



Public Workshop on the Fiscal Year 2022-23 Draft Funding Plan for Clean Transportation Incentives



Public Workshop Date and Location:

Thursday, July 21, 2022

10:00 a.m. to 3:00 p.m.

Webinar

Link to Webinar Registration:

https://us06web.zoom.us/webinar/register/WN_yXaJbYLcQFKaklw3LmgoXQ

Workshop presentation will be posted on the morning of the workshop at:
<https://ww2.arb.ca.gov/our-work/programs/low-carbon-transportation-investments-and-air-quality-improvement-program/low-1>

Released: July 14, 2022

Submit Written Comments: CleanTransportationIncentives@arb.ca.gov

Workshop Information

Thursday, July 21, 2022, 10:00 a.m. – 3:00 p.m.

Webinar Information

Zoom Webinar Registration Link:

https://us06web.zoom.us/webinar/register/WN_yXaJbYLcQFKaklw3LmgoXQ

Agenda

10:00 a.m. – 10:20 a.m.	Introduction and Overview of Draft Funding Allocations
10:20 a.m. – 11:00 a.m.	Long-Term Plan for Light-Duty Vehicle and Clean Transportation Equity Investments
11:00 a.m. – 12:00 p.m.	Light-Duty and Clean Transportation Equity Projects
12:00 p.m. – 12:45 p.m.	Break
12:45 p.m. – 1:15 p.m.	Long-Term Heavy-Duty Investment Strategy
1:15 p.m. – 2:15 p.m.	On-Road Heavy-Duty Vehicle and Off-Road Equipment Investments
2:15 p.m. – 2:50 p.m.	Open Discussion
2:50 p.m. – 3:00 p.m.	Summary and Next Steps

All times are approximate—if a topic concludes early staff will proceed with the next item

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Introduction

The Funding Plan for Clean Transportation Incentives (Funding Plan) serves as the blueprint for expending the Clean Transportation Incentives funds appropriated to the California Air Resources Board (CARB or Board) in the State budget. The Funding Plan establishes CARB's priorities for the funding cycle, describes the projects CARB intends to fund, and sets funding targets and outreach strategies for each project. Each year the Funding Plan is updated and includes funding proposals and implementation details specific to each fiscal year. Collectively, Clean Transportation Incentives address multiple priorities, including:

- Supporting the State's climate change, air quality, zero-emission vehicle (ZEV) deployment, and petroleum reduction goals. Accelerating the transition to zero-emission.
- Supporting priority populations by implementing community-driven clean transportation solutions and equitable investments.
- Supporting economic recovery and job training and apprenticeship opportunities.
- Building on successes of previous investments and incorporate lessons learned.

This document is the Draft Funding Plan for FY 2022-23 (Draft Funding Plan) and contains staff's preliminary recommendations for expending funds in the Proposed Budget for Fiscal Year (FY) 2022-23 and summarizes initial stakeholder, including priority population¹ input received during the public process thus far. The Draft Funding Plan will be used to guide discussions during the July 21, 2022 Public Workshop, and does not represent final Board action. Based on input received, staff will develop the final Funding Plan for Board consideration in November 2022.

The 2022 State Budget includes a total of \$6.1 billion over multiple years through FY 2025-26 to accelerate ZEV transportation, with a focus on the communities most impacted by pollution. This proposal builds upon the \$3.9 billion multi-year commitment to accelerate ZEVs approved in the 2021 Budget, for a total investment of \$10 billion over five years to decarbonize California's most polluting sector and improve public health. This funding will be administered by CARB, the California Energy Commission (CEC), the California State Transportation Agency, and the Governor's Office of Economic and Business Development (Go-Biz). This new funding builds on ZEV and ZEV infrastructure investments made by the State for more than a decade. These investments will focus on an equitable ZEV transition by continuing to find ways to support priority populations.

The Legislature approved much of this funding with several budget bills that were signed by the Governor – approving the overall investment level of \$10 billion, which includes \$1.125 billion to administer grants help local educational agencies replace internal

¹ As defined Health and Safety Code (HSC) Sections 39711 and 39713.

combustion school buses. However, the Legislature has deferred finalizing some of the detailed, program level appropriations until later in the 2022 Legislative session.

Because the Legislature has deferred consideration of some of the detailed program level appropriations and has not yet released its detailed proposal, CARB staff will present details included in the May Revise to the 2022-23 State Budget where allocations have been deferred in this Draft Funding Plan². These are the most recent publicly available numbers. If the final deferred appropriations are different than those in this document, CARB staff may schedule additional public meetings and will use the final approved appropriations in the proposed FY 2022-23 Funding Plan when it is released later this year.

The Draft Funding Plan covers CARB's portion of the multi-agency ZEV package, as approved in the Budget Act of 2022, Senate Bill (SB) 154 (Skinner, Chapter 43, Statutes of 2022), Budget Act of 2022, SB 154 (Skinner, Chapter 43, Statutes of 2022), Assembly Bill (AB) 181 (Committee on Education, Chapter 52, Statutes of 2022), and the proposed May revise to the 2022 State budget for deferred allocations. This includes approximately \$3 billion for Clean Transportation Incentives. This year's Draft Funding Plan is comprised of funding from the Cap-and-Trade Expenditure Plan, the General Fund, Proposition 98 General Funds, and the Air Quality Improvement Fund. Funding included in the Draft Funding Plan is outlined in Table 1. The sources of funding covered in this document are:

- \$925 million for clean transportation equity programs established under SB 1275 (\$849 million from the General Fund and \$76 million in Cap-and-Trade auction proceeds from the Greenhouse Gas Reduction Fund (GGRF).
- \$2.015 billion proposed for heavy-duty zero-emission trucks, buses, and off-road equipment (\$290 million from the General Fund, \$1.125 billion from Proposition 98 General Funds, and \$600 million in Cap-and-Trade auction proceeds from GGRF).
- \$28.64 million for the Air Quality Improvement Program (AQIP) from the Air Quality Improvement Fund.

Complementary infrastructure funding is also available through CEC to support zero-emission drayage, transit, school bus deployment, as well as funding to support critical charging infrastructure. The remainder of the \$10 billion multi-year package covering FY 2023-24, 2024-25, and 2025-26 will be included in future Funding Plans.

The Draft Funding Plan summarizes preliminary options for expending these funds, and reflects input from a March 15, 2022, public workshop, public work group meetings held between April and July 2022, one-on-one meetings with stakeholders, including priority populations, community surveys, and additional stakeholder comments. The document describes initial staff thinking with respect to:

² CARB acknowledges that these details may change in the final Budget bill based on the outcome of negotiations between the Administration and the Legislature.

- CARB priorities for this year’s funding cycle.
- Funding allocations for each project category.
- Program refinements based on public input and CARB evaluation of recent years’ projects.
- Enhanced metrics and program evaluation strategies to measure the behavioral changes and socioeconomic benefits generated by projects.
- Contingency provisions should mid-year refinements be necessary.

**Table 1: Proposed Appropriations for FY 2022-23 Funding Plan
(millions)**

Project Category	Greenhouse Gas Emission Reduction Fund (GGRF)	General Fund	Proposition 98 General Fund	Air Quality Improvement Fund
Clean Transportation Equity Programs Established Under SB 1275				
Vehicle Purchase Incentive Programs	\$76	\$430*	-	-
Clean Mobility Investments	-	\$419*	-	-
Heavy-Duty Zero-Emission				
Drayage Trucks, School/Transit Buses	-	\$280	\$1,125	-
Clean Trucks, Buses, and Off-Road Freight	\$600	-	-	-
Emerging Opportunities	-	\$10**	-	-
AQIP	-	-	-	\$28.64
		TOTAL \$2,968.64		

* Appropriations from May Revise that are deferred by Legislature. CARB acknowledges that these details may likely change before the end of the Legislative session. Staff will update program level allocations upon final legislative appropriation.

The investments contained in the Draft Funding Plan represent Clean Transportation Incentives, which is only a portion of the substantial investments made by the State to promote clean transportation, support the State’s numerous air quality and climate goals, and provide benefits to priority populations. CARB’s portfolio of incentive programs outside of this Draft Funding Plan include the Community Air Protection Program (AB 617), the Funding Agricultural Replacement Measures for Emission Reductions Program, the Carl Moyer Program, and the Volkswagen (VW) Mitigation Trust.

Staff will present draft recommendations pertaining to the specific Clean Transportation Investments listed in Table 1 above at a public workshop on July 21, 2022. Based on input provided at this workshop, along with project-specific public work group meetings, written stakeholder submissions, community surveys, and individual meetings with priority populations and other stakeholders, staff will develop final proposed recommendations for Board consideration. Staff plans to release the proposed FY 2022-23 Funding Plan in

October for consideration at the November 17-18, 2022, Board Meeting. Final draft recommendations for this funding will incorporate input from the public workshop on July 21, 2022 and will be included in the final version of the FY 2022-23 Funding Plan released for public comment prior to consideration by the Board.

Chapter 1: Background

CARB's portfolio of incentive programs complements regulatory programs to reduce emissions and increase access to clean transportation. Each incentive program comes with its own requirements, emission reduction goals, and project eligibility criteria making the portfolio diverse and far reaching. Together, these projects address multiple goals, including:

- Turning over legacy fleets to achieve cost-effective, near-term emission reductions in support of State Implementation Plans, air toxics reduction goals, and community air protection goals.
- Accelerating the introduction and deployment of zero-emission technologies to meet California's air quality and climate change goals.
- Improving access to and investing in clean transportation and mobility options for priority populations most impacted by pollution in support of equity and environmental justice goals.
- Supporting small owner/operator fleets' transition to zero-emission in support of equitable investment goals.
- Supporting the transition to and adoption of more sustainable transportation modes to reduce vehicle miles traveled (VMT) and greenhouse gas (GHG) emissions to support sustainable communities.
- Expanding the supply chain for advanced technology components, the number of manufacturers choosing California as a home for manufacturing, and leveraging private partnerships and investment to support the commercial viability of advanced technologies.
- Supporting economic recovery and growth to continue the momentum California has built towards becoming a hub for the manufacture and deployment of clean technologies, training and career pathways, supporting associated green jobs, as well as high-road jobs that provide sustainable wages and benefits, opportunities for advancement, and safe working conditions.

The large-scale statewide investments CARB makes through Clean Transportation Incentives sends a market signal and moves the needle in terms of advancing the commercialization of clean technologies. These investments have been instrumental to California leading the nation in ZEV deployment, but also in developing equity focused programs that bring clean transportation and mobility options to all Californians. The State has begun to see the economic benefit of these investments as ZEVs and their components represent the largest source of California exports, and in turn supporting jobs in a burgeoning industry for thousands of Californians.³

These investments also leverage significant sources of other public and private funding, further stimulating the economy. Many projects such as the heavy-duty demonstration and pilot projects or the clean mobility investment projects see State investments matched by

³"California Leads the Nation's ZEV Market, Surpassing 1 Million Electric Vehicles Sold". Office of Governor Gavin Newsom. February 25, 2022. <https://www.gov.ca.gov/2022/02/25/california-leads-the-nations-zev-market-surpassing-1-million-electric-vehicles-sold/>

other public or private sources. Purchase incentives such as Clean Cars 4 All, Clean Truck and Bus Voucher Incentive Project (also known as HVIP) and Clean Off-Road Equipment Voucher Incentive Project (CORE) encourage consumer and business spending within the State. The dollars invested in Clean Transportation Incentives effectively work as a multiplier—catalyzing far greater spending that supports both California’s economy and its climate change, equity, and air quality goals.

The Funding Plan’s focus on deploying zero-emission mobile source technologies is just one aspect of the State’s climate change and air quality investment portfolio. The investment strategy is also coordinated with and complemented by other State agencies’ clean transportation and sustainable community, clean energy, and natural resources programs funded with Cap-and-Trade auction proceeds and other funding sources. All these programs are designed to help achieve one or more of the State’s ambitious goals to reduce GHGs and short-lived climate pollutant emissions, improve air quality and reduce toxics risk, deploy ZEVs, reduce VMT, and lessen petroleum dependency.

Draft Funding Plan Goals & Priorities

CARB’s Draft 2022 *Climate Change Scoping Plan Update* and *2020 Mobile Source Strategy* conclude that a transition to zero-emission technologies and use of the cleanest, lowest carbon fuels and energy across all vehicle and equipment categories is needed to meet GHG, smog forming, and toxic pollutant emission reduction goals.^{4,5} The *2016 California Sustainable Freight Action Plan* reiterates the need for this transition as it relates to the freight sector.⁶ In addition, AB 617 (C. Garcia, Chapter 136, Statutes of 2017) establishes goals for reducing emissions of toxic air contaminants and criteria air pollutants in communities affected by a high cumulative exposure burden. Moreover, the Scoping Plan and *Draft 2022 Progress Report on California’s Sustainable Communities and Climate Protection Act* (SB 150 Progress Report) points to the need for adopting alternative modes of transportation wherever possible, including in priority populations.⁷

The clean air mandates, goals, and priorities driving the investments included in this Draft Funding Plan document include:

- Accelerating the introduction and deployment of zero-emission technologies to meet California’s longer-term air quality, carbon neutrality, petroleum reduction, and climate change goals including that 100 percent of sales of new passenger vehicles and trucks

⁴ California Air Resources Board. *California’s 2022 Draft Scoping Plan Update*. May 2022.

<https://ww2.arb.ca.gov/sites/default/files/2022-05/2022-draft-sp.pdf>

⁵ California Air Resources Board. *Mobile Source Strategy*. October 2021.

https://ww2.arb.ca.gov/sites/default/files/2021-12/2020_Mobile_Source_Strategy.pdf

⁶ California Air Resources Board. *California Sustainable Freight Action Plan*. July 2016.

https://ww2.arb.ca.gov/sites/default/files/2019-10/CSFAP_FINAL_07272016.pdf

⁷ California Air Resources Board. *Draft 2022 Progress Report: California’s Sustainable Communities and Climate Protection Act*. June 2022. https://ww2.arb.ca.gov/sites/default/files/2022-06/2022_SB_150_Main_Report_Draft_1.pdf

in the State be zero-emission by 2035, all drayage trucks be zero-emission by 2035, off-road vehicles and equipment be zero-emission by 2035 where feasible, and all other vehicles in the medium- and heavy-duty fleet transition to zero-emission by 2045 as described in Governor Newsom's Executive Order N-79-20⁸.

- Incorporating equity principles and implementing the recommendations from CARB's SB 350 study, *Overcoming Barriers to Clean Transportation Access to Low-Income Residents* (CARB's SB 350 Guidance Document or Guidance Document).⁹
- Reducing emissions of toxic air contaminants and criteria air pollutants in communities affected by a high cumulative exposure burden consistent with AB 617 goals.
- Ensuring that the State's overall auction proceeds investments meet or exceed the disadvantaged community, low-income community, and low-income household targets established in AB 1550 (Gomez, Chapter 369, Statutes of 2016) and maximizing the benefits to these communities and households as required by the 2018 *Funding Guidelines for Agencies that Administer California Climate Investments*.¹⁰
- Supporting the goals of Sustainable Communities consistent with SB 375 (Steinberg, Chapter 728, Statutes of 2008); exploring ways to take actions required to reduce VMT while also increasing access to clean transportation options and critical goods and services consistent with the SB 150 Progress Report.
- Reducing GHG emissions to 40 percent below 1990 levels by 2030 consistent with SB 32 (Pavley, Chapter 249, Statutes of 2016).
- Meeting the federal health-based ambient air quality standards for ozone by 2023 and 2031 as well as the fine particulate matter air quality standards.¹¹
- Reducing emissions of methane and black carbon to 40 percent and 50 percent, respectively, below 2013 levels by 2030 as called for in CARB's 2017 *Short Lived Climate Pollutant Reduction Strategy*.¹²
- Following and incorporating goals and priorities from relevant legislation, and striving to exceed these goals wherever possible. Some of the key bills guiding the Funding Plan in addition to the ones listed above include SB 1275 (De León, Chapter 530, Statutes of 2014), SB 1204 (Lara, Chapter 524, Statutes of 2014), SB 350 (De León, Chapter 547, Statutes of 2015), SB 1403 (Lara, Chapter 370, Statutes of 2018), AB 2285 (Committee on Transportation, Chapter 100, Statutes of 2020), AB 841 (Ting,

⁸ Executive Order N-79-20 <https://www.gov.ca.gov/wp-content/uploads/2020/09/9.23.20-EO-N-79-20-Climate.pdf>

⁹ California Air Resources Board. *Low-Income Barriers Study, Part B: Overcoming Barriers to Clean Transportation Access for Low-Income Residents*. February 2018.

https://ww2.arb.ca.gov/sites/default/files/2018-08/sb350_final_guidance_document_022118.pdf

¹⁰ California Air Resources Board. *Funding Guidelines for Agencies that Administer California Climate Investments*. August 2018.

https://ww2.arb.ca.gov/sites/default/files/classic/cc/capandtrade/auctionproceeds/2018-funding-guidelines.pdf?_ga=2.114423111.1931706691.1624309565-1297275244.1567180558

¹¹ California Air Resources Board. *Mobile Source Strategy*. October 21, 2021.

https://ww2.arb.ca.gov/sites/default/files/2021-12/2020_Mobile_Source_Strategy.pdf

¹² California Air Resources Board. *Short-Lived Climate Pollutant Reduction Strategy*. March 2017.

https://ww2.arb.ca.gov/sites/default/files/2020-07/final_SLCP_strategy.pdf

Chapter 372, Statutes of 2020), AB 794 (Carrillo, Chapter 748, Statutes of 2021), and SB 372 (Leyva, Chapter 639, Statutes of 2021).

- Continuing to address recommendations made in February 2021 by the State Auditor in *California Air Resources Board: Improved Program Measurement Would Help California Work More Strategically to Meet Its Climate Change Goals* (CARB Audit Report).¹³

Intentional Benefits to Communities

Priority populations continue to experience disproportionately high levels of air pollution and the resulting detrimental impacts to their health. To address these inequities, equity must be at the forefront of program design, and programs must deliver intentional benefits. As Low Carbon Transportation projects have evolved, staff has placed increasing focus on targeting the benefits to those who need them most. While progress has been made, staff recognizes that there are areas where further program refinements and better communication and outreach would result in improved benefits to all Californians, including priority populations. Staff is working with CARB program administrators and community leaders to identify funding opportunities and outreach strategies to ensure communities are involved in the decision-making process for investments and have equitable access to funding.

Program Evaluation & Reporting

Since the inception of AQIP in 2007 with the passage of AB 118 (Nunez, Chapter 750, Statutes of 2007), and subsequent addition of Low Carbon Transportation Investments appropriated by the Legislature in 2013, CARB staff has continually evaluated the various programs through a range of avenues including, but not limited to, receiving feedback from program administrators, consumers and communities, and by utilizing program data collected through surveys, telematics, and other evaluation tools. In addition, CARB has funded research contracts with universities to analyze various projects. Staff have also worked with stakeholders that have unique experience understanding priority populations, applying equity principles, and ensuring investments are meeting community needs, and CARB has met directly with communities who have received funding to understand how our programs are or are not working to meet program goals.

With the substantial increase in funding in recent years, there is increased emphasis on program evaluation and using lessons learned from those evaluations when making funding and design recommendations to improve programs. In the 2021 CARB Audit Report, the State Auditor determined that CARB could do more to measure the GHG emissions reductions of programs that primarily provide socioeconomic benefits. CARB staff continues to work with stakeholders, including those in academia, grantees, environmental and

¹³ California State Auditor. California Air Resources Board: Improved Program Measurement Would Help California Work More Strategically to Meet Its Climate Change Goals. February 2021.
<http://auditor.ca.gov/pdfs/reports/2020-114.pdf>

community organizations, grassroots organizations, and communities and residents, to close the gaps highlighted in the report.

As part of the Draft Funding Plan, staff continue to refine metrics and strategies to evaluate project effectiveness, as recommended in the CARB Audit Report. These evaluation enhancements look beyond long-standing metrics, such as emission reductions, and focus on measuring behavioral changes and socioeconomic benefits that result from clean transportation incentive projects.

For consumer-focused incentives projects, understanding how effective a project is at contributing to behavioral changes could allow CARB to make further project refinements. Participant surveys are the most common method of collecting behavioral impact data, and surveys typically fall under three general types: initial/sign-up surveys, post-trip surveys, and user surveys. Survey participation is strongly encouraged but voluntary in nature.

While many projects already conduct surveys of participants to better understand what role a project played in vehicle purchasing decisions, staff is currently building upon these efforts to create streamlined surveys in partnership with internal and external researchers. Additional evaluation tools that are used across CARB's clean mobility equity projects include vehicle telematics data, reporting activities and outcomes by project grantees, and evaluations of project effectiveness. CARB continues to refine data collection, analysis, and reporting of its projects and will provide more detail on specific methods used within each project chapter below.

Further, CARB contracted with the University of California (UC) Berkeley's Transportation and Sustainability Research Center to develop evaluation models/processes for CARB to use as a new standard for assessing the effectiveness, sustainability, and outcomes of several of CARB's clean mobility equity pilot projects for priority populations. This research study uses a hypothesis-based approach to evaluate existing CARB-funded clean mobility projects and will conclude with a summary of lessons learned and policy recommendations for CARB's consideration when implementing current and future clean mobility projects.

While all projects are designed to address multiple goals, including emission reductions, a primary goal of several projects is to provide socioeconomic benefits to all Californians, including priority populations. For each of these projects, staff proposed strategies and metrics to evaluate the socioeconomic benefits resulting from each project as a part of last year's Funding Plan. Staff identified the following clean transportation projects as providing socioeconomic benefits:

- Clean Cars 4 All.
- Financing Assistance for Lower-Income Consumers (Financing Assistance).
- Clean Mobility Options (CMO) Projects.

- Agricultural Worker Vanpool Pilot Project¹⁴.
- Clean Mobility in Schools (CMiS).
- Sustainable Transportation Equity Project (STEP).

Greater detail on staff's updated evaluation methods and metrics for each project is included in chapters 3 and 4 of this document.

In addition to program evaluation, CARB also reports regularly on how our investments and programs are progressing. Progress reports are provided in the form of formal documents and publicly-available tools that display program data including the:

- Annual Report to the Legislature on California Climate Investments Using Cap-and-Trade Auction Proceeds¹⁵.
- Biennial Report to the Legislature on the AB 118 AQIP¹⁶.
- SB 1204 Requirements and Performance Criteria Evaluation for Heavy-Duty Projects¹⁷.
- SB 1403 State School Bus Incentive Programs Report¹⁸.
- AB 680 (Cooper, Chapter 636, Statutes of 2017) Annual Performance Goals and Evaluation for the Enhanced Fleet Modernization Program (EFMP) and Clean Cars 4 All¹⁹.
- Clean Vehicle Rebate Project (CVRP) Rebate Dashboards²⁰.
- HVIP Voucher Map²¹.
- CMO Mobility Project Awardees²² and Needs Assessment Awardees²³.

¹⁴ CARB has paused funding for the agricultural workers vanpools while we evaluate technologies on the market that meet the specifications required for the project. CARB will develop metrics and evaluations strategies for the agricultural workers vanpool at such time that the project receives additional funds.

¹⁵ California Air Resources Board. *Annual Report to the Legislature on California Climate Investments Using Cap-and-Trade Auction Proceeds*. <https://www.caclimateinvestments.ca.gov/annual-report>. April 2022.

¹⁶ California Air Resources Board. *Biennial Report to the Legislature on the AB 118 Air Quality Improvement Program*. <https://ww2.arb.ca.gov/resources/documents/2020-biennial-report-legislature-ab-118-air-quality-improvement-program-fiscal>. April 2021.

¹⁷ California Air Resources Board. *SB 1204 Requirements and Performance Criteria Evaluation for Heavy-Duty Projects*. https://ww2.arb.ca.gov/sites/default/files/2021-10/fy21-22_fundingplan_appendix_b.pdf. October 2021.

¹⁸ California Air Resources Board. *SB 1403 State School Bus Incentive Programs Report*. https://ww2.arb.ca.gov/sites/default/files/2021-10/fy21-22_fundingplan_appendix_e.pdf. October 2021.

¹⁹ California Air Resources Board. *Annual Performance Goals and Evaluation for the Enhanced Fleet Modernization Program and Clean Cars 4 All*. <https://ww2.arb.ca.gov/annual-performance-goals-efmp-cc4a>. Fiscal Year 2020/2021.

²⁰ Center for Sustainable Energy. *California Air Resources Board Clean Vehicle Rebate Project, Rebate Statistics*. <https://cleanvehiclerebate.org/en/rebate-statistics>.

²¹ CALSTART. *California Air Resources Board Clean Truck and Bus Vouchers, HVIP Voucher Map*. <https://californiahvip.org/impact/#deployed-vehicle-mapping-tool>.

²² CALSTART. *California Air Resources Board Clean Mobility Options Project, CMO Project Awardees*. <https://www.cleanmobilityoptions.org/mp-awardees/>. 2020.

²³ CALSTART. *California Air Resources Board Clean Mobility Options Project, CMO Project Awardees*. <https://www.cleanmobilityoptions.org/na-awardees/>. 2020.

- Clean Vehicle Assistance (CVA) Program Learnings & Data Transparency²⁴.

Staff continues to refine metrics for success for each funded project; collect project data, including data on race, ethnicity, gender identity, socioeconomic status, and other demographic data through program applications and surveys; analyze data as appropriate to better understand who is benefiting from investments and how funds support the State's equity goals. Staff hopes this information can also be used to enhance program data tools to improve how outcomes are reported from Low Carbon Transportation investments and to support goals outlined in the Cap-and-Trade Auction Proceeds Fourth Investment Plan²⁵.

Low Carbon Transportation & the ZEV Package

The 2022 State Budget includes a total of \$10 billion for CARB, CEC, the California State Transportation Agency, and Go-Biz. CARB's funding totals \$5.6 billion between FY 2021-22 and FY 2027-28. The FY 2021-22 Funding Plan was comprised of the first installment of approximately \$1.5 billion while this year's Funding Plan will cover the second installment of approximately \$3 billion in FY 2022-23 funding. As noted in the introduction to this Draft Funding Plan, the Legislature and the Governor approved the overall ZEV funding total of \$10 billion but deferred consideration of some of the detailed program level appropriations until later in the 2022 Legislative session. Therefore, CARB staff will update its proposal as necessary, based on the final approved program level appropriations, when it releases the proposed Funding Plan for public comment in October 2022. Staff will continue to meet with stakeholders, including priority populations, in addition to collecting written comments to be considered at the November 2022 Board Hearing through CARB's online public comment portal.

Cap-and-Trade auction proceeds provide funding for CARB's advanced technology, clean transportation incentive programs that reduce GHG emissions. Low Carbon Transportation is identified as a priority investment area in the first four Cap-and-Trade Auction Proceeds Investment Plans. These investments accelerate the transition to low carbon freight and passenger transportation. This year's Low Carbon Transportation appropriation of \$676 million is being augmented by an additional \$1.14 billion from the General Fund, \$1.125 billion from Proposition 98 General Funds, and \$28.64 million from the Air Quality Improvement Fund. This additional funding is described below.

Low Carbon Transportation

Since 2013, the Legislature has appropriated over \$2.5 billion to CARB, for Low Carbon Transportation projects. These appropriations are being used to fund: zero-emission and plug-in hybrid passenger vehicles through traditional and innovative car ownership projects

²⁴ Beneficial State Foundation. *California Air Resources Board Clean Vehicle Assistance Project, Program Learnings & Data Transparency*. <https://cleanvehiclegrants.org/program-data/>.

²⁵ California Air Resources Board. *Cap-and-Trade Auction Proceeds Fourth Investment Plan*. https://ww2.arb.ca.gov/sites/default/files/auction-proceeds/Cap-and-Trade%20Auction%20Proceeds%20Fourth%20Investment%20Plan_FINAL.pdf. November 2021.

such as CVRP, Clean Cars 4 All, and Statewide Financing Assistance; clean mobility investments to support sustainable communities by decreasing VMT while increasing access to alternative modes of transportation in and near priority populations and for lower income Californians; deployment of incentives for clean trucks, buses, and off-road equipment utilizing zero-emission technologies; and advanced technology demonstration and pilot projects.

To date, 57 percent of CARB's Low Carbon Transportation funding has gone to projects benefiting priority populations as shown in Table 2 below. The 57 percent benefiting priority populations exceeds the commitments made in past Funding Plans. Much of the funding benefiting priority populations is from clean transportation equity projects, Zero-Emission Truck and Bus Pilot Projects, and Advanced Technology Demonstration Projects. While not limited to priority populations, over 57 percent of the HVIP funding has been awarded to trucks and buses benefiting priority populations. A significant portion of the heavy-duty investments have also been directed to small and medium fleets. Since 2021, about 44 percent of HVIP vouchers have been requested by fleets with 100 or fewer heavy-duty vehicles in operation in California. These small fleets make up the vast majority of the California fleet population—of the fleets that operate Class 4-8 trucks in California, approximately 99 percent run fewer than 50 trucks.²⁶

²⁶2019 Department of Motor Vehicles (DMV) Data.

Table 2: Low Carbon Transportation Project Allocations Benefiting Priority Populations to Date^a

Project	Funding Allocated (millions)	Share Benefiting Priority Populations
Clean Transportation Equity and Light-Duty Investments		
CVRP	\$995.1 ^b	33%
Clean Cars 4 All	\$177 ^b	97%
CMO	\$55.2	100%
Financing Assistance	\$41.9 ^b	83%
Agricultural Worker Vanpools	\$6	100%
CMiS Pilot Project	\$34.6	100%
Rural School Bus Pilot Project	\$61.6	62%
STEP	\$19.5	100%
Outreach, Education, and Awareness	\$6 ^b	100%
Heavy-Duty Vehicle and Off-Road Equipment Investments		
Advanced Technology Demonstrations and Pilot Projects	\$117.2	100%
CORE	\$44.2 ^b	79%
Zero-Emission Truck/Bus Pilot	\$85	78%
Zero- and Near Zero-Emission Freight Facilities	\$148.7	100%
HVIP	\$486.4 ^b	63%
Total	\$2,272.4	57%

^a Source: 2022 Cap-and-Trade Auction Proceeds Annual Report, Appendix A: 2021 Cumulative Outcomes.

