



Proposed Fiscal Year 2020-21 Funding Plan for Clean Transportation Incentives



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EXECUTIVE SUMMARY

The proposed Fiscal Year (FY) 2020-21 Funding Plan for Clean Transportation Incentives (FY 2020-21 Funding Plan or Funding Plan) represents a total of \$28.64 million in clean transportation investments appropriated to the California Air Resources Board (CARB, State Board, or Board) in the Budget Act of 2020 (Senate Bill 74, Mitchell, Chapter 6, Statutes of 2020).

Each fiscal year, CARB must submit a proposed Funding Plan to the Board for approval. The Funding Plan serves as the blueprint for expending the Low Carbon Transportation and Air Quality Improvement Program (AQIP) funds appropriated to CARB in the State budget. The plan establishes CARB's priorities for the funding cycle, describes the projects CARB intends to fund, and sets funding targets for each project.

CARB uses this funding to accelerate development and early commercial deployment of the cleanest mobile source technologies and to improve access to clean transportation. These incentives are important in helping California achieve its goals to reduce greenhouse gas (GHG) emissions, improve air quality, deploy zero-emission vehicles (ZEVs), protect California priority populations and communities, and reduce petroleum dependency.

This year, CARB is proposing to allocate only the \$28.64 million for AQIP appropriated to CARB through the Budget Act of 2020. CARB is not including allocations on Low Carbon Transportation Investments as part of this Funding Plan because the Legislature deferred action on the FY 2020-21 Cap-and-Trade Expenditure Plan, including Low Carbon Transportation. Staff will develop a more comprehensive plan for FY 2020-21 Low Carbon Transportation funds after they are appropriated, but request that the Executive Officer be granted authority to immediately allocate a portion of those funds to first-come, first-served vehicle purchase incentives to avoid project disruptions. As part of this Funding Plan, however, CARB is proposing adjustments to various project categories that currently have funding available from prior fiscal years.

Low Carbon Transportation Incentives and AQIP are just two of the incentive funding programs in CARB's larger portfolio of clean transportation investments. These are complemented by other CARB programs, other State agency programs, local air district programs, as well as actions taken by other local government entities. Each program has its own statutory and policy direction, but collectively they fit together to support California's multiple public health, air quality, and climate change goals.

This Funding Plan continues to support the emission reduction goals identified in the *Climate Change Scoping Plan, State Implementation Plans, Senate Bill (SB) 350 (De León, Chapter 547, Statutes of 2015) Low Income Barriers Study, Part B: Overcoming Barriers to Clean Transportation Access for Low-Income Residents (the Guidance Document), California Sustainable Freight Action Plan, the Mobile Source Strategy, and the ZEV Action Plan*. These incentives provide important early steps to

transform the transportation sector, supporting Governor Newsom's recent Executive Order N-79-20 calling on the State to accelerate the transformation to a zero-emission transportation fleet. These goals also support California's overall air quality and climate goals in reducing emissions in impacted communities throughout the State.

The proposed Funding Plan describes CARB's policy drivers and vision for these advanced technology mobile source investments, project funding allocations, proposed revisions to project criteria and other program implementation details, as well as the justification for these investments. The plan also includes updates to the SB 1275 (De León, Chapter 530, Statutes of 2014) Three-Year Plan for CVRP and the ZEV Market and the SB 1403 (Lara, Chapter 370, Statutes of 2018) Long-Term Heavy-Duty Investment Strategy and State School Bus Incentive Program Report. Background on AQIP and Low Carbon Transportation Investments is provided below, followed by a summary of the proposed investments.

Air Quality Improvement Program (AQIP): AQIP is a mobile source incentive program that focuses on reducing criteria pollutant and diesel particulate emissions with concurrent GHG reductions. CARB investments started under AQIP provide the foundation for the Low Carbon Transportation investments that typically make up the vast majority of the Clean Transportation Incentives. AQIP has provided funding for the Clean Vehicle Rebate Project (CVRP), Clean Truck and Bus Vouchers (HVIP), and advanced technology demonstrations since 2009, and the allocation has ranged between \$25-\$30 million per year over the last few years. In recent years, these projects have been primarily funded with Low Carbon Transportation appropriations, and the majority of AQIP funds have been directed to the Truck Loan Assistance Program and other diesel emission reduction projects. Having front-loaded funding in previous years, staff expects that sufficient funds remain to meet demand for the Truck Loan Assistance Program, and is recommending allocating funds to other projects. For FY 2020-21, the Legislature appropriated \$28.64 million to CARB for AQIP.

Low Carbon Transportation Investments: The Low Carbon Transportation program is part of California Climate Investments, a statewide program that puts billions of Cap-and-Trade dollars to work reducing greenhouse gas emissions, strengthening the economy and improving public health and the environment, particularly in disadvantaged communities. CARB's Low Carbon Transportation program is designed to accelerate the transition to low carbon freight and passenger transportation with a priority on providing health and economic benefits to California's most disadvantaged communities. Since the Legislature has not yet acted on this year's Cap-and-Trade Expenditure Plan, CARB is not proposing an allocation of FY 2020-21 Low Carbon Transportation funding as part of this proposed Funding Plan, but has included targeted adjustments to previously funded projects. To avoid disruptions, staff is also proposing that the Board grant the Executive Officer authority to make adjustments and allocate additional funding to first-come, first-served projects should additional funding become available.

STAFF'S PROPOSAL

Staff's proposal is to continue to focus these incentives on accelerating the development and deployment of the cleanest feasible mobile source technologies and improving access to clean transportation. Since their inception, these investments have been used to support the emission reduction goals identified in the Climate Change Scoping Plan, State Implementation Plans, and California Sustainable Freight Action Plan. The projects within Clean Transportation Incentives are designed to support the State's public health, air quality, and climate change goals, and, as emphasized in Governor Newsom's Executive Order N-79-20, to support the transformation of California's vehicle and equipment fleet to one that is zero-emitting where feasible. In designing these investments, CARB strives to maximize the benefits for disadvantaged communities, low-income communities, and low-income households.

In light of the current economic crisis and budget uncertainty, this year staff, working through the public process, has considered how to best allocate limited funds. Staff's recommendations for AQIP allocations focused on determining which projects most critically needed an immediate influx of funding. The Heavy-Duty Investment Strategy and the Three-Year Plan for CVRP, ZEV Market, Clean Transportation Equity Investments, and Outreach played key roles in this assessment. Staff also considered which projects have funds allocated in previous fiscal years remaining, other available funding sources, and stakeholder input. Staff's proposed funding allocations are shown in Table 1.

Table 1: Proposed Project Allocations for FY 2020-21 Funding Plan

Project Category	Allocation* (millions)
Clean Truck and Bus Vouchers (HVIP)	\$25
Clean Cars 4 All	\$3
Reserve for Fiscal Uncertainty	\$0.64
TOTAL	\$28.64

*Does not include adjustments for project administration.

