BAY AREA AIR QUALITY MANAGEMENT DISTRICT

BOARD OF DIRECTORS
MOBILE SOURCE AND CLIMATE IMPACTS COMMITTEE

COMMITTEE MEMBERS

DAVID CANEPA – CO-CHAIR
ROB RENNIE – VICE CHAIR
PAULINE RUSSO CUTTER
LYNDA HOPKINS
DAVINA HURT
LORI WILSON
KATIE RICE – CO-CHAIR
MARGARET ABE-KOGA
JOHN GIOIA
DAVE HUDSON
KAREN MITCHOFF

THIS MEETING WILL BE CONDUCTED UNDER PROCEDURES AUTHORIZED BY EXECUTIVE ORDER N-29-20 ISSUED BY GOVERNOR GAVIN NEWSOM

- **THE PUBLIC MAY OBSERVE THIS MEETING THROUGH THE WEBCAST BY CLICKING THE LINK AVAILABLE ON THE AIR DISTRICT'S AGENDA WEBPAGE AT**

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https://bayareametro.zoom.us/j/84359837065

(669) 900-6833 or (408) 638-0968

WEBINAR ID: 843 5983 7065

- **THOSE PARTICIPATING BY PHONE WHO WOULD LIKE TO MAKE A COMMENT CAN USE THE "RAISE HAND" FEATURE BY DIALING "*9". IN ORDER TO RECEIVE THE FULL ZOOM EXPERIENCE, PLEASE MAKE SURE YOUR APPLICATION IS UP TO DATE**

THURSDAY
JUNE 24, 2021
9:30 A.M.

AGENDA

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

   PLEDGE OF ALLEGIANCE

   PUBLIC MEETING PROCEDURE

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

   This meeting will be webcast. To see the webcast, please visit www.baaqmd.gov/bodagendas at the time of the meeting. Closed captioning may contain errors and omissions and are not certified for their content or form.

   Public Comment on Agenda Items *The public may comment on each item on the agenda as the item is taken up. Members of the public who wish to speak on matters on the agenda for the meeting, will have three minutes each to address the Committee. No speaker who has already spoken on that item will be entitled to speak to that item again.*

   Staff/Phone (415) 749-

CONSENT CALENDAR (ITEM 2)

2. **APPROVAL OF THE MINUTES OF MAY 27, 2021**

   Clerk of the Boards/5073

   The Committee will consider approving the attached draft minutes of the Mobile Source and Climate Impacts Committee meeting of May 27, 2021.

END OF CONSENT CALENDAR

REGULAR AGENDA (ITEMS 3-5)

3. **PROJECTS AND CONTRACTS WITH PROPOSED GRANT AWARDS OVER $100,000**

   A. Davis/8713
   adavis@baaqmd.gov

   The Committee will consider recommending the Board of Directors approve the award of the Carl Moyer Program (CMP) and Transportation Fund for Clean Air (TFCA) funding to projects with proposed grant awards in excess of $100,000 and authorize the Executive Officer/APCO to execute grant agreements for the recommended projects.

4. **LIGHT-DUTY ELECTRIC VEHICLE CHARGING PROGRAMS AND CHARGE! PROJECTS**

D. Yee/5018
dyee@baaqmd.gov

The Committee will receive an update on the 2021 Charge! Program and other light-duty electric vehicle charging programs. The Committee will consider recommending the Board of the Directors approve the Charge! Program rank list and recommended projects with proposed grant awards and authorize the Executive Officer/APCO to execute grant agreements for the recommended projects.

5. **BAY AREA ELECTRIC VEHICLE (EV) ACCELERATION PLAN UPDATE**

K. White/8662
kwhite@baaqmd.gov

The Committee will receive an update on the Bay Area EV Acceleration Plan.

END OF REGULAR AGENDA

6. **PUBLIC COMMENT ON NON-AGENDA MATTERS**

Members of the public who wish to speak on matters not on the agenda for the meeting, will have three minutes each to address the Committee.

7. **COMMITTEE MEMBER COMMENTS**

Any member of the Committee, 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, July 22, 2021, at 9:30 a.m. via webcast, pursuant to procedures authorized by Executive Order N-29-20 issued by Governor Gavin Newsom.

9. **ADJOURNMENT**

The Committee meeting shall be adjourned by the Committee Co-Chairs.

CONTACT:
MANAGER, EXECUTIVE OPERATIONS **(415) 749-4941**
375 BEALE STREET, SAN FRANCISCO, CA 94105 **FAX: (415) 928-8560**
vjohnson@baaqmd.gov **BAAQMD homepage:**
www.baaqmd.gov

- 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 Air District's offices at 375 Beale Street, Suite 600, San Francisco, CA 94105, at the time such writing is made available to all, or a majority of all, members of that body.

Accessibility and Non-Discrimination Policy

The Bay Area Air Quality Management District (Air District) does not discriminate on the basis of race, national origin, ethnic group identification, ancestry, religion, age, sex, sexual orientation, gender identity, gender expression, color, genetic information, medical condition, or mental or physical disability, or any other attribute or belief protected by law.

It is the Air District's policy to provide fair and equal access to the benefits of a program or activity administered by Air District. The Air District will not tolerate discrimination against any person(s) seeking to participate in, or receive the benefits of, any program or activity offered or conducted by the Air District. Members of the public who believe they or others were unlawfully denied full and equal access to an Air District program or activity may file a discrimination complaint under this policy. This non-discrimination policy also applies to other people or entities affiliated with Air District, including contractors or grantees that the Air District utilizes to provide benefits and services to members of the public.

Auxiliary aids and services including, for example, qualified interpreters and/or listening devices, to individuals who are deaf or hard of hearing, and to other individuals as necessary to ensure effective communication or an equal opportunity to participate fully in the benefits, activities, programs and services will be provided by the Air District in a timely manner and in such a way as to protect the privacy and independence of the individual. Please contact the Non-Discrimination Coordinator identified below at least three days in advance of a meeting so that arrangements can be made accordingly.

If you believe discrimination has occurred with respect to an Air District program or activity, you may contact the Non-Discrimination Coordinator identified below or visit our website at www.baaqmd.gov/accessibility to learn how and where to file a complaint of discrimination.

Questions regarding this Policy should be directed to the Air District's Non-Discrimination Coordinator, Terri Levels, at (415) 749-4667 or by email at tlevels@baaqmd.gov

BAY AREA AIR QUALITY MANAGEMENT DISTRICT
375 BEALE STREET, SAN FRANCISCO, CA 94105
FOR QUESTIONS PLEASE CALL (415) 749-4941

EXECUTIVE OFFICE:
MONTHLY CALENDAR OF AIR DISTRICT MEETINGS

JUNE 2021

TYPE OF MEETING	DAY	DATE	TIME	ROOM
Board of Directors Stationary Source and Climate Impacts Committee	Monday	21	9:00 a.m.	Webcast only pursuant to Executive Order N-29-20
Board of Directors Mobile Source and Climate Impacts Committee	Thursday	24	9:30 a.m.	Webcast only pursuant to Executive Order N-29-20
Board of Directors Special Meeting	Friday	25	3:30 p.m.	Webcast only pursuant to Executive Order N-29-20

JULY 2021

TYPE OF MEETING	DAY	DATE	TIME	ROOM
Board of Directors Community Equity, Health and Justice Committee	Thursday	1	9:30 a.m.	Webcast only pursuant to Executive Order N-29-20
Board of Directors Special Meeting as the Sole Member of the Bay Area Clean Air Foundation	Wednesday	7	9:00 a.m.	Webcast only pursuant to Executive Order N-29-20
Board of Directors Meeting	Wednesday	7	9:30 a.m.	Webcast only pursuant to Executive Order N-29-20
Board of Directors Stationary Source and Climate Impacts Committee	Monday	19	9:00 a.m.	Webcast only pursuant to Executive Order N-29-20
Board of Directors Special Meeting as the Sole Member of the Bay Area Clean Air Foundation – CANCELLED & RESCHEDULED TO WEDNESDAY, JULY 7, 2021 at 9:00 A.M.	Wednesday	21	9:00 a.m.	Webcast only pursuant to Executive Order N-29-20
Board of Directors Special Meeting	Wednesday	21	8:30 a.m.	Webcast only pursuant to Executive Order N-29-20
Board of Directors Administration Committee – CANCELLED	Wednesday	21	9:30 a.m.	Webcast only pursuant to Executive Order N-29-20
Board of Directors Legislative Committee - CANCELLED	Wednesday	21	1:00 p.m.	Webcast only pursuant to Executive Order N-29-20
Board of Directors Mobile Source and Climate Impacts Committee	Thursday	22	9:30 a.m.	Webcast only pursuant to Executive Order N-29-20

BAY AREA AIR QUALITY MANAGEMENT DISTRICT
Memorandum

To: Chairpersons David Canepa and Katie Rice, and Members of the Mobile Source and Climate Impacts Committee

From: Jack P. Broadbent
Executive Officer/APCO

Date: June 10, 2021

Re: Approval of the Minutes of May 27, 2021

RECOMMENDED ACTION

Approve the attached draft minutes of the Mobile Source and Climate Impacts Committee (Committee) meeting of May 27, 2021.

DISCUSSION

Attached for your review and approval are the draft minutes of the Mobile Source and Climate Impacts Committee meeting of May 27, 2021.

Respectfully submitted,

Jack P. Broadbent
Executive Officer/APCO

Prepared by: Marcy Hiratzka
Reviewed by: Vanessa Johnson

Attachment 2A: Draft Minutes of the Mobile Source and Climate Impacts Committee Meeting of May 27, 2021

Bay Area Air Quality Management District
375 Beale Street, Suite 600
San Francisco, California 94105
(415) 749-5073

DRAFT MINUTES

Summary of Board of Directors
Mobile Source and Climate Impacts Committee Meeting
Thursday, May 27, 2021

This meeting was conducted under procedures authorized by executive order N-29-20 issued by Governor Gavin Newsom. Members of the Committee participated by teleconference.

1. CALL TO ORDER – ROLL CALL

Mobile Source and Climate Impacts Committee (Committee) Co-Chairperson, Katie Rice, called the meeting to order at 9:30 a.m.

Present: Co-Chairpersons David Canepa and Katie Rice; and Directors John Gioia, Lynda Hopkins, David Hudson, Davina Hurt, Karen Mitchoff, and Lori Wilson.

Absent: Vice Chairperson Rob Rennie; Directors Margaret Abe-Koga, and Pauline Russo Cutter.

Also Present: None.

2. APPROVAL OF THE MINUTES OF MEETING OF APRIL 22, 2021

Public Comments

No requests received.

Committee Comments

None.

Committee Action

Co-Chair Canepa made a motion, seconded by Director Mitchoff, to **approve** the Minutes of the Meeting of April 22, 2021; and the motion carried by the following vote of the Committee:

AYES:	Canepa, Gioia, Hopkins, Hudson, Hurt, Mitchoff, Rice, Wilson.
NOES:	None.
ABSTAIN:	None.
ABSENT:	Abe-Koga, Cutter, Rennie.

3. PROJECTS AND CONTRACTS WITH PROPOSED GRANT AWARDS OVER $100,000

Ken Mak, Supervising Staff Specialist, gave the staff presentation *Projects and Contracts with Proposed Awards over $100,000,* including: outcome; outline; requested action; Carl Moyer Program (CMP)/Mobile Source Incentive Fund (MSIF), Community Air Protection Program (CAPP), and Funding Agricultural Replacement Measures for Emissions Reductions (FARMER); TFCA; incentive funding awarded and recommended since July 2020 by revenue source, project category, and county; and feedback requested/prompt.

Public Comments

Public comments were given by Sara Greenwald, 350 Bay Area; Michael Stevenson, San Mateo County Transit District; and Erik Zandhuis, Santa Clara Valley Transportation Authority.

Committee Comments

The Committee and staff discussed the current allocation status of Air District grant programs (CMP, CHP, FARMER, TFCA); the effectiveness of last-mile shuttle projects, and whether other projects might be considered to close last-mile gaps; committee members' desire to see more projects in which old diesel engines are replaced with electric vehicles, rather than with new diesel engines, especially regarding fleet and agricultural vehicles; concern about the lack of city and county applications; the availability of heavy duty zero-emissions vehicles and agricultural equipment; concerns about how emissions from marine vessel engine replacement and other projects are apportioned by county; ways in which the COVID-19 pandemic has hindered potential applicants and whether application extensions are being considered by the Air District; and the request that details on 'communities of concern' be given to the Air District's Community Equity, Health, and Justice Committee for further examination.

Committee Action

Director Hudson made a motion, seconded by Director Hurt, to recommend the Board **approve** recommended projects with proposed grant awards over $100,000 Authorize the Executive Officer/Air Pollution Control Officer (APCO) to enter into all necessary agreements with applicants for the recommended projects; and the motion carried by the following vote of the Committee:

AYES:	Canepa, Gioia, Hopkins, Hudson, Hurt, Mitchoff, Rice, Wilson.
NOES:	None.
ABSTAIN:	None.
ABSENT:	Abe-Koga, Cutter, Rennie.

4. UPDATES TO THE TRANSPORTATION FUND FOR CLEAN AIR REGIONAL FUND POLICIES AND EVALUATION CRITERIA FOR FISCAL YEAR ENDING (FYE) 2022

Linda Hui, Senior Staff Specialist, gave the staff presentation *Updates to the Transportation Fund for Clean Air Regional Fund Policies & Evaluation Criteria for FYE 2022,* including: outcome; outline; requested action; TFCA background; public outreach process; proposed updates; and feedback requested/prompt.

Public Comments

Public comments were given by Emily Beaulac, Presidio Trust.

Committee Comments

The Committee and staff discussed whether projects may be co-funded by grants from multiple air districts; the current language for Policy #7 (Maximum Grant Amount); the proposed update to Policy #26 (Electric Vehicle Charging Infrastructure); and whether TFCA is a funding source that may support capital funding for micro transit projects.

Committee Action

Director Mitchoff made a motion, seconded by Director Hudson, to recommend the Board **approve** the proposed updates to FYE 2022 TFCA Regional Fund Policies and Evaluation Criteria for FYE 2022; and the motion carried by the following vote of the Committee:

AYES:	Canepa, Gioia, Hopkins, Hudson, Hurt, Mitchoff, Rice, Wilson.
NOES:	None.
ABSTAIN:	None.
ABSENT:	Abe-Koga, Cutter, Rennie.

5. PLAN BAY AREA 2050 UPDATE

Greg Nudd, APCO of Policy, introduced Monte Di Palma, Senior Air Quality Engineer, who have the staff presentation *Plan Bay Area 2050,* including: outcome; outline; requested action; background; advancing equity; Plan Bay Area 2050 highlights; key intersections with Air District work; transportation and equity; building decarbonization; clean vehicles and reducing vehicle miles traveled; and next steps.

Public Comments

No requests received.

Committee Comments

The Committee and staff discussed whether the Air District's incentive and grant programs have been repositioned to enhance Plan Bay Area 2050; how electric bus range may result in the demand for more hydrogen and other renewable fuel vehicles; and the outreach efforts for Plan Bay Area 2050.

Committee Action

None; receive and file.

6. PUBLIC COMMENT ON NON-AGENDA MATTERS

No requests received.

7. COMMITTEE MEMBER COMMENTS

None.

8. TIME AND PLACE OF NEXT MEETING

Thursday, June 24, 2021, at 9:30 a.m., via webcast, pursuant to procedures authorized by Executive Order N-29-20 issued by Governor Gavin Newsom.

9. ADJOURNMENT

Co-Chair Rice adjourned the meeting at 11:06 a.m., in memory of the Santa Clara Valley Transportation Authority victims, whose lives were taken on May 26, 2021.

Marcy Hiratzka
Clerk of the Boards

BAY AREA AIR QUALITY MANAGEMENT DISTRICT
Memorandum

To: Chairpersons David Canepa and Katie Rice, and Members of the Mobile Source and Climate Impacts Committee

From: Jack P. Broadbent
Executive Officer/APCO

Date: June 9, 2021

Re: Projects and Contracts with Proposed Grant Awards Over $100,000

RECOMMENDED ACTIONS

Recommend Board of Directors:

1. Approve recommended projects with proposed grant awards over $100,000 as shown in Attachment 1; including a policy waiver to allow the Transportation Fund for Clean Air, or TFCA, Regional Fund to be used as match for two recommended school bus projects;

2. Waive TFCA Regional Fund Policy #2, regarding Cost-Effectiveness, to allow a project that will replace older diesel school buses with electric zero-emission buses to be fully reimbursable with Air District grant funding; and

3. Authorize the Executive Officer/APCO to enter into all necessary agreements with applicants for the recommended projects.

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 (CARB), since the program began in fiscal year 1998-1999. The CMP provides grants to public and private entities to reduce emissions of nitrogen oxides (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, and stationary agricultural pump engines. Since 2018, this funding may also be used to incentivize the installation of infrastructure that will support the deployment of new zero-emissions vehicles and equipment.

Assembly Bill (AB) 923 (Firebaugh), enacted in 2004 (codified as Health and Safety Code (HSC) 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 in 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 under the CMP.

On March 4, 2020, the Board of Directors (Board) authorized the Air District's participation in Year 22 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.

In 2017, AB 617 directed the CARB, in conjunction with local air districts to establish the Community Air Protection Program (CAPP). AB 617 provides a new community-focused action framework to improve air quality and reduce exposure to criteria air pollutants and toxic air contaminants in communities most impacted by air pollution. AB 617 includes a variety of strategies to address air quality issues in impacted communities, including community-level monitoring, uniform emission reporting across the State, stronger regulation of pollution sources, and incentives for reducing air pollution and public health impacts from mobile and stationary sources. Funding for incentives to support AB 617 communities was approved by the California Legislature beginning in fiscal year ending (FYE) 2018. Funding for the CAPP comes from the State's Greenhouse Gas Reduction Fund (GGRF), which is used to reduce criteria pollutants, toxic air contaminants, and greenhouse gases.

In May 2020, the Governor issued a revised budget that authorized up to $200 million for a third cycle of CAPP incentive funding. On June 17, 2020, the Board authorized the Air District to accept, obligate, and expend up to $40 million in year-3 CAPP. These funds are primarily distributed through the Air District's Community Health Protection Grant Program to implement projects eligible under the CMP and optionally on-road truck replacements under the Proposition 1B Goods Movement Emission Reduction Program. Staff has also begun working with CARB to expand eligibility to include stationary source projects and projects that have been identified and prioritized by communities with a Community Emissions Reduction Program, pursuant to HSC Section 44391.2.

In February 2018, CARB developed the Funding Agricultural Replacement Measures for Emission Reductions (FARMER) Program Guidelines that outlines requirements for eligible equipment, e.g., agricultural harvesting equipment, heavy-duty trucks, agricultural pump engines, tractors, and other equipment used in agricultural operations. On October 21, 2019, CARB's Executive Officer approved an update to the FARMER Program Guidelines to include eligibility criteria for demonstration projects. The 2020 California State Budget appropriated $65 million in Fiscal Year 2019-20 GGRF funds to the CARB for the continued reduction of criteria, toxic, and greenhouse gas emissions from the agricultural sector through the FARMER Program. On November 20, 2019, the Board authorized the Air District's participation in the current cycle of the FARMER program.

In 1991, the California State Legislature authorized the Air District to impose a $4 surcharge on motor vehicles registered within the nine-county Bay Area to fund projects that reduce on-road motor vehicle emissions within the Air District's jurisdiction. The statutory authority and requirements for the Transportation Fund for Clean Air (TFCA) are set forth in the HSC Sections 44241 and 44242. Sixty percent of TFCA funds are awarded by the Air District to eligible projects and programs implemented directly by the Air District (e.g., Spare the Air program) and to a program referred to as the Regional Fund. Each year, the Board allocates funding and adopts policies and evaluation criteria that govern the expenditure of TFCA monies. The remaining forty percent of TFCA funds are passed through to the designated County Program Manager in each of the nine counties within the Air District's jurisdiction that in turn award TFCA funds to eligible projects within their communities.

On April 15, 2020 and July 15, 2020, the Board authorized funding allocations for use of the sixty percent of the TFCA revenue in FYE 2021, cost-effectiveness limits for Air District-sponsored FYE 2021 programs, and the Executive Officer/APCO to execute grant agreements and amendments for projects with individual grant award amounts up to $100,000. On June 3, 2020, the Board adopted policies and evaluation criteria for the FYE 2021 Regional Fund program.

Projects with grant award amounts over $100,000 are brought to the Mobile Source and Climate Impacts Committee for consideration at least on a quarterly basis. Staff reviews and evaluates grant applications based upon the respective governing policies and guidelines established by the CARB, the Board, and other funding agencies/entities. Along with recommendations for projects and grant awards over $100,000, staff also updates the Committee on the status of incentive funding for the current fiscal year, including total funding awarded, incentive fund balance available for award, funds allocated by county and by equipment category type, and percentages of funding benefitting impacted and low-income communities. It should be noted that for each mobile source project, the allocation of emissions reduction benefits to counties or impacted communities is staff's best estimate based on the information provided to the Air District by the applicant at the time a project is evaluated.

DISCUSSION

Carl Moyer Program and Community Health Protection Grant Program:

For the FYE 2021 the Air District had approximately $45.9 million available in CMP, MSIF, Community Health Protection (CHP) Grant Program, and FARMER funds for eligible projects, including approximately $3.4 million from prior year funds. The Air District accepts project applications on a rolling basis and evaluates them on a first-come, first-served basis.

As of May 25, 2021, the Air District had received or evaluated 124 project applications. Of the applications that were evaluated between April 26 and May 25, 2021, seven eligible projects have proposed grant awards over $100,000. Four off-road agricultural projects will replace eight pieces of mobile, diesel-powered equipment. One marine project will replace one charter fishing vessel diesel engine with a cleaner diesel engine. Two school bus projects will replace 15 diesel school buses and 1 compressed natural gas (CNG) school bus with 16 electric school buses and install supporting infrastructure. These projects will reduce over 6.5 tons of NOx, ROG, and PM per year. Staff recommends the allocation of $7,873,263 for these projects from a combination of CMP, TFCA, FARMER, Community Health Protection, and MSIF revenues. Attachment 1, Table 1, provides additional information on these projects.