^b Funding shown here only includes Low Carbon Transportation Allocations. CVRP received \$425 million from the General Fund. Clean Cars 4 All received \$3 million from AQIP and \$10 million from the VW settlement funds. Financing Assistance received \$10 million from the VW settlement funds, and Access Clean California also received \$5 million from the VW settlement funds. CORE received a one-time allocation of \$86.45 million from the Air Pollution Control Fund. HVIP received \$373 million from the General Fund.

General Fund

In FY 2021-22, the Legislature appropriated \$838 million from the General Fund to the Low Carbon Transportation program to augment funds appropriated from Cap-and-Trade auction

proceeds. This funding was allocated to CVRP, the Electric Bicycles Incentive Project, HVIP, CORE (including small off-road equipment), and the Zero-Emission Drayage Truck and Infrastructure Pilot Project as shown in Table 3. In the May Revision to the Governor’s proposed budget for FY 2022-23 General Fund dollars supplement funding from the Air Quality Improvement Fund and Low Carbon Transportation Investments to accelerate an equitable ZEV transition, with a focus on key vehicle segments that are now primed to transition to zero-emission. For FY 2022-23, the 2022 State budget and the May Revise (for deferred allocations)²⁷ provides CARB a total of \$1.14 billion to support clean transportation equity programs established under SB 1275, zero-emission drayage trucks, school buses, transit buses, and emerging opportunities in the zero-emission heavy-duty sector.

Additionally, AB 181, the education omnibus budget trailer bill, provided CARB with \$1.125 billion to administer grants help local educational agencies replace internal combustion school buses. An additional \$375 million was provided to CEC for complementary grants for supporting infrastructure. Grants will be awarded over the course of five FYs, beginning in FY 2023-24. These funds will be provided directly to local educational agencies, and help protect children from harmful air pollution by accelerating the transition of the State’s school bus fleet to zero-emission or renewable fuel technology.

Air Pollution Control Fund

The Air Pollution Control Fund is used to put penalties and fees collected from polluters to work improving air quality in the State. In FY 2021-22, the State budget included a one-time appropriation of \$86.45 million from the Air Pollution Control Fund to support clean trucks, buses, and off-road equipment. Specifically, the Air Pollution Control Fund dollars included in the 2021 ZEV Package originate from enforcement settlements with Fiat Chrysler and Mercedes Benz (Daimler) and was allocated to the CORE program as shown in Table 3.

²⁷ CARB acknowledges that these details may change based on the outcome of negotiations between the Administration and the Legislature on the deferred program level appropriations.

**Table 3: General Fund and Air Pollution Control Funds to Date
(millions)**

Low Carbon Transportation Project	General Fund	Air Pollution Control Fund
CVRP	\$415	-
Electric Bicycle Incentives Project	\$10	-
HVIP	\$373	-
CORE*	-	\$86.45
Drayage Truck and Infrastructure Pilot	\$40	-
TOTAL	\$838	\$86.45

*In FY 2021-22 CORE was also allocated an additional \$30 million from GGRF to provide incentives for professional landscaping services in California operated by small businesses or sole proprietors to purchase zero-emission small off-road equipment.

Air Quality Improvement Program (AQIP)

AQIP is a mobile source incentive program that focuses on reducing criteria pollutant and diesel particulate emissions with concurrent reductions in GHG emissions. Funding for AQIP comes primarily from the smog abatement fee assessed annually by the California Department of Motor Vehicles (DMV) during a vehicle’s first six registration years in lieu of a biennial smog inspection. This year, the program has a budget of \$28.64 million.

AQIP was created in 2007 by AB 118. AB 8 (Perea, Chapter 401, Statutes of 2013) reauthorized the fees that support AQIP through 2023. AB 8 also requires CARB to provide preference to projects with higher benefit-cost scores when considering projects for AQIP funding. A detailed discussion of the benefit-cost analysis and selection process for AQIP projects is provided in Appendix A of this Funding Plan.

Initially, AQIP had provided funding for the Providing Loan Assistance for California Equipment program for the first year, which later became the Truck Loan Assistance Program. CVRP, HVIP, and demonstrations for advanced emission reduction vehicle technologies were funded through AQIP thereafter, and in recent years these projects have been primarily funded from the Low Carbon Transportation appropriations because demand has exceeded AQIP’s budget. Since 2014-15, the majority of AQIP funds have been directed to the Truck Loan Assistance Program, which helps small business truckers to secure financing for newer trucks to meet compliance deadlines for CARB’s In-Use Truck and Bus Regulation.

Table 4 provides a summary of AQIP investments to date including one-time funding provided in various years to help meet demand. In some years, CVRP and HVIP received funding from both AQIP and Low Carbon Transportation.

Table 4: AQIP Project Allocations to Date¹
(FY 2008-09 through FY 2021-22)

AQIP Project	Cumulative Project Allocations (millions)
Truck Loan Assistance Program	\$244 ²
CVRP	\$146 ^{2,3}
HVIP	\$89 ^{2,3}
Clean Cars 4 All	\$4 ⁴
Low NOx Natural Gas Engine Incentives	\$10
Agricultural Equipment Trade Up in San Joaquin Valley	\$4
Advanced Technology Demonstration/Vehicle Testing	\$6
Lawn and Garden Equipment Replacement	\$3
Truck Filter Replacements	\$3
Off-Road Hybrid Equipment Pilot	\$2
Zero-Emission Agricultural Utility Equipment	\$0.1
TOTAL	\$511
Air Quality Improvement Fund	\$403
Other funding sources ¹	\$108

¹Projects rounded to nearest \$ million, except for projects allocated less than \$2 million. Totals may not sum due to rounding.

²Includes a total of \$108 million in funding from CEC’s Clean Transportation Programs and the Vehicle Inspection and Repair Fund and CARB’s 2017-18 budget. Truck Loan Assistance received \$25 million, CVRP received \$79 million, and HVIP received \$4 million of these other funds.

³CVRP and HVIP also received Low Carbon Transportation funds in FY 2013-14 through 2019-20 and General Funds in FY 2021-22.

⁴Clean Cars 4 All was initially allocated \$3 million in the FY 2020-21 Funding Plan and was later allocated the \$0.64 million reserve.

Additional Legislation Guiding Funding Plan Development & Implementation

Several laws passed by the Legislature in recent years provide further guidance to CARB on these programs and specify requirements for the Funding Plan.

SB 1275 (de León, Chapter 530, Statutes of 2014) guides CARB's light-duty vehicle and equity investments. SB 1275 establishes the Charge Ahead California Initiative to increase the number of zero-emission and near zero-emission vehicles on California's roads and to increase access to these vehicles for lower-income Californians and priority populations. It also identifies the Cap-and-Trade auction proceeds as a funding source that could be utilized to meet the provisions established in the Charge Ahead California Initiative. SB 1275 establishes requirements for how CARB implements CVRP and also requires that CARB establish programs such as car sharing, financing assistance, and enhancements to the EFMP Plus-Up Pilot Project scrap and replace program (now known as Clean Cars 4 All) to increase access to clean vehicles for priority populations. Finally, SB 1275 requires CARB to include a long-term plan for CVRP and related light-duty vehicle incentives. Although SB 1275 requires CARB to update the plan every three years, staff has provided updates to all components of the plan annually with each Funding Plan since. This year, staff will include a more in-depth and comprehensive update that will encompass all light-duty vehicle purchase incentive and clean mobility investments as part of the final version of the FY 2022-23 Funding Plan for Clean Transportation Incentives. A summary of the long-term plan is provided in Chapter 3.

SB 1204 (Lara, Chapter 524, Statutes of 2014) guides CARB's heavy-duty vehicle investments funded with Cap-and-Trade auction proceeds. SB 1204 creates the California Clean Truck, Bus, and Off-Road Vehicle and Equipment Technology Program intended to help accelerate the introduction of the next generation of cleaner heavy-duty vehicles and engines with a priority on projects that benefit priority populations. Among other requirements, SB 1204 directs CARB to develop an annual framework and plan to guide these investments.

SB 1403 (Lara, Chapter 370, Statutes of 2018) modifies the direction from SB 1204, directing CARB, in consultation with the Energy Commission, to develop and include a three-year investment strategy for zero- and near zero-emission heavy-duty vehicles and equipment as part of the annual Low Carbon Transportation and AQIP Funding Plan. The strategy is to include a Funding Plan for the upcoming FY and a forecast of estimated funding needs for the subsequent two FYs. SB 1403 also calls on CARB to include information related to milestones achieved through the State's school bus incentives programs and the projected need for funding.

AB 2285 (Committee on Transportation, Chapter 100, Statutes of 2020) Extends the sunset date for a 20 percent set-aside of GGRF funding for heavy-duty truck technology to support early commercial deployment of existing zero- and near zero-emission heavy-duty truck technology to December 31, 2021.

SB 350 (de León, Chapter 547, Statutes of 2015) directed CARB to conduct a study on the barriers for priority populations to access clean transportation options, as well as recommendations on how to increase access. In February 2018, CARB released the Low-Income Barriers Study, Part B: Overcoming Barriers to Clean Transportation Access for Low Income Residents (CARB's SB 350 Guidance Document or Guidance Document). CARB's Guidance Document has provided a critical foundation for equity efforts across the State, building an understanding of the main barriers residents face in accessing clean transportation and mobility options and providing recommendations to overcome these barriers. This includes short-term and longer-term implementable actions that the Legislature, communities, State and local planning, transportation, public health, and air quality agencies can take to formulate innovative, meaningful solutions to address unique community-based clean transportation and mobility needs.

AB 841 (Ting, Chapter 372, Statutes of 2020) mandates that all electric vehicle (EV) charging infrastructure and equipment located on the customer side of the electric meter that is funded or authorized, in whole or in part by CARB, the Energy Commission, or the Public Utilities Commission shall be installed by a contractor holding "the appropriate license classification as determined by the Contractors' State License Board." Additionally, at least one electrician on each crew, at any given time, must hold an Electric Vehicle Infrastructure Training Program (EVITP) certification; and for projects with at least one charging port supplying 25 kW or more, at least 25 percent of the electricians on the crew must hold an EVITP certification. These new requirements apply to any work performed on or after January 1, 2022, for projects decided or entering contract or agreement with any public agency on or after January 1, 2021. While this requirement is not directly addressed in the funding plan, staff will incorporate these requirements as technical changes into project guidelines and grant terms and conditions as necessary.

AB 794 (Carrillo, Chapter 748, Statutes of 2021) directs CARB to implement new compliance verification requirements regarding labor standards for drayage and short haul trucking fleets participating in applicable CARB incentive programs beginning in FY 2022-23. The bill requires these fleets to provide a self-attestation and demonstrate that they do not have any "applicable law violations," which the bill defines as a final determination, order, judgment, or award issued against a fleet purchaser of vehicles for engaging in illegal conduct related to the misclassification of employees as independent contractors, including the failure to pay wages, imposing unlawful expenses on employees, etc. In addition to providing the self-attestation, fleet purchasers receiving an incentive would be required to sign contracts conditioning any incentive received on certified compliance with the requirements in the statute, as specified. AB 794 also allows third parties to report to CARB that a trucking fleet has failed to provide a truthful attestation. If the third party can substantiate these allegations, then, CARB must evaluate the report to determine whether the fleet has failed to comply with applicable laws. Finally, AB 794 also requires CARB to develop a new website to display disclosures and attestations from short-haul and drayage trucking fleets that receive an incentive.

SB 372 (Leyva, Chapter 639, Statutes of 2021) directs CARB and the California Pollution Control Financing Authority (CPCFA) to develop and administer a program to make financing tools and non-financial supports available to the owners of medium- and heavy-duty vehicle fleets to facilitate the transition of these fleets to ZEVs. This program is referred to as the Medium- and Heavy-Duty Zero-Emission Vehicle Fleet Purchasing Assistance Program. Elements of assistance to transition various sized fleets to zero-emission include: financial supports that are targeted toward priority populations, non-financial supports (such as technical support and a “one-stop-shop” for financial and technical information), outreach and marketing, metrics to determine program success, and coordination with partnering State agencies. In order to fund this program, CARB may allocate funding from (but not limited to) the Air Quality Improvement Fund, GGRF, and/or the General Fund.

Funding Plan Development Process, Outreach, & Community Engagement

To date, staff held four public workshops, 12 public work group meetings, three targeted meetings with African American community leaders, one meeting with a non-profit organization representing Tribal Governments, two meetings with labor unions, and numerous one-on-one discussions with interested stakeholders and community advocates to develop the preliminary recommendations contained in this draft document. Staff will host additional work groups as necessary prior to the release of the proposed FY 2022-23 Funding Plan.

Staff is also taking initial steps to more meaningfully engage with priority populations and advocates beyond the traditional Funding Plan public process. Staff leveraged Access Clean California’s statewide network of outreach partners to seek feedback from local community-based organizations (CBO) and grassroots community leaders on the development of the Draft Funding Plan. In addition, staff has met with leaders from African American communities and a non-profit organization representing Tribal Governments to explore ways to reduce barriers to CARB programs. Staff has also engaged with labor union representatives and small fleet operators to better tailor project design to serve the intended audience. Some initial feedback staff received includes:

- Expand outreach and education, application support, case management, and language support.
- Structure programs using a needs-based model rather than first come first serve.
- Streamline application process and expedite incentive distribution.
- Ensure application process is not administratively burdensome or contains questions that are viewed as invasive.
- Ensure fleets receiving funding are in compliance with applicable labor laws.
- Offer different communication options when applying for incentives (e.g., email, short message service or text, phone).
- Fund priority populations directly versus funneling funding through air districts, non-government organizations, non-profits, or other public agencies.

- Provide information on the historical demographic distribution of funding.
- Ensure funding support priority populations across the state.
- Improve efficiency for working group meetings by providing relevant meeting information and materials in advanced.

Staff will continue to meet and follow-up with priority populations throughout the development of the Funding Plan to seek feedback and provide updates on how this information is being considered for inclusion into the proposed Funding Plan.

Additionally, when considering funding allocations staff has reviewed priorities highlighted by communities through other processes, such as AB 617, through internal coordination efforts and reviewing existing community emission reduction plans. CARB staff continue to collaborate internally with groups working on regulations, such as the Advanced Clean Cars and Advanced Clean Fleets rulemaking, the updates to the Scoping Plan, and across the broader clean transportation incentive portfolio in order to better understand community identified needs and solutions in expanding access to the ZEV market. CARB recognizes that these actions are initial steps and will continue to improve its approach to community outreach and engagement in developing future Funding Plans.

Chapter 2: Draft Funding Allocations

With zero-emission technologies becoming widely available, now is the optimal time for the State to double down on supporting equitable access to zero-emission options for priority populations. The proposed investments are designed to scale the ZEV market toward sustainability in the key vehicle segments ready for a significant ramp up in commercial deployment.

To help reach scale, the projects under consideration continue to build on investments from previous budget cycles. These include projects that aim to accelerate deployment of the cleanest mobile source technologies and to improve access to clean vehicle purchasing incentives and clean mobility investments in communities most impacted by poor air quality. Previous years' investments, incentives and clean mobility investments, including access to transportation options like transit, biking, and walking. The proposed investments also include targeted support to those paired with regulations, have proven successful in advancing technology growth and transforming the market. As technologies become more established and demand continues to grow, CARB is beginning to shift from broad purchase incentives to more targeted strategies that support lower-income consumers, households, and small fleets facing the greatest barriers to adoption. Broad purchase incentives continue to play an important role in the investment portfolio, particularly as new technologies come to market. However, more targeted investments are an important element in helping to ensure an equitable transition to a clean transportation future. Increasing access to clean transportation and mobility options for all Californians, including priority populations who have been disproportionately impacted by air pollution and traditionally left out of transportation decision making processes, is critical in transitioning the State's transportation sector to zero-emission. The goal is to strategically invest in community-led and identified projects that meet specific clean mobility needs with a focus on maximizing impacts and filling critical gaps to ensure these communities are not left behind in this transition. CARB clean mobility investments are not solely focused on the number of projects in communities as this will not help us to reach our broader clean mobility or equity goals. Staff continue to work with grantees to assess the quality and satisfaction of services provided and the level of impact, including socioeconomic benefits and other quality of life improvements that come with a well-planned, interconnected, and sustainable transportation system.

Staff determined proposed project allocations by incorporating line items from the May Revision to the Governor's proposed budget, evaluating anticipated demand, reviewing the long-term planning elements of previous funding plans, considering priorities identified by communities in CARB engagement efforts and documents such as community emission reduction plans, assessing other available funding sources, and taking into account feedback from stakeholders.

Proposed Project Allocations

Staff's draft funding allocations are shown in Table 5. More information regarding each of these projects and rationale for these recommendations are described more fully in the remaining sections of this document.

**Table 5: Proposed FY 2022-23 Project Allocations
(Millions)^a**

Project Category	Low Carbon Transportation	General Fund*	Proposition 98 General Funds	AQIP	Total Allocation
Vehicle Purchase Incentive Programs (SB 1275)	-	-	-	-	-
Financing Assistance	-	\$110*	-	-	\$110
Clean Cars 4 All (Statewide and Local Programs)	\$60	\$300*			\$360
Electric Bicycle Incentives Project	-	\$15*	-	-	\$15
Access Clean California	\$5	-	-	-	\$5
California Integrated Travel Project (Cal-ITP)	-	\$5*	-	-	\$5
Reserve	\$11	-	-	-	\$11
Clean Mobility Investments (SB 1275)	-	-	-	-	-
CMO	-	\$126*	-	-	\$126
CMiS	-	\$125*	-	-	\$125
STEP	-	\$125*	-	-	\$125
Planning and Capacity Building	-	\$43*	-	-	\$43
Heavy-Duty and Off-Road Equipment	-	-	-	-	-
HVIP–Standard	\$265	-	-	-	\$265
HVIP–Transit Buses	-	\$70	-	-	\$70
HVIP–School Buses	-	\$135	\$1,125	-	\$1,260
HVIP–Drayage Trucks	-	\$75	-	-	\$75
HVIP–Innovative Small e-Fleets	\$35	-	-	-	\$35
CORE	\$230	-	-	-	\$230
Advanced Technology Demonstration and Pilot Projects	\$65	\$10*	-	-	\$75
Truck Loan Assistance Program	-	-	-	\$28.64	\$28.64
Zero-Emission Loan Pilot	\$5	-	-	-	\$5
Total	\$676	\$1,139	1,125	\$28.64	\$2,968.64

^a Does not include any adjustments for project administration.

*Appropriations from May Revise that are deferred by Legislature. CARB acknowledges that these details may likely change before the end of the Legislative session. Staff will update program level allocations upon final legislative appropriation.

CVRP

CVRP received a substantial upfront allocation of \$515 million as a part of last year’s budget. This allocation is intended to fund CVRP through FY 2023-24 and therefore no additional

funding is being proposed for the program this FY. Alternatively, staff will use the FY 2022-23 Funding Plan to provide updated funding projections and propose amendments to changes approved by the Board in November 2021.

Clean Transportation Equity Projects

The proposed \$925 million for vehicle purchase incentive programs and clean mobility investments will help to increase access to clean transportation and mobility options benefiting all Californians, including priority populations, consistent with the direction provided by SB 1275 and SB 350. This covers vehicle purchase incentives, clean mobility investments, and planning and capacity building.

Heavy-Duty Vehicle & Off-Road Equipment Investments

CARB's draft proposal for the \$2,044 million for heavy-duty and off-road equipment includes following the principles of the portfolio approach. This means that CARB provides funding across multiple technologies at different points on their commercialization arcs to support those that are providing emission reductions today, as well as those that need to mature to meet future goals. Incentives are needed to help fund the development of advanced technologies through demonstration and pilot projects. And as these technologies reach the market, they progress to funding programs such as HVIP and CORE, which offer vouchers for early commercial advanced technologies. Finally, the Truck Loan Assistance Program helps small business truckers to secure financing for newer trucks to meet compliance deadlines for CARB's in-use truck and bus regulation. The new Zero-Emission Loan Pilot will use the Truck Loan Assistance model but focus on financing for heavy-duty ZEVs, including infrastructure.

Consistent with last year, staff proposes to set aside funding for drayage trucks, transit buses, and school buses, all of which are primed to rapidly transition to zero-emission. In line with Legislative direction, these set-asides will continue to be administered through HVIP. Staff is proposing to continue the Innovative Small e-Fleets within HVIP and focus on equitable investments that lower barriers to zero-emission technology adoption for owner operators and small fleets. Additionally, staff will coordinate with CEC, Department of General Services, and Workforce Development Board (CWDB) to provide grants through HVIP to local education agencies to replace existing internal combustion school buses. Staff is also proposing to allocate considerably more funding to CORE to accelerate deployment of advanced technology in the off-road sector.

State Operations

This year, the May Revision to the Governor's proposed budget for FY 2022-23 budget language has included authorization to allocate up to five percent of the General Fund appropriation for administration. Staff anticipates that a small portion of the General Fund and Low Carbon Transportation appropriations may be used for project administration by CARB.

Measures to Expedite Funding to Oversubscribed Projects

As many existing projects are oversubscribed and have not received funding for over a year, staff is prioritizing delivering funds to projects quickly so that the air quality and economic benefits of these projects can be realized. To do so, CARB intends to rely on contingency provisions outlined in Chapter 6 included in the FY 2021-22 Funding Plan and the Executive Officer's authority to allocate a portion of funds to first-come, first-served projects prior to Board consideration of the Funding Plan.²⁸ Additional details are included in the following chapters.

Priority Population Investment Targets

A key component of these programs is providing health and economic benefits to California's priority populations. AB 1550 establishes a target for low-income community, disadvantaged community, and low-income households for the State's Cap-and-Trade auction proceeds investments²⁹. Program administrators are required to focus outreach and engagement in low-income and disadvantaged communities to ensure funding reaches communities and provide benefits where they are most needed to help meet and exceed these targets.

On May 3, 2022, the California Environmental Protection Agency (CalEPA) updated the designation of disadvantaged communities to include additional geographic areas and the reference years used to determine low-income communities and household thresholds.³⁰ Additional areas included are lands under the control of Federally recognized Tribal Governments, census tracts receiving the highest 25 percent of overall scores in the California Communities Environmental Health Screening Tool (CalEnviroScreen) 4.0, and census tracts lacking overall scores in CalEnviroScreen 4.0 due to data gaps, but receiving the highest 5 percent of CalEnviroScreen 4.0 cumulative pollution burden scores. In addition, census tracts identified in the 2017 disadvantaged community designation as disadvantaged will maintain their designation. With last year's Funding Plan, staff recommended that at least 60 percent of the Low Carbon Transportation funding be invested in projects meeting one of the AB 1550 criteria with the following targets:

- At least 45 percent of funds for projects located within, and benefiting individuals living in, disadvantaged communities.
- At least 15 percent of funds for projects located within and benefiting low-income communities or benefiting low-income households.

Each year staff considers the targets to be a floor and strives to exceed them. In designing project solicitations and implementation requirements, staff considers whether there are provisions that can be incorporated to help ensure that CARB exceeds these minimum

²⁸ California Air Resources Board. *Proposed Fiscal Year 2021-22 Funding Plan for Clean Transportation Incentives*. November 2021. https://ww2.arb.ca.gov/sites/default/files/2021-10/fy21-22_fundingplan.pdf

²⁹ HSC Section 39713.

³⁰ Additional information on CalEPA's designation is available at: <https://calepa.ca.gov/envjustice/ghginvest/>

targets. CARB is not limiting the disadvantaged community and low-income community/household focus to Low Carbon Transportation investments. Investments from the Air Quality Improvement Fund and the General Fund are also designed to benefit low-income and disadvantaged communities as well. Staff is currently evaluating CARB's investment targets for this year's proposed FY 2022-23 funding and an update will be provided in the final Funding Plan.

Safeguards for Cap-and-Trade Auction Revenue Uncertainty

The Low Carbon Transportation Investments are a part of the Cap-and-Trade Expenditure Plan developed annually by the Legislature. As in past years, this Funding Plan relies in part on future revenues generated at auctions in the upcoming FY. To account for uncertainties in the revenue projections used to develop the appropriations, CARB is required to not encumber 25 percent of the Low Carbon Transportation appropriation until the fourth auction is completed, which is expected to occur in May 2023. The 25 percent restriction applies individually to each of the Low Carbon Transportation suballocations (Clean Transportation Equity, and Heavy-Duty Vehicles and Off-Road Equipment). Thus, \$19 million in funding from the Clean Transportation Equity projects and \$150 million from the Heavy-Duty Vehicles and Off-Road Equipment projects must not be encumbered until after the fourth auction, so some projects will be delayed in receiving part or all of their allocation. Staff is considering how to divide the 75 percent of the Low Carbon Transportation appropriation that is initially available between projects in each of the three suballocations in a manner that reduces project disruptions and maximizes immediate benefits to communities.

Chapter 3: Clean Transportation Equity & Light-Duty Investments

Overview

CARB's clean transportation equity and light-duty vehicle investments are aimed at supporting the long-term transformation of California's fleet and ensuring that this transformation occurs in an equitable manner. The investments include vehicle purchase incentives and clean mobility investments, both of which incorporate and are supported by outreach, technical assistance, and workforce training and development. Starting in 2009, CVRP laid the initial foundation for vehicle purchase incentives. CARB began implementing clean mobility pilot projects in FY 2014-15, which provided a critical complement to and expanded upon these initial investments through providing alternative community mobility options. Together, these investment strategies work to meet policy, statutory, and regulatory goals and requirements, and support an equitable transition to a clean transportation future.

Vehicle Purchase Incentives: CVRP supports increasing the number of ZEVs on California's roadways to meet deployment goals and achieve large scale transformation of the fleet, while also providing support to increase ZEV adoption in low-income households. Clean Cars 4 All and Financing Assistance are designed to increase access to cleaner vehicles for all Californians, including priority populations, as prescribed by SB 1275 and supported by SB 350, as well as provide support to the secondary/used ZEV market. The Electric Bicycles Incentive Project³¹, is the newest purchase incentive project designed to help Californians reduce their VMT by lowering barriers to electric bicycle (e-bike) ownership, as well as to educate Californians about bicycle safety and support local businesses. Access Clean California continues to provide resources for lower-income individuals to learn about and take advantage of all the state and local clean energy benefits that they qualify for. Each of these programs provide opportunities for all California residents to participate in vehicle purchase incentive programs as well as to increase consumer awareness of clean vehicles in priority populations.

Clean Mobility Investments: Clean mobility investments address the transportation needs all Californians, including priority populations, by investing in sustainable community actions that support a variety of clean mobility solutions (other than vehicle ownership) to expand access and promote sustainable communities, such as zero-emission car sharing, vanpooling, bike sharing, and public transit to be flexible and responsive to community-identified transportation needs. Per CARB's SB 350 Guidance Document recommendations, clean mobility investments also incorporate activities that support more meaningful engagement with communities to understand unique transportation needs and gaps, tailoring outreach to increase awareness of funding programs, providing technical assistance to strengthen partnerships and funding accessibility, and expanding workforce training and career

³¹ Budget Act of 2021. Senate Bill 170 (Skinner, Chapter 240, Statutes of 2021).

development opportunities. Based on critical lessons and evaluation of programs over time, CARB's goal is to transition from the mobility pilot project phase to community-based programs to accelerate investments and expand services available that continue to prioritize equity.

These incentive projects are the result of multiple key legislative drivers, including SB 1275, SB 535 (de León, Chapter 830, Statutes of 2011), AB 1550, and SB 350, but also recognize that increasing access and consumer awareness must be an ongoing process. In addition, equity projects follow SB 535's direction that investments must benefit California's disadvantaged communities. Projects also incorporate the findings of CARB's SB 350 Guidance Document. These projects provide direct benefits to all Californians, including priority populations, such as reduced GHG, criteria pollutant, and toxics emissions, as well as other co-benefits. Co-benefits include socioeconomic and other related benefits such as job creation, VMT and fossil fuel reductions.

A core priority across current and future equity projects is incorporating CARB's SB 350 Guidance Document equity principles and implementing recommendations in priority populations. The Guidance Document identifies several barriers to accessing clean transportation and mobility solutions, such as affordability, funding for clean transportation investments, and a lack of awareness of clean transportation options. The Guidance Document also identifies community-specific barriers, like a lack of access, convenience, and safety. Because each community is unique and there are many factors to consider, such as geographic, economic, demographic, or cultural and linguistic attributes and varied styles of communication, there is no single statewide solution to address all barriers. This increases the importance of developing equitable but community-specific solutions and prioritizing efforts for all Californians, including priority populations, that face disproportionate impacts.

CARB is also continuing its work with stakeholders and through evaluation contracts with third parties to determine metrics for measuring outcomes and success of clean transportation equity and light-duty vehicle projects. This includes evaluating how effective these projects are at generating behavioral changes and determining how we can expand the metrics used to measure the socioeconomic benefits of the clean transportation equity projects. This data will be used in the future to guide funding and design recommendations.

CARB's equity projects also support several complementary programs and strategies, such as the Sustainable Communities and Climate Protection Program, or SB 375, and CARB's Mobile Source Strategy and Climate Change Scoping Plan. Given the collective emphasis on air quality, equity, and community engagement, staff continues to work across other CARB programs and with State and local agencies, such as the California Strategic Growth Council, Governor's Office of Business and Economic Development, sister transportation agencies, and council of governments, to share lessons learned, maximize the benefits of each project, promote for sustainable and equitable communities, and ensure these benefits are realized in priority populations.

Summary of Changes to Long-Term Plans for ZEV Market

ZEV Market Findings (SB 1275)

SB 1275, signed into law in 2014, established the Charge Ahead California Initiative with the goals of placing one million zero-emission and near zero-emission vehicles in California by 2023 to establish a self-sustaining market and increase access to these vehicles for all Californians, including priority populations. Among other requirements, SB 1275 required CARB to include a long-term plan for CVRP and related programs in the FY 2016-17 Funding Plan. The plan must include:

- A three-year forecast of funding needs to support the goals of technology advancement, market readiness, and consumer acceptance of advanced vehicle technologies.
- A market and technology assessment for each funded vehicle technology.
- An assessment of when a self-sustaining market is expected.
- An assessment of how to modify existing incentives to recognize expected changes in future market conditions.

