



BAY AREA  
AIR QUALITY  
MANAGEMENT  
DISTRICT

BOARD OF DIRECTORS  
MOBILE SOURCE COMMITTEE

COMMITTEE MEMBERS

SCOTT HAGGERTY - CHAIR  
JOHN AVALOS  
CAROLE GROOM  
CAROL KLATT  
ROGER KIM

MARY PIEPHO – VICE CHAIR  
TOM BATES  
DAVID HUDSON  
LIZ KNISS

**THURSDAY  
SEPTEMBER 25, 2014  
9:30 A.M.**

**7<sup>TH</sup> FLOOR BOARD ROOM  
939 ELLIS STREET  
SAN FRANCISCO, CA 94109**

**AGENDA**

**1. CALL TO ORDER - ROLL CALL**

*The Committee Chair shall call the meeting to order and the Clerk of the Boards shall take roll of the Committee members.*

**2. PUBLIC COMMENT PERIOD**

*(Public Comment on Non-Agenda Items Pursuant to Government Code § 54954.3) Members of the public are afforded the opportunity to speak on any agenda item. All agendas for regular meetings are posted at District headquarters, 939 Ellis Street, San Francisco, CA, at least 72 hours in advance of a regular meeting. At the beginning of the regular meeting agenda, an opportunity is also provided for the public to speak on any subject within the Committee's subject matter jurisdiction. Speakers will be limited to three (3) minutes each.*

**3. APPROVAL OF MINUTES OF MAY 22, 2014**

*The Committee will consider approving the attached draft minutes of the Mobile Source Committee meeting of May 22, 2014.*

**4. PROJECTS AND CONTRACTS WITH PROPOSED AWARDS OVER \$100,000**

**A. Fournier/4961  
[afournier@baaqmd.gov](mailto:afournier@baaqmd.gov)**

*The Committee will consider recommending Board of Directors' approval of Carl Moyer Program and TFCA projects requesting grant funding in excess of \$100,000, authorizing the Executive Officer/APCO to execute grant agreements for the recommended projects, and requests for waivers from the Santa Clara Valley Transportation Authority and Alameda County Transportation Commission for FYE 2015 TFCA County Program Manager projects.*

5. **UPDATE ON HYDROGEN STATION INFRASTRUCTURE AND VEHICLES**

**A. Fournier/4961**  
[afournier@baaqmd.gov](mailto:afournier@baaqmd.gov)

*The Committee will receive an informational update from the Governor's Zero-Emission Vehicle Infrastructure Project Manager on the development of hydrogen fueling station infrastructure and hydrogen vehicle technologies.*

6. **UPDATE ON PLUG-IN ELECTRIC VEHICLE (PEV) AND INFRASTRUCTURE PROGRAM**

**A. Fournier/4961**  
[afournier@baaqmd.gov](mailto:afournier@baaqmd.gov)

*The Committee will receive an informational update on the status of the Bay Area's adoption of PEVs, the region's progress in meeting PEV deployment goals, and the Air District's public and residential infrastructure PEV incentive programs.*

7. **COMMITTEE MEMBER COMMENTS**

*Any member of the Board, or its staff, on his or her own initiative or in response to questions posed by the public, may: ask a question for clarification, make a brief announcement or report on his or her own activities, provide a reference to staff regarding factual information, request staff to report back at a subsequent meeting concerning any matter or take action to direct staff to place a matter of business on a future agenda. (Gov't Code § 54954.2)*

8. **TIME AND PLACE OF NEXT MEETING**

*Thursday, October 23, 2014, Bay Area Air Quality Management District Office, 939 Ellis Street, San Francisco, California 94109 at 9:30 a.m.*

9. **ADJOURNMENT**

*The Committee meeting shall be adjourned by the Committee Chair.*

**CONTACT CLERK OF THE BOARDS**  
**939 ELLIS STREET, SAN FRANCISCO, CA 94109**

**(415) 749-5073**  
**FAX: (415) 928-8560**  
**BAAQMD homepage:**  
[www.baaqmd.gov](http://www.baaqmd.gov)

- To submit written comments on an agenda item in advance of the meeting.
- To request, in advance of the meeting, to be placed on the list to testify on an agenda item.
- To request special accommodations for those persons with disabilities notification to the Executive Office should be given at least three working days prior to the date of the meeting so that arrangements can be made accordingly.

Any writing relating to an open session item on this Agenda that is distributed to all, or a majority of all, members of the body to which this Agenda relates shall be made available at the District's offices at 939 Ellis Street, San Francisco, CA 94109, at the time such writing is made available to all, or a majority of all, members of that body.

**BAY AREA AIR QUALITY MANAGEMENT DISTRICT**  
**939 ELLIS STREET, SAN FRANCISCO, CALIFORNIA 94109**  
**FOR QUESTIONS PLEASE CALL (415) 749-5016 or (415) 749-4941**

**EXECUTIVE OFFICE:**  
**MONTHLY CALENDAR OF AIR DISTRICT MEETINGS**

**SEPTEMBER 2014**

<u>TYPE OF MEETING</u>	<u>DAY</u>	<u>DATE</u>	<u>TIME</u>	<u>ROOM</u>
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<b>Board of Directors Climate Protection Committee</b> – <i>(Meets 3<sup>rd</sup> Thursday every other Month)</i> - CANCELLED & RESCHEDULED TO MONDAY, SEPTEMBER 29, 2014 AT 9:30 A.M.	Thursday	18	9:30 a.m.	Board Room
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<b>Board of Directors Personnel Committee</b> <i>(At the Call of the Chair)</i>	Monday	22	9:30 a.m.	4 <sup>th</sup> Floor Conf. Room
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<b>Board of Directors Budget &amp; Finance Committee</b> <i>(Meets on the 4<sup>th</sup> Wednesday of each Month)</i> - CANCELLED	Wednesday	24	9:30 a.m.	4 <sup>th</sup> Floor Conf. Room
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<b>Board of Directors Mobile Source Committee</b> <i>(Meets on the 4<sup>th</sup> Thursday of each Month)</i>	Thursday	25	9:30 a.m.	Board Room
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<b>Board of Directors Climate Protection Committee</b> – <i>(Meets 3<sup>rd</sup> Thursday every other Month)</i>	Monday	29	9:30 a.m.	Board Room
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**OCTOBER 2014**

<u>TYPE OF MEETING</u>	<u>DAY</u>	<u>DATE</u>	<u>TIME</u>	<u>ROOM</u>
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<b>Board of Directors Regular Meeting</b> <i>(Meets on the 1<sup>st</sup> &amp; 3<sup>rd</sup> Wednesday of each Month)</i> - CANCELLED	Wednesday	1	9:45 a.m.	Board Room
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<b>Board of Directors Stationary Source Committee</b> <i>(Meets Quarterly at the Call of the Chair)</i>	Wednesday	1	9:30 a.m.	Board Room
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<b>Advisory Council Regular Meeting</b> <i>(Meets on the 2<sup>nd</sup> Wednesday of each Month)</i>	Wednesday	8	9:00 a.m.	Board Room
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<b>Board of Directors Regular Meeting</b> <i>(Meets on the 1<sup>st</sup> &amp; 3<sup>rd</sup> Wednesday of each Month)</i>	Wednesday	15	9:45 a.m.	Board Room
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<b>Board of Directors Executive Committee</b> <i>(Meets on the 3<sup>rd</sup> Monday of each Month)</i>	Monday	20	9:30 a.m.	4 <sup>th</sup> Floor Conf. Room
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## OCTOBER 2014

<u>TYPE OF MEETING</u>	<u>DAY</u>	<u>DATE</u>	<u>TIME</u>	<u>ROOM</u>
<b>Board of Directors Budget &amp; Finance Committee</b> <i>(Meets on the 4<sup>th</sup> Wednesday of each Month)</i>	Wednesday	22	9:30 a.m.	4 <sup>th</sup> Floor Conf. Room
<b>Board of Directors Mobile Source Committee</b> <i>(Meets on the 4<sup>th</sup> Thursday of each Month)</i>	Thursday	23	9:30 a.m.	Board Room
<b>Board of Directors Public Outreach Committee</b> <i>(At the Call of the Chair)</i>	Thursday	30	9:30 a.m.	4 <sup>th</sup> Floor Conf. Room

## NOVEMBER 2014

<u>TYPE OF MEETING</u>	<u>DAY</u>	<u>DATE</u>	<u>TIME</u>	<u>ROOM</u>
<b>Board of Directors Regular Meeting</b> <i>(Meets on the 1<sup>st</sup> &amp; 3<sup>rd</sup> Wednesday of each Month)</i>	Wednesday	5	9:45 a.m.	Board Room
<b>Advisory Council Regular Meeting</b> <i>(Meets on the 2<sup>nd</sup> Wednesday of each Month)</i>	Wednesday	12	9:00 a.m.	Board Room
<b>Board of Directors Executive Committee</b> <i>(Meets on the 3<sup>rd</sup> Monday of each Month)</i>	Monday	17	9:30 a.m.	4 <sup>th</sup> Floor Conf. Room
<b>Board of Directors Nominating Committee</b> <i>(At the Call of the Chair)</i>	Wednesday	19	9:30 a.m.	Room 716
<b>Board of Directors Regular Meeting</b> <i>(Meets on the 1<sup>st</sup> &amp; 3<sup>rd</sup> Wednesday of each Month)</i>	Wednesday	19	9:45 a.m.	Board Room
<b>Board of Directors Climate Protection Committee</b> – <i>(Meets 3<sup>rd</sup> Thursday every other Month)</i>	Thursday	20	9:30 a.m.	Board Room
<b>Board of Directors Mobile Source Committee</b> <i>(Meets on the 4<sup>th</sup> Thursday of each Month)</i>	Monday	24	9:30 a.m.	Board Room
<b>Board of Directors Budget &amp; Finance Committee</b> <i>(Meets on the 4<sup>th</sup> Wednesday of each Month)</i>	Wednesday	26	9:30 a.m.	4 <sup>th</sup> Floor Conf. Room
<b>Board of Directors Mobile Source Committee</b> <i>(Meets on the 4<sup>th</sup> Thursday of each Month)</i> - CANCELLED AND RESCHEDULED TO MONDAY, NOVEMBER 24, 2014 DUE TO THANKSGIVING HOLIDAY	Thursday	27	9:30 a.m.	Board Room

**BAY AREA AIR QUALITY MANAGEMENT DISTRICT**  
Memorandum

To: Chairperson Scott Haggerty and Members  
of the Mobile Source Committee

From: Jack P. Broadbent  
Executive Officer/Air Pollution Control Officer

Date: September 15, 2014

Re: Approval of the Minutes of May 22, 2014

RECOMMENDED ACTION

Approve attached draft minutes of the Mobile Source Committee meeting of May 22, 2014.

DISCUSSION

Attached for your review and approval are the draft minutes of the Mobile Source Committee meeting on May 22, 2014.

Respectfully submitted,

Jack P. Broadbent  
Executive Officer/APCO

Prepared by: Sean Gallagher  
Reviewed by: Maricela Martinez

Attachment A: Draft Minutes of the Mobile Source Committee meeting of May 22, 2014

Bay Area Air Quality Management District  
939 Ellis Street  
San Francisco, California 94109  
(415) 749-5073

**DRAFT MINUTES**

Summary of Board of Directors  
Mobile Source Committee Meeting  
Thursday, May 22, 2014

**1.     Call to Order – Roll Call**

Mobile Source Committee (Committee) Chairperson Scott Haggerty called the meeting to order at 9:35 a.m.

Present:             Committee Chairperson Scott Haggerty; and Directors John Avalos, Tom Bates, David Hudson, Roger Kim (on behalf of Edwin Lee) and Carol Klatt.

Absent:             Vice-Chairperson Mary Piepho; and Directors Carole Groom and Liz Kniss.

Also Present:     Board of Directors (Board) Chairperson Nate Miley.