In addition to the projects that are discussed in this report, a total of $6,000,000, including $1,000,000 in MSIF/CMP and up to $5,000,000 in TFCA funding, is being proposed for award to light duty vehicle infrastructure projects from the recently closed *Charge!* program solicitation. Information on the results of that solicitation, including the projects being proposed for award, will be presented in a separate and subsequent report for the Committee and Board's consideration (Agenda item #4). If the Board approves these awards, staff will include project information in a subsequent monthly report to the Committee and Board.

Attachment 2 lists all of the eligible projects that have been awarded by the Air District between July 1, 2020, and May 25, 2021, and includes information about equipment category, award amounts, estimated emissions reductions, county location, and whether the project benefits Air District designated Community Air Risk Evaluation (CARE) areas or disadvantaged (Senate Bill (SB) 535) and/or low-income (AB 1550) communities. To date, approximately 72% of the funds[1] have been awarded or allocated to low-income residents or to projects that reduce emissions CARE areas, disadvantaged SB 535, and/or low-income AB 1550 communities. This percentage will change over time as the remaining funds are awarded later in the fiscal year and as more complete information about the location of projects and program participants becomes available.

Transportation Fund for Clean Air Program:

For the FYE 2021, the Air District had approximately $31.44 million in TFCA monies available for eligible projects and programs consisting of new and prior-year revenues. The Air District accepts project applications for certain project categories on a rolling basis and evaluates them on a first-come, first-served basis.

As of May 25, 2021, the Air District had received 11 project applications. In addition, staff evaluated two school bus projects, which are recommended in the CMP section above, that propose

[1] For the purpose of determining whether funding was awarded or allocated to low-income residents or to projects that reduce emissions in CARE, SB 535, and/or low-income AB 1550 communities, funds awarded and allocated to date does not include any amounts awarded to regional projects where all communities receive the benefit. It also does not include amounts awarded to projects where the location of the benefit is unknown until additional information becomes available.

to replace fifteen diesel school buses and one CNG school bus with electric school buses and install charging infrastructure (Project # 22SBP71 and 22SBP84). Staff is recommending the allocation of up to $2,045,391 in TFCA funding as matching funds for these projects because the sixteen buses do not qualify for full funding under the CMP guidelines. Both school bus projects benefit low-income communities in Sonoma County. Project #22SBP71 is recommended for $3,775,186 in CMP, CHP and MSIF funding leaving a shortfall of $1,153,346, which is recommended for match funding from the TFCA. Project #22SBP84 is recommended for $803,786 in CMP, CHP and MSIF funding leaving a shortfall of $892,045, which is recommended for match funding from the TFCA.

This action requires a waiver of one Air District Board-adopted TFCA Regional Fund policy:

- TFCA Regional Fund Policy #2 Cost-Effectiveness: Although the FYE 2021 Regional Fund policies allow for 100% of the cost of school bus projects to be paid for with grant funding, the cost-effectiveness limit would be exceeded for one diesel bus replacement under project #22SBP84. The bus to be replaced is model year 2005 diesel bus and will be replaced with a zero-emission electric bus.

Tables 1a and 1b below provide additional information on the proposed awards for these school bus projects.

Table 1a: Proposed award for school bus project **#22SBP71**

Project Description	12 buses and charging infrastructure
Total Project Cost	$4,928,532
Proposed CMP/CHP/MSIF Award	$3,775,186
Proposed TFCA Award (12 buses only)	$1,153,346
Total Proposed Award	**$4,928,532**

Table 1b: Proposed award for school bus project **#22SBP84**

Project Description	4 buses and charging infrastructure
Total Project Cost	$1,698,222
Proposed CMP/CHP/MSIF Award	$803,786
Proposed TFCA Award (4 buses only)	$892,045
Total Proposed Award	**$1,695,831**

If the Board approves this recommendation, the emissions reductions would be entirely reported under the CMP program to prevent double counting.

As discussed above in the CMP section, up to $5,000,000 in TFCA funding is being proposed for award to light duty vehicle infrastructure projects from a recently closed *Charge!* program solicitation.

Attachment 3, Table 1, lists all eligible TFCA projects that have been evaluated and awarded between July 1, 2020 and May 25, 2021, including information about the project category, award amount, estimated emissions reduction, county location, and whether the project benefits Air District designated Community Air Risk Evaluation (CARE) areas or disadvantaged (Senate Bill (SB) 535) and/or low-income (AB 1550) communities. To date, approximately 90% of the funds have been awarded or allocated to low-income residents or to projects that reduce emissions in CARE, disadvantaged SB 535, and/or low-income AB 1550 communities. This percentage will change over time as the remaining funds are awarded later in the fiscal year and as more complete information about the location of projects and program participants becomes available.

BUDGET CONSIDERATION/FINANCIAL IMPACT

None. The Air District distributes the CMP, MSIF, Community Health Protection Grant Program, and TFCA funding to project sponsors on a reimbursement basis. Funding for administrative costs is provided by each funding source.

Respectfully submitted,

Jack P. Broadbent
Executive Officer/APCO

Prepared by: Minda Berbeco, Alona Davis, Linda Hui, Ken Mak, Chengfeng Wang, Chad White
Reviewed by: Karen Schkolnick

Attachment 1: Projects with grant awards greater than $100,000
Attachment 2: CMP/MSIF, FARMER and Community Health Protection Grant Program projects awarded and allocated between 7/1/20 and 5/25/21
Attachment 3: TFCA projects awarded and allocated projects between 7/1/20 and 5/25/21
Attachment 4: Summary of funding awarded and allocated between 7/1/20 and 5/25/21

AGENDA 3 - ATTACHMENT 1

Table 1 - Carl Moyer Program/ Mobile Source Incentive Fund, FARMER, Community Health Protection Program, and TFCA projects with grant awards greater than $100k (Evaluated between 4/26/21 and 5/25/21)

Project #	Applicant Name	Project Category	Project Description	Proposed Contract Award	Total Project Cost	Emission Reductions (tons per year)			County
						NO_X	ROG	PM	
22MOY135	William E. Smith	Marine	Replacement of one diesel Tier 0 engine with a Tier 3 engine in a charter fishing boat.	$ 154,000	$ 196,594	1.831	0.018	0.069	San Mateo
22MOY127	Napa Select Vineyard Services, Inc.	Off-Road/Ag	Replace one diesel Tier 3 ag tractor with one diesel Tier 4 final ag tractor and one diesel Tier 2 ag tractor with one diesel Tier 4 final ag tractor.	$ 107,100	$ 155,358	0.187	0.012	0.011	Napa
22MOY138	Dave Soiland	Off-Road/Ag	Replace one diesel ag excavator Tier-2 engine with one diesel ag excavator Tier-4 engine, one diesel ag loader Tier-1 engine with one diesel ag loader Tier-4 engine, and one diesel ag dozer Tier-0 engine with one diesel ag dozer Tier-4 engine	$ 711,800	$ 942,710	2.035	0.165	0.097	Sonoma
22MOY142	Cobb Creek Holdings, LLC DBA CCH Ag Services	Off-Road/Ag	Replace one diesel Tier 0 ag tractor with one diesel Tier 4 final ag tractor and one diesel Tier 1 ag telehandler with one diesel Tier 4 final ag telehandler	$ 105,500	$ 159,154	0.205	0.034	0.021	Napa
22MOY149	Renati Dairy	Off-Road/Ag	Replacement of one diesel Tier 0 ag wheel loader with one diesel Tier 4 final ag wheel loader	$ 170,500	$ 213,158	0.522	0.068	0.047	Sonoma
22SBP71*	Petaluma City Schools	School Bus	Replace 12 diesel school buses with 12 electric school buses, and fund supporting infrastructure.	$ 4,928,532	$ 4,928,532	0.932	0.071	0.005	Sonoma
22SBP84**	Rincon Valley Union School District	School Bus	Replace 3 diesel school buses and 1 CNG school bus with 4 electric school buses, and fund supporting infrastructure.	$ 1,695,831	$ 1,698,222	0.228	0.015	0.003	Sonoma
7 Projects				**$7,873,263 *****	**$ 8,293,728**	**5.939**	**0.383**	**0.253**	

*The award amount includes a total of $1,153,346 in TFCA funds.
**The award amount includes a total of $892,045 in TFCA funds.
*** An additional $6,000,000, consisting of $1,000,000 of MSIF/CMP and $5,000,000 in TFCA, is proposed for award through Agenda item #4 and if approved, will be reflected in a subsequent monthly report.

AGENDA 3 - ATTACHMENT 2

CMP/MSIF, FARMER and Community Health Protection Grant Program projects
(Awarded and Allocated between 7/1/20 and 5/25/21)

Project #	Project Category	Project Type	Number of Engines	Proposed Contract Award	Applicant Name	Emission Reductions (tons per year)			Board Approval Date	CARE Area	AB1550/ SB535 Area	County
						NOx	ROG	PM				
21MOY203	Ag/ off-road	Equipment Replacement	1	$ 60,000.00	Rider Vineyards dba Joseph Rider	0.104	0.005	0.006	APCO	No	No	Napa
21MOY198	On-road	Equipment Replacement	1	$ 10,000.00	EPP Transport, LLC	0.181	0.015	0.000	APCO	Yes	Yes	Alameda
21MOY206	Ag/ off-road	Equipment Replacement	2	$ 90,840.00	Hudson Vineyards LLC	0.162	0.005	0.009	APCO	No	No	Napa
21MOY210	On-road	Equipment Replacement	1	$ 20,000.00	Samuel's Trucking	0.466	0.039	0.003	APCO	Yes	Yes	Alameda
21MOY217	On-road	Equipment Replacement	1	$ 25,000.00	Daxin Trucking, LLC.	0.566	0.048	0.000	APCO	Yes	Yes	Alameda
21MOY208	Ag/ off-road	Equipment Replacement	2	$ 76,300.00	M. German & Son Partnership	0.345	0.055	0.028	APCO	No	No	Solano
21MOY209	Ag/ off-road	Equipment Replacement	1	$ 48,800.00	Lum Family Farms Inc	0.145	0.026	0.018	APCO	No	No	Solano
21MOY214	Ag/ off-road	Equipment Replacement	5	$ 255,400.00	Robledo Vineyard Mgmt LLC	0.563	0.092	0.061	10/7/2020	No	No	Sonoma/ Napa
21MOY212	On-road	Equipment Replacement	1	$ 55,000.00	Ram Harak & Son Trucking	0.352	0.030	0.002	APCO	Yes	Yes	Alameda
21MOY235	Ag/ off-road	Equipment Replacement	1	$ 51,366.00	Mertens Dairy	0.213	0.038	0.028	APCO	No	No	Sonoma
21MOY228	Ag/ off-road	Equipment Replacement	3	$ 130,200.00	Turnbull Wine Cellars	0.191	0.037	0.026	10/7/2020	No	No	Napa
21MOY239	Ag/ off-road	Equipment Replacement	4	$ 170,100.00	Michael Wolf Vineyard Services Inc.	0.206	0.016	0.021	10/7/2020	No	Yes	Napa
21MOY121	On-road	Equipment Replacement	1	$ 15,000.00	Prabhjit	0.321	0.027	0.000	APCO	No	Yes	San Joaquin
21MOY218	Ag/ off-road	Equipment Replacement	2	$ 76,100.00	Richard A. Zimmerman	0.194	0.030	0.017	APCO	No	No	Solano
21MOY240	On-road	Equipment Replacement	1	$ 20,000.00	Sunny Trucking	0.301	0.025	0.000	APCO	No	Yes	San Joaquin
21MOY227	On-road	Equipment Replacement	1	$ 40,000.00	Streamline Trans Inc., dba DM Trucking	0.836	0.071	0.006	APCO	Yes	Yes	Alameda
21MOY246	On-road	Equipment Replacement	1	$ 30,000.00	Ali Transportation	0.375	0.032	0.000	APCO	Yes	No	Alameda
21MOY241	Ag/ off-road	Equipment Replacement	1	$ 62,950.00	Wight Vineyard Management, Inc.	0.126	0.008	0.008	APCO	No	Yes	Napa
21MOY102	Off-Road	Equipment Replacement	1	$ 48,850.00	San Mateo Union High School District	0.092	0.021	0.016	APCO	No	Yes	San Mateo
21MOY166	Ag/ off-road	2-for-1 Equipment Replacment	1	$ 39,400.00	Beckstoffer Vineyards Napa Valley	0.250	0.037	0.025	APCO	No	No	Napa
21MOY223	On-road	Equipment Replacement	1	$ 30,000.00	Oakland Container Trucking	0.525	0.038	0.000	APCO	Yes	Yes	Alameda

AGENDA 3 - ATTACHMENT 2

CMP/MSIF, FARMER and Community Health Protection Grant Program projects awarded and allocated (between 7/1/20 and 5/25/21)

Project #	Project Category	Project Type	Number of Engines	Proposed Contract Award	Applicant Name	Emission Reductions (tons per year)			Board Approval Date	CARE Area	AB1550/ SB535 Area	County
						NOx	ROG	PM				
21MOY265	Ag/ off-road	Equipment Replacement	1	$ 182,700.00	Paul P. Bianchi, Inc	1.251	0.138	0.079	11/18/2020	No	No	Sonoma
21MOY245	Ag/ off-road	Equipment Replacement	4	$ 143,400.00	Ilsley Brothers Farming, LLC	0.209	0.078	0.035	11/18/2020	No	No	Napa
21MOY236	Ag/ off-road	Equipment Replacement	1	$ 604,150.00	Morrison Cazares Boyer Construction inc.	1.060	0.098	0.056	11/18/2020	No	No	Napa
21MOY232	Off-Road	Equipment Replacement	1	$ 125,000.00	L.H. Voss Materials	0.725	0.036	0.018	11/18/2020	Yes	Yes	Alameda/ Contra Costa
21SBP196	School Bus	Equipment Replacement + Infrastructure	2	$ 258,081.00	Fairfield-Suisun Unified School District	0.113	0.001	0.000	11/18/2020	No	Yes	Solano
21MOY249	On-road	Equipment Replacement	1	$ 25,000.00	Jeevan Trucking Inc	0.478	0.040	0.000	APCO	Yes	Yes	Alameda
21MOY221	Ag/ off-road	Equipment Replacement	2	$ 91,650.00	Robert J Camozzi II	0.211	0.024	0.021	APCO	No	No	Sonoma
21MOY257	On-road	Equipment Replacement	1	$ 25,000.00	Harpinderpal Singh	0.466	0.035	0.000	APCO	Yes	Yes	Alameda
21MOY238	Ag/ off-road	Equipment Replacement	1	$ 64,700.00	Foley Family Farms, LLC	0.141	0.018	0.012	APCO	No	No	Sonoma
21MOY281	Ag/ off-road	Equipment Replacement	1	$ 42,200.00	Palm Drive Vineyards LLC	0.044	0.005	0.006	APCO	No	No	Sonoma
21MOY233	Ag/ off-road	Equipment Replacement	1	$ 62,000.00	RR Farms	0.071	0.011	0.008	APCO	No	No	Sonoma
21MOY272	Ag/ off-road	Equipment Replacement	1	$ 58,000.00	StoneMar Properties, LLC	0.100	0.005	0.006	APCO	No	No	Contra Costa
21MOY280	Ag/ off-road	Equipment Replacement	1	$ 64,400.00	Barbour Vineyards Management LLC	0.113	0.007	0.007	APCO	No	No	Napa
21MOY274	Ag/ off-road	Equipment Replacement	3	$ 120,500.00	Green Valley Cattle Co.	0.205	0.035	0.021	12/16/2020	No	No	Solano
21MOY251	Ag/ off-road	Equipment Replacement	1	$ 50,300.00	Wild Oak Vineyards LLC	0.086	0.019	0.015	APCO	No	No	Solano
22MOY2	On-road	Equipment Replacement	1	$ 35,000.00	Mandeep Singh	0.337	0.029	0.000	APCO	Yes	Yes	Alameda
22MOY4	Marine	Engine Replacement	1	$ 128,000.00	Happy Hooker Sportfishing	0.307	-0.008	0.019	12/16/2020	Yes	Yes	Alameda
21MOY234	On-road	Engine Replacement	1	$ 35,000.00	Jianye Trucking Inc.	0.674	0.057	0.000	APCO	Yes	Yes	Alameda
21MOY242	On-road	Engine Replacement	1	$ 30,000.00	OJM Trucking Inc.	0.620	0.053	0.000	APCO	Yes	Yes	Alameda
22MOY3	Marine	Engine Replacement	2	$ 1,166,000.00	San Francisco Water Emergency Transportation Authority	5.570	0.500	0.190	12/16/2020	Yes	Yes	Alameda/ Contra Costa/ San Francisco
21MOY172	Ag/ off-road	Engine Replacement	2	$ 512,750.00	George Chiala Farms, Inc.	1.656	0.154	0.089	12/16/2020	No	No	Santa Clara
22MOY6	Ag/ off-road	Engine Replacement	1	$ 185,400.00	Mazzetta Dairy	1.155	0.106	0.066	12/16/2020	No	No	Sonoma

AGENDA 3 - ATTACHMENT 2

CMP/MSIF, FARMER and Community Health Protection Grant Program projects awarded and allocated (between 7/1/20 and 5/25/21)

Project #	Project Category	Project Type	Number of Engines	Proposed Contract Award	Applicant Name	Emission Reductions (tons per year)			Board Approval Date	CARE Area	AB1550/ SB535 Area	County
						NOx	ROG	PM				
21MOY226	Off-Road	Engine Replacement	2	$ 141,000.00	Columbia Electric, Inc.	0.532	0.038	0.035	12/16/2020	Yes	Yes	Alameda/ Contra Costa/ Santa Clara
21MOY277	Off-Road	Engine Replacement	5	$ 345,500.00	R.J.S. & Associates, Inc.	1.815	0.171	0.107	12/16/2020	Yes	Yes	Santa Clara/ Alameda
22MOY13	Marine	Engine Replacement	1	$ 140,000.00	Lion Fisheries, LLC.	0.898	-0.013	0.036	12/16/2020	No	No	San Mateo
21MOY237	Ag/ off-road	Engine Replacement	2	$ 85,300.00	Dirt Farmer & Company, A California Corporation	0.272	0.054	0.037	APCO	No	No	Sonoma
21MOY225	On-road	Engine Replacement	1	$ 35,000.00	Longs Mach	0.453	0.034	0.000	APCO	Yes	Yes	Alameda
21MOY264	On-road	Equipment Replacement	1	$ 60,000.00	McKim Corp	2.260	0.160	0.014	APCO	No	Yes	Santa Clara
21MOY261	On-road	Equipment Replacement	1	$ 20,000.00	Dhillon Trucking	0.654	0.097	0.029	APCO	Yes	No	Alameda
22MOY15	On-road	Equipment Replacement	1	$ 35,000.00	NCH Trucking	0.635	0.054	0.005	APCO	Yes	No	Alameda
22MOY16	On-road	Equipment Replacement	1	$ 30,000.00	Sahara Logistics INC DBA Ibrahim Trucking	0.410	0.035	0.000	APCO	Yes	No	Alameda
21MOY243	On-road	Equipment Replacement	1	$ 40,000.00	Gill Freightliner	0.684	0.058	0.000	APCO	Yes	Yes	Alameda
22MOY17	Off-Road	Equipment Replacement	2	$ 103,100.00	Robledo Inc.	0.313	0.048	0.028	1/20/2021	No	No	Solano
22MOY34	On-road	Equipment Replacement	1	$ 55,000.00	26 Pawar Corporation	1.117	0.084	0.007	APCO	Yes	Yes	Santa Clara
22MOY1	Ag/ off-road	Equipment Replacement	1	$ 33,000.00	Gerald & Kristy Spaletta	0.046	0.044	0.011	APCO	No	No	Sonoma
21MOY275	Off-Road	Equipment Replacement + Infrastructure	2	$ 90,100.00	Pine Cone Lumber Co., Inc.	0.068	0.011	0.004	APCO	No	No	Santa Clara
21MOY271	On-road	Equipment Replacement	1	$ 30,000.00	Sarbjit Singh Deol	0.325	0.028	0.000	APCO	Yes	Yes	Alameda
22MOY10	On-road	Equipment Replacement	1	$ 10,000.00	Lam Le	0.153	0.012	0.000	APCO	Yes	Yes	Alameda
21MOY278	On-road	Equipment Replacement	1	$ 40,000.00	Gurtej Atwal	0.764	0.052	0.006	APCO	No	No	Alameda
22MOY8	On-road	Equipment Replacement	1	$ 25,000.00	MP Trucking	0.364	0.031	0.000	APCO	No	No	San Joaquin
22MOY35	On-road	Equipment Replacement	1	$ 35,000.00	Sahara Logistics INC DBA Ibrahim Trucking	0.391	0.033	0.000	APCO	Yes	No	Alameda
21MOY285	On-road	Equipment Replacement	1	$ 40,000.00	G S Trucking	0.658	0.056	0.004	APCO	Yes	Yes	Alameda
22MOY38	On-road	Equipment Replacement	1	$ 20,000.00	Primo Express Transport, Inc	0.394	0.033	0.003	APCO	Yes	Yes	Contra Costa
21MOY283	On-road	Equipment Replacement	1	$ 40,000.00	Sall Trucking	0.943	0.156	0.008	APCO	Yes	Yes	Alameda

AGENDA 3 - ATTACHMENT 2

CMP/MSIF, FARMER and Community Health Protection Grant Program projects awarded and allocated (between 7/1/20 and 5/25/21)