Clean Truck and Bus Vouchers (HVIP): To support unprecedented demand, \$25 million of this proposal would be used to continue CARB's ongoing effort to fund the incremental costs of clean trucks and buses through HVIP. HVIP plays a crucial role in advancing clean technologies and encouraging fleets to adopt technologies in advance of regulatory deadlines, including Advanced Clean Trucks and Innovative Clean Transit. Additionally, HVIP supports emission reductions of diesel particulate matter in communities disproportionately impacted by air pollution.

Clean Cars 4 All: Staff proposes to allocate \$3 million to Clean Cars 4 All to ensure implementing air districts have sufficient funding to keep their programs operable until additional funding becomes available. Clean Cars 4 All provides incentives to lower-income consumers living in and near disadvantaged communities who scrap their

old vehicles and purchase new or used hybrid, plug-in hybrid, or ZEV replacement vehicles. Participants may also choose an alternative mobility incentive option to use on public transit and other clean transportation options.

Reserve for Revenue Uncertainty: Staff also proposes to create a fiscal “reserve” to provide a buffer against uncertainty with this year’s projected motor vehicle fee revenue—the source of AQIP funds. This is a prudent step consistent with prior Funding Plans adopted during times of revenue uncertainty. The remaining \$0.64 million, or just over 2 percent of the AQIP appropriation, would be held in a reserve. In early 2021, staff will evaluate the actual revenue. If revenue is sufficient, CARB will assess project needs at that time and allocate the reserve accordingly.

SB 1275 Three Year Plan for CVRP and the ZEV Market and SB 1403 Long-Term Heavy-Duty Investment Strategy and State School Bus Incentive Programs Report: The Funding Plan also includes updates to long-term investment strategies and reports required by legislation. These reports highlight the substantial progress that has been made to date towards the State’s numerous air quality and climate change goals. This year’s update to the Three Year Plan for CVRP and the ZEV Market (Appendix C) finds that prior to the current health and economic crisis, California EV market share was approaching 8 percent, or halfway to the market sustainability threshold of 16-20 percent. The Long-Term Heavy-Duty Investment Strategy (Appendix D) continues to build on CARB’s portfolio approach, applying the framework of strategic beachheads to focus and prioritize funding around the technologies and applications with the strongest potential to transfer to broader applications. It updates technology snapshots, showing how technologies have matured over recent years, provides a new three-year funding priorities table, and incorporates metrics of success, an infrastructure assessment, and market readiness indicators. The State School Bus Incentive Programs Report (Appendix E) provides an update on the milestones achieved by the state school bus incentive programs, and also provides a projected need for funding taking into account the statewide school bus inventory, turnover and useful life.

California Environmental Quality Act (CEQA) Requirements

CARB has determined that the proposed FY 2020-21 Funding Plan is not a project subject to, or is otherwise exempt from, the requirements of the California Environmental Quality Act (CEQA). CARB’s certified regulatory program, which applies to the adoption, approval, amendment, or repeal of standards, rules, regulations, or plans for the protection and enhancement of the State’s ambient air quality, has been certified by the California Secretary for Natural Resources under Public Resources Code section 21080.5 of CEQA. (Title 14 California Code of Regulations (CCR) section 15251(d).) Public agencies with certified regulatory programs are exempt from certain CEQA requirements, including but not limited to, preparing environmental impact reports, negative declarations, and initial studies. For activities that constitute project approvals, as those terms are used in CEQA, CARB, as a lead agency, prepares a substitute environmental document (referred to as an “Environmental Analysis” or “EA”)

as part of the Staff Report prepared for a proposed action to comply with CEQA. (Title 17 CCR sections 60000-60008.)

CARB, as the lead agency under CEQA, has reviewed the proposed FY 2020-21 Funding Plan and concluded that it is not a “project” under CEQA, as that term is defined under title 14 CCR section 15378, subsection (b)(4), and thus is not subject to CEQA review. Title 14 CCR section 15378, subsection (b)(4), states: “[t]he creation of government funding mechanisms or other government fiscal activities which do not involve any commitment to any specific project which may result in a potentially significant physical impact on the environment” is not a “project” subject to CEQA review. The proposed FY 2020-21 Funding Plan is a governmental fiscal activity that does not involve any commitment to any specific projects that may result in potentially significant impacts on the environment. The FY 2020-21 Funding Plan includes multiple funding objectives to assist several entities and individuals to incentivize the transition to lower emitting transportation options through its HVIP and Clean Cars 4 All programs; these programs provide rebates or vouchers to support the purchase of cleaner vehicles on a first-come, first-served basis. The FY 2020-21 Funding Plan proposes budgetary allocations for these projects over the next fiscal year.

Even if the FY 2020-21 Funding Plan were a project under CEQA, it would be exempt from CEQA. First, the FY 2020-21 Funding Plan would be categorically exempt from CEQA under the common sense exemption. (Title 14 CCR section 15061(b)(3).) CEQA Guidelines state, “the activity is covered by the general rule that CEQA applies only to projects which have the potential for causing a significant effect on the environment. Where it can be seen with certainty that there is no possibility that the activity in question may have a significant effect on the environment, the activity is not subject to CEQA.” (Title 14 CCR section 15601(b) (3).) Second, the FY 2020-21 Funding Plan would be exempt from CEQA under the “Class 8” exemption for its protection of the environment. (Title 14 CCR section 15308.)

The FY 2020-2021 Funding Plan is exempt from CEQA under the common sense and Class 8 exemptions for the same reason: the FY 2020-2021 Funding Plan’s overall effect is beneficial to air quality and, as a result, protects and enhances the environment.¹ As mentioned above, the FY 2020-2021 Funding Plan proposes budgetary allocations to CARB’s clean vehicle rebate and voucher programs. The programs or projects receiving funding under the FY 2020-21 Funding Plan are aimed at incentivizing further ZEVs and low-emission vehicles within California, particularly to consumers in lower income or disadvantaged communities, which are disproportionately burdened with air pollution. These new ZEVs and low-emission vehicles will be replacing older, more-polluting vehicles, which will have a beneficial impact on the air quality. Thus, based on CARB’s review, it can be seen with certainty that there is no possibility that the proposed FY 2020-21 Funding Plan may result in a significant adverse impact on the

¹ CEQA Guidelines define “environment,” in relevant part, as “the physical conditions which exist within the area which will be affected by a proposed project including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance.... [and] includes both natural and man-made conditions.” (Title 14 CCR section 15360.) (emphasis added)

environment. Further, the proposed action is designed to protect and enhance the environment, and CARB found no substantial evidence indicating the proposal could adversely affect air quality or any other environmental resource area, or that any of the exceptions to the Class 8 exemption applies (Title 14 CCR section 15300.2). Therefore, even if the FY 2020-21 Funding Plan were a project under CEQA, it would be exempt from CEQA.