**2.     Public Comment Period:** No requests received.

**3.     Approval of Minutes of April 24, 2014**

Committee Comments: None.

Public Comments: No requests received.

Committee Action:

Director Hudson made a motion to approve the Minutes of April 24, 2014; Director Klatt seconded; and the motion carried by the following vote of the Committee:

AYES:             Avalos, Bates, Haggerty, Hudson, Kim, Klatt and Miley.

NOES:             None.

ABSTAIN:        None.

ABSENT:          Groom, Kniss and Piepho.

**4.     Projects with Proposed Grant Awards Over \$100,000**

Karen Schkolnick, Acting Director of Strategic Incentives, introduced Tina McRee, Environmental Planner of Strategic Incentives, who gave the staff presentation *Projects with*

*Proposed Awards Over \$100,000*, including brief overviews of the Carl Moyer, Mobile Source Incentive Fund (MSIF) and Transportation Fund for Clean Air (TFCA) programs; a summary of Carl Moyer Program (CMP) Year 15; detailings of the CMP, MSIF and Voucher Incentive Program (VIP) funds awarded as of May 6, 2014; CMP, MSIF and VIP funds awarded years 11 through 15; a summary of TFCA Year 14; Lower Emissions School Bus Program (LESBP); and recommendations.

Committee Comments:

The Committee and staff discussed slide 5, *CMP/MSIF and VIP Funds Awarded as of 5/6/14*, regarding the percentage awarded to Alameda County; recent increases in agriculture-related awards; and possibility of conducting outreach to wine growers if the Farm Bureau remains unresponsive.

Committee Chairperson Haggerty requested details of the projects and awards by County.

Public Comments: No requests received.

Committee Action:

Director Hudson made a motion, seconded by Director Bates, to recommend the Board:

1. Approve CMP projects with proposed grant awards over \$100,000;
2. Allocate \$6.3 million in MSIF to eligible LESBP projects; and
3. Authorize the Executive Officer/Air Pollution Control Officer (APCO) to enter into agreements with applicants for LESBP projects and the recommended CMP projects.

The motion carried by the following vote of the Committee:

AYES: Avalos, Bates, Haggerty, Hudson, Kim, Klatt and Miley.

NOES: None.

ABSTAIN: None.

ABSENT: Groom, Kniss and Piepho.

**5. TFCA Regional Fund Policies and Evaluation Criteria for Fiscal Year Ending (FYE) 2015**

Damian Breen, Deputy Air Pollution Control Officer (APCO), introduced Ms. Schkolnick, who gave the staff presentation *TFCA Regional Fund Policies and Evaluation Criteria for FYE 2015*, including background, a summary of FYE 2015 TFCA Regional Fund, public input process, proposed revisions and recommendation.

Committee Comments:

The Committee and staff discussed the proposed changes to the cost-effectiveness limits; the evaluation criteria for electronic bicycle lockers (eLockers) projects; potential bundling of shuttle/feeder bus service and ridesharing projects with eLockers for major transit projects; whether the provision regarding duplication of service is nonsensical in dense urban environments or will serve to undermine the Air District goal of serving the first-and-last mile; public comment on the proposed revisions; the appropriateness of and reasoning behind requiring five-year financing plans; the importance of an enhanced rail-to-rail connectivity component to this program; the timeline for additional policy revisions and the reason for the incremental proposal; whether the definition for duplicative service should be “0.6” or “0.5”; the methodology of the cost-effectiveness calculation; the possibility of requiring the inclusion of a gradual defunding process in the five-year plan for pilot projects; the need for some agency to establish reliable and effective rail-to-rail connectivity and the importance of funding that connectivity even if it goes beyond the five-year limit.

Public Comments: No requests received.

Committee Action:

Director Bates made a motion, seconded by Hudson, to recommend the Board approve the proposed FYE 2015 TFCA Regional Fund Policies and Evaluation Criteria presented in Attachment A of the Committee staff report, with an amendment on page 3, Policy 26.d. Shuttle/Feeder Bus Service Projects, to replace “0.6 miles” with “0.5 miles.”

Committee Comments (continued):

The Committee and staff discussed the duplication of service provision, including how the parameters were generated historically and in the current proposal, the impact on those with limited mobility, and the impact of a revision to something less than “20 minutes or less.”

Committee Action (continued):

The motion carried by the following vote of the Committee:

AYES: Avalos, Bates, Haggerty, Hudson, Kim, Klatt and Miley.

NOES: None.

ABSTAIN: None.

ABSENT: Groom, Kniss and Piepho.

**6. Bicycle Rack Voucher Program (BRVP) Vendor Selection**

Mr. Breen introduced Michael Neward, Administrative Analyst of Strategic Incentives, who gave the staff presentation *BRVP Vendor Selection*, including background, an overview of



BRVP, results from Cycle 1 BRVP FYE 2014, request for proposals process and results FYE 2015 and recommendation.

Committee Comments:

The Committee and staff discussed whether the BRVP would prohibit schools from working with a different vendor that made a lower-cost offer; the importance of explicitly providing vendor choice flexibility and a “Made in the U.S.A.” provision in future programs; how many bike racks are anticipated for installation; if and how eLockers are treated under the BRVP; the security of eLockers versus racks; and the feasibility of funding creative concept equipment through the BRVP.

Public Comments: None.

Committee Action:

Director Klatt made a motion, seconded by Director Hudson, to recommend the Board authorize the Executive Officer/APCO to enter into and execute all necessary contracts with Dero Bike Rack Co., Peak Racks Inc., Saris Cycling Group, Sportswork Northwest Inc., and Urban Racks not to exceed a total of \$860,000; and the motion carried by the following vote of the Committee:

AYES: Avalos, Bates, Haggerty, Hudson, Kim, Klatt and Miley.

NOES: None.

ABSTAIN: None.

ABSENT: Groom, Kniss and Piepho.

**7. Committee Member Comments:**

The Committee and staff discussed the viability of researching possible rail-to-rail connectivity projects as a separate item followed by a search for funding to support the potential projects that were identified.

**8. Time and Place of Next Meeting:** At the call of the Chairperson.

**9. Adjournment:** The meeting adjourned at 10:40 a.m.

Sean Gallagher  
Clerk of the Boards

**BAY AREA AIR QUALITY MANAGEMENT DISTRICT**

## Memorandum

To: Chairperson Scott Haggerty and  
Members of the Mobile Source Committee

From: Jack P. Broadbent  
Executive Officer/APCO

Date: September 8, 2014

Re: Projects and Contracts with Proposed Awards over \$100,000

**RECOMMENDATIONS:**

Recommend Board of Directors:

1. Approve Carl Moyer Program (CMP) and Transportation Fund for Clean Air (TFCA) projects with proposed grant awards over \$100,000;
2. Authorize the Executive Officer/APCO to enter into agreements for the recommended projects; and
3. Approve policy waivers to allow Santa Clara Valley Transportation Authority and Alameda County Transportation Commission to use FYE 2015 TFCA County Program Manager (CPM) Funds for bicycle sharing projects, and to allow Alameda County Transportation Commission to use FYE 2014 TFCA CPM Funds to fund a shuttle project for the second year at a cost-effectiveness that aligns with the TFCA Regional Fund.

**BACKGROUND**

The Bay Area Air Quality Management District (Air District) has participated in the Carl Moyer Program (CMP), in cooperation with the California Air Resources Board (ARB), since the program began in fiscal year 1998-1999. The CMP provides grants to public and private entities to reduce emissions of oxides of nitrogen (NOx), reactive organic gases (ROG) and particulate matter (PM) from existing heavy-duty engines by either replacing or retrofitting them. Eligible heavy-duty diesel engine applications include on-road trucks and buses, off-road equipment, marine vessels, locomotives, stationary agricultural pump engines, and forklifts.

Assembly Bill 923 (AB 923 - Firebaugh), enacted in 2004 (codified as Health and Safety Code Section 44225), authorized local air districts to increase their motor vehicle registration surcharge up to an additional \$2 per vehicle. The revenues from the additional \$2 surcharge are deposited into the Air District's Mobile Source Incentive Fund (MSIF). AB 923 stipulates that air districts may use the revenues generated by the additional \$2 surcharge for projects eligible for grants under the CMP.

Since 1992, the Transportation Fund for Clean Air (TFCA) program has funded projects that achieve surplus emission reductions from on-road motor vehicles. Funding for this program is provided by a \$4 surcharge on motor vehicles registered within the San Francisco Bay Area as authorized by the California State Legislature. The statutory authority for the TFCA and

requirements of the program are set forth in California Health and Safety Code (HSC) Sections 44241 and 44242. Sixty percent (60%) of TFCA funds are awarded directly by the Air District through a grant program known as the Regional Fund that is allocated on a competitive basis to eligible projects proposed by project sponsors.

On February 19, 2014, the Board of Directors authorized Air District's participation in Year 16 of the CMP, and authorized the Executive Officer/APCO to execute grant agreements and amendments for projects funded with CMP funds or MSIF revenues, with individual grant award amounts up to \$100,000. On November 18, 2009, the Air District Board of Directors authorized the Executive Officer/APCO to execute grant agreements and amendments for projects funded with TFCA funds, with individual grant award amounts up to \$100,000.

CMP and TFCA Regional Fund projects with grant award amounts over \$100,000 are brought to the Committee for consideration on a quarterly basis. Staff reviews and evaluates the grant applications based upon the respective governing policies and guidelines established by the ARB and/or the Air District's Board of Directors.

## DISCUSSION

### **Carl Moyer Program:**

The Air District started accepting applications for CMP Year 16 projects on July 14, 2014. The Air District has approximately \$12 million available for CMP projects from a combination of MSIF and CMP funds. Project applications are being accepted and evaluated on a first-come, first-served basis.

As of September 8, 2014, the Air District had received 154 project applications for the CMP Year 15 and 16 cycles. Of the applications that have been evaluated between May 6, 2014 and September 8, 2014, five (5) eligible projects have proposed individual grant awards over \$100,000. These projects will replace seven (7) off-road diesel-powered tractors, two (2) marine propulsion engines, and three (3) off-road diesel-powered loaders. These projects will reduce over 8.3 tons of NOx, ROG and PM per year. Staff recommends allocating \$998,145 to these projects from a combination of CMP funds and MSIF revenues. Attachment 1, Table 1, provides additional information on these projects.

Attachment 2, lists all of the eligible projects that have been received by the Air District as of September 8, 2014, and summarizes the allocation of funding by equipment category, and county. This list also includes the Voucher Incentive Program (VIP) on-road replacement projects awarded since the last committee update. Approximately 25% of the funds have been awarded to projects that reduce emissions in highly impacted Bay Area communities. Attachment 3, summarizes the cumulative allocation of CMP, MSIF, and VIP funding since the Year 11 funding cycle (more than \$66 million awarded to 596 projects).

### **Transportation Fund for Clean Air:**

On June 5, 2013, the Board of Directors allocated \$22.75 million in FYE 2014 TFCA funds to Air District sponsored projects and programs and Regional Fund programs. Since then, the Air District has opened solicitations for the following TFCA-funded incentive programs: Shuttle and Ridesharing, Bicycle Rack Vouchers, Bicycle E-Lockers, Electric Vehicle Charging

Infrastructure, Plug-in Electric Vehicle Rebates for Public Agencies, and On-road Truck Replacements. In addition, on July 8, 2014, the Air District was awarded a \$500,000 grant from the California Energy Commission (CEC) to deploy 10 direct current (DC) fast chargers, and co-locate 12 level 2 chargers at six Bay Area locations.

As of September 8, 2014, the Air District had received 80 project applications for FYE 2014 TFCA funding. Of the applications that have been evaluated between May 6, 2014, and September 8, 2014, three (3) eligible projects have proposed individual grant awards over \$100,000. These projects will deploy eight (8) DC fast chargers and twelve (12) Level 2 chargers; and will reduce over 0.16 tons of NOx, ROG and PM per year. Staff recommends allocating \$578,396 to these projects from a combination of CEC and Air District TFCA fund revenues. Attachment 1, Table 2, provides additional information on these projects.