Project #	Project Category	Project Type	Number of Engines	Proposed Contract Award	Applicant Name	Emission Reductions (tons per year)			Board Approval Date	CARE Area	AB1550/ SB535 Area	County
						NOx	ROG	PM				
22MOY25	On-road	Equipment Replacement	1	$ 40,000.00	Sarbjit S Bains	0.687	0.058	0.005	APCO	No	Yes	Santa Clara
22MOY26	On-road	Equipment Replacement	1	$ 25,000.00	Dharmender Singh Barn	0.530	0.045	0.000	APCO	Yes	No	Alameda
22MOY33	Off-Road	Equipment Replacement	3	$ 153,600.00	Cornerstone Certified Vineyard	0.396	0.068	0.051	1/20/2021	No	No	Sonoma
22MOY43	Off-Road	Equipment Replacement	3	$ 128,300.00	Atlas Vineyard Management, Inc.	0.158	0.033	0.024	3/3/2021	No	No	Napa
22MOY18	Off-Road	Equipment Replacement	2	$ 259,100.00	Willotta Ranch	1.073	0.130	0.073	1/20/2021	No	No	Solano
22MOY39	Off-Road	Equipment Replacement	1	$ 53,200.00	Romero Vineyard Management LLC	0.066	0.016	0.012	APCO	No	No	Napa
22MOY19	Marine	Engine Replacement	6	$ 3,715,000.00	San Francisco Water Emergency Transportation Authority	16.822	1.500	0.562	1/20/2021	Yes	Yes	Alameda
22MOY30	Marine	Engine Replacement	2	$ 298,000.00	A.C. Fishing Charters Inc., dba Tigerfish Sportfishing	0.515	0.002	0.027	1/20/2021	No	No	Alameda
22MOY21	Marine	Engine Replacement	1	$ 120,000.00	Jerry Harold Pemberton	0.244	0.003	0.009	1/20/2021	No	No	San Mateo
22MOY24	Ag/ off-road	Engine Replacement	1	$ 139,900.00	Stanley J Poncia	0.256	0.047	0.036	1/20/2021	No	Yes	Sonoma
21MOY134	Ag/ off-road	Equipment Replacement	1	$ 34,000.00	Dutton Ranch Corp.	0.061	0.003	0.003	APCO	No	No	Sonoma
22MOY46	Ag/ off-road	Equipment Replacement	2	$ 93,800.00	Shafer Vineyards	0.208	0.057	0.024	APCO	No	No	Napa
22MOY61	Ag/ off-road	Equipment Replacement	1	$ 141,600.00	Larry's Produce LLC	0.360	0.039	0.023	3/3/2021	No	No	Solano
22MOY27	Ag/ off-road	Equipment Replacement	1	$ 223,500.00	Mark and Lisa Shelley	1.205	0.111	0.069	3/3/2021	No	No	Sonoma
21SBP211	School Bus	Equipment Replacement + Infrastructure	3	$ 560,575.00	Menlo Park City School District	0.160	0.011	0.001	3/3/2021	No	Yes	San Mateo
22MOY37	Ag/ off-road	Equipment Replacement	1	$ 347,400.00	Morrison Chopping, LLC	2.073	0.199	0.108	3/3/2021	No	No	Sonoma
22MOY68	Ag/ off-road	Equipment Replacement	1	$ 20,000.00	Roger King	0.013	0.010	0.003	APCO	No	No	Solano
22MOY51	Ag/ off-road	Equipment Replacement	1	$ 30,100.00	Robert Lauritsen	0.024	0.023	0.006	APCO	No	No	Napa
22MOY55	Ag/ off-road	Equipment Replacement	1	$ 56,200.00	Thomas W. Crane	0.137	0.021	0.012	APCO	No	No	Sonoma
22MOY60	Ag/ off-road	Equipment Replacement	1	$ 33,800.00	Karl Bucher	0.019	0.017	0.005	APCO	No	Yes	Napa
22MOY58	Ag/ off-road	Equipment Replacement	1	$ 42,000.00	Sweetlane Nursery and Vineyards, Inc. dba Grossi Farms	0.031	0.008	0.007	APCO	No	No	Sonoma
22MOY5	Marine	Engine Replacement	2	$ 293,000.00	Golden Eye 2000	2.471	-0.025	0.097	TBD	Yes	Yes	Alameda

AGENDA 3 - ATTACHMENT 2

CMP/MSIF, FARMER and Community Health Protection Grant Program projects awarded and allocated (between 7/1/20 and 5/25/21)

Project #	Project Category	Project Type	Number of Engines	Proposed Contract Award	Applicant Name	Emission Reductions (tons per year)			Board Approval Date	CARE Area	AB1550/ SB535 Area	County
						NOx	ROG	PM				
22MOY79	Ag/ off-road	Equipment Replacement	1	$ 43,500.00	Loma del sol farming inc.	0.088	0.020	0.015	APCO	No	No	Sonoma
22MOY82	Ag/ off-road	Equipment Replacement	1	$ 34,000.00	Gilardi's Family Farm	0.036	0.006	0.004	APCO	No	Yes	Sonoma
22MOY69	Ag/ off-road	Equipment Replacement	2	$ 276,450.00	Ielmorini Custom Spreading, LLC	2.124	0.200	0.116	4/7/2021	No	Yes	Marin/ Sonoma
22MOY72	Ag/ off-road	Equipment Replacement	1	$ 318,200.00	West Marin Compost LLC	0.945	0.042	0.024	4/7/2021	No	Yes	Marin
22MOY80	Ag/ off-road	Equipment Replacement	5	$ 300,900.00	Renteria Vineyard Management LLC	0.699	0.098	0.072	4/7/2021	No	No	Napa/ Sonoma
22SBP14	School Bus	Equipment Replacement + Infrastructure	2	$ 622,556.00	Milpitas Unified School District	0.191	0.018	0.001	4/7/2021	No	Yes	Santa Clara
22MOY81	Ag/ off-road	Equipment Replacement	2	$ 101,800.00	Stephen Tenbrink	0.285	0.033	0.022	4/7/2021	No	No	Solano
22MOY64	Ag/ off-road	Equipment Replacement	2	$ 166,500.00	Joseph Rider	0.152	0.030	0.022	4/7/2021	No	No	Napa
22MOY77	Ag/ off-road	Equipment Replacement	1	$ 38,750.00	Marc Mondavi	0.047	0.008	0.007	APCO	No	No	Napa
22MOY88	Ag/ off-road	Equipment Replacement	1	$ 43,500.00	Anselmo Farms LLC	0.049	0.005	0.005	APCO	No	No	Solano
21MOY185	Ag/ off-road	Equipment Replacement	1	$ 57,300.00	Wente Bros. dba. Wente Vineyards	0.213	0.034	0.026	APCO	Yes	No	Solano
22MOY85	Ag/ off-road	Equipment Replacement	1	$ 218,350.00	Bordessa Family Dairies	0.717	0.066	0.041	5/5/2021	No	No	Sonoma
21MOY222	Ag/ off-road	Equipment Replacement	1	$ 40,950.00	Jack Neal and Son Inc	0.092	0.015	0.011	APCO	No	No	Napa
22MOY87	Ag/ off-road	Equipment Replacement	1	$ 60,000.00	Mike K. Waller	0.092	0.011	0.006	APCO	No	No	Solano
22MOY99	Ag/ off-road	Equipment Replacement	1	$ 41,100.00	Daylight Vineyard Management, inc.	0.062	0.005	0.007	APCO	No	No	Sonoma
22MOY100	Ag/ off-road	Equipment Replacement	1	$ 166,700.00	Poncia Fertilizer, Inc.	1.140	0.111	0.059	5/5/2021	No	Yes	Sonoma
22MOY67	Ag/ off-road	Equipment Replacement	2	$ 107,400.00	Morrison Dairy	0.201	0.026	0.023	5/5/2021	No	No	Sonoma
22SBP9	School Bus	Equipment Replacement	4	$ 827,820.00	Napa Valley Unified School District	0.564	0.055	0.000	5/5/2021	No	Yes	Napa
22MOY101	Marine	Equipment Replacement	2	$ 2,886,000.00	Foss Maritime Company LLC	16.443	1.467	0.548	5/5/2021	Yes	Yes	Contra Costa / Alameda
22MOY65	Ag/ off-road	Equipment Replacement	1	$ 28,000.00	Anthony Rossi	0.017	0.014	0.004	APCO	No	No	Napa
22MOY94	Ag/ off-road	Equipment Replacement	1	$ 132,500.00	Lunny Ranch, LLC	0.215	0.022	0.014	**TBD**	No	Yes	Marin
22MOY104	Ag/ off-road	Equipment Replacement	2	$ 113,400.00	Bains Farms LLC	0.501	0.079	0.046	**TBD**	No	No	Solano

AGENDA 3 - ATTACHMENT 2

CMP/MSIF, FARMER and Community Health Protection Grant Program projects awarded and allocated (between 7/1/20 and 5/25/21)

Project #	Project Category	Project Type	Number of Engines	Proposed Contract Award	Applicant Name	Emission Reductions (tons per year)			Board Approval Date	CARE Area	AB1550/ SB535 Area	County
						NOx	ROG	PM				
22MOY75	On-road	Equipment Replacement	1	$ 25,000.00	Gill Brothers Express Inc	1.097	0.081	0.007	APCO	Yes	Yes	Alameda
22MOY98	Off-Road	Equipment Replacement	1	$ 44,000.00	St. Supery Inc.	0.049	0.008	0.005	APCO	No	No	Napa
22MOY111	On-road	Equipment Replacement	1	$ 20,000.00	SAHIB SAFELINE	0.545	0.046	0.000	APCO	No	yes	Alameda
22MOY118	Marine	Equipment Replacement	2	$ 3,700,000.00	Northwest Tug Leasing	20.875	2.599	0.409	**TBD**	Yes	yes	Alameda
22MOY129	Marine	Equipment Replacement	2	$ 310,000.00	Mr. Morgan Fisheries Inc.	1.281	0.007	0.053	**TBD**	No	No	San Mateo
22MOY136	Marine	Equipment Replacement	1	$ 105,000.00	Zachary Jason Medinas	0.895	0.005	0.034	**TBD**	Yes	Yes	San Francisco
22MOY115	On-road	Equipment Replacement	1	$ 20,000.00	SHG Transportation	0.545	0.046	0.000	APCO	Yes	No	Alameda
22MOY119	On-road	Equipment Replacement	1	$ 25,000.00	BABAL TRANS INC	0.963	0.081	0.006	APCO	Yes	Yes	Santa Clara
22SBP71	School Bus	Equipment Replacement + Infrastructure	12	$ 3,775,186.00	Petaluma City Schools	0.932	0.071	0.005	**TBD**	No	Yes	Sonoma
22MOY138	Off-Road	Equipment Replacement	3	$ 711,800.00	Dave Soiland	2.035	0.165	0.097	**TBD**	No	No	Sonoma
22SBP84	School Bus	Equipment Replacement + Infrastructure	4	$ 803,786.00	Rincon Valley Union School District	0.228	0.015	0.003	**TBD**	No	Yes	Sonoma
22MOY149	Off-Road	Equipment Replacement	1	$ 170,500.00	Renati Dairy	0.522	0.068	0.048	**TBD**	No	No	Sonoma
22MOY127	Off-Road	Equipment Replacement	2	$ 107,100.00	Napa Select Vineyard Services, Inc.	0.187	0.012	0.011	**TBD**	No	No	Napa
22MOY142	Off-Road	Equipment Replacement	2	$ 105,500.00	Cobb Creek Holdings, LLC DBA CCH Ag Services	0.205	0.034	0.021	**TBD**	No	No	Napa
22MOY135	Marine	Equipment Replacement	1	$ 154,000.00	William E. Smith	1.831	0.018	0.069	**TBD**	No	No	San Mateo
	124 Projects		**202**	**$30,328,160***		**120.8**	**11.4**	**4.3**				

* An additional $6,000,000, consisting of $1,000,000 of MSIF/CMP and $5,000,000 in TFCA, is proposed for award through Agenda item #4 and if approved, will be reflected in a subsequent monthly report.

AGENDA 3 - ATTACHMENT 3

Table 1 - TFCA projects awarded and allocated (between 7/1/20 and 5/25/21)

Project #	Project Category	Project Description	Award Amount	Applicant Name	Emission Reductions (tons per year)			Board/ APCO Approval Date	CARE Area	AB1550 / SB535 Area	County
					NO_X	ROG	PM				
20R30	Bicycle Facilities	Upgrade 12.6 miles of Class II bikeways to Class IV in Fremont	$ 130,000	City of Fremont	0.005	0.006	0.014	7/15/20	No	No	Alameda
20R31	Bicycle Facilities	Install and maintain 520 electronic bicycle locker spaces at 22 Caltrain stations in San Francisco, San Mateo and Santa Clara counties	$ 1,041,000	Peninsula Corridor Joint Powers Board	0.097	0.139	0.306	7/15/20	No	No	Multi-County
20R32	Bicycle Facilities	Install 1.9 miles of Class IV bikeways in Hayward	$ 200,790	City of Hayward	0.040	0.055	0.134	10/7/20	Yes	Yes	Alameda
21R02	LD Vehicles	Vehicle Buy Back Program	$ 300,000	BAAQMD	N/A**	N/A**	N/A**	6/3/20	N/A	N/A	Regional
21R04	LD Vehicles	Clean Cars For All	$ 10,000,000	BAAQMD	N/A	N/A	N/A	7/15/20	TBD*	TBD*	Regional
20R35	On-road Trucks & Buses	Purchase four electric delivery vans and scrap six existing vehicles	$ 116,000	Santa Clara VTA	0.061	0.017	0.005	11/18/20	TBD*	TBD*	Santa Clara
21R07 ł	On-road Trucks & Buses	Purchase and deploy 30 hydrogen fuel cell drayage trucks	$ 3,360,000	Center for Transportation and the Environment	2.148	0.140	0.005	5/5/21	Yes	Yes	Multi-County
21RSB01	School Bus	Match funding for Project #21SBP211 for the replacement of two diesel buses with electric school buses	$ 732,552	BAAQMD	N/A**	N/A**	N/A**	3/3/21	No	Yes	San Mateo
21RSB02	School Bus	Match funding for Project #22SBP14 for the replacement of one diesel bus with a electric school bus	$ 204,598	BAAQMD	N/A**	N/A**	N/A**	4/7/21	No	Yes	Santa Clara
21RSB03	School Bus	Match funding for Project #22SBP71 for the replacement of 12 diesel school buses with 12 electric school buses.	$ 1,153,346	BAAQMD	N/A**	N/A**	N/A**	Pending	No	Yes	Sonoma
21RSB04	School Bus	Match funding for Project #22SBP84 for the replacement of 3 diesel school buses & 1 CNG school bus with 4 electric school buses.	$ 892,045	BAAQMD	N/A**	N/A**	N/A**	Pending	No	Yes	Sonoma
20R14	Trip Reduction	State Route 37 Rideshare	$ 184,500	Solano Transportation Authority	0.104	0.113	0.169	12/16/20	No	No	Multi-County
21R01	Trip Reduction	Enhanced Mobile Source & Commuter Benefits Enforcement	$ 850,000	BAAQMD	TBD*	TBD*	TBD*	7/15/20	N/A	N/A	Regional
21R03	Trip Reduction	Spare The Air/Intermittent Control Programs	$ 2,290,000	BAAQMD	TBD*	TBD*	TBD*	6/3/20	N/A	N/A	Regional
21R08	Trip Reduction	Bayside/Burlingame & Marsh Road Caltrain Shuttles	$ 160,000	Peninsula Corridor Joint Powers Board	N/A ǂ	N/A ǂ	N/A ǂ	Pending	No	No	San Mateo
21R09	Trip Reduction	San Jose State University Rideshare and Trip Reduction	$ 280,000	San Jose State University	N/A ǂ	N/A ǂ	N/A ǂ	Pending	Yes	Yes	Regional
21R10	Trip Reduction	PresidiGO Downtown Shuttles	$ 240,000	Predisio Trust	N/A ǂ	N/A ǂ	N/A ǂ	Pending	Yes	No	San Francisco
21R11	Trip Reduction	ACE Shuttles	$ 1,818,660	Santa Clara Valley Transit Authority	N/A ǂ	N/A ǂ	N/A ǂ	Pending	Yes	No	Santa Clara
Total		**18 Projects**	**$23,953,491*** **		**2.455**	**0.471**	**0.632**				

*Funds have been allocated to these programs and projects and results will be determined at the end of project period.

**Emission reductions are fully reported under the Carl Moyer Program to prevent double counting.

ł TFCA portion only (does not include $3,640,000 in funds from Alameda County Transportation Commission).

ǂ Emission reductions will be reported as part of the Spare the Air program (Project #21R03).

*** An additional $6,000,000, consisting of $1,000,000 of MSIF/CMP and $5,000,000 in TFCA, is proposed for award through Agenda item #4 and if approved, will be reflected in a subsequent monthly report.

AGENDA 3 - ATTACHMENT 4

Figures 1-3 Summary of funding awarded and allocated between 7/1/20 and 5/25/21 from the following revenue sources*:

- Carl Moyer Program (CMP)
- Community Health Protection Program (CHP)
- Funding Agricultural Replacement Measures for Emission Reductions (FARMER)
- Mobile Source Incentive Fund (MSIF)
- Transportation Fund for Clean Air (TFCA)

Figure 1. Status of FYE 2021 funding by source

includes funds awarded, recommended for award, and available

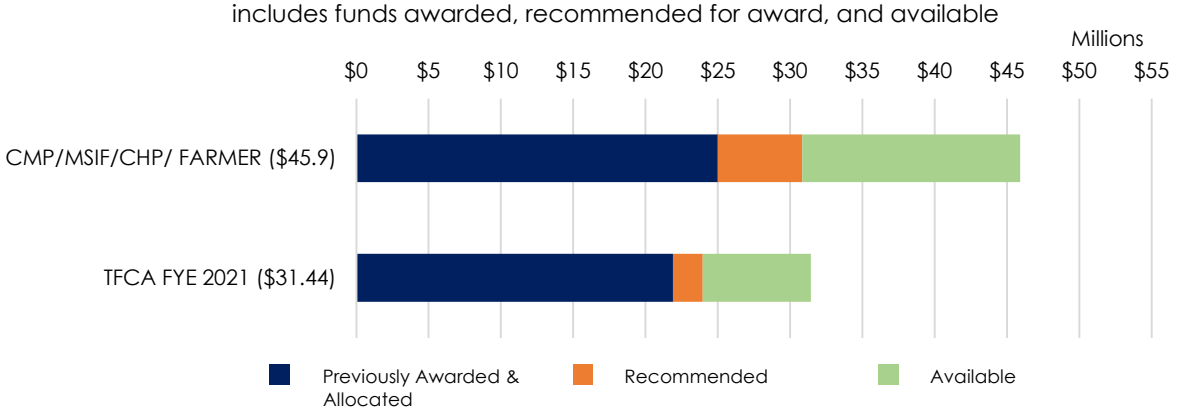


Figure 2. Funding awarded and allocated in FYE 2021 by county:

includes funds awarded & recommended for award

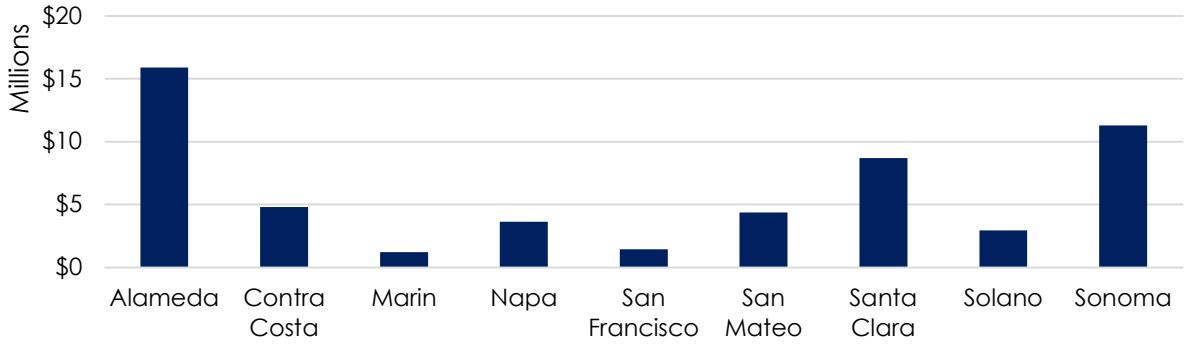
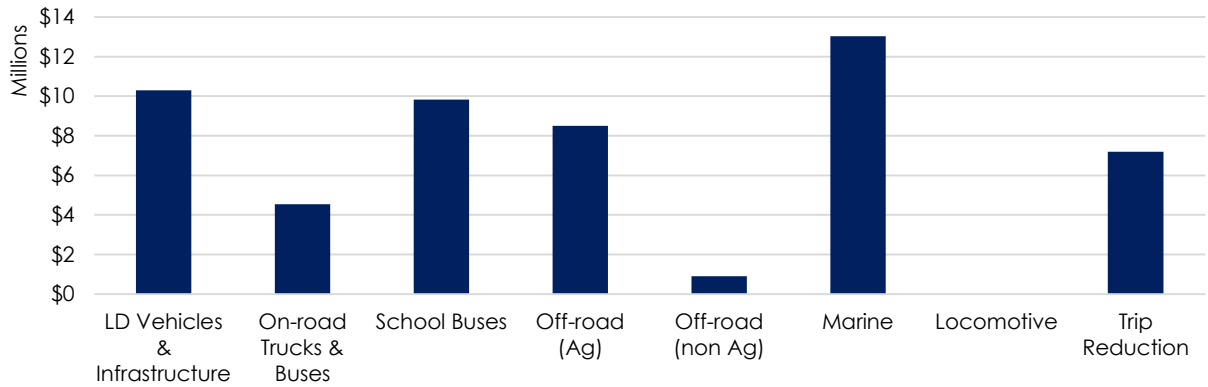


Figure 3. Funding awarded and allocated in FYE 2021 by project category

includes funds awarded & recommended for award



*An additional $6,000,000, consisting of $1,000,000 of MSIF/CMP and $5,000,000 in TFCA, is proposed for award through Agenda item #4 and if approved, will be reflected in a subsequent monthly report.

