before June 26, 2014, to determine the day on which this item will be considered.

Background

Established through the Alternative and Renewable Fuel, Vehicle Technology, Clean Air, and Carbon Reduction Act of 2007 (AB 118; Núñez, Chapter 750, Statutes of 2007), the Air Quality Improvement Program (AQIP) focuses on reducing criteria pollutant and diesel particulate pollution with concurrent reductions in greenhouse gas (GHG) emissions. Originally funded at around $30 million per year, the program almost tripled in funding last year to about $90 million dollars, with nearly $60 million of that to support the Clean Vehicle Rebate Project (CVRP), which provides incentives for the purchases of zero and near-zero emissions passenger vehicles. Because of the program's success, AQIP continues to expand.

The Governor's FY 2014-15 proposed budget identifies $200 million from the State's share of auction proceeds under ARB's Cap and Trade program to be spent on Low Carbon Transportation projects that reduce GHG emissions primarily in disadvantaged communities. Because the Governor's goals for the investment of Cap and Trade proceeds are consistent with the established objectives of the AQIP program, and because of the past success of the AQIP program structure, this year staff is combining the two funding sources (AQIP and Low Carbon Transportation Investments) into one

Funding Plan.

Overview of Fiscal Year 2014-15 Funding Plan:

In developing this year's Funding Plan, ARB staff continues to recognize the need for a long-term vision to guide the AQIP, the importance of developing and refining metrics to gauge AQIP success, and determining the most valuable methods of providing incentive funding to achieve programmatic objectives. Achieving a transition from current technologies to zero and near-zero technologies is a challenge economically and technologically. Incentive programs help bridge gaps economically by increasing advanced technology production volumes to drive down costs and demonstrating projects to foster consumer acceptance of these new technologies, and technologically by supporting the private sector in the development and refinement of the technologies. AQIP supports all of these long-term objectives.

Staff is proposing three broad categories for funding: light duty incentives, heavy-duty incentives, and loan programs. Table 1 below outlines the specific funding allocations for projects identified under these three categories.

Table 1. FY 2014-15 Proposed Funding Plan Allocations (in millions) from both AQIP and Low Carbon Transportation Funding

	AQIP Allocation	Low Carbon Transportation Allocation	
		Total	*Percentage of Total Proposed to Benefit Disadvantaged Communities*
Light-Duty Vehicle Projects – up to $125			
• Classic Clean Vehicle Rebate Project (CVRP)	$5	$111	*10% = $11*
• Pilot Projects in Disadvantaged Communities	-	$9	*100% = $9*
Heavy-Duty Vehicle and Equipment Projects – up to $85			
• Hybrid and Zero Emission Truck and Bus Voucher Incentive Project (HVIP)	$5	$5-$10	*100% = $10*
• Zero-Emission Truck and Bus Pilots		$20-$25	*100% = $20*
• Advanced Technology Freight Demonstrations	-	$50	*100% = $50*
Loan Assistance Programs – up to $10			
• Truck Loan Assistance Program	$10	-	
Reserve for Revenue Uncertainty	***$2***		
Total	**$22**	**$200**	*50% = $100*

For FY 2014-15, staff is proposing a total of $125 million on light-duty vehicle projects. The vast majority of this funding would be spent through the current CVRP model of offering financial rebates to consumers who purchase zero- and near-zero passenger

cars. But, as discussed below, staff is proposing some important adjustments to the Clean Vehicle Rebate Project (CVRP) based on lessons learned. Over the past several years the CVRP has greatly expanded as the market for zero-emission vehicles has expanded. To date funding has been focused on battery-electric vehicles (BEV) and plug-in hybrid electric vehicles (PHEV), and today production volumes are increasing and prices are decreasing while consumer demand continues to grow. However, because it is necessary to ensure the CVRP has sufficient funding throughout the course of the year, staff is proposing to reduce the amount of incentive funding for BEV and PHEV vehicles by $500 per vehicle. Proposed rebate levels would be $1,000 for PHEVs and $2,000 for BEVs. Fuel Cell Electric Vehicles would newly be eligible for $5,000 per vehicle under staff's proposal due to their new introduction in the California market. While these revisions are necessary to stay within the CVRP budget, they also recognize the declining costs for batteries, and increasing consumer acceptance of BEV and PHEV vehicles. Staff is also proposing contingency measures to ensure that the CVRP can operate uninterrupted throughout the fiscal year. Finally, staff is proposing new light-duty vehicle pilot projects to help consumers in disadvantaged communities access these new technologies, and to provide emissions benefits in areas where they are most needed.

For FY 2014-15, staff is proposing a total of $85 million in incentives focused on advanced technology heavy-duty vehicle and equipment deployments and demonstrations in disadvantaged communities. Investments in this area will support Hybrid and Zero Emission Truck and Bus Voucher Incentive Project (HVIP, the first-come first-served voucher project that provides incentives for the purchase of heavy-duty hybrid and electric vehicles), several larger strategic pilot projects targeting freight and transit, and Advanced Technology Freight Demonstration Projects that provide funding to develop and demonstrate advanced technology heavy-duty vehicles. All of these Heavy-Duty Vehicle and Equipment Projects are proposed to focus on hybrid, zero- and near-zero trucks and buses that are just now becoming commercially available.

Staff is proposing to spend between $10 and $15 million on HVIP. Requirements would be strengthened to allow funding for cleaner certified hybrids or vehicles where testing has been conducted to demonstrate the emissions benefits of the hybrid technology. The HVIP would also provide larger funding amounts for zero-emission heavy-duty vehicles. As a complementary investment, staff is proposing to spend between $20 and $25 million on pilot projects for zero-emission trucks and buses. These projects would fund larger projects to provide a robust demonstration of zero emissions technologies in the freight transit sectors. Finally, staff is proposing to spend up to $50 million on large advanced technology freight demonstration projects, potentially including zero-emission drayage trucks and other projects. All of this funding for Heavy-Duty Vehicle and Equipment Projects is designed to encourage commercialization of zero- and near-zero emissions heavy-duty vehicles that are just now beginning to come to market, and to focus early deployment of these technologies in disadvantaged communities where the emissions reductions are most needed.

For the final component of AQIP in FY 2014-15, staff is proposing to spend up to $10 million for continued funding of the Truck Loan Assistance Program. This program is designed to move current best available technology trucks into smaller fleets that have difficulty financing vehicle upgrades. This program is highly effective, leveraging a modest amount of money into high value loans that allow fleet owners to access these technologies.

Together the incentive funding projects embodied by the Funding Plan will provide important support to nascent technologies, accelerating the development and commercialization of these technologies, reducing costs, and deploying these technologies into disadvantaged communities where the benefits are most needed. The funding plan establishes and follows a longer-term vision for the AQIP, which will evolve as the new technology landscape matures. Finally, the Funding Plan calls for the development of metrics to measure success of AQIP, which is important to help staff identify when funding structures should shift amongst technologies to ensure maximum effectiveness of each incentive dollar spent, and to ensure money is appropriately targeted to achieve AQIP goals and agency objectives.

Availability of Documents and Agency Contact Persons

ARB staff will present the Proposed Funding Plan for Fiscal Year 2014-15 at the meeting. Copies of the Funding Plan may be obtained from ARB's Public Information Office, 1001 I Street, First Floor, Environmental Services Center, Sacramento, California, 95814, (916) 322-2990, at least 30 days prior to the scheduled meeting on June 26, 2014. The Funding Plan may also be obtained from ARB's website at http://www.arb.ca.gov/msprog/aqip/aqip.htm.

Submittal of Comments

Interested members of the public may present comments orally or in writing at the meeting and may provide comments by postal mail or by electronic submittal before the meeting. To be considered by the Board, written comments not physically submitted at the meeting, must be received **no later than 5:00 pm, June 23, 2014,** and addressed to the following:

Postal mail: Clerk of the Board, Air Resources Board
1001 I Street, Sacramento, California 95814

Electronic submittal: http://www.arb.ca.gov/lispub/comm/bclist.php

Please note that under the California Public Records Act (Government Code section 6250 et seq.), your written and verbal comments, attachments, and associated contact information (e.g., your address, phone, email, etc.) become part of the public record and can be released to the public upon request.

ARB requests that written and email statements on this item be filed at least 10 days prior to the meeting so that ARB staff and Board members have additional time to consider each comment. Further inquiries regarding this matter should be directed to Ms. Lisa Macumber, Air Pollution Specialist, at (916) 323-2881, or Ms. Graciela Garcia, Air Pollution Specialist, at (916) 323-2781.

SPECIAL ACCOMMODATION REQUEST

Consistent with California Government Code Section 7296.2, special accommodation or language needs may be provided for any of the following:

- An interpreter to be available at the meeting;
- Documents made available in an alternate format or another language;
- A disability-related reasonable accommodation.

To request these special accommodations or language needs, please contact the Clerk of the Board at (916) 322-5594 or by facsimile at (916) 322-3928 as soon as possible, but no later than 10 business days before the scheduled Board meeting. TTY/TDD/Speech to Speech users may dial 711 for the California Relay Service.

Consecuente con la sección 7296.2 del Código de Gobierno de California, una acomodación especial o necesidades lingüísticas pueden ser suministradas para cualquiera de los siguientes:

- Un intérprete que esté disponible en la audiencia;
- Documentos disponibles en un formato alterno u otro idioma;
- Una acomodación razonable relacionados con una incapacidad.

Para solicitar estas comodidades especiales o necesidades de otro idioma, por favor llame a la oficina del Consejo al (916) 322-5594 o envié un fax a (916) 322-3928 lo más pronto posible, pero no menos de 10 días de trabajo antes del día programado para la audiencia del Consejo. TTY/TDD/Personas que necesiten este servicio pueden marcar el 711 para el Servicio de Retransmisión de Mensajes de California.

CALIFORNIA AIR RESOURCES BOARD

Richard W. Corey
Executive Officer

Date: May 23, 2014

California Environmental Protection Agency

Air Resources Board

FISCAL YEAR 2014-15
FUNDING PLAN

FOR THE

AIR QUALITY IMPROVEMENT PROGRAM

AND

LOW CARBON TRANSPORTATION
GREENHOUSE GAS REDUCTION FUND INVESTMENTS

Release Date: May 23, 2014

Board Consideration: June 26, 2014

ACRONYMS

AB	Assembly Bill
APCD	Air Pollution Control District
AQIP	Air Quality Improvement Program
AQMD	Air Quality Management District
ARB or Board	Air Resources Board
BAR	Bureau of Automotive Repair
BEV	Battery Electric Vehicles
Cal/EPA	California Environmental Protection Agency
CVRP	Clean Vehicle Rebate Project
Energy Commission	California Energy Commission
EFMP	Enhanced Fleet Modernization Program
FCEV	Fuel Cell Electric Vehicle
FY	Fiscal Year
GHG	Greenhouse Gases
GGRF	Greenhouse Gas Reduction Fund
HC	Hydrocarbons
HHD	Heavy-Heavy Duty
HVIP	Hybrid and Zero Emission Truck and Bus Voucher Incentive Project
LD	Light-Duty
MHD	Medium-Heavy Duty
$MTCO_2e$	Metric Tons of Carbon Dioxide Equivalent
MSRP	Manufacturer Suggested Retail Price
NHTSA	National Highway Traffic Safety Administration
NOx	Oxides of Nitrogen
OBD	On-Board Diagnostics
PEV	Plug-in Electric Vehicle
PHEV	Plug-in Hybrid Electric Vehicle
PM	Particulate Matter
SB	Senate Bill
SIP	State Implementation Plan
U.S. EPA	United States Environmental Protection Agency
ZEV	Zero-Emission Vehicle

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EXECUTIVE SUMMARY

The Air Quality Improvement Program (AQIP) is designed to support development and commercialization of advanced technologies that are necessary to meet California's air quality and climate goals. Established through the Alternative and Renewable Fuel, Vehicle Technology, Clean Air, and Carbon Reduction Act of 2007 (AB 118; Núñez, Chapter 750, Statutes of 2007), the program focuses on reducing criteria pollutant and diesel particulate pollution with concurrent reductions in greenhouse gas emissions. Originally funded at around $30 million per year, the program almost tripled in funding last year to about $90 million dollars, with nearly $60 million of that to support CVRP, which provides incentives for the purchases of zero and near-zero emissions passenger vehicles. Because of the program's success, AQIP continues to expand.

The Governor's FY 2014-15 proposed budget identifies $200 million from the State's share of auction proceeds under ARB's Cap-and-Trade program to be spent on Low Carbon Transportation projects that reduce GHG emissions primarily in disadvantaged communities. Because the Governor's goals for the investment of Cap-and-Trade proceeds are consistent with the established objectives of the AQIP program, and because of the past success of the AQIP program structure, this year staff is combining the two funding sources (AQIP and Low Carbon Transportation Investments) into one funding plan.

This FY 2014-15 AQIP Funding Plan was developed in close coordination with interested stakeholders, public agencies, and other interested members of the public. The Funding Plan contains ARB staff's recommendations for allocating AQIP and Low Carbon Transportation funding based on the best available data and research.

In developing this year's Funding Plan, ARB staff continues to recognize the need for a long-term vision to guide the AQIP, the importance of developing and refining metrics to gauge AQIP success, and determining the most valuable methods of providing incentive funding to achieve programmatic objectives. Achieving a transition from current technologies to zero and near-zero technologies is a challenge economically and technologically. Incentive programs help bridge gaps economically by increasing advanced technology production volumes to drive down costs and demonstrating projects to foster consumer acceptance of these new technologies, and technologically by supporting the private sector in the development and refinement of the technologies. AQIP supports all of these long-term objectives.

Staff is proposing three broad categories for funding: light duty incentives, heavy-duty incentives, and loan programs. Table ES-1 below outlines the specific funding allocations for projects identified under these three categories.

Table ES-1. FY 2014-15 Proposed Funding Plan Allocations (in millions)

	AQIP Allocations	Low Carbon Transportation Allocations	
		Total	Percentage of Total Proposed to Benefit Disadvantaged Communities
Light-Duty Vehicle Projects – up to $125			
• Classic CVRP	$5	$111	*10% = $11*
• Pilot Projects in Disadvantaged Communities	-	$9	*100% = $9*
Heavy-Duty Vehicle and Equipment Projects – up to $85			
• HVIP	$5	$5-$10	*100% = $10*
• Zero-Emission Truck and Bus Pilots		$20-$25	*100% = $20*
• Advanced Technology Freight Demonstrations	-	$50	*100% = $50*
Loan Assistance Programs – up to $10			
• Truck Loan Assistance Program	$10	-	
Reserve for Revenue Uncertainty	***$2***		
Total	**$22**	**$200**	*50% = $100*

For FY 2014-15, staff is proposing a total of $125 million on light-duty vehicle projects. The vast majority of this funding would be spent through the current CVRP model of offering financial rebates to consumers who purchase zero- and near-zero passenger cars. But, as discussed below, staff is proposing some important adjustments to CVRP based on lessons learned. Over the past several years the project has greatly expanded as the market for zero-emission vehicles has expanded. To date funding has been focused on BEV and PHEV vehicles, and today production volumes are increasing and prices are decreasing while consumer demand continues to grow. However, because it is necessary to ensure that CVRP has sufficient funding throughout the course of the year, staff is proposing to reduce the amount of incentive funding for BEV and PHEV vehicles by $500 per vehicle. Proposed rebate levels would be $1,000 for PHEVs and $2,000 for BEVs. FCEVs would newly be eligible for $5,000 per vehicle under staff's proposal due to their new introduction in the California market. While these revisions are necessary to stay within the CVRP budget, they also recognize the declining costs for batteries, and increasing consumer acceptance of BEV and PHEV vehicles. Further, staff's proposed rebate amounts, when combined with the federal tax credit, would only reduce the overall financial incentive available by five percent, from up to $10,000 to up to $9,500. Staff is also proposing contingency measures to ensure that CVRP can operate uninterrupted throughout the fiscal year. Finally, staff is proposing new light-duty vehicle pilot projects to help consumers in disadvantaged communities access these new technologies, and to provide emissions benefits in areas where they are most needed.

For FY 2014-15, staff is proposing a total of $85 million in incentives focused on advanced technology heavy-duty vehicle and equipment deployments and

demonstrations in disadvantaged communities. Investments in this area will support HVIP, the first-come first-served voucher project that provides incentives for the purchase of heavy-duty hybrid and electric vehicles, several larger strategic pilot projects targeting freight and transit, and Advanced Technology Freight Demonstration Projects that provide funding to develop and demonstrate advanced technology heavy-duty vehicles. All of these Heavy-Duty Vehicle and Equipment Projects are proposed to focus on hybrid, zero- and near-zero trucks and buses that are just now becoming commercially available.

Staff is proposing to spend between $10 and $15 million on HVIP. Requirements would be strengthened to allow funding for cleaner certified hybrids or vehicles where testing has been conducted to demonstrate the emissions benefits of the hybrid technology. HVIP would also provide larger funding amounts for zero-emission heavy-duty vehicles. As a complimentary investment, staff is proposing to spend between $20 and $25 million on pilot projects for zero-emission trucks and buses. These projects would fund larger projects to provide a robust demonstration of zero emissions technologies in the freight transit sectors. Finally, staff is proposing to spend up to $50 million on large advanced technology freight demonstration projects, potentially including zero-emission drayage trucks and other projects. All of this funding for Heavy-Duty Vehicle and Equipment Projects is designed to encourage commercialization of zero- and near-zero emissions heavy-duty vehicles that are just now beginning to come to market, and to focus early deployment of these technologies in disadvantaged communities where the emissions reductions are most needed.

For the final component of AQIP in FY 2014-15, staff is proposing to spend up to $10 million for continued funding of the Truck Loan Assistance Program. This program is designed to move current best available technology trucks into smaller fleets that have difficulty financing vehicle upgrades. This program is highly effective, leveraging a modest amount of money into high value loans that allow fleet owners to access these technologies.

Together the incentive funding projects embodied by the Funding Plan will provide important support to nascent technologies, accelerating the development and commercialization of these technologies, reducing costs, and deploying these technologies into disadvantaged communities where the benefits are most needed. The funding plan establishes and follows a longer-term vision for the AQIP, which will evolve as the new technology landscape matures. Finally, the Funding Plan calls for the development of metrics to measure success of AQIP, which is important to help staff identify when funding structures should shift amongst technologies to ensure maximum effectiveness of each incentive dollar spent, and to ensure money is appropriately targeted to achieve AQIP goals and agency objectives.

CHAPTER 1: INTRODUCTION

ARB staff estimates that about $20 million in fees authorized to support AQIP will be available for projects in FY 2014-15. Additionally, the Governor's FY 2014-15 proposed budget identifies $200 million from the State's share of auction proceeds under ARB's Cap-and-Trade program that are deposited in the GGRF for low carbon transportation projects that reduce GHG emissions. This year, the AQIP funding plan will be combined with recommended Low Carbon Transportation investments. ARB proposes to administer the new Low Carbon Transportation funding in FY 2014-15 under the auspices of AQIP, with adjustments to increase benefits to disadvantaged communities.

Air Quality and Climate Change Goals: The Need for Incentives

The South Coast and San Joaquin Valley air basins are the only two areas in the nation in extreme non-attainment of the national ambient air quality standard for ozone. Meeting the federal air quality standard will require both the South Coast and the San Joaquin Valley to reduce their NOx emissions by around 80 percent from 2010 levels by 2023 and by almost 90 percent by 2032. Attainment in the two areas to meet the two scheduled milestones will require the extensive use of zero-emission technologies, which are the same technologies called for in the Cap-and-Trade Auction Proceeds Investment Plan[1] to help achieve the State's near-term and longer-term GHG emission reduction goals. A fundamental transformation of the vehicle fleet will need to occur in order to meet all of the following goals:

- Reduce GHG emissions to 80 percent below 1990 levels by 2050[2];
- Expand ZEV market share to over 1.5 million (passenger cars and trucks) by 2025[3];
- Fulfill the 2007 State Alternative Fuels Plan, which envisions a 2050 vehicle fleet where 40 percent of California transportation fuel is electricity or hydrogen; and
- Successfully implement the 2012 Advanced Clean Cars regulation, which requires 1 of 7 new cars purchased in 2025 be zero-emission or plug-in hybrid.

To meet these multiple long-term air quality and climate goals, California must accelerate development and deployment of the cleanest feasible vehicle technologies for all vehicle and equipment sectors, from light-duty passenger cars to heavy-duty line-haul trucks. U.S. EPA is planning to revise the federal ozone standard in 2015, making it more stringent. This will necessitate the need for additional emission reductions beyond what has already been identified in order to attain the new more health protective standards.

---

[1] Air Resources Board. (2013a) Cap-and-Trade Auction Proceeds Investment Plan: Fiscal Years 2013-14 through 2015-16. See also 2013 ZEV Action Plan, which was cited to in the Investment Plan and further describes the GHG benefits of implementing zero-emission technologies.
[2] Schwarzenegger, A. (2005) Governor's Executive Order S-3-05.
[3] Brown, E. (2012). Governor's Executive Order B-16-2012.

AQIP BACKGROUND

Statutory and Regulatory Guidelines

Enabling Statute

AQIP is a voluntary incentive program created under the California Alternative and Renewable Fuel, Vehicle Technology, Clean Air, and Carbon Reduction Act of 2007 (AB 118; Núñez, Chapter 750, Statutes of 2007) to promote clean vehicle and equipment projects and air quality research and training. AQIP focuses on reducing criteria pollutant and diesel particulate pollution with concurrent reductions in GHG emissions.

AQIP is one of three incentives programs created under AB 118. The other two programs include the Alternative and Renewable Fuel and Vehicle Technology Program, administered by the Energy Commission, and EFMP, administered by BAR. The Alternative and Renewable Fuel and Vehicle Technology Program allocates roughly $100 million a year toward alternative and renewable fuels; advanced technology cars, trucks, and equipment; vehicle manufacturing; workforce training; and fueling infrastructure. Additionally, BAR's EFMP provides approximately $30 million annually to accelerate the turnover of the existing light-duty fleet.

With the passage of AB 8 (Perea, Chapter 401, Statutes of 2013) the funding for these programs is extended until January 1, 2024. AB 8 also requires ARB, when considering projects for AQIP funding, to provide preference to projects with higher benefit-cost scores. AB 8 project scoring criteria is discussed in detail later in this report.

HEALTH AND SAFETY CODE section 44274 allows for a variety of eligible AQIP project categories that can be divided into three general project types:

- *Commercial Deployment:* These projects include the next generation of advanced technology vehicles and equipment just reaching commercialization. Consumer incentives are needed because these products generally cost more than their traditionally powered (e.g., gas or diesel) counterparts, which can be a significant barrier to their purchase. Incentives will accelerate consumer acceptance and have the immediate benefit of reducing criteria pollutants, air toxics, and GHG emissions. Incentives help drive down vehicle costs through economies of scale as production volumes increase, and accelerate technology transfer to other sectors. Most AQIP funding awarded to date has been directed to commercial deployment projects.

- *Advanced Technology Demonstration:* AQIP funds help demonstrate the viability of new, cleaner technologies and accelerate the introduction of advanced technology vehicles, equipment or emission controls that are not yet commercialized. The demonstration projects funded now could transition to deployment projects if the technology proves successful.

- *Research and Workforce Training*: Statute allows AQIP to fund research on the air quality impacts of alternative fuels, biofuel production, and workforce training related to advanced technologies. These project types provide the information and training necessary to develop the advanced fuels and vehicles most effective in reducing air pollution. To date, ARB has not directed AQIP funding to research and workforce training categories because there are already large investments being made by the Energy Commission and other agencies. For example, the Energy Commission has already awarded $24.25 million to advanced technology workforce training projects through the Alternative and Renewable Fuel and Vehicle Technology Program, and is allocating an additional $2.5 million investment in the FY 2014-15 funding cycle.[4] Accordingly, ARB staff again proposes deferring AQIP funding for these project categories.

Regulatory Guidelines

ARB adopted regulations that establish the administrative procedures for implementing AQIP in order to ensure that the program is run efficiently, with transparency and public input. As required in Health and Safety Code section 44274(a), the Board adopted regulatory guidelines in 2009 that define the overall administrative requirements and policies and procedures for program implementation based on the framework established in statute. Central to the guidelines is the requirement for a Board-approved annual funding plan developed with public input. The funding plan is each year's blueprint for expending AQIP funds appropriated to ARB in the annual State Budget: describing the projects ARB intends to fund, establishing funding targets for each project, and providing the justification for these decisions. AQIP guidelines also establish the rules and requirements for soliciting projects and awarding funds.

The Board also adopted AB 118 Air Quality Guidelines as required in Health and Safety Code section 44271(b). This regulation, also known as the "anti-backsliding guidelines," ensures that ARB and the Energy Commission's AB 118 programs complement California's existing air quality programs by maintaining or improving upon emission benefits in the SIP and California's clean fuels regulations.

[4] California Energy Commission. (2014). 2014-2015 Investment Plan Update for the Alternative and Renewable Fuel and Vehicle Technology Program. Commission Final Report.

Funding Sources and History

Funding for AQIP comes primarily from the Smog Abatement Fee which is assessed annually during a vehicle's first six registration years in lieu of providing a biennial smog certification. Of the $20 collected for each vehicle at the time of annual registration, $4 is allocated to ARB for AQIP, with the remaining directed towards the Carl Moyer Memorial Air Quality Attainment Program (Carl Moyer Program), the Energy Commission's AB 118 program, and BAR's smog check vehicle repair assistance program. In addition, a small portion of AQIP funding comes from two additional sources: a $10 or $20 initial registration fee for new vessels, dependent upon the year in which the new registration is filed; and $2.50 for annual special equipment identification plate fees.

The fees identified above generate approximately $2 million to $2.5 million each month. As proposed in the Governor's FY 2014-15 Proposed State Budget, ARB staff estimates about $20 million will be available to support AQIP projects in FY 2014-15.

Since the inception of the program, AQIP has funded projects in seven categories:

- CVRP (2009-10 to present),
- HVIP (2009-10 to present),
- Advanced Technology Demonstrations (2009-10 through 2012-13),
- Truck Loan Assistance Program (2008-2009; 2012-13 to present),
- Lawn & Garden Replacement (2009-10 and 2010-11),
- Off-Road Hybrid Equipment Pilot (2010-11), and
- Zero-Emission Agricultural Utility Terrain Vehicle Rebates (2009-10).

In addition to the fees above, AQIP has received augmentations in recent years, primarily in support of CVRP from the Energy Commission. In total, AQIP has received $44.5 million from the Energy Commission for CVRP, and $4 million for HVIP. These direct investments are further magnified by the Energy Commissions investments to support fueling infrastructure for both electric vehicle charging stations and hydrogen fueling stations as part of the Alternative and Renewable Fuel and Vehicle Technology Program.

Table 1 provides an overview of AQIP historical funding allocations to date.