CHAPTER 1: INTRODUCTION AND BACKGROUND

Over the past decade, the State's investments in clean transportation have seen considerable growth and produced extraordinary returns for the State. Since their inception, the two investment programs encompassed within the Clean Transportation Incentives, the Air Quality Improvement Program (AQIP) and Low Carbon Transportation Investments, have contributed over \$2.5 billion to projects that accelerate the State's progress towards its numerous air quality, climate change, clean transportation equity and mobility, and petroleum use reduction goals.

These incentives are paving the way to transform the State's transportation sector to provide a healthier, sustainable, and more resilient future. The large-scale statewide investments CARB makes through these programs help send a market signal and move the needle in terms of advancing technologies. The State's \$900 million investment in consumer rebates for ZEV passenger vehicles, for example, has contributed to California leading the nation in ZEV deployment by a considerable margin even compared to the other states that have opted into California's ZEV regulation. These incentives, combined with CARB's ZEV regulation, set the stage for Governor Newsom's recent Executive Order N-79-20, which requires that, by 2035, all new cars and passenger trucks sold in California be ZEVs.² In addition, the Executive Order sets a goal to transition all drayage trucks to zero-emission by 2035, all off-road equipment to zero-emission where feasible by 2035, and the remainder of medium- and heavy-duty vehicles to zero-emission where feasible by 2045. Together, regulations and large-scale investments support the goal to electrify the heavy-duty sector, which has seen significant growth in the availability and deployment of a wide variety of zero-emission vehicle types and manufacturers. These investments also set California up to benefit from the green economy with companies locating zero-emission vehicle and component manufacturing operations in the state.

The need to transform the transportation sector is well documented. CARB's 2014 and 2017 *Climate Change Scoping Plans* and draft 2020 *Mobile Source Strategy* conclude that many of the same actions are needed to meet GHG, smog forming, and toxic pollutant emission reduction goals – specifically, a transition to zero-emission, hybrid, and the cleanest combustion technologies and use of the cleanest, lowest carbon fuels and energy across all vehicle and equipment categories. The 2016 *California Sustainable Freight Action Plan* emphasizes the need for this transition as it relates to the freight sector. In addition, Assembly Bill (AB) 617 (C. Garcia, Chapter 136, Statutes of 2017) established new goals for reducing emissions of toxic air contaminants and criteria air pollutants in communities affected by a high cumulative exposure burden. The 2018 *Progress Report on California's Sustainable Communities and Climate Protection Act* points to the need for providing meaningful

² Executive Order N-79-20 <https://www.gov.ca.gov/wp-content/uploads/2020/09/9.23.20-EO-N-79-20-Climate.pdf>

alternative modes of transportation wherever possible, and particularly in low-income and disadvantaged communities.

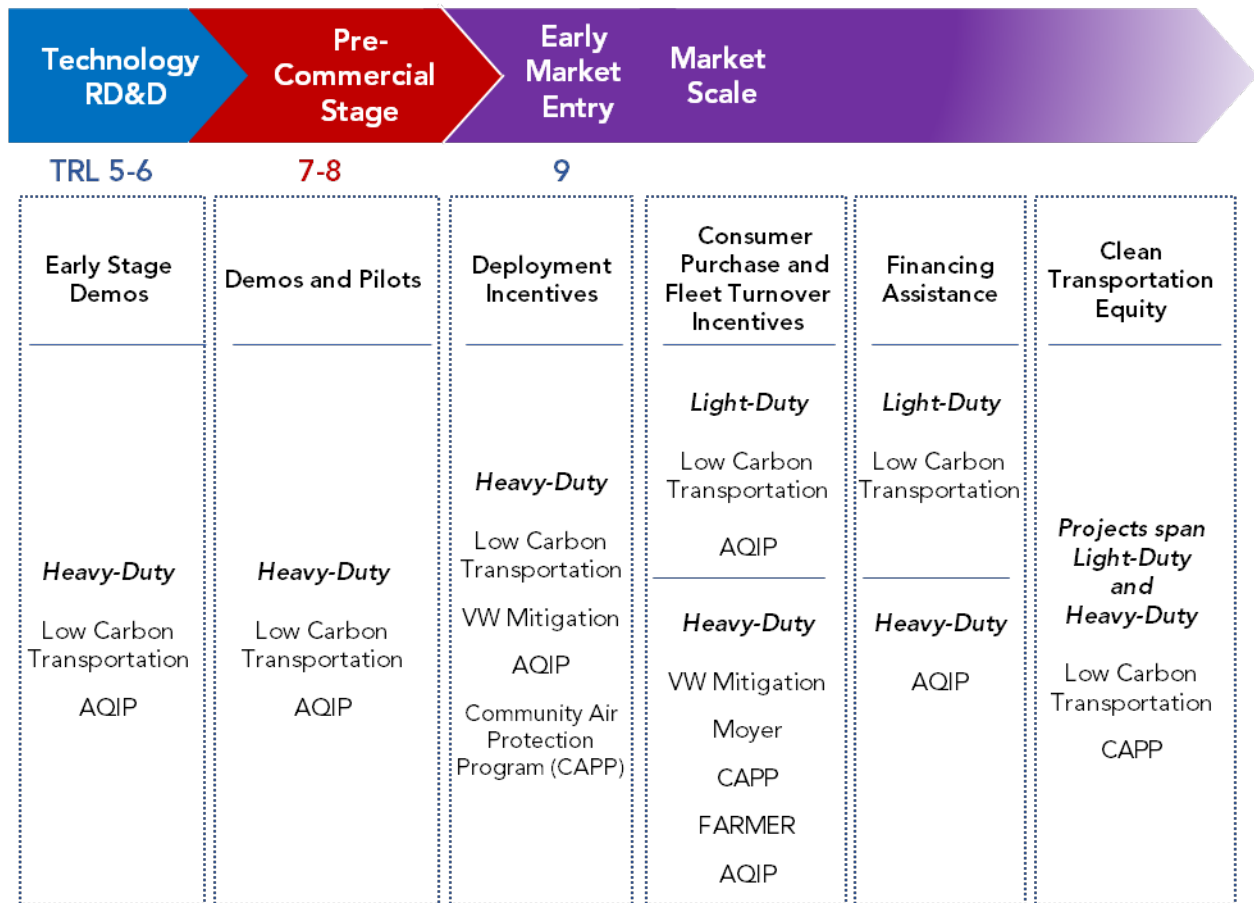
AQIP and Low Carbon Transportation Investments, known together as the Clean Transportation Incentives, are just one part of CARB's larger portfolio of incentive programs that complement regulatory programs to reduce emissions and increase access to clean transportation. Each incentive program comes with its own statutory requirements, emission reduction goals, and eligible projects making the portfolio diverse and far-reaching. Together, these projects address multiple goals, including:

- Turning over the legacy fleet to achieve cost-effective, near-term emission reductions in support of State Implementation Plans, air toxics, and community air protection goals.
- Accelerating the introduction and deployment of zero-emission technologies to meet California's longer-term air quality, carbon neutrality, and climate change goals including that 100 percent of sales of new passenger vehicles and trucks 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 Executive Order N-79-20.
- Improving access to and affordability of clean transportation and mobility options for low-income households and investing in the low-income and disadvantaged communities most impacted by pollution.
- Supporting the transition to and adoption of more sustainable transportation modes to reduce GHGs.
- Expanding the supply chain for advanced technology components, the number of manufacturers choosing California as a home for manufacturing, and leveraging private investment to support the commercial viability of advanced technology.
- Supporting economic growth and continuing the momentum California has built towards becoming a hub for the manufacture and deployment of clean technologies and associated high-quality jobs.