As part of the FY 2016-17 Funding Plan, staff, in consultation with stakeholders, proposed a framework for the plan and provided the first three-year funding need forecast along with a market and technology assessment. Staff also proposed a suite of indicators to measure ZEV market growth over time. Staff provided a major update to the three-year plan in the FY 2019-20 Funding Plan. Although SB 1275 required CARB to update the plan every three years, staff has provided updates to all components of the plan each year since FY 2016-17. This year, staff will include an in-depth and comprehensive update to the three-year plan as part of Appendix C in the final version of the FY 2022-23 Funding Plan for Clean Transportation Incentives, which is expected to be released in October 2022 in advance of the November 2022 Board Hearing. This update will encompass all light-duty vehicle purchase incentive efforts and clean mobility investments.

As part of the Supplemental Report of the 2018-19 Budget Act,³² CARB is required to submit an annual supplemental report, until January 1, 2030, that includes a forecast of the total State rebate investment necessary to reach the goal of placing at least 5 million ZEVs in service on California's roads. Development of the first report occurred alongside the development of the update to the long-term plan for CVRP and light-duty incentives in 2019. The first report was provided in the FY 2019-20 Funding Plan as part of Appendix C and will be updated in the Funding Plan annually thereafter until 2030. Per the direction of SB 129, last year's plan included a schedule to phase down CVRP rebates based on cumulative sales over the next three FYs (2021-22, 2022-23, and 2023-24) while not impacting the low and moderate-income bonus. This three-year plan included rebate levels that continue to encourage early adoption of ZEVs, encourage a sustainable ZEV market, and support EV

³² Supplemental Report of the 2018-19 Budget Act. <https://lao.ca.gov/reports/2018/3883/supplemental-language-2018.pdf>

sales to reach the State's goal of 5 million ZEVs by 2030. Staff will provide an update to this phase down strategy in the final version of the FY 2022-23 Funding Plan.

Since the introduction of the first light-duty long-term plan in FY 2016-17, the ZEV market has grown tremendously. However, events over the last few years have changed the ZEV market landscape and the new vehicle market. Despite ongoing production and supply chain interruptions across all sectors, EV market share in California increased to over 16 percent in the first quarter of 2022 demonstrating strong EV market growth and resilience. Recent predictions suggest a return to pre-2020 market supply for light-duty vehicles by the end of the year which would have a positive impact on ZEV market growth in California.³³ To support continued ZEV market growth, the proposed Advanced Clean Cars II proposal would take the state's already growing zero-emission vehicle market and robust motor vehicle emission control rules and augment them to meet more aggressive tailpipe emissions standards and ramp up to 100 percent zero-emission vehicles.³⁴ Staff will continue to review new data as it becomes available and analyzing how the ZEV market continues to evolve in 2022 in order to update assumptions, evaluations, and recommendations for the long-term plan.

What remains constant is the need to get more ZEVs on California's roads and prioritize complementary clean transportation and mobility equity investments in the process. Incentives will continue to play a critical role in meeting ZEV deployment goals for the foreseeable future, especially to encourage uptake in harder-to-reach market segments. Staff will present updated findings and suggestions to support this goal in this year's Funding Plan after completing a thorough analysis of all market and technology aspects.

Draft Allocations for Clean Transportation Equity & Light-Duty Projects

The May Revise to the 2022 State Budget provides continued substantial investments to support an equitable transition of passenger vehicles to zero-emission and various clean transportation equity investments. The budget includes \$419 million in General Funds for clean transportation equity projects, with at least \$110 million earmarked for CMO and at least \$122 million for CMiS.

The proposed budget also includes \$430 million in General Funds and an additional \$76 million from Low Carbon Transportation funding for equity vehicle purchase incentive programs. This includes at least \$250 million to establish Clean Cars 4 All statewide, at least \$50 million for the district-run Clean Cars 4 All programs, at least \$100 million for statewide Financing Assistance, and at least \$15 million for the new Electric Bicycles Incentive Project. Staff also proposes to use a portion of the total allocation to fund equity vehicle purchase incentive outreach efforts through Access Clean California and to provide support for

³³ California New Car Dealers Association. *California Auto Outlook Covering Fourth Quarter 2021*. February 2022. <https://www.cncda.org/news/california-new-car-dealers-association-releases-fourth-quarter-auto-outlook/>

³⁴ California Air Resources Board. *Proposed Advanced Clean Cars II Regulation*. <https://ww2.arb.ca.gov/our-work/programs/advanced-clean-cars-program/advanced-clean-cars-ii>

CalSTA's and its partners, the California Department of Transportation (Caltrans) on Cal-ITP³⁵. Cal-ITP strives to make travel simpler and cost-effective for everyone by providing easy and accessible travel planning and payments across California. Any remaining funding will be held as a reserve to fund this program and corresponding demonstrations, as there is a need for additional funding outside of what has been allocated.

Table 6 outlines the proposed allocations for each vehicle purchase incentive program and each clean mobility project, considering current project demand and uptake, administrator capacity to spend funds, and funding that has already been allocated in past FYs but not spent. CARB staff considered stakeholder comments received through the public process and prioritized investments that can result in the most immediate impact in communities. Only 75 percent of the \$76 million of Low Carbon Transportation GGRF funding can be spent initially with the remaining 25 percent available after the fourth Cap-and-Trade auction of the FY and direction from the Department of Finance. As such, staff is proposing to hold back the \$11 million in reserve funding and \$8 million from the \$60 million in Low Carbon Transportation funding for Clean Cars 4 All district programs until the fourth Cap-and-Trade auction of the FY.

In Table 6, a separate category is listed for "Planning and Capacity Building" under Clean Transportation Equity Investments. Past funds for outreach, community transportation needs assessments, and technical assistance have all gone through Access Clean California or CARB's clean mobility pilots. This FY, CARB is setting aside specific planning and capacity building grant funding to support dedicated outreach, ongoing technical assistance, community capacity building, workforce training and development, and other critical clean mobility investment needs. Additionally, further investment to expand workforce training and development in communities will go through CARB's vehicle purchase incentives, clean mobility, planning and capacity building programs this fiscal year. To more fully support economic opportunities across clean transportation sectors and maximize benefits for priority populations, CARB's workforce investments go beyond light-duty vehicles and the ZEV market to include medium- and heavy-duty applications, including the Inclusive, Diverse, Equitable, Accessible, and Local (IDEAL) ZEV Workforce Pilot projects.

³⁵ <https://www.calitp.org/>

Table 6: FY 2022-23 Proposed Allocations for Vehicle Purchase Incentives and Clean Mobility Investments (millions)

Project Category	Total Allocations to Date*	Low Carbon Transportation Allocation	General Fund Allocation**	Total Proposed Allocation
Vehicle Purchase Incentives				
CVRP	\$1,601	\$0	\$0	\$0
Clean Cars 4 All – Statewide Expansion	\$0	\$0	\$250	\$250
Clean Cars 4 All – Air District Programs	\$190.6	\$60	\$50	\$110
Financing Assistance	\$67.5	\$0	\$110	\$110
Electric Bicycles Incentives Project	\$10	\$0	\$15	\$15
Access Clean California	\$14	\$5	\$0	\$5
Cal-ITP	\$0	\$0	\$5	\$5
Equity Vehicle Purchase Incentive Reserve Fund	\$0	\$11	\$0	\$11
Clean Mobility Investments				
CMO (includes Regional Clean Mobility Pilots)	\$74.3 ⁺	\$0	\$126	\$126
CMiS Pilot Project	\$34.6	\$0	\$125	\$125
STEP	\$44.5	\$0	\$125	\$125
Planning and Capacity Building, Workforce Training and Development	\$4.775 ⁺⁺	\$0	\$43	\$43
Total	\$2,041.275	\$76	\$849	\$925

*Funding shown here includes Low Carbon Transportation Allocations, AQIP allocations, and VW settlement Funds. CVRP received \$146 million from AQIP and has received \$940 million from Low Carbon Transportation. Since FY 2017-18, \$25 million of each year’s CVRP allocation has been earmarked for increased rebates for low- and moderate-income applicants. Clean Cars 4 All received \$3.6 million from AQIP and \$10 million from the VW settlement funds. Financing Assistance received \$10 million from the VW settlement funds, and Access Clean California also received \$5 million from the VW settlement funds. Totals are rounded to the nearest million.

**All General Fund appropriations in this column have been deferred by the Legislature and represent what is included in the May Revised to the 2022 State Budget. Appropriations from May Revise that are deferred by Legislature. CARB acknowledges that these details may likely change before the end of the Legislative session. Staff will update program level allocations upon final legislative appropriation.

+ \$8M in funding was provided through partnership with CEC.

++ \$1.5M for FY 2021-22 Clean Transportation Equity Investments, \$1M in FY 2020-21 1 percent State Operations funding to support IDEAL ZEV Workforce Pilot Project implementation with CEC, \$1M in FY 2021-22 1 percent State Operations funding to provide additional support for implementing IDEAL ZEV Workforce, and \$1.275M in FY 2021-22 one percent State Operations funding for a new transportation electrification pre-apprenticeship program to be developed through partnership with CEC.

Vehicle Purchase Incentives

Light-duty vehicle purchase incentives such as CVRP play an important role in increasing the number of ZEVs on California's roadways and achieving large-scale transformation of the fleet. Equity focused projects, such as Clean Cars 4 All, Financing Assistance programs, and increased CVRP rebates for lower-income applicants, provide purchase incentives to increase ZEV adoption in priority. The new Electric Bicycles Incentive Project is designed to help Californians reduce their VMT by reducing barriers to e-bike ownership. Access Clean California provides resources for lower-income individuals to find and apply for all of the state and local clean energy benefits they qualify for, such as money for public transit or a new or used EV; free or low-cost home charging; and no-cost home solar.

Driven by community need and legislation (SB 1275, SB 350, and AB 1550), the Clean Cars 4 All and Financing Assistance programs help increase access to cleaner vehicles for priority populations, including lower income households and disadvantaged communities. These programs also offer critical support to the secondary ZEV market. These programs promote ZEV awareness, education, and provide a financial stimulus to lower-income Californians to aid in the purchase of cleaner vehicles. While each program has different goals and eligibility requirements, they complement each other by providing financial tools and incentives to make advanced clean technology vehicles more affordable and achievable for lower-income consumers.

Lessons learned throughout the life of these programs have allowed for program refinements to better serve lower-income Californians and achieve California's climate goals. Examples of this refinement include aligning definitions across the various vehicle purchase incentives and moving from a first-come-first-served model to a needs-based model of implementation.

Staff has learned from the Financing Assistance project that lower-income consumers can be wary of battery reliability in ZEVs. In an effort to address this concern, AB 193 (Cervantes, Chapter 363, Statutes of 2018) established the Zero-Emission Assurance Project to help lower-income Californians reduce the risk of buying a used ZEV by providing a rebate or vehicle service contract for the replacement battery or fuel cell component. AB 193 states that CARB will "establish the Zero-Emission Assurance Project by allocating moneys, available upon appropriation from the Legislature in the annual Budget Act or other statute." Since no such funding or resources have been allocated, CARB is unable to implement the Zero-Emission Assurance Project at this time; In the interim, the Advanced Clean Cars II proposal includes a number of zero-emission vehicle assurance measures, which include proposals to set minimum warranty and durability requirements, increase serviceability, and facilitate charging and battery labeling, which will help ensure all consumers can successfully replace their fossil fuel-powered vehicles with new or used vehicles that meet their needs for

transportation and protect the emission benefits of the program. As CARB works to establish these requirements by law, staff will continue to do research and lay the groundwork to support the Zero-Emission Assurance Project in anticipation of a future direct funding appropriation.

Despite the challenges and barriers faced by lower-income consumers, demand from these programs indicates that there is substantial interest in purchasing cleaner vehicles. As these programs reach more Californians and demand grows, there is a need to further develop and improve these programs.

CARB's light-duty vehicle investments focus on supporting the long-term transformation of California's fleet and meeting policy, statutory, and regulatory goals and requirements. These incentive projects are a result of multiple key legislative drivers, including SB 1275, SB 535, AB 1550, and SB 350, but also recognize that increasing clean transportation access and consumer awareness must be an ongoing process.

Background on ZEV Deployment Goals

CARB is using these light-duty vehicle investments to accelerate deployment of the cleanest feasible vehicle technologies to meet California's air quality, climate change, and petroleum reduction goals. These goals include deploying:

- 1 million ZEVs by 2023, as directed by SB 1275.
- 1.5 million ZEVs by 2025, as directed in Executive Order B-16-2012.
- At least 5 million ZEVs by 2030, as directed in Executive Order B-48-18.

In addition, these investments also support Executive Order N-79-20 which requires that, by 2035, all new cars and passenger trucks sold in California be ZEVs.

Clean Vehicle Rebate Project (CVRP)

Draft General Fund Allocation—\$0

Draft Low Carbon Transportation Allocation—\$0

Project Overview and Goals

CVRP offers vehicle rebates to eligible applicants on a first-come, first-serve basis for light-duty ZEVs, plug-in hybrid electric vehicles (PHEV), and zero-emission motorcycles. The primary goal of CVRP has been to support mass deployment of ZEVs to help build a sustainable EV market. This is accomplished by providing consumer rebates to partially offset the higher initial cost of these advanced technologies. Over the years, CVRP has appropriately transitioned from a broad market incentive to an income-based incentive to ensure consumers that are not traditionally the first to buy newer technologies have ample support to make the transition. The program continues to see increasing demand from applicants in both middle and lower income levels. Per-vehicle rebate amounts are based on consumers' income and vehicle technology as shown in Table 7. Increased rebates for low-income applicants were introduced in 2016.

In 2016, the Legislature passed SB 859 (Committee on Budget and Fiscal Review, Chapter 368, Statutes of 2015), which mandated a number of changes to CVRP, including:

- Increasing rebate amounts for low-income applicants with household incomes less than or equal to 300 percent of the federal poverty level to those shown in Table 7.
- Reducing the income cap to the levels shown in Table 7.
- Limiting PHEV eligibility to vehicles with at least 20 miles of electric range.
- Requiring outreach to low-income consumers.
- Requiring prioritized rebate payments for low-income consumers.

CARB incorporated all these changes to CVRP as part of the FY 2016-17 Funding Plan. SB 615 (Cooper, Chapter 631, Statutes of 2017) extended these provisions through December 31, 2018. In addition, AB 2885 (Rodriguez, Chapter 366, Statutes of 2018) extended the requirements for CARB to continue providing outreach to low-income households and low-income communities and prioritize rebate payments to low-income applicants until January 1, 2022.

Staff is considering keeping the following provisions in place for FY 2022-23:

- Provide rebates for applicants who report gross annual income on Internal Revenue Service (IRS) Form 1040, IRS Form 1040A, or IRS Form 1040EZ, that does not exceed the limits as shown in Table 7.
- Provide increased rebates to eligible low-income applicants as shown in Table 7.
- Per Board direction, limit PHEV eligibility to those that meet the current electric range requirement instead of removing PHEVs from the program.

Table 7: CVRP Rebate Amounts and Income Limits

Rebate Type	Fuel Cell Electric Vehicle (FCEV)	Battery Electric Vehicle (BEV)	PHEV ³⁶	Zero-Emission Motorcycle
Increased Rebate for Low-Income Applicants Households with income less than or equal to 400% of federal poverty level	\$7,000	\$4,500	\$3,500	\$750
Standard Rebate Available for: Individual tax filers whose income is greater than 400% of the federal poverty level but less than or equal to \$135,000 Head-of-household tax filers whose income is greater than 400% of the federal poverty level but less than or equal to \$175,000 Joint tax filers whose income is greater than 400% of federal poverty level but less than or equal to \$200,000	\$4,500	\$2,000	\$1,000	\$750
Above Income Cap Individual tax filers whose income is greater than \$135,000 Head-of-household tax filers whose income is greater than \$175,000 Joint tax filers whose income is greater than \$200,000	\$4,500	Not eligible	Not eligible	Not eligible

Current Project Status

Through November 2021, CVRP has provided rebates for over 459,000 vehicles totaling about \$1.059 billion since the project’s launch in 2010. Since March 2016, over 32,000

³⁶ With an all-electric range of at least 30 miles as determined by the United States Environmental Protection Agency.

increased rebates have been issued to low-income consumers totaling over \$135 million. About 66 percent of rebates issued went to BEVs, 32 percent to PHEVs, and about two percent to FCEVs and zero-emission motorcycles.

In FY 2021-22, CVRP received a total allocation of \$525 million with \$10 million of the allocation earmarked for the creation of an e-bike incentive program and \$515 million for CVRP with the intent to fund the program through the 2023-24 FY. This funding allocation also included a requirement for CARB to provide a plan to phase down the rebate based on ZEV sales numbers.

In November 2021, the Board approved a plan to phase in changes to CVRP, proposed in the FY 2021-22 Funding Plan. The plan outlined two sets of changes to be triggered once certain ZEV sales milestones were reached – 1 million and 1.25 million ZEVs sold in California. A detailed explanation of these changes can be found in the FY 2021-22 Funding Plan for Clean Transportation Incentives.³⁷

CVRP administrator, the Center for Sustainable Energy (CSE), implemented the first phase of these changes on February 24, 2022. This first phase of changes included a decrease in the income cap for standard rebates and a decrease in the manufacturer's suggested retail price (MSRP) cap to \$45,000 for smaller vehicle classes. A second phase of changes is tentatively slated to go into effect in February 2023, triggered by having 1.25 million EV sales in California. This second phase of changes includes a second reduction in the income cap for standard rebate eligibility, removal of PHEVs from CVRP eligibility, and a modest reduction in the rebate amount across the board. In the approved proposal, the Board directed staff to continue analyzing the ZEV market and to update CVRP funding need projections to determine if this second phase of changes is indeed necessary to keep the program open through FY 2023-24. Based on this analysis and with input from stakeholders through the public process, staff is providing an update with possible amendments to the plan in this Draft Funding Plan. A final proposal will be released in October 2022 in advance of the November 2022 Board Hearing.

Shortly after the first phase of changes were implemented, Tesla increased the base MSRP of the Model 3 and Model Y – two of the most popular EVs on the market – putting both vehicles over CVRP's MSRP cap and removing them from eligibility. Tesla vehicles' popularity and availability have made them to date majority of all BEVs sold in California and an equally large share of CVRP rebates issued, though many other OEMs are now entering the market with affordable models. Due to the removal of the Tesla Model 3 and Model Y from CVRP eligibility, staff anticipate a significant near-term decrease in program demand in the coming months and anticipate a significant rebound in this demand as additional EV models enter the market. As this transpired fairly recently, staff is continuing to monitor program data to

³⁷ California Air Resources Board. *Proposed Fiscal Year 2021-22 Funding Plan for Clean Transportation Incentives*. November 19, 2021. https://ww2.arb.ca.gov/sites/default/files/2021-10/fy21-22_fundingplan.pdf

better reflect the impact this may have on future CVRP funding need. Additional project statistics are available on the CVRP website.³⁸

Staff monitors CVRP participation rates by comparing rebate application data to California vehicle registration data to evaluate program trends. Historically, about 75 percent of ZEVs purchased or leased in California received a rebate prior to the introduction of income-based consumer eligibility. Since the introduction of the CVRP income cap and MSRP cap, slightly less than 50 percent of ZEVs purchased or leased in California have received a rebate. This suggests that the income cap and MSRP cap are having their intended effects. Staff will continue to monitor these trends as the first phase of program changes that went into effect in 2022 may impact the percentage of the ZEV market that receives a CVRP rebate.

Draft Funding Allocation

As previously mentioned, CVRP received a substantial upfront allocation of \$515 million through the Budget Act of 2021. This allocation is intended to fund CVRP through FY 2023-24 and therefore no additional funding is being allocated to the program this FY. Instead, staff will use the FY 2022-23 Funding Plan to provide updated CVRP funding projections and recommended amendments to the plan of phased in changes approved by the Board in November 2021.

CVRP Demand Projections: In mid-May 2022, staff worked with CSE to release updated preliminary projections that included recent EV sales numbers and program data through Quarter 1 of 2022.³⁹ Staff have modeled projections for both standard and increased rebate funding need and have reflected the recent removal of Tesla's Model 3 and Model Y from program eligibility. This presentation also included a brief update on California's ZEV market. Based on updated data, staff estimates that California is well on track to meeting its next two ZEV deployment goals with 1.5 million ZEVs by 2025 and 5 million ZEVs by 2030.

The methodology used is the same as last year with CSE is using Prophet, an open-source modeling tool. Prophet helps to better simulate market conditions and rebate demand based on estimates of market recovery following last year's economic uncertainty. The projections include estimates of the impact of the Clean Fuel Reward, February 2022 program changes, and removal of all Tesla vehicles from CVRP. Additionally, the projections adjust for the large increase in EV sales due to the release of the Tesla Model 3 in 2018 and pent-up market demand in Winter 2020-21. Lastly, the projections assume linear growth for most vehicle categories and rebate types but does not account for future ZEV model releases or changes to state and federal incentives or regulations.

Based on updated projections, the February 2022 reduction in the income cap is projected to result in an approximately 23 percent reduction in applications. Additionally, the removal of the Tesla Model 3 and Model Y from eligibility is anticipated to result in an overall reduction

³⁸ CVRP Rebate Statistics, <https://cleanvehiclerebate.org/eng/rebate-statistics>

³⁹ California Air Resources Board. *First Public Work Group to Discuss the Clean Vehicle Rebate Project for Fiscal Year 2022-23*. May 11, 2022. https://ww2.arb.ca.gov/sites/default/files/2022-05/final_cvrp_workgrouppresentation_05112022_ada.pdf

in program demand by about 60 percent. Tesla’s MSRP ineligibility is predicted to gradually reduce demand from March 2022 through August 2022 with the income cap reduction expected to uniformly reduce demand from March 2022 and onward. Table 8 shows updated CVRP funding demand estimates through FY 2023-24. As the projections do not include future ZEV model releases or changes to state or federal incentives and regulations, staff have noted that the total estimated demand is only a partial total of what staff anticipates is needed to keep CVRP open through June 2024. Currently, there are over 60 ZEV and PHEV models available in California spanning across ten EPA vehicle size classes.⁴⁰ However, a recent CARB analysis indicates that this total will rapidly increase over the next few years to nearly 180 ZEV and PHEV models across an increasing number of EPA vehicle size classes by 2025.⁴¹ This rapid expansion and diversification of the ZEV market is expected to significantly increase CVRP demand especially as more ZEV offerings in the highly popular van, truck, and SUV categories come to market. As such, CARB staff will continue to work with the CVRP administrator to update program demand projections with the newest ZEV market and CVRP rebate data available to better reflect the impact of these changes on future funding demand for CVRP.

**Table 8: Updated CVRP Demand Estimates through FY 2023-24 (with no changes)
(millions)**

Time Period	Standard Rebates	Low-Income Rebates	Partial Estimated Demand
March 2022-June 2024	\$14-93	\$21-78	\$36-171

Updated projections will be publicly available on the CVRP website and discussed through the public process. CSE plans to incorporate refinements to the projections that include adjusting for upcoming EV model releases, seasonality, and regional forecasting.

Potential Changes to Project Criteria

As previously mentioned, updated projections that reflect February 2022 program changes and Tesla’s recent ineligibility for the program indicate that while these two circumstances impact CVRP demand they have minimal impact on the ZEV market as a whole. This indicates that the first wave of ZEV adopters is well-established and allows CVRP to pivot its focus to lower- and middle-income car buyers who need additional support to make the switch to electric.

⁴⁰ California Air Resources Board. *Advanced Clean Cars II Regulation Staff Report: Initial Statement of Reasons Appendix G ACC II ZEV Technology Assessment*. April 12, 2022.

<https://ww2.arb.ca.gov/sites/default/files/barcu/regact/2022/accii/appg.pdf>.

⁴¹ Ibid.

To increase support for low- and middle-income car buyers and maintain support for upcoming ZEV model releases, staff is considering a number of program changes such as:

- Reconsidering implementation of the second phase of changes planned for implementation in February 2023.
- Including a pre-paid charge card with every rebate issued.
- Increasing the rebate amount, particularly for lower income consumers.
- Expanding CVRP Rebate Now, the pre-qualification pilot, statewide.

Staff is still gathering information on the impacts of these program adjustments. Staff will continue to meet with stakeholders to discuss how to design CVRP in a way that supports California's ZEV deployment goals and focuses funding on low- and middle-income car buyers.

Draft Project Evaluation Strategy

The ZEV market is continuing to grow dynamically. Although it is still early in the ZEV market's development, there is a clear need to evaluate the effectiveness of investments toward CVRP and other light-duty vehicle purchase incentives. Staff provided an update to the Three-Year Plan for CVRP, the ZEV Market, Clean Transportation Equity Investments, and Outreach in Appendix C of last year's Funding Plan. The update to the long-term plan covered FYs 2019-20, 2020-21, and 2021-22. This year, staff is preparing a major update to the plan that covers FYs 2022-23, 2023-24, and 2024-25. This includes an updated review of market and technology indicators and a determination of if and when additional changes need to be made to CARB's light-duty vehicle purchase incentives. These indicators include but are not limited to: ZEV sales as a fraction of the new car market; technology advancement such as vehicle range; battery cost and vehicle price; vehicle diversity and number of manufacturers producing ZEVs; growth of the used ZEV market; and consumer awareness about ZEVs.

As part of the Supplemental Report of the 2018-19 Budget Act, CARB is required to submit an annual supplemental report, until January 1, 2030, that includes a forecast of the total state rebate investment necessary to reach the goal of placing at least 5 million ZEVs in service on California's roads. Development of the first report occurred alongside the development of the update to the long-term plan for CVRP and light-duty incentives in FY 2019-20. The first report was provided in the FY 2019-20 Funding Plan as part of Appendix C and will be included in the Funding Plan annually thereafter until 2030.

Staff is developing the next long-term plan to further evaluate the effectiveness of CVRP by looking at the impacts the program has on California's ZEV market. Currently, the CVRP consumer survey provides data that helps analyze market impacts through demographics of program participants and importance of CVRP and other EV incentives. In previous long-term plans, staff indicated that a 16-20 percent EV market share would define a sustainable market. Aside from market share statistics, staff identified metrics to track the progress toward EV market sustainability, which would signal a phase-out of broad market incentives. These metrics include:

- ZEV sales numbers.
- Diversity in available models.
- Consumer education and awareness.
- Battery and vehicle cost.
- Importance and impact of federal policies.

Staff plans to work with stakeholders through the public process to determine if there are additional metrics that can help measure the progress toward EV market sustainability. Additionally, staff will work with stakeholders to identify goal markers for each of these metrics, and ensure the metrics are responsive to the recommendations in the CARB Audit Report. This will help with the development of a plan to phase out standard rebates once market sustainability is reached and turn CVRP's main focus to harder to reach market segments through increased rebates. A more in-depth update on this process will be included in the final version of the FY 2022-23 Funding Plan released in October 2022.

Finally, staff continue to conduct surveys of program participants to understand the importance of the rebate in relationship with other vehicle purchase incentives. Staff use this data to help understand potential behavioral impacts of the incentive and consider potential changes to the program. Survey data for CVRP is publicly available on the CVRP website⁴².

⁴² <https://cleanvehiclerebate.org/en/rebate-survey-dashboard>

Financing Assistance for Lower-Income Consumers (Financing Assistance)

Draft General Fund Allocation
\$110 million

Project Overview and Goals

The Financing Assistance provides financial resources to help lower-income Californians purchase advanced clean vehicles. The project offers vehicle price buy-downs (grants) at the point-of-sale and fair financing through lower interest loans, and home charger incentives or portable chargers and prepaid charge cards if home charger installation is not an option.

Financing Assistance complements CVRP and Clean Cars 4 All by offering low-interest loans to participants in those programs. Program administrators provide financial education and advanced vehicle technology training to ensure consumer protection, increase the chance of successful loan repayments, and ensure that the vehicles chosen by participants appropriately meet their transportation needs. Participating financial institutions and lenders in this project are being offered funds for a loan loss reserve to mitigate risk.

Financing Assistance was initially administered as two different pilot programs: a local, high-touch program and a first come, first serve statewide program. The Driving Clean Assistance Program administered by Community Housing Development Corporation (CHDC) is the local program that serves 12 counties in Northern California. The statewide CVA Program is administered by Beneficial State Foundation and provides incentives to consumers across the State. As approved in last year's Funding Plan, the two Financing Assistance pilot programs will be merged into one statewide project to better serve low-income consumers and consumers living in priority populations.

Current Project Status

CHDC, a CBO, received about \$7 million in grant funds to serve low-income residents living in the nine Bay Area counties, Yolo, Santa Cruz, and Sacramento counties. So far, CHDC has provided 218 grants, helped secure 187 low-interest rate loans, and issued 80 EV supply equipment (EVSE) grants to participants. All loans issued under this program have been under eight percent interest and are further supported by a loan loss reserve account with participating financial partners.

CVA Program has been awarded \$51.86 million and since inception, the program has provided 4,440 vehicle grants, 2,725 EVSE grants, and facilitated 3,639 low-interest vehicle purchase loans to program participants. Due to higher-than-expected demand, a reservation list was put into place on March 17, 2021, but soon reached its maximum capacity, and the program closed to new applicants on April 14, 2021. The program received \$8 million of the contingency funding allocation from FY 2021-22 and is working on fulfilling the reservation list applications.

Needs-Based Approach

Based on the Board's approval of staff's proposal in the FY 2021-22 Funding Plan, the Financing Assistance program is transitioning to a needs-based model from the current first-come, first-served model to better meet the needs of low-income consumers.

In this model, applicants that meet one or more of the program's measurable criteria, such as income level, disadvantaged community residency, need for financial counseling, and others, would be automatically flagged as a priority applicant, triggering funds to be reserved. Appropriate support will be provided for each category to assist individuals throughout the application, vehicle purchase, and post-purchase stages. Applicants that do not meet one of the criteria identified but have an income less than the program's income eligibility cap, would be processed on more of a first-come, first-serve basis. Processing times would be longer, though these applicants won't likely need as much support. Funds for these applicants would not be reserved until applications are fully approved. Staff, however, continues to work with communities and stakeholders to define the approach for need-based incentives and the measurable criteria that will be used to identify priority applicants.