Table 1. AQIP Historical Funding (In millions)

Project Category	Fiscal Years						Project Status
	08-09	09-10	10-11	11-12	12-13	Total	
Ongoing AQIP Projects							
CVRP	--	$4.1	$7[1]	$16.2[2]	$37[3]	$59.55[4]	Launched March 2010. Total allocation of $123M spent; over 56,000 rebates issued; implementation ongoing.
	[1] Includes $2 million in funding from the Energy Commission. [2] Includes $500,000 in funds redirected from the FY 2011-12 locomotive demonstration and $700,000 in funds redirected from the FY 2009-10 Agricultural Utility Terrain Vehicle Rebates project. [3] Includes $3 million in funds redirected from the FY 2008-09 Truck Loan Program; $6 million in funds redirected from the FY 2012-13 Hybrid and Zero-Emissions Truck and Bus Voucher Incentive Project; and $12 million in funding from the Energy Commission. [4] Includes $24.55 million in funding from AB 101 (Committee on Budget, Chapter 354, Statutes of 2013) which redirected funding from the Energy Commission to AQIP, $20 million in funding from SB 359 (Corbett, Chapter 415, Statutes of 2013), and $5 million in funding from the Energy Commission.						
HVIP	--	$20.4	$23[5]	$11	$0	$15	Launched Feb 2010. ~$54M of $69.4M spent; over 1,600 vouchers issued; implementation ongoing.
	[5] Includes $4 million in funding from the Energy Commission.						
Advanced Technology Demonstrations	--	$1.8	$1.8	$1.7[6]	$1	--	~$5M of $6.3M spent; 12 projects complete/ended; 1 projects ongoing.
	[6] Includes $500,000 in funds for hybrid truck testing, and $199,800 in funds redirected from the FY 2009-10 Agricultural Utility Terrain Vehicle Rebates project to hybrid truck testing.						
Truck Loan Assistance Program	$30	--	--	--	$4[7]	$20	Launched April 2009. ~$39M of $54M spent; over 4,200 loans issued to support over 4,800 projects; implementation ongoing.
	[7] $4 million in funds redirected from the FY 2012-13 Hybrid and Zero-Emissions Truck and Bus Voucher Incentive Project.						
Past AQIP Projects							
Lawn & Garden Equipment Replacement	--	$1.6	$1	--	--	--	Launched spring 2010 with 9 air districts. Nearly $2.6M spent; 12,615 mowers replaced; project ending June 30, 2014.
Off-Road Hybrid Equipment Pilot	--	--	$2	--	--	--	Launched July 2011; project complete. 16 vouchers issued. Emission testing completed.
Zero-Emission Agricultural Utility Terrain Vehicle Rebates	--	$0.13	--	--	--	--	Launched April 2010; closed December 2011. 56 rebates issued.
Total Funding	**$30**	**$28.03**	**$34.8**	**$28.9**	**$42**	**$94.55**	**$258.28**

Program Benefits

AQIP provides a modest down payment on the technologies needed to meet long-term air quality and climate change goals, with a focus on stimulating the widespread use of these technologies. AQIP projects provide both immediate emission reductions from the vehicles directly funded and, more importantly, set the stage for greater, indirect reductions in the future by accelerating large-scale market penetration. These longer-term program benefits accrue primarily from overcoming deployment barriers, reducing production costs, promoting consumer acceptance, and accelerating technology transfer to other sectors. Additionally, AQIP investments in advanced technology vehicles have been supported by Energy Commission investments in infrastructure to ensure that necessary fueling networks are developed, thus reinforcing California's ongoing commitment to clean technologies.

Five years ago, the first (FY 2009-10) AQIP Funding Plan identified the needs and priorities for funding deployment and demonstration of advanced technologies, including hybrid, plug-in hybrid, battery electric, and hydrogen fuel cell vehicle technologies. In addition to achieving emission benefits from the vehicles directly funded by AQIP, the Board identified three ancillary benefits of the program. An overview and update on the progress toward realizing these benefits is provided below:

- Reduce Production Costs: CVRP and HVIP were intended to help advanced technologies transition from prototype and small scale production to assembly line production, thereby reducing vehicle costs. These programs also send a signal to manufacturers that California's investment in these types of technologies will pay dividends. *Today: Over 56,000 CVRP rebates have been issued, helping manufacturers transition to assembly line production and reducing production costs. On the heavy-duty side, HVIP has succeeded in bringing more economical hybrid delivery trucks to California.*

- Accelerate Technology Transfer: By sparking production and sale of advanced technologies, AQIP investments help accelerate the rate of technology transfer to other applications, such as off-road equipment and marine vessels. *Today: Hybrid technology has expanded to off-road equipment and marine vessels, often utilizing the same batteries, battery management systems or other technologies first proven in AQIP-funded light-, medium- and heavy-duty vehicles. Increased deployment of advanced batteries and other componentry in the on-road sector also helps reduce technology costs in off-road sectors, accelerating the path of these technologies to new markets.*

- Accelerate Consumer Acceptance: One of the barriers to commercialization of advanced technologies is consumer reluctance to invest in unfamiliar vehicles or equipment. As more Californians experience these technologies, they will become more acceptable as a purchase choice. *Today: Plug-in hybrid and zero-emission passenger cars are becoming an increasingly mainstream purchase option, and achieving widespread consumer acceptance is now seen as an attainable goal over*

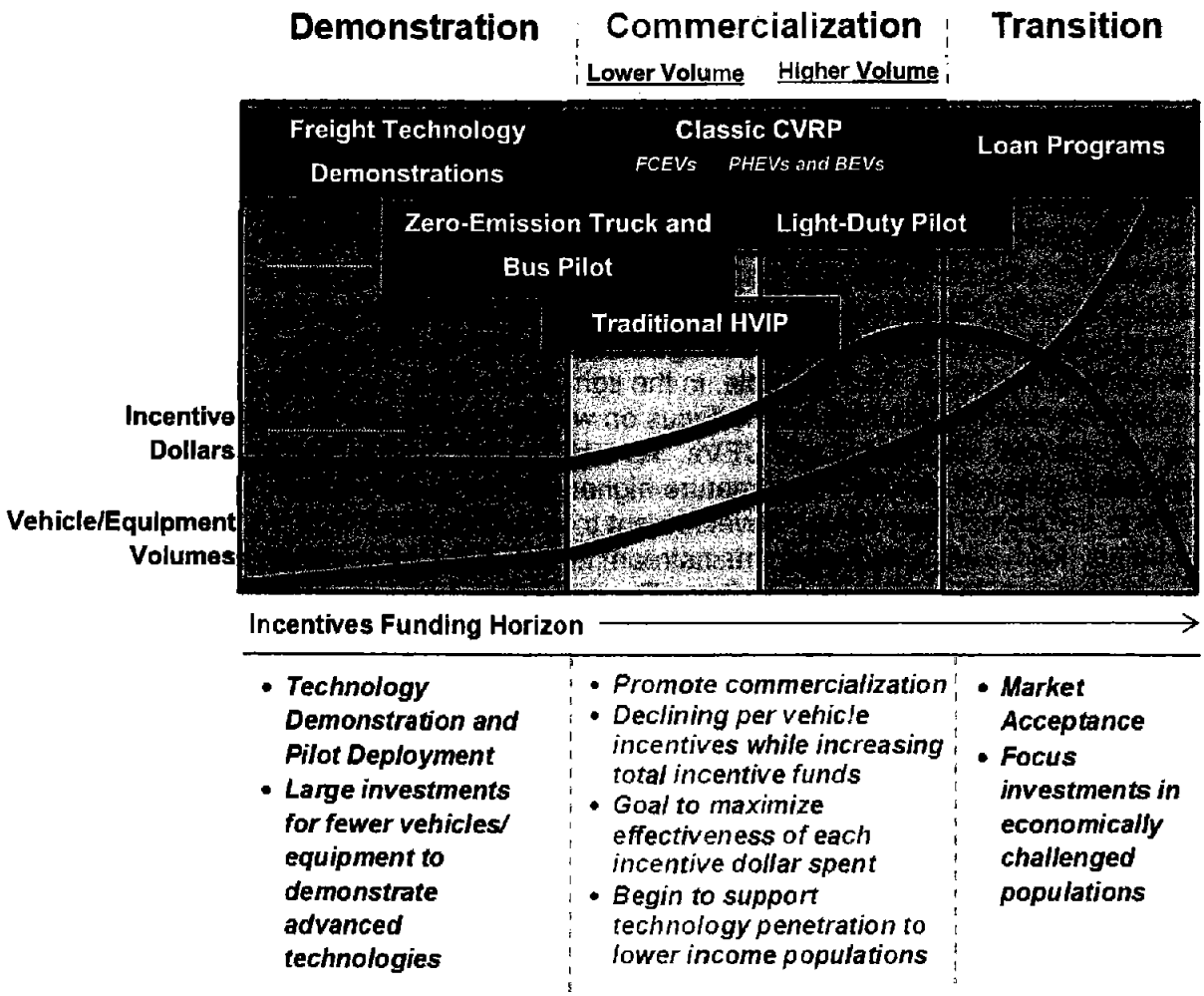
the next decade. On the heavy-duty side, HVIP vouchers are helping several large, early-adopter fleets purchase zero-emission trucks, while an increasing number of small California fleets have purchased their first hybrid trucks.

Staff believes that these initial AQIP program benefits remain important today. However, as consumer demand continues to rise, CVRP and HVIP must be positioned for success while recognizing finite funding availability. AQIP must adapt to its own successes by including comprehensive and quantifiable metrics for success and a long-term vision that targets funds where they provide the greatest benefit.

Evolution of the Role of Incentives

AQIP embodies the following conceptual evolution that identifies how incentives support three phases of technology advancement: development, commercialization, and transition to widespread deployment. This concept is illustrated in Figure 1 below. Figures 1a, 1b, and 1c, found at the beginning of Chapters 4, 5, and 6, help to highlight how AQIP and Low Carbon Transportation investments in each proposed funding category further support this conceptual evolution.

Figure 1. Conceptual Evolution of the Role of Incentives



In the demonstration phase, manufacturers are developing, testing, and piloting technologies. Incentives are provided to help fund the development of these advanced technologies through demonstration projects focused on single vehicle prototypes or small volume vehicle demonstration and testing projects. Funding is also provided for pilot projects on the order of 10-50 vehicles to help the technology evolve to the commercialization phase. In the demonstration phase, per-vehicle incentives are high because manufacturing is not standardized and is focused on smaller batches of vehicles. Higher levels of incentives per vehicle are needed to help entrepreneurs cover the costs of technology development. While per vehicle incentives are larger for demonstration projects, these investments are crucial because advanced technologies often would not evolve into pilot projects and migrate to the commercialization phase without this public funding.

In the commercialization phase, incentives are provided to encourage consumer adoption of advanced technologies. Most of AQIP's funding to date has been focused in this phase of advanced technology deployment, with the CVRP spurring market

growth of passenger PHEVs and ZEVs, and HVIP spurring market growth of hybrid and zero-emission trucks.[5] The commercialization phase can be broadly separated into lower volume and higher volume production phases. In the lower volume commercialization phase, sales volumes generally start out low, but grow over time as consumer acceptance increases and manufacturing costs decrease with economies of scale. In the lower volume commercialization phase, per vehicle incentives are high.

As sales grow and economies of scale are achieved, incentive funding levels and vehicle eligibility requirements can be adjusted to reduce per vehicle funding to ensure maximum incentive efficiency by better targeting incentive funding to motivate consumer decisions. In this higher volume commercialization phase, while per vehicle incentives are decreasing, total sales are increasing and as a result total incentive funding commitments increase. For example, in the light-duty sector, per-vehicle incentive amounts are expected to shift from a focus on widely growing PHEV and BEV options to early commercial introduction of FCEVs. As a technology moves from lower volume commercialization to a fuller more mature higher volume, the incentive funding goals shift from a focus on technology development to a more specific focus on moving the technology from early adopters to mainstream consumers and to disadvantaged communities and the secondary market. The light-duty pilot projects proposed for FY 2014-15 are examples of project types intended to realize this shift.

As a technology moves from commercialization into the transition phase, incentives should be adjusted to focus specifically on moving the technology into new consumer demographic segments and on building upon earlier benefits in disadvantaged communities, as well as to support other technology sectors. In the transition phase, AQIP incentives are targeted to foster technology advancement in these communities. ARB's other incentive programs – the Carl Moyer Program and the Proposition 1B Goods Movement Incentive Program also focus investments in these areas. The Truck Loan Assistance Program is an example of this type of incentive, providing loan assistance to help small trucking fleets access financing to upgrade their trucks.

AQIP incentives have historically been prioritized and structured to accelerate the advancement of vehicle technologies (1) in the demonstration and commercialization phases, and (2) from the light-duty sector to heavier vehicle sectors. These key priorities will continue with the proposed FY 2014-15 investments. Today some technologies, like passenger BEVs and PHEVs are entering the higher volume commercialization phase. Incentive funding outlays are increasing to promote further market development, and per vehicle incentives can be decreased as economies of scale increase, while still ensuring incentive program effectiveness. Incentive funding, while still focused on commercialization, can now also be focused to help ensure

[5] Greene, D., et al. (2014). "Transitioning to Electric Drive Vehicles: Public Policy Implications of Uncertainty, Network Externalities, Tipping Points and Imperfect Markets" provides an analysis of the need for public incentives to spur the zero-emission vehicle market, and illustrates why incentives to accelerate market "tipping points" are critical to maximizing program effectiveness.

broader access to these technologies, including lower income consumers and disadvantaged communities.

Other technologies, like passenger FCEVs and battery-electric or fuel cell heavy-duty vehicles are beginning to emerge into the lower volume commercialization phase. Thus, just as was the case when PHEV and BEVs were first introduced, larger per-vehicle incentives are needed to help transition this technology into the higher volume stage of commercialization. FCEV prototypes and small-scale demonstration projects have been completed and the technology is expected to soon be released commercially by several major automobile manufacturers. Building on this, AQIP will continue to foster the development and transfer of advanced technologies from the light-duty to the heavy-duty sector through projects focused on the freight sector.

Metrics of Success and a Long-Term Vision

Because the AQIP program is evolving, there is a clear need to evaluate the effectiveness of program investments. This Funding Plan continues the process of working with stakeholders to identify appropriate metrics of success for each AQIP project. Metrics of success for AQIP projects should convey concepts such as: level of market penetration, manufacturer diversity, technology cost, consumer acceptance, or other indicators of market health. For battery-electric zero-emission passenger vehicles, for example, "number of vehicle manufacturers" may be a useful metric to indicate market diversity, while the average household income of battery electric vehicle purchasers may provide a metric of consumer acceptance. A trend indicating progressively lower income households are purchasing battery-electric vehicles may indicate this technology is increasingly appealing to a broader demographic. AQIP projects will likely need a suite of metrics to gauge when each specific vehicle technology can be self-sustaining without incentives. Additional research, identified in Chapter 4, to assess the maturity of the California ZEV market and impacts of sunsetting incentives will also help inform this metrics-based approach.

AQIP demonstration and deployment incentives are structured to accelerate advancement of vehicle technology from basic hybrids to advanced zero-emission vehicles and from the light-duty sector, where commercialization is likely to initiate, to heavier vehicle and equipment sectors with more challenging duty cycles.

Vehicle technology typically migrates from light-duty passenger cars to heavier, on- and off-road vehicles and equipment with more demanding duty cycles. The catalytic converter, for example, was first applied to passenger vehicles in the 1970's, before migrating to heavier trucks, and then off-road equipment. More recently, diesel particulate filters have evolved from being deployed on light-duty vehicles in Europe to trucks, and finally to more challenging off-road sectors, such as construction equipment, marine, and locomotive applications. The market success for today's plug-in passenger cars is due in part to the market success of the Toyota Prius and other early, non-plug-in hybrids. Investments in early hybrid technology necessarily preceded and facilitated investments in today's more advanced plug-in hybrid and battery-electric passenger

vehicles. Commercialization of the first hybrid vehicles helped drive down the cost of manufacturing, promote investment in further technology advances, plant the seeds of new workforce training, and increase consumer awareness and acceptance.

The heavy-duty vehicle market is at a far earlier stage of development and is not being driven by a manufacturer zero-emission vehicle mandate like in the light-duty market. Therefore, increasing public investments are needed to reduce purchase costs and encourage consumer acceptance. AQIP investments in hybrid and zero-emission trucks and buses have resulted in deployment throughout California in far greater numbers than the rest of the nation. These investments provide the foundation for aggressive federal Phase 2 heavy-duty vehicle greenhouse gas regulations needed to drive technology advances. ARB is coordinating closely with U.S. EPA and NHTSA to ensure national standards will significantly accelerate transformation of the national and interstate truck fleet to utilize the cleanest possible technologies for both greenhouse gasses and criteria pollutants. Should federal Phase 2 standards not be sufficient for California to meet its air quality and climate goals, California may consider its own requirements based upon the truck technologies which AQIP has helped demonstrate and deploy.

To achieve the pace of technology advancement needed, AQIP should spur increasingly low-emission and low-carbon technologies as they are introduced and achieve market acceptance. As plug-in electric passenger vehicles achieve consumer acceptance, incentives for these vehicles can decline and eventually sunset as funding transitions to more advanced technologies, such as fuel cell passenger vehicles. This has already been illustrated with the commercialization of basic hybrid technologies in passenger vehicles almost a decade ago. As the market for plug-in electric passenger vehicles matures, and incentives are no longer needed to drive consumer purchases, AQIP incentives must shift to heavier on-road vehicle technologies. As with light-duty vehicles, basic hybrid trucks are a necessary precedent to advanced hybrids, and finally to the ultimate goal of zero-emission trucks (or trucks that achieve zero-emission miles in specific duty cycles). While today's AQIP heavy-duty vehicle incentives typically fund hybrid and zero-emission urban package and delivery trucks, the ultimate goal is to achieve widespread deployment of zero-emission freight and line-haul trucks, which are responsible for the bulk of truck emissions. Investments in CVRP, HVIP, and freight demonstrations all play a critical role in transitioning the entire freight and transportation sector to utilize zero-emission technologies.

LOW CARBON TRANSPORTATION INVESTMENTS: GGRF BACKGROUND

Statutory and Regulatory Guidelines

In 2012, the Legislature passed and Governor Brown signed into law 3 bills – AB 1532 (Pérez, Chapter 807), Senate Bill (SB) 535 (de León, Chapter 830), and SB 1018 (Budget and Fiscal Review Committee, Chapter 39) – that establish the GGRF to receive Cap-and-Trade auction proceeds and to provide the framework for how the auction proceeds will be administered in furtherance of the purposes of AB 32 (Nunez, Chapter 488, Statutes of 2006), including supporting long-term, transformative efforts to improve public health and develop a clean energy economy.

Investment Categories and Goals

The legislation establishes broad categories of GHG emission reducing projects that may be funded with these proceeds, including investments in: clean and efficient energy; low-carbon transportation; natural resource conservation and management, and solid waste diversion; and sustainable infrastructure and strategic planning. In addition to the goal of reducing GHG emissions in California, the legislation establishes the following goals for this funding, where applicable:

- Maximize economic, environmental, and public health benefits to the state
- Foster job creation by promoting in-state GHG emission reduction projects carried out by California workers and businesses
- Complement efforts to improve air quality
- Direct investment toward the most disadvantaged communities and households in the state
- Provide opportunities for businesses, public agencies, nonprofits, and other community institutions to participate in and benefit from statewide efforts to reduce GHG emissions
- Lessen the impacts and effects of climate change on the state's communities, economy and environment

Disadvantaged Community Requirements

In enacting the implementing statute, the Legislature stated its intent to direct resources to the State's most impacted and disadvantaged communities, in order to provide economic benefits as well as health benefits through additional emission reductions. Specifically, SB 535 directs at least 25 percent of funding from GGRF be allocated toward projects that benefit disadvantaged communities and at least 10 percent be allocated toward projects located in disadvantaged communities. The California Environmental Protection Agency (Cal/EPA) is responsible for identifying disadvantaged communities. Together with the Office of Environmental Health Hazard Assessment the Cal/EPA has released the California Communities Environmental Health Screening Tool (CalEnviroScreen), the nation's first comprehensive screening methodology to identify California communities that are disproportionately burdened by multiple sources of

pollution. Analysis, screening tool, and mapping information can be found at: http://oehha.ca.gov/ej/ces042313.html.

Allocation Process

AB 1532 establishes a two-step process for allocating funding to State agencies to invest in GHG reducing projects. Department of Finance, in consultation with ARB, is required to submit to the Legislature a three-year investment plan identifying proposed investments of auction proceeds. The first investment plan was submitted to the Legislature in May 2013.[6] Funding is appropriated to State agencies by the Legislature through the annual Budget Act, consistent with the three-year investment plan.

Reporting Requirements

SB 1018 specifies some of the responsibilities for ARB and any other State agencies receiving funds, including requirements to prepare a record describing: proposed expenditure; how the proposed expenditures further the purposes of AB 32; and how the agency will document the result of expenditures. This Funding Plan serves as part of this required record for funds appropriated to ARB. In addition, AB 1532 and SB 535 require the Department of Finance to report annually to the Legislature on program implementation status and outcomes.

Funding Sources and History

Funding for Low Carbon Transportation Investments from GGRF is generated from auctions conducted as part of ARB's Cap-and-Trade Program. The market-based Cap-and-Trade Program is a key element of ARB's overall GHG reduction strategy. The program establishes a statewide emissions limit on the sources responsible for 85 percent of GHGs and creates a financial incentive for investment in clean and efficient technologies. The backbone of the Cap-and-Trade regulation is the system of tradable permits to emit GHGs known as 'allowances.' Because a market to exchange these allowances exists between entities, including those covered by the regulation, these allowances have value. Under the program, a portion of the allowances required for compliance are to be sold at auction. The first auction was held in November 2012, and auctions will be conducted quarterly through 2020. State proceeds from these auctions are deposited into the GGRF to fund projects that support efforts to reduce GHG emissions upon appropriation by the Legislature.

This is the first year that Low Carbon Transportation funding from GGRF is proposed for ARB. The Governor's Proposed Budget for FY 2014-15 recommends investing a total of $850 million in Cap-and-Trade auction proceeds in programs that will promote GHG reductions and meet the SB 535 disadvantaged communities investment requirements consistent with the Cap-and-Trade Auction Proceeds Investment Plan. Of this total,

[6] Air Resources Board. (2013a) Cap-and-Trade Auction Proceeds Investment Plan: Fiscal Years 2013-14 through 2015-16.

$200 million is proposed for ARB to fund low carbon transportation projects that expand existing ARB efforts. Specifically, the Governor's Proposed FY 2014-15 Budget proposes for ARB:

> Low Carbon Transportation - $200 million for the Air Board to accelerate the transition to low carbon freight and passenger transportation, with a priority for disadvantaged communities. This investment will support the state's clean air and climate change goals, as well as the Administration's goal to deploy 1.5 million zero-emission vehicles in California by 2025. The Air Board administers existing programs that provide rebates for zero-emission cars and vouchers for hybrid and zero-emission trucks and buses. This proposal will respond to increasing demand for these incentives, as well as provide incentives for the pre-commercial demonstration of advanced freight technology to move cargo in California, which will benefit communities near freight hubs.[7]

This proposed Funding Plan describes staff's proposal for this $200 million in greater detail.

FY 2014-15 Draft Funding Plan Development Process

To develop the recommendations presented in this Funding Plan, staff held two public workshops, six public work group meetings, and numerous individual meetings with interested public stakeholders. Specifically:

- On January 28, 2014, staff began the formal Funding Plan development process with a public workshop that presented an overview of the topics and projects that staff expected to evaluate for the coming year.
- From February 12 through February 24, 2014, staff held six workgroups on the following topics whereby staff presented information and gathered input:
    - Long-Term AQIP Planning (2 work group meetings) focused on conceptual evaluations for the role of incentives in meeting long-term clean air goals and on the advancement of new, cleaner technologies;
    - CVRP (2 work group meetings) focused on the current fiscal year project needs, future projections, potential modifications, long-term planning, and light-duty pilot projects in disadvantaged communities;
    - HVIP (1 work group meeting) focused on the current state of the truck market, incentive needs, potential changes to HVIP, and concepts for the Truck and Bus Pilot Project in disadvantaged communities; and
    - Advanced Technology Demonstration Projects (1 work group meeting) focused on projects and priorities for demonstration in the freight sector and funding levels needed to support GHG reductions in disadvantaged communities.
- A Discussion Document was posted on April 2, 2014, which provided staff's

[7] Department of Finance. (2014). Governor's Budget Summary 2014-15; Environmental Protection.

preliminary recommendations based on analysis of available data and public comment received to date.
    - The general deadline for comments on the Discussion Document was April 16 2014, although staff continues to take comments on the concepts presented.
    - Staff has included an overview of comments received and staff's responses later in each relevant section of this Funding Plan.
- On April 3, 2014, staff held the second workshop, where they presented preliminary draft recommendations provided in the Discussion Document.
- Throughout the entire process, beginning in early December, staff also met individually with all interested stakeholders to gather input, ideas, and data. Staff continues to discuss concepts, data, and recommendations with interested stakeholders.

Staff also maintains an open dialog with the Energy Commission and other agencies and stakeholders in the development of the Funding Plan.

CHAPTER 2: AB 8 AQIP PROJECT SCORING CRITERIA

As described below, AB 8 refined the evaluation criteria for projects funded by fees that support AQIP, such as CVRP and HVIP. Staff's analysis was developed specifically in response to AB 8 and intended for evaluation of such projects funded by the fees authorized to support AQIP. Staff conducted similar analysis of those projects proposed for Low Carbon Transportation funding. Appendix A provides specific details on the complete evaluation for both AQIP and Low Carbon Transportation projects considered for funding in FY 2014-15.

The purpose of AQIP is to fund air quality improvement projects that:

- Are related to fuel and vehicle technologies;
- Reduce criteria air pollutants;
- Improve air quality; and
- Provide funding for research to determine and improve the air quality impacts of alternative transportation fuels and vehicles, vessels, and equipment technologies[8].

As required by AB 8, when considering projects for funding, preference must be given to projects with higher benefit-cost scores that maximize the purposes and goals of AQIP[9]. Benefit-cost score is defined as the "reasonably or expected potential criteria emission reductions achieved per dollar awarded by the board for the project[10]." Additional criteria may also be used, including a project's proposed or potential reduction of criteria or toxic air pollutants, contribution to regional air quality improvement, ability to promote the use of clean alternative fuels, ability to achieve climate change benefits, and ability to support market transformation, and ability to leverage private capital investments[11].

To determine the benefit-cost score for potential projects to be funded during FY 2014-15, staff developed a standardized metrics analysis for the several projects that are being considered for funding under AQIP. As discussed in greater detail below, the benefit-cost score methodology for assigning preference to projects includes the following:

- Criteria Emission Reduction Analysis
- Project Cost Analysis
- Benefit-Cost Score Analysis
- Additional Preference Criteria
- Total Benefit Index

[8] Health & Safety Code Section 44274(a)
[9] Health & Safety Code Section 44274(b)
[10] Health & Safety Code Section 44270.3(e)(1)
[11] Health & Safety Code Section 44274(b)

Criteria Emission Reduction Analysis

Staff determined that a well-to-wheel analysis for emission reductions is the most appropriate methodology to determine emission benefits. A well-to-wheel emission analysis allows staff to analyze the emissions produced from the production, distribution and usage of the different fuel types, including electricity, and any associated tailpipe emissions. As part of the analysis, near-term emission reductions (i.e., the direct emission reductions expected from the project) and potential long-term emission benefits (i.e., those expected to be realized in the future as a result of current project investments), when applicable, were quantified for each proposed project. In projects where new fuels and advanced technologies are not involved, such as loan guarantees for diesel trucks, analysis of exhaust emissions was performed because the fuel sources are identical. For the analysis, staff calculated the near-term and expected future NOx, PM 2.5, and HC emissions, along with GHG emissions benefits for vehicle technologies/fuel types in each project.

Project Cost Analysis

Since AQIP is intended to support long-term market transformation toward clean technologies, staff analyzed both the expected near-term and the potential long-term cost of the projects. Because AQIP project funding levels are directly related to the incremental cost of advanced technologies, staff estimated potential future incremental cost reductions of advanced technologies based on available information for light-duty[12] and heavy-duty vehicles[13]. The analysis then considered lowered future incentive per-project funding levels to reflect potential long-term cost reductions.

Cost-Effectiveness/Benefit-Cost Score Analysis

To develop the cost-effectiveness scores for each project, the near-term and potential long-term NOx, PM 2.5, and HC reductions and costs were applied to a well-established incentive cost-effectiveness calculation methodology (consistent with that used in the Carl Moyer Program).

Staff based the analysis of PM emissions on PM 2.5 instead of PM 10 due to the difference in adverse health impacts associated with PM emissions of different sizes. In order to provide direct comparisons between the projects by comparing similar criteria emissions, PM 2.5 was selected as the corresponding PM emissions component. The adverse health impacts of PM 2.5 have been well documented in literature[14,15,16] and by the U.S. EPA[17]. Emissions of diesel PM, which are dominated by

[12] Air Resources Board. (2011d). Staff Report: Initial Statement of Reasons for Advanced Clean Cars; 2012 Proposed Amendments to the California Zero Emission Vehicle Program Regulations.
[13] U.S. Environmental Protection Agency and U.S. Department of Transportation. (2011). Final Rulemaking to Establish Greenhouse Gas Emissions Standards and Fuel Efficiency Standards for Medium- and Heavy-Duty Engines and Vehicles; Regulatory Impact Analysis.
[14] Miller KA, et al. (2007). Long-term exposure to air pollution and incidence of cardiovascular events in women.