The investments covered in the proposed FY 2020-21 Funding Plan represent just one part of California's portfolio of clean transportation incentives. These are complemented by other CARB, State agency, and local air district programs, as well as actions taken by other local government entities. Figure 1 shows CARB's portfolio of clean transportation investments and where the fit in on the commercialization path. Each program has its own statutory and policy direction, but collectively they fit together to support California's multiple public health, air quality, and climate change goals. The Clean Transportation Incentives play a unique role in CARB's broader portfolio as the only funding sources for heavy-duty demonstrations and pilots. They

are also the only funding sources for light-duty investments and directly address clean transportation equity and provide options for financing assistance. Low Carbon Transportation Investments and AQIP play an important role as the bridge for emerging technology and innovative clean transportation projects to the rest of the CARB portfolio. A key component of these programs is providing health and economic benefits to disadvantaged communities and low-income households and staff strives to develop and implement incentives with a focus on providing benefits to priority populations wherever possible. More details on each of the CARB programs can be found in Appendix D.

Figure 1: CARB’s Clean Transportation Investment Portfolio



The remainder of this introductory chapter provides background on the two funding sources covered by Clean Transportation Incentives, highlights of outcomes of these incentives, an overview of the legislation guiding the development of this funding plan, and a summary of the process used to develop this funding plan. This is followed by chapters covering the proposed AQIP funding allocations, recommended changes to project criteria for some of the existing projects, and contingency provisions.

AIR QUALITY IMPROVEMENT PROGRAM

The Air Quality Improvement Program (AQIP) is a mobile source incentive program that focuses on reducing criteria pollutant and diesel particulate emissions with concurrent reductions in GHG emissions. AQIP was created in 2007 by AB 118 (Núñez, Chapter 750, Statutes of 2007). 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 B of this Funding Plan.

Initially, AQIP had provided funding for CVRP, HVIP, and demonstrations for advanced emission reduction vehicle technologies. 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 2 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 2: AQIP Project Allocations to Date¹
(FY 2008-2009 through FY 2019-20)

AQIP Project	Cumulative Project Allocations¹ (millions)
Truck Loan Assistance	\$200
CVRP ²	\$146²
HVIP ²	\$64²
Low NOx 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	\$438
Air Quality Improvement Fund	\$345
Other funding sources ¹	\$93

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

¹ Includes a total of \$93 million in funding from the California Energy Commission’s Clean Transportation Programs and the Vehicle Inspection and Repair Fund. Truck Loan Assistance received \$10 million, CVRP received \$79 million, and HVIP received \$4 million of these other funds.

²CVRP and HVIP also received Low Carbon Transportation funds in FY 2013-14 through 2018-19.

LOW CARBON TRANSPORTATION INVESTMENTS

Cap-and-Trade auction proceeds provide funding for CARB’s advanced technology, clean transportation incentive programs that reduce GHG emissions, expanding the types of projects previously funded through AQIP. These investments accelerate the transition to low carbon freight and passenger transportation, supporting the State’s target that all California sales of new passenger vehicle and truck be zero-emission by 2035, all drayage trucks transition to zero-emission by 2035, all off-road equipment transition to zero-emission where feasible by 2035, and the remainder of medium- and heavy-duty vehicles transition to zero-emission where feasible by 2045 as described in Executive Order N-79-20.

The Legislature has appropriated approximately \$2.1 billion to CARB for Low Carbon Transportation Investments over the past seven budget cycles (FY 2013-14 through FY 2019-20). These appropriations are being used to fund: zero-emission and plug-in hybrid passenger vehicles through CVRP; clean transportation equity projects to

increase access to the cleanest vehicles and shared mobility options benefiting low-income and disadvantaged communities and for lower-income Californians; deployment incentives for clean trucks, buses and off-road equipment utilizing zero-emission and zero-emission enabling technologies; and advanced technology demonstration and pilot projects for freight trucks and equipment.

Revisions to Fiscal Year 2019-20 Allocations

Each year, the legislature develops appropriations for Low Carbon Transportation Investments as part of the Cap-and-Trade Expenditure Plan. Historically, the expenditure plan has been forward looking—meaning rather than developing a plan for already accumulated revenue, it outlines a plan for investing future revenue generated at the auctions in the upcoming fiscal year. To account for uncertainties in the revenue projections used to develop the appropriations, programs are required to not encumber 25 percent of their appropriation until the fourth auction is completed, unless otherwise specified by legislation.

In FY 2019-20, Low Carbon Transportation was initially appropriated \$485 million, and the allocations approved in the FY 2019-20 Funding Plan were developed accordingly. However, the actual revenue generated by the FY 2019-20 auctions was lower than the amount required to fulfill all of the appropriations included in the FY 2019-20 Cap-and-Trade Expenditure Plan. As a result, the appropriations to various programs, including the Low Carbon Transportation Investments, have been adjusted downward as directed by the Department of Finance per the Budget Act of 2019 [AB 74 (Ting, Chapter 23, Statutes of 2019)]. The final FY 2019-20 appropriation for Low Carbon Transportation is just over \$449 million and resulted in cuts to the allocations for heavy-duty and clean transportation equity projects approved by the Board in the FY 2019-20 Funding Plan. CVRP received the full allocation approved in last year's Funding Plan because the Budget Act exempted it from the requirement to withhold the last 25 percent of the budgeted appropriation. Table 3 summarizes the allocations included in the FY 2019-20 Funding Plan and the final allocations resulting from the outcomes of the fourth quarter auctions. Staff held work groups as needed to discuss any changes to projects resulting from the revised allocations.