Attachment 4, lists all of the eligible projects that have been awarded FYE 2014 TFCA and CEC funding by the Air District as of March 31, 2014, and summarizes the allocation of FYE 2014 TFCA funds by program, and by county. To date, more than \$5.9 million in TFCA funds have been awarded to 62 projects.

#### *Policy Waiver Requests*

Attachment 5, lists four projects that require Board approval because they do not conform to the FYE 2015 and FYE 2014 TFCA CPM Fund Policies. TFCA CPM Fund Policy #3 allows CPM's to seek Air District Board of Directors' approval on a case-by-case basis for projects that are authorized by the HSC Section 44241 and achieve Board-adopted TFCA cost-effectiveness but do not meet all of the Board adopted policies. Santa Clara Valley Transportation Authority (VTA) and Alameda County Transportation Commission (Alameda CTC) are requesting to use FYE 2015 TFCA CPM Funds for bicycle sharing projects, and Alameda CTC is also requesting to use FYE 2014 TFCA CPM Funds to fund a shuttle project for the second year at a cost-effectiveness that aligns with the Regional Fund (since the Regional Fund and CPM Fund policies are not updated at the same time, projects seeking a second year of operations from the CPM Fund will not align with the current year Regional Fund policies).

Staff has reviewed VTA's and Alameda CTC's requests and determined that these projects conform to the provisions of HSC Section 44241 and Board-adopted TFCA cost-effectiveness. Therefore, staff is requesting that the Board approve VTA's and Alameda CTC's request, as allowed by Policy #3.

BUDGET CONSIDERATION / FINANCIAL IMPACT:

None. Through the CMP, MSIF and TFCA, the Air District distributes “pass-through” funds to public agencies and private entities on a reimbursement basis. Administrative costs for both programs are provided by each funding source.

Respectfully submitted,

Jack P. Broadbent  
Executive Director/APCO

Prepared by: Karen Schkolnick and Linda Hui  
Reviewed by: Anthony Fournier

- Attachment 1: Projects with grant awards greater than \$100,000 (evaluated between 5/6/14 and 9/8/14)
- Attachment 2: Summary of all CMP/ MSIF and VIP approved and eligible projects (evaluated between 5/6/14 and 9/8/14)
- Attachment 3: Summary of program distribution by county and equipment category for CMP/ MSIF and VIP projects for Years 11-16
- Attachment 4: Summary of all TFCA approved and eligible projects (as of 9/8/14)
- Attachment 5: TFCA projects requiring case-by-case approvals

## AGENDA 4 - ATTACHMENT 1

**Table 1 - Summary of Carl Moyer Program/ Mobile Source Incentive Fund projects with grant awards greater than \$100k (Evaluated between 5/6/14 and 9/8/14)**

Project #	Applicant name	Equipment category	Project description	Proposed contract award	Emission Reductions (Tons per year)			County
					NOx	ROG	PM	
15MOY129	Colinas Farming Company	Ag/ off-road	Replacement of five diesel-powered tractors.	\$ 183,906.00	0.402	0.086	0.037	Napa
15MOY130	Evergreen Materials Inc. DBA Evergreen Supply	Off-road	Replacement of two diesel-powered loaders.	\$ 188,559.00	1.098	0.162	0.053	Santa Clara
16MOY2	Rankins AG, Inc.	Ag/ off-road	Replacement of two diesel-powered tractors.	\$ 289,836.00	2.947	0.298	0.111	Contra Costa
16MOY11	Dolcini Brothers	Ag/ off-road	Replacement of one diesel-powered loader.	\$ 147,264.00	1.244	0.180	0.064	Sonoma
15MOY126	C & W Diving Services, Inc.	Marine	Replacement of two propulsion engines on the Tug "Hero."	\$ 188,580.00	1.524	0.051	0.067	Alameda
<b>5 Projects</b>				<b>\$ 998,145.00</b>	<b>7.215</b>	<b>0.777</b>	<b>0.332</b>	

**Table 2 - Summary of TFCA projects with grant awards greater than \$100k (Evaluated between 5/6/14 and 9/8/14)**

Project #	Applicant name	Equipment category	Project description	Proposed total contract award*	Proposed TFCA award amount	Emission Reductions (Tons per year)			County
						NO <sub>x</sub>	ROG	PM	
15DCFC01*	Federated Indians of Graton Rancheria	EV Charging Equipment	2 DC fast and 8 L2 chargers in Rohnert Park	\$ 146,396.00	\$ 58,400.00	0.030	0.024	0.004	Sonoma
15DCFC02*	Resurgens Renewables, LLC	EV Charging Equipment	2 DC fast and 4 L2 chargers in Fremont and Sunol	\$ 160,000.00	\$ 47,200.00	0.020	0.016	0.003	Alameda
15DCFC04*	City and County of San Francisco, Airport Commission	EV Charging Equipment	4 DC fast chargers at SFO	\$ 272,000.00	\$ 72,000.00	0.033	0.026	0.004	San Mateo
<b>3 Projects</b>				<b>\$ 578,396.00</b>	<b>\$ 177,600.00</b>	<b>0.083</b>	<b>0.066</b>	<b>0.011</b>	

\*California Energy Commission is contributing \$400,796 of the Proposed Contract Award to these projects.

## AGENDA 4 - ATTACHMENT 2

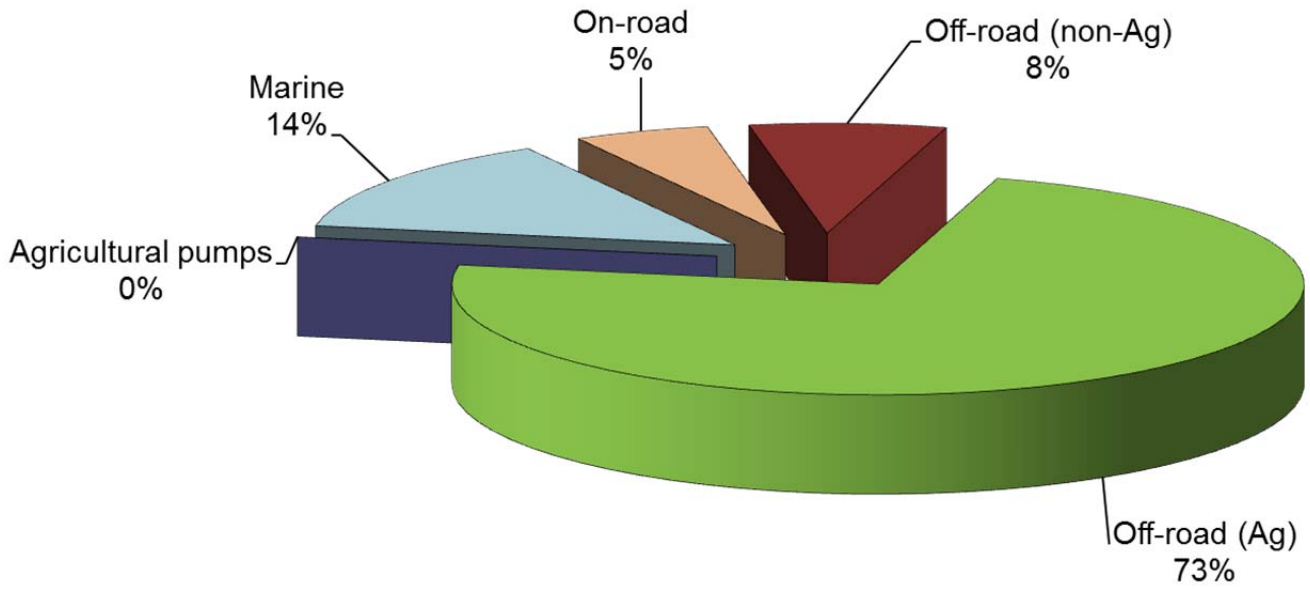
*Summary of all CMP, MSIF and VIP approved/ eligible projects (between 5/6/14 and 9/8/14)*

Project #	Equipment category	Project type	# of engines	Proposed contract award	Applicant name	Emission Reductions (Tons per year)			Board approval date	County
						NOx	ROG	PM		
15MOY89	Ag/ off-road	Tractor replacement	1	\$ 23,100.00	Tri-Valley Vineyard Management Inc.	0.061	0.013	0.003	APCO	Sonoma
15MOY120	Ag/ off-road	Tractor replacement	4	\$ 96,346.00	David Pirio Vineyard Management LLC	0.251	0.059	0.020	APCO	Napa
15MOY80	Ag/ off-road	Tractor replacement	2	\$ 59,791.00	Kenzo Estate, Inc.	0.186	0.033	0.015	APCO	Napa
15MOY94	Ag/ off-road	Tractor replacement	2	\$ 85,280.00	Garry Mahrt (Farmer)	0.319	0.060	0.024	APCO	Sonoma
15MOY104	Ag/ off-road	Tractor replacement	1	\$ 38,428.00	Capp Bros Vineyard Management	0.097	0.025	0.010	APCO	Napa
15MOY105	Ag/ off-road	Tractor replacement	1	\$ 40,801.00	Domenico J. Carinalli, Jr.	0.114	0.024	0.006	APCO	Sonoma
15MOY107	Ag/ off-road	Tractor replacement	1	\$ 42,232.00	M. German & Son (Farmer)	0.175	0.032	0.015	APCO	Solano
15MOY108	Ag/ off-road	Tractor replacement	1	\$ 28,704.00	Clementina Biale Vineyards	0.083	0.017	0.006	APCO	Napa
15MOY109	Ag/ off-road	Tractor replacement	1	\$ 47,910.00	Cunningham Dairy	0.243	0.015	0.013	APCO	Sonoma
15MOY97	Ag/ off-road	Tractor replacement	1	\$ 22,580.00	Bowland Vineyard Mgt, Inc.	0.059	0.013	0.003	APCO	Sonoma
15MOY100	Ag/ off-road	Tractor replacement	1	\$ 62,676.00	Custom Tractor Sevice	0.382	0.053	0.019	APCO	Sonoma
15MOY99	Ag/ off-road	Tractor replacement	1	\$ 39,757.00	Regusci Vineyard Management, Inc.	0.104	0.029	0.010	APCO	Napa
15MOY110	Ag/ off-road	Tractor replacement	1	\$ 33,860.00	Roche Winery, LLC.	0.067	0.014	0.006	APCO	Sonoma
15MOY115	Ag/ off-road	Tractor replacement	2	\$ 76,115.00	Nancy and Tony Lilly (Vineyard)	0.220	0.045	0.021	APCO	Sonoma
15MOY118	Ag/ off-road	Tractor replacement	1	\$ 28,898.00	Pina Vineyard Management , LLC.	0.129	0.026	0.009	APCO	Napa
15MOY119	Ag/ off-road	Tractor replacement	2	\$ 58,835.00	Chappellet Vineyard	0.152	0.022	0.009	APCO	Napa
15MOY122	Ag/ off-road	Tractor replacement	1	\$ 32,081.00	Cornerstone Certified Vineyard	0.074	0.016	0.006	APCO	Sonoma
15MOY123	Ag/ off-road	Tractor replacement	1	\$ 71,775.00	Glenn Yenni & Sons, Inc.	0.153	0.029	0.013	APCO	Sonoma
15MOY137	Marine	Engine replacement	2	\$ 99,550.00	Brian Collier (Charter fishing)	0.937	-0.010	0.037	APCO	Contra Costa
15MOY116	Ag/ off-road	Equipment replacement	1	\$ 63,622.00	Morrison Brother's Dairy	0.171	0.042	0.021	APCO	Sonoma
15MOY124	Ag/ off-road	Equipment replacement	1	\$ 46,040.00	Blakes Landing Farms, Inc.	0.116	0.020	0.007	APCO	Marin
15MOY127	Ag/ off-road	Equipment replacement	1	\$ 49,890.00	Hi Vista Vineyards, LLC	0.120	0.023	0.008	APCO	Sonoma
15MOY128	Ag/ off-road	Equipment replacement	1	\$ 42,232.00	Deniz Dairy	0.135	0.023	0.008	APCO	Sonoma
15MOY129	Ag/ off-road	Equipment replacement	5	\$ 183,906.00	Colinas Farming Company	0.402	0.086	0.037	TBD	Napa
15MOY136	Ag/ off-road	Equipment replacement	1	\$ 27,480.00	Dirt Farmer & Company	0.052	0.015	0.005	APCO	Sonoma
15MOY133	Ag/ off-road	Equipment replacement	1	\$ 41,017.00	Alta Vineyard Management, Inc.	0.164	0.032	0.009	APCO	Sonoma
15MOY132	Ag/ off-road	Equipment replacement	1	\$ 27,865.00	B Wise Vinyeards, LLC	0.053	0.016	0.005	APCO	Sonoma
15MOY135	Marine	Equipment replacement	2	\$ 68,500.00	San Francisco Bar Pilots	0.419	0.006	0.017	APCO	San Francisco
15MOY130	Off-road	Equipment replacement	2	\$ 188,559.00	Evergreen Materials Inc. DBA Evergreen Supply	1.098	0.162	0.053	TBD	Santa Clara
16MOY2	Ag/ off-road	Equipment replacement	2	\$ 289,836.00	Rankins AG, Inc.	2.947	0.298	0.111	TBD	Contra Costa
16MOY4	Ag/ off-road	Equipment replacement	1	\$ 41,017.00	John Camozzi (Farm/ ranch)	0.176	0.029	0.011	APCO	Sonoma