PM 2.5 particles, have been identified as a toxic air contaminant[18]. Moreover, the impacts of exposure to PM 2.5 can be greater regionally, as is seen in the San Joaquin Valley with increased emergency room visits and hospitalization of children and adults[19]. As a result, staff proposes to assign a greater weight to PM 2.5 in the analysis.

The cost-effectiveness scores are in units of dollars per ton of criteria emissions reduced ($/ton). Per AB 8, the cost-effectiveness scores were converted to a benefit-cost score with the units of pound of criteria emission benefit per dollar (lbs/$). Finally, the cost-effectiveness scores for each project were given points based on a scale from 1 to 5 points. Those projects with a cost-effectiveness of less than $20,000 per ton of emissions reduced, received a high of 5 points, because this cost-effectiveness level is well within the range of allowable cost-effectiveness in other ARB incentive programs. The remaining bins were grown in $20,000 increments with the least cost-effective projects, those projects over $80,000 per ton of emissions reduced, receiving the lowest points possible. Table 2 lists the resulting scores provided to the proposed AB118 projects for FY 2013-14. This is consistent with the "Total Benefit Index" score, for project selection, described below.

Additional Preference Criteria

As discussed further below, staff also evaluated additional preference criteria, as identified in AB 8. These criteria included:

1. Proposed or potential reduction of criteria or toxic air pollutants.
2. Contribution to regional air quality improvement.
3. Ability to promote the use of clean alternative fuels and vehicle technologies.
4. Ability to achieve GHG reductions.
5. Ability to support market transformation of California's vehicle or equipment fleet to utilize low carbon or zero-emission technologies.
6. Ability to leverage private capital investments.

Recognizing the range of potential benefits and to ensure a robust mix of proposed projects to be funded, for quantitative preference criteria 1, 2, and 4, staff analyzed the associated data and equally divided the results into scoring ranks between 0 to 5, according to the following steps:

- Results for each specific Additional Preference Criteria were quantified for each of the proposed projects.

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[15] Sun Q., et al. (2009). Ambient air pollution exaggerates adipose inflammation and insulin resistance in a mouse model of diet-induced obesity.
[16] Pearson J., et al. (2010). Association between fine particulate matter and diabetes prevalence in the U.S.
[17] U.S. Environmental Protection Agency. (2012b). PM Health Outcomes.
[18] Air Resources Board. (2011b). Carl Moyer Program Guidelines; Approved Revisions 2011.
[19] Capitman, J., and Tyner, T. (2011). The Impacts of Short-term Changes in Air Quality on Emergency Room and Hospital Use in California's San Joaquin Valley.

- Scoring scale increments were established for each rank (0-5) to generate an equal distribution in points for the proposed projects. Additional information on the scales for each criterion is discussed below for each Additional Preference Criteria.
- The proposed projects are then ranked based on the scale (0-5) to be used in the "Total Benefit Index"

Staff anticipates that the scales for the quantitative Additional Preference Criteria may change each year depending on the mix of projects proposed due to differences in the range of expected benefits or when additional information becomes available to refine the evaluation. The data and rationale used to establish each of the criteria weighting factors are found in Appendix A.

The additional preference criteria are described below:

1. *Proposed or potential reduction of criteria or toxic air pollutants* – This analysis considered the magnitude of emission reductions by quantifying the direct lifetime criteria emission reductions expected per average vehicle or piece of equipment supported under each project. With the benefit-cost score analysis primarily driven by overall project incentive amounts, this additional criteria allowed staff to make direct comparisons of the emission reductions expected by the different proposed projects, independent of the associated incentive amounts. Staff analyzed the emission benefits on a per vehicle basis to account for differences in vehicle sale volumes and statewide populations of the various vehicles supported by AQIP. Resulting total lifetime emission reductions ranged from less than 0.1 tons to 3.5 tons of lifetime criteria emission reductions per vehicle. The scoring scale associated within each rank (1-5) for this criterion was established by calculating the range of lifetime tons between the highest and lowest value, and dividing that range by 5. As a result the, remaining bins were scaled in 0.7 ton increments. Projects with less than or equal to 0.7 tons of criteria emission reduced receive 1 point, while those projects with greater than 2.8 tons of criteria emission reductions reduced receive 5 points. Below is the resulting scale for criteria emission reductions per vehicle:

    5: Greater than 2.8 tons
    4: Greater than 2.1 tons and less than 2.8 tons
    3: Greater than 1.4 tons and less than 2.1 tons
    2: Greater than 0.7 tons and less than 1.4 tons
    1: Less than 0.7 tons
    0: No criteria emission reductions

2. *Contribution to regional air quality improvement* – Staff developed a scoring scale based on the ARB emission inventory for regions federally designated as extreme non-attainment for ozone, and ranked projects based on their corresponding emission inventory contributions from highest to lowest. Specifically, staff used the NOx emission inventory in tons per day for 2023 in the

South Coast Air Basin, found in ARB's Vision for Clean Air: A Framework for Air Quality and Climate Planning[20]. NOx emission sources were ranked in tons per day for various vehicle and equipment types, ranging from heavy gas trucks, at 14 tons per day, to heavy diesel trucks at 55 tons per day. The scoring scale associated with each rank (1-5) for this criterion was established by calculating the range of NOx emissions between the highest and lowest value, and dividing that range by five. As a result, the bins were rounded and scaled in 10 ton increments. Projects corresponding to inventory sources with less than or equal to 10 tons of NOx per day receive one point, while those projects with greater than 40 tons receive five points. The sources of emissions contribution were ranked based on the following scale:

5: Category contributes more than 40 tons of NOx per day
4: Category contributes between 31 and 40 tons of NOx per day
3: Category contributes between 21 and 30 tons of NOx per day
2: Category contributes between 11 and 20 tons of NOx per day
1: Category contributes between 1 and 10 tons of NOx per day

3. *Ability to promote the use of clean alternative fuels and vehicle technologies* – Clean alternative fuels are fuels that have a lower well-to-wheel emissions compared to conventional fuels, such as electricity, hydrogen, and renewable fuels. Clean vehicle technologies are technologies that emit zero tailpipe emissions, such as batter-electric and fuel cell vehicle technologies, or enabling technologies, such as hybrid or plug-in hybrid technologies. This qualitative analysis ranked projects by whether or not they used a clean low carbon alternative or renewable fuel or were clean vehicle technologies. Staff scored this preference criterion based on the following:

   5: Technologies that use low carbon alternative fuels and are a clean vehicle technology.
   3: Technologies that use low carbon alternative fuels or are a clean vehicle technology.
   0: Technologies that do not use clean alternative fuels and are not a clean vehicle technology.

4. *Ability to achieve GHG reductions* – Similar to the methodology established in the first preference criterion, staff conducted a lifetime well-to-wheels GHG emissions analysis for the vehicles and equipment supported by the proposed projects. Staff determined expected GHG emission reductions per vehicle and piece of equipment funded by each proposed project. Due to the large difference in GHG emission benefits for the top two projects (zero-emission truck and bus pilots and advanced technology freight demonstrations) relative to the other projects proposed, staff assigned each of those a score of five and four

[20] Air Resources Board. (2013d). Vision for Clean Air: A Framework for Air Quality and Climate Planning; Public Review Draft. Appendix: Actions for Development, Demonstration, and Deployment of Needed Advanced Technologies.

respectively. The remaining bins were determined by taking the high and low resulting benefits, and calculating the range between them. The range of benefits was then divided by three. As a result, the remaining bins were rounded and scaled in 50 $MTCO_2e$ increments. Below is the resulting scale for GHG reductions per vehicle:

5: Greater than 1,000 MTCO2e
4: Greater than 500 MTCO2e and less than 1,000 MTCO2e
3: Greater than 150 MTCO2e and less than 500 MTCO2e
2: Greater than 50 MTCO2e and less than 100 MTCO2e
1: Less than or equal to 50 MTCO2e
0: No criteria emission reduction

5. *Ability to support market transformation of California's vehicle or equipment fleet to utilize low carbon or zero-emission technologies* – Similar to number 3 above, this qualitative analysis ranked projects by whether or not they supported technologies that support market transformation. Staff used ARB's Vision for Clean Air document, as referenced above, as a key reference in scoring technologies for this evaluation. Light-duty PHEVs, BEVs, and FCEVs, for example, are considered transformative technologies that will help the State meet its air quality goals. Staff scored this preference criterion based on the following:

   5: Technologies that support market transformation
   0: Technologies that do not support market transformation

6. *Ability to leverage private capital investments* – Staff is not proposing to include this criterion for FY 2014-15 as staff is working on developing methodologies to analyze the private capital investments leveraged by projects. Staff intends to identify information sources and may include this preference criterion in future years.

Total Benefit Index

Staff utilized the benefit-cost/cost-effectiveness scores of the proposed projects and the additional preference criteria in the consideration of the projects to be given funding preference. Staff developed the "Total Benefit Index" score that preferentially weights the benefit-cost score (at 75 percent of the total weighting) with additional preference scores (weighted at 25 percent). Staff weighted the cost-effectiveness/benefit-cost scores in this manner because AB 8 directly identified the benefit-cost score as the metric by which to assign funding preference to for proposed projects, and staff believes that weighting the benefit-cost score at 75 percent sufficiently satisfies the legislative intent in AB 8 to provide additional preference to the cost-effectiveness/benefit cost score. Table 2 summarizes the projects currently proposed to receive AQIP funding from AB 118/AB 8 fees in FY 2014-15 based on the Total Benefit Index score.

Table 2. Summary of Benefit-Cost Scores and Total Benefit Index for Proposed AB 118/AB8 AQIP Projects

	Proposed AQIP Projects		
	Truck Loans	CVRP	HVIP
Cost Effectiveness Score[1] (2014 $/ton)	$6,900	$8,900	$29,000
Scale **5: ≤$20,000/ton** **4: $20,001-$39,999** **3: $40,000-$59,999** **2: $60,000-$79,999** **1: >$80,000**	5	5	4
Benefit Cost Score (lbs/$)	0.29	0.23	0.07
Additional Preference Criteria: Scale (1-5)			
1) Proposed or potential reduction of criteria or toxic air pollutants (per vehicle)	2	1	2
2) Contribution to regional air quality improvement	5	2	4
3) Ability to promote the use of clean alternative fuels and vehicle technologies	0	5	3
4) Ability to achieve climate change benefits (per vehicle)	0	2	3
5)Ability to support market transformation	0	5	5
6) Ability to leverage private capital investments	--	--	--
Preference Criteria Average Score	1.4	3	3.4
Total Benefit Index[2]	**4.1**	**4.5**	**3.9**

[1] "Cost Effectiveness Score" is dollars per reasonably expected or potential criteria pollutant emission reductions.
[2] "Total Benefit Index" is the sum of the weighted Cost Effectiveness Scale (75 percent) and the Preference Criteria Average Score (25 percent).

SUMMARY OF PUBLIC COMMENTS AND AGENCY RESPONSES TO APRIL 2, 2014 DISCUSSION DOCUMENT: AB 8 PROJECT SCORING CRITERIA

1. Comment: *Recommend staff provide clarification in the scoring methodology to alleviate any misinterpretation of the impact of incentive programs on reducing GHG and criteria pollutants.*

Agency Response: Staff provided clarification above and in the attached Appendix A.

2. Comment: *Per vehicle emission reductions should not be used to compare different equipment categories such as light-duty vehicles and locomotives. Measuring near-term benefits could bias the index score against high priority projects needed to begin the shift to low-emission transportation categories.*

Agency Response: Per vehicle emission reductions were used as the basis for additional preference criteria 1 and 4 due to the difference in the incentive levels provided, current and future vehicle populations, and potential new vehicle or equipment sales. The differences add significant variations to the results. Analyzing benefits on a per vehicle basis combined with the other additional preference criteria and the benefit-cost score allows ARB to perform a holistic comparison of the projects.

3. Comment: *ARB should use existing models to quantitatively measure benefits and equity impacts of existing projects.*

Response: ARB used existing models such as Argonne National Laboratory's Greenhouse Gases, Regulated Emissions, and Energy Use in Transportation Model (GREET) and ARB's EMission FACtors (EMFAC) models to quantify emission benefits. ARB will continue to refine the benefits analysis when additional information becomes available. Moreover, equity impacts of existing projects may be analyzed but staff's analysis is limited to the requirements defined in AB 8.

CHAPTER 3: PROPOSED FUNDING PLAN FOR FISCAL YEAR 2014-15

This year, the proposed Funding Plan includes recommended allocations for projects from two sources of funding: AQIP and Low Carbon Transportation Investments from GGRF, both of which are pending approval as part of the State Budget. Table 3 below outlines Staff's proposed project categories and funding allocations based on funding levels identified in the Governor's FY 2014-15 Proposed State Budget.

Table 3. FY 2014-15 Proposed Project Allocations (in millions)

	AQIP Investments	Low Carbon Transportation Investments	
		Total	Percentage of Total Proposed to Benefit Disadvantaged Communities
Light-Duty Vehicle Projects – up to $125			
• Classic CVRP	$5	$111	*10% = $11*
• Pilot Projects in Disadvantaged Communities	-	$9	*100% = $9*
Heavy-Duty Vehicle and Equipment Projects – up to $85			
• HVIP	$5	$5-$10	*100% = $10*
• Zero-Emission Truck and Bus Pilots		$20-$25	*100% = $20*
• Advanced Technology Freight Demonstrations	-	$50	*100% = $50*
Loan Assistance Programs – up to $10			
• Truck Loan Assistance Program	$10	-	
Reserve for Revenue Uncertainty	***$2***		
Total	**$22**	**$200**	*50% = $100*

The Energy Commission has approved $5 million in funding to support Classic CVRP from the Alternative and Renewable Fuel and Vehicle Technology Program. This investment, coupled with significant investments in fueling infrastructure to support both electric and hydrogen vehicles, builds upon the continued partnership between the agencies to invest in technologies critical to meeting the State's long-term air quality and climate change goals.

GGRF and Disadvantaged Communities

SB 535 requires that at least 25 percent of the total GGRF funding be directed to projects that provide benefits to disadvantaged communities and at least 10 percent of GGRF funding be spent on projects located in disadvantaged communities. The Secretary for Environmental Protection is responsible for identifying disadvantaged communities. The $850 million of total GGRF appropriations in the Governor's

FY 2014-15 Proposed State Budget includes programs amenable to location in or near a disadvantaged community, and fixed location projects outside those communities. As a result, some proposed appropriations need to achieve much greater benefits in disadvantaged communities to ensure that the SB 535 criteria are met or exceeded for the entire $850 million.

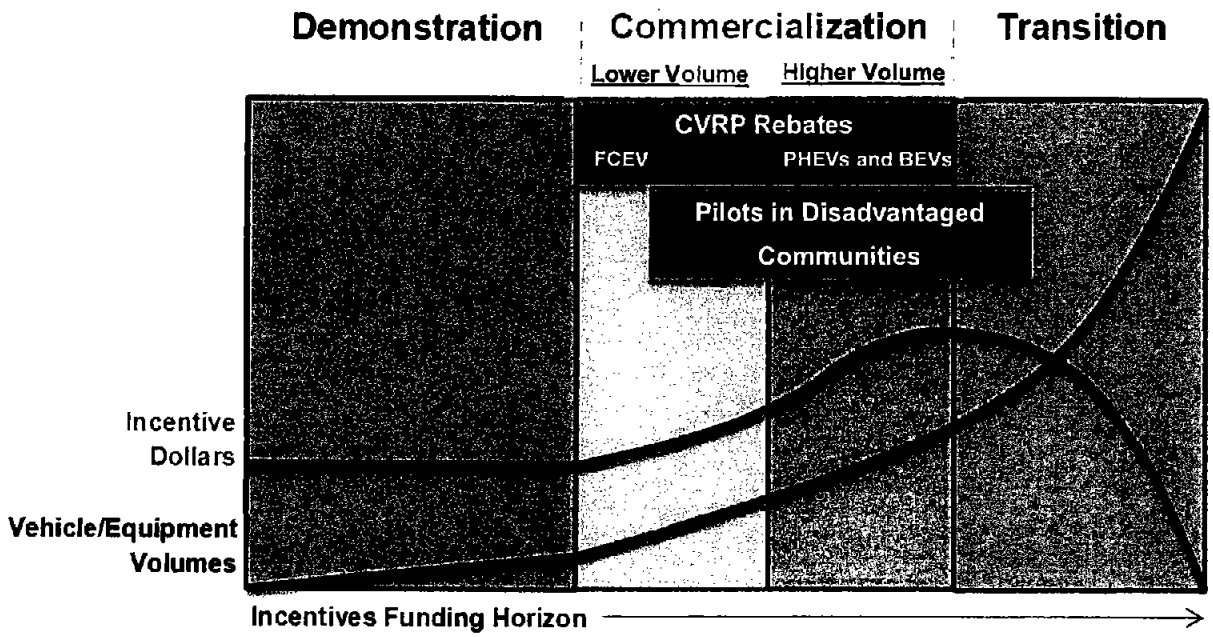
For ARB's Low Carbon Transportation investments, staff is targeting 50 percent of the investments to benefit disadvantaged communities, with a significant portion of these funds spent on projects based in those communities. This investment in projects to benefit disadvantaged communities is consistent with the requirement for GGRF funds per SB 535. As part of program implementation, ARB will develop metrics, such as reductions in criteria pollutant and air toxics emissions, that can be used to quantify these benefits to communities.

Also, it is anticipated that additional Cap-and-Trade Auction Proceeds for projects like these will be forthcoming in future years. Therefore, FY 2014-15 funds should be viewed as a first installment of funding that may be built upon to further advance these critical air quality and GHG reduction technologies as they move through the demonstration, commercialization, and transitions phases, as discussed in the long-term vision section of this document.

CHAPTER 4: LIGHT-DUTY VEHICLE INVESTMENTS

Currently, advanced technology light-duty vehicles, such as PHEVs and BEVs, are in the commercialization phase, or are being introduced in limited quantities, such as FCEVs. The light-duty vehicle projects proposed have been established to help encourage consumer adoption of advanced technology passenger vehicles through two pathways. First, "classic CVRP" provides first come, first served rebates to encourage consumer adoption of advanced technology passenger vehicles and to spur market growth. Next, the proposed pilot projects have been established to increase penetration and technology acceptance of advanced clean vehicles in disadvantaged communities. The following section provides information on the two types of proposed projects.

Figure 1a. FY 2014-15 Light Duty Investments

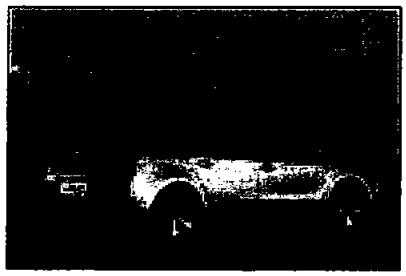


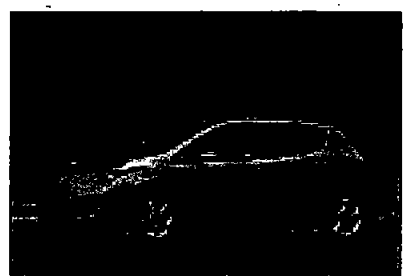
Several projects are being proposed for AQIP and Low Carbon Transportation investments to more effectively move the advanced technology light-duty vehicle market forward, reduce GHG emissions, and increase the benefits of such investments to disadvantaged communities. For FY 2014-15, total funding from AQIP and GGRF for light-duty projects is proposed at about $125 million, which when combined with $5 million from the Energy Commission for CVRP, totals $130 million. Table 4 below summarizes the proposed Light-Duty Vehicle Investments.

Table 4. Summary of Light-Duty Vehicle Investments

	AQIP Investment	Low Carbon Transportation Investment	Energy Commission Investment
Classic CVRP	$5M	$111M	$5M
Pilot Projects in Disadvantaged Communities	-	$9M	
Total Light-Duty Investments: $130M	**$5M**	**$120M**	**$5M**

CLASSIC CVRP





Proposed Funding Target: $121M

PROJECT GOALS

Classic CVRP provides first come, first serve rebates to consumers for the purchase of passenger near-zero and ZEVs. Since its inception, the objective of CVRP has been to seed the market for widespread commercialization of the cleanest vehicles available today by helping to drive consumer purchasing decisions. The project has supported this simple goal by ensuring continued acceleration of ZEV purchases with an incentive strategy that is easy to understand and implement. Further, CVRP is intended to:

- Support the goal of 1.5 million ZEVs by 2025, consistent with California ZEV regulations and the Governor's Executive Order B-16-2012;
- Accelerate production economies of scale; and
- encourage co-investment in infrastructure and workforce training.

Staff recommends continuing these goals by proposing to further prioritize the most advanced technologies in addition to increasing benefits to disadvantaged communities. It is also important to ensure that the project remains effective, while recognizing the need to operate on a limited budget. Finally, a long-term plan and metrics for measuring success of the project will help to identify when the market is self-sustaining and incentives are no longer needed.

PROJECT OVERVIEW

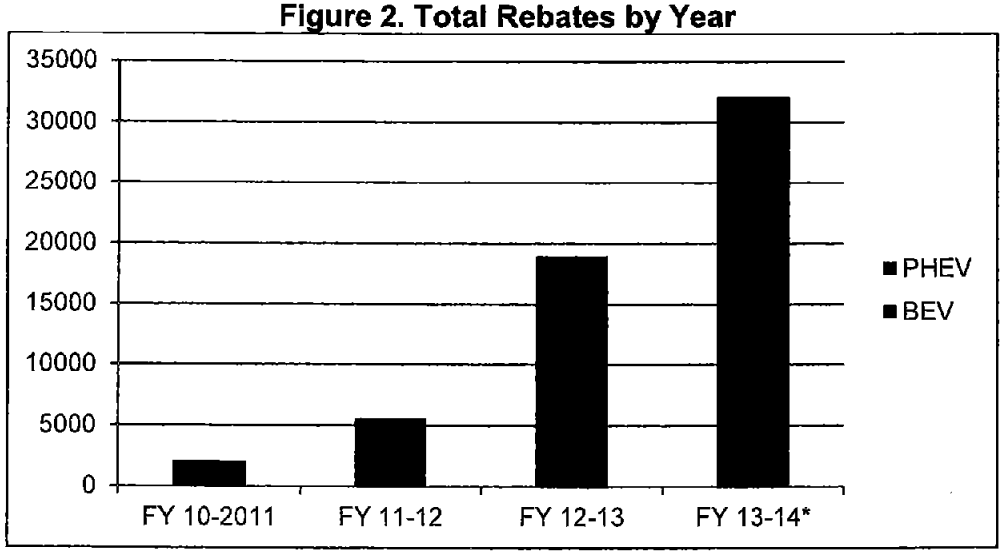
CVRP currently provides vehicle rebates of up to $2,500 to California residents, businesses, non-profit organizations and government entities that purchase or lease a battery, fuel cell, or a plug-in hybrid electric vehicle. However, during the first two years of the program CVRP provided a rebate of up to $5,000 per vehicle, which was consistent with ARB's existing Alternative Fuel Vehicle Incentive Program incentive amounts that had previously been in place at that time. As the program's success grew, the Board reduced rebate amounts in 2011 to the current rebate amount of up to $2,500 to meet rapidly growing consumer demand with a limited budget.

CVRP also helps deploy the cleanest vehicles on the road in California by providing consumer rebates to partially offset the higher initial cost of these advanced technologies. ARB's investments through CVRP — coupled with corresponding investments in vehicle charging and fueling infrastructure by the Energy Commission, and regional and federal governments — are enticing manufacturers to focus early advanced vehicle deployments in California. To date, the grantee that oversees administration of the project is the Center for Sustainable Energy.

CURRENT PROJECT STATUS

Rebates for about 59,000 vehicles totaling about $125 million have been issued through March 2014. Figure 2 illustrates the total rebates issued per year, through April 30, 2014. Table 5 and Table 6 list the rebates issued by consumer type and vehicle model type, respectively, for the project through April 30, 2014. Figure 3 illustrates the statewide distribution of rebates by air district.

Figure 2. Total Rebates by Year



*Note: FY 2013-14 data is current through April 30, 2014.