Table 3: FY 2019-20 Low Carbon Transportation Investments

Project	Allocations Approved in FY 2019-20 Funding Plan (millions)	Final Funding Allocation ^a (millions)
Light-Duty Investments	\$238	\$238
CVRP Standard Rebates	\$213 ^b	\$213 ^b
CVRP Increased Rebate for Lower Income Consumers	\$25	\$25
Clean Transportation Equity Investments	\$65	\$55.5
Financing Assistance for Lower-Income Consumers	\$10.9	\$7.96
Clean Mobility Options	\$10	\$8.58
Clean Mobility in Schools	\$5	\$9.86
Agricultural Worker Vanpools	\$5 ^c	\$0
Rural School Bus Pilot	\$4.45	\$3
Sustainable Transportation Equity Project	\$22	\$19.5
Outreach, Alignment, and Workforce Training and Development	\$7	\$6
State Operations	\$0.65	\$0.65
Heavy-Duty Vehicle and Off-Road Equipment Investments	\$182	\$155.5
Heavy-Duty Demonstration and Pilot Projects	\$40 ^b	\$33.8
Clean Truck and Bus Vouchers (HVIP)	\$142 ^b	\$119.9
State Operations		\$1.82
Total	\$485	\$449

^a Columns may not add to total due to rounding. The final funding allocation includes reductions directed by the Department of Financing per the Budget Act of 2019, associated with lower fourth quarter Cap-and-Trade auction proceeds.

^b The FY 2019-20 Budget Bill allows for up to five percent of the allocation to be used for State Operations, but the Board approved up to one percent.

^c Agricultural Worker Vanpools was initially approved for expansion funding, however, vehicle manufacturing and hybrid conversion certification delays, combined with an onset of maintenance issues from driving the vehicles on unpaved roads, made expansion infeasible. \$9.7 million in expansion funding was redirected to support CARB's other clean transportation equity projects, (\$9.5 million to the Clean Mobility in Schools Pilot Project, and \$138,500 to Clean Mobility Options Pilot Projects).

About 55 percent of CARB's Low Carbon Transportation funding has been allocated to projects benefitting low-income and disadvantaged communities, including low-income households. The amount spent benefitting priority populations greatly exceeds the commitments made in past Funding Plans. Much of the disadvantaged community focused funding is for Clean Transportation Equity Projects, Zero-Emission Truck and Bus Pilot Projects, and Advanced Freight Technology Demonstration Projects. As an example, 69 percent of HVIP funding has been awarded for trucks and buses operating in disadvantaged communities.

Table 4: Low Carbon Transportation Project Allocations to Date
(FY 2013-14 through FY 2019-20)

Project	Funding (millions)
Light-Duty Investments	
CVRP	\$943.7
Clean Transportation Equity Investments	
Clean Cars 4 All	\$102 ^a
Clean Mobility Options	\$55.4
Financing Assistance for Lower-Income Consumers	\$34.1 ^a
Agricultural Worker Vanpools	\$6
Clean Mobility in Schools	\$24.6
Rural School Bus Pilot	\$61.6
Sustainable Transportation Equity Project	\$19.5
Outreach, Community Transportation Needs Assessments, Technical Assistance, and One-Stop-Shop	\$6 ^a
Heavy-Duty Vehicle and Off-Road Equipment Investments	
Advanced Technology Freight Demonstrations	\$81.2
Zero-Emission Truck and Bus Pilots	\$85
Zero- and Near Zero-Emission Freight Facilities	\$148.7
Zero-Emission Drayage Truck Pilot	\$23.8
Ocean-going Vessels at Berth Capture and Control System	\$10
Clean Off-Road Equipment Vouchers	\$44.2
HVIP	\$488.4
TOTAL	\$2,134.2^b

^a Funding shown here only includes Low Carbon Transportation Allocations. Clean Cars 4 All and Financing Assistance for Lower-Income Consumers each received \$10 million from the Volkswagen settlement funds. One-Stop-Shop also received \$5 million from the Volkswagen settlement funds.

^b Total does not include \$23 million for State operations.

HIGHLIGHTS OF INVESTMENTS AND OUTCOMES

In the eleven years since CARB first allocated funds from AQIP, innovative, clean technologies have seen tremendous growth, fueled in part by the State's investments. The initial projects funded by Clean Transportation Incentives have become well-established, and serve as models for other states and countries. CARB's investments have also supported progress towards creating high-quality jobs of the future and achieving and maintaining healthy and sustainable communities for all Californians.

In implementing these incentives, CARB has taken a number of approaches to meet community-identified clean transportation and mobility needs. These include pilot and demonstration projects focused on accelerating the commercialization of innovative clean technologies, providing vouchers and rebates to consumers and businesses for clean vehicle purchases, including enhanced rebates for low-income consumers, and projects expanding options to improve clean transportation access for residents of low-income and disadvantaged communities.

These investments leverage significant sources of other public and private funding, further stimulating the economy. Many projects such as the heavy-duty demonstration and pilot projects and the clean transportation equity projects see State investments matched by other public or private sources. Rebate projects and voucher projects such as CVRP and HVIP 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.

CARB has historically focused Clean Transportation Investments in three areas: CVRP, Clean Transportation Equity Investments, and Heavy-Duty and Off-Road Equipment. An overview and highlights of these project categories is provided below. While not every project is discussed in this funding plan, Appendix A includes a compilation of posters showcasing each of the projects funded by Clean Transportation Investments.

Clean Vehicle Rebate Project (CVRP)

As of March 2020, CVRP, CARB’s flagship clean vehicle rebate project, has provided rebates for over 386,000 vehicles totaling nearly \$885 million since the project’s launch in 2010. ZEVs now have an 8 percent market share in California based on the most recent year of sales data. Since March 2016, nearly 20,000 increased rebates have been issued to low-income consumers totaling over \$80 million. About 63 percent of rebates issued went to battery-electric vehicles, 35 percent to plug-in hybrid electric vehicles, and about 2 percent to fuel cell electric vehicles and zero-emission motorcycles. These projects also produce critical co-benefits such as improving public health from reduced pollution exposure, transportation-cost savings, increased household economic stability, increased connectivity to destinations, increased awareness of clean technology options, and increased environmental sustainability. Additionally, the State has become a leader in the manufacture of electric vehicles, with ZEVs representing the second largest source of California exports.³

Clean Transportation Equity Investments

Equity projects are an integral component of CARB’s clean transportation investment portfolio, especially in light of current global health challenges. Since FY 2014-15, CARB has allocated over \$300 million to clean transportation equity projects, as directed by SB 1275. This includes clean vehicle ownership and purchase incentives; clean, shared mobility; expanding access to clean transportation through community based solutions; streamlining access to funding and financing opportunities; and increasing community outreach, education, and exposure to clean technologies.

³ “State Exports from California”. *United States Census Bureau*. <https://www.census.gov/foreign-trade/statistics/state/data/ca.html>. Accessed October 2, 2020.

A core priority across equity projects continues to be incorporating the findings and recommendations of CARB's SB 350 Guidance Document⁴ applying these strong equity principles to increase access, affordability, and convenience of clean transportation and mobility options. The Guidance Document identifies many barriers to accessing clean transportation and mobility options, such as reliable, long-term funding for clean transportation investments and a lack of awareness of funding opportunities or clean transportation solutions. The Guidance Document also identifies community-specific barriers, like 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, community-specific solutions and prioritizing resources for residents that are most in need or face disproportionate impacts.