Staff recognizes that implementing a needs-based model is resource-intensive and entails collaboration and partnership with other programs such as Access Clean California, CBOs, and outreach partners. Therefore, staff is planning to utilize the unique capabilities and resources of these stakeholders by offering support and inviting them to play a more active role in program implementation.

Adopting a vehicle purchase price cap, loan amount cap, limiting the annual percentage rate of loans issued across the board to eight percent, and expanding the partner banks network are some of the other program changes that were also approved by the Board last year and will be incorporated in the next phase of program implementation.

Draft Funding Allocation

By implementing two programs under this pilot for a few years, CARB has learned that there is great demand and interest among low-income consumers for clean vehicles, such that the statewide program spent the two recent major allocations very quickly. Considering the recent health and economic crisis, program closures, and other external factors that impacted the demand, past project data analysis and modeling the needs-based model suggest that the Financing Assistance project demand is between \$80 million and \$110 million for FY 2022-23.

Potential Changes to Project Criteria

Staff is not proposing any significant changes to the Financing Assistance program beyond what was approved by the Board in the FY 2021-22 Funding Plan.

However, it is important to note that throughout the public process of program development, staff routinely heard from representatives of African American communities that their respective communities have missed out on opportunities to benefit from our

incentives in the past. Staff has worked closely with representatives of these communities to better understand their needs and how we can reduce barriers to our programs for all Californians. Staff propose enhanced targeted outreach and education towards these communities in close collaboration with local CBOs and representatives to ensure low-income Californians in these communities have access to information and resources in par with other communities.

Joint Solicitation with Clean Cars 4 All

Also, in an effort to respond to consumer requests for streamlining clean vehicle purchase incentive programs and making it easier to apply for multiple programs, staff is planning to run a joint solicitation for Financing Assistance and statewide Clean Cars 4 All to select one grantee to administer these two major low-income vehicle purchase incentive programs. Program staff held several independent and joint work group meetings with stakeholders and generally received positive feedback to this approach. Some stakeholders indicated concerns around policy issues with statewide Clean Cars 4 All, and staff will continue to work through those issues in parallel to the solicitation process.

Draft Project Evaluation Strategy

As staff transitions to implement a need-based model, staff will develop new metrics to measure the impact of incentives through this project. Currently, staff rely on program data and surveys of program participants to understand the impacts of the program on car buying, financing needs, and behavioral and socioeconomic impacts. An expected socioeconomic benefit of this project is to bring the benefits of clean transportation to priority populations that are most impacted by pollution, which can be evaluated through measuring the increased number of clean vehicles in priority populations. Staff continues to find ways to collect and evaluate data in a way that helps to inform overall program design. Other metrics staff is considering in evaluating the success of this project is reporting funding distribution demographically, particularly funding for priority populations; measuring increases in project demand and the number of program applicants; changes in participants' income level and residency location; costs and types of vehicles purchased; and loan repayment status. Improvement in participants' credit scores is another important metric that can be measured by evaluating the aggregate credit score of participants at the onset of the loan to their credit score over time. Staff is working to identify ways to collect and assess this data to better understand the impacts the program has on overall credit scores.

Clean Cars 4 All

Draft General Fund Allocation—\$300

Draft Low Carbon Transportation Allocation—\$60

Project Overview and Goals

Clean Cars 4 All (formerly known as EFMP Plus-Up Pilot Project) provides incentives to help lower-income consumers living in priority populations to replace their old higher-polluting vehicles with newer and cleaner transportation. Participants have the option of a purchase or lease of a new or used hybrid, PHEV, or ZEV replacement vehicle, or an alternative mobility option such as an e-bike, voucher for public transit or a combination of clean transportation option. Additionally, buyers of PHEVs and BEVs are also eligible for home charger incentives or prepaid charge cards if home charger installation is not an option. Detailed information on the Clean Cars 4 All guidelines can be found here:

<https://ww2.arb.ca.gov/rulemaking/2018/proposed-guidelines-clean-cars-4-all-and-enhanced-fleet-modernization-programs>.

Clean Cars 4 All is currently administered in the five largest air districts in California: South Coast, San Joaquin Valley, Bay Area, Sacramento, with an upcoming program in San Diego. Participants in these programs must have a household income of less than 400 percent of the federal poverty level (\$111,000 for a family of four) and live in a ZIP Code containing a disadvantaged community census tract.

Annual goals are established through a public workgroup process after the FY 2022-23 Funding Plan is established. In addition to monitoring overall participation rates, the number of vehicles funded by replacement vehicle technology type, and number of participants choosing the alternative mobility option are also tracked in consultation with implementing air districts.

CARB staff determines proposed district funding allocations based on Quarterly Report data from the participating air districts. These reports provide data such as fund balances and expenditure rates, which CARB uses to determine which districts are in the greatest need of additional project funds. Due to the atypical circumstances of the past two years that adversely affected program funding and performance, CARB staff has also taken additional steps in coordinating and meeting directly with districts. These meetings are opportunities for the districts to present additional metrics which include but are not limited to total applications, application processing capability, total program capacity, and any other metrics that are district program specific, that will illustrate each program's capabilities, demand, and difficulties. Staff factored these metrics from the districts into the allocation determination.

The metrics that the districts have brought forth are also included in the Goal setting report also known as the AB 630 report, a legislatively mandated report required by AB 630 (Cooper, Chapter 636, Statutes of 2017) that requires CARB to set forth specific and measurable goals annual for both EFMP Scrap Only and the Clean Cars 4 All

Scrap-and-Replace programs beginning with the FY 2022-23, the AB 630 report will be included as an appendix in the final Funding Plan.

In response to the 2021 CARB Audit Report, CARB is also developing metrics internally to better capture the socioeconomic benefits of the improved reliability of the replacement vehicle over the retired vehicle. Also at Board direction, with updated guidelines CARB staff continues to approve upon the metrics and refine the data we collect. Currently, there are efforts to refine the participant surveys administered throughout the Clean Cars 4 All process as well as surveying methodology to better gauge the program from the perspective of the applicants.

Current Project Status

Air District Programs

Since FY 2014-15, CARB has allocated \$190.6 million for Clean Cars 4 All, including \$177 million of Low Carbon Transportation funding, \$10 million of VW settlement funding, and \$3.6 million of AQIP funding. **Table 9** below summarizes the funding allocated to each of the districts that have operational programs, including funding spent and vehicles replaced, to date. Additionally, in preparation for launch of the newest district program, San Diego Air Pollution Control District (APCD) was allocated \$5 million in FY 2021-22 as an initial grant to begin program implementation. Table 10 provides a breakdown of vehicles and other incentives funded by these programs.

Table 9: District Allocations

District	Launch Date	Dollars Allocated (in millions)	Dollars Spent (in millions)
South Coast AQMD	July 2015	\$89	\$62
San Joaquin Valley APCD	July 2015	\$43.6	\$27
Bay Area AQMD	September 2019	\$32	\$16
Sacramento Metropolitan AQMD	July 2020	\$11	\$5
San Diego APCD	T.B.A.	\$5	\$0
Totals		\$180.6	\$110

Table 10: Vehicles Funded

District	Total Vehicles Replaced	BEV	PHEV	Hybrid	FCEV	Mobility Options	EVSE or Charge Cards
South Coast AQMD	7,200	10 percent	58 percent	31 percent	27	11	19
San Joaquin Valley APCD	3,560	9 percent	52 percent	39 percent	0	0	6
Bay Area AQMD	1620	24 percent	48 percent	26 percent	18	21	150
Sacramento Metropolitan AQMD	47068	33 percent	66 percent	1 percent	0	0	227
Totals	12,850	-	-	-	45	32	402

CARB staff is working closely with each air district to ensure their programs continue to progress and steadily increase participation. Districts have already increased support for online and call-center applications and offered various tools such as virtual inspections. With the additional recent funding, districts have taken measures to increase targeted outreach to priority populations. Staff also anticipates that alignment and integration with the Access Clean California and Financing Assistance programs will further increase participation and streamline the application process.

All district Clean Cars 4 All programs are expected to be able to operate through FY 2022-23 with current funds. Additionally, staff has yet to allocate the \$10 million strategic reserve from FY 21-22.

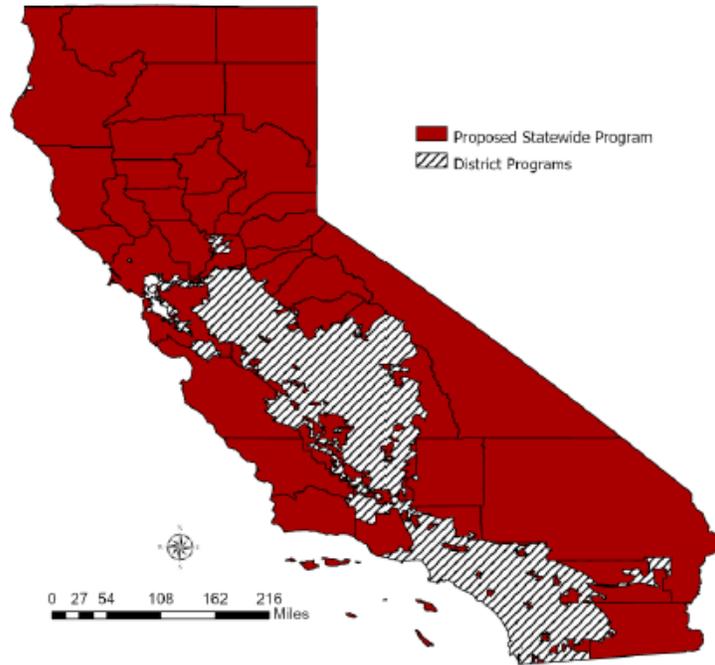
Statewide Expansion

As noted above, the CC4A program currently operates in five air districts (Bay Area, San Diego, South Coast, San Joaquin, and Sacramento). CARB proposes expanding geographic eligibility statewide while maintaining income eligibility requirements and developing a needs-based approach to focus the program on Californians in most need. The statewide expansion of Clean Cars 4 All will expand equitable access to clean transportation by expanding program eligibility to all areas of the state that are not able to participate in existing district programs including low-income communities, rural communities, and other priority populations that could benefit from the reliable transportation the CC4A program

could provide to them. Areas eligible for existing district programs and those that would be eligible for the statewide program are shown in Figure 1.

Figure 1: Clean Cars 4 All District and Statewide Program Eligibility

Clean Cars 4 All Eligibility by Region



The statewide program aims to focus the benefits on those with the greatest need. Program eligibility will be determined primarily based on income, limited to participants with household incomes at or below 300 percent of the federal poverty level, currently an annual income of \$83,250 for a household of four individuals. In addition to focused income restrictions, the statewide program will require moving beyond the first-come, first-served models used in the existing district programs. A needs-based approach, developed in collaboration with Financing Assistance, will categorize applications based on income, disadvantaged community status and other criteria to prioritize and to meet the needs of participants who would benefit most from a more accessible Clean Cars 4 All program. Collaboration with CBOs and Access Clean California will help ensure that those in the greatest need are able to access the program. Improved survey and data collection methodology will continue to assist in cataloging the needs of participants and providing insight on how the program can be improved. This shift in program design specifically addresses community concerns with the current first-come, first-serve model by ensuring that funding is prioritized for Californians in most need, respecting the needs of local communities, as well as supporting California’s climate and air quality commitments. The needs-based approach is under development still, but could use a combination of

mechanisms including income, residence, vehicle ownership, and other qualifiers to determine eligibility and prioritization.

Joint Solicitation with Financing Assistance

In preparation for the statewide expansion effort, Clean Cars 4 All will solicit a third-party administrator through a competitive solicitation process. CARB plans to issue a joint solicitation between Financing Assistance and statewide CC4A to streamline the application process for residents in most need, providing increased opportunity to match the need for low-cost financing with the vehicle purchase incentives provided through CC4A. Combining the two programs into one solicitation directly addresses feedback CARB has received for several years from community members, environmental justice advocates, and the Legislature regarding the need to consolidate programs to reduce consumer confusion when applying for incentives. A combined solicitation will allow for better management of communication across the programs, consolidated processing of rebate applications, cooperative relationships with dealers, more streamlined efforts and use of outreach tools and materials (when appropriate), and result in fewer administrators and risk of added complexity when working in partnership with Access Clean California. Program staff held several independent and joint work group meetings with stakeholders and have generally received positive feedback from community members.

Regulatory Amendments

The required regulatory changes and Executive Officer authority to implement statewide expansion were approved in the FY 2021-22 Funding Plan. Regulatory changes, as adopted in the California Code of Regulations, title 13, division 3, chapter 13, sections 2630 through 2639, enabled statewide expansion by removing the population requirement for district eligibility and changing all instances of the term "district" to "district or third-party administrator" when referencing program administration. CARB staff held multiple public meetings to discuss these regulatory changes, to present and receive feedback on those changes, the proposal for statewide expansion, and the solicitation for statewide administrator to community members, community-based organizations, and stakeholders to ensure that these program changes are meeting the needs of priority populations.

Enhanced Flexibilities

Additionally, the FY 2021-22 Funding Plan outlined regulatory changes and Executive Officer authority to enhance the flexibility of the program. These updates reflect the current policies of the Clean Cars 4 All program and have already been approved by the Board. The flexibilities allow program administrators, in coordination with CARB, to further customize their programs to better serve the unique needs of their communities. After Board approval of the FY 2021-22 Funding Plan and updates to the regulation CARB held a separate public process to propose and receive public feedback on the changes. The updated policies are now available to CARB and the program administrators.

One such change allows CARB to consider program administrators' proposals to focus eligible replacements on only the cleanest technologies. This change does not remove

eligible vehicle technologies from the program altogether but provides CARB the flexibility to approve district plans with such focus provided the district has vetted those plans through its own public process.

Updated policies also allow CARB to consider a participating administrator's plans to focus income eligibility on only those with the lowest incomes. This update does not limit income eligibility in the program immediately but provides CARB the flexibility to approve district plans that limit income eligibility and focus funding to the lowest income thresholds. CARB has also the ability to institute such limits program wide through a public process if it is later determined to be appropriate.

The ability to make modifications to incentive amounts are among recent policy changes. This allows increased program flexibility and responsiveness to changing market conditions for the lowest-income participants and those who require vehicles with adaptive equipment due to a disability. The Executive Officer has the authority to make changes to the incentive amounts at any time.

Lastly, ongoing efforts for program integration with Access Clean California will provide greater transparency and ease of access for prospective applicants. Offering an eventual single portal of initial applications for multiple incentive programs along with Access Clean California's targeted education and outreach efforts will help reduce barriers to program access while increasing demand and participation.

Additional Program Improvements

To provide additional benefit to participants, staff has amended recent Clean Cars 4 All grants to require districts to coordinate with CARB and the Access Clean California administrator to develop and implement Access Clean California. Access Clean California will provide low-income consumers more efficient and transparent access to available vehicle purchase incentive programs, including but not limited to Clean Cars 4 All, through a streamlined application process. Integration with Access Clean California will also complement ongoing outreach efforts to reach priority populations.

Additional general program improvements are also underway, especially to address program issues that were highlighted by recent participant surveys. One issue that CARB and the districts continue to work on are efforts to further promote the adoption of mobility options as an alternative to vehicle replacements. Mobility options offer the greatest emission reduction benefits while allowing participants flexibility in their mobility choices. Following the inclusion of e-bikes as a mobility option for the program, some districts have already begun investigating e-bike options or launching pilots to determine what style of offerings would best serve their constituents. These efforts have already garnered interest from prospective applicants looking for non-vehicular transportation. Districts are also pursuing additional partnerships with local transit agencies and car sharing programs to increase their alternative mobility option networks.

Another issue being addressed is the availability of EVSE and prepaid charging card incentives for BEV and PHEV replacements. Each participating district already offers EVSE

incentives but are pursuing means to increase feasibility, affordability, and adoption. EVSE and prepaid charge cards help maximize the benefits of PHEV and BEVs. Prepaid charging cards will especially benefit participants that cannot install in-home EVSE. The districts are also at various stages of implementing prepaid charging cards including South Coast AQMD and San Joaquin Valley APCD investigating local options, Bay Area AQMD piloting a card option, and Sacramento Metropolitan AQMD partnering with a contractor for full implementation. To ensure progress on these items continues, CARB staff is requiring districts to update the program implementation manuals to include specific details and/or plans to promote mobility options and EVSE/charge card availability.

Draft Funding Allocation

Air Districts

CARB works with participating administrators to determine funding allocations through a collaborative and public process. CARB's guiding principles when determining allocations include:

- Ensuring consistent, predictable funding.
- Use of data-based metrics to determine program capacity and predict future growth.
- Account for current and future market conditions.
- Solicit public input on appropriate metrics and methodology.

To ensure that the programs have sufficient funding for the current year, CARB analyzes current and past performance data metrics for each program, and other details provided by the districts to forecast demand and related funding needs. The FY 2022-23 May Revision to the Governor's proposed budget allocates General Funds and Low Carbon Transportation funds to Clean Cars 4 All. Per legislative direction, \$50 million from the General Fund allocation is to be split evenly among the five administering air districts. Staff recommends allocating an additional \$60 million from the FY 2022-23 Low Carbon Transportation allocation for equity vehicle purchase incentive programs to district-run Clean Cars 4 All programs. The total proposed allocation for district programs will be \$110 million for FY 2022-23. Proposed funding allocations for each district will be presented during upcoming public meetings and will be included in the final version of the FY 2022-23 Funding Plan.

Statewide Program

As outlined in the Governor's May Revise for the FY 2022-2023 Budget, the statewide program will receive \$250 million from the General Fund. This funding will become available to the statewide program administrator after the solicitation process is completed. Staff anticipate that the statewide program will launch in 2023.

Proposed Changes to Project Criteria

Needs-based approach

In advance of statewide expansion, CARB staff plans to pursue additional program improvements. To ensure the statewide program will be effective at directing funds towards those with the greatest need, the statewide expansion of Clean Cars 4 All will identify and integrate needs-based elements in order to better navigate the needs and special circumstances of low-income consumers, particularly those residing in disadvantaged communities. The creation of this methodology will be done in conjunction with the Financing Assistance Program to provide for more streamlined applications processing between the two programs. As described in the Financing Assistance Section, in a needs-based model, applicants that meet one or more of the program's measurable criteria, such as income level, disadvantaged community residency, need for financial counseling, and others, would be automatically flagged as a priority applicant, triggering funds to be reserved and necessary support offered expeditiously. This element is currently being developed through extensive public processes to allow stakeholders to provide input for determining need-based characteristics such as eligibility criteria, additional applicant support and accommodations, and other facets to secure the success of adopting this approach. A need-based process will help ensure that Clean Cars 4 All incentives reach the households that could best benefit from such assistance.

Program Alignment

CARB staff continue to work with districts, stakeholders, and dealerships to develop consistent expectations, consumer protections, and requirements for participating dealerships. Districts have already begun outreach efforts to expand partner dealership networks and increase understanding of program requirements. These updated and formalized standards will be developed through a public process to encourage stakeholder input. Once finalized, they will be incorporated as part of the requirements for a statewide program administrator to enact. This will ensure participants in expanded program areas will receive a similar dealership experience, benefits, and protections when working with approved dealerships.

CARB staff will also pursue additional avenues to maintain progress in other program improvements. This will include soliciting public feedback for different mobility and vehicle charging options that would best suit the local communities' needs. This same requirement will also be incorporated into any third-party administrator responsibilities.

Issuing Tax Form 1099-G

In response to participant and stakeholder feedback, CARB identified that two Clean Cars 4 All implementing air districts (Bay Area AQMD and South Coast AQMD) were issuing IRS Form 1099-G to program participants, which can introduce additional and unexpected financial burdens through participation in the program. The other two implementing air districts (San Joaquin Valley APCD and Sacramento Metropolitan AQMD) do not issue

1099-Gs to program participants. This is an issue of Federal law and the precise definition of “gross income.” Under Federal law, each district must make a determination whether or not to issue a Form 1099-G. CARB is not a tax agency and cannot provide official tax advice to districts. However, CARB staff held meetings with Bay Area AQMD and South Coast AQMD in October 2021, to discuss their 1099-G policies and reinforced that the Clean Cars 4 All guidelines do not require issuance of 1099-Gs, and that the intent of the program incentive is to provide vehicle purchase price buy-downs for lower-income consumers, not to serve as taxable income or otherwise negatively impact their financial situation. CARB continues to work with the districts and tax regulators in this area to secure any additional clarity needed to harmonize the district programs on this issue.

Expanding Survey Reach

To better identify socioeconomic benefits and areas of improvement for the Clean Cars 4 All program, CARB Staff, alongside program administrators and behavioral economists, is developing an updated participant survey to utilize for each of the district programs. This survey will offer more consistency which will provide for more streamlined data collection, analysis, and identification of benefits or areas for improvement. In conjunction, staff is also working to refine the surveying methodology to improve data quality and response rate. The improvement of this survey and process are intended to be used to refine program-related processes, ensure participants fully benefit from their participation, and identify priority populations for future targeted outreach. This survey along with the metrics it is intended to measure will be developed in coordination with communities, program administrators, and other stakeholders on an ongoing basis in conjunction with the annual Funding Plan. Staff expects implementation of the improved surveys to begin in the current FY.

Draft Project Evaluation Strategy

CARB requires program administrators to report project information on a quarterly basis at a minimum to include project administration and consumer surveys. With this information, through continued interaction with stakeholders and analysis of the light-duty vehicle market, CARB will be able to determine the participation rate and advancement of clean vehicles for priority populations and lower-income consumers, assess future funding needs, and evaluate other opportunities for program enhancements.

As part of CARB’s response to the 2021 CARB Audit Report and per Board direction, CARB will continue to take measures to improve evaluation, analysis, and reporting of socioeconomic benefits for program participants. An expected socioeconomic benefit of the Clean Cars 4 All program is an increase in vehicle reliability. One metric for measuring this benefit is future disruptions of service based on the model year of the retired vehicle and that of the incentivized vehicle. The evaluation method is to model the predicted disruptions of service of the scrapped and replacement vehicles as a relative measure of reliability. Another qualitative metric is improved access to employment and goods and services as a measure of vehicle reliability. Before fully conducting the analysis, CARB staff’s initial steps will be to refine the participant

survey questionnaire and methodology. Incorporating elements of the vehicle reliability analysis into the updated survey will enable participants self-report on the improved vehicle reliability.

CARB has requested districts update program implementation plans to more readily provide specific data on jobs created by program-related activities. Data will be analyzed on the types of jobs created and trainings supported by Low Carbon Transportation funds administered through the Clean Cars 4 All program. This data includes the total number of jobs funded, number of funded jobs held by members of priority populations, education and experience required, and training programs administered and credentials awarded.

CARB requests districts to regularly provide additional metrics including total applications received and ultimately processed to completion, current program staffing levels and processing capacity, and any additional metrics or plans that may inform the goal setting process as part of the annual program goal setting meetings. These additional metrics will aid in fine-tuning the goal setting process to better gauge program demand and application processing capability. The metrics will also assist in identifying common barriers in the application process and allow for staff to work with stakeholders and communities to identify solutions. CARB has already requested districts take additional steps to integrating with Access Clean California efforts, as well as conduct outreach to CBOs to ensure the program can be accessed by the populations with most need.

Electric Bicycle Incentives Project

Draft General Fund Allocation

\$15 million

Project Overview and Goals

The Electric Bicycle Incentives Project aims to provide rebates to reduce the purchase price for e-bikes to income qualified consumers. The pilot will be designed to help Californians reduce their VMT by lowering barriers to e-bike ownership, as well as to educate Californians about bicycle safety and support local businesses.

The purpose of this program is to pilot an approach that aims to 1) help people replace car trips with e-bike trips, 2) increase access to e-bikes, and 3) reduce GHG emissions.

Current Project Status

The Electric Bicycle Incentives Project was allocated \$10 million in the 2021-22 State Budget and is currently under development. Staff anticipates having a project administrator in place by mid-to-late 2022. The solicitation closed on May 11, 2022, and CARB is working with their proposed Grantee to execute a grant agreement as soon as possible.

Draft Funding Allocation

The May Revision to the Governor's proposed budget identifies that at least \$15 million of the \$430 General Fund allocation for equity vehicle purchase incentives should be used for the Electric Bicycle Incentives Project. Based on public work groups and interest in this project, staff anticipates high demand for an e-bike voucher and is proposing a draft allocation of \$15 million for FY 2022-23.

Proposed Changes to Project Criteria

Consistent with the goals of SB 375, the Electric Bicycle Incentives Project would increase access to clean transportation options while offsetting VMT by way of incentivizing the purchase of e-bikes. A portion of project funds would support the development and administration of a virtual bicycle safety class, so that consumers understand bicycle road safety. Staff proposes to vary rebate amounts for new e-bikes depending on the e-bike type and/or an individual's income. The rebate would be applied to the e-bike purchase at the point of sale and the retailer would request the funds from the program administrator.

Draft Project Evaluation Strategy

The Electric Bicycle Incentives Project will achieve GHG emission benefits by providing individuals incentives for e-bikes to help motivate consumer purchasing decisions, support active transportation, and displace VMT with bicycle trips. Because this project is currently under development, staff is working through project details with stakeholders and, over the

coming months will develop the additional details and other key project parameters needed to prospectively quantify emission benefits. Staff will coordinate internally to develop GHG emission reduction methodologies for the Electric Bicycle Incentives Project and will provide emission reduction estimates when available.

Access Clean California

Draft Low Carbon Transportation Allocation
\$5 million

Project Overview and Goals

The goals of Access Clean California (formerly named the One-Stop-Shop Pilot Project) is to work with local CBOs and community leaders to help increase awareness of Clean Transportation Equity funding opportunities, continue to build local community capacity, and streamline access to Clean Transportation Equity projects. These investments help to reduce barriers to participation, expand education, and raise awareness in the most impacted and underinvested communities. Through Access Clean California, equity metrics will evaluate how effectively these equity outcomes are operationalized and achieved.

Current Project Status

To date, CARB has allocated \$14 million to Access Clean California, starting with \$5 million of VW settlement funding in FY 2017-18 to initiate development of the project. After a competitive solicitation in 2018, GRID Alternatives was selected as the program administrator. CARB allocated additional funding in FY 2019-20 (\$5 million), and FY 2021-22 (\$4 million). The grant for the FY 2021-22 allocation was executed in April of this year.

Stemming from a priority recommendation of both CEC's SB 350 Low-Income Barriers Study and CARB's SB 350 Guidance Document, Access Clean California takes a multi-dimensional approach to outreach with the ultimate goal of streamlining access to, and coordinating outreach for, the State's clean transportation and clean energy consumer-based equity projects. While a long-term goal is for Access Clean California to be a multi-agency platform, in the near-term the pilot project focuses on CARB's clean vehicle purchase incentive projects, including Clean Cars 4 All, Financing Assistance including the CVA Program, and CVRP, as well as other programs already built into Access Clean CA like the California Public Utility Commission's (CPUC) Disadvantaged Communities – Single-Family Solar Homes low-income solar program.

The pilot has undertaken a user-centered approach to developing the various components of Access Clean California. To date, the pilot successfully built and supports a statewide network of outreach partners. Access Clean California provides funding and resources to the outreach partners to help CARB spread the word about its clean transportation equity programs and build trust and capacity in priority populations. In support of these partners, Access Clean California also provides a resource hub to make outreach resources more accessible, as well as providing a platform for partners to come together, share lessons learned, exchange best practices, and facilitate communication. The project's outreach coordination efforts also support CARB's Strategic Outreach Roadmap key strategies, including creating a community of practice for project administrators and outreach partners,

building a searchable database of CARB's clean transportation outreach efforts, and partnering with the Greenlining Institute to develop equity metrics to evaluate outreach effectiveness.

To streamline the application process, GRID Alternatives undertook a human-centered design approach to create the Benefits Finder, which is a centralized application tool that helps users determine eligible programs and kick-start their applications. The Benefits Finder is hosted on the Access Clean California Web-platform and is currently available for facilitated-use by the project's outreach partners via targeted outreach in priority populations. The Benefits Finder also provides a centralized income verification, which helps streamline one of the more burdensome steps for both applicants and program administrators. To support applicants through the entire application process, GRID Alternatives has also developed a case management system with supporting back-end software.

With the FY 2021-22 allocation, CARB staff and the Access Clean California project team plan to significantly scale-up outreach implementation and expand the partner network, with an emphasis on partnering with CBOs and other local grassroots organizations, as well as increasing participation from priority populations. This includes setting participation targets to support achieving proportional participation from communities who are underrepresented in participation data to-date. CARB staff and GRID Alternatives will also be exploring opportunities for Access Clean California to support the transition of CVA Program to a needs-based model and outreach for the statewide Clean Cars 4 All program. Access Clean California will also be working to expand the Benefits Finder to additional programs to fulfill the ultimate vision, as outlined in CARB's SB 350 Guidance Document, of being a multi-agency platform for the State's equity focused clean transportation and energy programs. Discussions with State partners, such as CPUC, CEC, and other State agencies, are ongoing to determine longer-term integration and project support via additional funding sources. Finally, the scope of the FY 2021-22 grant also included leveraging the Access Clean California network of outreach partners to bolster CARB's community engagement to gather input on relevant incentive programs and regulations.

Draft Funding Allocation

Staff recommends a draft allocation of \$5 million to continue scaling-up implementation of Access Clean California, expanding the network of outreach partners, and filling outreach gaps through targeted outreach in priority populations across the state. These efforts will continue ensure CARB is raising awareness and providing effective outreach in priority populations through trusted outreach partners, with a particular emphasis on targeting and increasing participation via the Benefits Finder from communities who face the greatest barriers and are underrepresented in participation data to-date. The draft funding allocation would support developing a pathway for any interested applicant to access the Benefits Finder as a complement to the project's existing case management, and more targeted facilitated-use model. While the project would continue to emphasize outreach in priority populations, the new pathway would allow the Access Clean California Benefits Finder to

help a broader audience. The draft allocation would also be used to continue leveraging Access Clean California to improve community engagement and facilitate community input and feedback on CARB's incentive programs and regulations. This draft funding allocation would need to be awarded via competitive solicitation.

Potential Changes to Project Criteria

Staff is not proposing any substantial changes to the Access Clean California.