Table 5. Rebates by Consumer Type (as of April 30, 2014)

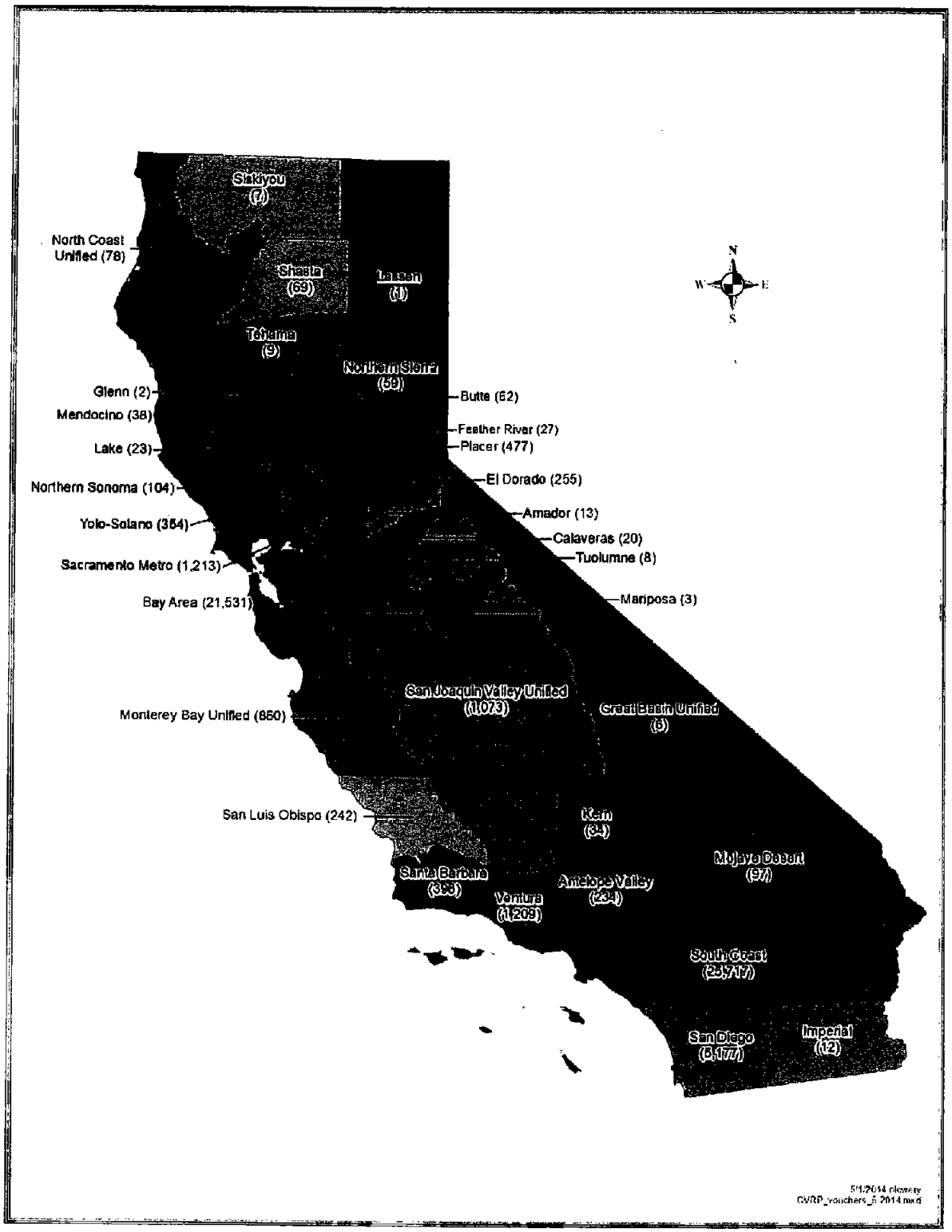
Application Type	Rebates Issued	Total Rebate Amounts	Percentage of Total Dollars
Individual	57,344	$119,996,899	96.07%
Business	1,816	$4,271,561	3.42%
Local Government Entity	150	$322,700	0.26%
State Government Entity	107	$189,450	0.15%
Non-Profit	52	$96,150	0.08%
Federal Government Entity	28	$35,200	0.03%
Grand Total	59,497	$124,911,960	100.00%

Table 6. Rebates by Vehicle Types and Model (as of April 30, 2014)

Vehicle Model	Rebates	Rebate Dollars Reserved/Distributed	Percent of Total Rebate Dollars
Light-Duty Zero-Emission Vehicles	**31,064**	**$81,564,959**	**65.30%**
BMW 1 Series Active E	70	$52,500	0.04%
Chevrolet Spark EV	698	$1,745,000	1.40%
CODA	49	$122,500	0.10%
FIAT 500e	2,952	$7,375,208	5.90%
Ford Focus Electric	1,075	$2,682,223	2.15%
Honda FCX Clarity	15	$57,500	0.05%
Honda Fit EV	314	$783,750	0.63%
Mercedes-Benz F-CELL	26	$65,000	0.05%
Mitsubishi i-MiEV	176	$363,561	0.29%
Nissan Leaf	15,240	$42,133,930	33.73%
Smart Electric Fortwo	1,022	$2,369,000	1.90%
Tesla Model S	8,113	$20,270,250	16.23%
Tesla Roadster and Roadster Sport	162	$675,000	0.54%
Think City	53	$126,037	0.10%
Toyota RAV4 EV	1,097	$2,739,000	2.19%
Wheego LiFe	2	$4,500	0.00%
Plug-In Hybrid Electric Vehicles	**28,019**	**$41,992,326**	**33.62%**
Cadillac ELR	19	$28,500	0.02%
Chevrolet Volt	13,870	$20,796,101	16.65%
Ford CMAX Energi	2,031	$3,044,033	2.44%
Ford Fusion Energi	2,145	$3,217,500	2.58%
Honda Accord Plug-In	208	$312,000	0.25%
Toyota Prius Plug-in Hybrid	9,746	$14,594,192	11.68%
Neighborhood Electric Vehicles	**138**	**$143,050**	**0.11%**
GEM e2	43	$39,000	0.03%
GEM e4	24	$23,200	0.02%
GEM eL	4	$4,950	0.00%
GEM eL XD	16	$16,200	0.01%
GEM eS	15	$14,100	0.01%
Miles EV ZX40S-AD	35	$44,100	0.04%
Vantage EVX1000	1	$1,500	0.00%
Zero-Emission Motorcycles	**227**	**$231,625**	**0.19%**
Brammo Empulse	14	$12,600	0.01%
Brammo Enertia	15	$17,225	0.01%
Brammo Enertia Plus	2	$1,800	0.00%
Vectrix VX-1	6	$7,800	0.01%
Zero DS	131	$138,500	0.11%
Zero FX	12	$10,800	0.01%
Zero S	38	$34,800	0.03%
Zero SR	4	$3,600	0.00%
Zero XU	5	$4,500	0.00%
Commercial Vehicles[1]	**49**	**$980,000**	**0.78%**
Grand Total	**59,497**	**$124,911,960**	**100.00%**

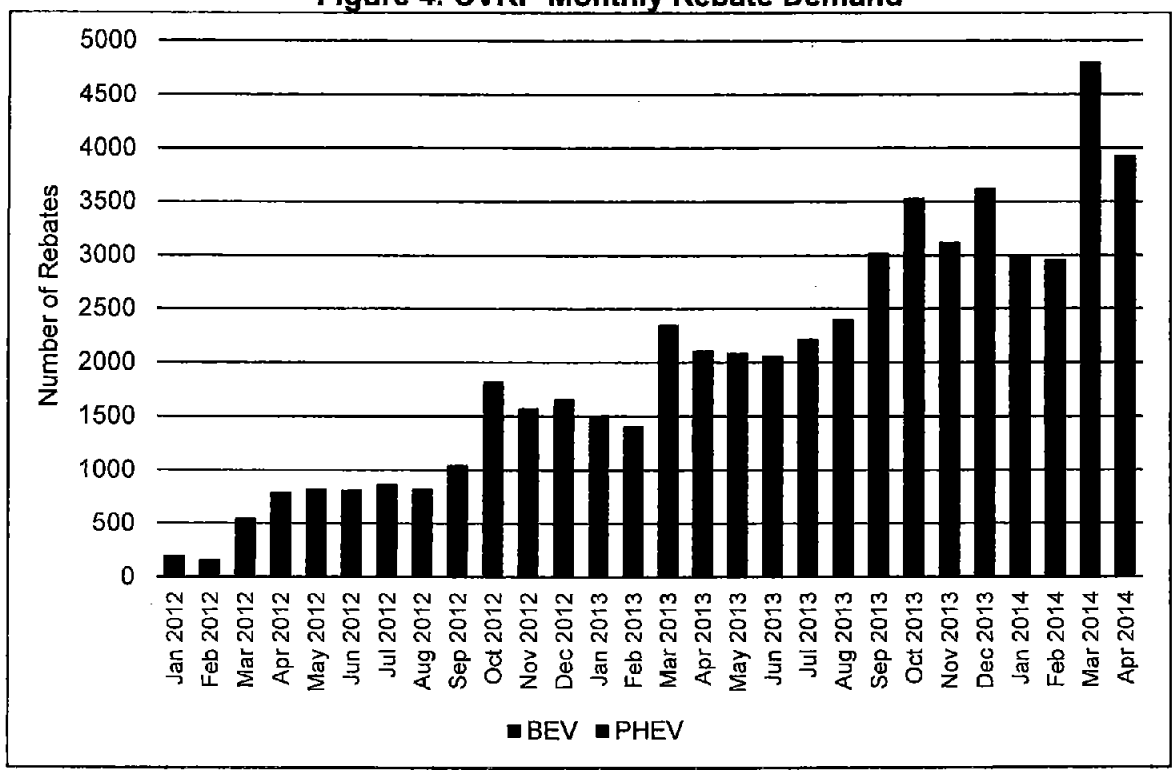
[1] Commercial vehicles received CVRP funding in FY 2009-10 only, and subsequently have received funding through HVIP.

Figure 3. CVRP Rebate Distribution by Air District (as of April 30, 2014)



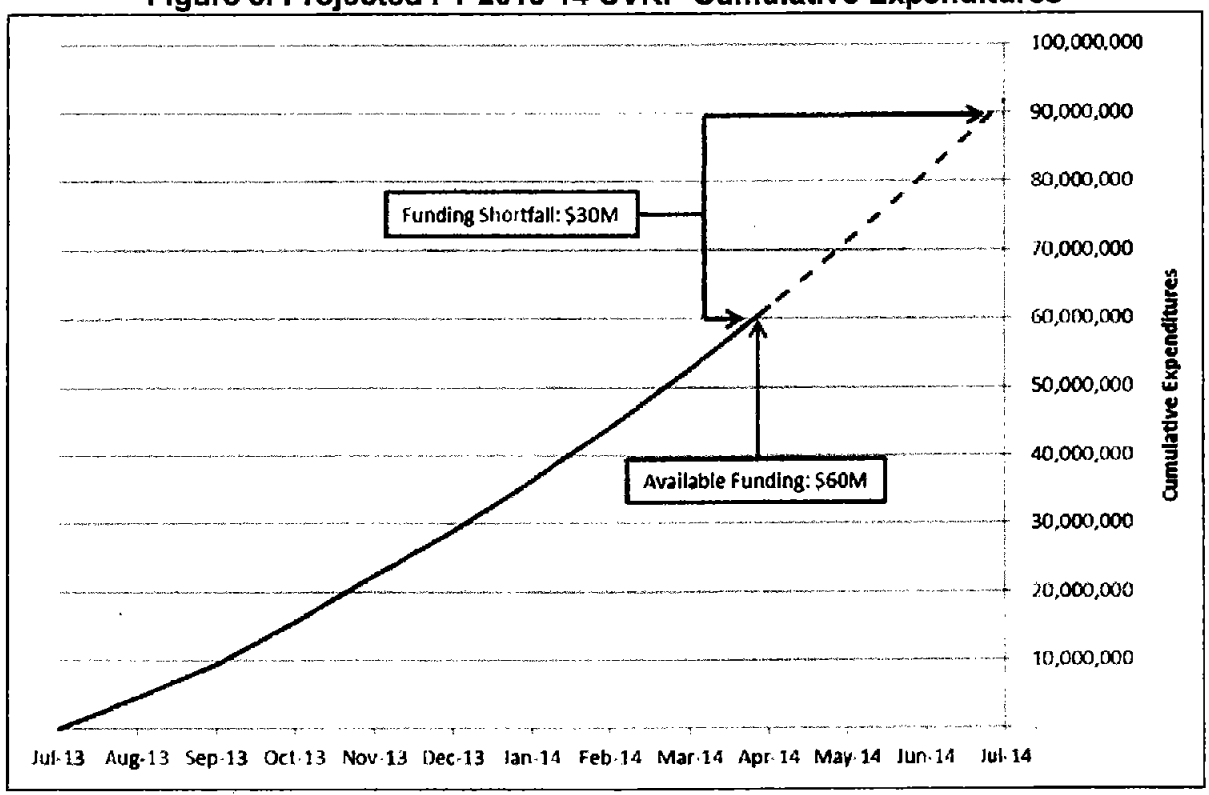
In FY 2013-14, CVRP experienced a rapid rise in rebate requests, with over a 160 percent increase in rebate reservations in 2013 compared to 2012. In March of 2014, a new record was set, with over 4,800 rebates reserved in a single month. Figure 4 illustrates monthly rebate demand since January 2012.

Figure 4. CVRP Monthly Rebate Demand



Because of this increased activity, staff is projecting a potential funding shortfall of about $30 million for the current FY (Figure 5).

Figure 5. Projected FY 2013-14 CVRP Cumulative Expenditures

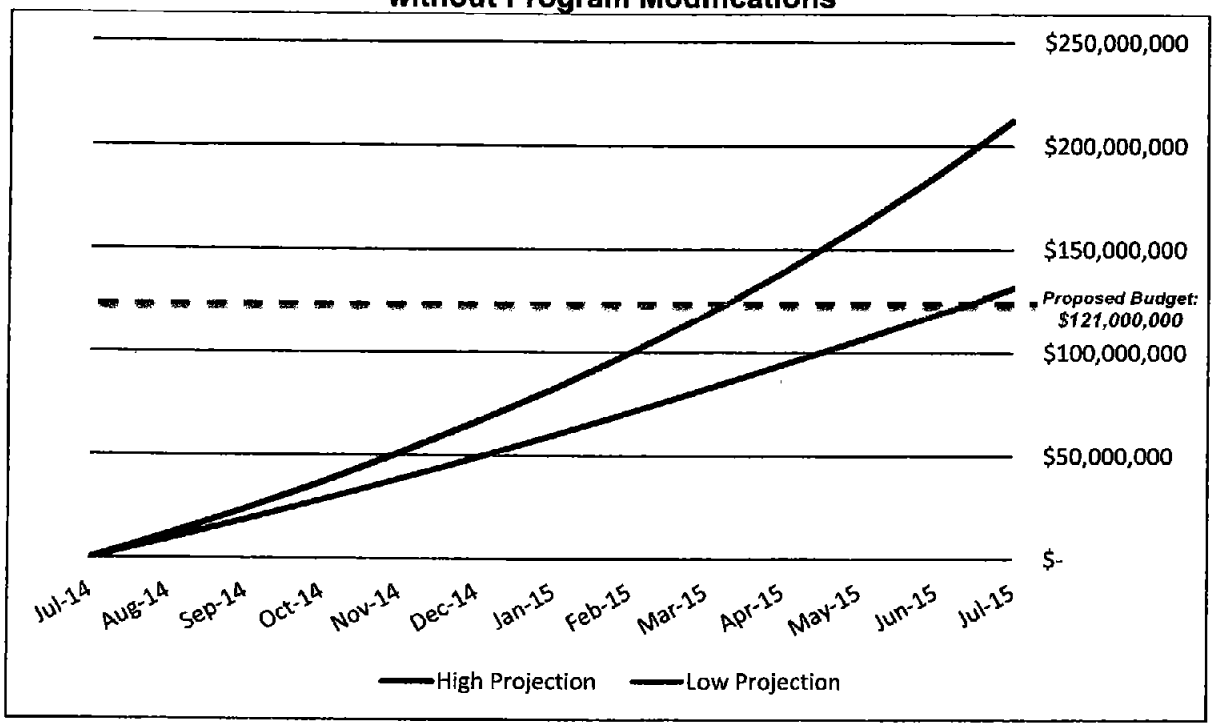


Note: $15 million of the available funding comes from AB 118 (ARB and the California Energy Commission) with about $25 million provided by AB 101 and another $20 million authorized by SB 359.

CVRP funding was exhausted in early April 2014, and a $5 million wait list was initiated. On April 25, 2014, the Board approved expanding the waiting list to a total of $30 million. Expanding the waiting list not only prevents project suspension, but it provides consumers certainty that they will receive a rebate when making their purchase decision and alleviate disruption to the advanced clean car market in California. The Governor has proposed supplemental funding to satisfy this demand as part of the FY 2014-15 State Budget. Rebate applicants placed on the waiting list during FY 2013-14 will receive a rebate under current FY 2013-14 levels and restrictions.

Projected Funding Demand for FY 2014-15: Under the current program structure without modifications, CVRP funding demand in FY 2014-15 is projected to be significantly greater than previous fiscal years at between $130 million and slightly over $200 million (Figure 6). However, based on available funding, staff is proposing up to $116 million for Classic CVRP, which combined with the Energy Commissions investment of $5 million, brings the total for Classic CVRP to $121 million. Because the success of the program depends on consistent and predictable funding, staff is also proposing modifications to align the project with expected funding levels so that the likelihood of funding lapses will be minimized.

Figure 6. FY 2014-15 CVRP Rebate Demand and Funding Projections without Program Modifications



STAFF PROPOSAL FOR FY 2014-15

The California clean car market is growing rapidly and CVRP rebates will ensure sustained and healthy market growth. ARB staff and stakeholders recognize that changes to CVRP are essential in order to align project needs with budgetary limitations, program effectiveness, and to provide market certainty. Because of this, ARB staff evaluated various potential project modifications for FY 2014-15, in conjunction with the long-term plan and with a focus on the following project goals:

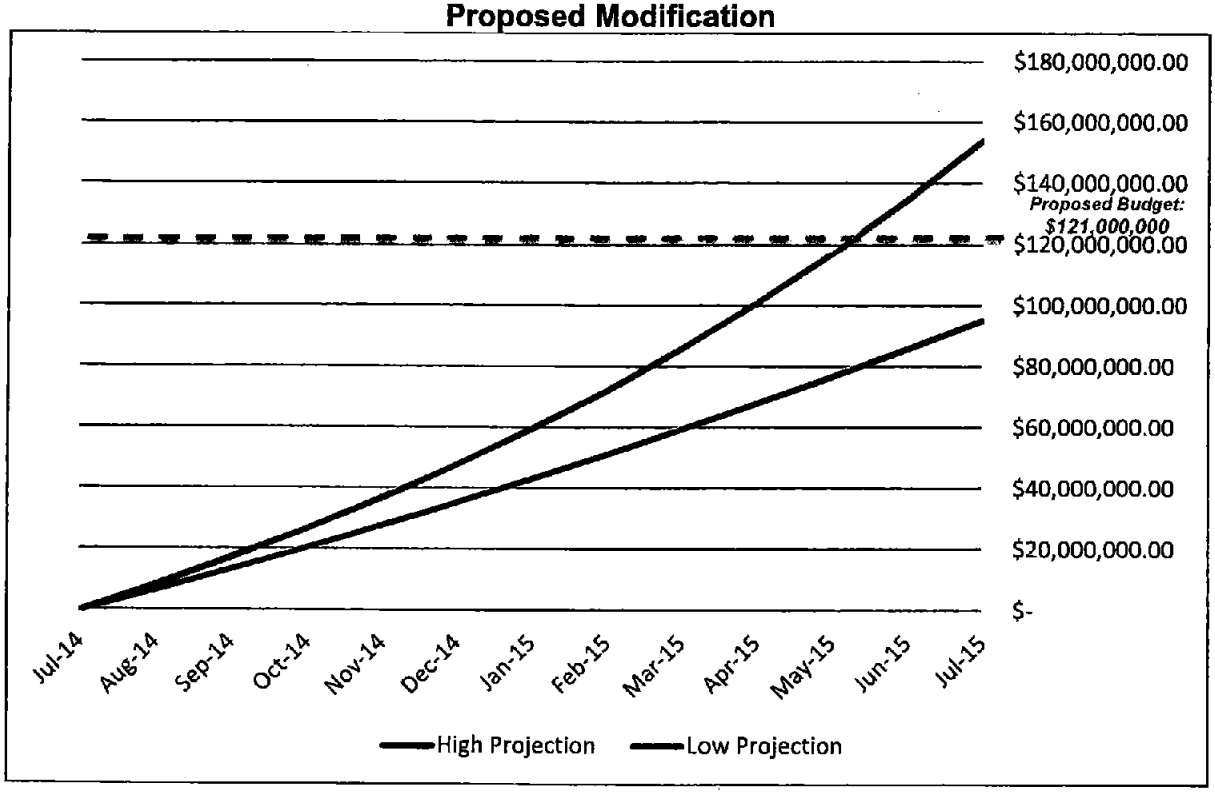
- Effectively motivate consumer purchasing decisions toward advanced technologies instead of conventional vehicles;
- Ensure the continued acceleration of advanced clean vehicle purchases;
- Increase benefits to disadvantaged communities;
- Leverage funding in related programs (car scrap, local sources, etc.);
- Maximize co-benefits associated with the deployment of advanced clean cars; and
- Simplify modifications so the program remains easy to implement and simple for consumers to understand.

Based on the assessment for FY 2014-15, using the best available data, staff proposes to reduce rebate amounts by $500 for BEVs and PHEVs in order to meet the objectives above, and ensure that the program can operate within the specified budget over the full

fiscal year without interruption. Staff is also proposing contingency measures, to be implemented by the Executive Officer, that provide flexibility for midyear adjustments in order to ensure program continuity and fiscal solvency.

With the initial modification, staff anticipates a funding need of between about $95 million and $153 million for FY 2014-15 based on current market trends (Figure 7). In addition, this preliminary projection does not consider unannounced or unexpected changes to the market at this time (e.g., manufacturer incentives or vehicle price reductions that may increase demand).

Figure 7. FY 2014-15 CVRP Rebate Demand and Funding Projections with Proposed Modification



Reduced Rebate Amounts for BEVs and PHEVs

CVRP currently offers rebate amounts of $2,500 for BEVs and $1,500 for PHEVs. Staff recommends lowering the rebate amounts for BEVs and PHEVs by $500 to $2,000 and $1,000, respectively, based on the findings below:

- A greater reduction (33 percent under staff's proposal) in the PHEV rebate amount relative to BEVs is appropriate given the stronger growth in the PHEV market.
- Staff anticipates only a minimal short-term impact in the growth of sales of eligible vehicles due to the lower rebate amounts. However, the budget savings associated with the short-term market delay will more than offset this impact by

providing rebates for about 41 percent more vehicles during FY 2014-15 under a fixed budget. Table 7 illustrates how additional rebates could be supported by a reduction in rebate amounts if funding allocations between BEVs and PHEVs is divided evenly.

Table 7. Additional vehicles supported with reduced rebate amounts

	BEV	PHEV	Total
Funding Level	$60.5M	$60.5M	**$121M**
# cars supported w/o modification ($2,500 for BEVs and $1,500 for PHEVs)	24,200	40,300	**64,500**
# cars supported with reduced rebates ($2,000 for BEVs and $1,000 for PHEVs)	29,000	58,000	**87,000**
% increase in the amount of rebates available	25%	50%	**41%**

- In estimating this impact, staff first assumed a continuation of the current equal split in funding demand between PHEVs and BEVs. Staff then calculated the number of rebates which could be issued under both the current and proposed rebate levels. Finally, staff determined the percent increase in vehicle rebates for the full project.
- As discussed further below, staff expects the new rebate amounts to remain effective in influencing BEV and PHEV sales as the reduction in rebate amounts are still influential relative to the MSRP of eligible vehicles.
- The federal tax credit of up to $7,500 remains available. Staff's proposed rebate amounts, when combined with the federal tax credit, would only reduce the overall financial incentive available by five percent, from up to $10,000 to up to $9,500.

Market Impact: Looking at the effects of rebates and excluding other external variables, such as reduced manufacturing costs and the number of rebates available, reducing rebates by $500 for BEVs and PHEVs will result in slight slowing to the continued expected growth of the California PEV market. Conversely, with a limited budget of $116 million, staff expects reducing rebate amounts will extend rebate funding over the course of the full FY 2014-15, thereby supporting the deployment of more vehicles over the course of the entire year. This will more than offset the market uncertainties and impacts associated with making no rebate level changes, resulting in rebate funding likely being exhausted well before the end of FY 2014-15.

FCEV Rebates

FCEV technology, while in early stages of commercialization for light-duty vehicles, is not as widely available in the marketplace as BEVs or PHEVs. Until manufacturers deliver increased vehicle volumes and varieties, and until early adopters begin to accept

the technology, these vehicles remain in the earlier phase of commercialization. Currently, a limited number of vehicle models, including the Hyundai Tucson FCV are available, with additional models expected in 2015. Because of this, staff recommends offering rebates for FCEVs at $5,000, consistent with the rebate levels offered to BEVs when these vehicles were in that same stage of commercialization.

Other Options Considered but Rejected

Below are project modifications considered but rejected for FY 2014-15:

- *MSRP Cap:* Preliminary staff recommendations included a MSRP cap of $60,000. Staff has determined, however, that implementing an MSRP cap will restrict incentives for emerging advanced technologies with lower production volumes and higher costs. Staff believes at this time that incentives remain a valuable tool for encouraging all consumers to purchase an advanced technology vehicle compared to a traditional gasoline-powered passenger car, and that it is not appropriate to impose an MSRP cap that could potentially harm growth in the advanced technology marketplace.
- *Income cap:* Implementing an income cap could provide useful budget savings, but could also have a significant effect on the market. At the same time, an income cap could be difficult to administer and enforce.
- *Rebates for ZEVs Only*: This option would restrict rebates to ZEVs by excluding all other rebate-eligible vehicle types. While PHEVs are important to the overall health and growth of the advanced technology market, some PHEVs provide greater benefits than others by offering better capabilities for all-electric range. Because of this, staff is proposing that the Executive Officer have the flexibility to reduce or eliminate rebates for some PHEVs based on all-electric range. The contingency measures are discussed in more detail beginning on page 39.
- *Focus on impacted communities:* CVRP rebates could be restricted to specific geographical regions and focus funding to areas that have been disproportionally affected by air pollution. However, this option might be problematic because purchases of advanced clean cars in those communities are limited.
- *Tiered Rebates:* This option would provide a set base rebate amount for all advanced technology vehicles, with additional rebate 'add-ons' for vehicles that meet certain policy priorities, such as extended vehicle range, extended warranty, or vehicles with a lower MSRP. While this approach might offer the most strategic opportunity to tailor incentives toward certain technologies/consumers, it could add significant layers of complexity to both the implementation and consumer understanding of the program.
- Other options include those that would likely require legislation (sales tax, feebates, choose your incentive, etc.) and merit further consideration in the future.

Other Administrative Changes

Adjust Maximum Number of Rebates per Consumer Type: In response to limited rebate availability, last year the Board approved an adjustment to the maximum number of rebates per consumer type for each funding year as shown in Table 8.

Table 8. Maximum Number of Rebates per Consumer Type

Consumer Type	Maximum Number of Rebates Proposed
Individual	2
Public Fleet	30
Rental Fleet	20
Car Share	20

Historically, most individuals have not applied for more than two rebates. Because CVRP is intended to encourage consumers to invest in these newer, advanced technologies, staff is proposing to limit the lifetime number of rebates to individuals to two overall, since the project's inception. This limitation would only apply to individuals and businesses, not fleet or car share vehicles. Staff is also proposing an exemption for individuals who were previously rebated and wish to upgrade to a FCEV. Staff believes that two rebates overall, in addition to a FCEV exemption, helps to better focus incentives toward those individuals that are still unsure of the technology and therefore rely upon a rebate as an incentive for making their purchase decision. Staff believes this approach is consistent with the overall goals and objectives of the program.

Two-Year Grantee Solicitations: Staff is proposing to issue a two-year solicitation for a CVRP grantee that will allow ARB to enter into a grant agreement for rebate administration of up to two fiscal years. Each solicitation will encompass up to two fiscal years, while the grant agreement will initially cover one fiscal year with the option to renew for the following year. Staff is proposing this option for all deployment projects to help ensure a smooth transition from one year to the next.

Waiting List Provision: The CVRP waiting list provision has been an important feature for consumers and manufacturers alike because it provides a degree of funding certainty during gaps between funding cycles. While staff is proposing contingency measures (discussed below) to avoid project disruption during the year, staff also proposes that the Board provide the Executive Officer discretion to establish an appropriate waiting list to bridge the gap between FY 2014-15 and FY 2015-16 funding, should one be warranted. A decision-making trigger would be invoked when the remaining vehicle funding reaches $10 million. Parameters that would be evaluated in making the decision to establish a waiting list include: expenditure rate of CVRP funding, amount of projected shortfall, effect of proposed contingency modifications, potential for additional funds, and projected future vehicle volumes.

Contingency Measures

As mentioned previously, the California clean car market is growing very dynamically and various factors cause unpredictability in project demand. In order to accommodate a sudden increase in project demand that may outstrip available funding or address any unexpected funding shortfalls, staff proposes to conduct quarterly funding evaluations while continuing to develop and refine projections. Should CVRP experience a sudden and/or significant change demand, staff proposes that the Executive Officer have the ability to offset those increases by making adjustments to avoid interruptions in the project.

Specifically, staff proposes that the Executive Officer have the ability to reduce or eliminate rebates for some PHEVs based on all-electric range, if necessary, to help align expected demand with remaining budgetary constraints. This approach is consistent with ZEV credit provisions in the ZEV regulation, which recognizes varying ranges of BEVs, while preserving consumer options for PHEVs to meet mobility needs that may not be satisfied by current BEV options. However, staff recognizes continued consumer demand for longer-all electric range PHEVs, and is not proposing to eliminate rebates for all PHEVs.

Staff does not propose that the Executive Officer make any changes should there be an unexpected reduction in demand during FY 2014-15. Unless there is a significant reduction in rebate demand, staff believes that the accumulation of a 2-3 month reserve in funding for CVRP specifically is appropriate. A modest reserve will allow the project to continue standard operation between fiscal years, and ensure that funding is available while other sources of funding (such as the fees that support AQIP) accumulate on a month-to-month basis to support the project in the next fiscal year.

Prior to the implementation of any contingency measures, staff would meet with the CVRP Work Group, and take necessary steps to ensure timely and effective communication to the public and participating stakeholders.

LONG TERM PLAN

Consistent with the above stated goals and metrics for measuring the project's success, staff proposes the following evaluation milestones for CVRP:

- Evaluate the state of technology for each of the three main technology types as they approach specific levels
  - When advanced clean cars represent around 5 percent of total new passenger car sales in California, they begin to shift out of the early adopter market (1-2 percent of sales) and fast-follower (2-5 percent of sales) market segment[21]. Once the advanced car market reaches beyond the fast-follower market, vehicle prices may be reduced enough where CVRP rebates may not be necessary, although additional research in this area is suggested below.

[21] National Research Council. (2013). Overcoming Barriers to Electric-Vehicle Deployment: Interim Report.

- Using rebate demand projections and projected passenger car sales, staff believes that this threshold will be achieved once advanced clean cars approach the milestones of about 150,000 rebates for BEVs, 150,000 rebates for FCEVs, and 75,000 rebates for PHEVs starting in FY 2014-15.
- Staff proposes that evaluations of the technologies' progress toward reaching these milestones begin once vehicle volumes reach the halfway point for each initial target.
- Staff expects to reevaluate each technology type in future funding plans with the metrics of success, described below, to determine whether to make further adjustments, such as reducing rebate amounts further for specific technologies, or considering other project changes.