CARB has incorporated equity project and Guidance Document lessons learned into all aspects of its clean transportation equity investments, and in some cases, developed new projects focused on implementing Guidance Document recommendations. For example, the Guidance Document highlights the importance of providing dedicated funding to conduct or expand community transportation needs assessments. This year, the Clean Mobility Options Voucher Pilot Program opened for its first rounds of funding, awarding over \$1 million to community transportation needs assessments. The Sustainable Transportation Equity Project also incorporated dedicated funds for needs assessments and planning into its first solicitation. These newly launched projects have also provided free technical assistance to build community capacity and increase access to incentive funds.

CARB also sees the importance of implementing a pilot approach to clean transportation equity investments to allow for flexibility, feedback, and adjustments where necessary. Each project is unique, and the pilot phase is critical to discovering how each can best achieve their specific goals and find solutions to the numerous barriers faced by low-income and disadvantaged communities. Over time as pilot projects mature and move to the full program implementation phase, there is an opportunity to replicate proven strategies and models to maximize benefits and participation. Expansions into other communities has been realized for some pilots, and CARB continues to apply key learnings across equity investments.

One such learning is that lead times to successfully launch or expand a transportation equity project can be substantial. To build a strong foundation for success, each project relies on creating meaningful partnerships, developing extensive outreach plans and considering community goals and needs. In many cases, this has led to delays in launching, and as a result, many clean transportation equity projects have

⁴ California Air Resource 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

funds remaining from prior fiscal year allocations as seen in Table 5. CARB continues to develop strategies to address the obstacles identified—for example, CARB is creating a comprehensive outreach strategy for existing clean transportation equity project administrators, and supporting technical assistance and capacity building for communities and residents through resources and funding to local community-based organizations. This year staff will continue to monitor demand for existing projects and incorporate lessons learned.

Table 5: Clean Transportation Equity Investments to Date
(FY 2014-15 through FY 2019-20)

Project	Total Funds Allocated to Date (millions)	Remaining Funding* (millions)
Clean Cars 4 All**	\$112	\$36.1
Clean Mobility Options	\$55	\$49
Financing Assistance for Lower-Income Consumers**	\$44	\$30
Agricultural Worker Vanpools	\$6	\$0
Clean Mobility in Schools	\$25	\$25
Rural School Bus	\$61.6	\$5.1
Sustainable Transportation Equity Project	\$19.5	\$19.5
Outreach, Community Transportation Needs Assessments, Technical Assistance, and One-Stop-Shop**	\$11	\$6.5
Zero-Emission Assurance Project Pilot	\$0	--
TOTAL	\$334.1	\$171.2

*Allocated funding not spent as of August 2020 including funds that are under grant but not yet spent.

**Funding shown here includes Low Carbon Transportation Allocations and Volkswagen settlement funds. Clean Cars 4 All and Financing Assistance for Lower-Income Consumers each received \$10 million from the Volkswagen settlement funds. One-Stop-Shop received \$5 million from the Volkswagen settlement funds.

CARB continues to prioritize equity projects and balance the State’s portfolio of clean transportation investments to provide the most impacted communities with more immediate access to benefits as we transition to a low carbon economy.

Heavy-Duty and Off-Road Equipment Investments

Heavy-duty advanced technologies are making progress in California and around the world. New applications are emerging; existing ones are continuing a steady march toward widespread commercial availability; and major global manufacturers are bringing product to market, dramatically increasing production capabilities. In addition to Low Carbon Transportation Investments and AQIP, CARB has a portfolio of programs to invest heavy-duty technologies. These programs create an overall

structure that 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. This strategy is described in detail in Appendix D.

CARB has provided over \$350 million through Clean Transportation Incentives in support of heavy-duty technologies that are on the cusp of commercialization through demonstration and pilot projects. Funding these demonstration and pilot projects helps bring technologies to commercialization faster than would have happened without incentivizing their development and deployment. These projects also keep the innovation pipeline functioning, and play an important role in ensuring the availability of the technologies needed to meet the State’s long-term climate goals. This year marks the completion of five demonstration and pilot projects, listed in Table 6. Several other demonstration and pilot projects were set to conclude this year, but have been delayed due to market disruptions associated with the ongoing global health and economic crisis.

Table 6: Medium- and Heavy-Duty Demonstration and Pilot Projects Completed in 2020

Project Title	Description
Goodwill Industries Electric Vehicle Delivery Project	Deployed 10 battery-electric delivery trucks and one battery-electric debris hauler to locations in San Francisco, San Mateo, and Marin
Green On-Road Linen Delivery Project	Deployed 21 zero-emission all-electric walk-in vans to be used in linen deliveries in Stockton, Merced, Fresno, and Bakersfield
Multi-Class Heavy-Duty Zero Emission Truck Deployment Project for Intermodal and Warehouse Facilities	Demonstrated 27 yard trucks and service trucks at freight facilities in San Bernardino, Los Angeles and Fontana
San Joaquin Valley Transit Electrification Project	Deployed a total of 15 zero-emission electric buses across the City of Visalia Transit Division, Fresno County Rural Transit Agency, San Joaquin Regional Transit District and the City of Modesto Transit Services
SunLine Fuel Cell Buses & Hydrogen Onsite Generation Refueling Station Pilot and Commercial Deployment Project	Deployed five new 40-foot fuel cell electric transit buses and an electrolysis hydrogen station in the Coachella Valley
USPS Zero-Emission Delivery Truck Pilot Commercial Demonstration	Deployed 15 zero-emission electric United States Postal Service step-vans across two USPS hubs in Stockton and Fresno

After advanced technologies reach the market, they progress to funding programs such as HVIP and the Clean Off-Road Equipment Voucher Incentive Project (CORE), which offer vouchers for early commercial advanced technologies. HVIP, which started out as a small project with only a handful of participating manufacturers of hybrid vehicles, has now grown to include over 30 participating manufacturers of zero-emission technologies, representing over 100 vehicle models. Since its inception, HVIP has supported the purchase of over 8,500 clean, heavy-duty vehicles, resulting in over 188 million cleaner-than-diesel miles traveled in California by HVIP funded vehicles. CORE launched in February 2020, and closed to new voucher requests six months after opening due to high demand. The initial \$44 million in funding was reserved for a wide variety of off-road equipment types, including 127 terminal tractors, 96 transport refrigeration units, 48 mobile power units, 22 large forklifts, and 16 railcar movers. The total requests for funding received was more than double the funding available, demonstrating there is significant demand for zero-emission off-road equipment.