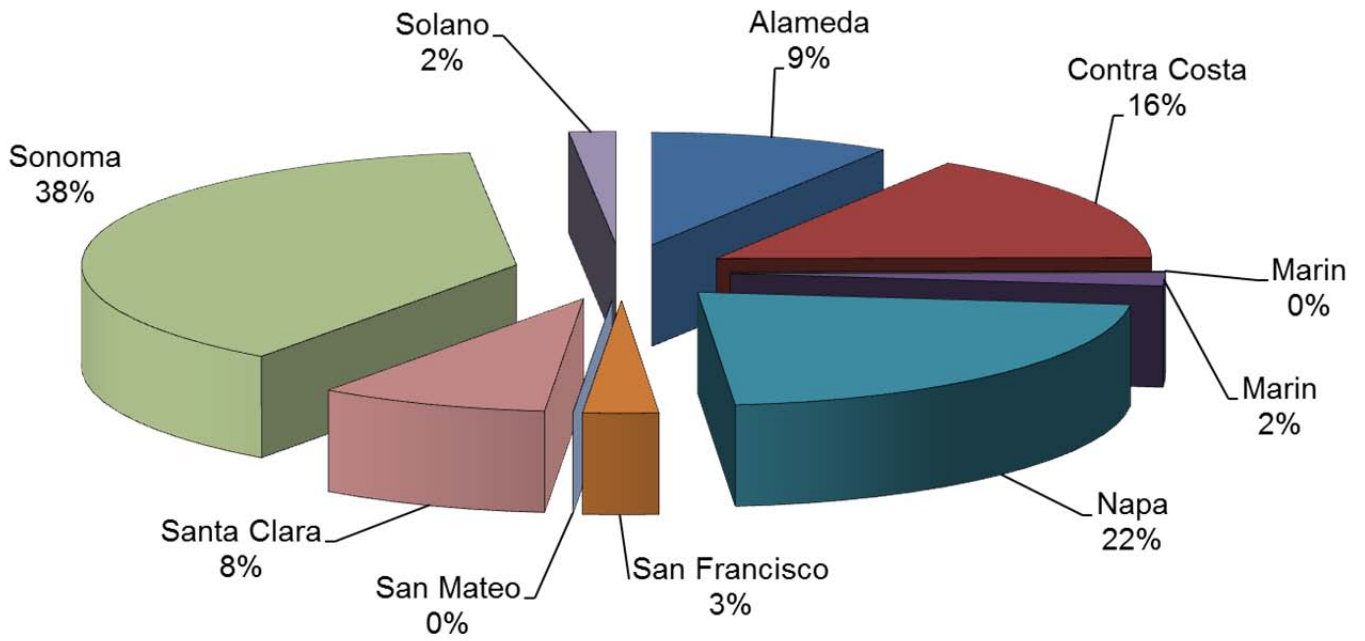
Project #	Equipment category	Project type	# of engines	Proposed contract award	Applicant name	Emission Reductions (Tons per year)			Board approval date	County
						NOx	ROG	PM		
16MOY11	Ag/ off-road	Equipment replacement	1	\$ 147,264.00	Dolcini Brothers	1.244	0.180	0.064	TBD	Sonoma
15MOY126	Marine	Engine replacement	2	\$ 188,580.00	C & W Diving Services, Inc.	1.524	0.051	0.067	TBD	Alameda
VIP247	VIP	Truck Replacement	1	\$ 45,000.00	Everardo Espinosa	0.878	0.013	0.000	APCO	Tehama
VIP248	VIP	Truck Replacement	1	\$ 20,000.00	Lupe Laureano	0.400	0.007	0.000	APCO	Santa Clara
VIP249	VIP	Truck Replacement	1	\$ 35,000.00	James R. Egger Jr.	0.675	0.010	0.000	APCO	Shasta
VIP250	VIP	Truck Replacement	1	\$ 30,000.00	J/W Sanchez Trucking Co., Inc.	0.581	0.009	0.000	APCO	Alameda
<b>37 Projects</b>			<b>53</b>	<b>\$ 2,524,527.00</b>		<b>14.958</b>	<b>1.537</b>	<b>0.670</b>		