BAY AREA AIR QUALITY MANAGEMENT DISTRICT
Memorandum

To: Chairpersons David Canepa and Katie Rice, and Members of the Mobile Source and Climate Impacts Committee

From: Jack P. Broadbent
Executive Officer/APCO

Date: June 10, 2021

Re: Light-duty Electric Vehicle Charging Programs and Charge! Projects

RECOMMENDED ACTIONS

Recommend Board of Directors:

1. Approve the Charge! Program rank list and recommended projects with proposed grant awards as shown in Attachment 1; and

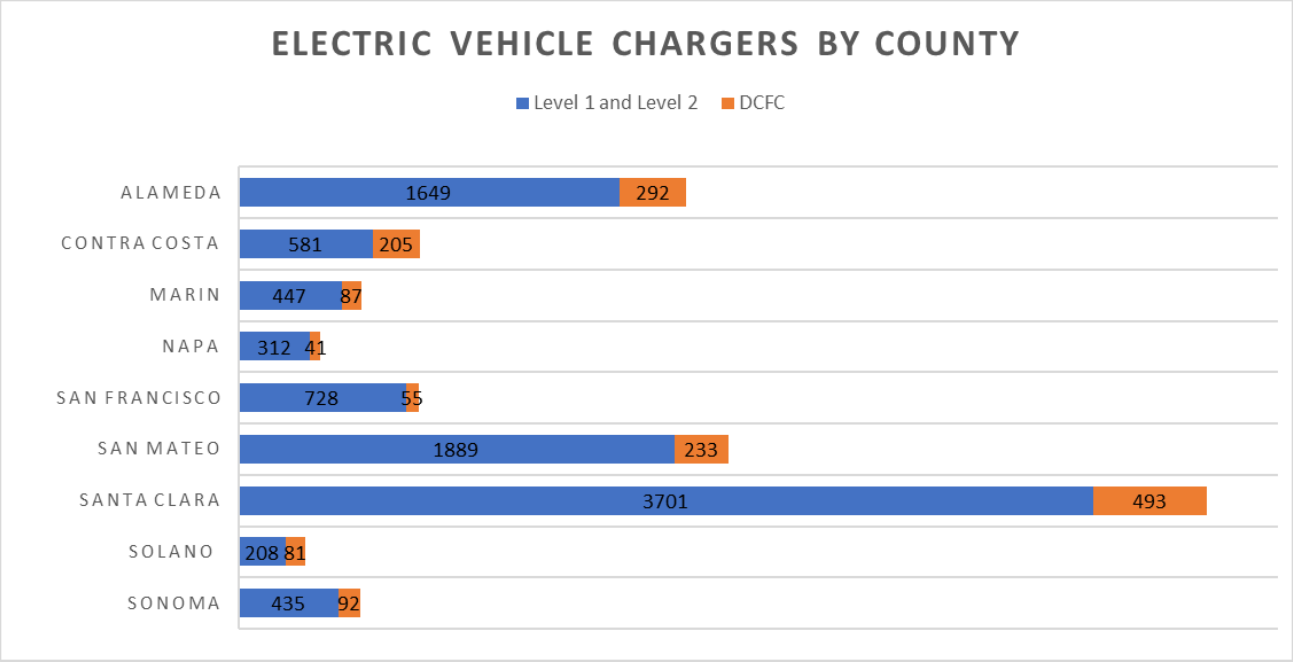
2. Authorize the Executive Officer/APCO to enter into all necessary agreements with applicants for the recommended projects.

BACKGROUND

Wide-scale adoption of electric vehicles (EVs) and electrification of all types of transportation are essential to achieving local, State, and Federal emission reduction targets for greenhouse gases and criteria pollutants. California has set a goal of 5 million EVs sold by 2030, and the Bay Area has set a target of 90% of vehicles in the Bay Area being zero emissions by 2050. The Bay Area and California also share the goal to cut greenhouse gas emissions to 80% below 1990 levels by 2050. As of August 2020, there were a total of 200,645 EVs registered and operating on Bay Area roads, representing 3.6% of the region's light-duty fleet according to data from the California Department of Motor Vehicles. Of those EV registrations in the Bay Area, 62% were battery electric vehicles (BEVs), 37% were plug-in hybrid vehicles (PHEVs), and 1% were fuel cell electric vehicles (FCEVs). Rapid growth in the EV market, particularly for BEVs, will be a significant part of achieving these goals.

To support the increase of EVs needed to achieve Bay Area and California goals, significant investments in EV infrastructure are needed. The National Renewable Energy Laboratory (NREL) EV Infrastructure Projection tool estimates that the Bay Area needs over 20,000 charging ports in 2019. However, as of June 1, 2021, there are currently only 11,530 (109 Level 1, 9,842 Level 2 and 1,579 DC Fast) publicly available charging ports across the Bay Area. Figure 1 shows a breakdown of these publicly available chargers by county in the Bay Area. The Bay Area only has roughly half of the chargers it needs to support targets by NREL.

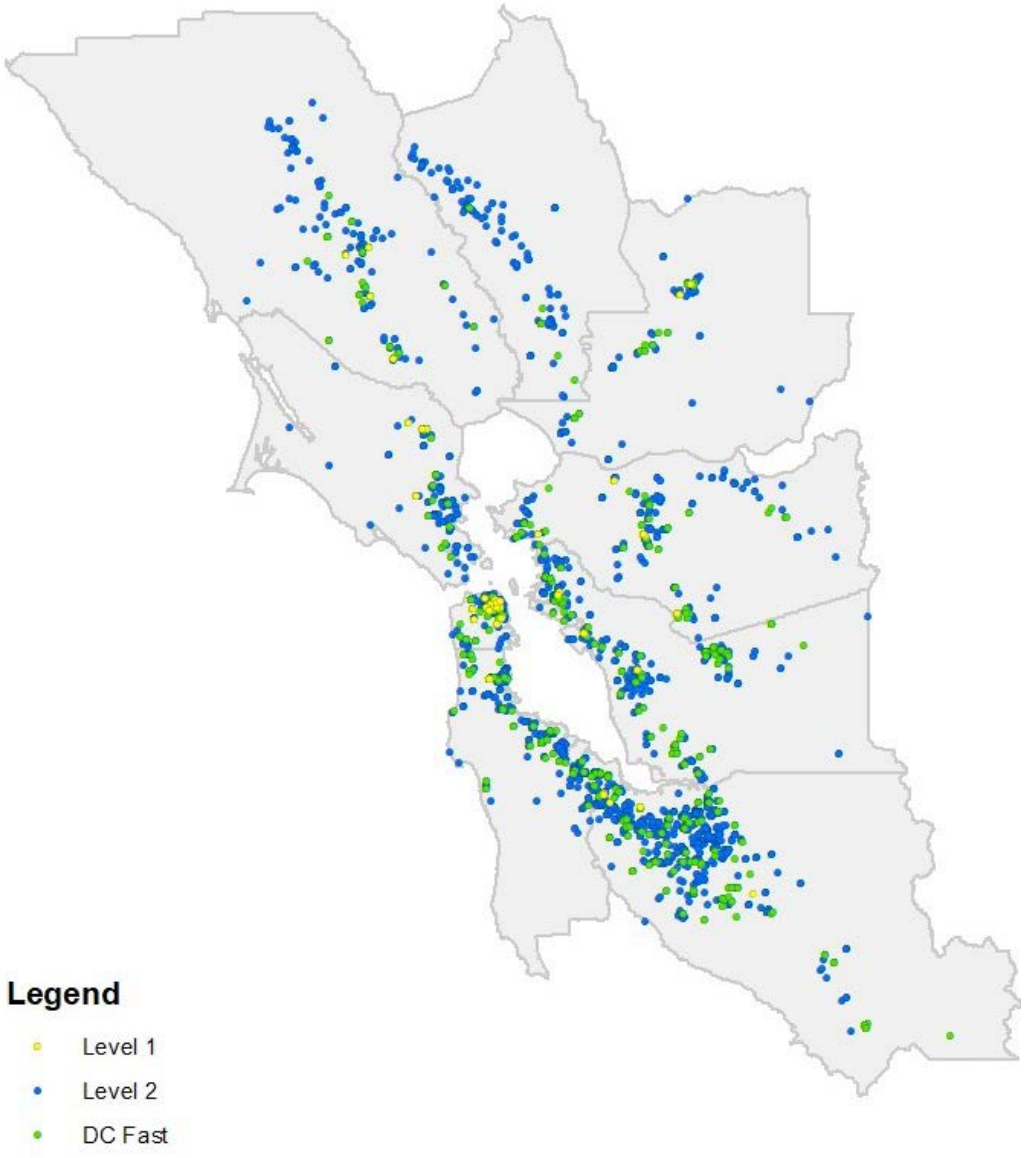
Figure 1. Publicly Available Level 1, Level 2, and DC Fast Chargers by County in the Bay Area



Additional charging stations will be needed to accommodate future growth in the EV market in order to achieve the ambitious Bay Area goals and to accommodate a wider range of Bay Area residents. Figure 2 shows a map of publicly available charging stations in the Bay Area. The chargers are generally located in urban areas and around transportation corridors. An individual or household's need for public charging infrastructure is related to home type, with drivers in single-family homes being much more likely to have home charging than those in apartments or multi-unit dwellings. EV owners tend to live in single-family homes. In the Bay Area, over one-third (36%) of housing units are in multi-unit dwellings. To extend the EV market beyond those living in single-family homes, the Bay Area must expand public charging infrastructure and charging at multi-unit dwellings.

The Air District's Charge! Program and other grant programs supporting EV infrastructure in the Bay Area play a vital role in increasing the number of charging stations to support the Bay Area's EV fleet. As part of this presentation the Committee will consider the approval of the latest Charge! Program recommendations and will receive an informational update on other incentive programs supporting EV charging in the region.

Figure 2. Map of Publicly Available Charging Stations in the Bay Area



DISCUSSION

***Charge!* –** www.baaqmd.gov/charge

The Charge! Program (Charge!) provides grant funding to offset the cost of purchasing and installing new publicly accessible chargers for light-duty electric vehicles, or EVs, at workplaces, destinations, transit parking locations, along transportation corridors, and at multi-unit dwelling facilities. The Air District has administered the Charge! Program since 2016 and has awarded over $14 M to support over 3,300 level 2 charging ports and over 100 DC fast chargers throughout the Bay Area.

The 2021 Charge! Program was a competitive solicitation that launched on December 28, 2020 and closed on March 18, 2020. A total of $6 M in grant funding was available for organizations, including governments, businesses, and nonprofits. Twenty-five applications were submitted requesting nearly $13 M in funding. The 2021 program prioritizes projects located at multi-unit dwellings, AB617 communities, communities for future AB617 consideration, and in regions with lower EV charger density.

A scoring panel comprised of three staff from the Technology Implementation Office, Strategic Incentives Division, and Rules and Strategic Policy Division evaluated the applications to score and rank the projects. The application evaluation criteria and scoring metrics are listed in Table 1. Each panelist scored projects individually before meeting to discuss and reconcile scores. Final scores were averaged and ranked by their score. A list of ranked projects and proposed grant awards can be found in Attachment 1. Twenty projects are eligible for Charge! Program funding, totaling to $10,224,086. These projects requested funding for 1,588 charging ports (1,327 Level 2 ports and 261 DC Fast ports) at 136 facilities across the Bay Area. Five projects are ineligible for funding because they did not meet Charge! Program guidelines and requirements. The ineligible projects were scored and ranked; however, grant funding is not recommended.

Table 1: Application Evaluation Criteria and Scoring

Evaluation criteria	Possible points
Project details & implementation plan • Project scope/ details • Partners/ community support • Location/ facility type • Public accessibility • Technology type • Availability/ access to other incentives	**25**
Project benefits • # of units to be implemented • # of units per county and facility type • Estimated emissions reductions • Cost-effectiveness • AB617 community, location priority analysis	**30**
Readiness • Resources available • Readiness for implementation • Project timeline	**15**
Qualifications • Applicant experience/ history • Partners' roles and experience	**10**

• Community support • Local/ Green business • Minority Business Enterprises (MBE)/ Women's Business Enterprises (WBE)	
Budget • Itemized equipment and infrastructure cost • Co-funding/ match • Cost per port installed • Total funds requested	**10**
Application completeness	**10**
Total Points Possible	**100**

The Charge! Program is funded through the Air District's Transportation Fund for Clean Air (TFCA) and Mobile Source Incentive Fund (MSIF). There is $5 M in TFCA available and $1 M in MSIF available. MSIF funding is reserved for multi-unit dwellings located in AB617 communities. The Air District allocates TFCA program funds under the statutory authority and requirements set forth in the California Health and Safety Code Sections 44241 and 44242. Assembly Bill 923 (AB 923 - Firebaugh), enacted in 2004 (codified as Health and Safety Code (HSC) 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 in the Air District's MSIF.

Since the Charge! Program is oversubscribed, funding from the Carl Moyer Program (CMP) may be used to help fund eligible Charge! Program projects. CMP funding has additional program requirements that were not included in the original Charge! Program solicitation. Staff will work with Charge! applicants to determine if they are eligible and willing to accept additional CMP requirements in order to receive CMP funding.

Staff requests that the Committee recommend to the Board of Directors to approve the Charge! Program rank list and recommended projects with proposed grant awards in Attachment 1. Funding will be awarded to projects in order based on funding eligibility and availability. If additional funding becomes available from other sources like CMP or through project fall out, the funding will also be awarded in order to other projects in the rank list based on funding eligibility and availability.

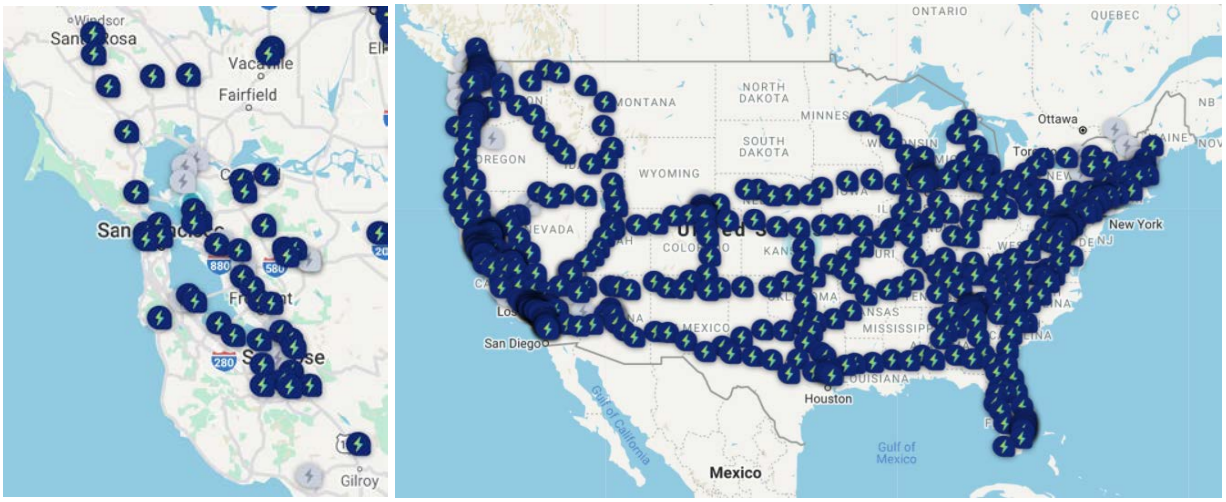
Other Incentive Programs for Light-duty EV Charging

While the Air District's grant programs have funded charging infrastructure throughout the Bay Area, more funding is needed in order to meet Bay Area and California EV goals. Below is a list of incentive programs that support EV infrastructure in the region.

Electrify America **-** www.electrifyamerica.com
Electrify America is a wholly owned subsidiary of Volkswagen Group of America, Inc. Electrify America will allocate $2 B, over a 10-year period, to Zero-Emission Vehicle (ZEV) infrastructure and awareness. The investment will enable millions of Americans to discover the benefits of electric driving and support the build-out of a nationwide network of workplace, community and highway chargers that are convenient and reliable. Electrify America expects to install or have under development approximately 800 total charging stations with about 3,500 DC fast chargers by December 2021. California will be allocated $800 M of the allocation over four cycles. Funding Cycle 2 is scheduled to wrap up in 2021 and Cycle 3 is scheduled to begin in the first quarter of 2022.

Electrify America has installed 161 DC Fast chargers and 23 Level 2 chargers at 42 locations across the Bay Area. There are 8 more locations planned in the Bay Area. Figure 3 shows a map of the charging locations in the Bay Area (left) and nationwide (right).

Figure 3: Electrify America Charging locations – Bay Area (left) and nationwide (right)



CALeVIP **-** https://calevip.org/
The California Electric Vehicle Infrastructure Project (CALeVIP) addresses regional needs for EV charging infrastructure throughout California, while supporting state goals to improve air quality, combat climate change and reduce petroleum use. Funded by the California Energy Commission and implemented by the Center for Sustainable Energy, CALeVIP provides incentives for EV charger installations and works with local partners to develop and implement projects that meet current and future regional EV needs for Level 2 and DC fast charging. CALeVIP is currently funded for $159 M through Energy Commission funds, with potential of up to $200 M. Co-funding partner contributions currently total $34 M.
CALeVIP has funded the following projects in the Bay Area.

- Peninsula-Silicon Valley - $55.23 M
  - https://calevip.org/incentive-project/peninsula-silicon-valley
- Sonoma Coast/ Mendocino - $6.75 M
  - https://calevip.org/incentive-project/sonoma-coast
- Inland Counties - $17.5 M
  - https://calevip.org/incentive-project/inland-counties

- Alameda County (Coming Q4 2021) - $14 M

California VW Mitigation Trust - https://www.californiavwtrust.org/ev-infrastructure/
The California Air Resources Board (CARB) is the lead agency acting on the State's behalf in implementing California's share of Trust funds totaling approximately $423 M. On May 25, 2018, CARB approved the Beneficiary Mitigation Plan (BMP) for California, which establishes five eligible program categories: Zero-Emission Transit, School, and Shuttle Buses ($130 M), Zero-Emission Class 8 Freight and Port Drayage Trucks ($90 M), Zero-Emission Freight and Marine ($70 M), Combustion Freight and Marine ($60 M), Light-Duty Zero-Emission Vehicle Infrastructure ($10 M).

The Air District is serving as administrator of the Trust funds for the Light-Duty Zero-Emission Vehicle Infrastructure category, including up to $5M for electric vehicle charging station projects and $5 M for hydrogen fueling station projects.
The Light-duty EV Infrastructure Program is a statewide program to fund the purchase and installation of new Level 2 and DC Fast chargers. A minimum of 50% of funds are reserved for disadvantaged and low-income communities. The solicitation period opened on May 11, 2021 and closes July 15, 2021.

PG&E - https://www.pge.com/en_US/large-business/solar-and-vehicles/clean-vehicles/ev-charge-network/ev-fast-charge.page
The EV Fast Charge Program has $22.4 M in funding to install publicly accessible DC Fast EV Charging infrastructure. The program pays for and manages construction of electrical infrastructure from the utility pole to the parking space at a limited number of competitively selected sites. Disadvantaged community sites can also receive up to $25k per charger. The program began in early 2020 and is continuing through 2025.

Silicon Valley Power - https://www.siliconvalleypower.com/residents/rebates-6214
Silicon Valley Power's Electric Vehicle Charging station rebate program provides up to $1,000 for residents to install a Level 2 charger. Multi-unit dwellings can receive up to $3,000 and schools and non-profits can receive up to $5,000 to install a Level 2 charger.

Sonoma Clean Power - https://sonomacleanpower.org/programs/gridsavvy
Gridsavvy is a program offered by Sonoma Clean Power where residents can earn rewards for installing smart devices like smart thermostats, EV charging stations, and heat pump water heaters. Residents can receive a free smart electric vehicle charger for their home by paying up front for 50% of the charge cost, sales tax, and shipping and receiving a reimbursement. Installation costs are not covered by Gridsavvy.

MCE - https://www.mcecleanenergy.org/ev-charging/
MCEv offers a $3,000 charging rebate for workplace or multi-unit dwelling properties to MCE customers in their service. MCEv has funded and installed over 600 EV charging ports in their service area.

California Energy Commission - https://www.energy.ca.gov/solicitations/2021-04/gfo-20-607-second-block-grant-light-duty-electric-vehicle-charger-incentive
The California Energy Commission is seeking block grant implementers to design and implement up to $500 M or more in grant funds for various EV charger incentive projects throughout California. The CEC can award up to two block grant implementers and plans to make their selection in August 2021.

BUDGET CONSIDERATION/FINANCIAL IMPACT

None. The Air District distributes the TFCA, MSIF, and CMP funding to project sponsors on a reimbursement basis. Funding for administrative costs is provided by each funding source.