ADDITIONAL LEGISLATION GUIDING FUNDING PLAN DEVELOPMENT AND 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 disadvantaged and low-income communities. 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 Enhanced Fleet Modernization Program (EFMP) scrap and replace program to increase access to clean vehicles for lower-income consumers and disadvantaged communities. Finally, SB 1275 requires CARB to include a long-term plan for CVRP and related light-duty vehicle incentives. CARB included the long-term plan in the FY 2016-17 and FY 2019-20 Funding Plans and is including an updated Three-Year Plan for CVRP and the ZEV Market as Appendix C to this Funding Plan.

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 disadvantaged communities. Among other requirements, SB 1204 directs CARB to develop an annual framework and plan to guide these investments. The Three-Year

Investment Strategy for Heavy-Duty Vehicles and Off-Road Equipment included in the FY 2017-18 Funding Plan was designed to help address this requirement.

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 3-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 fiscal year and a forecast of estimated funding needs for the subsequent two fiscal years. 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. This year's funding plan includes an update to the Long-Term Heavy-Duty Investment Strategy (Appendix D) as well as an updated State School Bus Incentive Programs Report (Appendix E).

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 low-income and disadvantaged communities 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 (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 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% 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.

FUNDING PLAN DEVELOPMENT PROCESS

Staff held 2 public workshops, 11 public work group meetings, and numerous individual meetings with interested stakeholders to develop the FY 2020-21 Funding Plan. Table 7 summarizes these public meetings.

Table 7: Public Meetings on Development of FY 2020-21 Funding Plan

Date	Meeting
1/30/2020	Heavy-Duty Investment Strategy Work Group Meeting #1
3/12/2020	Public Workshop on the FY 2020-21 Funding Plan for Clean Transportation Investments
3/16/2020	CVRP Public Work Group Meeting #1
3/18/2019	CVRP Public Work Group Meeting #2
4/3/2020	Clean Mobility Investments and Outreach Public Work Group Meeting
4/7/2020	HVIP Work Group Meeting
4/16/2020	Heavy-Duty Investment Strategy Work Group Meeting #2
5/1/2020	CVRP Public Work Group Meeting #3
6/16/2020	Heavy-Duty Investment Strategy Work Group Meeting #3
6/30/2020	Clean Transportation Equity Projects: Outreach, Alignment, and Workforce Training and Development Work Group Meeting
7/16/2020	Zero-Emission Assurance Project Work Group Meeting
9/15/2020	Heavy-Duty Investment Strategy Work Group Meeting #4
9/29/2020	Public Workshop on the FY 2020-21 Funding Plan for Clean Transportation Investments

In addition to the public meetings on developing this Funding Plan, CARB conducts public outreach to inform stakeholders on incentive opportunities for funding appropriated in past budget years. There has been an increasing focus over the past year on tailoring outreach to low-income and disadvantaged communities. CARB conducts extensive community-based outreach as part of the development of the Community Air Protection Program (AB 617) and to support Low Carbon Transportation Investments, including implementing recommendations in the Guidance Document. Input received as part of these processes is reflected in this Funding Plan.

CHAPTER 2: PROPOSED FUNDING ALLOCATIONS FOR FY 2020-21

The State Budget for Fiscal Year 2020-21 included \$28.64 million for AQIP. The Legislature deferred action on the Cap-and-Trade Expenditure Plan, including Low Carbon Transportation. As a result, CARB is not proposing an allocation for FY 2020-21 Low Carbon Transportation funds at this time, and will instead act on such funds after they are appropriated by the Legislature. Rather than wait until a Low Carbon Transportation Incentives appropriation is finalized, CARB is proposing action on the FY 2020-21 AQIP funds, so that the dollars appropriated to the program can become available as soon as possible and the State can realize the benefits of these funds.

In light of current events and the global health crisis, staff recognizes that the State is in the midst of an incredibly challenging time. Looking forward, the need for investments to stimulate the green economy will become critical. The investments made through the Clean Transportation Incentives Funding Plan provide a mechanism to stimulate the State's economy while continuing the momentum California has built towards meeting air quality and climate targets. Projects such as CVRP, Clean Cars 4 All, and HVIP provide direct incentives to California consumers and businesses, putting money directly back into consumers' pockets. The investments have further established California as a leader in the deployment of zero-emission technologies, drawing manufacturers and businesses to open their doors or expand their operations in the State, supporting jobs in this growing sector.

INVESTMENT PRIORITIES FOR 2020-21

Due to the limited funding available, in this year's funding plan, CARB has focused on the existing projects that were envisioned as on-going, multi-year investments, rather than on the development of new projects. Specifically, CARB focused on vehicle purchase incentive projects as a primary goal of these projects is to grow the market for clean vehicles, and disruptions to such projects can adversely impact the market. Ongoing projects such as HVIP, CVRP, Clean Cars 4 All, and CORE have seen tremendous growth in recent years, and continuing that momentum is essential if California is to reach the levels of adoption of zero-emission technologies required to meet its many long-term climate change goals.

In line with recent years, and Executive Order N-79-20, this funding plan focuses investments in zero-emission vehicles, which will expand and accelerate the market for technologies and help the State to achieve its goals for improving air quality and reducing GHG emissions and petroleum dependency. As such, it prioritizes zero-emission vehicle technologies and zero-emission vehicle enabling technologies where incentives can help to achieve emission reductions beyond what is required by regulations. Additionally, in keeping with public input and legislative direction, staff

strives to maximize benefits for priority populations, and prioritize investments that support multiple clean air goals as described in the introduction.

Staff determined project allocations by evaluating anticipated demand, reviewing the long-term planning elements of previous Funding Plans (i.e. the Three-Year Plan for CVRP, the ZEV Market, Clean Transportation Equity Investments, and Outreach and the Long-Term Heavy-Duty Investment Strategy), considering other available funding sources, and taking into account stakeholder input. Staff also evaluated the Benefit-Cost Score of the projects under consideration for funding as described in the section below.

AB 8 BENEFIT-COST ANALYSIS

In determining which projects to consider for the AQIP allocation, CARB first considered the current demand and funds remaining for all of the ongoing, vehicle purchase incentive projects. Three projects were identified as critically in need of additional funding—HVIP, CORE, and Clean Cars 4 All. HVIP and CORE have both expended all of their previous years allocations and been forced to close their programs to new voucher requests. While Clean Cars 4 All has funds remaining, staff determined that some air districts implementing Clean Cars 4 All programs may need additional funding to continue to meet demand until FY 2020-21 Low Carbon Transportation funds are available.

Pursuant to the requirements of AB 8, staff calculated a Benefit-Cost Score and a Total Benefit Index Score for HVIP, CORE, and Clean Cars 4 All. The methodology and results of these calculations are included in Appendix B. While staff found that all projects would achieve significant benefits, HVIP received the highest Total Benefit Index Score, which considered both the Benefit-Cost Score, and additional criteria described in AB 8.