**Figure 1: CMP/ MSIF Funding Distribution by Equipment Category as of 9/8/14**

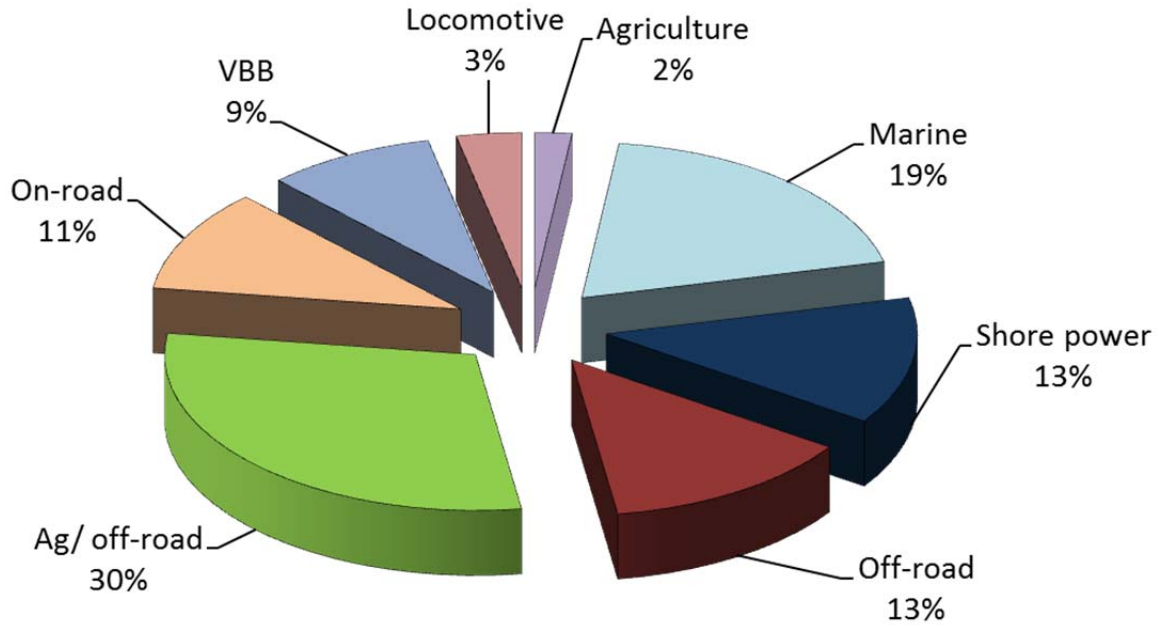


**Figure 2: CMP/ MSIF Funding Distribution by County as of 9/8/14**

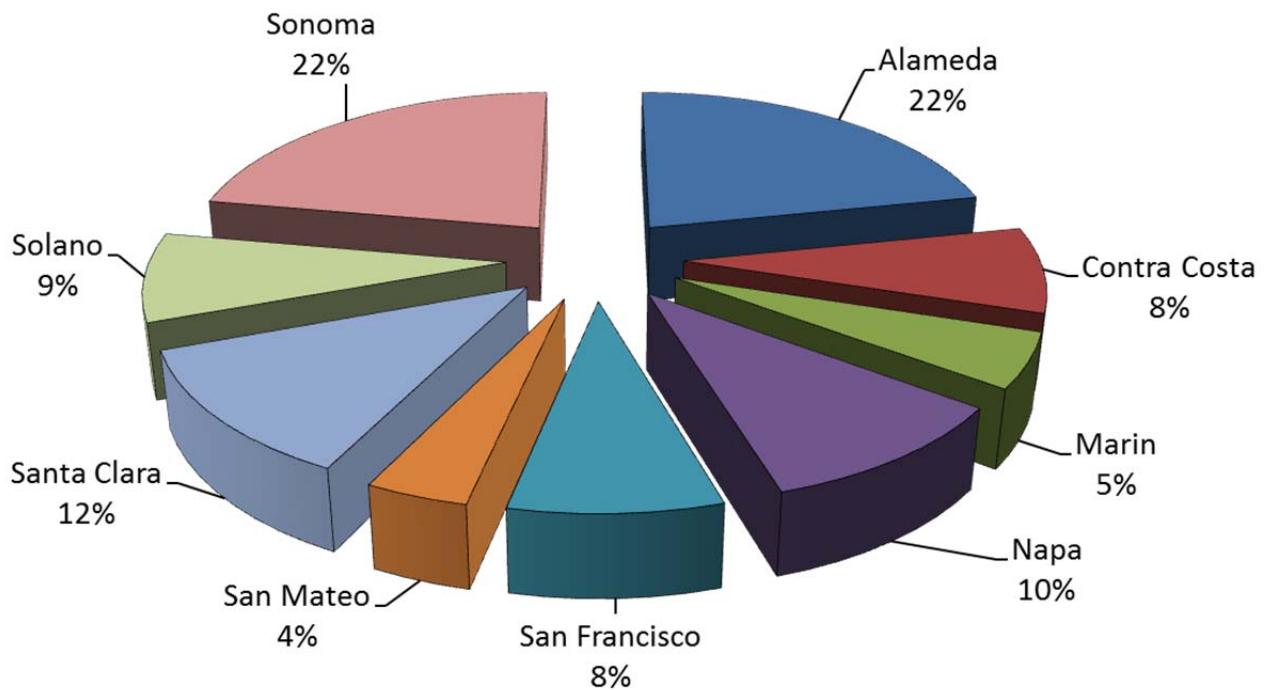


# AGENDA 4 - ATTACHMENT 3

**Figure 3: CMP, MSIF, and VIP funding for Years 11-16 by equipment category**



**Figure 4: CMP, MSIF, and VIP funding for Years 11-16 by county**



## AGENDA 4 - ATTACHMENT 4

*Summary of all TFCA projects (As of 9/8/14)*

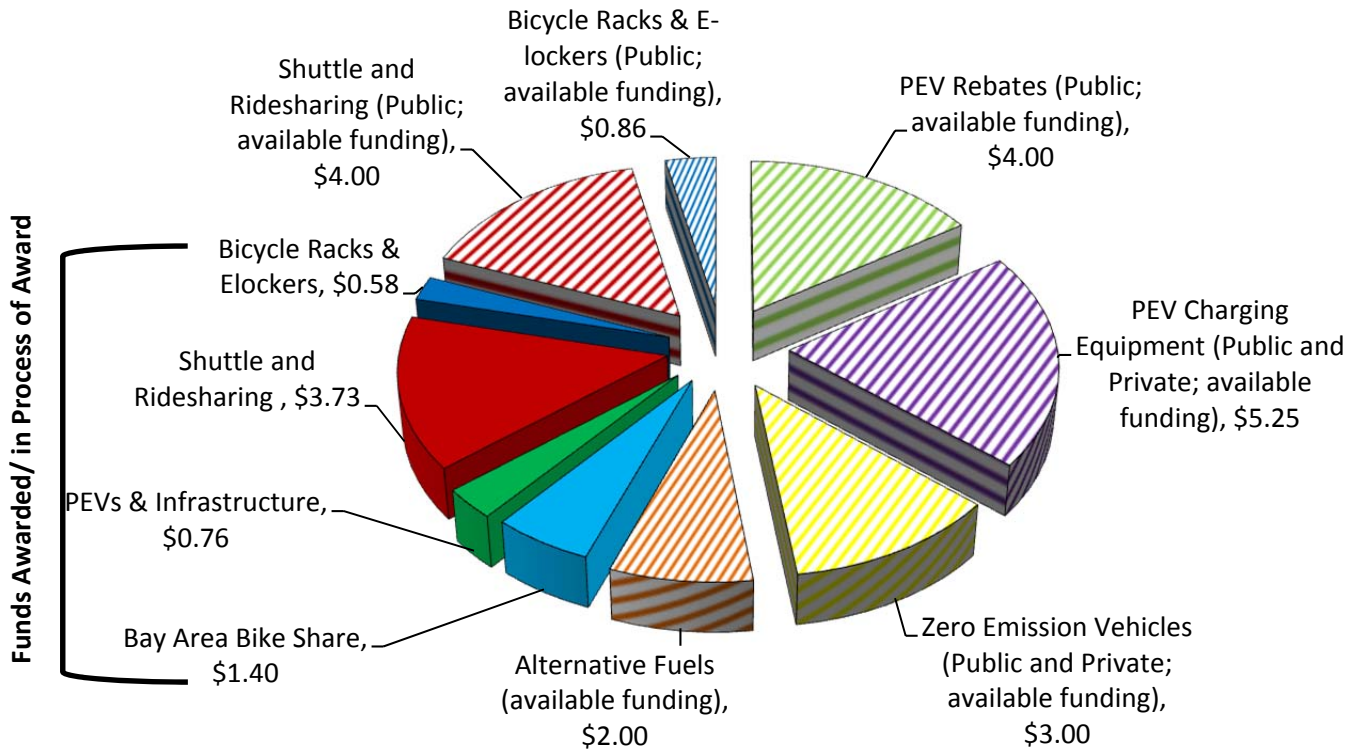
Project #	Equipment category	Project type	Proposed contract award	Applicant name	Emission Reductions (Tons per year)			Board approval date	County
					NO <sub>x</sub>	ROG	PM		
14R07	Shuttle & Rideshare	City of Oakland Broadway Shuttle	\$ 219,518.00	City of Oakland	0.58	0.68	0.67	3/19/14	Alameda
14R08	Shuttle & Rideshare	PresidiGo Downtown Shuttle	\$ 100,000.00	Presidio Trust	0.22	0.35	0.32	3/19/14	San Francisco
14R09	Shuttle & Rideshare	Bay Fair BART Shuttle	\$ 16,400.00	Alameda County	0.02	0.04	0.04	3/19/14	Alameda
14R11	Shuttle & Rideshare	Commuter Shuttle	\$ 143,520.00	The City of Richmond	0.35	0.34	0.34	3/19/14	Contra Costa
14R12	Shuttle & Rideshare	Shuttle/Feeder Bus	\$ 50,600.00	Altamont Corridor Express	0.23	0.33	0.41	3/19/14	Alameda
14R13	Shuttle & Rideshare	82X Levi Express Shuttle	\$ 122,000.00	San Francisco Municipal Transportation Agency (SFMTA)	0.42	0.64	0.92	3/19/14	San Francisco
14R14	Shuttle & Rideshare	Caltrain Shuttle Program	\$ 1,000,000.00	Peninsula Corridor Joint Powers Board	4.95	4.87	5.33	3/19/14	San Mateo
14R16	Shuttle & Rideshare	ACE Shuttle Bus Program	\$ 960,000.00	Santa Clara Valley Transportation Authority	2.48	2.2	2.61	3/19/14	Santa Clara
14R17	Shuttle & Rideshare	511 Rideshare Program	\$ 1,000,000.00	Metropolitan Transportation Commission	9.48	10.42	11.33	3/19/14	REGIONAL
14R18	Shuttle & Rideshare	SJSU Ridesharing & Trip Reduction	\$ 120,000.00	Associated Students, San Jose State University	1.88	1.87	1.81	3/19/14	Santa Clara
14R19	Electronic-Bicycle Locker	WETA Electronic Bicycle Locker Program	\$ 50,000.00	San Francisco Bay Area Water Emergency Transportation Authority	N/A			5/21/14	REGIONAL
14R20	Electronic-Bicycle Locker	Fairfax Parkade E-lockers	\$ 20,000.00	Town of Fairfax	N/A			5/21/2014	Marin
14R21	Electronic-Bicycle Locker	City of San Jose Public Electronic Bicycle Locker Program	\$ 50,000.00	City of San Jose	N/A			5/21/2014	Santa Clara
14R22	Electronic-Bicycle Locker	Electronic Bicycle Lockers	\$ 70,000.00	San Francisco Municipal Transportation Agency	N/A			5/21/2014	San Francisco
14R23	Electronic-Bicycle Locker	Adding E-Lockers at San Leandro BART Station	\$ 70,000.00	City of San Leandro	N/A			5/21/2014	Alameda
14R24	Electronic-Bicycle Locker	Caltrain E-Lockers at Diridon Station	\$ 40,000.00	Peninsula Corridor Joint Powers Board	N/A			5/21/2014	Santa Clara
14R25	Electronic-Bicycle Locker	2014 Santa Clara County Electronic Bicycle Lockers	\$ 40,000.00	Santa Clara County	N/A			5/21/2014	Santa Clara
14R26	Electronic-Bicycle Locker	Three Quads at Ralph Appezzato Memorial Parkway/Webster Street	\$ 30,000.00	City of Alameda Public Works Department	N/A			5/21/14	Alameda
14R27	Electronic-Bicycle Locker	Emeryville Amtrak eLockers	\$ 30,000.00	City of Emeryville	N/A			5/21/2014	Alameda
14R28	Electronic-Bicycle Locker	20th Street Historic Buildings at Pier 70	\$ 40,000.00	Port of San Francisco	N/A			5/21/2014	San Francisco
13BR001	Bicycle Rack Voucher	Purchase of nine (9) bicycle racks	\$ 1,080.00	Dougherty Elementary School	N/A			APCO	Alameda

Project #	Equipment category	Project type	Proposed contract award	Applicant name	Emission Reductions (Tons per year)			Board approval date	County
					NO <sub>x</sub>	ROG	PM		
13BR002	Bicycle Rack Voucher	Purchase of three (3) bicycle racks	\$ 720.00	Old Mill School	N/A			APCO	Marin
13BR003	Bicycle Rack Voucher	Purchase of six (6) bicycle racks	\$ 2,160.00	Reed Union School District	N/A			APCO	Marin
13BR004	Bicycle Rack Voucher	Purchase of thirty-five (35) bicycle racks	\$ 4,200.00	Sausalito Marin City School District	N/A			APCO	Marin
13BR005	Bicycle Rack Voucher	Purchase of ten (10) bicycle racks	\$ 2,400.00	Tamalpais Valley School	N/A			APCO	Marin
13BR006	Bicycle Rack Voucher	Purchase of sixty-eight (68) bicycle racks	\$ 7,812.57	City of Emeryville	N/A			APCO	Alameda
13BR007	Bicycle Rack Voucher	Purchase of ninety-nine (99) bicycle racks	\$ 11,880.00	Tamalpais High School	N/A			APCO	Marin
13BR008	Bicycle Rack Voucher	Purchase of thirty (30) bicycle racks	\$ 3,433.50	Town of Fairfax	N/A			APCO	Marin
13BR009	Bicycle Rack Voucher	Purchase of twenty-two (22) bicycle racks	\$ 2,640.00	Town of Yountville	N/A			APCO	Napa
13BR010	Bicycle Rack Voucher	Purchase of thirty-two (32) bicycle racks	\$ 3,840.00	City of Burlingame-Engineering Division	N/A			APCO	San Mateo
13BR011	Bicycle Rack Voucher	Purchase of twenty-nine (29) bicycle racks	\$ 3,283.62	City of Piedmont	N/A			APCO	Alameda
13BR012	Bicycle Rack Voucher	Purchase of nine (9) bicycle racks	\$ 1,080.00	Town of Corte Madera	N/A			APCO	Marin
13BR013	Bicycle Rack Voucher	Purchase of forty-nine (49) bicycle racks	\$ 11,760.00	Terman Middle School	N/A			APCO	Santa Clara
13BR014	Bicycle Rack Voucher	Purchase of hundred (100) bicycle racks	\$ 12,000.00	University of California San Francisco Medical Center	N/A			APCO	San Francisco
13BR015	Bicycle Rack Voucher	Purchase of fifty-six (56) bicycle racks	\$ 6,720.00	Larkspur-Corte Madera School District	N/A			APCO	Marin
13BR016	Bicycle Rack Voucher	Purchase of fifteen (15) bicycle racks	\$ 1,800.00	City of Petaluma	N/A			APCO	Sonoma
13BR017	Bicycle Rack Voucher	Purchase of seven (7) bicycle racks	\$ 1,680.00	Fremont Unified School District	N/A			APCO	Alameda
13BR018	Bicycle Rack Voucher	Purchase of five (5) bicycle racks	\$ 600.00	Walter T. Helms Middle School	N/A			APCO	Contra Costa
13BR019	Bicycle Rack Voucher	Purchase of eight (8) bicycle racks	\$ 960.00	Town of Corte Madera	N/A			APCO	Marin
13BR020	Bicycle Rack Voucher	Purchase of six (6) bicycle racks	\$ 2,760.00	Burlingame School District	N/A			APCO	San Mateo
13BR021	Bicycle Rack Voucher	Purchase of twenty-five (25) bicycle racks	\$ 2,929.38	Alameda County General Services Agency	N/A			APCO	Alameda