Given the success of the project and the anticipated growth in demand, metrics are necessary for evaluating continued effectiveness of the project and determining when advanced technology light-duty vehicle incentives are no-longer needed. Staff believes a set of metrics can be useful in determining if, and how quickly, a specific vehicle technology is becoming a mainstream purchase option where rebates are no longer needed or another incentive would be more effective.

Staff has identified three potential metrics that can be considered in determining the success of the project. For each of the three primary metrics, staff included sample indicators that could be used to conduct an evaluation:

- State of Advanced Clean Car Market:
  - ZEVs sold as a percent of total California car market
  - ZEVs sold as a percent of total market in other states administering ZEV requirements
  - Demand for CVRP rebates
- Household Ownership Patterns:
  - Number of *new* households purchasing ZEV technology to demonstrate market expansion
  - Purchaser income distribution (relative to new car purchases)
- Manufacturer Achievements:
  - Manufacturer and vehicle model diversity
  - Number of manufacturers with more than a certain number of vehicles sold

Because the clean car market is continuing to grow dynamically, there is a clear need to evaluate the effectiveness of investments toward CVRP. Staff expects that utilizing metrics of success to inform CVRP's long-term plan will allow the project to be as effective as possible in encouraging continued transformation of California's clean vehicle market, supporting early compliance of the ZEV mandate, continuing development of necessary supporting infrastructure, and supporting the State's long-term air quality and climate change goals. Further, the metrics help ensure that the project is sustainable and can adapt to a changing market with increasing participant demand.

Incentives Research

Throughout the course of development for the FY 2014-15 Funding Plan, staff consulted a broad range of literature, and used the best available data to conduct the analysis contained within the plan. However, there are gaps in the existing research related to helping define the scope and duration of incentives moving forward. A research proposal, coordinated with other ARB research, will help inform the ongoing evaluation of the project and provide valuable information on how to adjust the project, and help identify when incentives are no longer needed.

For example:

- Existing research supports rebates as an effective type of financial incentive to encourage adoption of cleaner vehicles. However, additional research related to other program designs, such as feebates, registration fee reductions, sales tax exemptions, and the value of other incentives such as free public charging and carpool stickers, would be beneficial.
- Research related to identifying the vehicles that are most likely to be purchased in the absence of incentives is not available.
- Further, research related to when incentives may no longer be needed for technology types is also not yet available.
- Some literature illustrates that charging/fueling infrastructure may be more important than incentives for encouraging clean vehicle adoption. But it does not adequately explore regional variations in the association between charging infrastructure and clean vehicle adoption, nor does it address the cost that drivers are willing to pay for what they consider adequate access.

SUMMARY OF PUBLIC COMMENTS AND AGENCY RESPONSES TO APRIL 2, 2014 DISCUSSION DOCUMENT: CVRP

1. Comment: *Reducing incentives such as reduced rebates and an MSRP cap at this stage in the light-duty clean vehicle market is premature and undercuts a more strategic long-term approach for reducing rebates over time as technology costs lower.*

Agency Response: We believe the proposed rebate reductions are necessary and are consistent with a longer-term approach to reducing rebates as technology costs are reduced. In the current year, demand for CVRP rebates has greatly exceeded supply.

CVRP experienced a rapid rise in rebate activity in 2013, which has continued into 2014 and led to the record breaking month of March with over 4,800 rebates reserved. The excess demand in the current fiscal year resulted in a $30 million shortfall that is currently being addressed by a waiting list. Clearly, demand for advanced clean cars is increasing. Both of the projections illustrated in Figure 6 exceed the current budget of $121 million.

While it is possible that sales will flatten-out in fiscal year 2014-2015 and we recognize that only a limited number of additional models will be released in the next fiscal year, we continue to believe today's robust demand for existing models will continue into the next fiscal year. This is witnessed by the program's growth between 2012 and 2013, the sustained growth in the first 3 months of 2014, and recent price reductions on the most popular models. Lowering the rebate amounts will allow CVRP to stay effective as rebates are adjusted to capture declining manufacturing costs and vehicle prices. Battery costs, which are of the main cost component for a PEV, continue to decline. As evidence, the U.S. Department of Energy recently announced that the cost of batteries has been cut in half in the last four years[22] (from $625/kWh in 2010 to $325/kWh in 2014), which will enable increased PEV affordability for consumers.

Multiple commenters suggest that with no change to funding levels, 65,000 rebates could be issued. However, we believe that without modifications, the rebate supply may be lower after accounting for administrative costs and may not be able to accommodate anticipated strong demand in rebates. We continue to believe that with the growth witnessed in the program, demand for incentive funding would outstrip supply if rebate levels are not reduced. By reducing rebates, CVRP will be able to provide rebates for more total vehicles during fiscal year 2014-15. This will help to minimize the risk of program interruptions due to the exhaustion of funding during the course of the fiscal year, which may cause greater disruptions to the market due to consumer confusion and a potential suspension of the program. The program must live within its means.

While long-term approaches for PHEV deployments are being discussed in the Legislature, staff believes the PEV market is in its early stages and it is difficult to project for the implementation of a long-term plan at this moment. Consequently, staff has proposed implementing evaluation milestones for different technologies. Staff anticipates that when the milestones are reached, advanced clean car sales will be above 5 percent of total new passenger car sales in California. At above 5 percent, the advanced clean car market will begin to shift out of the early stage market and into the early core market, where the need for incentives may be reduced[23]. Staff believes that as sales increase and costs decrease, per vehicle incentives should decrease and be limited to those vehicles and income levels that provide the most value per incentive dollar spent.

Further, as discussed previously, staff has re-evaluated the preliminary proposal of establishing a MSRP cap at $60,000, and has determined that it is not appropriate to include that recommendation at this time.

2. Comment: *Recommend staff implement a $400,000/household income cap over the proposed MSRP cap.*

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[22] U.S. Department of Energy. (2014). EV Everywhere Grand Challenge; Road to Success.
[23] National Research Council. (2013). Overcoming Barriers to Electric-Vehicle Deployment: Interim Report.

Agency Response: After further analysis, staff has proposed to limit initial modifications to a reduction in rebates and is not proposing an MSRP cap.

However, in response to the comments received, based on staff's analysis, a MSRP cap of $60,000 has a similar market impact compared to an income eligibility cap of $400,000 per household. But, despite having similar market impacts, other differences exist. Mainly, an income eligibility cap will be more difficult to implement, administer, and enforce than an MSRP cap, which may increase the overall implementation costs of the project while lowering the number of rebates available. Without an established dataset that can be used for verification, implementing an annual household income cap will be more difficult compared to a MSRP cap. To prevent fraud, a new enforcement strategy would need to be developed to implement an income cap.

3. Comment: *Recommend ARB adopt changes that allow flexibility to avoid another funding shortfall. However, the proposed MSRP cap as a contingency measure will be disruptive to the market. An income cap as a contingency measure should be used over an MSRP cap.*

Agency Response: Staff agrees that an MSRP cap is not an appropriate modification for mid-year adjustments to the project, but further disagrees that an income cap would serve as a better modification, because of the complexities discussed above. Staff is instead proposing to reduce or eliminate rebates for some PHEVs based on all-electric range. As discussed in the contingency section beginning on page 39, this approach is consistent with ZEV credit provisions in the ZEV regulation.

4. Comment: *ARB should consider an exclusion from CVRP leased plug-in vehicles that lack the option to buy or renew at the end of the original lease agreement. This exclusion should not apply to fuel cell vehicles at this time.*

Agency Response: ARB staff is concerned that this exclusion might slow innovation and commercialization of new ZEV technologies, including innovation of new battery-electric technologies. Leasing ZEVs represents an important part of the innovation process with respect to encouraging the development and deployment of new technologies. Because many automakers remain generally concerned about technology performance, durability, warranty risk, and customer satisfaction with early ZEVs, they tend to offer short-term leases where they have more control over the time these early vehicles are on the road. At the end of the lease period, the manufacturer may remove the vehicle from service and in doing so, learn more about how that vehicle performed in the field and quickly develop options for improving the new technology. Allowing consumers to access rebates for closed-end leased vehicles supports this early innovation period by encouraging manufacturers to field test new ZEV technologies.

LIGHT-DUTY PILOT PROJECTS IN DISADVANTAGED COMMUNITIES

Proposed Funding Target: $9 million

PROJECT GOALS

Staff recommends allocating up to $9 million of the Low Carbon Transportation Investments from the overall light-duty vehicle budget to administer clean vehicle pilot projects that reduce GHG emissions in or to directly benefit disadvantaged communities. This focused investment will allow ARB to investigate the viability of these pilot projects in assisting lower-income households and disadvantaged communities in using cleaner vehicle technologies.

PROPOSED LIGHT-DUTY PILOT PROJECTS FOR FY 2014-15

Staff recommends dividing the $9 million allocation for light-duty pilot projects between four proposed projects. Projects will be developed with public input over the next several months with a series of work group meetings and individual stakeholder discussions. Staff expects to stagger grant solicitations or project agreements throughout the year based on the needs of each of the projects. Similar to administration of other AQIP projects, ARB will maintain project oversight responsibilities, and enter into grant agreements with public agencies or non-profit organizations to carry out the duties of each project. Proposed allocations listed below represent the funding needs identified by staff for the upcoming fiscal year. However, consistent with overall contingency measures for the plan, staff recommends that the Executive Officer have the authority to adjust funding amounts between the categories should funding needs in one project outweigh the needs in another, or in the event that funding demand for a specific project does not materialize.

Targeted Car Sharing in Disadvantaged Communities

Proposed Allocation: Up to $2.5 million

Car sharing allows an individual to benefit from the use of a private automobile without the responsibility of car ownership costs. Staff is proposing to allocate funding to establish hybrid and advanced clean car sharing fleets in disadvantaged communities to offer an alternate mode of transportation and encourage the use of clean cars. The pilot would provide immediate emission reduction benefits and be used to gather data that could help support larger scale advanced technology car share programs.

Staff plans to establish a public work group to determine the needs and parameters of the project. The work group is expected to include members and representatives of disadvantaged communities, representatives of organizations with experience administering car share programs, research institutions, local air districts, and other stakeholders. Staff proposes to issue a solicitation for several deployments throughout the State, including at least two projects in federal extreme nonattainment areas. ARB intends to solicit for projects that meet the mobility needs of specific disadvantaged communities, including traditional carsharing models as well as vanpooling, shuttles, and other advanced technology mobility options. Eligible project components will include capital costs for vehicles and infrastructure, marketing, operating expenses such as staffing and insurance, and data collection and reporting. Staff envisions that the remainder of 2014 will be used to further develop this pilot project and the corresponding solicitation, with a target timeframe of early 2015 for actual project solicitation.

Increased Incentives for Public Fleets in Disadvantaged Communities

Proposed Allocation: Up to $3 million

Public fleets are not eligible for additional incentives, such as the federal tax credit, to bring down the higher prices associated with advanced clean cars. As a result, combined with other barriers, local and state government fleets make up a very small number of the total number of rebates reserved. Staff is proposing to offer rebates to public fleets located in or serving disadvantaged communities of up to $5,250 for plug-in hybrid electric vehicles, up to $10,000 for battery electric vehicles, and up to $15,000 for fuel cell electric vehicles. The vehicles will be required to operate in disadvantaged communities and the communities will experience the direct benefits of the vehicle operating on their roads. This pilot project is expected to be administered as a set-aside within classic CVRP.

Staff is also considering options to support infrastructure for public fleets in disadvantaged communities. Staff will continue coordination with the Energy Commission regarding infrastructure investments, and consider allowing a portion of the proposed allocation to be used for infrastructure to serve public fleet vehicles.

Vehicle Retirement and Replacement Plus-up

Proposed Allocation: Up to $2 million

This pilot program will focus on promoting advanced technology vehicle replacements (both new and used) by providing additional financial assistance for cleaner vehicles under EFMP or other vehicle retirement programs. To determine a sustainable replacement vehicle solution for low-income participants in federal extreme non-attainment areas, staff believes that innovative approaches must be evaluated and tested. Assistance will include increased incentive amounts, eligibility for used advanced technology vehicles, and may include alternative options, such as transit and carshare subsidies, or low-cost loans. Staff is proposing incentive amounts of up to $5,000 for plug-in hybrid or zero-emission vehicles and up to $2,500 for conventional hybrid vehicles that are eight years old or newer at the time of purchase.

Staff anticipates establishing a work group during summer of 2014 to further develop this project, and is targeting fall of 2014 to finalize project parameters, including specifics of project administration.

Financing Assistance Programs

Proposed Allocation: Up to $1.5 million

For some individuals, vehicle financing is a significant barrier to vehicle ownership. Staff proposes to evaluate the feasibility of programs that provide financing assistance, such as a loan loss guarantee for financial institutions or programs that buy down interest rates for consumers, in order to improve financing options for low-income individuals interested in moving into a cleaner vehicle. These programs may help some consumers that would not typically qualify for conventional financing to better afford an advanced technology vehicle. Further, as more hybrids and advanced clean cars enter the used car market, financing assistance for used vehicles may help to increase the number of cleaner vehicles in disadvantaged communities.

Consistent with the pilots listed above, staff proposes to begin further evaluation of this pilot through a work group process, that would include financial institutions, automotive dealers, community groups, and others, in order to determine which financing assistance options might offer the best benefits to low-income consumers purchasing advanced technology vehicles. This pilot will be further developed throughout the summer and fall of 2014, and staff is targeting early 2015 to finalize project parameters, including specifics of project administration.

LONG-TERM PLAN

These projects are focused on expanding the market of advanced clean passenger vehicles to individuals that otherwise might not have an opportunity to use these technologies at the individual level. As noted above, these investments are intended to allow ARB to investigate the viability of these pilot projects, and if successful, serve as a foundation for future investments. Because each of these pilots uses a different mechanism to engage and assist low-income and disadvantaged individuals, staff proposes to develop specific metrics of success throughout the workgroup process identified above for each project, and where applicable, include metrics within project solicitations.

SUMMARY OF PUBLIC COMMENTS AND AGENCY RESPONSES TO APRIL 2, 2014 DISCUSSION DOCUMENT: LIGHT-DUTY PILOT PROJECTS IN DISADVANTAGED COMMUNITIES

1. Comment: *Recommend ARB place limits on proposed funding allocations to ensure all proposed pilots projects receive sufficient funding.*

Agency Response: ARB staff has proposed funding targets for each of the light-duty pilot projects. Staff has also included contingencies to ensure that if the funding need in

a project does not materialize while another project demonstrates a higher need, that funding can be adjusted between them.

2. Comment: *The proposed public fleet pilot project should be a part of classic CVRP and should be paired with an investment in infrastructure.*

Agency Response: Staff agrees that proposed Increased Incentives for Public Fleets in Disadvantaged Communities should be administered through the process already established under Classic CVRP. However, staff believes the funding to support this pilot should come from the $9 million allocation for Light-Duty Vehicle Pilot Projects.

CHAPTER 5: HEAVY-DUTY VEHICLE AND EQUIPMENT INVESTMENTS

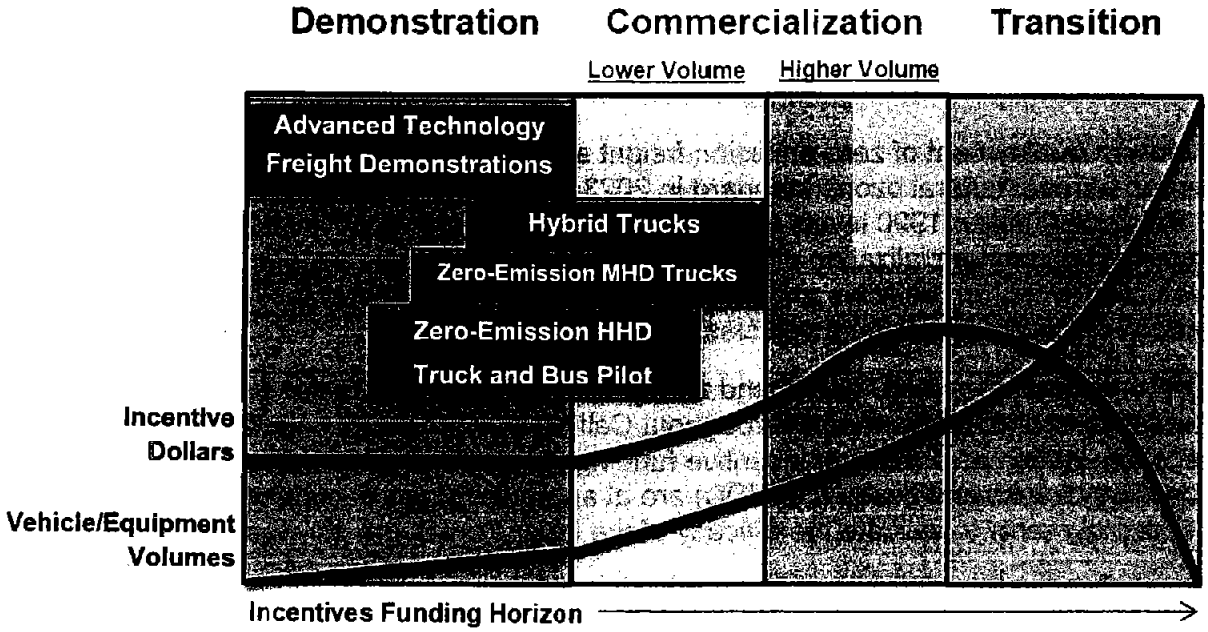
Extensive deployment of zero-emission freight and transportation technologies will be needed to meet federal ozone standard in 2023 and 2032 and reduce GHG emissions by 80 percent below 1990 levels by 2050.[24] For this reason, AQIP invests in accelerating commercialization of technologies capable of operating with zero-emission miles (zero-emission vehicles and plug-in hybrid vehicles) and provide a bridge to zero-emission technologies (hybrid vehicles).

AQIP investments in MHD hybrid and zero-emission trucks and buses have resulted in successful vehicle deployments throughout California in far greater numbers than the rest of the nation as a result of incentive funding. However, heavy duty advanced technology trucks and buses (i.e. HDD) are at an earlier stage of commercialization and pilot deployments to validate the efficacy of the technologies are still necessary.

Further, the funding of demonstration projects to showcase the functionality and commercial aspects of advanced technology projects remains critical for meeting our long-term air quality and climate change goals. Demonstration projects by their very nature have a certain level of risk and costs are often higher than compared to commercialized technology. However, these risks can be mitigated through coordination with knowledgeable technology demonstrators, and engaged stakeholders with an eye toward the prospects of commercialization. Considering this, staff's proposed investments will help move these technologies toward the goal of zero-emission freight movement in California.

[24] Air Resources Board. (2013c). Vision for Clean Air: A Framework for Air Quality and Climate Planning; Public Review Draft.

Figure 1b. FY 2014-15 Heavy-Duty Advanced Technology Investments



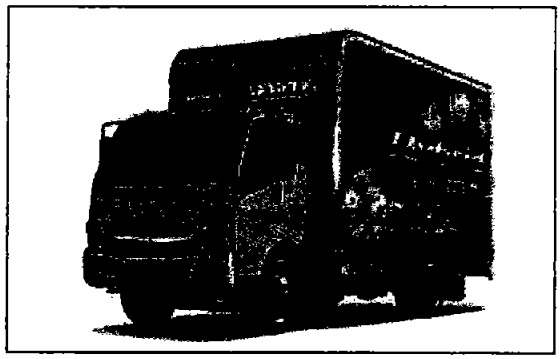
To address the need for zero-emission transportation investments in the medium-, heavy-, and off-road sectors, staff is proposing up to $85 million for trucks, buses, and freight sector demonstrations and deployment from AQIP and Low Carbon Transportation Investments. These investments will reduce GHG emissions and be focused significantly in disadvantaged communities. Table 9 below summarizes the proposed Heavy-Duty Vehicle and Equipment Investments.

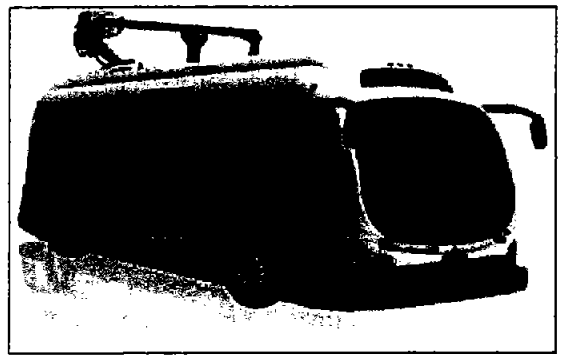
Table 9. Summary of Heavy-Duty Vehicle and Equipment Investments

	AQIP Investment	Low Carbon Transportation Investment
Traditional HVIP	$5M	$5-$10M
Zero-Emission Truck and Bus Pilot Projects	-	$20-$25M
Advanced Technology Freight Demonstration Projects	-	$50M
Total Heavy-Duty Vehicle and Equipment Investments: $85M*	**$5M**	**$80M**

*Note: $85 million represents the total amount of funding for this category based on using the high end of one of the ranges above and the low end of the other. For example, if $10 million of Low Carbon Transportation Investments is allocated to HVIP, then only $20 million would be available for Zero Emission Truck and Bus Pilot Projects. These amounts, combined with the allocation from AQIP for HVIP and Advanced Technology Freight Demonstration Projects, would total $85 million. Further explanation of these ranges is provided in the upcoming sections.

TRADITIONAL HVIP





Proposed Funding Target: $10 - $15 million

PROJECT GOALS

HVIP is intended to encourage truck and bus manufacturers to offer, and California fleets to purchase or lease, progressively cleaner advanced technology vehicles in multiple truck and bus vocations. HVIP helps ensure California consumer acceptance of the nation's first commercially-available hybrid and zero-emission trucks and buses, and helps drive production economies of scale and lower technology costs. HVIP is also structured to encourage smaller fleets to consider purchase of these technologies as they make their way into the market and prices decline. In the near-term, HVIP must incentivize more vehicle manufacturers to come to market with vertically-integrated hybrid truck and bus systems – in which the engine and driveline are specifically manufactured to work together seamlessly – to maximize operational efficiency and ensure in-use emission benefits. For example, Hino Motor Company had been producing a vertically-integrated hybrid truck for the Japanese market for over a decade, and selected California for its United States debut of this vehicle in late 2012 due to availability of HVIP-funding. California needs additional manufacturers to enter the California market and offer vertically-integrated hybrid trucks in a diversity of vocations and platforms.

In addition, HVIP must help accelerate relatively flat demand for zero-emission trucks and buses (about 100 vehicles annually), while increasing operations in disadvantaged communities. Longer term, urban hybrid vocational vehicles must pave the way for advanced hybrid and zero-emission technologies in a variety of heavy-duty vocations, with the ultimate goal of reliable freight and long-haul trucks that operate with zero-emissions, particularly within freight corridors and disadvantaged communities.

PROJECT OVERVIEW

HVIP is the nation's first program to directly reduce the up-front cost of hybrid or zero-emission trucks and buses, with fleets able to secure a voucher through their local dealership as part of their vehicle purchase order. HVIP incentives drive manufacture production and fleet acceptance of the advanced heavy-duty vehicle technologies California must adopt to meet its long-term air quality and climate goals. Consumer incentives are needed because these products generally cost more than their diesel-powered, conventional counterparts, which can be a significant deterrent to their purchase. This streamlined approach – with eligible vehicles and preset voucher amounts available on a first-come, first-served basis – has proven popular with vehicle dealers, manufacturers, and California fleets.

Since its launch in 2010, HVIP has provided over $50 million to help California fleets purchase over 400 zero-emission and 1,200 hybrid trucks and buses. HVIP is also structured to enable leveraging of local, State and federal funding. The Energy Commission ($4 million), the South Coast AQMD ($2 million), and the Sacramento Metropolitan APCD ($500,000) have all provided voucher enhancements to accelerate fleet demand for hybrid and zero-emission trucks and buses. Most recently, the San Joaquin Valley APCD has provided $2 million to provide an HVIP "bump-up" for zero-emission and hybrid trucks and buses deployed in the San Joaquin Valley.[25] These investments enable air districts to accelerate hybrid and/or zero-emission technology deployment within their region, while maintaining the streamlined, statewide HVIP structure needed to drive production economies of scale and accelerate market penetration.

CURRENT PROJECT STATUS

As in previous funding years, Calstart has been selected via competitive solicitation to act as ARB's Grantee to help implement the FY 2013-14 HVIP. The FY 2013-14 HVIP launched in April 2014 with $15 million, which staff expects will meet fleet demand until FY 2014-15 funding becomes available in early 2015.

A limited number of large fleets, such as UPS and Frito Lay are responsible for most zero-emission truck demand thus far, while smaller fleet purchases of Hino hybrid trucks have driven recent hybrid truck demand increases. Tables 10 and 11, below, identify the types of vehicle vocations and weight classes receiving HVIP funding thus far. While HVIP is responsible for over half of the national hybrid and zero-emission truck purchases, deployment must accelerate significantly for California to meet GHG targets

[25] Typical per vehicle voucher increase is $20,000 per zero-emission truck or bus voucher (from $40,000 to $60,000) and $15,000 per hybrid truck or bus voucher (from $20,000 to $35,000). Actual voucher amounts may vary, based upon vehicle weight. More information is available at: http://www.californiahvip.org/san-joaquin-valley-plus-up .

and attain federal ozone standards in the South Coast and San Joaquin Valley air basins.[26] Figure 8 illustrates the distribution of vouchers by Air District.

Table 10. Vouchers Issued By Vocation (as of May 1, 2014)[1]

Vehicle Type	Vouchers Issued	Total Voucher Funds	Average Voucher Amount	% of Total Vouchers	% of Total Voucher Funds
Parcel Delivery	614	$18,694,000	$30,446	37%	37%
Beverage Delivery	424	$14,128,000	$33,321	26%	28%
Other Truck	202	$5,175,000	$25,619	12%	10%
Food Distribution	151	$5,162,000	$34,185	9%	10%
Uniform & Linen Delivery	117	$2,935,000	$25,085	7%	6%
Tow Truck	63	$2,121,000	$33,667	4%	4%
School, Shuttle or Urban Bus	33	$951,776	$28,842	2%	2%
LP Pick-up & Delivery	24	$352,000	$14,667	1%	1%
Refuse Hauler	14	$514,000	$36,714	1%	1%
Total	**1,642**	**$50,032,776**	**$30,471[2]**	**100%**	**100%**

[1] Data includes $4 million in CEC funding.
[2] Overall average for all vouchers provided in the program.