Draft Project Evaluation Strategy

Access Clean California is designed to increase awareness and enable more efficient implementation of CARB's Clean Transportation Equity projects and expand participation by priority populations. Because this is an "enabling" project, CARB staff is not quantifying any direct emission reductions for this funding. Rather, this project will help achieve the emission reductions anticipated for Clean Cars 4 All, Financing Assistance, and CVRP, as well as the various clean mobility investments, which are quantified in those sections of the Funding Plan. However, it is still important to measure the success of this project. CARB will report the outcomes of this project in future Funding Plans. Staff proposes to use metrics such as number of successful applications, outreach events, training sessions, and networking workshops. CARB will also require the grantee to develop surveys of participants as a way to determine how well the project is working and determine whether refinements are needed.

Access Clean California developed an equity metrics framework to quantitatively and objectively measure how effectively the project is achieving and operationalizing its equity goals. Developed with input and feedback from outreach partners, the metrics help identify areas of strength, challenges, and gaps in the project's implementation strategy. For each goal, multiple indicators are measured and aggregated to an overall score. To evaluate how successfully the project is raising awareness of the equity projects, for example, the metrics measure nine different outcomes, including the number of project administrators capturing demographic data, number of outreach partners representing priority audiences, and percentage of applicants from priority populations. CARB staff and GRID Alternatives will evaluate these metrics in FY 22-23 to establish a baseline and periodically reevaluate to allow the program to adapt and adjust to meet the needs of its priority audience and communities. These metrics support the Greenlining Institute's Mobility Equity Framework.

Cal-ITP Payment Issuance Strategy and Demonstrations

Draft General Fund Allocation
\$5 million

Project Overview and Goals

The Payment Issuance Strategy and Demonstrations being developed by Cal-ITP would support various projects across CARBs light-duty vehicle incentive projects. Specifically, this project seeks to ensure that any transit customer, and specifically underbanked and unbanked customers can easily pay for transit by accepting Euro Pay, Master Card, and Visa open-loop payments. By allocating funds to support this effort, the effort can expand to include EV charging and other mobility options, such as carsharing, bike and scooter sharing.

This project will use demonstration projects to enable seamless payment issuance to provide proof of concept in California and will provide research, data and lesson learned for Cal-ITP and CARB to improve the travel experience and implement scalable solutions. In 2022, with the payment acceptance demonstrations underway as well as the completion of the payment acceptance master service agreements in the California Mobility Marketplace⁴³, the payment issuance work task can move from theoretical to reality to assess costs and benefits associated with these solutions for customers, transit operators, and other mobility partners in California.

Current Project Status

Payment Issuance strategies and associated demonstrations are underway with Monterey-Salinas Transit, Sacramento Regional Transit, and Santa Barbara Metropolitan Transit District. More demonstrations are underway, and staff will provide an update in the final Funding Plan.

Draft Funding Allocation

Staff is proposing \$5 million, which would be administered through an Interagency Agreement, or other appropriate mechanism, to support and expand upon the work that has begun to identify payment issuance approaches to make vehicle charging and other mobility options easier to access for low income, banked, or unbanked individuals.

⁴³<https://www.camobilitymarketplace.org/>

Clean Mobility Investments

CARB's clean mobility investments have been designed to be complementary to CARB's clean vehicle ownership projects. Together, both expand clean transportation access, which is an important social determinant of health because it facilitates access to schools, health care, healthy food, and economic opportunities; reduces the likelihood of negative health outcomes from air pollution; and contributes to improved quality of life. However, Californians cannot rely only on single-occupancy vehicles to meet their transportation needs and the State's climate goals. According to the SB 150 Progress Report, California must reduce VMT per capita to meet its 2030 climate goals and beyond. Since FY 2014-15, CARB's clean mobility investments have worked to tackle both objectives: funding clean and shared transportation services, such as public transit, electric carshare, bikeshare, and electric shuttles, that increase access to key destinations while reducing GHG emissions and VMT. Consistent with the AB 32 Scoping Plan and related complementary measures, CARB's clean mobility investments have supported the State's move toward a comprehensive ecosystem of more equitable, integrated, clean transportation services offering high-quality, affordable, and accessible solutions that meet priority population needs.

The success of these clean transportation services is dependent on their uptake in priority populations they are intended to serve. CARB's SB 350 Guidance Document identified a list of barriers, such as affordability and access to or awareness of funding opportunities, that residents of priority populations face to accessing clean transportation options and a series of recommendations to address those barriers. The recommendations include identifying and prioritizing funding for projects that address communities' transportation needs and integrating community-driven decision-making throughout planning and implementation. CARB's clean mobility investments continue to incorporate these practices to ensure successful and equitable implementation.

Since FY 2014-15, CARB has piloted various funding approaches and shared mobility project types in priority populations across the state. The pilot phase has been critical for testing these approaches, allowing for flexibility and adjustments when necessary, and has proven that there is an immense need for clean mobility and planning and capacity building projects in the State's priority populations. As CARB continues implementing clean mobility investments, there will be a focus on transitioning from the pilot phase to the program phase. This includes accelerating investments, expanding mobility services to communities where there are funding gaps, and incorporating lessons learned from CARB's pilots. The goal is to expand and replicate proven funding approaches intended to maximize benefits in, and participation from, the State's priority populations.

CARB's clean mobility investments are complex, often introducing new and innovative project types to communities that have been historically underinvested in. It is increasingly clear how important community capacity building and localized technical support are to successfully implement these projects and ensure they are sustainable for the long term. With each new challenge comes an opportunity to learn and share information for more efficient and effective project implementation. CARB will support current and future funding

recipients by documenting and sharing lessons learned and providing forums for funding recipients to do the same.

Across its clean mobility and planning and capacity building programs, CARB will work to streamline and simplify the application process, making it easier for under-resourced communities to access needed funding. CARB will work on balancing investments geographically across the state, while prioritizing investments in some of the State's most disadvantaged communities, including through focused outreach and engagement. CARB will also endeavor to balance investments to maintain existing projects with investments in new communities.

However, CARB will need to work collaboratively with partners at every level to be able to fund many of the clean transportation services necessary to achieve the State's climate and equity goals. CARB continues to coordinate with federal, State, and local partners to ensure accessibility and transparency and to leverage outside resources to enhance clean mobility projects and expand workforce training and career development. For example, CARB will continue to work in close collaboration with other state transportation agencies such as the California Department of Transportation, the California Transportation Commission, and California State Transportation Agency and local organizations as we move ahead with implementing clean mobility investments given our collective role in reimagining a cleaner and more sustainable transportation system. Although other agencies have funding for transit and active transportation investments, communities have requested CARB contribute to complimentary, overlaying programs so that funding is made available for multiple, clean transportation modes at the same time and can allow for more community-based and specific solutions to form a more equitable transportation future. CARB demonstrates models of equity-centered mobility programs that works to catalyze and prioritize clean transportation and air quality goals. Working with sister agencies to further operationalize equity principles across state programs such as broader access to clean mobility options and key destinations is a critical way for priority populations to reap the most long-standing socioeconomic and quality of life benefits.

Furthermore, CARB is working with partners to identify opportunities to make funded clean transportation services self-sufficient where possible – not reliant on CARB funding to remain financially sustainable in the long-term. CARB's first regional clean mobility pilots have been operational for about 5 years, and while they are not at the point of being financially sustainable, they have provided real-world experience that helps to identify opportunities for investments in new projects as well as continuing support for communities benefitting from ongoing projects.

Clean Mobility Projects

Draft General Fund Allocation

\$419 million

Project Overview and Goals

CARB's clean mobility investments are working to address specific community-identified transportation needs. Overall, the goals of the three programs are similar in that they attempt to increase residents' access to clean transportation options without the need for personal vehicles, consistent with findings in the SB 350 Guidance Document. However, the programs take different yet complimentary approaches to addressing this goal and meeting the needs of different types of communities. Staff are working to move from the pilot phase to larger community-based programs and propose continued funding for the three programs listed below.

- **CMO:** A first-come, first-served voucher program focused on shared mobility services for smaller entities with limited resources and community transportation needs assessments through a statewide administrator approach. CMO currently provides smaller scale shared-mobility project funding, such as zero-emission carshare and on-demand microtransit opportunities as well as investments in community transportation needs assessments. CARB's established Regional Clean Mobility Pilots, which include multiple carsharing and mobility options projects and Agricultural Worker Vanpools, provided a foundation for CARB's understanding of the clean mobility landscape and investment implementation in priority population and will continue to be supported through CMO.
- **CMiS:** A competitive grant program focused on the clean transportation needs of K-12 public school districts. CMiS specifically focuses on the unique needs of school districts in meeting their comprehensive clean transportation goals and facilitates clean transportation opportunities in and around the school community, including clean mobility options such as car share, zero-emission buses and delivery trucks, zero-emission lawn and garden equipment and education for staff, students, and parents.
- **STEP:** A competitive grant program for a larger set of clean transportation and supporting projects that address residents' transportation needs and reduce VMT. STEP provides larger-scale project funding that is focused on a community's transportation system and advances multiple clean transportation strategies within a community including active transportation, fixed-route transit, shared mobility as well as supporting strategies such as community development, land use, and mode shift support.

These programs have been developed to move forward collectively in increasing clean transportation access and options specific to the communities' needs while also reducing the need for personal vehicle use in support of Sustainable Communities Strategy implementation. CARB has been implementing different approaches rather than one,

singular clean mobility program to determine what approaches works well and where further investments should be made. CARB is proposing to fund community-led planning and capacity building projects that build from lessons learned implementing these programs and channel communities to the right incentive opportunities, as well as provide comprehensive technical assistance support tailored to community needs.

Communities continue to convey a need for additional funding for planning and capacity building in order to best identify residents' transportation needs and position themselves to launch successful and sustainable projects that meet those needs. Alongside the three programs listed above, staff proposes to expand funding for a diverse set of planning and capacity building projects that can increase priority populations' capacity to participate in clean mobility programs and prepare for clean transportation project implementation. Planning and capacity building projects are intended to deliver direct and meaningful community benefits by facilitating intentional engagement inclusive of marginalized populations in all planning stages, as well as by empowering community leaders and residents to meaningfully shape the transportation decisions that impact their lives.

CARB's clean mobility and planning and capacity building programs will incorporate workforce training and development principles that also reflect community-identified needs and findings in CARB's SB 350 Guidance Document. This includes considering specific guidance or requirements for applicants to support the zero-emission economy through training programs and local hiring where feasible, as part of clean mobility projects.

Throughout program implementation, CARB will focus on measuring and analyzing socioeconomic benefits and improving and adapting existing programs based on data and lessons learned. CARB has seen an increasing need to identify clear and measurable metrics that can be used to assess progress and inform program design and implementation to maximize benefits. CARB is supporting multiple contracts that will help identify and evaluate this type of data.

Current Project Status

FY 2014-15 marked the first year of funding for CARB's clean mobility investments. Ever since, CARB has been expanding its portfolio of funding pilots, adapting, and learning from each.

CARB started funding Regional Clean Mobility Pilots with two carsharing and mobility option solicitations. Many of these projects are still ongoing, supported by continuing CARB investments. While these projects have delivered many benefits and have played an integral role in helping CARB understand the benefits and challenges of operating shared mobility projects in priority populations, CARB learned through the solicitation process that many smaller, less-resourced communities were not able to successfully compete for shared mobility project funding.

In 2018, the concept for CMO was developed based on learnings from the Regional Clean Mobility Pilots. In response to stakeholder and community feedback, CARB piloted a first-

come, first-served approach meant to streamline the application process and reduce barriers to funding for clean, shared transportation options, including zero-emission carshare, bikeshare, scooter-share, vanpool, and ride-hailing services. These projects address community-identified transportation needs and increase the availability of clean transportation options in disadvantaged and low-income communities. CARB released a solicitation for a statewide administrator for the program in 2018 and has since held two application windows, one for community transportation needs assessment vouchers and one for mobility project vouchers.

CARB held its first CMiS solicitation in late Summer 2019, incorporating key recommendations from the SB 350 Guidance Document. CMiS grants directly fund ZEVs, charging infrastructure, active and alternative modes of transportation, and more in K-12 public school districts. CMiS aims to facilitate bold transformations in transportation and mobility options in and around school communities, increasing knowledge and acceptance of zero-emission mobility options for staff, students, parents, and the surrounding disadvantaged communities.

STEP followed with its first solicitation for both Planning and Capacity Building Grants and Implementation Grants in Summer 2020. STEP's overarching goal is to increase transportation equity in priority populations by 1) addressing community residents' transportation needs, 2) increasing access to key destinations, and 3) reducing GHG emissions and VMT. STEP focuses on projects that support sustainable communities, attempting to address some of the complex transportation and land use challenges identified in the SB 150 Progress Report. Similar to CMiS, STEP incorporates key recommendations from CARB's SB 350 Guidance Document, providing the flexibility to fund many different types of clean transportation and supporting projects in a single community to help meet the needs of each community within that community's context.

All of CARB's clean mobility investments have relied on strong partnerships to facilitate collaboration between community residents and representatives, local public agencies, including transit agencies, and private partners. This collaboration can support integration of clean mobility projects within the broader transportation system and can help these projects work for the residents who need them most. In addition to strong local support, CARB continues to increase the technical assistance and capacity building activities available to funding applicants and recipients.

The CMO statewide administrator team, which includes CALSTART, the Shared User Mobility Center, and CivicWell, supports interested parties with every stage of shared mobility project application and implementation. The CMO team has also started a peer learning group, called the Clean Mobility Equity Alliance, where current mobility project and community transportation needs assessment voucher recipients come together to share their experiences in designing and implementing programs and opportunities for investment improvements. Due to the importance of sharing mobility investment lessons broadly, the CMO team is exploring the potential of expanding this group to include regional pilot, CMiS, and STEP grantees, as well as other shared mobility stakeholders and implementers. STEP

also provided application and implementation support to potential applicants and grantees via contracts with the Strategic Growth Council and UC Berkeley's Othering and Belonging Institute.

Lastly, the transition to clean transportation is reliant on workers who can support new types of clean transportation vehicles and services. CARB's clean mobility programs fund workforce development activities that are intended to provide opportunities for economic and social mobility via training and high-quality jobs to community residents. CARB has also leveraged one percent GGRF State Operations funds outside of clean mobility investments to fill critical gaps in workforce training and development programs.

Clean Mobility Investment Data

The following tables include data on each of CARB's clean mobility pilots, including the information on funded projects and projected quantifiable benefits.

Table 11: Program Data

Pilot	CARB Funds Awarded (millions)	FYs of Funding	Number of Projects Awarded	Funded Mobility Types ⁴⁴	Approximate Number of Clean Vehicles	Percent Benefit to Priority Populations
Regional pilots	\$23.9	2014-15; 2016-17; 2017-18; 2019-20	7	Carshare, shuttle service, volunteer ride-hailing, bikeshare/ scooter-share, public transit subsidies	1,118 (515 light-duty, 3 medium / heavy-duty, 600 bikes)	100%
Statewide CMO	\$20.6 ⁴⁵	2017-18; 2018-19; 2019-20	44 ^a	Carshare, shuttle service, bikeshare/ scooter-share	903 (98 light-duty, 5 medium / heavy-duty, 800 bikes / scooters)	100%
CMiS	\$34.6	2018-19; 2019-20; 2021-22	4	School buses, carshare, bikeshare, vanpool, public transit subsidies	94 (19 light-duty, 45 medium / heavy-duty, 30 bikes)	100%
STEP	\$44.5	2019-20; 2021-22	13 ^b	Carshare, shuttle service, bikeshare, local buses, public transit subsidies, bike lanes, sidewalks	744 (130 light-duty, 14 medium / heavy-duty, 600 bikes)	100%
TOTAL	\$123	--	68	--	2,859	100%

^a 24 community transportation needs assessments, 20 mobility projects.

^b Eight Planning and Capacity Building Grants, five Implementation Grants.

⁴⁴ These pilots include funding for a significant number of project components intended to support the success of funded clean transportation services and address communities' needs, such as urban forestry, workforce development, and community engagement and outreach.

⁴⁵ \$47.2M total in CARB funds has been allocated to this project, including funds for actual vouchers and for statewide administration. This includes \$10M in grant amendment funding to be added from FY 2021-22 and does not include the \$8M added from CEC.

Table 12: Projected Program Co-benefits

Pilot	Travel Cost Savings (\$)	Net Fossil Fuel Use Reductions (GGE)	Passenger VMT Reductions (miles)	Directly Supported Jobs	Indirectly Supported Jobs	Induced Jobs
Regional pilots	11,196,430	886,854	21,216,843	42	23	47
Statewide CMO	17,249,797	588,324	11,306,956	113	39	69
CMiS	1,191,008	876,795	509,381	126	47	88
STEP	8,254,824	395,639	7,876,431	314	92	147
TOTAL	37,891,059	2,747,612	40,909,611	595	201	351

Lessons Learned

Through designing and implementing clean mobility investments, CARB has learned many lessons about the successes and challenges of building equitable, sustainable projects. While not all-inclusive, the list below identifies some of the most common feedback CARB has heard and most important lessons learned so far:

- There is a significant need for additional clean mobility investments, particularly in the State’s priority populations, as demonstrated by stakeholder demand and the significant oversubscription of all of CARB’s pilots.
- The application process and requirements are too complex. CARB should identify ways to streamline the application process to make it less burdensome for communities to access funds.
- Prioritize and serve most impacted communities. CARB should consider mechanisms such as funding set-asides or tailored outreach/assistance to prioritize investments, particularly in priority populations. CARB should also explore alternative approaches to the current application processes piloted through CARB’s clean mobility pilots. The current approaches used create unique equity barriers that may be lowered through creative methods, such as phased solicitations or equity-specific funding criteria, to increase funding access for under-resourced communities and ensure that communities with greater awareness or resources are not inadvertently prioritized.
- Tailor offerings based on unique community needs. Every community is different, and flexibility is key to being able to equitably address a variety of transportation needs based on community characteristics, such as geography, community make-up, the influence of historical inequities such as redlining, and existing transportation options available.
- Once CARB’s initial investments end, projects may not have reached financial sustainability. CARB should work with local and State partners, including local elected officials, to identify viable options for maintaining services beyond CARB’s funding

terms, including through the recently kicked-off research contract with Steer Group.⁴⁶ Access to longer-term, guaranteed funding has been a consistent need identified by current funding recipients.

- The State's insurance requirements, particularly for e-bike and scooter-share projects, pose barriers and require significant resources. CARB should continue to analyze actual costs and liabilities for clean mobility projects and allocate more funding to meet these insurance requirements.
- There is a large community of Californians with disabilities that cannot drive, sit on the passenger seat of a regular car without assistance, or operate a regular bike or scooter. For example, bike sharing services often lack inclusive alternatives such as tricycles, hand-pedaled cycles, or recumbent bicycles. Addressing these issues is a crucial goal to advance equity. CARB should support funding and access to these adaptive mobility devices.
- Universal payments across mobility services are an important element of increasing the accessibility of clean transportation options, and particularly for encouraging more multi-modal trips and reducing GHG and VMT. CARB should work with Caltrans to provide resources for and require, where relevant, funding recipients to implement transportation services that align with the Cal-ITP standardized integrated payment and trip planning systems. Using a system with global standards for collecting payment and mobility data, would also help CARB and funding recipients monitor implementation, troubleshoot issues, and collect uniform data on mobility project usage and project impacts.
- Transit subsidies are important to increase affordability and accessibility of clean transportation services, particularly for low-income residents, and encourage behavior change to reduce VMT. CARB should work with Caltrans on ways to streamline eligibility verification for transit subsidies to make it easier to access transit discount.
- Projects need more time and money. CARB's funding recipients are admirably handling implementation delays and increased project costs caused by inflation, the continuing COVID-19 pandemic, and other unforeseen barriers. CARB should continue identifying ways to provide needed support and resources and maintain flexibility where feasible to adjust project scope and offerings based on communities' transportation needs.
- Regional/local technical assistance can be especially helpful. Context-specific support can help funding applicants and recipients more efficiently and effectively. CARB should incorporate regional/local support into future technical assistance programs.
- The current statewide administrator approach in CMO has increased the State's capacity to fund clean mobility projects. However, it has also run into some challenges,

⁴⁶ California Air Resources Board. *White Paper: Sustainable Financing Tools and Strategies for Equitable, Community-Based Mobility and Transportation Solutions*. <https://ww2.arb.ca.gov/our-work/programs/sustainable-communities-program/research-solicitations/financing-clean-mobility>

such as project and payment delays. CARB is working with the statewide administrator to address these challenges and seek new opportunities for improvement as part of the CMO second application window.

- Partnership development, as projects are designed and before they are implemented, is important but resource intensive. CARB should dedicate more resources toward early project support that helps connect to and build strong relationships between local partners, such as through the proposed increased funding for planning and capacity building. CARB should also continue supporting the Clean Mobility Equity Alliance and other networks, which foster much-needed partnership building and can help centralize information for CMO, CMiS, and STEP funding recipients, as well as future planning, capacity building, and technical assistance providers.

Draft Funding Allocations

Staff proposes to allocate funding to CARB’s clean mobility and planning and capacity building programs as described in Table 13 below.

**Table 13: Clean Mobility Investment Allocations
(millions)**

Program	General Fund Allocation*	Number of Projects Expected
Planning and Capacity Building	\$43	75-180
CMO	\$126	~40
CMiS	\$125	12-15
STEP	\$125	12-15
Total	\$419	139-250

**Appropriations from May Revise that are deferred by Legislature. CARB acknowledges that these details may likely change before the end of the Legislative session. Staff will update program level allocations upon final legislative appropriation.*

One of the goals of investing in clean mobility is to encourage shared rides and alternative modes of transportation to help in reduce internal combustion engine VMT by providing more clean mobility options in priority populations and increased accessibility to daily destinations. Thus, CARB staff is not proposing to develop a separate Sustainable Communities Strategies pilot and is focusing on existing programs to curb growth in VMT and support the State’s climate goals.

CARB’s clean mobility and planning and capacity building funds will be directed to disadvantaged and low-income communities throughout the state, and CARB will consider methods to identify funding gaps and prioritize investment to fill those gaps, such as in Tribal Governments, rural communities, and communities of color. CARB will also continue to provide one-on-one technical assistance, capacity building, training, and administrative support to applicants and awardees during the application process and project

implementation, including through the current statewide administrator for CMO. CARB will prioritize regional and local approaches to outreach and technical assistance.

If any clean mobility or planning and capacity building program receives additional funds in future years, staff proposes that these funds may be administered to applicants as part of the FY 2021-22 accelerated funding solicitations or administered through additional solicitations without significant changes to project criteria. If funding is not fully awarded in any one clean mobility or planning and capacity building program, staff recommends maintaining the flexibility to shift the funding to other equity projects that are experiencing increased demand.

Planning and Capacity Building

CARB staff proposes an allocation of \$43 million to fund approximately 75 to 180 small- and large-scale, community-led planning and capacity building projects. These projects are intended to improve local understanding of residents' transportation needs and prepare communities to implement clean transportation and land use projects. This includes supporting sustainable communities strategy implementation which was originally discussed as part of a Sustainable Communities Strategies pilot. This category of projects develops a foundation for organizational and community capacity building by enabling communities to identify and prioritize transportation choices that improve livability and quality of life for residents, build community wealth, and connect residents to good jobs, education, affordable housing, medical care, childcare, recreation, and healthy food options. This funding supports a variety of planning and capacity building efforts that prepare communities for engagement and implementation, such as:

- Community transportation needs and equity assessments;
- Community education, outreach, and engagement;
- Land use or transportation-focused plan development;
- Capacity building to implement new or enhance existing clean transportation planning, operations, or infrastructure projects; and
- Job assistance and workforce development programs.

CARB staff will allocate these funds through a competitive solicitation process and/or to support planning efforts by expanding existing transportation equity programs, including but not limited to Access Clean California, CMO, CMiS, and STEP.

CARB staff also proposes to allocate a portion of the \$43 million for technical assistance and outreach to prospective applicants of CARB's clean mobility and planning and capacity building programs. CARB will explore opportunities for specialized and administrative support for clean mobility and planning and capacity building applicants and awardees, including, but not limited to, helping funding recipients apply for clean mobility funding or find alternative funding sources to implement other community-identified projects. CARB will solicit technical assistance providers that are experts in the field of equitable transportation planning and environmental justice and have the needed competencies to help build

organizational capacity of entities pursuing planning and capacity building funding. This may be accomplished through a competitive solicitation, interagency agreements with academia, or through existing project administrators.

CMO

CARB staff proposes an allocation of \$126 million to expand CMO through the existing grant agreement. This is in addition to \$10 million that was approved in the FY 2021-22 Funding Plan last year. This additional \$126 million would allow CARB to fund approximately 40 community-driven shared mobility projects in the second application window. This may also include funding for community transportation needs assessments, intended to engage the community and identify community residents' transportation needs prior to applying for a mobility project voucher.

CARB staff will allocate these funds through the existing grant agreement with the current statewide administrator, CALSTART. The second application window will open in late Fall 2022 to non-profit organizations, public agencies (including Federal, State, and local governments), and Tribal Governments as lead applicants. Funds will be directed to priority populations throughout the state, and staff may consider prioritizing investment through set-aside funding for eligible applications received during the previous application window that weren't awarded due to insufficient funds, from previous Community Transportation Needs Assessment awardees with completed needs assessments, and from Tribal Governments. A minimum of \$10 million of the \$126 million is anticipated to be set aside for existing Regional Clean Mobility Pilots to support sustainability and expansion of mobility operations.

CMiS

CARB staff proposes an allocation of \$125 million to fund approximately 12 to 15 public school district grants. Recipients would use funding on a variety of elements intended to increase knowledge and adoption of zero-emission projects for staff, students, parents, and the surrounding school communities. Grants provide funding for ZEVs, charging infrastructure, and active and alternative modes of transportation, such as:

- Procurement and deployment of ZEVs such as school buses, vans, custodial and maintenance vehicles, carsharing, and bike sharing programs for school use;
- Infrastructure and energy storage projects;
- Community education, outreach, and engagement, including curriculum projects;
- Workforce training and development projects;
- School fleet transition plans, long-term and near-term energy plans, active transportation feasibility plans and implementation activities; and
- Procurement and deployment of zero-emission landscape equipment, such as riding mowers, utility carts, leaf blowers, and hedge trimmers.

Eligible lead applicants include California public school districts and County Offices of Education that operate at least one school serving any grades between kindergarten and

12th grade. The lead applicant can utilize sub-grantees such as private entities, CBO, and non-profit organizations to fulfill project elements if needed.

STEP

CARB staff proposes an allocation of \$125 million to fund approximately 12 to 15 transformative, place-based implementation grants, intended to increase community residents' access to and use of their transportation system so they can get where they need to go without the use of a personal vehicle. Recipients would use funding on a suite of clean transportation and supporting projects, which would need to include clean transportation infrastructure, capital, and/or operations projects that address community-identified transportation needs, increase access to key destinations, reduce GHGs and VMT, and connect to each other to form an integrated transportation system, such as:

- Procurement and operations of ZEVs and supporting infrastructure for shared services, such as fixed-route transit, carshare, bikeshare, vanpools, and micro transit;
- Complete streets infrastructure, including active transportation infrastructure and bus-only lanes; and
- Public transit subsidies and operations improvements.

The suite of components may also include planning, policy, workforce development, and behavior change projects that facilitate community-led decision-making, transportation equity improvements, and GHG and VMT reductions, such as:

- Resident-led steering committees;
- Land use plans for transit-oriented and transit-ready development;
- Zoning code updates that improve housing and destination proximity;
- Curbside and overall parking management to prioritize clean, shared transportation modes;
- Workforce development and training programs for ZEV and charging infrastructure maintenance; and
- Targeted travel behavior changes campaigns.

CARB staff will allocate these funds through a competitive solicitation process open to local governments, CBOs, and Tribal governments as lead applicants, representing a broader coalition of community, nonprofit, public agency, and private partners.

Potential Changes to Project Criteria

As outlined in the descriptions above, staff are considering a handful of changes to project criteria based on lessons learned in previous rounds of funding. For CMO, staff will explore options to improve the application process, including approaches to awarding funding that prioritize under-resourced applicants and potentially modifying the first-come, first-served component. In addition, staff proposes to expand projects' scope from smaller-scale projects to larger projects at higher funding amounts. For CMiS, staff proposes to expand project

eligibility to encompass more project types, such as active transportation infrastructure, that meet the transportation needs of public school districts and the surrounding community. For STEP, staff proposes to expand community eligibility for STEP Implementation Grant funding to low-income communities – not just disadvantaged communities – and to expand lead applicant eligibility to all Tribal Governments – not just federally-recognized Tribal authorities.

CARB staff will continue to update program parameters, solicitation materials, solicitation processes, and technical assistance provision based on stakeholder feedback obtained through a public work group process, lessons learned from past solicitations and pilot implementation, and evaluations, including the Othering and Belonging Institute’s community-based transportation planning evaluation. Staff will also attempt to better align requirements across CARB’s clean mobility programs, in particular between CMiS and STEP. For example, CARB is working to include the same terminology and definitions in program solicitations, maintain the same requirements of applicants and grantees where it makes sense and still meets the goals of the program, and align our timelines and processes including for technical assistance.

Draft Project Evaluation Strategy

Grantee Data Collection and Internal Assessments

Staff are working with Grantees to collect and report project data on an annual basis and use this data to assess funding gaps. When available, this data will be reported to the public annually.