Respectfully submitted,

Jack P. Broadbent
Executive Officer/APCO

Prepared by: Ada Truong, Deanna Yee, and Tin Le
Reviewed by: Anthony Fournier and Derrick Tang

Attachment 1: 2021 Charge! Program Rank List and Recommended Projects

AGENDA 4 - ATTACHMENT 1

Table 1 - 2021 Charge! Program Rank List

Eligible Projects (Evaluated between 3/18/21 and 6/2/21)

Rank	Score	Project #	Applicant	Project Category	Project Description	Eligible Grant Award Amount	Total Project Cost	Emissions			County
								NOx	ROG	PM	
1	92.51	2103-17524	County of Solano	Light Duty (LD) Infrastructure	Install and operate 134 Level 2 (high) single port chargers with solar at 1 destination and 3 workplace facilities.	$ 406,000	$ 1,955,495	0.309	0.182	0.007	Solano
2	92.34	2103-17603	Bollinger Crest Apartment Investors, LP	LD Infrastructure	Install and operate 4 Level 2 (high) dual port chargers at 1 multi-unit dwelling facility.	$ 32,000	$ 44,317	0.011	0.006	0.000	Contra Costa
3	91.90	2103-17345	City of San Ramon	LD Infrastructure	Install and operate 2 Level 2 (high) dual port chargers and 2 DCFC at 2 destination facilities.	$ 44,000	$ 277,045	0.024	0.014	0.001	Contra Costa
4	91.34	2103-17497	East Bay Community Energy Authority	LD Infrastructure	Install and operate 17 DCFC at 1 transportation corridor facility.	$ 425,000	$ 1,456,257	0.157	0.093	0.004	Alameda
5	90.56	2103-17554	West County Wastewater District	LD Infrastructure	Install and operate 2 Level 2 (high) dual port chargers with solar at 1 workplace facility.	$ 12,000	$ 251,320	0.006	0.003	0.000	Contra Costa
6	90.28	2103-17625	Silvergate Brentwood, LLC	LD Infrastructure	Install and operate 11 Level 2 (high) dual port chargers at 1 multi-unit dwelling facility.	$ 44,000	$ 132,463	0.037	0.022	0.001	Contra Costa
7	90.17	2103-17315	EV Charging Solutions, Inc.	LD Infrastructure	Install and operate 142 DCFC and 169 Level 2 (high) single port chargers at 1 transit parking, 15 transportation corridor, and 23 destination facilities.	$ 3,000,000	$ 9,815,000	1.699	1.003	0.041	Regional
8	89.90	2103-17230	REEF Energy CA Operations LLC	LD Infrastructure	Install and operate 8 Level 2 (high) dual port chargers at 2 multi-unit dwelling facilities.	$ 64,000	$ 220,000	0.098	0.058	0.002	San Francisco
9	89.34	2103-17520	City of Dublin	LD Infrastructure	Install and operate 2 Level 2 (high) single port chargers and 5 Level 2 (high) dual port chargers at 2 destination facilities.	$ 26,000	$ 238,016	0.019	0.011	0.001	Alameda
10	88.56	2103-17065	Napa Valley Transportation Authority	LD Infrastructure	Install and operate 5 Level 2 (high) dual port chargers at 1 transit parking facility.	$ 20,000	$ 150,000	0.014	0.008	0.000	Napa
11	86.12	2103-17499	Alameda Multifamily Owner LLC	LD Infrastructure	Install and operate 8 Level 2 (high) dual port chargers at 1 multi-unit dwelling facility.	$ 64,000	$ 154,045	0.023	0.013	0.001	Alameda
12	86.01	2101-15735	EVgo Services LLC	LD Infrastructure	Install and operate 96 DCFC at 11 transportation corridor facilities.	$ 2,400,000	$11,177,123	0.885	0.523	0.021	Regional
13	85.84	2103-17553	PowerFlex Systems, Inc.	LD Infrastructure	Install and operate 804 Level 2 (high) single port chargers at 3 destination, 9 multi-unit dwelling, and 16 workplace facilities.	$ 3,000,000	$ 6,000,140	1.674	0.989	0.040	Regional
14	84.45	2103-17359	The Shores at Marina Bay Community Association	LD Infrastructure	Install and operate 2 Level 2 (high) single port chargers and 4 Level 2 (high) dual port chargers at 1 multi-unit dwelling facility.	$ 48,000	$ 113,000	0.005	0.003	0.000	Contra Costa
15	83.51	2103-17012	City of Milpitas	LD Infrastructure	Install and operate 4 Level 2 (high) single port chargers with solar at 1 destination facility.	$ 16,000	$ 443,516	0.009	0.005	0.000	Santa Clara
16	81.51	2103-17587	University Terrace Berkeley Homeowners Association	LD Infrastructure	Install and operate 10 Level 2 (high) single port chargers at 1 multi-unit dwelling facility.	$ 53,086	$ 58,985	0.010	0.006	0.000	Alameda
17	81.12	2102-16363	Mountain View Whisman School District	LD Infrastructure	Install and operate 24 Level 2 (high) single port chargers with solar at 10 workplace facilities.	$ 76,000	$ 840,094	0.055	0.033	0.001	Santa Clara
18	76.28	2102-16395	The Millennium Tower Association	LD Infrastructure	Install and operate 3 Level 2 (high) single port chargers at 1 multi-unit dwelling facility.	$ 21,000	$ 28,879	0.008	0.004	0.000	San Francisco
19	73.78	2103-17638	Intertie, Incorporated	LD Infrastructure	Install and operate 23 Level 2 (high) dual port chargers and 4 DCFC at 12 multi-unit dwelling facilities.	$ 256,000	$ 353,432	0.116	0.068	0.003	Regional
20	73.51	2103-17527	EVmatch, Inc.	LD Infrastructure	Install and operate 31 Level 2 (high) single port chargers at 15 multi-unit dwelling facilities.	$ 217,000	$ 238,700	0.031	0.018	0.001	Regional
21	72.67	2103-17604	Boston Properties Limited Partnership	LD Infrastructure	Install and operate 12 DCFC at 1 transportation corridor and three destination facilities.	$ -	$ 1,260,009	N/A	N/A	N/A	San Francisco
22	57.01	2103-17542	Ecology Action	LD Infrastructure	Install and operate 4 Level 2 (high) single port chargers at 1 multi-unit dwelling facility.	$ -	$ 22,500	N/A	N/A	N/A	Santa Clara
23	53.01	2103-17577	Cinnamon Energy Systems	LD Infrastructure	Install and operate 2 Level 2 (high) dual port chargers at 1 workplace facility.	$ -	$ 61,083	N/A	N/A	N/A	Santa Clara
24	43.06	2103-17580	Sonoma County Regional Parks	LD Infrastructure	Install and operate 1 DCFC charger at 1 destination facility.	$ -	$ 57,820	N/A	N/A	N/A	Sonoma
25	38.84	2103-17618	Acumen Building Enterprise, Inc.	LD Infrastructure	Install and operate 1 DCFC at 1 workplace facility.	$ -	$ 1,015,000	N/A	N/A	N/A	Alameda

BAY AREA AIR QUALITY MANAGEMENT DISTRICT
Memorandum

To: Chairpersons David Canepa and Katie Rice, and Members of the Mobile Source and Climate Impacts Committee

From: Jack P. Broadbent
Executive Officer/APCO

Date: June 10, 2021

Re: Bay Area Electric Vehicle (EV) Acceleration Plan Update

RECOMMENDED ACTION

None; receive and file.

BACKGROUND

The Bay Area's nine counties are home to approximately 7.6 million people and 5.3 million light duty vehicles, with an additional 600,000 vehicles passing daily through the region from adjacent areas. Tailpipe emissions from these light duty vehicles account for approximately 28% of greenhouse gas (GHG) emissions and a significant portion of other pollutants (31% of carbon monoxide and 12% of nitrogen oxide) in the Bay Area. These air pollutants increase adverse health problems, so the transition to clean vehicles will play a key role in reducing health and climate impacts.

California has set a goal of five (5) million electric vehicles (EVs) sold by 2030, with the sale of new conventional light-duty vehicles phased out by 2035. The Air District has also set as a target that 90% of vehicles in the Bay Area should be zero emissions by 2050. The Bay Area and California share the goal of cutting greenhouse gas emissions to 80% below 1990 levels by 2050.

For the past 10 years, the Bay Area Air Quality Management District (Air District) has developed and implemented programs to monitor the EV market and increase the adoption of EVs in the Bay Area. Air District efforts have included the development and implementation of region-wide EV plans, outreach and awareness activities, and direct financial incentives for vehicles and charging infrastructure.

In partnership with the Association of Bay Area Governments (ABAG) and the Metropolitan Transportation Commission (MTC), the Air District released the Bay Area Plug-In Electric Vehicle Readiness Plan in 2013. This plan was developed to provide guidance and best practices to help stakeholders, utilities, and other government agencies accelerate the adoption of electric vehicles in the Bay Area.

In 2018, Air District staff began developing the Bay Area EV Acceleration Plan (Plan). This plan aims to update and supplement the 2013 Readiness Plan and includes an update on the EV ecosystem, results of our EV market research study, recommendations to address the barriers to EV adoption, and strategies to increase racial and social equity in the EV market.

As of August 2020, there were a total of 200,645 electric vehicles registered and operating on Bay Area roads, representing 3.6% of the region's light duty fleet according to data from the California Department of Motor Vehicles. Of those EV registrations in the Bay Area, 62% were Battery Electric Vehicles (BEV's), 37% were Plug-In Hybrid Electric (PHEVs), and 1% were Fuel-Cell Electric Vehicles (FCEVs).

As of June 2021, there were 11,530 publicly available charging ports in the Bay Area, including Level 1, Level 2, and DC Fast. To remain on track to meet our goals, the Bay Area is estimated to need 40,000 public charging ports.

DISCUSSION

The EV Acceleration Plan is the result of collaboration among Bay Area EV stakeholders, local and regional government agencies, and community outreach and participation. The Plan intends to help the Bay Area achieve the EV goals described in the Air District's 2017 Clean Air Plan and MTC Plan Bay Area 2050.

The development of the Plan began in late 2018. Staff conducted a thorough review of the 2013 EV Readiness Plan to determine where the Bay Area currently stood on the projected EV forecasts and estimated infrastructure needed to support large-scale adoption on EVs.

Staff then began a baseline assessment of internal and external EV data and literature, focusing on the local, regional, state, and national level. Data sources reviewed included:

- California Department of Motor Vehicle registration data
- California Energy Commission, Zero-Emission Vehicle, and Infrastructure Statistics
- U.S. Department of Energy, Alternative Fuels Data Center, Station Locator

Staff analyzed this data and developed graphics and summaries to inform the Plan. Additionally, staff compiled a comprehensive list of other publicly available data summaries, rebates, incentives, outreach programs, and Disadvantaged Community (DAC) specific programs.

From August 2015 through September 2019, the Air District held four stakeholder outreach meetings throughout the Bay Area (North Bay, San Francisco, East Bay, South Bay) and one webinar. More than 40 EV industry partners including representatives from government organizations, Community Choice Aggregators, Electric Vehicle Supply Equipment (EVSE) technology and software companies, automotive manufactures, universities, school districts, ride-hailing companies, and elected officials. The goal was to collect input from these stakeholders on the type of information, data, tools, and resources that would be useful to their work and accelerate EV adoption in the Bay Area.

The Air District partnered with the Center for Sustainable Energy (CSE) from August 2019 through May 2020 to study vehicle market stakeholders in the Bay Area to understand their barriers to EV adoption. The following target audiences were identified for this analysis:

- Bay Area residents
- Ride-hail drivers
- Multi-unit dwelling property owners and managers
- Fleet vehicle manager
- Car dealerships

Using a mixed-method approach, CSE analyzed these consumers and businesses perspectives on EV adoption and infrastructure across the Bay Area. Their research began with a summary of existing literature on EV adoption, charging behaviors and EV infrastructure for each target group identified above. A combination of surveys, focus groups and semi-structured interviews was used to collect data from the five target groups. CSE's approach provided insights into sentiments across the diverse geographic and socioeconomic landscape of the Bay Area, ultimately informing targeted outreach and incentive strategies that will be actionable in the Air District's Plan.

The results of the stakeholder meeting and EV market research and survey identified the barriers to EV adoption, solutions to those barriers, and prioritize and suggest responsible parties for implementing those solutions.

Using feedback from our partners, research, data, and resources, staff developed the following goals to accelerate EV adoption in the Bay Area:

- Increase Air District support for low-income and frontline communities.
- Establish an interim goal of 1.5 million EVs in the Bay Area by 2030.
- Enact EV ready reach codes by 2030 in 100% of Bay Area Cities and Counties.
- Enact EV Charging Station Permitting Streamlining procedures and policies by 2022 in 100% of Bay Area Cities and Counties.
- Seek more ambitious CalGreen EV ready parking space standards in the 2022 Title 24 Code Update (for both existing and new buildings).

The draft EV Acceleration Plan is now available for public review. A webinar presentation was held on April 15, 2021, where 45 participants attended. The public comment period closed on April 28, 2021, and comments received were reviewed for inclusion in the final document.

BUDGET CONSIDERATION/FINANCIAL IMPACT

None.

Respectfully submitted,

Jack P. Broadbent
Executive Officer/APCO

Prepared by: Karissa White
Reviewed by: Tin Le, Derrick Tang, and Anthony Fournier

Attachment 1: Draft Bay Area EV Acceleration Plan

MARCH 2021
Bay Area Air Quality
Management District

BAY AREA ELECTRIC VEHICLE ACCELERATION PLAN

A plan to accelerate transportation electrification in the Bay Area.

Bay Area
Air Quality
Management
District

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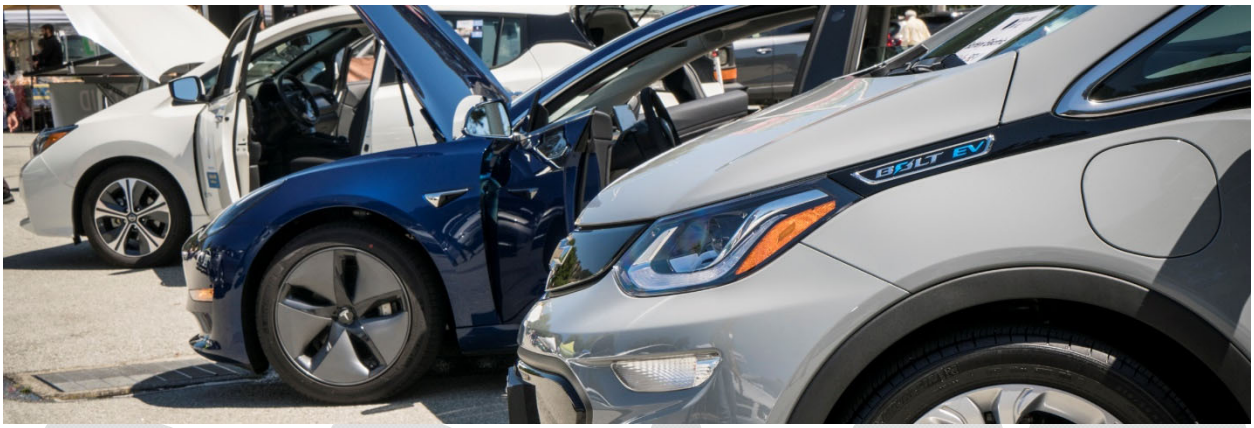


Executive Summary

With the first introduction of commercially available light-duty electric vehicles[1] (EV) in 2010, the Bay Area Air Quality Management District (Air District) began programs to monitor the EV market and increase EV adoption in the Bay Area. To identify and prioritize EV market maturation efforts, the Air District and the Metropolitan Transportation Commission (MTC) developed and released the Bay Area Plug-in Electric Vehicle Readiness Plan in 2013[2]. The Air District's efforts have also included development and implementation of region-wide outreach and awareness activities, supporting legislative action to accelerate EV adoption, and direct financial incentives. The Bay Area EV Acceleration Plan (Plan) aims to update and supplement the 2013 Readiness Plan, including an update on the EV ecosystem, results of our EV market research, and recommendations to address the barriers to EV adoption.

One of the greatest changes since we released the 2013 Readiness Plan is the maturation of the EV market past the "innovators" and "early adopters" technology cycle. Additionally, as EVs near cost parity with conventional cars and fighting climate change becomes a greater priority in our society, governments must adjust programs and priorities. To this end, the Air District released a Clean Air Plan in 2017[3], which included a goal to increase the EV share in the Bay Area to 90% by 2050. This EV Acceleration Plan is meant to help the Bay Area achieve that goal in an equitable manner.

The recommendations highlighted in this Plan speak to the importance of addressing historic disenfranchisement in frontline communities[4] as we pursue our aggressive EV adoption and market acceleration goals. Our analysis and suggestions related to increasing equity are

[1] EVs are defined here as Battery Electric Vehicles (BEV), Hydrogen Fuel Cell Electric Vehicles (FCEV), and Plug-in Hybrid Electric Vehicles.

[2] https://www.baaqmd.gov/plans-and-climate/bay-area-pev-program/bay-area-pev-ready

[3] https://www.baaqmd.gov/plans-and-climate/air-quality-plans/current-plans

[4] Frontline communities are those that experience "first and worst" the consequences of climate change. These are communities of color and low-income, whose neighborhoods often lack basic infrastructure to support them and who will be increasingly vulnerable as our climate deteriorates. These are Native communities, whose resources have been exploited, and laborers whose daily work or living environments are polluted or toxic (Ecotrust.org).

included on Page 25 in the Advancing Equity in the EV Market section in this Plan. The following five recommendations form the backbone of our strategy for increasing EV adoption and equity:

1. **Work more closely with frontline communities to better understand their unique needs and barriers to EV adoption.**
2. **Empower influential members of frontline communities and support them with the latest information to share with their communities.**
3. **Focus marketing and outreach efforts on the benefits of EV ownership that address major concerns identified through surveys and highlight people of color.**
4. **Streamline, simplify, and incentivize EV charging infrastructure and EV ready parking spaces, prioritizing installations at or near multi-family buildings.**
5. **Identify additional funding sources from the Federal, State, and local level to support the necessary incentives for a just transition.**

The Air District and our partners collected data and resources, which have informed our development of the following goals to ensure equitable EV acceleration in the Bay Area:

- **Increase Air District support for low-income and frontline communities**
- **Establish an interim goal of 1.5 million EVs in the Bay Area by 2030**
- **100% of Bay Area Cities and Counties enact EV ready reach codes by 2030**
- **100% of Bay Area Cities and Counties enact EV Charging Station Permitting Streamlining procedures and policies by 2022**
- **Seek more ambitious CalGreen[5] EV ready parking space standards in the 2022 Title 24 Code Update (for both existing and new buildings)**

Transportation and air quality policy have historically exacerbated the inequities faced by communities of color.[6] Low-income communities and communities of color continue to be disproportionately impacted by air pollution and climate change[7] and have been left out of the EV market given the economic barriers to entry.[8] For this reason, the vast majority of the Air District's work, funding, and policy attention related to transportation electrification must prioritize and empower our frontline communities across the Bay Area.

[5] California Green Building Standards Code or "CALGreen" (California Code of Regulations, Title 24, Part 11), is the first mandatory green building standards code in the nation and often serves as a model for other state and local governments across the county. CALGreen currently requires 6% of parking spaces in new nonresidential buildings to be Electric Vehicle capable or "EV capable".

[6] Reichmuth, David. 2019. Inequitable Exposure to Air Pollution from Vehicles in California. Cambridge, MA: Union of Concerned Scientists. https://www.ucsusa.org/resources/inequitable-exposure-air-pollution-vehicles-california-2019

[7] Finkelstein et al. Relation between income, air pollution and mortality: A cohort study. CMAJ. 2003; 169: 397-402.

[8] Sierra Club and Plug In America, 2018, AchiEVe: Model State & Local Policies to Accelerate Electric Vehicle Adoption, https://www.sierraclub.org/sites/www.sierraclub.org/files/blog/EV%20Policy%20Toolkit.pdf

This Plan will support and be supported by the transportation electrification goals set out in the Metropolitan Transportation Commission's (MTC) forthcoming Plan Bay Area 2050 and the Air District intends to continue to seek out opportunities for regional collaboration to advance our shared goals.

In line with the Air District's overarching goal of imbuing all of our work with the core tenants of environmental justice, this Plan incorporates principles of equity and inclusion throughout each section, providing special attention to the unique barriers and opportunities for growth in frontline communities. In addition, we have developed a recommendations section specific to tackling the need for greater equity and inclusion in the EV market.

Background

The Air District, created in 1955 by the California state legislature, is responsible for regulating stationary sources of air pollution in the nine-county Bay Area region. As a key component of its multi-portfolio approach to improving air quality, the Air District develops and administers incentive programs to accelerate voluntary emission reductions from the transportation sector. During the past twenty years, the Air District has awarded over $1.3 billion in incentives with an increasing amount going towards zero-emissions technologies.

The Bay Area's nine counties are home to approximately 7.6 million people[9] and 5.3 million light duty vehicles[10], with an additional 600,000 vehicles passing daily through the region from adjacent areas.[11] Three-quarters of Bay Area residents drive to work (64% drive alone and 10% carpool) and 12% take transit to work.[12] Tailpipe emissions from these light duty vehicles account for approximately 28% of greenhouse gas (GHG) emissions (CO_2e) and a significant portion of other pollutants (31% of carbon monoxide and 12% of nitrogen oxide) in the Bay Area. These types of air pollutants increase respiratory ailments like asthma and bronchitis, heightens the risk of life-threatening conditions like cancer, and burdens our health care system with substantial medical costs.[13]

In addition to alternative transit modes that include walking, biking, mass transit, and shared transportation, wide-scale adoption of EVs and electrification of all types of transportation are essential to achieving local, State, and Federal emission reduction targets for greenhouse gases and criteria pollutants. California has set a goal of 5 million EVs sold by 2030 and to phase out sales on conventional vehicles by 2035, and the Air District has set a target of 90% of vehicles in the Bay Area being zero emissions by 2050. The Bay Area and California also share the goal to

[9] United States Census Bureau, American Community Survey, Demographic and Housing Estimates, 2017
[10] California Department of Transportation: Estimated Vehicles Registered by County, 2017
[11] California Department of Transportation: Annual Traffic Volume Reports (1992-2015)
[12] United States Census Bureau, American Community Survey, 2016
[13] Union of Concerned Scientists, Vehicles, Air Pollution, and Human Health, https://www.ucsusa.org/resources/vehicles-air-pollution-human-health

cut greenhouse gas emissions to 80% below 1990 levels by 2050. Rapid growth in the EV market, especially for BEVs, will be a significant part of achieving these goals.