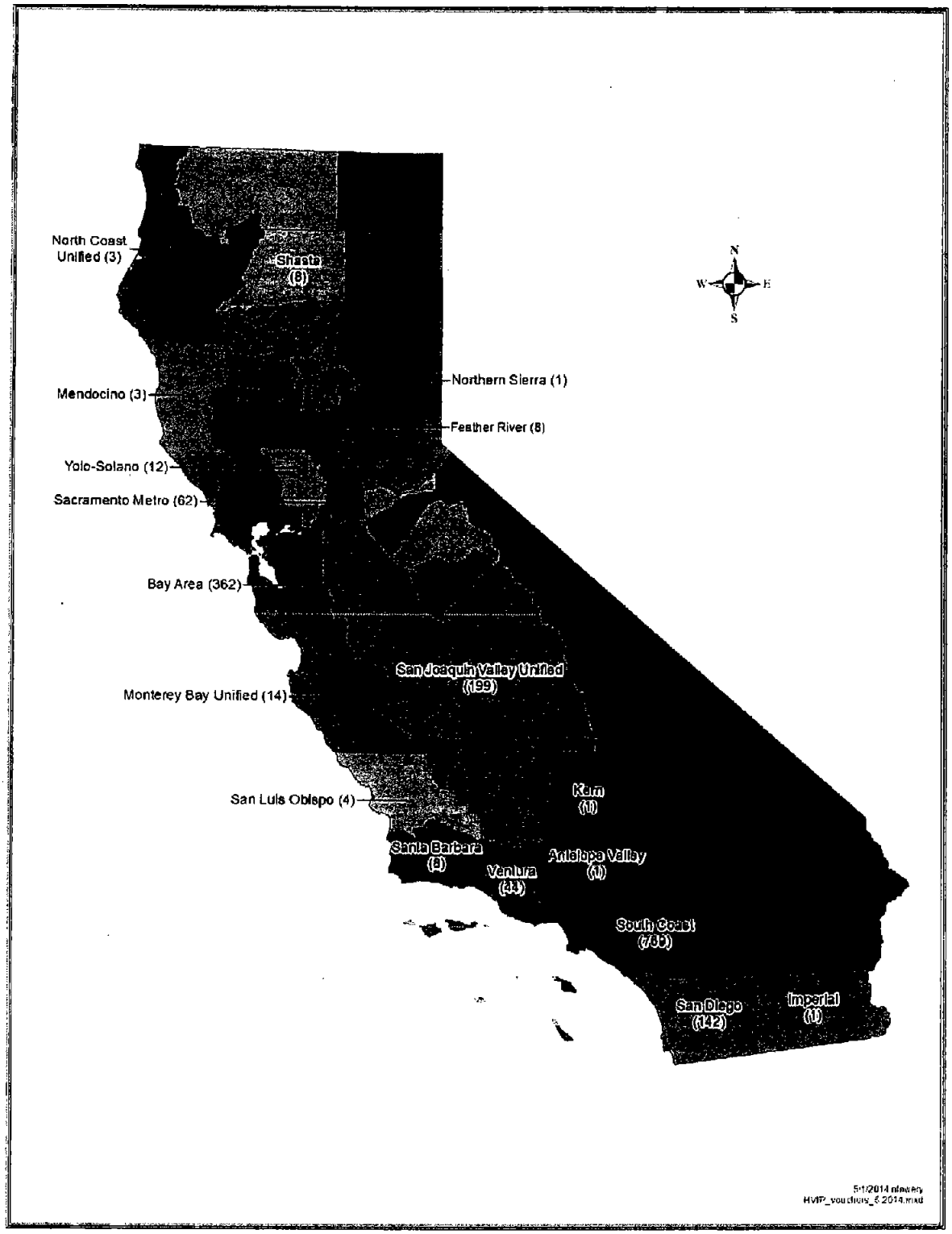
Table 11. Vouchers Issued By Gross Vehicle Weight Range (as of May 1, 2014)[1]

Gross Vehicle Weight Range	Vouchers Issued	Total Voucher Funds	% of Total Vouchers	% of Total Voucher Funds
5,001 – 6,000 lbs.	51	$653,000	3%	1%
6,001 – 10,000 lbs.	0	$0	0%	0%
10,001 – 14,000 lbs.	34	$715,000	2%	1%
14,001 – 19,500 lbs.	684	$20,088,000	42%	40%
19,501 – 26,000 lbs.	349	$11,730,000	21%	23%
26,001 – 33,000 lbs.	97	$2,521,776	6%	5%
>33,000 lbs.	427	$14,325,000	26%	29%
Total	**1,642**	**$50,032,776**	**100%**	**100%**

[1] Data includes $4 million in CEC funding.

[26] Air Resources Board. (2013c). Vision for Clean Air: A Framework for Air Quality and Climate Planning; Public Review Draft.

Figure 8. HVIP Vouchers by Air District (as of May 1, 2014)



ARB is also coordinating with the California Pollution Control Financing Authority to enable smaller California fleets accessing loans through the Truck Loan Assistance Program to also leverage HVIP funds if these fleets obtain a new hybrid or zero-emission truck instead of a diesel truck. ARB and the California Pollution Control Financing Authority will launch this effort in the second half of 2014, which will enable Truck Loan Program participants to also leverage HVIP voucher funding to reap fuel economy benefits when they upgrade their vehicle.

STAFF PROPOSAL FOR FY 2014-15

Staff proposes $10 million to $15 million be provided to continue the traditional statewide first-come, first-served HVIP voucher program. Funding for HVIP would derive from $5 million from AQIP and $5 million to $10 million from Low Carbon Transportation investments. All Low Carbon Transportation investments will pay for vehicles that provide benefits in disadvantaged communities, as directed by SB 535.

Staff recommends two significant project modifications to ensure deployed technologies achieve the expected emission benefits, and to accelerate demand for zero-emission technologies. First, staff recommends requiring hybrid vehicle makes/models complete in-use emissions testing to become HVIP-eligible, in order to demonstrate the vehicle will achieve expected in-use emission benefits. In addition, staff proposes increasing HVIP voucher amounts for zero-emission vehicles, with an additional incentive for those vehicles domiciled in disadvantaged communities, to boost what thus far has been extremely limited demand for zero-emission trucks and buses.

Shift Toward Requiring Hybrid Vehicle Certification

In order to better encourage and fully capture the emission benefits of hybrid and other advanced truck and bus technologies, ARB must shift towards vehicle-based, rather than engine-based, technology certification. Recent hybrid truck emissions testing conducted by the US Department of Energy, National Renewable Energy Laboratory (NREL) underscore the need for more a comprehensive approach to hybrid technology certification.

ARB provided NREL with over $700,000 in FY 2011-12 AQIP funding to collect hybrid vehicle vocational drive cycle data, and perform emissions and fuel economy testing of hybrid and conventional heavy-duty trucks utilizing a chassis dynamometer and a portable emissions measurement system. This emissions testing, completed in late 2013, suggests hybrid trucks in which the engine and driveline combination are not adequately integrated may emit more NOx emissions than their non-hybrid counterparts. One concern pertaining to non-vertically-integrated hybrid systems is that the typical new diesel truck employs a sophisticated engine plus aftertreatment emission control strategy to achieve extremely low in-use exhaust emissions. As shown by the preliminary NREL data, attaching a hybrid driveline to a vehicle without careful integration with the engine plus aftertreatment system can have the unintended

consequence of increasing criteria pollutant emissions (for example, lower exhaust temperatures may lead to less efficient NOx control). ARB staff and NREL have briefed industry stakeholders on the draft results of the emissions study, and NREL's project report is due for release in Summer 2014.

The pathways for certification of new vehicles and engines are specified in regulatory certification procedures, with important differences depending upon vehicle size. In general, Class 1 through 3 vehicles (cars and light trucks below 14,001 lbs) must be certified to meet emissions, OBD, warranty and other requirements *as a complete vehicle*. In contrast, heavy-duty engines for use in Class 4 through 8 vehicles (trucks and buses above 14,000 lbs) are certified before being integrated into a vehicle. Additionally for 2014 and subsequent model years, engine certification requires a comprehensive OBD system covering both the engine and the hybrid drivetrain. A new Class 4 through 8 truck or bus is not required to be certified as a complete vehicle as long as it utilizes the appropriate ARB-certified engine and attendant OBD system.

In order to quantify and ensure emission benefits of hybrid vehicles, efficiency-enhancing aerodynamic devices, or other strategies California needs to meet its air quality and climate goals, a more holistic, vehicle-based certification model will be needed.

ARB is laying the groundwork for this shift. In December 2013, the Board approved Heavy-Duty Hybrid-Electric Vehicle Certification Procedures, providing voluntary, vehicle-based certification procedures to validate emission benefits of new hybrid trucks and buses.[27] Federal Phase 2 heavy-duty vehicle GHG regulations, to be implemented in the 2020 timeframe, is expected to require the ability to validate vehicle-based (rather than engine-based) emission benefits. As part of the Phase 2 regulation, ARB is leading the development of certification procedures for hybrids. Staff anticipates these will be included nationally as part of federal Phase 2 regulations. It is expected that an engine manufacturer wanting to use hybrid technology to meet the federal Phase 2 emission standards would have to certify via those procedures. ARB is using the Heavy-Duty Hybrid-Electric Vehicle Certification Procedures as the starting place for the Phase 2 hybrid certification procedures.

Incentives can play an important role in encouraging this shift towards a vehicle-based certification paradigm to capture the benefits of hybrid and other advanced technologies. In the near term, staff recommends continuing to allow hybrid vehicles to become HVIP-eligible via voluntary full vehicle certification, utilizing the new Heavy-Duty Hybrid-Electric Vehicle Certification Procedures. Hybrid vehicle make/models that

[27] Air Resources Board. (2013b). Staff Report: Initial Statement of Reasons for Proposed Rulemaking; Proposed Greenhouse Gas (GHG) Regulations for Medium- and Heavy-Duty Engines and Vehicles, Optional Reduced Emission Standards for Heavy-Duty Engines, and Amendments to the Tractor-Trailer GHG Regulation, the Diesel-Fueled Commercial Motor Vehicle Idling Rule, and the Heavy-Duty Hybrid-Electric Vehicles Certification Procedures.

become ARB-certified would be eligible for the following per vehicle voucher enhancement:

- $10,000 for vehicles between 14,001 and 19,500 lbs GVWR;
- $15,000 for vehicles between 19,500 and 33,000 lbs GVWR; and
- $20,000 for vehicles above 33,000 lbs.

Staff recommends a second option for a hybrid vehicle make/model to become HVIP-eligible for hybrid manufacturers unwilling to pursue full vehicle certification. HVIP currently requires manufacturers to provide a second-by-second, in-use exhaust temperature profile to demonstrate hybrid truck or bus exhaust temperatures consistently reach thresholds needed for aftertreatment strategies to function optimally during typical operations. Considering the indications from the NREL study that the temperature profiles may not be an adequate indicator of emissions performance, staff recommends the exhaust temperature profile requirement be replaced by an in-use or chassis dynamometer emission testing requirement. Staff believes this dual path for HVIP-eligibility balances the need to ensure expected emission benefits, while providing an HVIP-eligibility pathway for manufacturers not yet ready to submit to full vehicle certification. Staff expects, however, that full vehicle certification will be a requirement for HVIP-eligibility within the next few funding cycles.

Increase Zero-Emission Vehicle Voucher Amounts, with Focus on Disadvantaged Communities

Fleet demand for zero-emission trucks has averaged fewer than 100 vehicles annually since this technology's initial market commercialization in 2010. HVIP has offered vouchers for about half the incremental cost of these vehicles, with the expectation that this would encourage early adopter fleets to purchase this technology. Unfortunately, fleets have only purchased zero-emission trucks and buses when able to find sufficient co-funding from a local air district, Energy Commission, or other source for full vehicle incremental cost (about $100,000 for the typical 14,000 – 19,500 lbs zero-emission delivery truck). Demand for these vehicles has therefore depended upon the occasional availability of co-funding from other programs to drive the market.

Demand for zero-emission trucks and buses must accelerate significantly over the next several years to lay the groundwork for fleet transformation to zero-emission technologies. In order to meet this goal, staff recommends significantly increasing the zero-emission vehicle Base Vehicle Incentive to approach full vehicle incremental cost, with slightly higher voucher amounts, as identified in Table 12, below, for those

domiciled in or benefitting a disadvantaged community.[28] These higher voucher amounts reflect staff's assessment of the incentive needed to boost near-term demand, based upon lessons learned in implementing HVIP, as well as discussions with fleets, technology manufacturers and other stakeholders. These higher voucher amounts are also intended to be competitive with zero-emission truck incentives potentially available as part of the Zero-Emission Truck and Bus Pilot. Much lower HVIP voucher amounts could discourage fleets from HVIP participation in order to compete for pilot project funds at a later date.

Voucher amounts for zero-emission vehicles within or benefitting disadvantaged communities ("Within DC" in Table 12), reflect staff's assessment of the additional incentive needed for fleets to preferentially locate or operate their vehicles in specific areas. The disadvantaged community voucher enhancement is intended to encourage the larger, multi-locational fleets that typically purchase zero-emission trucks to strategically locate or operate these vehicles in disadvantaged communities. The location of each vehicle's charging infrastructure (to which the vehicle must return daily) provides a mechanism for ARB to verify each vehicle's domicile location. Staff expects this voucher enhancement for zero-emission vehicles will further the ability of HVIP to ensure 100 percent of funding from Low Carbon Transportation investments benefit disadvantaged communities, as described in the previous section.

Table 12. Zero-Emission Truck and Bus Voucher Amounts

GVWR (lbs)	Base Vehicle Incentive		
	1 to 100 vehicles[1]		101 to 200 vehicles
	Outside DC[2]	Within DC[2]	
5,001 – 8,500	~~$12,000~~ /$20,000	$25,000	~~$10,000~~ /$12,000
8,501 – 10,000	~~$18,000~~ /$25,000	$30,000	~~$12,000~~/ $18,000
10,001 – 14,000[3]	~~$30,000~~ /$50,000	$55,000	~~$20,000~~/ $30,000
14,001 – 19,500	~~$35,000~~ /$80,000	$90,000	~~$25,000~~/ $35,000
19,501 – 26,000	~~$40,000~~ /$90,000	$100,000	~~$30,000~~/ $40,000
> 26,000	~~$45,000~~ /$95,000	$110,000	~~$35,000~~/ $45,000

1 - The first three vouchers received by a fleet, inclusive of previous funding years, are eligible for the following additional funding amount: $2,000/vehicle if below 8,501 lbs; $5,000/vehicle if 8,501 to 10,000 lbs; and $10,000/vehicle if over 10,000 lbs.
2 – 'DC' refers to 'a disadvantaged community'
3 - This weight range is not intended for vehicles utilizing a pick-up truck chassis/platform typically found in vehicles below 10,001 lbs GVWR. Vehicles at the lower end of the 10,001 to 14,000 lbs weight range will be evaluated on a case-by-case basis to determine eligibility for the full $30,000 Base Vehicle Incentive.

[28] ARB/CalEPA is conducting a multi-stakeholder process to define benefits to a disadvantaged community as required by SB 535. This process will be complete prior to launch of the FY 2014-15 HVIP. For vehicles domiciled outside of a disadvantaged community that may meet the benefits criteria, ARB may, in coordination with the HVIP Work Group, adjust vehicle eligibility requirements as needed to ensure transparent and enforceable benefits to a disadvantaged community are achieved. HVIP Base Vehicle Incentives in Table 12 may not exceed vehicle incremental cost; however, when higher FY 2014-15 HVIP funding amounts are implemented, the combination of HVIP plus local air district or other public incentives may exceed incremental cost, up to 90 percent of the new vehicle cost.

Staff does not recommend extending this voucher enhancement to hybrid vehicles since: 1) the smaller, local fleets that increasingly purchase hybrid trucks have less ability to preferentially locate and operate their vehicles within disadvantaged communities, and; 2) the hybrid vehicles currently participating in HVIP require no charging infrastructure, which eliminates an important mechanism to identify where a vehicle is domiciled.

Staff further recommends that all zero-emission vehicles receiving HVIP funding be required to be equipped with telematics devices and report annually to ARB regarding percent operation within disadvantaged communities. Staff may also require additional geographic summary data be provided as needed to better evaluate and determine benefits to disadvantaged communities. While all HVIP-eligible zero-emission vehicles currently are capable of generating this information, and some participating fleets already provide this type of information to local air districts which have provided HVIP co-funding, a geographic tracking requirement may place an undue burden on the smaller fleets that make up an increasing portion of the hybrid truck market. ARB therefore recommends defining minimum geographic tracking requirements for zero-emission vehicles, and potential similar requirements for HVIP-funded hybrid vehicles during the public HVIP Work Group meeting process prior to FY 2014-15 project launch.

Finally, staff recommends the Board make these voucher enhancements effective August 1, 2014 for vouchers in the existing FY 2013-14 HVIP funding cycle which have not been redeemed as of this date. Zero-emission vehicles funded in FY 2013-14 HVIP are not required to provide summary geographic mileage data, due to the additional administrative costs associated with enforcing this commitment which cannot be accommodated in the existing FY 2013-14 HVIP budget. Instead, until the definition of benefits to a disadvantaged community is developed and finalized, a vehicle participating in the current (FY 2013-14) HVIP may be eligible for the disadvantaged community voucher enhancement on a case-by-case basis, if the participating fleet commits the vehicle will be domiciled in a disadvantaged community for a minimum of three years. If these voucher enhancements were delayed until launch of the FY 2014-15 HVIP, near-term demand would likely decline significantly as fleets defer vehicle purchases until higher voucher amounts become available.

In order to maximize the number of vehicles funded, staff further recommends that the higher recommended voucher amounts apply to new voucher requests only. Vouchers approved as of May 15, 2014 would not be eligible for the higher voucher amounts identified in this Funding Plan. Cancellation of an existing voucher (for which a vehicle identification or serial number has been provided as of May 15, 2014) and request of a new voucher for the same fleet at the higher voucher amount would be strictly prohibited. Eligibility criteria for these voucher enhancements will be further defined in coordination with the public HVIP Work Group in July 2014.

HVIP Funding Allocation

Since project launch in 2010, over forty percent of HVIP funds have gone to fleets in the top ten percent of census tracks identified as most disadvantaged by CalEnviroScreen 2.0. Staff anticipates that a voucher enhancement for zero-emission vehicles domiciled in disadvantaged communities will increase this percentage in FY 2014-15.

In order to meet ARB's goals for SB 535, 100 percent of proceeds from Low Carbon Transportation investments for HVIP must benefit disadvantaged communities. Staff's proposed funding allocation ranges for HVIP and the Zero-Emission Truck and Bus Pilot, discussed in the following section, are intended to ensure sufficient HVIP funding to meet expected demand, while ensuring all Low Carbon Transportation investments directed to this project benefit disadvantaged communities. Staff's proposed minimum allocation of $10 million for HVIP assumes that, based upon past project performance, at least 50 percent of project funds (i.e. $5 million from Low Carbon Transportation investments) will naturally benefit disadvantaged communities. Staff proposes that the Executive Officer have the authority to infuse HVIP with up to an additional $5 million from Low Carbon Transportation investments, if necessary to meet expected project demand AND the Executive Officer determines that 100 percent of these additional funds would benefit disadvantaged communities. This would be achieved through the following four-step process:

1. Prior to release of the FY 2014-15 HVIP and Zero-Emission Truck and Bus Pilot grantee solicitations (expected in Fall 2014), the Executive Officer will determine whether FY 2014-15 HVIP demand is projected to exceed $10 million. This determination would be based upon the most up to date HVIP demand projections, as well as the latest information from participating fleets and technology manufacturers.

2. If the Executive Officer projects that FY 2014-15 HVIP demand is likely to exceed $10 million, the Executive Officer must then determine what percentage of FY 2014-15 HVIP funds are projected to benefit disadvantaged communities based upon historical HVIP data. For example, if 75 percent of HVIP funds have historically benefitted disadvantaged communities to date, the Executive Officer may assume about 75 percent of FY 2014-15 HVIP funds may reasonably be projected to benefit these communities.

3. The Executive Officer would then have the authority to increase the FY 2014-15 HVIP funding allocation to an amount between $10 million and $15 million, up to the amount that all funding from Low Carbon Transportation investments allocated to this project (the base $5 million HVIP allocation from AQIP plus up to $10 million in additional funding) can reasonably be expected to benefit disadvantaged communities. For example, if 75 percent of HVIP funds historically have benefitted disadvantaged communities, it may be assumed that

over $10 million of a $15 million allocation would likely benefit disadvantaged communities (i.e., 75 percent of $15 million = $11.25 million).

4. Conversely, if during this evaluation the Executive Officer determines that less than 50 percent of HVIP funds historically have benefitted disadvantaged communities, the Executive Officer would have the authority to adjust project criteria to ensure the entire base $5 million in funding from Low Carbon Transportation investments benefits disadvantaged communities. Adjustments could include enhanced dealer outreach, targeting vouchers to disadvantaged communities, or other strategies.

Staff will also monitor the FY 2014-15 HVIP during project implementation and staff recommends the Executive Officer have the authority to make mid-course updates to project criteria as needed to ensure 100 percent of funding from Low Carbon Transportation investments benefits disadvantaged communities. This flexibility will enable HVIP to remain straightforward for participating California fleets, while ensuring all funds from Low Carbon Transportation investments allocated to HVIP will benefit disadvantaged communities. Any necessary mid-course adjustments would be evaluated and implemented in coordination with the HVIP Work Group.

Project Solicitation

Staff projects FY 2013-14 HVIP funds to meet program demand through the 2014 calendar year. The FY 2014-15 HVIP solicitation would be issued approximately three months before previous year HVIP funds are projected to be exhausted to ensure funding continuity. Staff is proposing to issue two-year solicitations that will allow ARB to have the discretion to re-solicit for the second year of the project. Each solicitation will encompass two fiscal years, while the grant agreement will cover one fiscal year with the option to renew for the second year of the project. As noted previously, staff is proposing this option for all deployment projects to help ensure a smooth transition from one year to the next. Staff anticipates, as in prior years, that the project solicitation will be open to individuals, federal, state and local government entities and agencies, and organizations with California heavy-duty vehicle, vehicle incentive, or air quality expertise or experience. Staff may recommend allowing up to 7 percent of project funds to be used for project administrative costs.[29]

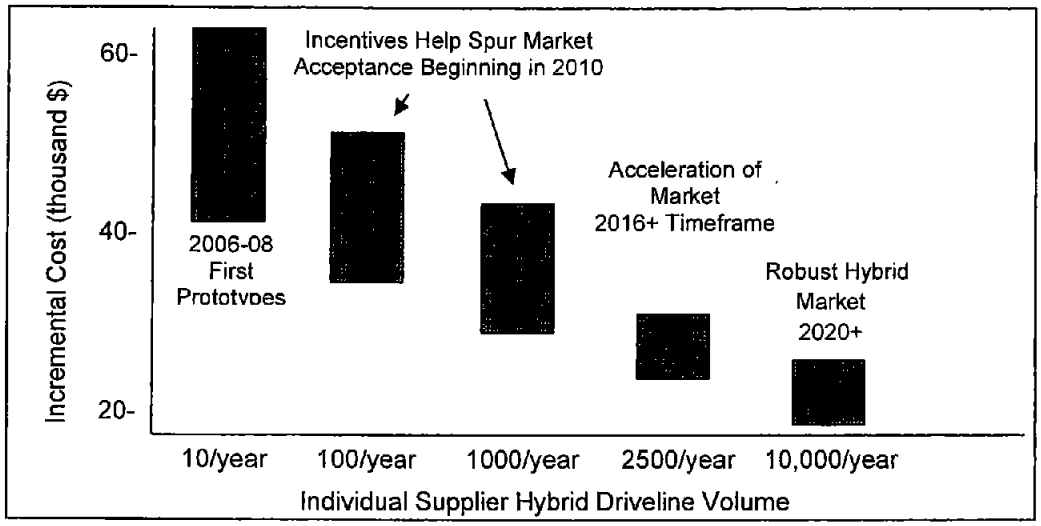
LONG TERM PLAN

The hybrid and zero-emission heavy-duty truck and bus markets are still at the very early stages of commercialization. Production capacity has substantial growth potential for both hybrid and electric trucks and buses, but current low production volumes contribute to a $20,000 to $60,000 vehicle cost premium for hybrid trucks and up to

[29] Additional funding may be allocated for telematics data generation and reporting. ARB staff will work with the HVIP Work Group to determine the most cost-effective mechanism for receiving telematics data from project vehicles.

$110,000 cost premium for battery-electric zero emission trucks. ARB expects production costs to decline as hybrid driveline and battery production volumes increase. When this occurs, the fuel economy payback period should shorten to the point where a hybrid or zero-emission truck purchase is economical without incentives (Figure 9). Incentives also have a critical, parallel role in increasing consumer acceptance to ensure a willing market for this next generation of vehicles as technology costs decline.

Figure 9. Hybrid Truck Incremental Cost as a Function of Annual Volume



Source: Adapted from Center on Globalization, Government and Competitiveness[30]; NESCAFF[31]; and CALSTART

Over the next several years, increasing annual investments in HVIP will be needed to continue encouraging early deployment of advanced technology stop-and-go vehicles, such as zero-emission delivery trucks and transit buses, and encourage technology advances in heavier truck sectors. These investments will be structured to encourage increasing HVIP participation among smaller California fleets, and in disadvantaged communities. The Long-Term Vision for AQIP, described in Chapter 1, illustrates the connection between advanced technology light-, medium-, and heavy-duty vehicle deployment incentives and technology demonstration projects, and how these complementary funding programs are crafted to promote and accelerate California's transition to zero-emission passenger and freight transportation.

Because the HVIP program is evolving, there is a clear need to evaluate the effectiveness of program investments. Staff believes metrics of hybrid and zero-emission truck and bus market success can eventually help illustrate when specific heavy-duty vehicle technologies becomes self-sustaining. Potential metrics could include: number of hybrid (or battery electric) trucks sold per vehicle vocation; hybrid

[30] Lowe, M., et al. (2009). Manufacturing Climate Solutions: Carbon-Reducing Technologies and U.S. Jobs; Chapter 9, Hybrid Drivetrains for Medium- and Heavy-Duty Trucks.
[31] Northeast States for Coordinated Air Use Management (NESCAFF) et al. (2009). Reducing Heavy-Duty Long Haul Combination Truck Fuel Consumption and CO2 Emissions; Final Report.

powertrains sold per manufacturer; declining vehicle incremental cost; number of offerings in different vocational applications; and number of vehicles sold in states without public incentives. These metrics are unlikely to drive a decision to sunset funding for hybrid or zero-emission trucks or buses in the near term. Instead, such a decision will be driven more by desire to promote purchase of a new, even cleaner available technology. This could take the form of phasing out basic hybrid truck eligibility in favor of new commercially available plug-in hybrids. Possible metrics of market health will be discussed more in depth with stakeholders prior to launch of the FY 2014-15 Grantee Solicitation in late 2014.

SUMMARY OF PUBLIC COMMENTS AND AGENCY RESPONSES TO APRIL 2, 2014 DISCUSSION DOCUMENT: HVIP

1. Comment: *ARB should consider increasing HVIP voucher amounts for zero-emission trucks and buses to better enable fleets to offset the higher up front cost of this technology.*

Agency Response: Staff agrees, and is proposing to increase zero-emission truck and bus voucher amounts.

2. Comment: *Higher voucher amounts for zero-emission vehicles should be implemented immediately to ensure fleets do not delay purchases.*

Agency Response: Staff agrees, and is recommending higher voucher amounts for zero-emission vehicles be implemented as of July 1, 2014.

3. Comment: *ARB should increase voucher amounts for vehicles in disadvantaged communities.*

Agency Response: Staff agrees and is proposing voucher enhancements (higher voucher amounts) for vehicles within disadvantaged communities.

4. Comment: *HVIP has been oversubscribed in the past, and ARB should set a level of funding that can be expected to last the full fiscal year to avoid market disruption.*

Agency Response: Staff agrees. As of April 15, 2014, approximately $8 million remained in FY 2013-14 HVIP. Based upon demand thus far, and discussions with participating fleets, dealerships, and vehicle manufacturers, staff believes that FY 2013-14 funds will be sufficient to meet demand through at least the first three to six months of the 2014-15 fiscal year. The FY 2014-15 HVIP is therefore not projected to need to launch until well into the fiscal year (when FY 2013-14 HVIP funds are exhausted). Further, staff's recommendation allows for the HVIP allocation to be adjusted between $10 million and $15 million, based upon the latest demand projections (and disadvantaged community considerations).

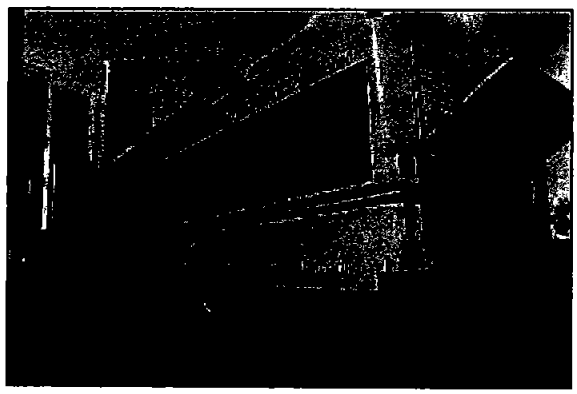
5. Comment: *HVIP should extend eligibility to commercial Class 2b non-plug-in hybrid vehicles, in applications such as hybrid shuttle buses.*

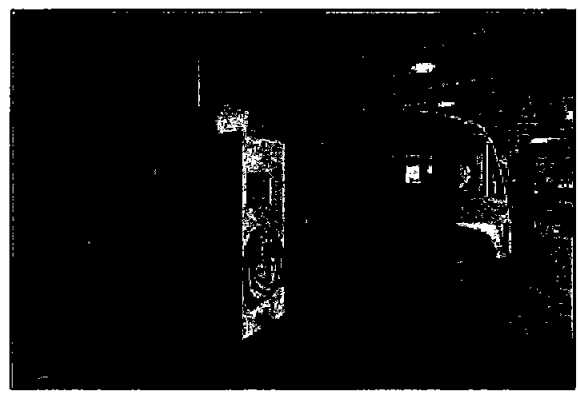
Agency Response: Zero-emission and zero-emission range extended vehicles in the 2a and 2b classes are currently HVIP-eligible due to their ability to achieve zero-emission miles. However, non-plug-in hybrids are not HVIP-eligible. As mentioned in this document, HVIP is intended to facilitate deployment of the cleanest technologies, particularly in the larger vehicle classes that pose the greatest technical challenges.