- **Modeled benefits:** CARB staff and technical assistance providers work with funding applicants to calculate GHG emission reductions and other co-benefits, such as criteria and toxics emission reductions, VMT reductions, travel cost savings, and jobs supported, before project implementation begins. These estimates will then be re-calculated annually using updated inputs based on actual data from project implementation and operations.
- **Project outcomes:** Grantees are required to track data on the impact of funded projects during project implementation.
 - **Vehicle telematics data:** Grantees collect quantifiable data on project operations, such as number of users, number of trips, VMT per user and per trip, average utilization rate, and average fare cost, via vehicle telematics.
 - **User surveys:** Grantees deploy multiple user surveys over the course of project implementation to collect data that cannot be collected via telematics. This includes data such as the demographics of service users, user experience, trip purpose and alternative transportation mode if project service had not been available, pre-project travel behavior and changes in travel behavior post-project, pre-project transportation challenges and changes in

- transportation access post-project, and changes in perception of ZEVs and equipment post-project.
- **Community engagement and outreach:** Grantees track data on outreach and engagement activities, including quantitative data, such as the number of events/activities and participants reached, and qualitative data on the nature and impact of the events/activities.
 - **Lessons learned:** Grantees also share lessons learned during project implementation that help CARB track and respond to overarching challenges and best practices during program implementation. This is also part of the Clean Mobility Equity Alliance process.
 - **Socioeconomic benefit analysis:** CARB is continuing to collect data on and develop a process for understanding the socioeconomic benefits to clean mobility users from funded clean mobility projects. This calculation will incorporate the value of reliable, clean transportation and the cost savings of funded clean mobility services relative to other options. The analysis will continue to be updated and estimates refined based on stakeholder feedback obtained through a public work group process and additional grantee surveys and vehicle telematics data.
 - **Investment gap assessment:** CARB has begun to map the locations of funded mobility projects to assess where there may be funding gaps that clean mobility and planning and capacity building grant funding should address. Staff are also exploring other ways to identify who is benefitting from funded projects and where funding gaps may occur, such as by collecting and analyzing data on the demographics of clean mobility service users. Similar analysis will be done for CARB's other heavy-duty and light-duty investments as well.

Statewide Administrator and Technical Assistance Evaluations

The CMO statewide administrator and the STEP technical assistance provider have both shared recommendations on their respective pilots' funding approaches and project support:

- **CMO-funded community transportation needs assessments:** The Shared Use Mobility Center, a member of the CMO statewide administrator team, is conducting a process evaluation of the 24-community transportation needs assessments funded via the pilot's first application window. This assessment measures and reports the degree to which the voucher process went according to plan, how awardees received the program, and to what extent the awardees felt the process prepared them to complete the requirements necessary to apply for a Mobility Project Voucher (MPV), and if they plan to do so. Preliminary evaluation results indicate that 87 percent or 21 awardees reported that the overall process adequately prepared them for the next phase of applying for an MPV. Currently, 15 of the 24 needs assessment awardees plan to apply for an MPV when funding becomes available.

- **STEP solicitation and technical assistance:** Estolano Advisors, the lead technical assistance provider for the first STEP solicitation, developed an interim technical assistance report⁴⁷ based on feedback from STEP applicants and from entities that were interested in but did not end up submitting applications. The report details the outcomes of the solicitation and recommendations for improving the solicitation process and technical support offered. They also developed a final technical assistance report (to be published) based on feedback from the STEP Implementation Grantees and technical assistance team that outlines lessons learned from the first nine months of project implementation. Recommendations in both of these reports will inform future STEP solicitations and project implementation.

Evaluation Contracts

CARB has two contracts intended to evaluate implementation of a portion of CARB's clean mobility and planning investments:

- **Clean mobility project evaluations:** CARB has a contract with UC Berkeley's Transportation and Sustainability Research Center to evaluate up to 12 funded clean mobility projects from CARB's regional pilots, CMO mobility project vouchers, and STEP Implementation Grants. The original contract was approximately \$1,000,000 from FY 2018-19 which was amended by \$500,000 from FY 2019-20 for a total of \$1.5 million in one percent GGRF State Operations funds. UC Berkeley's Transportation and Sustainability Research Center is currently developing evaluation frameworks for CARB's clean mobility projects, which will help create a standard method for assessing the effectiveness, sustainability, and outcomes of funded projects. The Transportation and Sustainability Research Center will then work with the funding recipients to gather data via vehicle telematics and user surveys and assess project impacts on mobility, accessibility, GHGs, and VMT, among other metrics. Researchers also plan to facilitate post-assessments with funding recipients and community stakeholders to discuss and reflect on community engagement activities, challenges, and best practices. A summary of key findings and lessons learned will be provided in 2023 and a final report will be published in 2024. Lessons learned will inform future policy recommendations for CARB's clean mobility programs.
- **Community-based transportation planning evaluations:** CARB has a contract with UC Berkeley's Othering and Belonging Institute to evaluate existing practices and develop recommendations for equitable, community-based transportation planning, including community transportation needs assessments. The original contract was approximately \$700,000 from FY 2019-20 which was amended by \$325,000 from FY 2021-22 for a total of \$1 million in one percent GGRF State Operations and GGRF

⁴⁷ Estolano Advisors. *STEP Technical Assistance Interim Report*. September 2021.
https://ww2.arb.ca.gov/sites/default/files/2021-09/081321_step_interim_report_to_post.pdf

contract funds. The Othering and Belonging Institute is currently evaluating the community engagement and needs assessment approaches taken by the CMO community transportation needs assessment voucher recipients and the STEP Planning and Capacity Building Grantees. Research methods include approaches that ensure the people who will be impacted by the evaluation can play integral roles in the design, coordination, and execution of the evaluation activities and that their knowledge is incorporated into evaluation findings. The contract kicked off in late 2021. The Othering and Belonging Institute's final discovery report will be published in 2023 and will be followed by a detailed equity recommendations report and final evaluation. Recommendations from the Othering and Belonging Institute will inform State and CBO approaches to advancing transportation equity, ensuring equity of investments, and maximizing impact beyond CARB's investments.

Workforce Training and Development

Draft Low Carbon Transportation Allocation—\$0

Projects are ongoing and future funding is anticipated through Clean Mobility Investments

Project Overview and Goals

The goal for investment in workforce training and development is to implement SB 350 Guidance Document recommendations to maximize economic opportunities for priority populations, including mentally disabled and previously incarcerated community members, and support equity principles as the State transitions to a zero-emission economy. This includes expanding and increasing connections to good quality clean transportation jobs, bridging critical gaps in access to workforce development programs for youth and adults, job training, and career advancement opportunities, maximizing investments that address community-identified needs, and economic recovery through direct workforce training and development investments in communities. These investments further support zero-emission technology access, education, awareness, and development in the communities where CARB-incentivized ZEV deployment is occurring. Additionally, these investments build on CARB's clean transportation program lessons learned since beginning to implement clean mobility projects in FY 2014-15 and help CARB identify through our existing programs how we can provide further guidance on strengthening workforce development elements across clean transportation projects in the light-, medium-, and heavy-duty sector, such as through project selection criteria and provisions for local hiring. CARB has partnered closely with those that have worked for decades to design and implement workforce programs, such as CEC, to learn from their experiences, complement their existing investments such as for ZEV manufacturing and zero-emission infrastructure, and to maximize economic and social benefits in the most impacted and overburdened communities.

Current Project Status

CARB is working closely with CEC to implement the IDEAL ZEV Workforce Pilot Project. This new project, which released a competitive solicitation in October 2021 and will begin implementation in Summer 2022, provides \$1 million in CARB's FY 2020-21 one percent State Operations Low Carbon Transportation funds through an interagency agreement and over \$5.5 million in CEC Clean Transportation Program funds. IDEAL ZEV Workforce will support large and small community investments for ZEVs, infrastructure, and ZEV-related commercial technologies statewide, including community and employer engagement with pathways toward clean transportation jobs. CARB anticipates incorporating lessons learned from working with grantees on community-based projects statewide through existing and future clean mobility investments. Additionally, CARB is allocating \$1.5 million in FY 2021-22 funding to support existing ZEV and technology vocational and adult school programs, including connections to CBOs supporting upskilling and economic independence. This investment directly addresses the community needs identified in the SB 350 Guidance Document for access to workforce training programs, including for youth, that enable

communities to be an essential part of the transition to zero-emission employment. Through this investment CARB's main equity goal is to expand partnerships beyond state agencies to non-traditional workforce partners rooted in communities. In addition, \$1.275 million in FY 2021-22 one percent State Operations Low Carbon Transportation funding has been allocated to co-create a new transportation electrification pre-apprenticeship program that will be administered by the CEC with support from CARB. This new program will be based on lessons from the IDEAL ZEV Workforce Pilot Project and the desire to support high-road training principles. This effort will be done in close collaboration with other state agencies that have dedicated funding for pre-apprenticeship and related programs, such as CWDB.

One critical element of CARB's work to prioritize workforce training and development is leveraging existing programs and lessons learned through clean mobility pilots and heavy-duty demonstrations. This includes pilots to support future clean transportation needs, such as ZEV repair, charging infrastructure installation and required certifications such as EVITP, and broader education and awareness. CARB continues to consult and collaborate closely with other agencies beyond CEC and CWDB, such as the Employment Training Panel, to understand the full landscape of workforce training and development investments and where additional emphasis is needed to support the specific needs of those that would benefit most from these investments in underserved communities, meet our goals to support ongoing economic recovery, and accelerate the transition to zero-emission.

Draft Funding Allocation

Staff recommends not allocating stand alone workforce training and development funding for FY 2022-23. CARB is focused on leveraging and collecting lessons from the IDEAL ZEV Workforce project. Staff are also working to solidify plans for the FY 2021-22 \$1.5 million allocation to support multiple existing ZEV and technology vocational and adult school programs. Through the new Clean Mobility Investments Planning and Capacity Building Grants project category, CARB can further support and fund community identified workforce needs, such as job assistance and workforce programs. Additionally, there is work being done in parallel to the \$1.5 million investment in partnership with CEC to implement community-based ZEV workforce training programs through IDEAL ZEV Workforce and future pre-apprenticeship program efforts. With existing funding, CARB is working to expand partnerships with the workforce development community, including colleges, economic development organizations, etc. to look more broadly and include non-traditional, grassroots partners rooted in the communities they serve and that understand future workforce needs to support the zero-emission economy.

Potential Changes to Project Criteria

Workforce training and development is still a new allocation as of FY 2021-22. Thus, CARB continues to seek stakeholder and community feedback on the goals and project priorities through a public work group process and one-on-one discussions. Through these investments, CARB is working to determine what project scoring criteria may need to change to prioritize workforce development components of clean mobility and heavy-duty clean

transportation programs. CARB may augment existing grants to integrate or expand workforce training and development concepts or develop a solicitation for a new grantee.

Draft Project Evaluation Strategy

Workforce projects are being designed to increase awareness of CARB's Low Carbon Transportation Equity projects and expand participation by low-income households and low-income and disadvantaged communities. Because this is an "enabling" project, CARB staff is not quantifying any direct emission reductions for this funding. Rather, this project will help achieve the emission reductions anticipated for Clean Cars 4 All, Financing Assistance, and CVRP, as well as the various clean mobility equity projects, which are quantified in those sections of the Funding Plan. However, it is still important to measure the success of this project. CARB will report the outcomes of this project in Annual Reports and future Funding Plans. Staff proposes to use metrics such as number of trainees, number of certificates obtained, number of jobs created, as well as outreach metrics to keep track of the number of outreach events, training sessions, and networking workshops, as well as capacity building metrics, such as the increase in low-income residents and priority populations accessing Low Carbon Transportation Investment project funds. CARB will also encourage or perhaps require the grantee to develop surveys of participants as a way to determine how well the project is working and determine whether refinements are needed.

As CARB expands investments that support a green workforce CARB staff will work with our state and local partners and communities to determine a process to define, collect, and use data to measure and report on these investments. This includes identifying direct and measurable community benefits, such as socioeconomic, job access, zero-emission technology and environmental literacy, and other quality of life and social impact improvements. This evaluation effort will be done in parallel with CARB's other clean transportation and mobility investments to determine relevant data and lessons that can be applied across programs. Central to CARB's evaluation strategy and metrics assessment is intentional and meaningful community engagement throughout the process. This includes soliciting and elevating ideas on how CARB and our partners should measure and report workforce training and development benefits and providing strong feedback loops for policy and program adjustments based on findings. Similar to the workforce investment itself, this effort to measure, analyze, reporting, and share lessons on workforce benefits and outcomes is being done in close collaboration with CEC and other partners.

Chapter 4: On-Road Heavy-Duty Vehicle & Off-Road Equipment Investments

Overview

Zero-emission technologies in the heavy-duty space have advanced rapidly over the past several years and are now experiencing significant growth in demand, fueled in part by the historic investments approved in the 2021 ZEV Acceleration Package. New advancements are expanding technology options and reaching new market segments, supporting the transformation of the on-road and off-road fleet to zero-emission wherever feasible to help meet California's ambitious air quality and climate change goals. As planned and approved regulations continue the push for widespread adoption of zero-emission technologies, incentives play an increasingly important role in supporting the small businesses and fleets that would be unable to make the transition to zero-emission without financial assistance.

This section of the Draft Funding Plan describes potential heavy-duty vehicle and off-road equipment (heavy-duty) investments to be funded through Clean Transportation Incentives. Staff is providing an overview of CARB's heavy-duty investments in the context of the Long-Term Heavy-Duty Investment Strategy and the current technology and market landscape followed by preliminary funding recommendations for, and descriptions of, the following projects:

- Advanced Technology Demonstration and Pilot Projects
- HVIP
- CORE
- The Truck Loan Assistance Program
- The Zero-Emission Truck Loan Pilot

CARB's strategy for heavy-duty investments enables progress toward State climate change and air quality goals, while promoting equity by ensuring that investments benefit the communities most impacted by poor air quality and provide assistance to small fleets and owner-operators.

Equitable Investments for Widespread Adoption of ZEVs

The successful deployments of zero-emission truck and bus technologies from early investments have been instrumental in advancing the zero-emission on-road vehicle market to where it is today, with a wide array of vehicles and equipment on the commercial market. More recent investments in the development and demonstration of zero-emission off-road vehicles and equipment have resulted in a growing list of commercial products in the off-road sectors. Continued commitment to these markets in the form of commercial incentives as well as funding for demonstration and pilot projects will play a critical role in:

- Meeting California’s air quality and climate goals.
- Achieving vehicle and equipment deployment targets.
- Ensuring all Californians experience improved air quality and have access to clean transportation incentive programs.
- Supporting high-quality jobs.
- Enhancing California’s leadership role as an incubator and marketplace for clean, zero-emission technology.

Executive Order N-79-20 sets near-term and longer-term targets to meet these objectives: 100 percent of medium- and heavy-duty vehicles in the state be zero-emission by 2045 for all operations where feasible, and all drayage trucks be zero-emission by 2035. In addition, the Executive Order directs CARB to develop regulations to make these targets a reality and to work with other agencies to develop and propose strategies to achieve 100 percent zero-emission off-road vehicle and equipment by 2035 where feasible. The *California Zero-Emission Vehicle Market Development Strategy*⁴⁸ establishes priorities, roles and responsibilities of state agencies and private stakeholders to achieve the goals of Executive Order N-79-20 and advance the ZEV market to scale.

To achieve these widespread ZEV adoption targets, all fleets, including small fleets and fleets facing financial challenges must be able to access zero-emission technology. This year, CARB’s draft proposal continues to build on previous efforts to ensure that investments are equitably distributed. Following the direction of SB 372, CARB is exploring additional financial and non-financial mechanisms to support the transition of fleets to ZEVs. In addition to policy changes within our existing heavy-duty incentive projects to expand equity efforts, staff is considering the introduction of the new Zero-Emission Truck Loan Pilot to help provide fair financing to fleets looking to make the transition to zero-emission trucks. CARB is also considering non-financial mechanisms and ways to assist fleets, including expanded outreach, education, and technical assistance and is coordinating with State agency partners, communities, and fleets to better understand how we can collaborate to support the total transformation of the transportation sector.

Another critical step to achieve these ZEV adoption targets is working with State and local partners to expand workforce training and development opportunities in priority populations. Lessons learned from the IDEAL ZEV Workforce Pilot Project with CEC can provide insights into future community needs and workforce training and development investment opportunities to increase access to and awareness of zero-emission technology and applications. CARB will continue to explore strategies to strengthen and expand workforce training and development opportunities within medium- and heavy-duty incentives.

⁴⁸ California Governor’s Office of Business and Economic Development. *California Zero-Emission Vehicle Market Development Strategy*. February 2021. https://static.business.ca.gov/wp-content/uploads/2021/02/ZEV_Strategy_Feb2021.pdf.

As costs continue to decline and technologies expand, incentives will phase out of some markets as they mature, or incentives will refocus on priority fleets and the small fleets and businesses most in need of financial support. Regulations that require cleaner vehicle technologies provide long-term market certainty and continued growth in the market. The following regulations are a key part of CARB's strategy to support cleaner technologies through a strategic combination of incentives and regulations:

- Innovative Clean Transit regulation, adopted December 2018.
- Zero-Emission Airport Shuttle Bus regulation, adopted June 2019.
- Advanced Clean Trucks regulation, adopted December 2020.
- Heavy-Duty Omnibus regulation, adopted August 2020.
- Upcoming Advanced Clean Fleets, Zero-emission Transport Refrigeration Units and Seaport and Railyard Cargo Handling Equipment regulations.

Compliance with Labor Standards

In line with the requirements of AB 794, all drayage and short haul trucking fleets receiving CARB incentives must be in compliance with applicable labor standards. Funding programs, including demonstrations, pilots, commercial incentives, and truck loan programs will be structured to ensure that fleets receiving grants, loans or other financial assistance attest to CARB that they are and will continue to be in compliance with applicable labor laws for the duration of the project. In addition, CARB will not award funding to applicants that are on the publicly available noncompliance list maintained by the Division of Labor Standards Enforcement under Section 2810.4 of the Labor Code.

Draft Allocations

For FY 2022-23, the State budget includes \$600 million in Low Carbon Transportation funding for heavy-duty vehicle and off-road equipment projects, which is augmented by \$280 million from the General Fund to support the deployment of zero-emission transit buses, school buses, and drayage trucks. AB 181 provided CARB an additional \$1.125 billion from Proposition 98 General Funds for grants to local educational agencies to support the replacement of internal combustion school buses between FY 2023-24 and FY 2027-28. Additionally, the State budget includes \$28.64 million in AQIP funds. The Governor's Budget Proposal also included \$10 million for emerging opportunities, which has not yet been acted on by the Legislature. Staff's draft FY 2022-23 allocations are shown in Table 14. Staff will continue to seek input on the draft allocations and on the projects listed in Table 14.

Table 14: Draft FY 2022-23 Heavy-Duty Vehicle and Off-Road Equipment Project Allocations (Millions)

Project Category	Low Carbon Transportation	General Fund	Proposition 98 General Funds	AQIP	Total Allocation
Clean Truck and Bus Voucher Incentive Project (HVIP)					
<i>HVIP Standard</i>	\$265				\$265
<i>HVIP–Public Transit Buses</i>		\$70			\$70
<i>HVIP–Public School Buses</i>		\$135	\$1,125		\$1,260
<i>HVIP–Drayage Trucks</i>		\$75			\$75
<i>HVIP–Innovative Small e-Fleets</i>	\$35				\$35
CORE	\$230				\$230
Advanced Technology Demonstration & Pilot Projects**	\$65	\$10*			\$75
Truck Loan Assistance Program				\$28.64	\$28.64
Zero-Emission Truck Loan Pilot	\$5				\$5
Total	\$600	\$290	\$1,125	\$28.64	\$2,043.64

* This funding has not yet been approved by the Legislature. CARB acknowledges that these details may change in the final Budget bill based on the outcome of negotiations between the Administration and the Legislature. If this funding is not included in the final State budget, staff will adjust the allocations accordingly.

The following section provides more information on each of these projects as well as on the Long-Term Heavy-Duty Investment Strategy and updates to it this year.

Summary of Changes to the Long-Term Heavy-Duty Investment Strategy

CARB developed the first three-year long-term investment strategy to serve as a strategic roadmap, showing how best to focus the investment of Low Carbon Transportation funds in heavy-duty vehicle and off-road equipment incentives so that they can have the greatest impact. Each year, staff has updated this document through a public process, using stakeholder input while laying out the agency’s goals, analyzing the factors affecting the efficacy of projects, and presenting a thoughtful strategy for accomplishing this. The result of

the process was the initial Three-Year Investment Strategy for Heavy-Duty Vehicles and Off-Road Equipment.

This document, now renamed the Long-Term Heavy-Duty Investment Strategy, generally includes three key components: technology status snapshots that show progress to date toward commercialization and market acceptance; a discussion of the beachhead model that describes the avenues for technology transfer; and a three-year investment priorities table that details staff's assessment of individual priorities and estimated funding needed to ensure continued progress toward overall commercialization and market transformation goals.

This strategy serves as a guide to better focus available resources to the places where they can make the most progress towards meeting California's long-term air quality, climate, and equity goals. This year, as in prior years, staff has updated the core components of the Strategy that are most applicable to achieving its mission and purpose.

Technology Status Snapshots

Technology has continued to advance rapidly in the heavy-duty vehicle and off-road equipment space since the development of the first Funding Plan for Low Carbon Transportation and AQIP. Knowing where key technologies are on their path to commercialization results in better informed and more strategic funding considerations. Accordingly, each year's Long-Term Heavy-Duty Investment Strategy includes an annual update to the snapshots of these core technologies and applications.

Technology Pathway Beachheads

The concept of beachheads serves as the foundation of CARB's heavy-duty investment strategy. In this context, beachheads are early successful vehicle applications where the pathway technologies can best establish initial market acceptance. Under the beachhead model, these applications then continue to advance and seed additional adjacent market applications. CARB has worked with its partners, including CALSTART, to better understand how vehicle technology evolves and transfers between applications, transforming this understanding into a theory of change for heavy-duty transportation technologies.

CARB works in partnership with stakeholders to update the beachheads as it further integrates off-road technologies and other emerging opportunities into the beachhead model and into the Long-Term Heavy-Duty Investment Strategy more broadly. These updates help to focus and prioritize investment in critical on- and off-road applications and lead to further acceleration of technology commercialization for the entire heavy-duty sector.

Three-Year Investment Priorities Table

Many of the key findings from the Long-Term Heavy-Duty Investment Strategy are summarized in the three-year investment priorities table, which contains CARB's top priorities for the upcoming three FYs (not including the current year) for Low Carbon Transportation funds. As is done each year, staff will add a new third year (FY 2025-26) to the table along with draft recommended funding levels for technologies in the demonstration, pilot, and

commercial incentive categories. Minor changes will also be made to the other years to acknowledge shifts in technology, projects currently receiving State investments, and the subsequent impacts to investment priorities.

Other Updates

- **Metrics of Success:** Each year's update to the Strategy document has highlighted the need to define key metrics needed to more effectively set goals, establish priorities, and assess progress. Staff identified three broad categories that are used to define success: creating healthy communities; growing the green economy; and supporting technology evolution. CARB jointly developed a set of metrics with stakeholders—using data already being collected from existing incentive programs—to construct a meaningful set of evaluation tools. These include measures such as clean VMT, investments in California's priority populations, the number of incentive vouchers issued by technology type, private funding leveraged by public investments, the number of participating advanced technology manufacturers, as well as other technology and market readiness indicators. These same metrics will be updated for this year's Strategy, and staff will also include a qualitative discussion of other potential metrics to be considered for inclusion, including those that specifically help to support CARB's equity goals – as discussed below.
- **Equity:** Equity continues to be a key component of each year's update; however, the update for FY 2022-23 will expand further on the critical role of equity in shaping the heavy-duty investment strategy more broadly. This is reflected in an ongoing shift of CARB's heavy-duty commercial incentives from a first-come, first-served model to a more strategic focus on equitable investments with priority populations and small fleets and businesses. While continuing to quantify the scope of heavy-duty investment benefits to priority populations, CARB will work closely with stakeholders and communities, using a coordinated approach across light-duty and heavy-duty investments, to identify priority investment areas, as well as metrics that can better demonstrate the benefits and co-benefits of incentive funding.
- **Industry Examples:** As in prior years, CARB will include a series of industry examples, or mini case studies, which are designed to illustrate specific examples where industry is adapting to meet specific needs for heavy-duty investments. For this year, examples may include narratives that discuss such areas as zero-emission facilities or ecosystems, "electrification as a service" business models, battery-electric locomotives, zero-emission transit buses, and driver health improvements from ZEVs.

SB 1403 School Bus Report Updates

In 2018, the Legislature passed SB 1403, formalizing the Long-Term Heavy-Duty Investment Strategy and adding to it a report on the State's school bus population and funding needs. This year's report will follow a similar outline as last year's report and will provide an update to State school bus funding programs, the State school bus inventory, and a discussion on achieving statewide zero-emission school bus goals by 2045. The report will also include case studies from school districts that have incorporated zero-emission school buses into their

fleet. The report is being developed via a public process and in coordination with CEC. Additional partners include local air districts, school districts, zero-emission school bus manufacturers, and state utilities.

Advanced Technology Demonstration and Pilot Projects

Draft General Fund Allocation—\$10 million

Draft Low Carbon Transportation Allocation—\$65 million

Project Overview and Goals

Heavy-Duty Vehicle and Off-Road Equipment Demonstration and Pilot Projects are uniquely designed to take advantage of emerging opportunities. These projects are intended to accelerate the introduction of advanced emission reducing technologies that are on the cusp of commercialization into the California marketplace. They can utilize technologies already developed and in the demonstration phase that align with the state's goals to reduce emissions.

Since the inception of the program in 2009, new and exciting projects have demonstrated advanced vehicles and equipment that have graduated into commercialization, with widespread adoption happening now for many technologies, such as zero-emission yard tractors and zero-emission school buses. Zero-emission on-road heavy-duty trucks are now market-ready, and with steady advancements in infrastructure capability and battery capacity, the range of duty cycles for these trucks is expanding rapidly. Facility-wide transformations towards zero-emission are showcasing the economic and environmental benefits of heavy-duty vehicles and equipment in a more holistic way.

Demonstration projects help to accelerate the introduction of advanced technologies into California by pushing technology advancement toward commercialization. In this first phase of CARB investments per-vehicle or equipment incentives are high because manufacturing is not standardized and is focused on developing and testing technologies with businesses. Higher levels of incentives per vehicle are needed to help companies cover the costs of technology development, deployment, and support infrastructure installations. A public investment in these technologies helps to achieve GHG reductions, as well as criteria pollutant and toxic air contaminant reductions sooner than would be possible otherwise. This commitment from the State encourages industry to expeditiously invent, develop, test, and introduce cutting-edge emission reducing technologies in the on- and off-road sectors. All funded projects must have the potential for widespread commercialization and be significantly transformative while achieving GHG, criteria pollutant, and toxic emission reductions as required by SB 1204, SB 1403, and AB 2285 with nearly all of the funding being spent in priority populations. Once demonstration projects reach the goal of market availability, longer term future emission reductions in considerably larger magnitudes can be achieved by moving these technologies to the pilot phase of commercialization. That is happening now with the joint CARB and CEC drayage truck pilot project, which has awarded funds for 280 zero-emission heavy-duty trucks, with many of those being deployed in 2022, and continuing on in 2023. These types of projects are important sources of data on vehicle and infrastructure performance and showcase the technologies for other end users of similar

vehicles or equipment, therefore increasing the potential for accelerated emission reductions in disadvantaged communities, where many freight operations are located

Demonstration and pilot projects by their nature include workforce training elements. This is needed to support the deployment of advanced technology vehicles and equipment at an end-user fleet. All funded projects will be required to have workforce training component to ensure that workers are prepared to use and service all advanced technology vehicles, equipment, and infrastructure.

Current Project Status

Over the past six years, CARB has funded over 30 heavy-duty and demonstration and pilot projects with approximately \$440 million in incentives leveraging an equal if not larger sum contributed by the hundreds of implementing project partners, including many California businesses utilizing these technologies every day. Funded projects include large deployments of clean heavy-duty trucks and cargo handling equipment, solar and energy management system installations, electric agriculture tractor demonstrations, and zero-emission commercial harbor craft. CARB's demonstration and pilot projects are located in disadvantaged communities reducing emissions directly in the most affected neighborhoods. Detailed summaries of all of CARB's heavy-duty demonstration and pilot projects funded to date can be found on the Moving California website.⁴⁹ Two of the zero-emission drayage truck pilot projects, in coordination with CEC, are implemented and underway, two other zero-emission drayage truck pilot projects are in the grant execution phase, and the final project selected for funding under the joint CARB CEC drayage pilot project is finalizing details before a grant agreement can be executed.

The solicitation and selection process for the third-party administrator is currently underway. It is expected that the third-party administrator will be in place to help facilitate the solicitation for the FY 2022-23 projects. The solicitation for demonstration and pilot project categories approved in the FY 2021-22 Funding Plan will be released soon and close before the end of the Summer.

Workforce training components of existing demonstration and pilot projects are starting to graduate skilled technicians into the marketplace. Students attending such programs at Rio Hondo College and San Bernardino Valley College have marketable skill sets to start work on zero-emission drive systems. Other projects have set up curriculum and classes in such places as Long Beach, Oakland, and Stockton with high schools and community colleges developing vocational training for tomorrow's workforce.

Draft Funding Allocation

CARB's Long-Term Heavy-Duty Investment Strategy laid out a roadmap showing how much heavy-duty incentive funding would be needed over the next three years to put the State on a trajectory to meet its ZEV adoption and emission reduction goals. Taking into account

⁴⁹ <https://www.arb.ca.gov/msprog/lct/projectheavyduty.htm>

those targets and other funding priorities, staff is considering allocating \$75 million to support demonstration and pilot projects. This allocation would include the proposed \$10 million General Fund line item for Emerging Opportunities and \$65 million from Low Carbon Transportation Investments. Staff is considering the following demonstration and pilot project categories:

- **Green Zones:** Zero-emission holistic projects that could be focused on almost any operations within a city, municipality, or group of cities that currently use combustion technologies in carrying out the duties of the municipality. Projects will showcase zero-emission technologies while overcoming challenges to adoption through activities such as streamlining infrastructure permitting and determining what systems need to be in place for a municipality to foster widespread zero-emission technology adoption. Projects must directly reduce emissions but may also include funding to support a robust local public process, updates to local ordinances and other requirements, and should encourage other cities to adopt Green Zone policies within their jurisdictions. Projects could include roadway and vehicle telematics, targeted incentives for public and private vehicles, large scale zero-emission commercial lawn and garden equipment for schools and/or parks and recreation departments, zero-emission construction equipment, zero-emission waste collection and other functions that are performed by a municipality that can be converted to zero-emission. Projects in this category will score higher if they are located in or benefit a disadvantaged community.
- **Zero-Emission Rail:** Demonstration or pilot of zero-emission rail technologies that can operate in intrastate line haul, short haul and switcher operations without requiring additional diesel locomotives in the consist. Projects in this category will be required to located in or benefit a disadvantaged community.
- **Zero-Emission Capable Commercial Harbor Craft:** Demonstration or pilot of zero--emission capable commercial harbor craft with a focus on California small businesses. Projects in this category will be required to located in or benefit a disadvantaged community.
- **Port Vehicles and Equipment:** Demonstration and pilot of on-road trucks engaged in drayage service and cargo handling equipment used at ports. Projects in this category will be required to located in or benefit a disadvantaged community.
- **Zero-Emission Aviation and Ground Support Equipment:** Demonstration and pilot of zero-emission aircraft and ground support equipment. Focus will be on aircraft for short-haul routes within California and support equipment. Projects in this category will be required to located in or benefit a disadvantaged community.
- **Off-Road Construction and Agriculture Equipment:** Demonstration and pilot of zero-emission construction and agriculture equipment along with supporting infrastructure. Demonstration of advanced technologies and pilots for larger scale deployments of

zero-emission equipment will be supported. Projects in this category will score higher if they are located in or benefit a disadvantaged community.