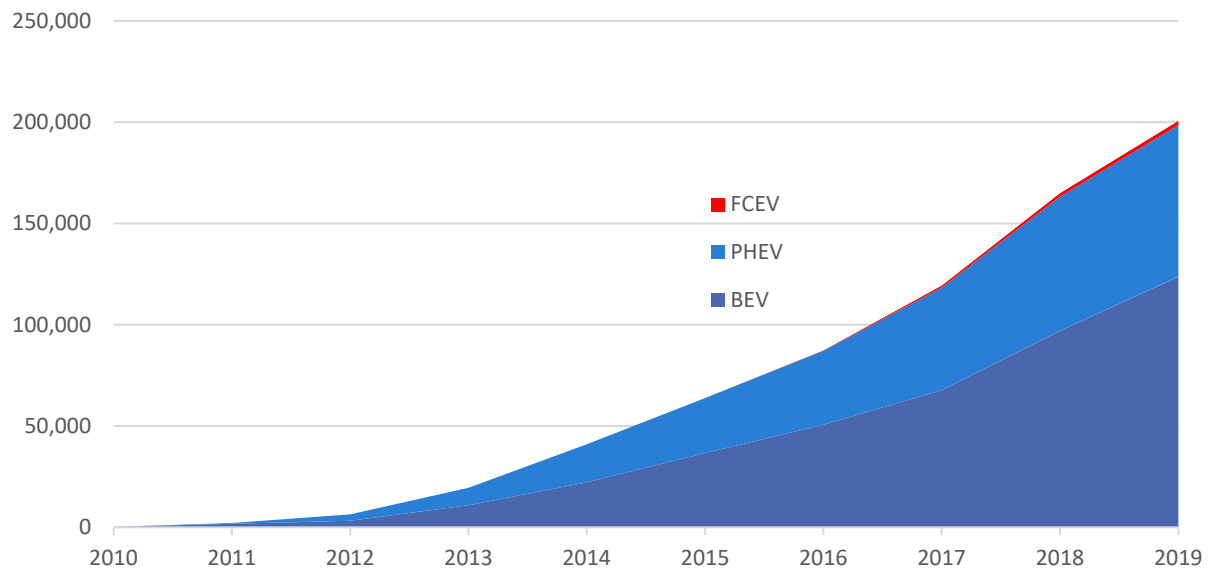
One of the current unknowns is the impact the COVID-19 Pandemic, resulting Shelter in Place orders, and shifts towards remote work will have on transportation in the Bay Area and beyond. Our hope is that remote work and flexible commute options become a mainstay in the workforce, curtailing an increase in single occupancy vehicle sales and trips, as well as reducing traffic congestion, maintaining air quality improvements, and reducing climate impacts. This report is meant to serve as a long-range planning and strategy document, and therefore assumes a worst-case scenario where travel behaviors return following the proliferation of viable vaccines.

Current Bay Area EV Ecosystem

EV Adoption and Sales

California Department of Motor Vehicles (DMV) registration data shows that the Bay Area had 200,645 electric vehicles as of August 2020, representing 3.6% of the region's light duty fleet (Figure 1). As of August 2020, BEVs accounted for 62% of all EVs registered in the Bay Area, PHEVs made up 37%, and FCEVs made up 1%. Compare that to the number of new car sales in Q1-Q3 of 2020 with 77% BEVs, 22% PHEVs, and 1% FCEVs, it is clear the BEVs are growing in prominence, with the Tesla Model 3 making up the vast majority of new sales. As the EV market matures, used EV sales will be an important metric to track; however, such information was not available at the time this publication was finalized.

Figure 1: BEVs, PHEVs, and FCEVs Registered in the Bay Area



Compared to the entire California EV market, the Bay Area is home to a larger share of BEVs and smaller share of PHEVs. Of the entire EV fleet in the Bay Area, Tesla accounts for almost 40% of all registered EVs, followed by Chevrolet with 17%, and Toyota with 10%.[14] Figure 2: Number of EVFigure 2 shows two heatmaps of the State and Bay Area in terms of EV adoption, clearly showing that while Santa Clara clearly leads regionally for the most EV's per county, Los Angeles County leads the State in terms of EV adoption.

Figure 2: Number of EVs in California and Bay Area Counties[15]

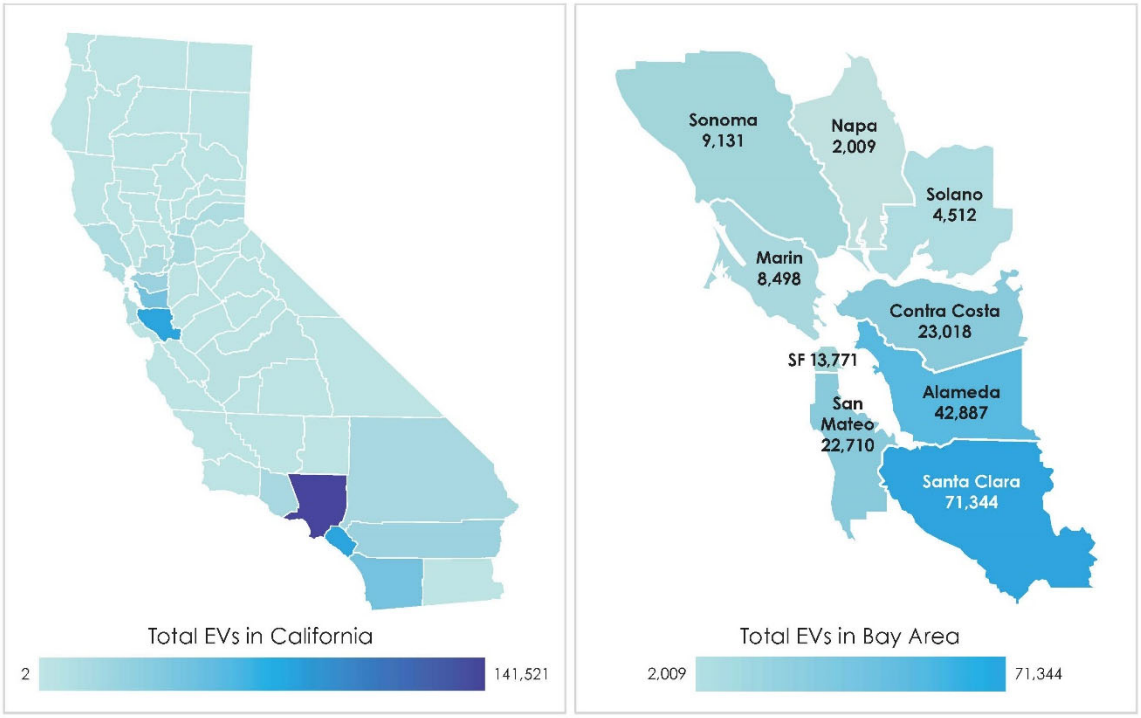
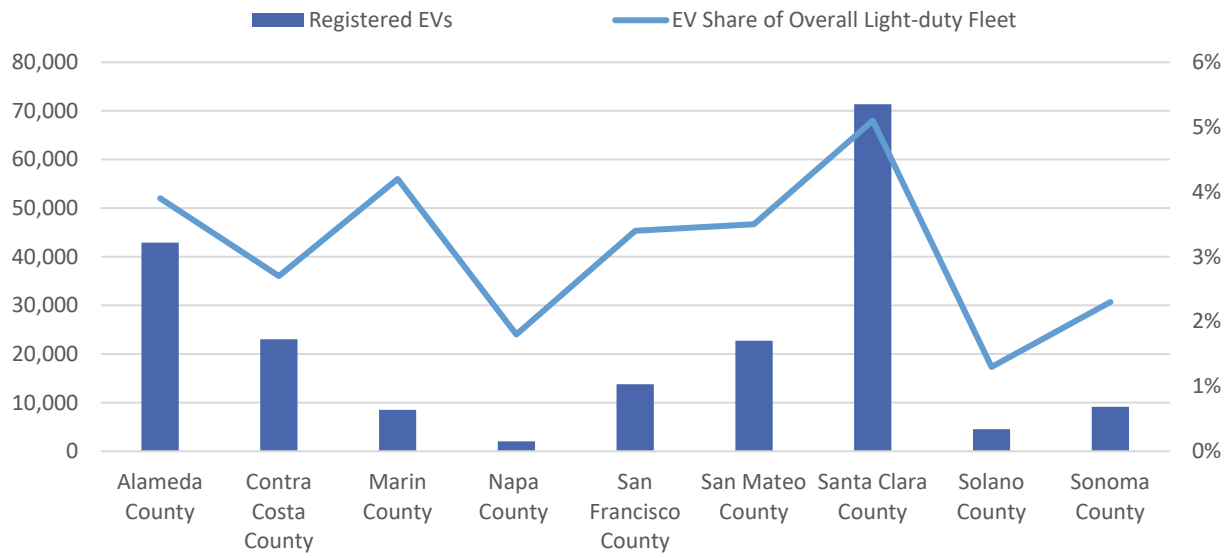


Figure 3 shows the number of EVs registered by Bay Area County and the relative share of EVs in that County's overall light-duty vehicle fleet (i.e. internal combustion and electric vehicles). Santa Clara County continues to lead the region in both raw number of EVs as well as EV share of their overall light-duty vehicle fleet.

[14] California Energy Commission, *Zero Emission Vehicle and Infrastructure Statistics*, data last updated August 28, 2020, www.energy.ca.gov/zevstats

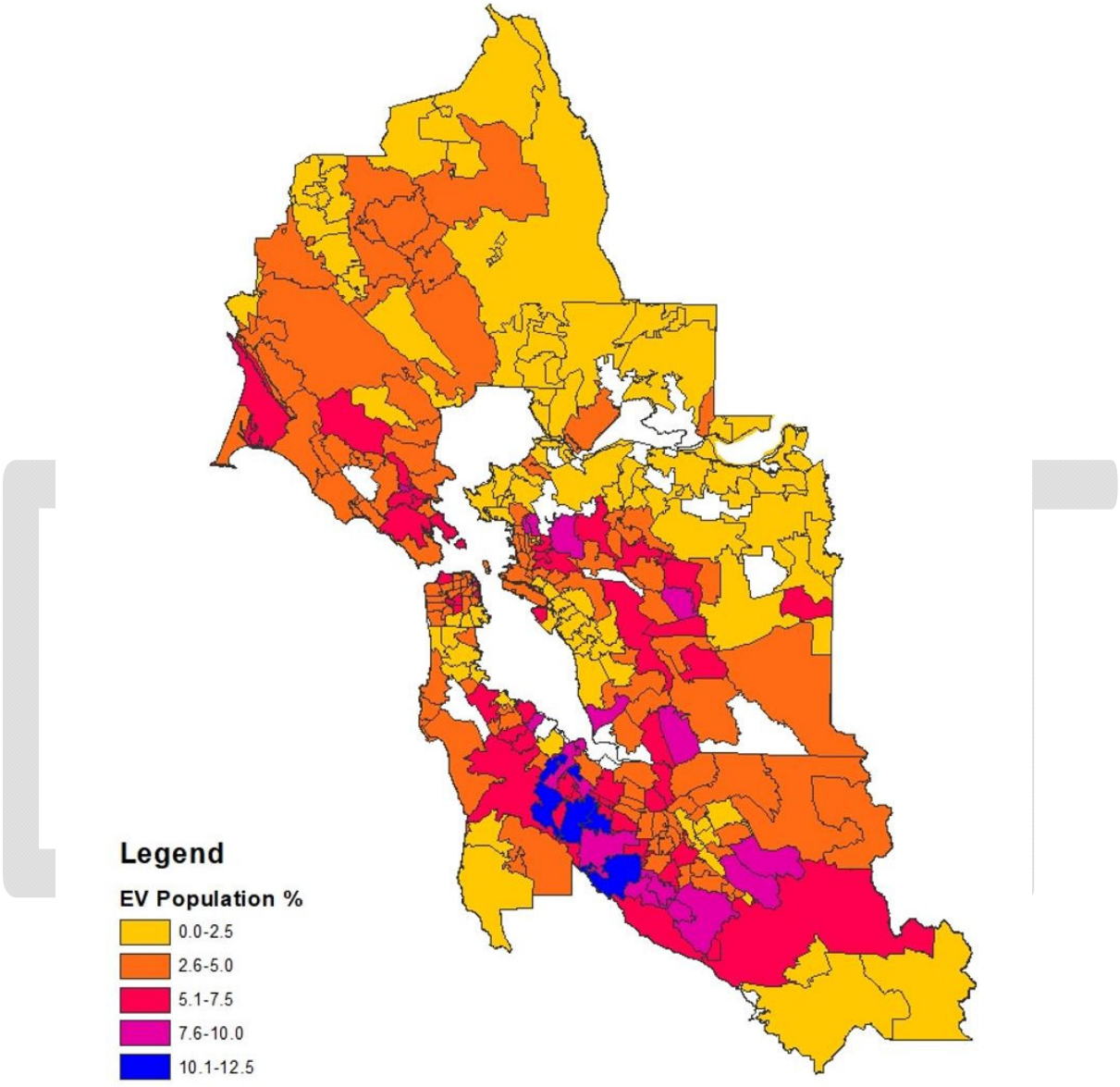
[15] *Ibid.*

Figure 3. County DMV EV Registrations and Corresponding Share of EVs in the Overall Vehicle Fleet



A more granular display of EV registrations across the Bay Area is shown in Figure 4, which is a heat map of EV registrations by zip code. It is clear that parts of Dublin, Fremont, Cupertino, and San Jose are hotspots of EV ownership.

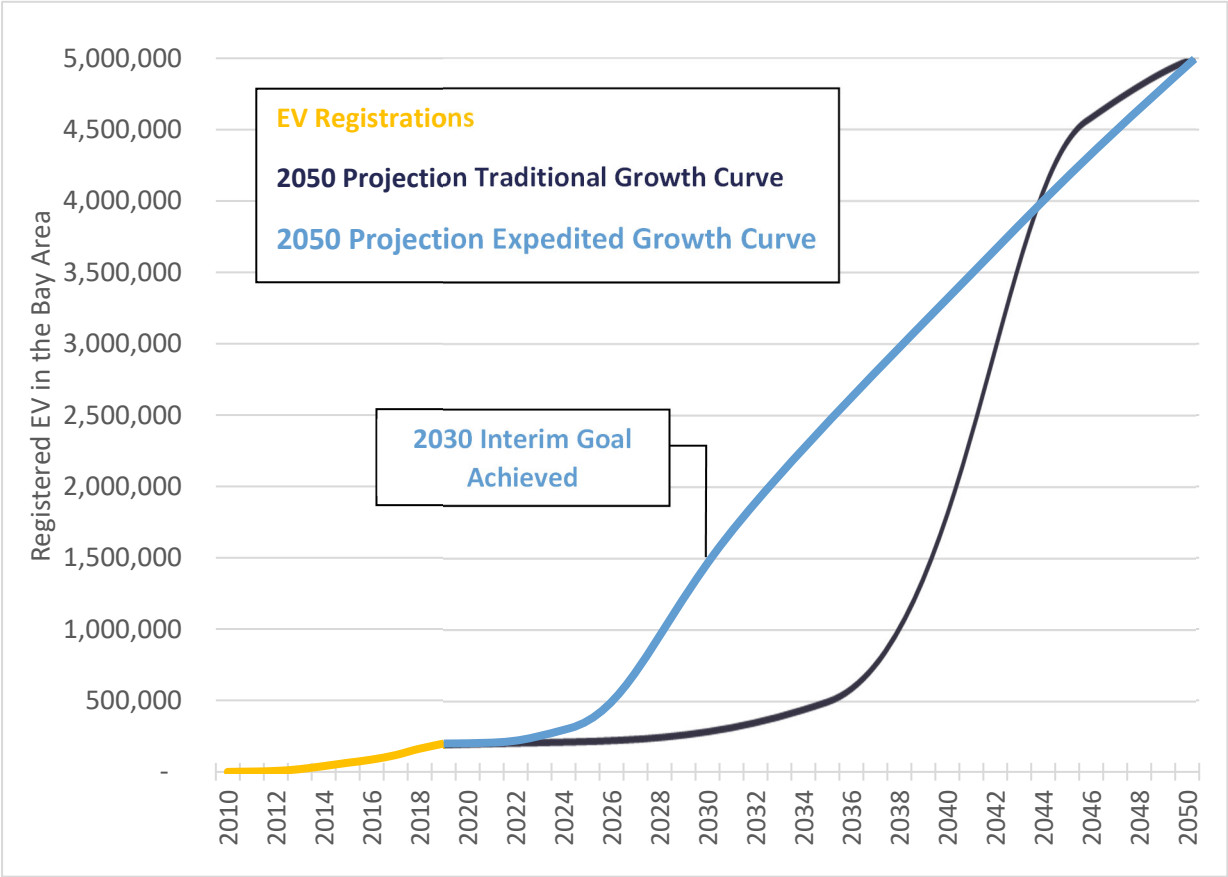
Figure 4. Bay Area EV Registrations by Zip Code



While the Bay Area has seen astonishing growth in EV registrations over the past ten years, Figure 5 provides two potential pathways to reaching the Air District's 2050 goal of EVs accounting for 90% of the fleet (or roughly 5 million EVs). The graph shows historic share of EVs in the Bay Area based on DMV data through 2019, then charts two different trajectories (i.e. traditional and expedited) to reaching our 2050 goal. The projections assume EVs achieve cost parity with internal combustion engine (ICE) vehicles in 2024, resulting in varying degrees of impact based on the projection trajectory (traditional assuming economic stagnation and only a slight uptick in new EV sales as charging continues to be a large barrier to adoption, and expedited assumes consumer demand increases as price outweighs range anxiety). The graph also considers the enactment of a ban on new ICE vehicle sales in 2035 as outlined in Executive

Order N-79-20[16]. While these projections use basic estimates for the actual EV share increases, they show two different paths the Bay Area EV market might take to 2050.

Figure 5. Bay Area EVs and Projected Increase to Meet 2050 Goal



Charging Infrastructure

The availability and accessibility of EV supply equipment (EVSE) is a critical factor influencing the number of people who switch to EVs.[17] Publicly accessible EV chargers are needed to support the growing number of EV drivers, especially for long-distance trips and for drivers that do not have access to private home chargers.

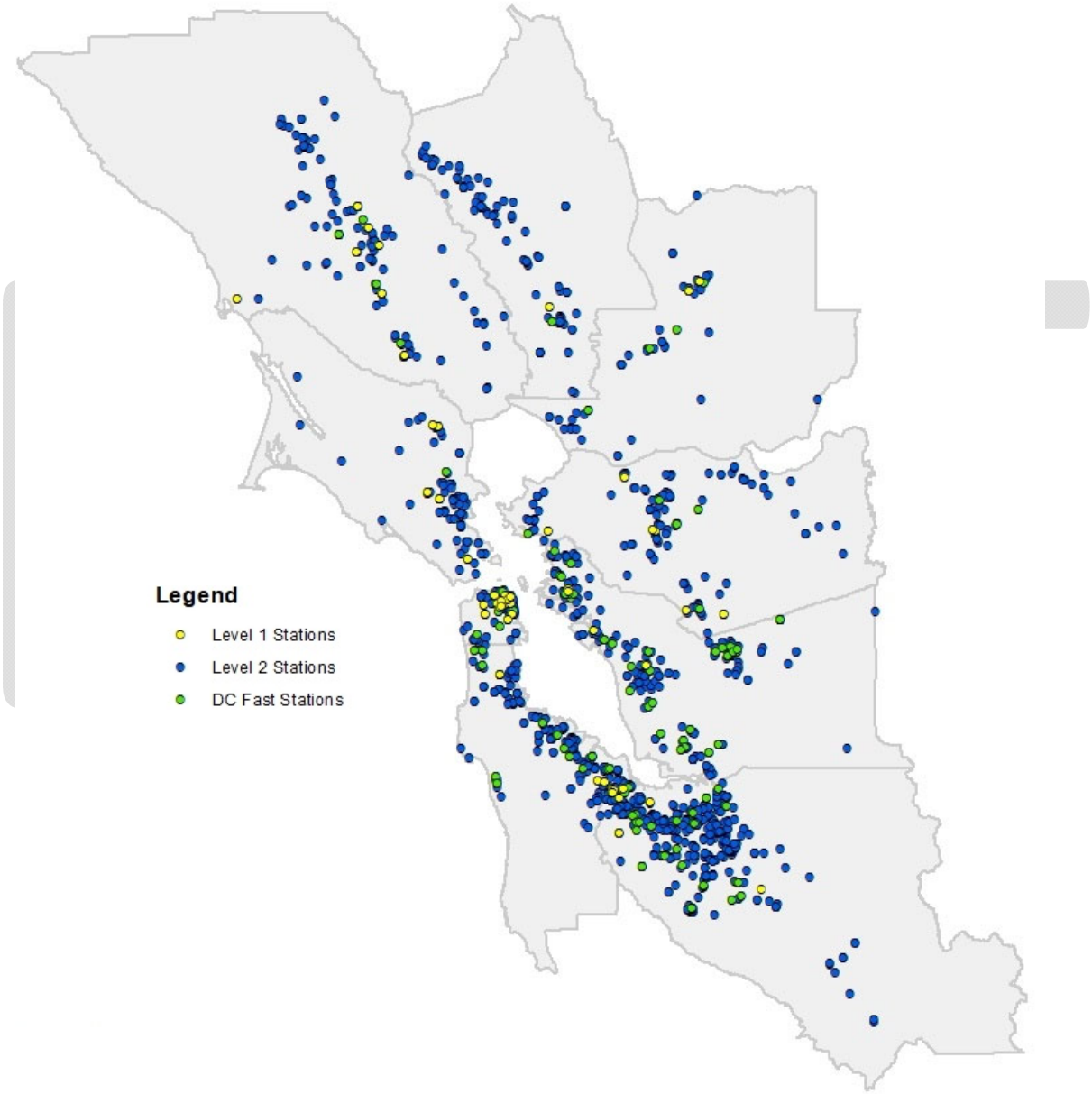
As of June 2020, the Bay Area was home to around 9,500 publicly available charging ports, including both Level 2 and DC Fast (Figure 6). The National Renewable Energy Laboratory (NREL) EV Infrastructure Projection Tool estimates that by the start of 2019, we needed 20,000

[16] CA Executive Order N-79-20, https://www.gov.ca.gov/wp-content/uploads/2020/09/9.23.20-EO-N-79-20-Climate.pdf

[17] Hauke Engel, Russell Hensley, Stefan Knupfer, and Shivika Sahdev, McKinsey & Company, 2018, Charging Ahead: Electric Vehicle Infrastructure Demand, https://www.mckinsey.com/~/media/McKinsey/Industries/Automotive%20and%20Assembly/Our%20Insights/Charging%20ahead%20Electric-vehicle%20infrastructure%20demand/Charging-ahead-electric-vehicle-infrastructure-demand-final.pdf

publicly available charging ports (Public L2 and Public DC Fast) here in the Bay Area to support EV Drivers, following the 1.5 million California wide ZEV's by 2025 target set by Governor Brown.