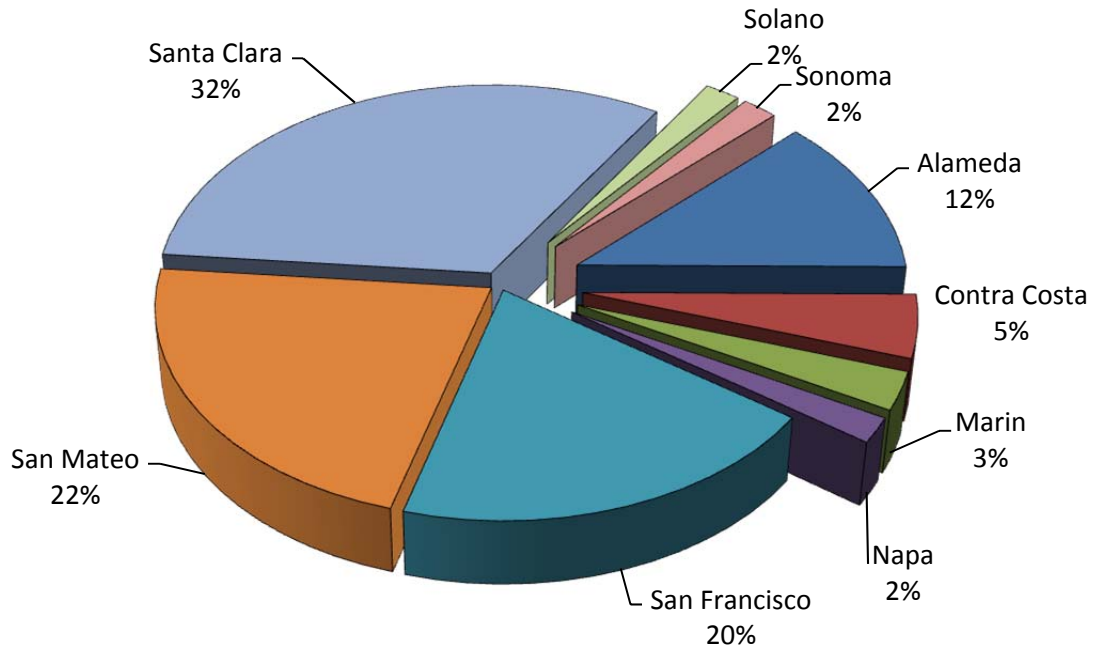
Project #	Equipment category	Project type	Proposed contract award	Applicant name	Emission Reductions (Tons per year)			Board approval date	County
					NO <sub>x</sub>	ROG	PM		
13BR022	Bicycle Rack Voucher	Purchase of one (1) bicycle rack	\$ 360.00	City of Morgan Hill	N/A			APCO	Santa Clara
13BR023	Bicycle Rack Voucher	Purchase of sixty-five (65) bicycle racks	\$ 7,800.00	San Jose Community College	N/A			APCO	Santa Clara
13BR024	Bicycle Rack Voucher	Purchase of thirty-one (31) bicycle racks	\$ 3,720.00	City of Alameda Public Works Department	N/A			APCO	Alameda
13BR025	Bicycle Rack Voucher	Purchase of twenty-four (24) bicycle racks	\$ 3,360.00	City of Richmond	N/A			APCO	Contra Costa
13BR026	Bicycle Rack Voucher	Purchase of eight (8) bicycle racks	\$ 2,520.00	Livermore Valley Joint Unified School District	N/A			APCO	Alameda
13BR027	Bicycle Rack Voucher	Purchase of fourteen (14) bicycle racks	\$ 5,040.00	City of East Palo Alto	N/A			APCO	San Mateo
13BR028	Bicycle Rack Voucher	Purchase of sixty-four (64) bicycle racks	\$ 3,749.76	Alameda County General Services Agency	N/A			APCO	Alameda
13BR029	Bicycle Rack Voucher	Purchase of thirty (30) bicycle racks	\$ 7,200.00	Jordan Middle School	N/A			APCO	Santa Clara
13BR030	Bicycle Rack Voucher	Purchase of twenty-two (22) bicycle racks	\$ 10,320.00	Palo Alto High School	N/A			APCO	Santa Clara
13BR031	Bicycle Rack Voucher	Purchase of twenty-seven (27) bicycle racks	\$ 3,240.00	City of Novato	N/A			APCO	Marin
13BR032	Bicycle Rack Voucher	Purchase of four (4) bicycle racks	\$ 480.00	Marin County Free Library System, Corte Madera Library	N/A			APCO	Marin
13BR033	Bicycle Rack Voucher	Purchase of twelve(12) bicycle racks	\$ 1,440.00	City of Pittsburg	N/A			APCO	Contra Costa
13BR034	Bicycle Rack Voucher	Purchase of thirty (30) bicycle racks	\$ 3,169.50	City of Martinez	N/A			APCO	Contra Costa
13BR035	Bicycle Rack Voucher	Purchase of thirty (30) bicycle racks	\$ 3,600.00	City of Sausalito	N/A			APCO	Marin
13BR036	Bicycle Rack Voucher	Purchase of fifteen (15) bicycle racks	\$ 1,920.00	City of Richmond	N/A			APCO	Contra Costa
14PEV001	PEV Rebate	PEV Rebate for twenty four (24) vehicles	\$ 60,000.00	County of Alameda, General Services Agency	N/A			APCO	Alameda
14EVSE01	EV Charging Equipment	2 DC fast chargers in Redwood City	\$ 40,000.00	Green Charge Networks, LLC	N/A			6/19/2014	San Mateo
15DCFC03*	EV Charging Equipment	2 DC fast chargers in Alameda	\$ 84,911.60	Alameda Municipal Power	N/A			5/21/2014	Alameda
N/A	Bikeshare	3 stations and ~30 bicycles for Redwood City	\$ 140,000.00	Bay Area Bike Share	N/A			6/5/2013	San Mateo
N/A	Bikeshare	15 stations and ~150 bicycles for San Francisco	\$ 700,000.00	Bay Area Bike Share	N/A			6/5/2013	San Francisco
N/A	Bikeshare	12 stations and ~120 bicycles for San Jose, Mountain View, and Palo Alto	\$ 560,000.00	Bay Area Bike Share	N/A			6/5/13	Santa Clara
<b># of Projects:</b>			<b>62</b>	<b>\$ 5,900,607.93</b>	<b>20.61</b>	<b>21.74</b>	<b>23.78</b>		

**Figure 5: TFCA Grant Funding**

(Funds available, awarded, and in the process of award by Program)



**Figure 6: TFCA FYE 2015 Funding Awarded through 9/8/14 by County**



# AGENDA 4 - ATTACHMENT 5

## TFCA Projects Requiring Case-by-Case Approvals

Project Name	Description	TFCA Funds	Est. Total Project Cost	Requested Policy Exemption Proposal
Bay Area Bike Share (BABS) System Expansion to Oakland	Deploy 700 bicycles and 70 stations	\$900,616	\$18,758,121	<b>Policy 7.</b> Limits operating costs to two years. Alameda CTC proposes to fund five years of operating costs to meet the cost-effectiveness threshold of \$500,000/ton.
BABS System Expansion to Berkeley	Deploy 400 bicycles and 34 stations	\$317,000	\$10,485,106	<b>Policy 7.</b> Limits operating costs to two years. Alameda CTC proposes to fund five years of operating costs to meet the cost-effectiveness threshold of \$500,000/ton.
Mountain View BABS System Expansion	Deploy one station (13 bikes, 23 docks).	\$141,640	\$185,350	<b>Policy 7.</b> Limits operating costs to two years. VTA proposes to fund five years of operating costs to meet the cost-effectiveness threshold of \$500,000/ton.
LAVTA Route 54 Shuttle Operations	Operate LAVTA Route 54 shuttle between Pleasanton ACE Rail Station and West Dublin BART Station.	\$23,500	\$168,541	<b>Policy 2.</b> Requires cost-effectiveness at 90,000/ton of emissions reduced or less. Staff proposes to use FYE 2014 funds to fund the second year at a cost-effectiveness that aligns with the Regional Fund.

**BAY AREA AIR QUALITY MANAGEMENT DISTRICT**

## Memorandum

To: Chairperson Scott Haggerty and  
Members of the Mobile Source Committee

From: Jack P. Broadbent  
Executive Officer/APCO

Date: September 8, 2014

Re: Update on Hydrogen Station Infrastructure and Vehicles

**RECOMMENDED ACTION:**

None; receive and file.

**BACKGROUND**

In 1990, the California Air Resources Board (CARB) launched an initiative to introduce zero-emission vehicles (ZEV) to reduce pollution and improve public health. Today, it is part of a larger effort to improve air quality and to reduce greenhouse gases that contribute to climate change while minimizing petroleum dependence and increasing energy security.

Fuel Cell Electric Vehicles (FCEVs) are part of a portfolio of choices that include battery electric vehicles, low carbon fuels, and public transit that will reduce transportation's impact on the environment. FCEVs powered by hydrogen are zero-emission vehicles that reduce pollution, greenhouse gases, and dependence on petroleum. FCEVs run on electricity created on-board from chemically-reacting hydrogen and oxygen. Hydrogen is stored in the vehicle as a compressed gas; and FCEVs take 5 to 7 minutes to fill. Each full tank provides a range similar to a gasoline-powered vehicle (250-400 miles).

Hydrogen is nontoxic, noncorrosive, environmentally benign, and can be produced locally from a variety of sources including natural gas, biogas and electrolysis of water. Hydrogen is safe and widely used as an industrial gas. In a FCEV, hydrogen is at least 60% more energy efficient than gasoline in a conventional vehicle. Hydrogen is supplied at stations that are usually co-located with existing gas stations. The dispensers appear very similar to gasoline dispensers, but have a nozzle designed for a compressed gas. Also, some stations make hydrogen onsite and others have fuel delivered.

In 2012 the California Fuel Cell Partnership (CAFCP) published "*A California Road Map*<sup>1</sup>," which represents a collaborative and collective effort by stakeholders from industry, academia, non-governmental organizations and government to design a pragmatic road map for hydrogen

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<sup>1</sup> California Fuel Cell Partnership, "*A California Roadmap*", 2012, [http://cafcp.org/sites/files/A%20California%20Road%20Map%20June%202012%20%28CaFCP%20technical%20version%29\\_1.pdf](http://cafcp.org/sites/files/A%20California%20Road%20Map%20June%202012%20%28CaFCP%20technical%20version%29_1.pdf)



station placement in California. This station placement would enable the deployment of tens of thousands of fuel cell electric vehicles in California. *A California Road Map* outlines the necessary steps for the vehicle and infrastructure to progress through pre-commercialization (2012-2014) and early commercialization (2015-2017). It also incorporates the best available information from each of the stakeholders, including market-based assessments, models, and tools, as well as professional experience with launching advanced vehicles and new infrastructure. As the number of vehicles increases, stations must grow in number and capacity to keep up with the fuel demand. *A California Road Map* lays out the path to successfully launch early commercial deployment of vehicles and infrastructure, an early milestone towards long-term market success and prescribes a minimum network of hydrogen stations to establish the foundation for commercial FCEV volumes and broad consumer adoption.

On March 23, 2012, Governor Jerry Brown signed Executive Order B-16-2012 which directs state agencies to support and facilitate the rapid commercialization of ZEVs. The order directs CARB, California Energy Commission (CEC), Public Utilities Commission, and other relevant agencies to work with the Plug-in Electric Vehicle Collaborative and CAFCP in working towards three major milestones:

- **2015** – Communities will be ready for plug-in and hydrogen vehicles and infrastructure
- **2020** – California will have established adequate infrastructure to support 1 million ZEVs
- **2025** – More than 1.5 million ZEVs will be on the roads and the market is expanding

As part of this presentation the Committee will hear an update on hydrogen station infrastructure and vehicles from Tyson Eckerle, who serves as the Zero Emission Infrastructure Project Manager to support hydrogen infrastructure and PEV charging development in the Governor's office of Business and Economic Development.

## DISCUSSION

In *A California Road Map*, CAFCP staff, researchers from UC Irvine, and automaker stakeholders used the following approaches to identifying the locations of the initial hydrogen stations that will help launch the FCEV market. The state-wide network (68 total stations) consists of 45 stations in the 5 cluster regions, and 23 stations that are needed to expand the clusters into a regional network. The clusters regions identified state-wide are:

1. Berkeley
2. South San Francisco Bay Area
3. Santa Monica and West Los Angeles
4. Torrance and nearby coastal communities
5. Irvine and southern Orange County

A robust network of hydrogen stations within each cluster has been defined as the number and location of strategically located hydrogen stations that a driver can access in six minutes or less of driving, which equates to having hydrogen outlets at 5-7 percent of the existing gasoline stations in the cluster area. A six-minute maximum travel time is based on previous optimization research, driver behavior surveys and a need to balance network coverage with network cost.