CARB is collaborating with CEC on infrastructure aspects of the draft project categories where possible, which could include a joint solicitation for one or more of the draft project categories.

Potential Changes to Project Criteria

Staff is considering allowing the use of the FY 2022-23 allocation to fund additional projects through the currently open FY 2021-22 Advanced Technology Demonstration and Pilot Project solicitation, where there are overlapping categories such as Green Zones or Zero-Emission Rail.

Draft Project Evaluation Strategy

Metrics for evaluating the success of any Heavy-Duty Vehicle and Off-Road Equipment Demonstration and Pilot Project will include:

- **Successful deployments of vehicles and equipment along with supporting infrastructure.** This metric is evaluated by comparing the project outcome described in the project's application with actual performance.
- **Accurate data collection and reporting of project performance.** This metric is evaluated by an analysis of the quality of the data projects are generating and how that data is being reported to interested stakeholders.
- **Advancing technological development.** This metric is evaluated after the close of a project with an assessment of what level the technology has penetrated into the marketplace to displace conventionally fueled technologies.

The most quantitative way of evaluating success is to compare the project as originally scoped by the application to the actual outcome of the project, as each demonstration and pilot project has unique goals and metrics. However, the ultimate analysis of the success of a demonstration or pilot project can only be evaluated long after it has ended. Success is determined by the extent to which the project has pushed a technology quicker into the marketplace, accelerated the adoption of that technology, and secured those emission reductions by displacing conventionally fueled technologies in an economical way earlier than would have organically happened.

Clean Truck and Bus Voucher Incentive Project (HVIP)

Draft General Fund Allocation—\$280 million

Draft Proposition 98 General Funds Allocation—\$1,125 million

Draft Low Carbon Transportation Allocation—\$300 million

Project Overview and Goals

HVIP continues to accelerate market transformation by incentivizing the purchase of zero-emission heavy-duty trucks and buses for California fleets. HVIP is the cornerstone of advanced technology heavy-duty incentives, providing funding since 2010 to support the long-term transition to ZEVs in the heavy-duty market, as well as supporting investments in other emerging technologies to achieve substantial GHG reductions and help meet health-based ambient air quality standards. Investments made through HVIP provide both broad purchase incentives for fleets, and more targeted measures to address air quality needs in California’s priority populations. Voucher incentives complement other programs in CARB’s heavy-duty funding portfolio by providing a streamlined application process without requiring the scrappage of an existing vehicle.

The zero-emission trucks supported by HVIP vouchers help reduce emissions and noise in priority populations across the state, improving quality of life and health for community members. Since its inception, over 60 percent of awarded HVIP funding has benefited disadvantaged and low-income communities⁵⁰ and HVIP funded vehicles have driven more than 174 million cleaner than diesel miles in disadvantaged communities.

Transitioning to zero-emission trucks also provide direct benefits to truck drivers—a workforce that is predominately comprised of people of color, with over 55 percent of drivers identifying as Latino, 6 percent identifying as black and 8 percent Asian.⁵¹ California’s trucking fleets are largely made up of small and family run businesses. Trucks funded through HVIP not only reduce driver’s exposure to toxic air pollutants, but also help these small businesses realize the total cost of ownership benefits of zero-emission trucks. Changes proposed to HVIP this year will also help to protect drivers by ensuring that fleets receiving state incentive dollars adhere to labor standards and do not misclassify drivers.

HVIP is a unique project in the CARB portfolio. As the only incentives project that exclusively supports on-road advanced technologies with high adoption barriers, it provides the bridge between demonstrations and pilots to the scrap and replace programs. The fleet friendly nature of HVIP and ease of use also makes it an ideal incentive program to support fleets

⁵⁰ California Air Resource Board. *2022 Cap-and-Trade Auction Proceeds Annual Report*. April 2022. https://ww2.arb.ca.gov/sites/default/files/auction-proceeds/ccl_annual_report_2022.pdf

⁵¹ Employment Development Department, State of California. “California EEO Detailed Occupations”. Accessed June 21, 2022. <https://www.labormarketinfo.edd.ca.gov/geography/demoaa.html>

with limited resources, and last year CARB approved changes to support more equitable investments and begin to focus HVIP on medium and smaller fleets.

HVIP also plays an important role in preparing the market for regulations by increasing market adoption and decreasing vehicle costs prior to regulatory deadlines such as those for the Innovative Clean Transit and Advanced Clean Trucks regulations. Now is the time to support small fleets in advance of future regulations, so they have an opportunity to act before regulations take effect. We expect that larger fleets will continue to purchase zero-emission trucks due to lower total cost of ownership, available capital resources, and in preparation for upcoming fleet regulations. Other incentives within CARB's portfolio such as the Carl Moyer Memorial Air Quality Standards Program, Community Air Protection Incentive Funds, VW Environmental Mitigation Trust, and Funding Agricultural Replacement Measures for Emission Reductions Program may continue to include options for fleets of all sizes.

HVIP will continue to support the statutory requirements of SB 1204, SB 1403, and AB 2285 by prioritizing funds for early commercial clean heavy-duty vehicles. The draft HVIP funding policies will ensure that at least 20 percent of Low Carbon Transportation truck funding supports early commercial deployment of zero- and near zero-emission heavy-duty truck and bus technology.

Current Project Status

Since its inception in 2010, HVIP has supported the purchase of over 6,000 zero-emission trucks and buses, 2,500 hybrid trucks, 2,400 natural gas engines, and 290 trucks outfitted with electric power take-off (ePTO) by California fleets through April 2022. After becoming quickly oversubscribed in 2021, HVIP reopened in March 2022 with over \$400 million in available funding, the highest amount ever available in a single year. This funding is anticipated to more than double the current number of zero-emission trucks and buses on the road in California. Within 24 hours of reopening, a total of \$272 million was requested, showcasing the high demand for zero-emission technologies. This year small-fleets and small businesses actively participated in HVIP—over 20 percent of the fleets that requested vouchers operate 10 or fewer vehicles, and over 70 percent of vouchers requested were for vehicles domiciled in disadvantaged communities. About a quarter of voucher requests were from fleets with less than \$10 million in annual revenue and 38 percent of voucher requests were from fleets with less than \$50 million in annual revenue. Additionally, 10 percent of voucher requests were from fleets that stated they were certified as Disadvantaged Business Enterprises.

When HVIP reopened it included just over \$196 million for standard voucher requests as well as set-asides for public transit agencies, public school buses, drayage trucks and the Innovative Small e-Fleets pilot. Status updates for the set-asides are described below.

- **Public Transit Bus Set-Aside:** In FY 2021-22, \$70 million was set aside for zero-emission public transit buses. As of June 2022, funds for over 100 transit buses have been requested from the set-aside and \$55 million remains in the set-aside. The slower pace of voucher requests for public transit buses is likely in part due to public

transit agencies' lengthy procurement cycles. Staff will continue to evaluate demand within the public transit set aside, conduct additional outreach to public transit agencies, and investigate if any changes are needed to HVIP to better support public transit agencies.

- **Public School Bus Set-Aside for Small and Medium Air Districts:** In FY 2021-22, \$130 million was set-aside exclusively for California public school bus fleets located in small and medium sized air districts as defined by the California Air Pollution Control Officers Association. The open application for the Public School Bus Set-Aside for Small and Medium Air Districts (Public School Bus Set-Aside) resulted in 332 school bus replacement applications from 89 school districts across California. The school buses to be replaced with new zero-emission school buses are over 30 years old on average.
- **Drayage Truck Set-Aside:** In FY 2021-22, a \$75 million set-aside was established to support the deployment of zero-emission drayage trucks. Within the first 24 hours of HVIP reopening the drayage truck set-aside was fully subscribed, though drayage trucks continued to be funded through standard HVIP voucher requests. As of May 31, 2022 there were 530 requests totaling over \$80 million for zero-emission drayage trucks. Of the vouchers requested, 70 percent were for trucks domiciled in disadvantaged communities and over a quarter of requests were from fleets with fifty vehicles or less.
- **Innovative Small e-Fleets Pilot:** The FY 2021-22 Funding Plan established a new pilot within HVIP known as Innovative Small e-Fleets. Innovative Small e-Fleets is designed to support small fleets and individual owner/operators making the transition to zero-emission trucks. Innovative Small e-Fleets will pilot innovative mechanisms such as all-inclusive leases, peer-to-peer truck sharing, truck-as-a-service, assistance with infrastructure, individual owner planning assistance as well as other mechanisms. Since the Board's adoption of the funding plan, staff has held additional work groups to develop requirements and prepare to launch the pilot in summer 2022. Staff anticipates that the lessons learned from Innovative Small e-Fleets will be used to inform changes to HVIP and CARB's broader heavy-duty incentive policies as we continue to target smaller fleets.

HVIP Guiding Principles

HVIP guiding principles were approved in the FY 2020-21 Funding Plan and modified in the FY 2021-22 Funding Plan. They are designed to not be strictly interpreted, but rather reflect values that would be factored into decision making. HVIP's guiding principles are as follows:

- Accelerate market transformation for the cleanest advanced technologies.
- Support the goals laid out in CARB's Long-Term Heavy-Duty Investment Strategy.
- Drive purchase decisions.
- Maintain simplicity and a fleet-friendly process.
- Support CARB regulatory programs.

- Avoid market disruptions caused by unpredictable funding availability.
- Graduate established technologies.
- Support more equitable investments.

These guiding principles will be carried forward into each subsequent Funding Plan and modified as needed.

Draft Funding Allocation

The widespread adoption of zero-emission vehicles is essential to achieve the state’s climate change goals and to reduce pollution exposure in priority populations. Given this year’s appropriation and all of CARB’s current funding priorities, staff is considering allocating \$300 million of FY 2022-23 Low Carbon Transportation Investments to HVIP. Staff is considering allocating \$280 million from the General Fund appropriation to HVIP to support the deployment of zero-emission drayage trucks, transit buses, and school buses as described in the proposed State budget. Following the direction of AB 181, \$1,125 million will be allocated to support local educational agency school bus replacement grants over a five year period beginning in FY 2023-24. Staff is also considering allocating additional funds to the Innovative Small e-Fleets project to continue to explore mechanisms to better support the unique needs of small fleets. By continuing to dedicate this set-aside funding for small fleets, HVIP can position itself to better understand the unique needs of this traditionally underserved group and support their transition to zero-emission in advance of the upcoming Advanced Clean Fleets rule. The draft breakdown of funding is described in Table 15.

**Table 15: Draft HVIP Funding Set-Asides
(millions)**

Category	Dollar Amount
HVIP Standard	\$265
Zero-Emission Public Transit Buses	\$70
Zero-Emission Public School Buses	\$135
Local Educational Agency School Bus Replacement Grants*	\$1,125
Zero-Emission Drayage Trucks	\$75
Innovative Small e-Fleets	\$35
Total	\$1,705

**To be awarded in \$225 million dollar increments between FY 2023-24 and FY 2027-28.*

If the funding set-aside for zero-emission public transit buses, zero-emission public school buses, or zero-emission drayage trucks is exhausted, requests for these vehicle types could continue through the HVIP Standard funds. CARB will continue to coordinate with CEC to ensure our vehicle purchase incentives are complemented by CEC's infrastructure incentives.

Potential Changes to Project Criteria

As demand for HVIP has increased dramatically in recent years, staff continues to adapt and consider policy changes to amplify the impacts of limited funding and support more equitable investments. Staff is considering the changes below:

- **Fleet Size Limits:** In November 2021, the Board approved a new fleet size limit for HVIP to support the more equitable investments for medium- and heavy-duty vehicles. These limits will take effect in a phase approach to allow manufacturers and fleets time to prepare.
 - Beginning January 1, 2023, private fleets with 100 medium- and heavy-duty vehicles or fewer will be eligible for HVIP.
 - Beginning January 1, 2024, private fleets with 50 medium- and heavy-duty vehicles or fewer will be eligible for HVIP.

Public agencies and California Native American Tribal Governments will not be subject to the fleet size limits. Additionally, new to market technologies such as FCEVs will not be subject to the fleet size limits until they receive a higher degree of market penetration.

Upon reviewing the data on the fleets that have accessed HVIP funding to date, staff finds that the fleet size limits remain necessary and appropriate. There is already significant demand for zero-emission technologies from small fleets. In 2021, about 45 percent of the fleets that requested HVIP vouchers had 50 trucks or fewer. This year, about half of the fleets that have requested HVIP vouchers have 50 trucks or fewer. Given that larger fleets have more resources to track available incentives, we expect that this data only represents a portion of the demand from small fleets in the State. Ensuring that small- and medium fleets with limited financial resources have continued access to incentive dollars remains a critical priority to support CARB's equity goals and the widespread adoption of zero-emission technologies. More than 90 percent of trucking companies in California run fewer than 50 trucks, and to achieve a complete transformation of the heavy-duty sector these small- and medium fleets require robust, dedicated support to transition to zero-emission.

Demand for HVIP incentives outstrips resources, and as a result HVIP has been forced to close several times after becoming oversubscribed. Incentive programs that are only available for limited windows of time can be challenging for small fleets and public agencies who face limited resources and lengthy procurement cycles. The fleet size limits support equitable investments by providing direct assistance to small fleets and owner-operators.

By catering to small and medium fleets that have not been able to purchase zero-emission trucks, the fleet size limits will help grow and expand the primary and secondary markets by helping more fleets and smaller fleets obtain ZEVs, ultimately supporting equity goals.

To ensure a seamless roll out of the fleet size limits and to better ensure the needs of small fleets and communities are met, staff is considering a few minor modifications to the fleet size limits.

- **Exemption for non-profits:** Staff is considering exempting non-profit organizations with 501(c)(3) tax exempt status from the fleet-size limits. This will help ensure that the organizations serving California communities continue to have access to zero-emission trucks and buses.
- **OEM Cap Exemption for small fleets:** Staff is considering exempting voucher requests from small fleets with 10 vehicles or fewer from the manufacturer rolling soft cap limit to address concerns that small fleets have been turned away from dealers in part as a result of the manufacturer rolling soft cap. The manufacturer rolling soft cap limit was established in 2020 as a way to improve HVIP funding availability and encouraging faster vehicle delivery. Under the manufacturer soft cap, each manufacturer can hold up to 100 unredeemed vouchers at a time across all of the manufacturer's HVIP eligible product line and approved dealers. As a manufacturer redeems vouchers, more vouchers become available for vehicles from that manufacturer. Manufacturers can also be granted additional vouchers by CARB beyond the cap on a case-by-case basis. Not counting small-fleet voucher requests towards the manufacturer caps will help ensure that small fleets and owner operators who are interested in making the transition to zero-emission can use HVIP vouchers to purchase the ZEV of their choice assuring support from the dealer. Additionally, this will help HVIP approved dealers feel confident that the time they spend working with small fleet owners will be worthwhile and alleviate concerns that they may not be able to access a voucher for a small fleet because an OEM cap was exceeded.
- **Contingency Measures for FY 2021-22:** While the data indicates there will be significant demand for zero-emission trucks and buses from medium and small fleets, staff is considering introducing contingency measures that would allow larger fleets to access HVIP dollars if small fleet demand is lower than anticipated. Specifically, if more than 25 percent of funding remains in the either HVIP standard or drayage set-asides nine months after HVIP re-opens for funding, the respective pot of remaining funding would become available for private fleets with between 101 and 200 vehicles. Funding amounts for these larger fleets would be set to 50 percent of the base voucher amount and would only be available for vehicles that would be domiciled in a disadvantaged community.
- **Voucher amount Modifications:** HVIP vouchers are intended to offset a portion of the incremental cost of advanced technologies. Every year, staff re-evaluates voucher amounts to ensure they are set to an appropriate level to impact purchase decisions

and takes into account any changes in technology costs. In 2020 the Board approved reductions to voucher amounts for all vehicle classes—on average, vouchers amounts were reduced by 20 percent. This year, staff is considering targeted change to specific vehicle classes as follows:

- **Enhancements for Drayage and Refuse Trucks:** First, staff is considering extending the 25 percent voucher enhancement for zero-emission drayage trucks. This voucher enhancement first took effect with the launch of Project 800 in 2021, an initiative designed to help jump-start this important segment by supporting the purchase of 800 drayage truck orders in California in 2021. While we have now surpassed that goal, transitioning drayage trucks to zero-emission remains an important priority to support Executive Order N-79-20 and to provide benefits in California’s priority populations. Secondly, staff is considering introducing a similar 25 percent voucher enhancement for zero-emission refuse trucks. As with drayage trucks, this voucher enhancement would be available for a limited period of time, and is intended to support the early deployment of these relatively new to market technologies. Refuse trucks are present in all communities statewide, but their impacts are felt particularly strongly by priority populations located near waste transfer stations who are burdened by multiple pollution sources. Both voucher enhancements would be available until December 31, 2023.
- **Adjustments for ePTO Systems:** Staff is considering adjusting the voucher structure for ePTOs to better accommodate their use in heavier applications and their use on zero-emission trucks. ePTOs allow for zero-emission operation of ancillary systems, such as cranes or compressors on a vehicle, resulting in significant emission reductions. Staff is considering adding a new funding level for ePTO systems with a storage capacity of greater than 30 kilowatt hours and setting the voucher amount for \$50,000 for this new higher energy capacity class. Currently, the highest energy capacity tier is 15 kWh with a voucher amount of \$40,000. Staff is also considering allowing ePTO systems to fund up to 65 percent of the total incremental cost—currently HVIP limits ePTOs to covering no more than 50 percent of the incremental cost.
- **Vehicle-to-Grid (V2G) Functionality:** Additionally, as HVIP continues to push for advanced technologies that support California’s climate and energy resiliency goals, staff is considering a new requirement for V2G functionality, or bi-directional charging, on all battery electric school buses purchased with HVIP vouchers. V2G was introduced to the HVIP vehicle catalog as a required feature for the first Public School Bus Set-aside allocation. This recommendation is supported by the preliminary responses from applicants and manufacturers to the additional V2G requirement. Applications from eligible applicants met and exceeded demand within three weeks of opening. School bus manufacturers agreed to the V2G requirements for at least one of each type of school bus in the HVIP vehicle catalog. Grid communications, state regulators, and local utility providers continue to develop the new suite of standards

making V2G a viable option in the near future. Pilot projects around the world have been demonstrating the applicability, cost savings, and energy benefits of V2G school bus projects, as well. To facilitate this transition, the requirement for V2G functionality on school buses could begin for new vehicle eligibility applications submitted to CARB as early as January 1, 2024. As V2G viability improves in other vehicle application types, CARB may consider expanding V2G requirements to additional vehicle types that return to the terminal daily in the future. We would not be recommending any changes to other vehicles for V2G capabilities at this time.

- **Compliance with Labor Standards:** As stated earlier, all fleets requesting HVIP vouchers must be in compliance with labor standards. As fleets must attest that they are currently in compliance with all state, federal, and local laws or risk ineligibility of funding or having to return if non-compliant, there is already an expectation within HVIP that fleets be in compliance with labor standards. However, beginning next year, there will be some changes to how fleets certify that they are in compliance with this requirement and how it is enforced. Specifically, fleets purchasing drayage and short-haul trucks will be required to directly attest that they are in compliance with state labor laws, that they will remain in compliance with labor laws for at least three years or the duration of the incentive agreement, and that they will retain direct control over the manner and means for performance of any individual using or driving the vehicle. Fleets who receive an incentive will be required to attest that they are in compliance annually throughout the term of the HVIP ownership requirement. Prior to awarding the HVIP voucher CARB staff will also ensure that the fleet is not on the list maintained by the Division of Labor Standards Enforcement under Section 2810.4 of the Labor Code. Additionally, CARB will publish a list of all fleets that receive HVIP incentives and will follow-up on any allegations received by third-parties that claim that a fleet which received HVIP incentives is not in compliance with state Labor Standards.
- **Public School Bus Set-Aside:** The FY 2022-23 budget continues the three-year budget allocation of \$400 million to CARB for school bus incentives to deploy 1,000 zero-emission school buses in underserved rural school districts that directly benefit priority populations and improve air quality in low-income and DACs. This will be the second installment of \$135 million for school buses. CARB's recent school bus funding programs defined "rural" as school bus fleets in small- and medium-sized air districts, that typically do not have as much access to funding as those in larger air districts. Staff is considering applying additional methods for identifying an "rural" school district in the second allocation, in order to continue to replace the oldest school buses in historically underserved school districts across the state. In addition to air district size and school district location within a disadvantaged community or low-income community, as defined CalEnviroScreen, staff may also consider other school bus or school district demographic data. By including additional or alternative eligibility and prioritization criteria, the Public School Bus Set-Aside will be better positioned to provide equitable opportunities for new, cleaner school buses to be

deployed across the state.

Secondly, staff is considering adjusting voucher amounts to ensure funds are distributed equitably and in a fiscally responsible manner. Staff will analyze recent purchase order data collected from various grant programs, and compare incentive amounts to similar programs nationwide. Maximum voucher amounts will be assessed for each school bus type and may result in a lower maximum for one or more school bus types. Analysis will include school bus specifications such as chair lifts.

- **Local Educational Agency School Bus Replacement Grants:** AB 181 provided CARB with \$1.125 billion dollars from Proposition 98 General Funds to support grants to local educational agencies to replace internal combustion school buses over five FYs beginning in FY 2023-24. An additional \$375 million was provided to CEC to provide complementary grants for infrastructure.

To be eligible to receive funding, local educational agencies must commit to scrap an existing internal combustion school bus within two years of the delivery of the new bus. Grants that support the purchase of zero-emission school buses will be prioritized. However, if a local educational agency demonstrates that they face significant barriers to the adoption of zero-emission technology and that alternate approaches are not feasible, funding may be used to support school buses powered by renewable fuel. Priority will also be given to applicants that that serve a high percentage of pupils eligible for free or reduced price meals, foster youth and English learners; small and rural school districts; applicants that operate the oldest internal combustion buses; and applicants that purchase zero-emission buses with bidirectional charging.

Throughout FY 2022-23, CARB staff will work with stakeholders and CEC, the Department of General Services, and CWDB to develop guidelines and prepare to open the first round of grants. To minimize application barriers, CARB and CEC will coordinate to offer a single application to cover vehicle purchases, infrastructure investments, and other associated funding requests such as workforce development and training. In order to secure competitive pricing and support the development of high-quality jobs, the Department of General Services in consultation with the CEC and CWDB will establish statewide contracts with manufacturers of zero-emission or low-emission buses that satisfy high road standards outlined in the Unemployment Insurance Code. Pursuant to AB 181, staff expect to award the first round of grants in FY 2023-24, with an initial funding window of \$225 million. Following the first set of awards, \$225 million will be awarded annually through FY 2027-28.

- **Future efforts:** Staff will continue to evaluate opportunities to support more equitable investments, improve the efficacy of investments, and support future CARB regulations. While staff is not considering any changes to increase the vehicle ownership requirement length for the coming year, staff will continue to evaluate

whether extensions to the ownership and warranty requirements would align with program goals to maximize emission reductions in California and support small fleets.

Draft Project Evaluation Strategy

Staff use a number of methods to determine if HVIP is achieving program goals, including evaluating emission reductions, percent of vouchers requested in disadvantaged communities and by small fleets, and other strategies described in the Long-Term Heavy-Duty Investment Strategy. Building upon these existing evaluation methods, last year, HVIP staff developed a new Fleet Survey that focuses on various user experiences including factors that influenced the purchase decision. This survey was administered to all purchasers who had redeemed an HVIP voucher within the last three years. The response rate was relatively low with only 13 percent of the survey population completing the survey in full. Of those who responded, 65 percent indicated that they would not have purchased/leased their vehicle without the HVIP voucher while 10 percent were unsure. Survey respondents also indicated that the HVIP voucher had a strong impact on purchasers' decision of what vehicle to buy. When asked to rate the importance of the voucher, respondents gave an average rating of 4.4 on a 1 (less important) to 5 (most important) scale. In future years, staff will continue to review survey results and refine survey methodology and questions to improve response rates and collect additional information as necessary to inform policy changes. Staff will also continue to evaluate additional metrics and data sets that can be utilized such as collecting vehicle use data through telematics, interviews with fleet managers, and direct interaction with vehicle operators. These data streams allow for participants to help shape future policy through their direct and indirect feedback.

Clean Off-Road Equipment Voucher Incentive Project (CORE)

Draft Low Carbon Transportation Allocation
\$230 million

Project Overview and Goals

CORE is intended to accelerate the deployment of advanced technology in the off-road sector by providing a streamlined way for fleets to access funding that helps offset a portion of the incremental cost of such technology. CORE targets commercial-ready products that have not yet achieved a significant market foothold. By promoting the purchase of clean technology over internal combustion options, the project is expected to reduce emissions, particularly in communities that are most impacted; help build confidence in zero-emission technology; support CARB strategies and subsequent regulatory efforts where possible; and provide other sector-wide benefits, such as technology transferability, reductions in advanced-technology component costs, and larger infrastructure investments. A CORE voucher also provides additional funding and prioritizes investments of equipment deployed or domiciled in disadvantaged or low-income communities and small businesses investing in zero-emission equipment.

Current Project Status

CORE received an initial allocation from FY 2017-18 funds and was subsequently allocated additional funding in FY 2018-19. In February 2020, CORE launched as a first-come, first-served voucher program for zero-emission off-road freight equipment and was met with substantial demand. Given that CORE was oversubscribed by greater than 100 percent, the program was closed to new vouchers for 18 months. Recognizing CORE's successful launch and the continued need for funding in the off-road sector, CORE was allocated \$194.95 million in FY 2021-22, \$30 million of which was used to fund waitlist vouchers to minimize any further market disruptions and aid in market recovery. The FY 2021-22 funds allowed CORE to expand eligible equipment beyond just freight enabling equipment, and offer funding for construction, agriculture, switcher locomotives, and commercial harbor craft equipment and vessels and in July 2022, CORE reopened \$125M for voucher requests. In addition, CORE was appropriated \$30 million per SB 170 (Skinner, Chapter 240, Statutes of 2021) to fund zero-emission small off-road equipment for professional landscaping services operated by small businesses and sole proprietors for new voucher requests in Fall 2022. Since inception, over 450 vouchers have been issued, totaling approximately \$61 million. Approximately 77 percent of CORE funded equipment has been or will be deployed in priority populations.

Currently more than 15 manufacturers offer eligible equipment models, including terminal tractors, forklifts, transport refrigeration units, mobile power units, and railcar movers. Altogether, there are over 70 different eligible equipment model configurations, this number is expected to grow significantly as CORE expands to include new equipment types.

CORE Guiding Principles

CORE guiding principles were approved in the FY 2021-22 Funding Plan and reflect foundational values that would be factored into decision-making. The CORE guiding principles were based off the original guiding principles for AQIP that were described in the FY 2009-10 Funding Plan and the HVIP guiding principles which were first outlined in the FY 2020-21 Funding Plan. The CORE guiding principles are provided below:

- Accelerate market transformation toward the cleanest advanced technologies.
- Support the goals laid out in CARB's Long-Term Heavy-Duty Investment Strategy.
- Drive purchase decisions.
- Maintain simplicity and a fleet-friendly process.
- Support CARB strategies and regulatory efforts.
- Avoid market disruptions caused by unpredictable funding availability.
- Graduate established technologies.
- Support more equitable investments.

Draft Funding Allocation

There has been substantial interest and demand for CORE funding, and staff expects continued growth within the program. Given this year's proposed allocation and all of CARB's current funding priorities, staff is considering allocating \$230 million of FY 2022-23 funding to the CORE program. Staff will consider revising elements of the program to maximize its effectiveness at the proposed funding level.

Potential Changes to Project Criteria

As CORE evolves as a program, furthering the shift to zero-emission technology in a diverse set of markets, industries, and applications using off-road equipment, staff will continue to engage with stakeholders through a public work group process to make changes to the program. Based on current Board priorities and input received from stakeholders, staff is considering the following changes to the program:

- **Equity and Small Business Considerations:** Staff will continue to evaluate methods to build awareness and make funds more accessible to small businesses while continuing to prioritize the deployment of CORE-funded equipment in priority populations. In addition, staff will coordinate closely with other clean transportation investment projects and evaluate potential ways to incorporate elements, such as workforce training, career development, and job pathways/creation requirements in CORE to boost the socioeconomic impact of the program and meet CARB's equity goals.
- **Voucher Amounts:** CORE is intended to spur market growth of advanced technology in diverse off-road equipment. Staff will continue to adjust voucher levels in a way that moves the needle to advance technology, ensures equipment diversity, and maximizes the impact of available funding. Advances in off-road zero-emission

technology and market may soon warrant broadening the CORE program to include larger, more-power-demanding equipment types. Such program changes, compounded by the variety of off-road equipment configuration, size, and duties, would likely require voucher amounts greater than the existing maximum allowable voucher amount of \$500,000 in order to provide a meaningful financial offset to the incremental cost of zero-emission versions of said equipment types. Staff is proposing to increase CORE's maximum allowable voucher amount from \$500,000 to \$1,000,000 per eligible piece of equipment. Furthermore, as zero-emission technology matures, some equipment types may require a standardized voucher amount, or we may need to adjust the voucher amounts depending on the technology.