Figure 6. Bay Area EVSE Station Locations[18]



Additional charging stations will be needed to accommodate future growth in the EV market, especially to achieve the ambitious Bay Area goals and to accommodate a wider range of Bay Area residents. There have also been anecdotal reports that current charging stations are often full, which indicates that additional charging station capacity is needed even for the current

[18] Department of Energy, Alternative Fuels Data Center, Station Locator, www.afdc.energy.gov/stations

number of EV drivers. NREL and California Energy Commission (CEC) developed a computer simulation tool, Electric Vehicle Infrastructure Projection (EVI-Pro), which uses the results of a state-wide transportation habits survey to quantify the charging infrastructure needed to ensure that future EV drivers can meet their transportation needs. This analysis accounts for shifts in vehicle and charger technologies, user demographics, market adoption conditions, the shared-use of chargers, and travel and charging preferences.[19] Over 20,000 public charging ports are estimated to be needed in 2019 (9,100 workplace L2, 8,400 public L2, and 3,300 DC Fast). However, according to the Alternative Fuels Data Center (AFDC), the Bay Area is home to just 9,500 EV charging ports, less than half of what is required according to EVI-Pro. To stay on track with our goals, by 2025, the Bay Area is estimated to need about 40,000 public charging ports (17,000 workplace L2, 17,000 public L2, and 6,000 DC Fast).

Widespread charging infrastructure will be key to overcoming current and future barriers to electric vehicle adoption. An individual or household's need for public charging infrastructure is related to home type, with drivers in single-family homes being much more likely to have home charging than those in apartments or multi-unit dwellings. Electric vehicle owners so far tend to live in single-family homes.[20] To extend the EV market beyond those living in single-family homes, we will have to expand charging available at multi-unit dwellings and public charging infrastructure. In the Bay Area, over one-third (36%) of housing units are in multi-unit dwellings.[21] Installing charging infrastructure has been more challenging for multi-family housing, requiring away-from-home charging options for a significant portion of the Bay Area population. The need for drivers to take longer-distance trips and with a wide range of transportation patterns also requires public charging.

While tools such as the AFDC EV charging map and EVIP-Pro are useful for assessing generalized information about charging, identification of specific geographic and technological gaps will require tools with greater accuracy and granularity. Currently, all data on AFDC's website are self-reported by station hosts, and therefore miss a large segment of the charging market (i.e. residential and workplace charging). Our projections for EVSE needs are only as good as the data we have on existing EVSE.

To support our desired EV adoption goals as quickly as possible, the Bay Area should be the most straightforward place in the country to install EVSE. There are three major EVSE policy accelerators that if achieved will help us achieve this goal:

1) Adoption of ambitious and equitable CALGreen building code updates,
2) The passage of local EVSE reach codes, and

[19] *California Plug-In Electric Vehicle Infrastructure Projections: 2017-2025*, California Energy Commission, March 2018.
[20] *Quantifying the electric vehicle charging infrastructure gap across U.S. markets*, the International Council on Clean Transportation, January 2019.
[21] *American Fact Finder,* United States Census Bureau, January 2019.

3) Local EVSE permit process streamlining.

CALGreen Codes

CALGreen, the state green building code (California Code of Regulations, Title 24, Part 11), sets requirements for installing EV Capable infrastructure in new residential and nonresidential buildings. The current CALGreen code requires that new construction of multi-unit dwellings (MUD) include EV Capable infrastructure in at least 10% of parking spaces, rounded up, meaning that they have raceway and panel capacity installed. Additionally, CALGreen requires that about 6% of parking spaces in new nonresidential buildings must be EV capable. CALGreen only applies to new constructions, meaning that existing buildings post a significant gap in this policy approach.

Local Reach Codes

In addition to the mandatory codes, CALGreen has two tiers of reach codes that enable cities to adopt requirements more ambitious EV Capable codes of 15% and 20% of parking spaces. There are also two tiers of voluntary CALGreen reach codes for commercial buildings that increase the EV Capable levels to about 8% and 10% respectively.[22] These readiness requirements do not require placing a charger in the space immediately but avoid most of the costs that would have been required to retrofit electrical infrastructure, ease the process of installing a charger later, and ease nonfinancial barriers such as gaining landlord or HOA approval.[23]

In addition to the CALGreen reach codes, local jurisdictions that wish to increase their ambition can adopt codes that address existing buildings, similar to codes adopted by the City of Menlo Park[24], the City and County of San Francisco[25], and the City of Burlingame[26]. Local governments are critical to enacting these types of market accelerators. As part of local reach code enactment, local agencies should ensure that permitting and inspection staff are trained to implement these codes and are bought into the idea of an electrified future for their jurisdiction.

Permit Streamlining

California's EVSE permit streamlining law (AB 1236 Statutes of 2015, Chapter 598) was enacted to address mutual frustration: electric vehicle charging station providers wanted to speed the permitting process; and cities and counties often needed better information from applicants and/or a directive to create streamlined processes.[27] To help address these frustrations, AB

[22] The Governor's Office of Business and Economic Development (GO-Biz), Electric Vehicle Charging Station Permitting Guidebook, July 2019. https://static.business.ca.gov/wp-content/uploads/2019/12/GoBIZ-EVCharging-Guidebook.pdf

[23] *Ibid.*

[24] https://www.menlopark.org/DocumentCenter/View/18835/H5---CD---EV-chargers---18-193

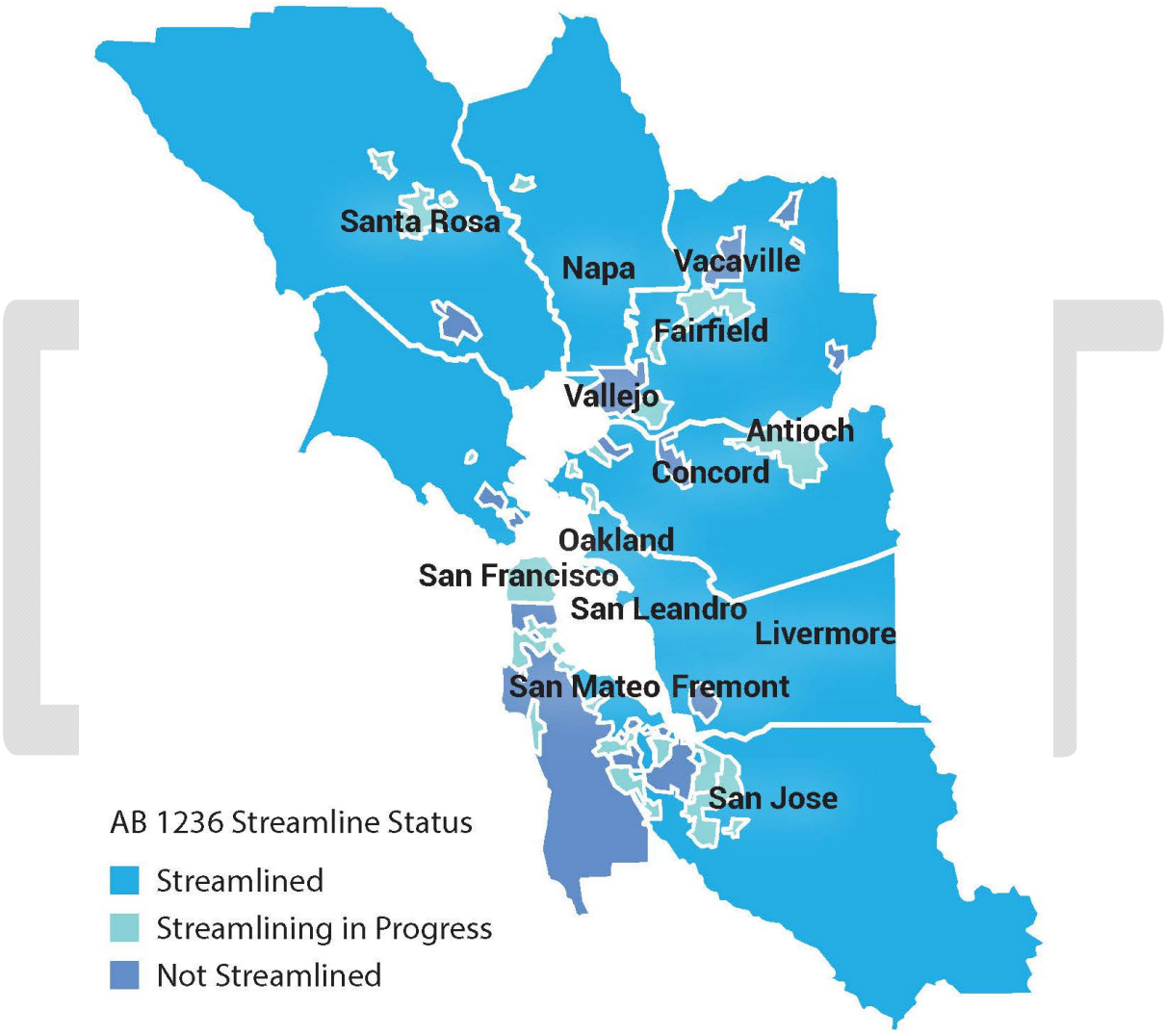
[25] https://sfenvironment.org/green-building-ordinance-sf-building-code

[26] https://www.burlingame.org/departments/sustainability/green_building.php

[27] The Governor's Office of Business and Economic Development (GO-Biz), Electric Vehicle Charging Station Permitting Guidebook, July 2019. https://static.business.ca.gov/wp-content/uploads/2019/12/GoBIZ-EVCharging-Guidebook.pdf

1236 establishes permitting process and communication requirements for cities and counties. As shown in Figure 7, several Bay Area jurisdictions have fully streamlined their EVSE permitting process, however several regions have not yet started the process.

Figure 7. Bay Area Progress Towards EVSE Permit Streamlining (as of November 2020)[28]



While the three tools mentioned above are critical to the maturation of the Bay Area EV market, reaching our 2035 and 2050 goals in an equitable manner will be key.

Insights from Market Research and Surveys

In August 2019, the Air District contracted with the Center for Sustainable Energy (CSE) to study vehicle market stakeholders in the Bay Area to understand their barriers to EV adoption. Using

[28] https://business.ca.gov/industries/zero-emission-vehicles/plug-in-readiness/

a mixed-method approach, CSE analyzed these consumer and business perspectives on EV adoption and infrastructure across the Bay Area.

The mixed-method approach incorporated both central market actors and periphery market actors (residents, ride-hail drivers, multifamily property owners, fleet managers, and car dealerships). Responses for the resident survey were collected between January 14 and March 8, 2020. Responses for the ride-hail driver survey were collected between January 15 and January 27, 2020. Three focus groups were conducted in December of 2019 with multifamily) property managers. Two additional interviews were conducted with multifamily property managers who were unable to attend a focus group. Fleet managers participated in a focus group on December 18, 2019, and several interviews were conducted between January 31 and February 10, 2020. Nine dealership owners and/or managers were interviewed in early 2020.

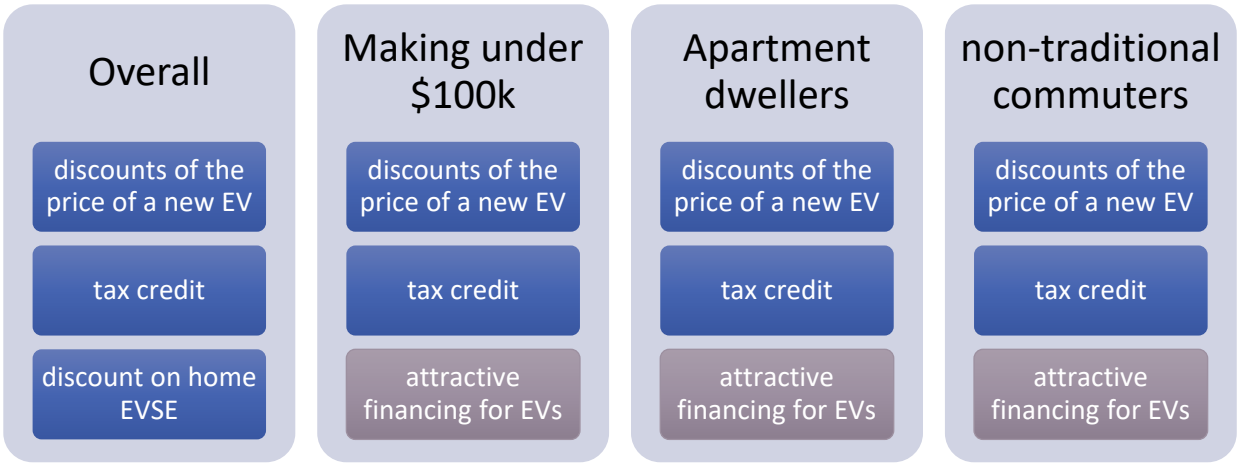
Over 1,100 survey responses were collected along with information from focus groups and interviews, adding 40+ stakeholders. Target response rates were put in place for apartment dwellers, residents making less than $100,000 a year, and residents with nontraditional commuting patterns given our interest in lowering barriers to EV adoption for those groups. Non-probability sampling was used to collect survey responses and should be considered when generalizing findings to the broader Bay Area population. However, these findings provide a useful roadmap to incentives, programs and outreach/education activities that can accelerate EV adoption and reduce emissions.

Bay Area Residents

Overall, 7% of respondents already owned an EV and 40% of non-EV owners have considered one. The most important factors that go into their decisions to purchase EVs are costs of purchase, fuel costs, safety, and dependability. The overall biggest concerns with EVs were related to range and charging availability. Interestingly, audiences who were more likely to have considered acquiring an EV also reported higher levels of concern about various aspects of the technology. Lastly, awareness of EV brands, available charging infrastructure, and available incentives were low.

To understand the appeal of various types of incentives, respondents were asked to rank possible incentives in order of how likely they were to influence their decision to get an EV. Overall, discounts off a new EV, tax credits, discounts on home charging equipment, and attractive financing offers were identified as most likely to influence their decision to buy an EV (see Figure 8). While commonly considered an effective incentive for EV buyers (and identified as important by dealerships), respondents ranked high-occupancy vehicle (HOV) lane access eighth out of ten options.

Figure 8. Top Three Incentives Types



Differences among the target populations were noticed in the findings. Apartment dwellers earned less income, were less likely to own a vehicle or be planning to purchase/lease one and tended to own older vehicles. Further, those planning to acquire a vehicle were more likely to indicate that they would purchase/lease a used vehicle. Apartment dwellers also had significantly less access to home charging (even standard 120-volt outlets) and were much more likely to park in shared lots or on the street.

Nontraditional commuters (i.e., those who do not primarily commute by themselves in their own car) had newer vehicles, owned a lower proportion of gasoline vehicles, and a higher proportion of clean vehicles (e.g., hybrids, BEVs, and PHEVs). They also tended to have fewer concerns about EVs than traditional commuters. Lastly, nontraditional commuters ranked the incentive of free or reduced charging vouchers as more influential in their decision to get an EV than the overall resident sample. This may be due to their limited driving and willingness to charge at various locations, but more research is needed to confirm.

The largest differences between target groups existed in respondents by income. Respondents making under $100K had older vehicles, were less likely to be planning a vehicle purchase, and were much less likely to be considering a new car. Respondents making over $100K were willing to pay 1.5 times the amount for a car on average and spent significantly less on transportation-related costs as a proportion of their income when compared to respondents making less than $100k. Respondents making over $100K had more interest in EVs but also more concerns about EVs, possibly indicating that they had spent more time thinking about the pros and cons of an EV.

Ride-Hail Drivers

The rationale behind survey ride-hail drivers (e.g. drivers on Uber or Lyft platforms) is that ride-hailing trips are higher polluting per passenger than average passenger car travel due to

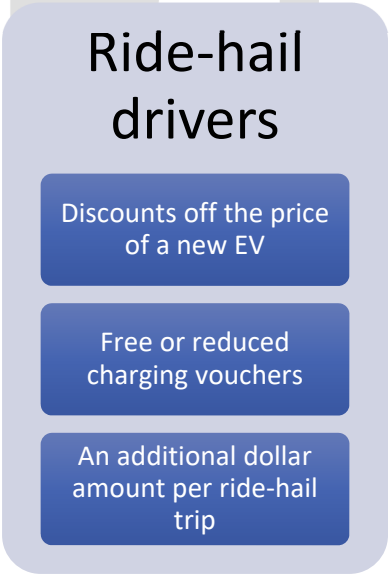
deadheading[29],[30]. Additionally, many ride-hailing trips replace near zero-emission trips on public transit or walking, and therefore generate additional emissions. As such, ride-hailing EVs contribute to reduced emissions more than traditionally owned/driven vehicles.

Overall, 185 ride-hail drivers were surveyed. These respondents do not constitute a random sample of ride-hail drivers and should not be used to generalize findings to the Bay Area ride-hail community. Most ride-hail drivers surveyed worked on a part-time basis of less than 20 hours per week and have other jobs in addition to driving ride-hail. They averaged 228 miles per week driving for ride-hail services, with 75% commuting less than 20 miles to where they start work. Ride-hail drivers reported owning newer vehicles that they have already paid off, most likely due to company requirements. Surprisingly, 16% drive an EV, and this group had a generally higher familiarity with EV incentives than the residents surveyed. For this audience, the most important factors for their purchasing decisions were cost, safety, and dependability; however, they ranked things like comfort and technology higher. More research is needed to confirm, but this may be due to the amount of time spent in their vehicles and the fact they use their vehicle to provide a customer service.

Three-quarters of respondents said their out-of-pocket expenses play an influential role in their car-buying decision. Compared to Bay Area residents in general, a higher percent of drivers said they would consider an EV (64%) but brand and charging infrastructure awareness was low in this group. Their concerns about EVs mirrored the residential survey population. However, over half (58%) of respondents indicated that long-range EVs would have enough range to meet their ride-hail driving needs during a shift.

When ranking the value of possible incentive structures (see Figure 9), ride-hail respondents ranked discounts off of a new EV the highest —as in the resident survey—however it was followed by incentives that would lower driving costs (charging vouchers) and increase driver revenue.

Figure 9. Top Three Incentive Types



Multi-Unit Dwelling Property Managers

Most multifamily property managers had done little to no research on installing EV charging at their buildings despite agreement that EV charging would attract high-quality tenants and would eventually become a necessity. These property managers face several barriers—a lack of time to research EV charging, uncertainty about cost and scope of project (e.g., need for

[29] Trips made by a ride-hailing vehicle when there are no passengers in the vehicle are called deadheading trips or empty trips.

[30] Bloomberg Law, California Moves to Regulate Climate Impact From Uber, Lyft, January 23, 2020, https://news.bloomberglaw.com/environment-and-energy/california-moves-to-regulate-climate-impact-from-uber-lyft

electrical upgrades) and a fear that chargers will become a future additional maintenance problem.

As some participants suggested, providing information and technical assistance would be valuable for many property managers. Interestingly, during the focus groups, one participant would occasionally offer a potential solution to another participant's concern. For example, one participant raised a concern that drivers will park all day in front of a charger, and another participant mentioned that her property had avoided this issue by implementing an hourly rate structure. Technical assistance that includes a site walk to assess electrical capacity and provide a cost estimate could also help alleviate fears and provide momentum for many property managers.

Finally, most participants agreed that despite any technical or logistical concerns, they would be willing to install EV charging with a high enough subsidy.

Public Fleet Managers

The fleet managers who participated in these interviews were very supportive of adding EVs to their fleet, and many expressed a desire to do their part for a cleaner environment. While discussing light-duty vehicles, there was almost no concern about driver apprehension around EVs nor any concern that EVs would be unable to meet fleet needs (except for emergency vehicles). For most interviewees, the biggest barrier to adding EVs to their fleet was EV infrastructure. EV charging stations represent a large upfront cost that fleets have not had to budget for in the past. Creating an EV infrastructure grant with clear rules and minimal participation restrictions could provide significant acceleration in EV adoption among fleets. In addition, some fleets currently own plug-in hybrid electric vehicles (PHEVs) but almost never charge them. Providing charging infrastructure could enable more electric vehicle miles traveled with these existing PHEVs.

For fleets with many trucks and vans, their biggest barrier is a lack of existing electric trucks. While electric retrofits for trucks and vans exist, they are extremely expensive and were not seen as a viable option by any of the interviewees. Some fleet managers expressed excitement about the upcoming electric Ford F-150. Providing significant rebates for electric trucks as they become available is likely to have a large impact for fleets.

Finally, for heavy-duty vehicles, such as buses or waste collection trucks, pilot programs may be very helpful because of the high risk associated with buying such expensive equipment.