6. Comment: *Additional metrics of success should be considered, such as declining vehicle incremental cost, increasing number of manufacturers offering hybrid and plug-in trucks, and increasing offerings in different vocational applications.*

Agency Response: Staff agrees, and has identified some of these in this Proposed Funding Plan for future discussion. However, the heavy-duty hybrid and zero-emission vehicle market is at a far earlier early stage of development than that for passenger cars, and defining metrics of success (at which point incentives can sunset) at this point would be premature. Staff believes few manufacturers would offer significant numbers of hybrid or zero-emission trucks for sale with neither a regulatory driver nor public incentives. Possible metrics of success will be discussed more in depth with stakeholders prior to launch of the FY 2014-15 Grantee Solicitation in late 2014.

ZERO-EMISSION TRUCK AND BUS PILOT PROJECTS IN DISADVANTAGED COMMUNITIES





Proposed Funding Target: $20M - $25M

PROJECT GOALS

ARB's HVIP has encouraged California-based fleets to purchase about 350 zero-emission trucks and buses since 2010. These early adopter fleets typically deploy a limited number of zero-emission vehicles at each fleet location. However, zero-emission medium- and heavy-duty vehicle deployment must be significantly accelerated for California to meet its post-2020 air quality and climate goals. While HVIP has enabled zero-emission technology to be widely deployed, staff's proposed Zero-Emission Truck and Bus Pilot takes the next step by leveraging resources, promoting efficiencies and helping drive down per vehicle costs via large, location-specific deployments.

These projects would place a significant number of zero-emission trucks and buses in a handful of strategic truck or bus "hubs", encouraging advanced technology clusters with infrastructure, marketing, workforce training, and other synergies. The technology hub or ecosystem concept, when fully implemented, can help address many of the deployment challenges we see today by supporting economies of scale in manufacturing, workforce training and vehicle maintenance and repair, and infrastructure/grid issues. This concept would also help achieve the California's ZEV Action Plan goal of encouraging zero-emission vehicle deployment in public and private fleets by "providing funding support, keeping fueling affordable (and) increasing coordination and communication among fleet users..."[32]

[32] Brown, E. (2013). ZEV Action Plan: A roadmap toward 1.5 million zero-emission vehicles on California roadways by 2025; Governor's Interagency Working Group on Zero-Emission Vehicles.

PROPOSED HEAVY-DUTY PILOT PROJECTS FOR FY 2014-15

Staff is proposing to provide $20 million to $25 million in funding from Low Carbon Transportation investments for Zero-Emission Truck and Bus Pilots, with 100 percent of funding to benefit disadvantaged communities.[33] Project fleets would operate within a concentrated, well-defined geographic area where commercial zero-emission vehicles, charging or refueling stations, energy storage devices, communications systems and support networks allow fleets to optimize the participation of zero-emission vehicles. Ideally, this 'zero-emission ecosystem' would help facilitate the transition of other similar fleets to utilize zero-emission technologies by including an assessment of vehicle performance, infrastructure and maintenance costs, and other information of interest to other potential technology adopters.

Staff believes incentive amounts exceeding incremental cost and charging/refueling infrastructure funding may be needed to target demand within a few specific locations. Plug-in hybrid and hybrid-electric trucks with the ability to operate with all zero-emission miles within disadvantaged communities may also be considered for project funding. Conversion of vehicles from diesel to zero-emission technologies are also eligible, albeit at a much lower vehicle incentive amount than newly manufactured vehicles. Funded projects would have a focus on maximizing operational efficiencies and targeting zero-emission operation where it is most needed, including in disadvantaged communities and extreme non-attainment areas. Utilizing advanced telematics data (such as state-of-charge, fuel economy benefits per driving mode, and location-specific mileage) and fleet management software that enables future deployments will help to support this objective. Below are examples of three potential categories of vehicle projects that could receive funding under this pilot.

Zero-Emission Transit Bus

Transit agencies tend to be early demonstrators and adopters of advanced heavy-duty vehicle technologies, which help accelerate the migration and availability of these technologies in the heavy-duty truck market. Such a project would help support ARB's update to the Transit Bus and Zero-Emission Bus Regulations, intended to accelerate zero-emission bus deployment among California transit agencies and reduce overall transit emissions, which is under development and scheduled for Board consideration in late 2014 or early 2015. Technologies can include fuel cell electric and battery electric transit buses.

[33] The actual allocation will be driven by the FY 2014-15 HVIP funding need and disadvantaged communities compliance projection to be conducted by the Executive Officer, as described in the HVIP section of this document. Any portion of the additional $5 million in GGRF funds not directed to HVIP would accrue to the Zero-Emission Truck and Bus Pilot. For example, if the FY 2014-15 HVIP is allocated $12 million ($10 million + $2 million in GGRF funds), the Zero-Emission Truck and Bus Pilot would be allocated $23 million ($20 million + $3 million in GGRF funds).

The most detailed recommendation for a zero-emission hub to date is the *California Fuel Cell Partnership's Road Map for Fuel Cell Buses in California* (Road Map).[34] This proposal, completed in coordination with fuel cell technology manufacturers, transit bus operators, and other stakeholders, identifies a need for two transit bus Centers of Excellence in California – one in Northern California and one in Southern California – to accelerate lower costs and technology advancement in the fuel cell transit bus sector. The Road Map cost analysis indicates that production of 40 fuel cell buses per Center of Excellence would enable the assembly economies of scale needed to reduce the per bus cost from $2 million to $1 million. The Road Map indicates the cost of each Center of Excellence would be about $50 million, including infrastructure and other associated costs. While each Center of Excellence could be funded in different fiscal years, funding must be assured for at least 40 buses in order to reduce manufacturing cost to the point that per bus cost would decline from $2 million currently to $1 million. Staff will also evaluate the potential for 40 fuel cell buses distributed among multiple agencies to achieve similar economies of scale.

Zero-emission battery-electric transit buses are more commercially available and could provide an opportunity to accelerate bus deployment this fiscal year at a lower project cost. Proterra offers an Altoona-tested fast charge-compatible electric heavy-duty bus for which automated rooftop fast charging can be integrated into the bus route. The San Joaquin Regional Transit District has purchased two fast-charge Proterra buses that will operate on a rapid charging system and have the functionality of a conventional transit bus, with the help of $2.56 million in funding from the California Energy Commission's AB 118 program. By recharging for 10 minutes every two hours, the buses are manufactured to operate throughout the entire daily operation cycle. In addition, the bus charging station is fully automated so that when the bus approaches the charge station, the station recognizes the bus, guides the bus into position, and charges the vehicle without driver interaction. Additional cost efficiencies can be achieved by funding buses in eight bus per charging station increments, with the goal of bringing the cost of each fact-charge battery-electric transit bus down to $825,000. Opportunities also exist for large traditional (slow-charge) battery-electric bus projects that would help accelerate production economies of scale and provide fleets with key information needed to accelerate widespread zero-emission transit bus deployment. Changsha BYD Bus Company Ltd (BYD Motors) also produces an HVIP-eligible zero-emission transit bus.

[34] California Fuel Cell Partnership. (2013). A Road Map for Fuel Cell Electric Buses in California: A zero-emission solution for public transit. This report was developed in response to a directive in the Governor's ZEV Action Plan to develop a fuel cell bus commercialization and deployment road map for California.

Zero-Emission School Bus

Zero-emission school buses provide an opportunity to not only accelerate deployment of zero-emission technology, but to eliminate children's exposure to toxic diesel school bus emissions during their daily school bus commute.

Two school bus concepts show significant promise in helping accelerate the rate of zero-emission school bus technology commercialization and deployment. The first, advocated by the Clinton Global Initiative, the County of Los Angeles, and other partners, would demonstrate the economic viability of transitioning to vehicle-to-grid (V2G) capable zero-emission battery-electric school buses.[35] The project would demonstrate V2G technology that enables a battery-electric school bus to communicate with and provide power to the electrical grid based upon the electrical energy stored in the batteries. Such services could generate significant revenues during stretches of afternoon downtime typical to school bus operations, making zero-emission school buses more economically viable for school districts. The cost of a six bus zero-emission V2G project (including infrastructure) would be approximately $3 million, with declining costs for each additional bus once a six bus threshold has been met.[36]

A second potential school bus project would provide a zero-emission school bus (or pool of buses) for school districts operating in disadvantaged communities to share, so local school district transportation officials can evaluate the technology. This project would build upon similar FY 2011-12 AQIP demonstration projects in the San Joaquin Valley ($496,696) and San Diego ($502,304). Funding for these two projects sunsets in June 2014. Zero-Emission Truck and Bus Pilot funding for this concept could expand the program to additional school districts in these two regions, or to other regions such as the South Coast Air Basin. Rather than focusing on reduced costs and economies of scale from large scale deployments, this concept would focus on increasing consumer acceptance of zero-emission technology among multiple school district officials.

Zero-Emission Freight/Delivery Truck

The most concerted planning efforts around a geographic hub concept thus far have focused primarily on zero-emission buses. However, opportunities do exist for a large zero-emission truck hub focused on distribution centers, warehouses or other geographic areas. A truck fleet or fleets would focus a large number of zero-emission vehicles that are served by common fueling/charging infrastructure, mechanics, reservoir of critical vehicle components, and other shared resources. Per vehicle costs could decline significantly if an entire warehouse, block or other geographic area were constructed or retrofitted for electric vehicle charging. Vehicle maintenance and repair

[35] More information available at: http://www.cgiamerica.org/commitments/?id=827810 .
[36] Discussions with Clinton Global Initiative representatives indicates that a minimum of six battery-electric V2G buses would be needed to generate the electricity the California Independent Systems Operator requires for participation in the wholesale electricity market. The $3 million assumed cost is based upon conversion of diesel school buses into a zero-emission battery-electric bus.

costs could also be reduced, and the project would provide valuable lessons regarding the costs and benefits of widespread conversion to zero-emission technologies. A zero-emission hub could also operate in collaboration with a zero-emission freight demonstration project at the same location, leveraging additional economies of scale. In such a collaboration, a warehouse or distribution center could include both commercialized zero-emission delivery trucks and zero-emission freight truck technology demonstrations, all sharing infrastructure, mechanics and other resources. ARB will work closely with local air districts, fleets, technology providers and other stakeholders over the next several months to gauge interest in and further refine the zero-emission delivery/freight truck concept.

Project Solicitation

Staff recommends ARB issue an initial project solicitation for the full Zero-Emission Truck and Bus Pilots funding allocation, in the fall 2014 timeframe. Staff's preference is to fund multiple projects of between $5 million to $10 million in different parts of the state, encompassing both battery-electric and hydrogen fuel cell zero-emission technologies, but is interested in all potential projects, including those that exceed the funding levels identified above. Should this solicitation receive insufficient responsive applications to expend the all Zero-Emission Truck and Bus Pilot funds, ARB would also have the opportunity to re-solicit for additional projects at a later date.

Staff proposes that the maximum cost share provided by state funds for this project be 75 percent, mirroring cost share requirements for AQIP Freight Technology Demonstration projects. Ability to leverage significant additional match funding (beyond the minimum 25 percent applicant contribution) will be an important criteria in application scoring.

The solicitation will define the scoring criteria to be used to evaluate potential projects for funding. Scoring criteria will be used to numerically score applications, and then applications will be ranked in order of the highest scored projects to the lowest. The highest scoring project(s) meeting a minimum project score will be awarded funding. Staff recommends a multi-month open solicitation period to enable local air districts, fleets, technology manufacturers, and other stakeholders the opportunity to forge the partnerships to submit the best possible project proposals.

Project applications would receive scoring priority for the following elements:

- GHG Reductions
- Vehicles operating high daily, weekly, and yearly mileages
- Utilizing highly visible routes or a significant public awareness or educational element
- Overall benefits to disadvantaged communities
- Operation in areas designated as extreme nonattainment for the federal eight-hour ozone standard (i.e. the South Coast or San Joaquin Valley Air Basins)
- Technology transferability to heavier freight or line-haul sectors

- Ability of project to expand geographically, or to a wider group of participating fleets
- Timeliness of projected vehicle procurement and deployment
- Ability to leverage significant project co-funding

Specific application scoring criteria will be developed after the Board approval of the AQIP Funding Plan and passage of the FY 2014-15 State Budget, in coordination with a Zero-Emission Truck and Bus Pilot Work Group. The project solicitation will be open to individuals, federal, state and local government entities and agencies, and organizations with California heavy-duty vehicle, vehicle incentive, or air quality expertise or experience. Staff envisions an open solicitation period of up to 90 days to enable potential applicant's time to forge partnerships, secure match funding, and submit the strongest possible project proposal. Staff recommends allowing up to 10 percent of project funds to be used for project administrative costs.

LONG-TERM PLAN

The Zero-Emission Truck and Bus Pilots are intended to evaluate the effectiveness of a zero-emission hub to enable a fleet or fleets to minimize risk of new technology deployment and leverage resources as a model to accelerate large scale zero-emission truck and bus deployment. Ideally, these initial ecosystems would help facilitate the transition of other similar fleets to utilize zero-emission technologies by including an assessment of vehicle performance, infrastructure and maintenance costs, and other information of interest to other potential technology adopters. During next year's funding cycle, this pilot project will likely still be in the initial implementation stages. ARB will consider level of first year funding demand, strength of proposed project applications, ability to expand upon first year projects, new technology deployment opportunities, and funding availability in assessing next year's program funding allocation. In future years, demonstrated project successes and challenges will guide the direction of future funding for this pilot project.

Because these investments are new, there is a clear need to evaluate the effectiveness of the project. Metrics of success can help illustrate the success of this pilot project in accelerating technology deployment and achieving consumer acceptance within targeted zero-emission hubs. Staff proposes to develop proposed metrics of success, include them within the project solicitation, and, where feasible, ensure the project proposals be structured to enable collection of data needed to inform these metrics. Metrics will focus on achievement of technology price reductions, manufacturer diversity and consumer acceptance.

SUMMARY OF PUBLIC COMMENTS AND AGENCY RESPONSES TO APRIL 2, 2014 DISCUSSION DOCUMENT: ZERO-EMISSION TRUCK AND BUS PILOT PROJECTS IN DISADVANTAGED COMMUNITIES

1. Comment: *ARB should increase the proposed funding allocation for the Zero-Emission Truck and Bus Pilot in FY 2014-15, including exploring interagency transfer possibilities from the Energy Commission and/or others.*

Agency Response: The California Energy Commission has in past years provided AB 118 funding to help augment ARB's HVIP and CVRP, in order to augment these established programs. In this case, however, staff does not recommend ARB seek California Energy Commission co-funding for a pilot project with up to $25 million in its first funding year. In future years, demonstrated project demand and success in accelerating zero-emission vehicle deployment in disadvantaged communities will dictate if expanded funding is needed.

2. Comment: *ARB should allow partially zero-emission vehicles (vehicles able to operate partially with zero-emission miles) as part of the Zero-Emission Truck and Bus Pilot.*

Agency Response: Staff agrees and is proposing to allow range-extended zero-emission vehicles in this program, if they are able to utilize telematics to concentrate zero-emission operations in disadvantaged communities.

3. Comment: *ARB should conduct a simple, streamlined, rolling solicitation model for the Zero-Emission Truck and Bus Pilot to enable fleets access to these funds throughout the year. ARB may also want to consider separate solicitations for trucks versus buses.*

Agency Response: Staff's preference is to fund multiple zero-emission hubs in different parts of the State. However, staff recognizes that a single solicitation could provide the opportunity, depending upon the strength of the project proposals, to fund several zero-emission truck and bus hubs in multiple air districts. Staff 's recommendation for a two to three month open solicitation period is intended to enable local air districts, fleets, technology manufacturers, and other stakeholders the opportunity to forge the partnerships to submit the best possible project proposals. Should all project funding not be allocated during the initial project solicitation, ARB would have the opportunity to re-solicit the project at a later date.

4. Comment: *The total funding recommended for HVIP and the Zero-Emission Truck and Bus Pilot ($35 million).is too low to meet market demand.*

Agency Response: The funding allocated for HVIP is in the same range as allocated in previous years, and based upon discussions with potential fleets and other stakeholders, staff believes it will be sufficient to meet demand for FY 2014-15. As

mentioned earlier, staff envisions the pilot project as an initial investment in what can hopefully be scaled up as necessary to most effectively drive market demand.

5. Comment: *We recommend some flexibility to fund compelling projects outside of disadvantaged communities.*

Agency Response: ARB is committed to ensuring 100 percent of funding from Low Carbon Transportation investments for HVIP and the Zero-Emission Truck and Bus Pilots benefit disadvantaged communities. Once "benefits to a disadvantaged community" has been defined later this year, staff looks forward to working with the public HVIP and Zero-Emission Truck and Bus Pilot work groups to determine operational or other requirements needed to comply with disadvantaged community requirements.

7. Comment: *The transition from traditional HVIP to a mix of HVIP and pilot programs may pose some challenges, because demand for HVIP may dwindle if companies focus solely on pilot solicitations. Smaller companies may have more difficulty competing in pilot solicitations than they have in the existing voucher program. These difficulties could be alleviated if ARB increases the voucher amounts for plug-in vehicles in disadvantaged communities, which would ensure HVIP remains an attractive option. Likewise, keeping the solicitation as simple as possible, and holding more than one solicitation annually would better enable smaller companies to participate.*

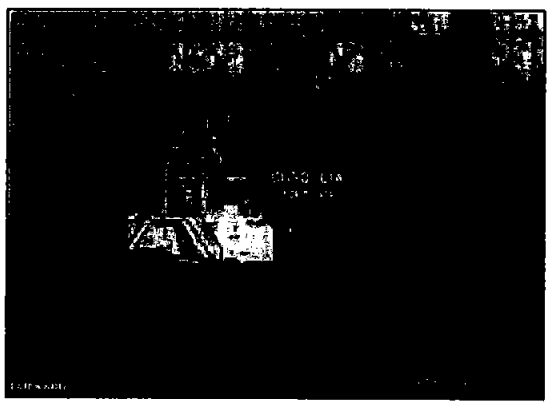
Agency Response: Staff agrees, and is recommending increasing HVIP voucher amounts for zero-emission vehicles in disadvantaged communities, to be on par to those likely provided by the Zero-Emission Truck and Bus Pilots. HVIP's straightforward, first-come, first-served statewide voucher structure is proving successful in enabling smaller fleets to purchase more economical Hino hybrid trucks, and as smaller fleets begin to express interest in zero-emission trucks, the voucher structure will be available to facilitate this migration.

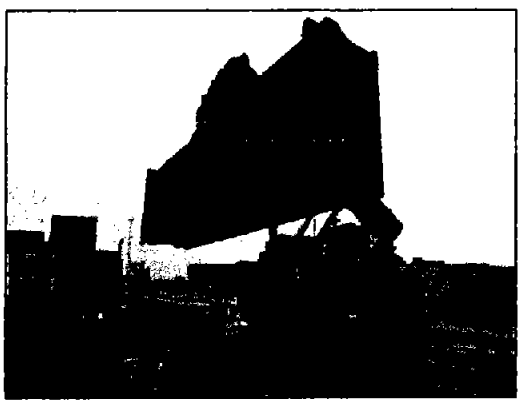
While HVIP will likely be the primary mechanism to help small businesses purchase zero-emission vehicles, the Zero-Emission Truck and Bus Pilots will also enable small business participation by encouraging large projects that help multiple fleets utilize zero-emission technologies. For example, an air district application to transform a distribution hub to utilize zero-emission technologies would be stronger if it included multiple smaller fleets that leverage resources (such as infrastructure and workforce training) rather than one large fleet, since a multi-fleet project would better promote scalability and consumer acceptance. A small fleet participating in a multi-fleet project would also have an opportunity for cost savings associated with larger scale infrastructure, maintenance, and repair facility.

Staff agrees that multiple solicitations for this project would provide additional opportunities for small fleets to apply for funding. However, HVIP is intended as a convenient mechanism for fleets to access funds throughout the year. Staff 's

recommendation for multi-month open solicitation period is intended to enable local air districts, fleets, technology manufacturers, and other stakeholders the opportunity to forge the partnerships to submit the best possible project proposals. Should all project funding not be allocated during the initial project solicitation, ARB would have the opportunity to re-solicit the project at a later date.

ADVANCED TECHNOLOGY FREIGHT DEMONSTRATION PROJECTS





Proposed Funding Target: $50M

PROJECT GOALS

Demonstrations of advanced technologies for the movement of freight within and through California will be the focus of Advanced Technology Demonstrations in FY 2014-15. The targeting of significant funding for pre-commercial demonstrations of advanced freight technologies can have a direct and immediate impact on the current state of technology and has the potential to provide real benefits to communities that are located near facilities that are the backbone of California's freight network. It is the goal of this proposed demonstration plan to significantly transform the technologies used in freight transport with substantial and targeted investments in freight movement technologies and strategies.

All projects funded under this proposed plan will be required to significantly reduce GHG emissions compared to conventional technologies and will be demonstrated in disadvantaged communities that have historically borne a disproportionate burden from freight movement in the State. The projects will showcase technologies with commercial viability and suitability for the California marketplace. Further, the co-benefit of reduced criteria pollutants and toxics emissions from advanced freight technologies will be considered a high priority when selecting projects for funding.

PROJECT OVERVIEW

Advanced Technology Demonstration Projects accelerate the introduction of advanced emission reducing technologies that are on the cusp of commercialization into the California marketplace. A public investment in these technologies helps to achieve significant emission reductions of criteria pollutants and toxic air contaminants, as well as greenhouse gases, sooner than would be possible otherwise. This commitment from the State encourages industry to expeditiously invent, develop, test, and introduce cutting edge emission reducing technologies. Finally, Advanced Technology Demonstration Projects leverage public investment with private capital and ingenuity to go beyond what is currently at the technological forefront.

While Advanced Technology Demonstration Projects carry inherent complexities and engineering challenges, ARB mitigates this potential by requiring a competitive selection process to award funding to the most promising technologies, requiring a significant cost share from technology demonstrators, and requiring that project applicants be a California-based entities with expertise in the project category. Grants are awarded to facilitate the management of the day-to-day administration of the projects with ARB oversight. Typically, public agencies are local air districts, port authorities, or public school districts, but other non-public agencies may be eligible. The team concept for demonstration projects, with technology demonstrators partnering with a local public agency and one or more end-users, has proven to be effective and is planned to continue for future projects

CURRENT PROJECT STATUS

AQIP's Advanced Technology Demonstration program has funded 13 separate demonstration projects. Eight projects were completed, one project ended at its mid-point due to issues outside the control of the technology demonstrator, and three were begun but halted before completion due to expiration of funding. One project, the Zero-Emission Yard Truck demonstration at the Ports of Los Angeles and Long Beach, is still underway.

An overview and update on each of the projects funded by AQIP is provided in Appendix B. Further, all final reports for completed AQIP Advanced Technology Demonstration Projects and status updates on projects that are underway are posted on AQIP's demonstration project website at http://www.arb.ca.gov/msprog/aqip/demo.htm .

STAFF PROPOSAL FOR FY 2014-15

In order for California to facilitate a transition toward a low-carbon transportation future, a sustained multiyear investment strategy in advanced technologies that can reduce emissions of greenhouse gases from vehicles and equipment is critical. Demonstrating to manufacturers and end-users that zero or near-zero emission technologies is a viable economical alternative to conventional technologies will competitively position California companies for the future.

The first five years of AQIPs demonstration project funding has been predominately directed toward off-road equipment, like marine vessels and locomotives, while the Energy Commission's AB 118 Alternative and Renewable Fuel and Vehicle Technology Program demonstration projects, now nearing $30 million invested, has had a focus directed toward on-road vehicle projects along with other categories such as fuels and charging infrastructure. With the new ARB focus on freight demonstrations including significantly increased funding levels proposed in this plan, on-road vehicle demonstrations will now be major part of AQIP's demonstration project focus. Further, the match funding requirements have been reduced from the historic 50 percent of the total project cost to a minimum of 25 percent of the project cost to help facilitate a transition toward pre-commercial production of vehicles and equipment ready for the marketplace. ARB plans to closely coordinate with the Energy Commission to ensure that proposed projects are complementary, and to ensure that both agencies build off the work that has already been done synergistically.

The focus of past demonstrations have been directed at small-scale projects with fewer than 10 vehicles or pieces of equipment, typically focused in the freight sector, but not exclusively. In order to take advantage of those freight technologies that are currently ready for large pre-commercial demonstrations, staff is recommending that there be a concerted focus on two large project categories that are in a promising stage of development for the first year of this program. Those two categories are zero-emission drayage trucks and multi-source facility projects at warehouse, distribution center, and intermodal facilities. Therefore, staff's proposed recommendation is to allocate up to $50 million from Low Carbon Transportation investments in FY 2014-15 that facilitate demonstrations of advanced freight technology in the following project categories:

Zero-Emission Drayage Trucks

Proposed Allocation: $20 to $25 million in funding from Low Carbon Transportation investments to demonstrate zero-emission drayage trucks. Potential applicants to the zero-emission drayage project solicitation should consider the following elements:

- Potential projects in this category will be required to completely eliminate truck tailpipe emissions and GHGs and will concurrently eliminate criteria pollutants and toxic PM emissions.

- Potential projects will need to show strong commercialization prospects with the potential to transform the drayage truck industry toward zero-emission technologies.
- It is anticipated that projects funded under this category should field a large enough fleet of trucks during the demonstration to help transition technologies from the demonstration to the commercialization stage.

Multi-Source Facility Projects

Proposed Allocation: $20 to 25 million in funding from Low Carbon Transportation investments to demonstrate zero- and near zero-emission technologies at distribution centers, warehouses and intermodal facilities throughout the State.

- Potential projects in this category could include zero- and near zero-emission yard and regional haul trucks, advanced transportation refrigeration units, and other equipment used in the distribution center, warehouse and intermodal environment. Additionally, fueling/charging infrastructure to facilitate the successful demonstration of technologies, and logistics/operations efficiency improvements would be considered.
- It is the intent of this category to facilitate the demonstration in one facility of multiple types of equipment that employ advanced emission reducing or eliminating technologies to synergistically demonstrate the practicality and economic viability of wide-spread adoption of advanced technology for various sources at one facility.
- Multiple projects in this category could be funded concurrently so that technologies are demonstrated at multiple facilities throughout the State.

Other Freight Projects

Proposed Allocation: Up to $10 million in funding from Low Carbon Transportation investments to demonstrate advanced freight technologies in the following categories:

- Line-Haul and regional-haul truck demonstrations.
- Locomotive and other rail projects which could include reducing emissions as well as increasing efficiency in freight movement.
- Marine Vessel projects, such as the hybridization of tugboats or other vessels and other promising advanced marine vessel technologies that have the potential to significantly reduce emissions and/or increase efficiency.
- Cargo Handling Equipment demonstrations that can show zero- and near zero-emission technology for cargo handling equipment that significantly advances the state of technology. Some such projects would have the potential for broad applicability to many industries in the State. Projects will need to significantly reduce or eliminate tailpipe emissions from equipment compared to conventional technologies now employed.

- Near Dock Container Movement demonstrations such as automated container movement technologies that facilitate the movement of freight from the State's ports to near-port warehouses, distribution centers or intermodal facilities.
- Emerging Technology demonstrations for other advanced freight technologies not discussed above.

All projects funded with Advanced Technology Freight Demonstration funds will need to show the potential for widespread commercialization that will significantly transform the industry while benefitting disadvantaged communities. Specific funding amounts and project focus for each of the demonstration categories above will be vetted through category-specific public workgroup meetings with technology demonstrators, public agencies, community representatives and other interested stakeholders to be held after the June 26, 2014 Board Hearing.