- **Funding Categories:** In order to promote broad zero-emission equipment market maturity, the current program offers nine different funding categories where a funding cap is imposed for the first six months after program launch. To date, these are grouped by equipment types in primary industry of use. As off-road zero-emission equipment grows in market acceptance, staff will continue to evaluate other grouping approaches and maximum voucher amount to improve program implementation and voucher process.
- **New Program Eligible Equipment Categories:** Staff will continue to evaluate the appropriateness of CORE's equipment categories using the guiding principles mentioned above. For example, staff could consider removing "stagnant" equipment categories for which there is no current or projected near-term voucher activity or, alternatively, adding new equipment categories as zero-emission technology continues to mature and transfer to new equipment types. Staff could also consider establishing programmatic "off-ramps" to graduate equipment types for which the utility of financial incentives may have diminished (e.g., zero-emission equipment types that have already established a significant market foothold or will soon be required by regulation).
- **Zero-Emission Equipment Infrastructure for Remote Worksites:** Staff will continue to review and provide options for off-road fleets to power and refuel voucher-funded zero-emission equipment in the field. Staff want to ensure that stakeholders have choice to determine what zero-emission refueling option(s) will work best for their equipment, operational needs, and site conditions. With the broadening of the current program beyond freight to include off-road applications and equipment types, staff are evaluating if the current Mobile Power Unit is still needed as a standalone eligible equipment or be included as an infrastructure enhancement. Also, staff is considering if funding levels and metrics of advanced refueling technologies (self-propelled, portable, temporary, or stationary power sources) should be included.

Draft Project Evaluation Strategy

Staff will include a more comprehensive assessment of project effectiveness moving forward, including appropriate metrics and data collection methodologies. An example is assessing

the acceptance of zero-emission off-road equipment using metrics such as feedback on usage purpose and satisfaction, usage data such as hours of use of new equipment, and factors that influence the purchase decision. These metrics can be assessed through participant surveys. The assessment will also evaluate how effective the project is at achieving other expected outcomes, such as improving zero-emission technology acceptance, reducing advanced technology component costs, and increasing private investment. This will build upon existing data collection elements already in CORE, such as end user surveys, and likely involve the participation of a person or persons with direct applicable experience and expertise in these types of assessments.

Truck Loan Assistance Program

Draft AQIP Allocation

\$28.64 million

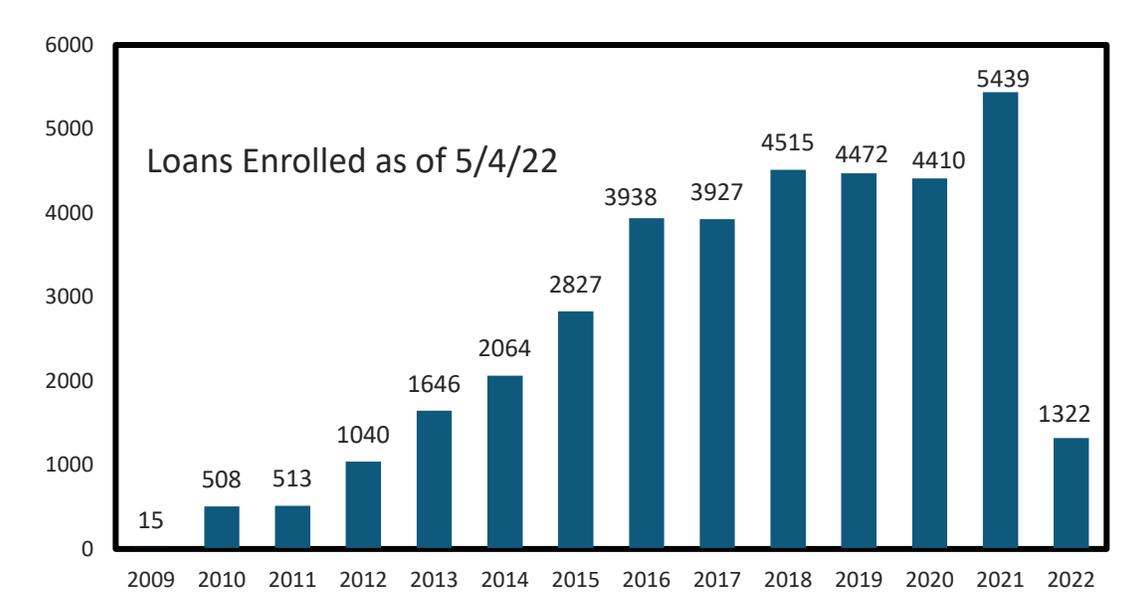
Project Overview and Goals

Launched in 2009, the Truck Loan Assistance Program utilizes AQIP funds to help small-business fleet owners, affected by CARB's In-Use Truck and Bus Regulation, to secure financing for upgrading their fleets with newer trucks. The program is implemented in partnership with the CPCFA through its California Capital Access Program and leverages public funding with private funding from participating lending institutions. The program is available for small fleets with 10 or fewer trucks at the time of application. It creates financing opportunities for truck owners, who fall below conventional lending criteria and are unable to qualify for traditional financing at reasonable rates, giving them an opportunity to improve their credit rating and build their business. Lenders use their traditional underwriting standards to establish loan terms; however, the program currently includes an interest rate cap of 20 percent. Because the program primarily reduces criteria and toxic air contaminant emissions, AQIP is the only source of CARB funding available for this program.

Current Project Status

As of May 13, 2022, about \$203 million in Truck Loan Assistance Program funding had been expended to provide about \$2.5 billion in financing to small-business truckers for the purchase of over 39,500 cleaner trucks, exhaust retrofits, and trailers. Loan enrollments had been increasing over most years of the program and have remained mostly steady since 2018 except for an increase in calendar year 2021 as shown in Figure 2.

Figure 2: Loan Activity by Calendar Year



CARB allocated \$28.64 million to the Truck Loan Assistance Program for FY 2021-22. No funding was allocated in FY 2020-21 but the previous AQIP funding allocation for FY 2019-20 of \$48 million was much higher than any other recent allocation.

CARB contribution rates for lender loan loss reserve accounts were increased in March 2020. CARB contribution rate for lenders with loan loss reserve accounts of \$500,000 or more was increased to 10 percent of the enrolled loan balance. For lenders with loan loss reserve accounts less than \$500,000 the contribution rate remained at 14 percent. The previous contribution rate structure had three tiers of four, seven, and 14 percent at loan loss reserve amounts of over \$1.5 million, \$500,000 to \$1.5 million and under \$500,000 respectively. The increase in the contribution rates and increased truck costs have significantly increased the consumption of CARB funding from an average of about \$3,000 per loan in first quarter of 2020 to over \$9,000 per loan in 2022.

Incremental recapture procedures have been implemented since 2017. This mechanism redirects older contributions back to the Truck Loan Assistance Program to support future enrollments and makes the program more self-sustaining by reinvesting funds from matured loans. A total of nearly \$13 million in recaptured funds have been redeposited into the program account.

CARB's May 20, 2022 Memorandum to the Board Members, summarized CARB's thorough and sustained outreach efforts to alert vehicle owners they may be affected by the Truck and Bus Regulation and provide them financial assistance opportunities⁵². Outreach efforts have included sending out targeted mail-outs to over 200,000 fleet owners providing a 2-year

⁵² Segall, Craig. Truck and Bus Regulation Final Compliance Deadline. California Air Resources Board. May 20, 2022. https://ww2.arb.ca.gov/sites/default/files/2022-06/tbcompliancedeadline_ADA.pdf

notice of upcoming deadlines each year and following up with a one-year reminder. Since 2018 a total of 109,877 letters and 169,832 postcards have been mailed to individuals identified as owning vehicles facing upcoming compliance deadlines. These outreach efforts frequently mention the Truck Loan Assistance Program as an option to help purchase compliant newer vehicles.

Draft Funding Allocation

CARB staff is considering a funding allocation of \$28.64 million for the FY 2022-23 funding cycle. Program need is expected to continue through 2023. Factors such as DMV compliance verification, which will only allow clean trucks in compliance with CARB's In-Use Truck and Bus Regulation to be registered by the DMV, the equipment replacement deadline in the regulation, and recovery from the global health and economic crisis are expected to continue demand for the program. Based on recent program demand, funding allocated in previous FYs could be exhausted before the end of FY 2022-23. To ensure the continuity of the program additional funds will be needed.

For many small fleets, this loan program may offer the only viable option to achieve compliance. CARB remains committed to meeting demand, as having loan assistance unavailable for even a short period erodes the confidence lenders have in providing the necessary financing to purchase trucks to meet the compliance requirements of the In-Use Truck and Bus Regulation.

Potential Changes to Project Criteria

As 2023 approaches, the model year schedule in the regulation will come to an end and 2010 or newer engines will be required except for some exemptions. CARB expects that fleets will continue to turnover vehicles throughout 2023 to meet regulation deadlines and DMV registration requirements.

California's clean air quality, carbon neutrality, petroleum reduction, and climate change goals are accelerating the introduction and deployment of zero-emission technologies. With 100 percent of sales of new passenger vehicles and trucks in the State required to be zero-emission by 2035, all drayage trucks required to be zero-emission by 2035, off-road vehicles and equipment required to be zero-emission by 2035 where feasible, and all other vehicles in the medium- and heavy-duty fleet required to transition to zero-emission by 2045 as described in Executive Order N-79-20, California is quickly moving toward ZEVs. With these policies in place, the loan program must evolve to meet the needs of small business truckers seeking ZEV financing.

CARB staff is working with CPCFA and participating lenders to support zero-emission heavy-duty truck financing for small fleets. This will include developing strategies in support of the proposed Zero-Emission Truck Loan Pilot Project and Medium- and Heavy-Duty Zero-Emission Vehicle Fleet Purchasing Assistance Program and incorporating learnings from the new Innovative Small e-Fleets set-aside in HVIP, where possible.

While it is clear CARB is transitioning support to ZEVs, some stakeholders voiced concern that CARB should continue to support heavy-duty diesel trucks in the Truck Loan Assistance Program this year. CARB staff and CPCFA will explore ways to focus the loan program on assisting fleets utilizing the program to get into compliance with the In-Use Truck and Bus Regulation. Further, CARB staff intends to notify prospective borrowers of upcoming zero-emission regulations, so they are aware of the upcoming changes when purchasing a vehicle.

As stated earlier and in line with the requirements of AB 794, all the funding for the loan program utilized by drayage and short haul trucking fleets must be in compliance with labor standards. CARB staff will work with CPCFA to structure the loan program so that prospective borrowers provide documentation attesting that they are and will continue to be in compliance with labor laws for the duration of their loans. Before loans are enrolled in the program, participating lenders will also certify that borrowers are not on the list maintained by the Division of Labor Standards Enforcement under Section 2810.4 of the Labor Code. CARB will follow-up on any allegations received by third-parties that claim that a borrower is not in compliance with state Labor Standards.

Draft Project Evaluation Strategy

Staff use a number of methods to evaluate whether the Truck Loan Assistance Program is achieving its goals. CARB has directed CPCFA to perform three or more annual audits of participating lenders' loan program portfolios. The audits provide insight for how each participating lender conducts their business and whether they are adhering to CARB and CPCFA regulations. CPCFA also provides monthly reports to CARB on all loans enrolled in the program. The audit reports and loan data from CPCFA provide documentation to help CARB monitor the program.

The program benefits small business fleet operators that are unable to qualify for traditional financing at reasonable rates. Though the program has an interest rate limit of 20 percent data provided by CPCFA shows the average interest rate of the loans in the program is 13 percent. About 96 percent of enrolled loans have been issued to fleet owners with 10 or fewer employees and about 45 percent of enrolled loans have been issued to owner operators with one truck. The loan program has successfully leveraged public funds into private financing, having leveraged \$203 million in contributions into \$2.5 billion in private financing.

Almost half of the Truck Loan Assistance Program funding has been spent within and benefiting individuals living in low-income and disadvantaged communities. The program has broad statewide appeal including in rural regions. CARB staff will be monitoring zero-emission trucks enrolled in the program, especially in disadvantaged and low-income communities. CARB will utilize AQIP funds for the loan program to support equipment purchases by small business fleets meeting the Truck and Bus regulation deadline and DMV compliance verification.

Zero-Emission Truck Loan Pilot

Draft Low Carbon Transportation Allocation
\$5 million

Project Overview and Goals

The Zero-Emission Truck Loan Pilot Project is a new project that is designed to combine financing for both heavy-duty ZEVs and charging or fueling infrastructure. A comprehensive loan package that combines vehicle and infrastructure financing will provide additional access to zero-emission financing and create a streamlined lending process for small businesses that are transitioning to ZEVs. CARB will partner with CEC to build on the existing successful relationship in implementing the Truck Loan Assistance Program through their California Capital Access Program. The pilot will allow CARB, CPCFA, CEC, and lenders to learn from borrowers of small business fleets what is needed to make a successful transition to zero-emission and what additional areas of support are required.

SB 372 was approved by the Governor in Fall 2021. The bill directs CARB to develop and administer the Medium- and Heavy-Duty Zero-Emission Vehicle Fleet Purchasing Assistance Program with the CPCFA, to make financing tools and non-financial supports available to the operators of medium- and heavy-duty vehicle fleets to fully enable the transition of their fleets to ZEVs. A combination of financial and non-financial tools is needed to support the many different sizes and sectors of fleets that need to transition to zero-emission. The Zero-Emission Truck Loan Pilot Project fits within the larger goals of this bill.

Current Project Status

The Zero-Emission Truck Loan Pilot Project is currently under development and staff is considering stakeholder feedback to develop the pilot. Staff anticipates having a pilot in place by mid-year 2023. Staff will work with stakeholders on implementation of the pilot throughout the remainder of 2022 and in early 2023.

Draft Funding Allocation

Staff is proposing \$5 million for the new Zero-Emission Truck Loan Pilot Project for the FY 2022-2023 funding cycle. A \$5 million loan pilot would fund approximately 65 zero-emission trucks, assuming \$350,000 average cost per zero-emission truck and a 20 percent contribution rate. If project demand warrants, additional funding may be allocated. In addition, CEC intends to offer co-funding for this joint project.

As stated earlier and in line with the requirements of AB 794, all the funding for the new Zero-Emission Truck Loan Pilot Project utilized by drayage and short haul trucking fleets must be in compliance with labor standards. CARB staff will work with CPCFA and CEC to structure the pilot so that prospective borrowers provide documentation attesting that they are and will continue to be in compliance with labor laws for the duration of their loans.

Before loans are enrolled in the pilot, participating lenders will also certify that borrowers are not on the list maintained by the Division of Labor Standards Enforcement under Section 2810.4 of the Labor Code. CARB will follow-up on any allegations received by third-parties that claim that a borrower is not in compliance with state Labor Standards.

Draft Project Evaluation Strategy

Staff will use a number of methods to evaluate the Zero-Emission loan pilot. Staff will collect data on all the loans enrolled in the pilot from CPCFA including all information provided by prospective borrowers submitted on loan applications, vehicle information and supporting infrastructure. CARB will work closely with the participating lender(s) through CPCFA to monitor the program.

The Zero-Emission Truck Loan Pilot Project will help program staff learn what small business fleets need to transition to zero-emission by evaluating the success of deployments, analyzing project data, and adjusting where necessary if actual outcomes do not meet the original pilot scope. Staff will work with stakeholders and internally to develop parameters and key data needed to evaluate pilot deployments. In addition, staff will also monitor pilot participation in disadvantaged communities and low-income communities and solicit input from lenders and borrowers to understand how the program has influenced purchasing behaviors.

Chapter 5: Addressing California Climate Investment Guideline Requirements Related to Priority Populations

CARB's Funding Guidelines for Agencies that Administer California Climate Investments (CCI Guidelines) provide direction for implementing agencies. The CCI Guidelines include requirements and recommendations regarding providing benefits for priority populations, which means disadvantaged communities, low-income communities, and low-income households as defined by State law. This chapter outlines the steps CARB is taking to meet the CCI Guidelines requirements regarding priority population investments. The requirements related to evaluating investments for priority populations and maximizing benefits for disadvantaged communities can be found in Section V of the CCI Guidelines and are summarized below, along with the actions CARB is taking to address them.

While these requirements formally only apply to programs and projects funded with Cap-and-Trade auction proceeds, CARB is committed to maximizing priority population benefits for all of the investments in this Funding Plan regardless of the funding source. As such, projects funded with appropriations from the General Fund are discussed in this chapter as well those funded from GGRF.

CCI Guideline Requirement: Assess program structure for opportunities to target investments to benefit priority populations and evaluate projects for potential benefits to priority populations, using the criteria available at: <https://ww2.arb.ca.gov/resources/documents/cci-quantification-benefits-and-reporting-materials?corr>.

CARB Action: Staff expects that every project funded in the FY 2022-23 Funding Plan will provide benefits for AB 1550 priority populations. The project category descriptions included in Chapters 3 and 4 of this Funding Plan describe the anticipated AB 1550 benefits for each project.

For each project, staff will use the criteria from <https://ww2.arb.ca.gov/resources/documents/cci-quantification-benefits-and-reporting-materials?corr> to evaluate the AB 1550 benefits and to develop project solicitation and grant requirements. As project funds are expended, CARB will report the AB 1550 benefits in future Annual Reports to the Legislature on California Climate Investments Using Cap-and-Trade auction proceeds.

CCI Guideline Requirement: Target funding, to the extent feasible, for projects that benefit priority populations and when selecting projects for a given investment, give priority to those that benefit disadvantaged communities.

CARB Action: The FY 2022-23 Funding Plan includes a mix of projects that are available statewide on a first-come, first-served basis and those that are limited to disadvantaged communities, low-income communities, or low-income households. These are clearly specified in the Funding Plan. Many of CARB's equity projects are

limited to disadvantaged and low-income communities or low-income households to make sure that these innovative clean transportation projects focus exclusively on benefiting priority populations. In cases where projects are not limited to disadvantaged communities, many grant agreements that include a requirement to focus outreach on disadvantaged communities to increase participation in those communities.

For the statewide first-come, first-served projects such as HVIP and CORE, staff has incorporated project criteria intended to increase benefits to disadvantaged communities and low-income households. For both HVIP and CORE, voucher amounts are higher for vehicles that operate in disadvantaged communities in order to encourage fleets to use the ZEVs and equipment funded with these incentives in the most impacted communities.

Outreach is being increasingly focused on disadvantaged and low-income communities and low-income households. CARB is dedicating part of its FY 2022-23 transportation equity funds to support outreach, community transportation needs assessments, technical assistance, capacity building, and the Access Clean California project. These project elements are designed to increase awareness of and enable more efficient implementation of CARB's Low Carbon transportation equity projects, and expand participation by low-income households, disadvantaged communities, and low-income communities.

CCI Guideline Requirement: Create or modify program guidelines or procedures to meet or exceed AB 1550 program targets.

CARB Action: This Funding Plan outlines the procedures CARB is taking to meet or exceed AB 1550 targets.

CCI Guideline Requirement: Design programs and select projects that avoid substantial burdens to residents of disadvantaged and low-income communities, such as physical displacement of low-income or disadvantaged community residents or businesses, including small-, women-, and/or minority-owned businesses; or increased exposure to toxics or other health risks.

CARB Action: In designing the projects in the Funding Plan, staff is careful to avoid or minimize potential substantial economic, environmental, and public health burdens. Any potential substantial burdens are identified early in the project development process and are discussed with stakeholders through the public workshop and work group process.

CCI Guideline Requirement: Implement outreach efforts that seek to directly engage and involve local community residents and CBOs in disadvantaged and low-income communities. Provide direct outreach to disadvantaged communities and identify an agency point or contact to provide the information on funding opportunities and to coordinate with other State agencies on California Climate Investments.

CARB Action: CARB has taken multiple actions to outreach to disadvantaged communities, low-income communities, and low-income households.

Hire dedicated staff: CARB has hired dedicated staff to assist with disadvantaged community and low-income household outreach on Low Carbon Transportation investments and help ensure these communities are aware of funding opportunities. As part of this, CARB is working with liaisons from State agencies administering California Climate Investments to better share information at community events, so citizens can have access to all relevant California Climate Investments opportunities. This includes participating in the inter-agency California Climate Investments Outreach Work Group and collaborating with the Strategic Growth Council on the California Climate Investments Outreach & Technical Assistance Program.

Conduct outreach to help potential applicants access funding, particularly for priority populations: CARB's multi-faceted outreach effort to support its Low Carbon Transportation Program and help ensure priority populations are aware of funding opportunities is summarized earlier in this chapter. These outreach efforts include the following elements:

- **Outreach events and pilots:** CARB has an enhanced outreach/education program on the Low Carbon Transportation Program with a disadvantaged community focus. An important part of the effort is dedicated to assessing the needs of the communities and piloting training and fellowship opportunities. CARB is partnering with stakeholders, such as CBOs, community advocates, and environmental justice groups to provide training and conduct outreach at community events aimed at explaining available incentives and increasing the community's awareness of these programs. CARB reports on the outreach events for its Low Carbon Transportation Program as part of each year's Annual Report to the Legislature on California Climate Investments. The list of public meetings held in 2021 across all of the State's California Climate Investments programs is available in an Excel file on the Annual Report website: <https://www.caclimateinvestments.ca.gov/annual-report>.
- **Website:** CARB has developed a user-friendly Moving California website to promote Low Carbon Transportation projects and increase awareness about funding opportunities and projects that have been funded: <https://ww2.arb.ca.gov/sites/default/files/movingca/movingca.html>.
- **Outreach by grantees:** As a part of project solicitations, CARB requires that applicants provide information on how they will outreach to disadvantaged communities, and their applications are scored in part on the quality of the outreach proposal. Each of CARB's grantees conducts outreach related to their project, with a focus on increasing participation for priority populations.
- **Access Clean California:** CARB implements Access Clean California to address a priority recommendation identified in CARB's SB 350 Guidance Document to increase awareness for low-income residents by expanding education and

outreach on clean transportation and mobility options. One of the primary objectives of Access Clean California is to provide coordinated community-based outreach and education to maximize Low Carbon Transportation program participation and promote advanced technology vehicle adoption in disadvantaged communities, low-income communities, and low-income households. Additionally, CARB is implementing several outreach coordination strategies through Access Clean California identified in the SB 350 Strategic Outreach Roadmap as outlined below. In the Funding Plan, additional funding will be allocated to continuing the project.

- **Outreach Plan:** CARB led the development of the Strategic Outreach Roadmap to increase low-income residents' awareness of clean transportation and mobility options to address a priority recommendation identified in the SB 350 Guidance Document. CARB is leading implementation of the SB 350 Outreach Strategic Roadmap with the goal of improving state and local coordination and content development, tailoring and delivery of information, as well as strategies that will increase awareness of clean transportation and mobility options through improved education and information access for low-income residents across the State. The Roadmap includes actions intended to strengthen collaboration and partnerships, outreach to low-income residents in urban, rural, and Tribal communities based on community-identified needs and increase the ability to participate in CARB or related incentive programs. During the development of the roadmap, CARB convened working groups consisting of both internal and external stakeholders to solicit feedback and identify outreach and community engagement best practices.

CCI Guideline Requirement: Ensure transparency and accountability and provide public access to program information.

CARB Action: All CARB grant agreements with funding recipients require grantees to collect and report to CARB all data necessary regarding AB 1550 benefits. This includes all information described in Section VI (Reporting Requirements) of the CCI Guidelines. CARB uses this information to provide input for the Annual Report to the Legislature on California Climate Investments Using Cap-and-Trade Proceeds including the AB 1550 benefits of Low Carbon Transportation investments.

CCI Guideline Requirement: When evaluating projects for benefiting priority populations, implementing agencies must assess how potential projects meaningfully meet a community or household need. The CCI Guidelines provides a list of common needs identified by community advocates during the development of the guidelines. Letters of community support can also be used to document that investments address a community need.

CARB Action: Staff has reviewed the commonly identified needs of priority populations in the CCI Guidelines. The needs being met by proposed FY 2022-23 Low Carbon Transportation investments are shown in Table 16 below.

Table 16: Common Needs of Priority Populations Addressed by Proposed FY 2022-23 Low Carbon Transportation Investments

Need	Description
Public Health, Need 1	<p>Reduce health harms suffered disproportionately by priority populations due to air pollutants.</p> <p><i>All Low Carbon Transportation projects meet this need. All projects reduce criteria air pollutants and/or toxic air contaminants as co-benefits thereby reducing health harms due to air pollutants, and a portion of funding from all projects will benefit priority populations.</i></p>
Economic, Need 5	<p>Reduce transportation costs and improve access to public transportation.</p> <p><i>The Low Carbon Transportation projects that provide consumer incentives for more fuel-efficient vehicles meet this need. These include Clean Cars 4 All, Financing Assistance, CMO, and STEP.</i></p>
Economic, Need 10	<p>Provide educational and community capacity building opportunities through community engagement and leadership.</p> <p><i>In this Funding Plan, staff proposes to allocate funds directly to outreach, community transportation needs assessments, technical assistance and workforce training and development efforts. Additionally, public outreach is an element of many Low Carbon Transportation projects. For the clean transportation equity projects in particular, CARB will continue to require that grant awardees have strong community-based experience and commit to conduct extensive outreach and education tailored to the communities' projects will serve.</i></p>
Environmental, Need 1	<p>Reduce exposure to local environmental contaminants, such as toxic air contaminants, criteria air pollutants, and drinking water contaminants.</p> <p><i>All Low Carbon Transportation projects meet this need because they reduce criteria air pollutants and/or toxic air contaminants as co-benefits.</i></p>
Environmental, Need 2	<p>Prioritize ZEV projects for areas with high diesel air pollution, especially around schools or sensitive populations with near roadway exposure.</p> <p><i>The Low Carbon Transportation projects that provide incentives for ZEVs to replace diesel vehicles meet this need. These include HVIP, CORE, CMiS, and demonstration and pilot projects.</i></p>

In addition, CARB staff also meets routinely with community and environmental groups during each year's Funding Plan development process to get their direct input on the projects they would like to see funded. CARB also meets with these groups after the Funding

Plan is adopted to make sure that community groups' input is incorporated into the project implementation phase.

CCI Guideline Recommendations: In addition to the requirements summarized above, the CCI Guidelines list a number of recommended program design strategies for targeting investments to priority populations.

CARB Action: In developing the FY 2022-23 Funding Plan, staff utilized a number of these strategies, including:

Encourage projects that contribute to other State climate goals: Many of the projects in this Funding Plan contribute to a variety of the State's climate goals. A list of the State's climate goals that are addressed by the Funding Plan is included in Chapter 1.

Coordinate investments and leverage funds where possible to provide multiple benefits and to maximize benefits: CARB staff coordinates with other agencies and meets with stakeholders both in individual meetings and in public work group meetings and workshops to discuss ways to maximize project benefits. A number of the projects leverage private investments and other government investments where possible. CARB is actively working to better coordinate its heavy-duty ZEV investments closely with CEC's infrastructure investments, so it is easier for fleets to access infrastructure funding when they purchase ZEVs. CARB is also partnering with CEC to co-fund zero-emission workforce training and development projects in low-income and disadvantaged communities through the IDEAL ZEV Workforce Pilot and planned transportation electrification pre-apprenticeship program

Set aside a portion of funding for projects benefiting priority populations: Funding for CMO, CMiS, and STEP are all limited to disadvantaged communities or disadvantaged and low-income communities. The demonstration and pilot projects are limited to disadvantaged communities. In addition, the Low Carbon Transportation funding for the Clean Cars 4 All is limited to ZIP Codes containing disadvantaged communities to ensure that funding is spent in or near disadvantaged communities. Clean Cars 4 All and Financing Assistance funding is limited to lower-income consumers. The Financing Assistance project is moving to a needs-based approach where consumers' applications will be prioritized depending on their needs and financial situation.

Offer higher incentive amounts for projects benefiting priority populations: HVIP and CORE provide higher voucher amounts for zero-emission trucks, buses, and off-road equipment that operate in disadvantaged communities. Clean Cars 4 All provides tiered incentive amount based on income, with the lowest-income participant receiving the highest incentive amounts.

Acronym List

1. AB – Assembly Bill
2. APCD – Air Pollution Control District
3. AQIP – Air Quality Improvement Program
4. AQMD – Air Quality Management District
5. BEV – battery electric vehicle
6. CalEnviroScreen – California Communities Environmental Health Screening Tool
7. Cal-ITP – California Integrated Travel Project
8. Caltrans – California Department of Transportation
9. CalSTA – California State Transportation Agency
10. CAPCOA – California Air Pollution Control Officers Association
11. CARB – California Air Resources Board
12. CBO – community-based organization
13. CEC – California Energy Commission
14. CHDC – Community Housing Development Corporation
15. CMiS – Clean Mobility in Schools Pilot Project
16. CMO – Clean Mobility Options
17. CORE – Clean Off-Road Equipment Voucher Incentive Project
18. CPCFA – California Pollution Control Financing Authority
19. CPUC – California Public Utilities Commission
20. CSE – Center for Sustainable Energy
21. CVA Program – Clean Vehicle Assistance Program
22. CVRP – Clean Vehicle Rebate Project
23. DMV – Department of Motor Vehicles
24. EFMP – Enhanced Fleet Modernization Program
25. E-bike – electric bicycle
26. ePTO – electric power take-off
27. EV – electric vehicle
28. EVITP – Electric Vehicle Infrastructure Training Program
29. EVSE – electric vehicle supply equipment
30. FCEV – fuel cell electric vehicle
31. FY – fiscal year
32. GHG – greenhouse gas
33. GoBIZ – Governor’s Office of Economic and Business Development
34. HVIP – Hybrid and Zero-Emission Voucher Incentive Program
35. IRS – Internal Revenue Service
36. NOx – nitrogen oxides
37. OBI – Othering and Belonging Institute
38. MSRP – Manufacturer’s Suggested Retail Price
39. PHEV – plug-in hybrid-electric vehicle
40. SB – Senate Bill
41. STEP – Sustainable Transportation Equity Project
42. UC – University of California

- 43. V2G – Vehicle-to-Grid
- 44. VMT – Vehicle miles traveled
- 45. VW – Volkswagen
- 46. ZEV – zero-emission vehicle