Car Dealerships

Dealerships interviewed agreed that customers who come in looking for an EV largely have general knowledge about the technology and are committed to getting one. Dealers were asked whether they purposely steer customers towards a gas vehicle; the only time they report doing this is if the customer had budgetary considerations that made an EV unaffordable or they were interested in a body style not available as an EV. Conversely, they might encourage

consumers to consider an EV if they have a long commute and can take advantage of fuel savings and carpool lane access. The questions that prospective EV customers ask are most often related to range and charging.

Outside of marketing available incentives for EVs like rebates and carpool lane access, successful EV sales strategies were most often dealership-wide strategies that are particularly effective when engaging with prospective EV car shoppers. They included:

- Conducting Q&A with customers as they walk in the door to gauge their needs
- Providing two-week follow-up visits with customers
- Five-day return policy and free delivery
- Test drives/demonstrations

Both high- and low-volume dealerships cited EV inventory as the biggest challenge. Some brands were shifting production to newer models, limiting inventory of demonstration vehicles or creating competition among dealerships for EVs. High-volume dealerships also expressed incentive limitations as a challenge.

Both high- and low-volume dealerships indicated customers' lack of understanding about EVs, and subsequent hesitancy to switch as another challenge. Further, several dealerships indicated a perceived lack of public and multifamily charging by customers as challenges to selling EVs. Another commonly cited challenge was that customers are often concerned that newer/better versions of EVs will be coming out, leaving them hesitant to buy current models.

For used EVs, sales were driven primarily by the availability of lease returns/trade-ins. Often newer EV models have not yet been available long enough to be traded in or have their lease terms expired. While dealerships often reach out to customers at the end of their lease terms to gain repeat business, they are not always successful. If they get used EV inventory, those vehicles are usually priced attractively and sell quickly. Others indicated that it is challenging to move used EVs due to range restrictions of three-year-old models or issues with battery degradation in the used sales market.

When asked what could be done to help dealerships accelerate the sales of EVs, the key drivers indicated were more customer rebates, greater investment in infrastructure, extending HOV lane access and providing dealership EV sales support.

Accelerating EV Adoption

In mid-2019, the Air District conducted a series of meetings around the Bay Area with EV market stakeholders. These meetings included representatives from government organizations, Community Choice Aggregators, EVSE technology and software companies, automotive manufactures (or original equipment manufacturers, OEMs), colleges, school districts, ride-hailing companies, and elected officials. Staff collected input from these participants on the type of information and data that would be useful for their work to accelerate EV adoption in

the Bay Area. Additionally, the Air District asked participants what tools and resources are currently lacking that if developed, would help accelerate EV adoption.

The results of these meetings, combined with the results of the survey and market research discussed above, informed the following sections on Barriers to EV Adoption and Recommendations for Moving Forward. The following sections aim to articulate the barriers to EV adoption, identify solutions to those barriers, and prioritize and suggest responsibility for implementing those solutions.

Barriers to EV Adoption

Vehicle technology	• EV range • Battery degradation (esp. used market) • Lack of diversity in model styles (e.g. low or no supply of pick-up trucks, SUVs, minivans EVs)
Charging	• Not enough public charging locations • Low grid capacity in certain areas/properties • Uncertain availability of clean energy to get to zero emissions for EV charging • Restrictive facility configurations at multifamily buildings • Cost allocation to customers at multifamily buildings is complicated with EVSE and electricity meters • Varied permitting requirements for EVSE installations • Inaccurate public EVSE locations, not one centralized site, drivers must use multiple sources • We need more DC Fast chargers than we thought because fast chargers are needed to serve multifamily buildings residents, long-distance travelers, EVs with larger batteries that take longer to charge • Need to balance DC Fast with L2 charging needs for PHEV/used/multifamily drivers • Non-standard charging ports • Gas stations need to add EVSE, but no real support for them
Economics	• Purchase price of EVs compared to traditional gas vehicles • Complicated incentives (cars and EVSE) • Difficult to calculate longer term cost savings of EVs • Work-from-home electricity use make EV rates less financially attractive • Diminishing government budget revenue putting grant programs at risk • Public DC Fast charging is too expensive • COVID impact on economy and future commuting patterns
Perceptions and Behavior	• Dealership EV knowledge is low • Misinformation about EV technology

	• Perception that EVs are only for the wealthy • Outreach in the age of shelter in place • Lack of consistent equity data and metrics to track market trends • Low use of smart charging (i.e. off-peak)

Recommendations

Based on our market research, stakeholder outreach, and discussions with market experts, we have developed the following recommendations that aim to address the most pressing and persistent barriers to EV adoption in the Bay Area. For each recommendation we have identified an organization or group of organizations that have or should take on responsibility for implementing the recommendation. Realizing even a handful of the recommendations below will help the Bay Area reach our EV adoption goals and continue to lead the State and the Nation in advancing innovative and equitable transportation electrification programs and policies.

Policy and Legislation	
Recommendation	**Responsibility**
1. Seek more ambitious CALGreen EV ready parking spaces standards in the 2022 Title 24 Code Update (for both existing and new buildings)	1. California Department of General Services, Air District, Community Choice Aggregators (CCA), Non-profit Organizations
2. Support legislation that encourages additional grant funding and streamlining of grant programs to avoid duplication and unnecessary administrative costs	2. Air District
3. Streamline permit process and requirements for EVSE	3. Governments, CA Governor's Office of Business & Economic Development (GO-Biz)
4. Workforce training investments to retrain auto body workers	4. Governments, GO-Biz, California Community College Districts
5. Train and prepare the emergency response community to address and mitigate EV related hazards	5. CA Governor's Office of Policy and Research (OPR)
6. Develop a through web resource for EV related plans, materials, data, and grants for the Bay Area community.	6. Air District
7. Support CARB's challenge of the Trump Administration's actions that:	7. Air District

• revoked California's Clean Air Act waiver for its GHG and ZEV light-duty standards, • issued a regulation that those standards are preempted by the Energy Policy and Conservation Act (EPCA), and • significantly relaxed the federal light-duty vehicle GHG and fuel economy standards	
8. Support CARB and CPUC development of Clean Mile Standard regulation for transportation network companies (TNCs)	8. Air District
9. Support the development of CARB Advanced Clean Cars II regulation	9. Air District
10. Support State government implementation of Executive Order N-79-20	10. Air District
Financial Incentives and Rebates	
Recommendation	**Responsibility**
1. Seek additional funding sources for Bay Area EV programs from the State and Federal government.	1. Air District, MTC
2. Link EV and EVSE incentive programs for multifamily residents to ensure charging access	2. IOUs, CCAs, Air District, CARB, CEC
3. Explicitly allocate resources to provide technical assistance and time to develop authentic relationships with specific communities in all grant programs	3. Governments, IOUs, CCAs, Air District, CARB, CEC
4. Provide training for incentive program staff on how to bring a racial equity lens into their work	4. Governments, IOUs, CCAs, Air District, CARB, CEC
5. Develop a wealth-based system for determining eligibility, rather than an income-based system.	5. CARB, CEC, GO-Biz
6. Set minimum deployment commitments for EVSE programs in frontline communities	6. Governments, CCAs, IOUs

7. A monetary incentive to dealership sales personnel for every EV sold to income qualified customers	7. Governments
8. Support a universal incentive application to determine an individual's eligibility across several EV programs	8. CARB, Air District, CCAs
9. Home charging incentives for income qualified EV owners	9. IOUs, Air District, governments, CCAs
10. Incentivize multifamily EV charging infrastructure where multifamily owners pay a fee for EV chargers but do not have to maintain or manage them	10. EVSE OEMs, governments, CCAs
11. Incentivize upgrading of electric panels at multifamily buildings for buildings that do not have the electrical capacity to accommodate an EV charging station	11. IOUs, CCAs
12. Build in time to assess existing incentives and shift/update those programs as market matures	12. Governments, IOUs, CCAs, Air District
13. Encourage State incentive programs to support all charging levels to fit with the varied use cases of EV drivers	13. Air District
14. Encourage managed charging software at public and multi-family charging locations	14. Air District
15. Offer zero interest loans and/or loan guarantees for individuals with low/poor credit	15. Governments, NGOs, financial institutions
Recommendation	**Responsibility**
Outreach and Education	
1. Coordinate with other grant programs on applicant demographic data to identify underserved groups	1. Governments, IOUs, CCAs, Air District, CARB
2. Work more closely with communities to better understand their unique needs and barriers to EV adoption	2. Governments, IOUs, CCAs, Air District, community-based organizations (CBO)
3. Conduct outreach and education in various languages	3. Governments, IOUs, CCAs, Air District, CBOs

4. Use community specific cultural media channels to share information (e.g. Spanish language radio, etc.)	4. Governments, IOUs, CCAs, Air District, CBOs
5. Acknowledge that EVs have been associated with gentrification while sharing information about incentives for income qualified residents	5. Air District, Governments, IOUs, CCAs
6. Aim to hire from within the community when recruiting staff or consultants to conduct stakeholder engagement (e.g. case managers, call centers, etc.)	6. Governments, IOUs, CCAs, Air District, CBOs, MTC
7. Focus marketing resources on the benefits of EV ownership that address major concerns and important vehicle purchasing factors	7. Governments, IOUs, CCAs, Air District, CBOs, CARB
8. Market the existence of available rebates and the stackability of rebates	8. Governments, IOUs, CCAs, Air District, CBOs, CARB
9. Partner with CBOs when delivering messages and rolling out grants	9. Governments, IOUs, CCAs, Air District, CARB
10. Provide materials about EV benefits in ride-hail EVs	10. Governments, CCAs, Air District
11. Provide technical assistance to gas stations to install EVSE, particularly in frontline communities	11. Governments, IOUs, CCAs, Air District, CBOs, CARB, CEC
12. Utilize permitting databases to reach gas stations and share factsheets on EVSE installations	12. Air District, CARB
13. Empower influential members of frontline communities and support them with the latest information to share with their communities	13. Governments, IOUs, CCAs, Air District
14. Provide briefings to elected public officials aimed at educating them and their staff about the relevant EV issues, policies, and programs	14. Air District, CBOs
15. Build strategies to increase *word-of-mouth* lead generation into program outreach plans	15. Governments, IOUs, CCAs, Air District, CBOs
Recommendation	**Responsibility**
Charging	
1. Develop a more accurate count of public EVSE in CA	1. CEC, CARB, California Public Utilities Commission (CPUC)

2. Develop an estimate of home chargers in California to assess the share of EV drivers that charge at home versus on the go or at work.	2. CEC, CARB, IOUs, CCAs, EVSE OEMs
3. Collect and showcase the range of charging solutions available in California, with the aim to showing the varied use cases EVSE OEMs can support	3. CEC, CARB
4. Assess viability for alternative charging modes (e.g. battery swapping)	4. CEC
5. Increase EVSE signage along major highways	5. Caltrans
6. Utilities provide grid side asset details to streamline identification of multifamily properties that would be least expensive to install EVSE	6. IOUs, CCAs

Advancing Equity in the EV Market

Air pollution from mobile sources disproportionately impacts residents in frontline communities that live near major roadways and high traffic commercial hubs. For this reason, low-income residents stand to benefit the most from the cleaner air that comes along with transportation electrification, as well as the cost-saving benefits of driving an EV.[31] In California as a whole, African Americans are exposed to 43% more micro particulate pollution (PM2.5) from vehicles than white residents; and Latinos are exposed to 39% more; and Asians 21% more than white Americans. Households earning less than $20,000 per year are exposed to 10% more PM2.5 than the state average, and 25% more than the wealthiest Californian households.[32] Additionally, both low-income and communities of color have faced numerous challenges to participating in the nation's economic and technological transitions, from the homeownership push that produced redlining of African American and Latino neighborhoods to the digital revolution that opened a still-gaping divide.[33]

Below are several recommendations aimed at increasing equity and inclusion in the EV market, with greater attention to the actions governments and grant administrators can take to

[31] The Greenlining Institute, Electric Vehicles for All: Equity Toolkit. https://greenlining.org/resources/electric-vehicles-for-all/

[32] Union of Concerned Scientists, *Inequitable Exposure to Air Pollution from Vehicles in California (2019)*, https://www.ucsusa.org/resources/inequitable-exposure-air-pollution-vehicles-california-2019

[33] The Washington Post, *Redlining was banned 50 years ago. It's still hurting minorities today*, https://www.washingtonpost.com/news/wonk/wp/2018/03/28/redlining-was-banned-50-years-ago-its-still-hurting-minorities-today/

expedite this necessary shift. Many of these recommendations are based on the Air District's experience administering grants, developing and implementing outreach strategies, and working with CBOs to advance clean transportation, but this is by no means an exhaustive list.

Prioritize funding for low-income households. Incentives play a vital role in the acceleration of transportation electrification. Within the EV market, early tax incentives have traditionally benefitted innovators and early adopters. Low-income households are typically the last to adopt new technologies[34], which are usually cost prohibitive. This is still true today in the EV market, most low-income households were left behind as new, cleaner vehicles are inaccessible financially for reasons such as low/no access to credit, being unbanked, etc. Further, the longer commute times within this community mean that early EV models, which tend to have shorter ranges, were unattractive due to range anxiety.[35]

Recently, however, there has been a much-needed shift to equity focused incentives. Programs such as the Clean Vehicle Assistance Program, Drive Clean Assistance Program, MCEv, Drive Forward Electric, California Vehicle Rebate Project, and Clean Cars for All (CCFA)[36] provide EV incentives that focus on low-income consumers. Additionally, providing loans and/or loan guarantees to residents with low or poor credit is key to supporting greater access to the EV market. In order to shift from innovators and early adopters to the late majority and laggards of the technology adoption cycle, incentives must continue to be prioritized for low-income households.

Incentive programs must coordinate and align program requirements. As more federal, state, and local incentives become available, it becomes increasingly difficult for consumers to understand and navigate these programs. This is particularly important as we strive to serve non-native English-speaking communities. Program eligibility requirements should be aligned to avoid confusion and can help lessen the administrative burden of income verification. Program administrators should work to build off one another. For example, if one program verifies applicant income, other programs can accept proof of enrollment in that program as income verification. They key is to avoid duplication and find efficiencies wherever possible. This reduces both the workload for program administrators and barriers to participation for consumers. Coordinating also helps with outreach and marketing, making it easier for consumers to combine or stack funding.

Provide multilingual and multicultural education, marketing, and outreach. The lack of consumer awareness and knowledge around EVs and charging technology continues to be a primary barrier to widespread adoption. Education, marketing, and outreach must not only be

[34] Pew Research Foundation, Digital divide persists even as lower-income Americans make gains in tech adoption, https://www.pewresearch.org/fact-tank/2019/05/07/digital-divide-persists-even-as-lower-income-americans-make-gains-in-tech-adoption/

[35] *Ibid.*

[36] Funded by the Transportation Fund for Clean Air, California Climate Investments, and the VW Settlement Agreement. More information can be found at www.baaqmd.gov/cleancarsforall

available in multiple languages but must also be done in a way that conforms to the cultural norms and experiences of the communities being targeted. Language and cultural barriers limit accessibility of incentives to underserved communities of color and must be prioritized in order to limit the challenges and barriers of EV adoption.

For example, Clean Cars for All launched using several ride-and-drive events in DACs given the success of such events in the early years of EV outreach work. However, despite using several communication channels, offering free food and entertainment, the events attracted very low numbers of attendees. We used an approach that worked for educating early adopters, which are inherently a different type of consumer. Our challenge was discovering what types of events and outreach our frontline communities would respond well to and what messages were most effective. Once we came to this understanding, we shifted our focus and communicated with potential grantees through social media and encourage all of our early grantees to share the program information with their friends and family. As of November 2020, roughly 60% of our grantees hear about the program from friends or family members.

Invest in developing relationships with communities to increase participation. There are often sentiments of government distrust among frontline communities, particularly undocumented workers[37]. Working with trusted non-government agencies (NGOs) and CBOs can help bridge the gap between government and underserved communities to build trust and drive participation in incentive programs. Additionally, working with CBOs allows for better targeting of incentives to residents that are truly in need of assistance. As trust is built and participation grows, our experience has shown that word of mouth will become a major driver for outreach and participation.

Prioritize point-of-sale incentives. How an incentive is applied plays an important role in the accessibility of those funds, especially for low-income consumers. Incentives that are upfront can be accessed immediately, while an after-purchase incentive requires the customer to pay the money upfront and wait for reimbursement. In the case of EVs, many low-income residents are not able afford the higher upfront costs of EVs or qualify for a large enough loan to access these incentives. For residents that intend to cover the entire cost of their EV with the grant, an after the purchase rebate can force some grantees into even greater financial difficulty, negating some if not all of the benefits of participation.

Equity metrics must be clearly defined and (the right) data should be collected early and often. When demographic and socioeconomic metrics, baselines, and goals are clearly defined, progress can be measured and analyzed to identify areas of success and areas that need improvement. Collecting data early and often allows data collection to be segmented so

[37] California Energy Commission, Low-Income Barriers Study, Part A: Overcoming Barriers to Energy Efficiency and Renewables for Low-Income Customers and Small Business Contracting Opportunities in Disadvantaged Communities, https://assets.ctfassets.net/ntcn17ss1ow9/3SqKkJoNIvts2nYVPAOmGH/fe590149c3e39e51593231dc60eeeeff/TN214830_20161215T184655_SB_350_LowIncome_Barriers_Study_Part_A__Commission_Final_Report.pdf

applications aren't lengthy and overwhelming. The data can be used to identify underserved or underrepresented communities where more support and targeted outreach may be needed and can also help inform policy changes.

Air District Investments in Advancing Equity in the EV Market

The Air District has endeavored to integrate the recommendations above into existing grant programs. Below is a summary of what we have accomplished to date.

The Air District's Clean Cars for All Program (CCFA) [38] provides qualifying low-income residents up to $9,500 for scrapping an older vehicle and switching to a clean transportation option. Participants have the option to purchase or lease new and used PHEVs, BEVs, FCEVs, or receive a "mobility options" prepaid card for public transit, e-bikes, and car-sharing. There is an additional rebate of $2,000 to purchase and install a home EV charger. The incentive funding is based on participants' income levels and which clean transportation or vehicle option they select. CCFA conducts stakeholder engagement and outreach to frontline communities, contracts with case managers to support participants through the application process, and developed partnerships with dealerships, vehicle scrappers, and community-based organizations across the Bay Area.

In 2021, CCFA added an additional $500 incentive for grantees that purchase or lease an EV that are enrolled in one of the following low-income programs:

- Bureau of Indian Affairs (BIA) General Assistance
- CalFresh/Supplemental Nutrition Assistance Program (SNAP)
- CalWORKS (TANF) or Tribal TANF
- Cash Assistance Program for Immigrants (CAPI)
- Free or Reduced National School Lunch Program
- Head Start Income Eligible (Tribal Only)
- Low Income Home Energy Assistance Program (LIHEAP)
- Supplemental Security Income (SSI)

WIC - Women, Infants, and Children Supplemental Nutrition Program This funding was added to help grantees with the greatest need lower their financial burden to purchase a car, particularly used EVs that average $19,000.

Since CCFA launched in March 2019, we have received over 2,000 applications and as of November 2020, 1,337 residents have been awarded grants totaling over $10 million. Of the residents awarded CCFA grants, 60% make less than $30,000 a year and 67% do not own their home. The average new EV price is $37,000, the average used EV price is $19,000, and several

[38] Funded by the Transportation Fund for Clean Air, California Climate Investments, and the VW Settlement Agreement. More information can be found at www.baaqmd.gov/cleancarsforall

grantees have purchased used EVs under $10,000 (resulting in no or very little out of pocket costs).

In addition to vehicle incentives, the Air District has offered the Charge! Program since 2016, which provides funding to offset the cost of purchasing and installing public EV charging infrastructure. Charge! has supported the deployment of over 2,900 publicly accessible Level 2 and 121 publicly accessible DC Fast charging ports at over 363 locations in the region.

For many EV owners, private charging located in their place of residence offers the convenience to reduce range anxiety (the fear of running out of fuel). However, for the approximately 36% of Bay Area housing units are multifamily buildings, home charging is not an option.[39] The Air District is committed to making EVs accessible to everyone, and adequate EV charging is a key component of that effort. For this reason, additional funds are allocated to projects at multifamily buildings, which encounter significant challenges to EV charger installation and operation.

The Air District's Community Health Protection Program (AB617) is an important companion effort for achieving the overall goals and specific equity measures in this Plan, and we will work through our communities' AB617 Steering Committees to collect ongoing input on implementation efforts.

The Air District will continue to seek funding for these grant programs and will encourage other public agencies to transition incentives to serve residents and businesses in frontline communities that are disproportionately impacted by air pollution.

[39] American Fact Finder, United States Census Bureau. January 2019. Available online: https://data.census.gov/cedsci/table?q=Housing&g=0500000US06001,06013,06041,06055,06075,06081,06085,06095,06097&tid=ACSDP1Y2016.DP04&hidePreview=true

Conclusion

The transportation sector continues to be the largest source of our greenhouse gas emissions and contributes to depressed health outcomes in frontline communities that are disproportionately impact by such pollution. The Air District will seek to review and update this Plan's equity outcomes and recommended adjustments as warranted, including strategies to further expand infrastructure for hydrogen fuel cell vehicles. The Air District is committed to securing cleaner air and access to clean vehicles and clean transportation options for all residents in our jurisdiction. Programs that provide support to residents that are low-income, and people of color are critical to meeting our ambitious transportation electrification goals. The Air District will utilize our position as a regional agency to motivate state and national leadership and support local action to encourage EV adoption in our communities.

Acknowledgements

The Air District wishes to thank the following people and organizations that assisted us in this project by providing contacts and recommendations for market test interviews and site assessments.

- MTC
- The Center for Sustainable Energy
- Ecology Action
- PCE
- East Bay Clean Cities
- CPUC
- Grid Alternatives
- Greenlight Labs
- Kearns & West

Finally, our deep appreciation to the Bay Area EV Coordinating Council for providing thought leadership support and subject matter expertise.