Hydrogen stations that provide connectivity from a target region to typical destinations, including destinations which are expected to also serve as early-adopter markets, have been identified based on an understanding of where drivers in the target regions typically drive for vacations, excursions, or business. Additional stations will be added to the network as the FCEV market grows.

Attachment 1, contains maps of the planned California Hydrogen Station network, and the Bay Area network. Currently, the Emeryville – AC Transit station is the only active hydrogen station in the Bay Area, but 15 additional stations are in development. In July 2014 the CAFCP published an update to the Road Map, titled “2014 Update: Hydrogen Progress, Priorities and Opportunities (HyPPO) Report.”<sup>2</sup> Figure 1 shows the current hydrogen station network progress by cluster. The San Francisco/ South Bay Area cluster has several stations planned/ funded, but the Berkeley cluster is progressing slower than the other clusters.

**Figure 1:** Hydrogen station network progress by cluster (2014)

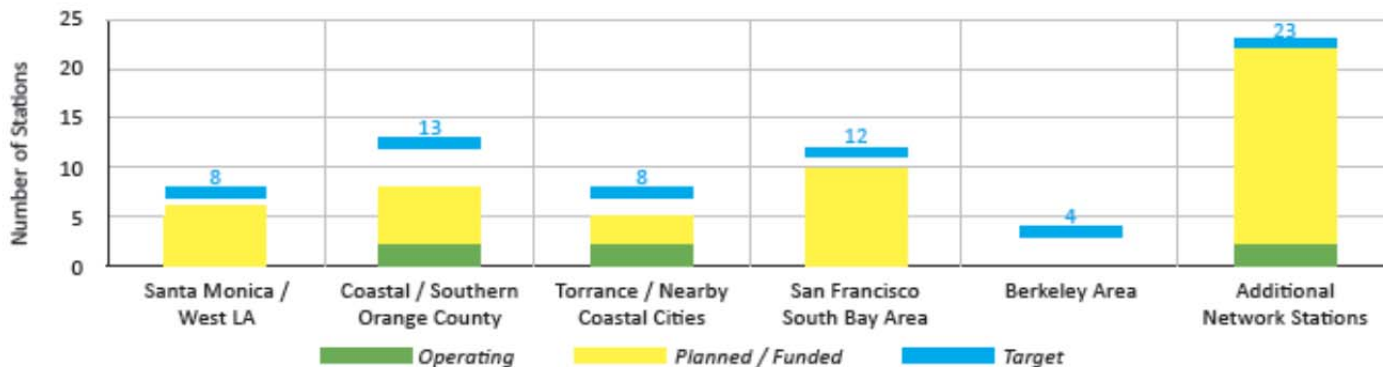


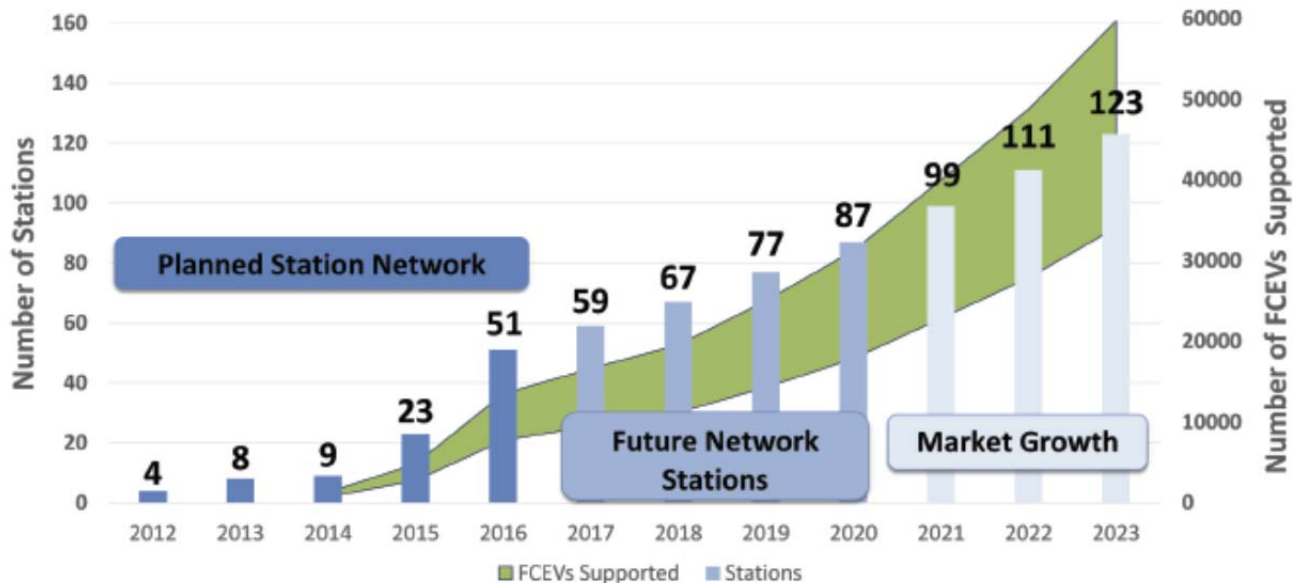
Figure 2, shows the current and estimated progress to plan with 23 stations operating in California in 2015 and reaching 68 stations in 2018-2019. From a capacity perspective, the projected 67 stations operating in 2018 would be able to support between 11,000-19,500 vehicles.

In June 2014, Hyundai became the first manufacturer to offer a mass-produced FCEV in the U.S. market (at Southern California dealers). Toyota and Honda have introduced FCEV concept vehicles and plan to launch vehicles in the U.S. in 2015. To further support the development of FCEV technology, automakers formed collaborations and partnerships to share technological expertise, leverage economies of scale, establish common-sourcing strategies and address challenges such as supplier development and infrastructure development.

<sup>2</sup> California Fuel Cell Partnership, “2014 Update: Hydrogen Progress, Priorities and Opportunities (HyPPO) Report.”, July 2014, <http://cafcp.org/sites/files/Roadmap-Progress-Report2014-FINAL.pdf>

From March 2006, through mid-2010, Alameda County Transit (AC Transit) operated three fuel cell buses, logging over 270,000 miles and carrying over 700,000 passengers, all while achieving significantly greater overall energy efficiency than diesel buses. AC Transit is currently operating twelve, third-generation fuel cell buses. The new buses feature a redesigned chassis that is 5,000 pounds lighter than the earlier buses. Each new bus is powered by a 120 kW fuel cell power system, and an advanced lithium ion energy storage system. Hydrogen tanks on the roof give the bus a range of 220 to 240 miles, and batteries recharged during braking can provide extra power for acceleration and climbing steep grades. AC Transit also participates in Zero Emission Bay Area (ZEBA) which is a group of regional transit agencies jointly operating twelve, zero-emission, fuel cell buses in real-world service throughout the Bay Area’s diverse communities and landscapes. It includes: AC Transit, Golden Gate Transit, MUNI, Samtrans, and VTA.

**Figure 2:** Hydrogen station network and estimated FCEVs supported



**State funding**

Since 2010, the CEC has provided approximately \$90 million for 48 stations (including a mobile refueler which will serve both northern and southern California). In the Bay Area, 14 stations are being constructed for light-duty vehicles. Additionally, a station for public transit buses is being constructed at the AC Transit location in Oakland (\$3 million in CEC funding). The CEC has contributed to a jointly funded program for a hydrogen quality tester for the stations, both in the Bay Area and Southern California. The CEC has also funded three demonstration fuel cell bus and trucks projects across the state totaling \$4 million (Ballard fuel cell bus, BAE – Sunline Transit, and CTE-EVI-Hydrogenics MD package delivery vans for UPS).

The passage of Assembly Bill 8 (Perea, 2013) re-authorized multiple statewide programs through 2023, including the CARB Air Quality Incentive Program (AQIP) and the CEC Alternative and Renewable Fuel & Vehicle Technology Program (ARFVTP). AB 8 addresses hydrogen by funding the initial network of stations identified in the roadmap. The bill includes a provision to

fund at least 100 hydrogen stations with a commitment of up to \$20 million a year through the CEC ARFVTP. Also, the ARB AQIP Clean Vehicle Rebate Project (CVRP) provides a \$5,000 rebate for customers purchasing or leasing a light-duty FCEV.

*District efforts*

The Air District received a \$1 million grant from the U.S. Department of Energy (DOE) for its California Fleets and Workplace Alternative Fuels Project in 2013, which will target and remedy obstacles to alternative fuel vehicle adoption in California's public and private fleets. The issues being addressed under this project to advance deployment of hydrogen vehicles are: policies, barrier reduction, safety and training, and market development/outreach. Under this grant the Air District has produced a Hydrogen Readiness Best Practices document and website, and conducted training to Clean Cities Coalitions and first responders on hydrogen fueling.

The Air District plans to open a solicitation in late 2014 (or early 2015) for alternative fuel vehicle and infrastructure projects. Hydrogen fuelling station infrastructure is expected to be an eligible project type under this program. Staff will update the committee in a future meeting on the program, and will request approval of amendments necessary to implement this program. This program will supplement CEC funding, which covers 65%-75% of the hydrogen fueling station costs. However, these stations can cost between \$2.5 and \$3 million and in many cases additional funding is necessary to supplement the CEC funds to ensure the stations are completed.

BUDGET CONSIDERATION / FINANCIAL IMPACT:

None.