It is anticipated that additional Low Carbon Transportation funding for advanced technology demonstrations will be forthcoming in future years. Therefore, FY 2014-15 funds should be viewed as a first installment on a much larger investment in advanced technology demonstrations. Future years' funds may be directed at specific segments of freight movement like the locomotive and rail segment, or in other non-freight segments like zero-emission transit buses or advanced agricultural equipment. The focus of future years' funding for demonstration projects is not yet established, however, future demonstration project funding will certainly be directed at taking advantage of those technologies that are on the cusp of transformative advances in technologies that significantly reduce GHG emissions.

Cost Sharing Requirements

Past AQIP Advanced Technology Demonstration Projects have always had a emphasis on developing a strong public/private investment to ensure a successful demonstration of advanced technology and as such has required cost sharing from the technology demonstrator, grantee and/or the fleet or equipment end-user to successfully apply for demonstration funding. The cost share requirement historically has required a match in funding from the applicant team of at least 50 percent of the total project cost with higher than the proposed match scoring higher than those applications that only meet the minimum 50 percent cost match requirement. Staff proposes to increase the maximum cost share for state funds for Advanced Technology Freight Demonstration from 50 percent of the total projects cost to a maximum of 75 percent of the total project cost, but maintain that those applications that propose a higher overall match toward the project above the minimum 25 percent will score higher than those that only propose the minimum match. The proposed change to the minimum match requirement from applicants is an acknowledgement of the anticipated magnitude of the projects that staff anticipates will be submitted and ARB's commitment to facilitating an expeditious movement toward zero and near-zero emission technology it the freight transport sector.

Administration of Projects

Historically, AQIP demonstration projects have required that a California-based public agency act as the project's grantee, submit the application for funding, and administer the day-to-day operations of the project. For example past grantees have included ports and air districts. For the Advanced Technology Freight Demonstration program, however, it is proposed that additional flexibility be considered for freight demonstrations that may allow non-public agencies to be considered as the grantee if that is in the best interest for successful completion of specific projects. Any potential grantee in future freight demonstration projects needs to have the requisite experience and knowledge in implementing demonstration projects in the category to which their application is directed and can act as an unbiased party to the project.

Solicitation Process

ARB will issue solicitations that clearly identify for which project category applications are being requested, the amount of funding that is anticipated to be available for demonstration projects in each category, and the anticipated number of projects that will be funded. More than one category may be presented in a single solicitation, but specific categories outlined in a solicitation will not compete directly against other discreet categories in the same solicitation. The solicitation will also outline the scoring criteria that will be used to evaluate potential applications for funding. Scoring criteria will be used to numerically score submitted applications, and then applications will be ranked in order of the highest scored projects to the lowest. The highest scoring projects will be awarded funding. In past AQIP Advanced Technology Demonstration solicitations, scoring criteria have included specific metrics such as cost effectiveness of the technology, or whether the commercialized technologies will benefit Environmental Justice communities. Many of the same criteria that have been used in past AQIP Advanced Technology Demonstrations will be carried over into the FY 2014-15 Advanced Technology Freight Demonstration solicitations. Some of the proposed new scoring criteria that will be employed will include the ability to significantly reduce emissions of greenhouse gases, and benefits to disadvantaged communities.

Specific scoring criteria for each of the proposed project categories will be developed after the Board approval of the AQIP Funding Plan and after the passage of the State's FY 2014-15 Budget. Additional details on the scope and amount of funding available for specific demonstration project categories will also be developed after Board approval of the Funding Plan. Staff will also develop specific project results for specific categories, refine the timeline for the issuance of solicitations, and outline special provisions for match requirements or other competitive process. All of the post Board Hearing tasks will be informed by the ongoing Advanced Technology Freight Demonstration work group process that will convene after Board approval of the Funding Plan as has been done historically under past iterations of AQIP's Advanced Technology Demonstration Program.

Solicitations will be issued in a staggered fashion to manage workload and to accommodate the nature of GGRF revenue accumulation. ARB staff anticipates that the first solicitation for Advanced Technology Freight Demonstration will be issued in the winter of 2014.

Future Demonstration Projects

ARB may employ a Request for Information process to solicit input from industry and stakeholders. A Request for Information process could help identify potential large scale projects for future year funding and help assess the current state of the technology for certain categories such as line-haul trucks and locomotive and rail technologies. The Request for Information process may begin as early as fall of 2014 to inform the process of determining focuses for Advanced Technology Demonstration projects for FY 2015-16 and beyond.

LONG TERM PLAN

Advanced Technology Demonstration projects are a critical component for achieving long-term emission reduction and climate change goals. Only a long-term demonstration program, with sustained, multiyear funding directed at the acceleration of advanced technology into the marketplace will allow ARB to reach the emission reduction goals for GHG and criteria pollutant emission reductions that have been set. The movement toward zero or near-zero emission technologies in on-road, off-road, locomotive and other categories can only begin once a strong financial commitment is made by the State, signaling to vehicle and equipment manufacturers as well as end-users of such equipment that their investments in advanced technologies will provide a return on their investment, reducing the costs to manufacture advanced equipment and reduced costs of operation while providing an overall benefit to the State. As with the FY 2014-15 demonstration project focus on freight movement in and thru the state, it is intended that future years of funding can focus on specific segments of vehicles and equipment, such as reducing emissions from long-haul trucks and realizing zero-emission miles from locomotives.

Because these investments are especially critical for long-term adoption of zero-emission technologies across multiple sectors, there is a clear need to evaluate the effectiveness of the projects. Staff recommends that metrics of success for specific Advanced Technology Freight Demonstrations be closely aligned with the stated goals and required results for each specific solicitation. Success toward meeting the goals illustrated for each technology category and demonstration project's guiding principles should also be included. Applications for demonstration project funding will detail the individual project's metrics for success and compare the results of each project with the applications stated goals, the requirements of the solicitation and the Funding Plan. Successful projects will demonstrate the potential for cost-effective emission reductions in the specific demonstration project category with the potential for widespread commercial acceptance.

SUMMARY OF PUBLIC COMMENTS AND AGENCY RESPONSES TO APRIL 2, 2014 DISCUSSION DOCUMENT: ADVANCED TECHNOLOGY FREIGHT DEMONSTRATION PROJECTS

1. Comment: There may be considerable potential overlap between the pilot programs focused in freight or delivery hubs and the multi-source facility projects focused at distribution centers, warehouses, etc. These projects should be more clearly distinguished between.

Agency Response: Zero-Emission Truck and Bus Pilots proposals are intended for deployment of commercialized truck and bus technologies. These projects will enable fleets to evaluate larger-scale integration of these vehicles into their fleets and include a telematics data component for gathering of vehicle performance data. Staff anticipates that truck proposals for the Zero-Emission Truck and Bus Pilots will focus on the lighter, stop-and-go delivery trucks which have been funded through HVIP thus far but continue to have significant incremental costs. These vehicles are commercialized and have been deployed throughout the state. Freight Demonstration Projects will focus on heavier truck classes with much more challenging operational requirements, for which zero-emission technology still faces technical hurdles.

2. Comment: Ensure the grant application process is not an obstacle to deployment of funds and provides enough certainty to applications to ensure project solicitations meet expectations.

Agency Response: The grant application process ensures technically competent entities are awarded demonstration project funding. Applications for Advanced Technology Freight Demonstration funding does use specific mechanisms to mitigate risk in determining which applications are selected for funding; which balances the need to quickly deploy funds versus the prudent use of public funds. Some of these mitigation steps include a detailed analysis of the emission reducing potential and cost effectiveness of a specific technology, and requires a substantial match funding commitment from the project application team to ensure that State funds are being spent judiciously. Solicitations for specific project categories will clearly layout the requirements that need to be meet to successfully apply for funding.

3. Comment: Require an evaluation component for each project that is sufficient to document the results of the program for use by other potential technology adaptors and maximize the opportunity to learn from the successes and failures of the projects.

Agency Response: Staff agrees and will follow the process that has been used for past Advanced Technology Demonstration Projects, which requires a comprehensive final report, to be posted on ARB's demonstration project website, at the completion of the

project that describes the entire project in detail along with reasons for delays and solutions to problems that were encountered during the project.

4. Comment: Demonstration projects which include fueling infrastructure installation should allow for public accessibility whenever possible and appropriate.

Agency Response: Staff agrees that any charging or fueling infrastructure that is funded as part of a demonstration project should, if feasible, provide public access to that infrastructure to facilitate a holistic transition toward advanced technology vehicles and fuels.

5. Comment: Recommend the combination of two proposed Advanced Technology Freight Demonstration categories, Multi-Source Facilities Project and Other Freight Projects, into one category to facilitate a seamless logistic management and long-haul trucking concept.

Agency Response: The Other Freight Projects is not a specific category of its own, but is a combination of six separate categories that will be available for funding based on the current state of the technology in each of the individual categories and on the availably of funds. The Multi-Source Facilities (Node) Project can be used for logistical management of trucking projects if tied to a much larger project that meets the goals of the node project concept, where multiple pieces of emission reducing or eliminating equipment and vehicles are used in concert at one facility to reduce emissions compared to conventional technologies. Further, the Line-Haul and Regional-Haul Truck Demonstration, Near Dock Container Movement and Emerging Technology Categories would all be seen as a potential projects for funding.

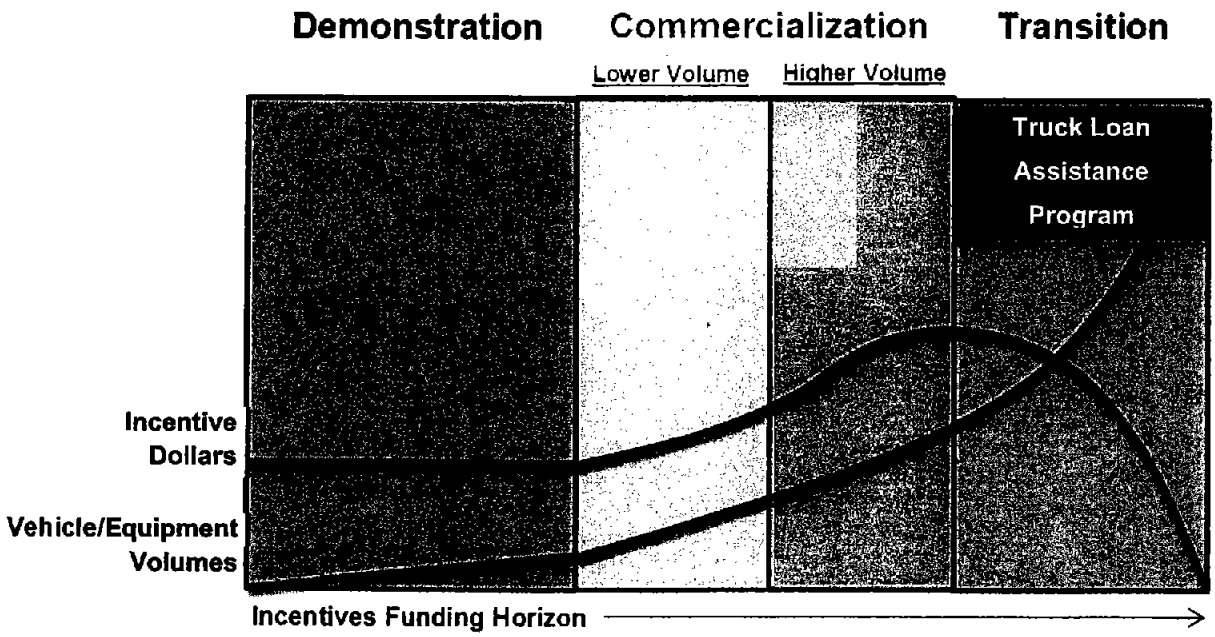
6. Comment: The match requirements for Advanced Technology Freight Demonstration projects were unclear, please explain the requirements.

Agency Response: The proposed match requirements for Advanced Technology Freight Demonstrations require that an application for funding commit at least 25 percent of the total project cost as coming from the applicant team. The maximum amount of the total project cost that will be borne by the ARB will be 75 percent of the total project cost. Those applications that commit more than the minimum 25 percent of the total project cost will score higher than those that only commit the minimum match amount.

CHAPTER 6: LOAN ASSISTANCE PROGRAM

In addition to supporting technology development and advancement through commercialization, AQIP funding has also historically been targeted to advance technologies into new consumer demographics and among disadvantaged communities. Over twenty percent of AQIP funds to date have been allocated toward the Truck Loan Assistance Program, which is aimed at assisting low-income and small business truckers to obtain financing for truck upgrades or retrofits. The technologies funded are well commercialized, but the need to increase penetration of these technologies in certain demographics remains.

Figure 1c. FY 2014-15 Loan Assistance Program



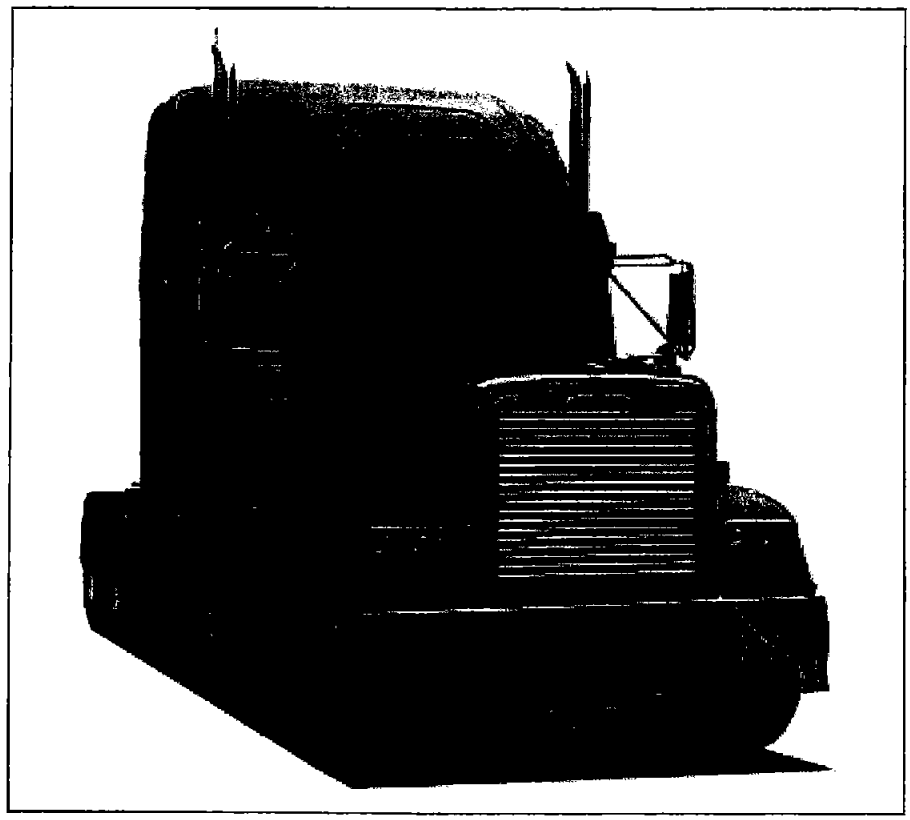
Currently, the Truck Loan Assistance Program is the only program funded by AQIP in the transitional phase of technology advancement. However, as discussed in the light-duty vehicle section, staff is proposing a new light-duty financing assistance pilot project for FY 2014-15. Consistent with the incentive needs within the transitional phase of commercialization, the light-duty financing assistance pilot project would be designed to offer financing options to low-income or disadvantaged individuals in disadvantaged communities that are unable to obtain financing through conventional sources.

Staff is proposing to allocate $10 million from AQIP for the Truck Loan Assistance Program in FY 2014-15. Table 13 below summarizes the proposed Loan Assistance Program Investments.

Table 13. Summary of Loan Assistance Program Investments

	AQIP Investment	Low Carbon Transportation Investment
Truck Loan Assistance Program	$10M	--
Total Loan Assistance Program Investments: $10M	**$10M**	**--**

TRUCK LOAN ASSISTANCE PROGRAM



Proposed Funding Target: $10 million

PROJECT GOALS

The Truck Loan Assistance Program aids small-business fleet owners affected by ARB's In-Use Truck and Bus Regulation by providing financing assistance to upgrade to newer trucks or with diesel exhaust retrofits. It is specifically tailored to truck owners that experience challenges obtaining conventional financing because they do not conform to traditional underwriting standards.

PROJECT OVERVIEW

Launched in April 2009, the Truck Loan Assistance Program utilizes AQIP funds to aid small-business fleet owners affected by ARB's In-Use Truck and Bus Regulation to secure financing for clean truck upgrades. This program is an on-going and successful incentive option that leverages public funding with private funding from participating lending institutions. Implemented in partnership with the California Pollution Control Financing Authority through its California Capital Access Program, the Truck Loan Assistance Program creates financing opportunities for truck owners that fall below conventional lending criteria and are unable to qualify for traditional financing. In the current program, AQIP funds are set aside (based on a percentage of each enrolled loan amount) in each participating lender's loan loss reserve account to cover potential losses resulting from loan defaults. Of the almost $40 million invested to date, over $280 million in private dollars have been leveraged, resulting in assistance to small business owners that likely would not have occurred otherwise.

CURRENT PROJECT STATUS

Throughout 2012 and 2013, participation in the Truck Loan Assistance Program progressed rapidly in response to approaching regulatory compliance deadlines. As of April 8, 2014, about $39 million in Truck Loan Assistance Program funding has been leveraged to provide about $282 million in financing to small-business truckers for the purchase of over 4,800 cleaner trucks, exhaust retrofits, and trailers. Of the $39 million deposited into lenders' loan loss reserve accounts for loan assistance, the program has reimbursed lenders just over $1.5 million for a total of 81 claims (out of 4,263 loans as of April 8, 2014) for losses resulting from loan defaults. In the program, lenders use their customary asset recovery processes for loan defaults and then may request reimbursement from the program for losses not recouped through that process. Depending on the balance of a lender's loan loss reserve account, it is eligible for up to 100 percent coverage on its claim request.

Table 14 (below) provides a breakdown of financing offered. Historically, nearly 80 percent of enrolled loans have been issued to owner operators with one truck, and 93 percent of enrolled loans have been issued to fleet owners with 10 or fewer employees. The program continues in 2014 with $10 million provided by Senate Bill 359 (Corbett, Chapter 415, Statutes of 2013), and remaining AQIP funds allocated to the Truck Loan Assistance Program in 2013.

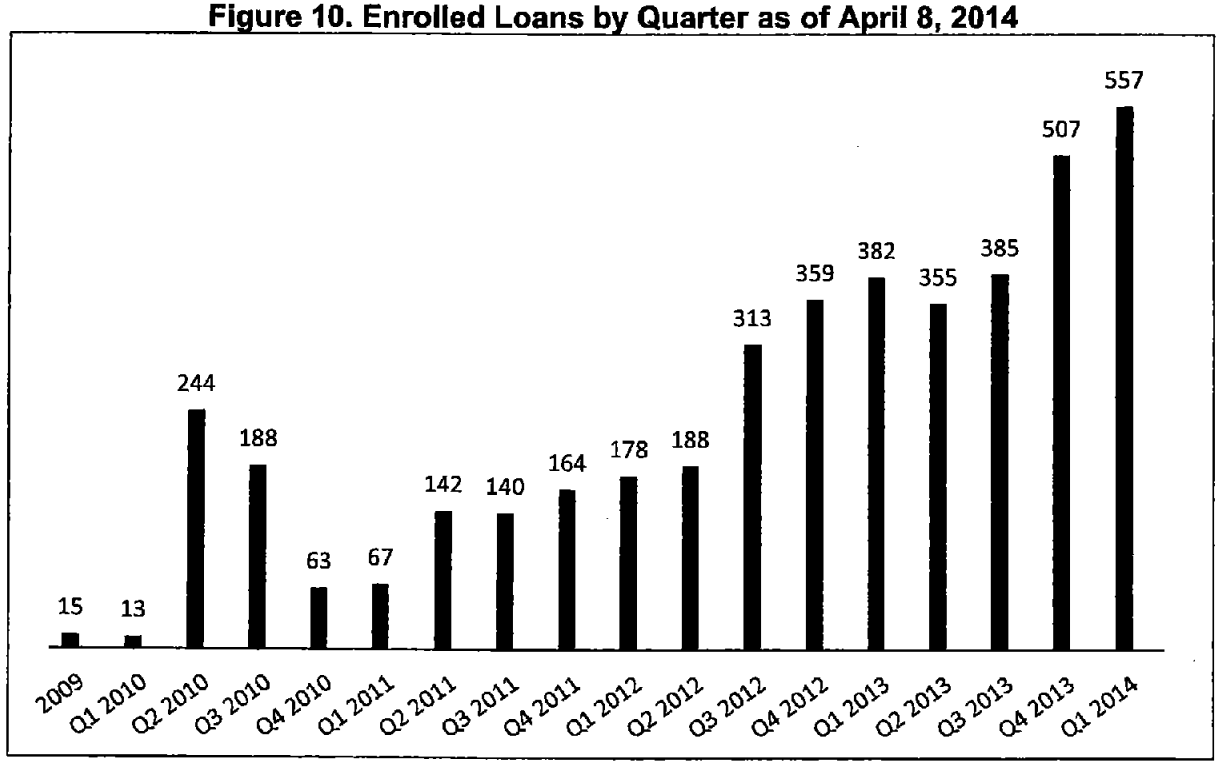
Table 14: Truck Loan Assistance Program Status: Vehicles/Equipment Financed as of April 8, 2014

Program	Number of Loans Issued[1]	Number of Projects Financed	Project Type	$ Spent	Total Amount Financed
ARB/California Pollution Control Financing Authority Truck Loan Assistance Program	4,263	4,519	Truck Purchases	$39M	$282M
		284	Exhaust Retrofits		
		27	Trailers		

[1] Total number of loans issued does not equal the number of projects financed because some loans included multiple projects.

Figure 10 below shows the historical quarterly activity for loans enrolled in the program.

Figure 10. Enrolled Loans by Quarter as of April 8, 2014



With ongoing near-term regulatory deadlines under the In-Use Truck and Bus Regulation, ARB staff expects a continued strong demand for program funding to assist the small-business trucking sector most in need of financing for required truck upgrades.

STAFF PROPOSAL FOR FY 2014-15

Projections based on historical program activity indicate an annual baseline funding need of at least $20 million. With $10 million from Senate Bill 359 projected to fill half of the baseline annual funding need, staff proposes an allocation of $10 million from the FY 2014-15 AQIP Funding Plan to extend the program through June 2015.

Because loan enrollment rates have increased significantly, resulting in a 30 percent increase in loan loss reserve contributions in 2013 (over 2012 contribution levels) and a sustained demand in 2014, this funding level is necessary to continue support for truck upgrades for small-business fleet owners. Staff will continue to monitor the program for on-going accelerated activity that may affect the overall funding need.

LONG-TERM PLAN

The majority of participants in the Truck Loan Assistance Program are small-business fleet owners with one truck. At its April 2014 meeting, the Board approved regulatory amendments to the In-Use Truck and Bus Regulation to provide small fleet owners additional time to meet upgrade requirements. Staff anticipates that future funding plans will maintain funding for the program to continue support for small-business fleets through the extended compliance deadlines. Assessments of ongoing funding needs will take into account updated program activity trends, which reflect truck owners' demand for financing assistance; compliance schedules; and noncompliance rates. Because program activity fluctuates based on truckers' participation in the program, the staff commits to perform periodic assessments to develop funding projections for annual program needs. Based on historical program activity, staff anticipates ongoing baseline annual funding needs in the $14 million to $20 million range per year until the In-Use Truck and Bus Regulation is fully implemented.

Staff proposes to measure the success of the program by evaluating overall small fleet compliance with final regulatory requirements. When significant compliance has been achieved), staff anticipates recommending discontinuing the program.

CHAPTER 7: CONTINGENCY PLANS

The proposed Funding Plan is based upon the latest available information. However, circumstances may change between the time the proposed Funding Plan is released for public comment (such as pending changes in the FY 2014-15 State Budget or lower than anticipated revenues), and when the Board approves the funding plan, project solicitations are issued, project funds awarded, or as projects are implemented. This section describes staff's proposed contingency plans should mid-course corrections be needed to ensure that AQIP funds are spent expeditiously and efficiently. Under these provisions, the Board would grant the Executive Officer authority to make the necessary mid-course adjustments to address the cases described below.

In recent years, revenues in the Air Quality Improvement Fund have been nearly 30 percent lower than the amount appropriated in the State Budget, so ARB had to scale back its AQIP project funding accordingly. For example, in FY 2012-13, revenues were even less than the "realistic" estimate, which resulted in the delay and ultimate reassignment of a demonstration project into this year's Funding Plan.

Based on this experience, ARB staff is proposing a Funding Plan that establishes minimum allocations for each project category totaling *less* than both the Governor's Proposed Budget allocation of $26 million and the projected available funding for projects. ARB staff forecasts that AQIP fees could generate up to $22 million in project revenue, after accounting for various state administrative costs. Staff is proposing minimum funding targets for each category totaling $20 million, which should leave roughly $2 million unallocated to function as a prudent reserve. Establishing minimum targets for each category based on a "realistic" funding scenario reduces the risk of over-obligating funds beyond available revenues, and avoids disproportionally affecting projects that start later in the fiscal year if revenue projections are lowered, as was experienced in FY 2012-13 with the Zero-Emission Transit Demonstration Project.

Further, this Funding Plan describes proposed allocations for Low Carbon Transportation investments from GGRF, as described in the Governor's budget. Should the State Budget authorize an amount less than $200 million, staff proposes to scale back funding proportionately from each project in order to maintain the goals established for providing benefits to disadvantaged communities. If the State Budget includes an amount more than $200 million, staff proposes to increase funding amounts proportionately, unless otherwise specifically directed by legislation.

Various sections of this Funding Plan include additional contingencies specific to each project. For example, staff has proposed a set of contingency measures for Classic CVRP should the funding identified for the project fall short of meeting the project's demand (page 39). Other specific contingencies are included in the sections regarding Light-Duty Pilot Projects in Disadvantaged Communities (page 46), and Traditional HVIP (page 60, regarding HVIP Funding Allocation).

ARB staff plans to release initial grant solicitations based on the minimum allocations in Table 3. However, the solicitations and grant agreements will be written with provisions to allow an increase in awarded funding if there are sufficient revenues and project demand.

If funding from other sources is provided for AQIP projects, funds will be allocated as needed for projects or as specifically required by the authorizing entity. Additionally, AQIP projects may be altered to accommodate any conditions placed upon the use of alternative sources of funding. ARB staff will consult with project work groups prior to making any changes to AQIP projects.

Conversely, ARB staff proposes the ability to reallocate funding from any project in the event that demand for a specific project does not materialize. Any changes in funding for a particular project category would be publicly vetted through AQIP project work groups.

Minor Technical/Administrative Changes: The proposed Funding Plan specifies all policy-related details regarding the projects to be funded. However, technical or administrative changes in implementation procedures may be needed from time to time to ensure these projects are successful. Staff proposes a transparent process in which minor changes to a project category would be publicly vetted through the AQIP project work groups that have been established to discuss the implementation details of each project. These changes would be within the Funding Plan parameters approved by the Board.

CHAPTER 8: FISCAL YEAR 2014-15 PROJECT SOLICITATIONS

Following Board approval of the proposed Funding Plan and after the final State Budget is signed; staff will release solicitations for each of the project categories in order to select a grantee to implement the projects in FY 2014-15. The solicitations will include all the programmatic details potential grantees need to apply for funds, in addition to the criteria upon which the applications will be evaluated and scored.

The public work groups established for each project category will continue to be the primary avenue for seeking input and feedback on solicitations and implementation manuals. Staff will monitor and evaluate AQIP projects over the course of the fiscal year and share project data with the work groups.

CHAPTER 9: REFERENCES

In developing the proposed Funding Plan, ARB staff relied on information from previous Board approved AQIP Funding Plans, AQIP Guidelines, the Energy Commission's AB 118 Investment Plans, and other various reports and publications. A list of references is provided below, with corresponding web links, as appropriate.

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