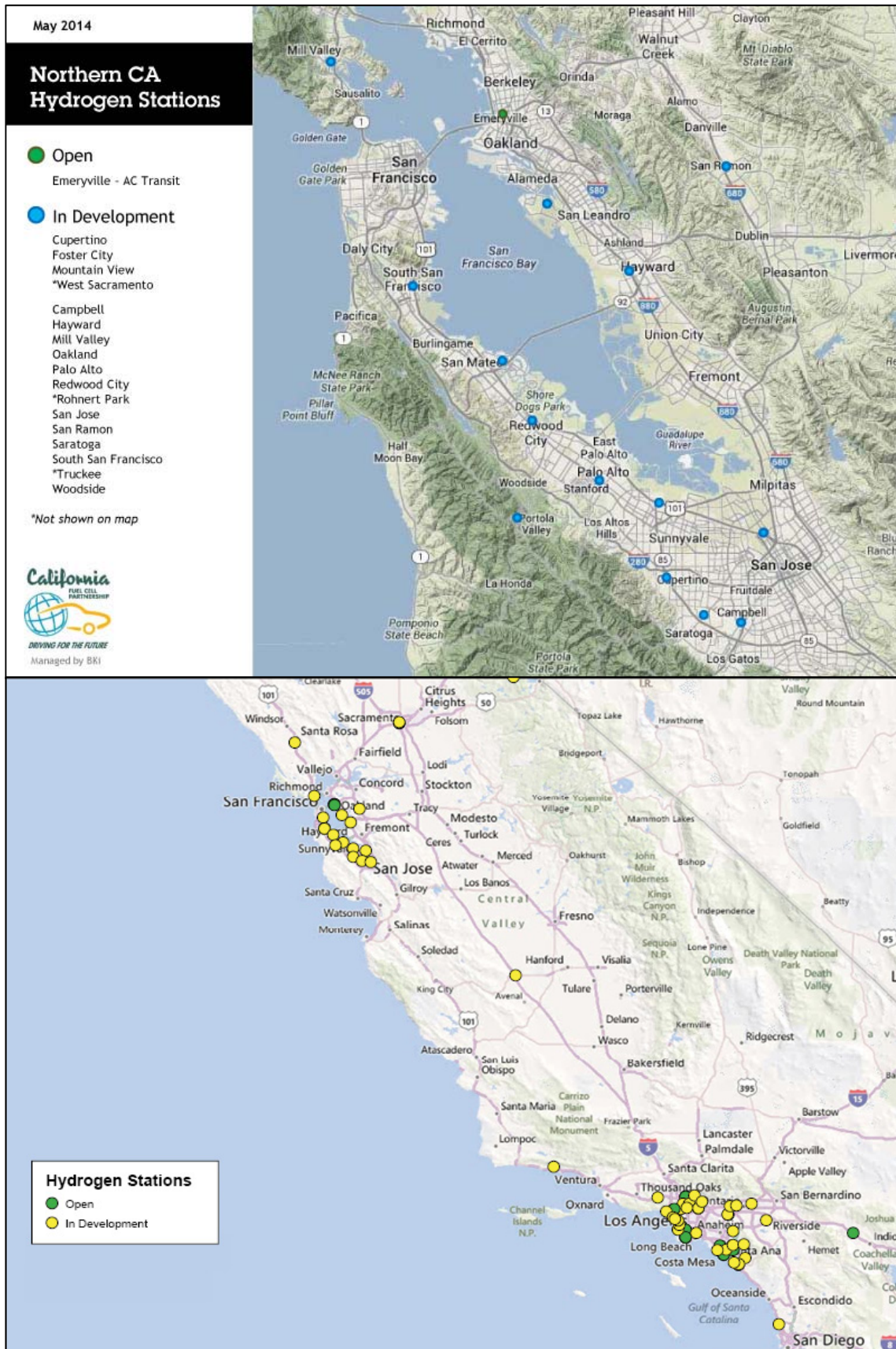
Respectfully submitted,

Jack P. Broadbent  
Executive Officer/APCO

Prepared by: Anthony Fournier  
Reviewed by: Damian Breen

Attachment 1 - Hydrogen Fueling Stations: Existing, In Development

# Agenda 5 - Attachment 1 - Hydrogen Fueling Stations: Existing, In Development





**BAY AREA AIR QUALITY MANAGEMENT DISTRICT**

## Memorandum

To: Chairperson Scott Haggerty and  
Members of the Mobile Source Committee

From: Jack P. Broadbent  
Executive Officer/APCO

Date: September 8, 2014

Re: Update on Plug-in Electric Vehicle (PEV) and Infrastructure Program

**RECOMMENDED ACTION:**

None; receive and file.

**BACKGROUND**

In the Bay Area, the transportation sector accounts for about half of the air pollution and greenhouse gases (GHGs) generated in the region. Since tailpipe emissions contribute significantly to criteria pollutants and GHGs, emission reductions from the on-road transportation sector are essential to helping the Bay Area attain State and Federal ambient air quality standards and meet our GHG reduction commitments. For this reason and given that there are more than 5.5 million on-road vehicles in the Bay Area, staff sees plug-in electric vehicles (PEVs) as a promising technology to meeting local, State, and Federal criteria pollutant and GHG emission reduction targets.

Since the 1990s, the Bay Area Air Quality Management District (Air District) has been a leader in the promotion of PEVs. Between 2013 and 2014, the Air District's Board of Directors authorized and committed \$12.75 million in funding for projects that will accelerate deployment of PEVs and charging infrastructure through 2016. This investment builds on the previous allocation of \$5 million authorized by the Board of Directors in August 2010 that resulted in the deployment of approximately 200 publicly available Level 2<sup>1</sup> charging stations and 1,500 residential home charging stations.

Funding for the PEV Program comes from the Transportation Fund for Clean Air (TFCA) which collects a \$4 surcharge on registered motor vehicles within the nine-county Bay Area to fund projects that reduce on-road motor vehicle emissions. The statutory authority for the TFCA and requirements of the program are set forth in California Health and Safety Code (HSC) Sections 44241 and 44242. Sixty percent of TFCA funds are awarded by the Air District to eligible programs implemented directly by the Air District (e.g., the PEV Program, Spare the Air) and through a grant program known as the Regional Fund. The remaining forty percent of TFCA funds are forwarded to a designated agency within each Bay Area county to be distributed via the County Program Manager Fund.

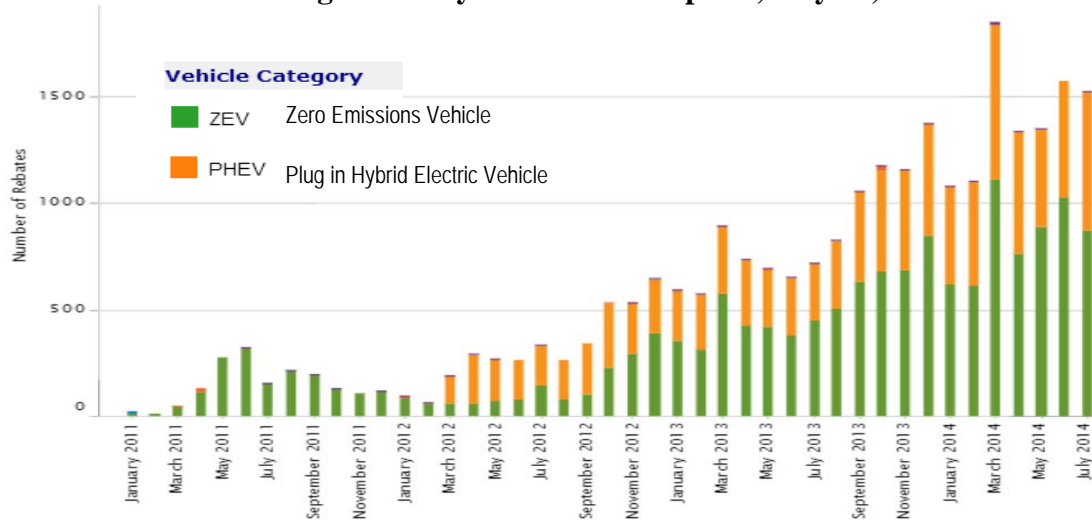
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<sup>1</sup> Level 2 electrical charging infrastructure is powered by a 240 Volt Alternating Current (AC) power supply, and can provide ~10-36 miles of range per hour of charging.

## DISCUSSION

As of July 31, 2014, the Bay Area is home to more than 33,000 PEVs.<sup>2</sup> While this represents 36% of the PEVs statewide, it is less than 1% of the Bay Area's total fleet. Figure 1 shows the PEVs purchased or leased within the Bay Area since 2011, based on data provided by the California Center for Sustainable Energy, administrators of the Air Resources Board's California Vehicle Rebate Project (CVRP).

**Figure 1. Bay Area PEV Adoption, July 31, 2014**



To help accelerate PEV adoption in the Bay Area, the Air District, in partnership with the Metropolitan Transportation Commission and the Association of Bay Area Governments, developed the *Bay Area Plug-In Electric Vehicle Readiness Plan*<sup>3</sup>. Co-sponsored by the Department of Energy and the California Energy Commission, this plan contains strategies, best practices, and readiness guidance to help the Bay Area achieve targets of 110,000 PEVs on Bay Area roads by 2020, and 247,000 PEVs by 2025.

In order to meet the 2020 and 2025 targets and to support the required exponential growth of PEV adoption, the 2013 Plan projects that the Bay Area will need at least 75-150 Direct Current (DC)<sup>4</sup> fast charging stations and 4,370 Level 1<sup>5</sup> and Level 2 publicly available charging stations by 2015 (Figure 2).

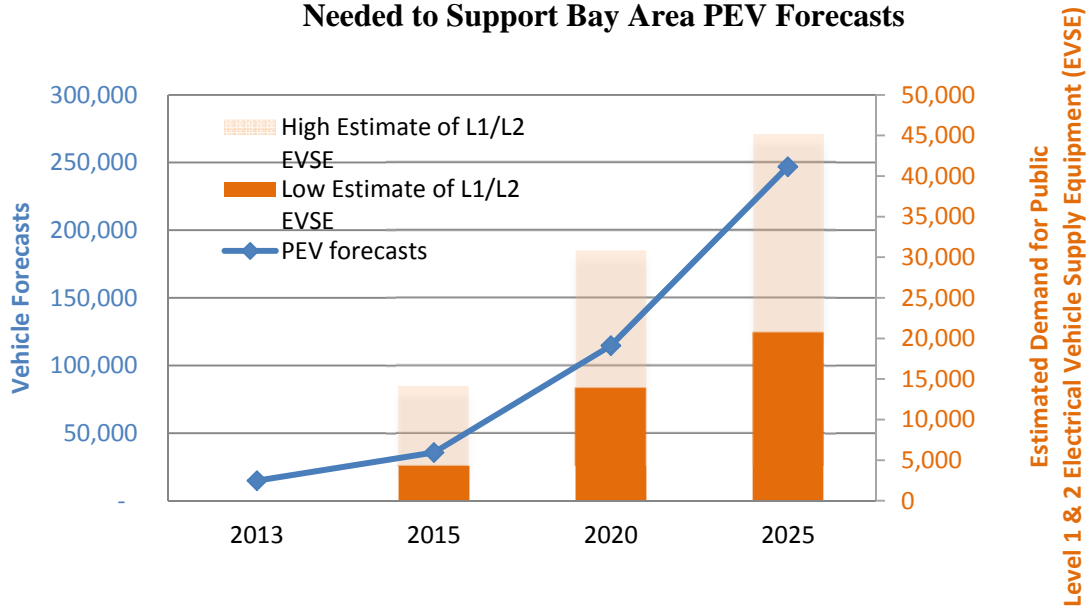
<sup>2</sup> Based on reported CVRP data as of August 21, 2014 and assumed 76% of PEV drivers obtained a rebate based on the CVRP Final Report FY 12/13 (CCSE 2013).

<sup>3</sup> The *Bay Area Plug-In Electric Vehicle Readiness Plan* is available at: [www.baaqmd.gov/EVready](http://www.baaqmd.gov/EVready)

<sup>4</sup> DC fast charging infrastructure is powered by a 200-500 Volt Direct Current (DC) power supply, and can generally charge a PEV battery to 80% of its capacity in less than 30 minutes.

<sup>5</sup> Level 1 electrical charging infrastructure is powered by a 120 V Alternating Current (AC) power supply, and can provide ~4-6 miles of range per hour of charging.

**Figure 2. Publicly-Available Infrastructure Estimates Needed to Support Bay Area PEV Forecasts**



*Air District PEV Outreach and Incentive Programs:*

For the past three years, the Air District has participated in the California PEV Collaborative, a membership of approximate 40 public/private organizations, working to accelerate adoption of PEVs in California. Air District staff has participated in PEV Collaborative workgroups that have developed two guides to assist decision-makers at workplaces and multi-unit dwellings (MuD) with the installation process. The PEV Collaborative is currently expanding its outreach effort (e.g., meetings, article placements) to workplaces and MuD stakeholders and is in the process of developing a collection of MuD case studies.

The Air District is also involved in direct outreach efforts to promote PEV adoption in the Bay Area. Table 1, shows conducted/scheduled Bay Area outreach meetings this year:

**Table 1. Bay Area PEV Outreach Meetings**

Meeting	Date
Building Owners and Managers Association (BOMA) Silicon Valley – EV Charging Station How-to-Workshop (Santa Clara, CA)	July 9, 2014
EV Rally (Cupertino, CA)	September 20, 2014
MuD Charging Webinar	October 1, 2014
International Facility Management Association (IFMA) Meeting (San Francisco, CA)	October 2, 2014
Electric Vehicle Auto Association	October 7, 2014 (tentative)
Workplace Charging Webinar	October 9, 2014



As a result of the 2013 and 2014 allocation, the Air District has approved funding for PEV projects in the amount of \$184,912 and received \$500,000 in funding from the California Energy Commission. Air District staff will present a summary of the projects and programs that have been funded to date and planned for later this year.

BUDGET CONSIDERATION / FINANCIAL IMPACT:

None. The Air District distributes program monies as “pass-through” funds on a reimbursement basis. Administrative costs for project staffing are provided by the Air District’s TFCA program.

Respectfully submitted,

Jack P. Broadbent  
Executive Officer/APCO

Prepared by: Linda Hui  
Reviewed by: Karen Schkolnick