PROPOSED PROJECT ALLOCATIONS

CARB staff proposes to direct \$25 million of the AQIP funds to HVIP, in accordance with the results of the AB 8 analysis. Staff additionally proposes to allocate \$3 million to Clean Cars 4 All. While Clean Cars 4 All did not receive the highest Benefit-Cost Score or Total Benefit Index Score, staff considered legislative directives and public feedback to focus on ensuring that low-income and disadvantaged communities, which bear a disproportionate share of pollution, have access to clean transportation solutions.

The remaining \$0.64 million, or just over 2 percent of the AQIP appropriation would be held in a reserve. Previously, staff had suggested that a higher portion of the AQIP appropriation be placed in the reserve. However, after additional analysis of the AQIP revenue generated to date, staff believes that this smaller reserve is sufficient to address revenue uncertainty. Staff will continue to assess the actual revenue, and request that the Executive Officer be granted authority to allocate the reserve to

HVIP, Clean Cars 4 All, or CORE if revenue is sufficient. Table 8 shows the proposed AQIP project allocations.

Table 8: Staff Proposed Project Allocations for \$28 Million AQIP Appropriation

Project Category	Allocation (millions)
Clean Truck and Bus Vouchers (HVIP)	\$25
Clean Cars 4 All	\$3
Reserve for revenue uncertainty	\$0.64
TOTAL	\$28.64

The remainder of this chapter will address the goals and priorities of HVIP and Clean Cars for All, as well as recommended changes to project criteria.

CLEAN TRUCK AND BUS VOUCHERS (HVIP)

Proposed AQIP Allocation – \$25 million

The Hybrid and Zero-Emission Truck and Bus Voucher Incentive Project (HVIP) is the cornerstone of CARB’s 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 technology to achieve substantial greenhouse gas reductions and help meet health-based ambient air quality standards. Voucher incentives complement other programs in CARB’s heavy-duty funding portfolio by providing a streamlined application process without requiring scrapping of an existing vehicle. As HVIP entered its 11th year, staff worked with stakeholders to better define and memorialize the program’s guiding principles while exploring policy changes to address an unprecedented fiscal crisis.

The introduction to this Funding Plan sets the context for CARB’s work: California has set ambitious goals to improve public health, protect the environment, and lead the world with innovative solutions against climate change. Governor Newsom’s Executive Order N-79-20 set a course for a zero-emission future, further emphasizing the importance of strategic investments like HVIP.

HVIP is a unique project in the CARB portfolio. As the only project that exclusively supports on-road heavy-duty advanced technologies with high adoption barriers, it provides the bridge between demonstrations and pilots to the scrap-and-replace programs. 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 rule and Advanced Clean Trucks rule. The Carl Moyer Memorial Air Quality Standards Program, Community Air Protection Incentive Funds, Volkswagen Environmental Mitigation Trust, Truck Loan Assistance Program, and FARMER Program all provide funding for heavy-duty vehicles adopting clean technology, but come with their own statutory direction, goals, and guidelines. The incentive programs in CARB’s portfolio were designed to be complementary, with some focusing on achieving cost-effective emission reductions or meeting the needs of specific communities.

The continued availability of HVIP, including avoidance of waitlists or program holds, whenever possible, is vital for success, particularly for supplying economic benefits by encouraging private investment. Low Carbon Transportation funds serve as a catalyst spurring additional private investment—leveraging up to \$5.93⁵ of additional investment for each incentive dollar provided through HVIP—reducing uncertainty and

⁵ As of March 2020, HVIP has funded \$208.6 million toward the purchase of over 5,500 clean vehicles since 2010. This investment leveraged \$1.2 billion additional dollars of other public and private spending toward these purchases – \$5.93 for every \$1 of HVIP investment. This data encompasses only deployed vehicles (redeemed vouchers), not active vouchers for vehicles that are yet to be built / delivered.

keeping the economy moving. California’s years-long commitment to advanced vehicle technology investments has sent a clear signal to all manufacturers, many of whom have chosen California for new facilities or headquarters, bringing with them high-quality future-proof jobs.

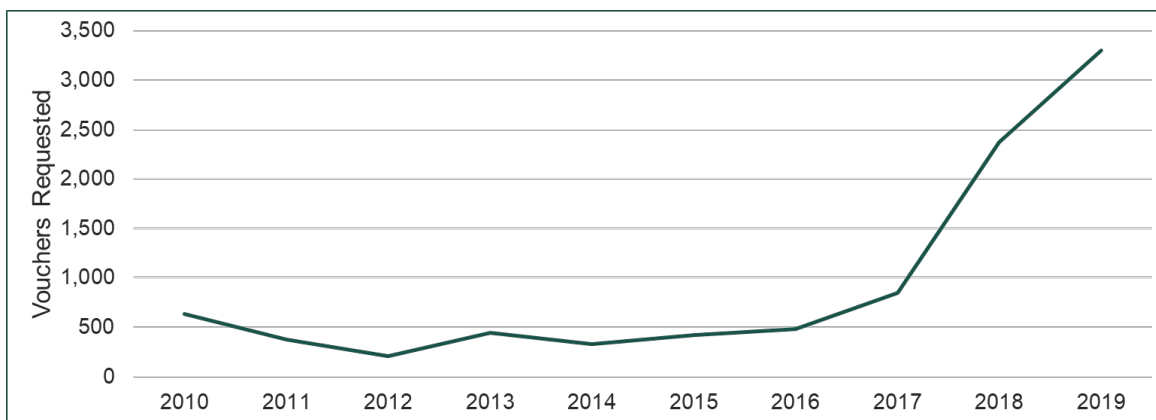
HVIP will continue to support the statutory requirements of SB 1204, SB 1403, and AB 2285 by prioritizing funds for early commercial clean heavy-duty vehicles. The proposed HVIP funding policies will ensure that at least 20 percent of any Low Carbon Transportation truck funding supports early commercial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

HVIP will continue to provide benefits to AB 1550 (Gomez, Chapter 369, Statutes of 2016) disadvantaged communities and low-income communities by displacing diesel combustion emissions with the newest and cleanest vehicles. Since HVIP is implemented on a first-come, first-served, statewide basis, it is not possible to estimate in advance exactly how much funding will be spent in disadvantaged communities. To date, over two-thirds of awarded HVIP funding has benefited disadvantaged and low-income communities, as reported in the Annual Report to the Legislature on California Climate Investments, March 2020.⁶

Current Project Status

Since its inception in 2010, HVIP has supported the purchase of nearly 3,000 zero-emission trucks and buses, 2,500 hybrid trucks, 3,000 natural gas combustion engines, and 200 trucks outfitted with electric power take off systems (ePTOs) by California fleets through September 2020. Market demand for clean technologies increased substantially in the past three years. The increase in demand, starting in 2017, led to the dramatic growth shown in Figure 2. About 80 percent of all voucher funding since 2009 was requested between 2017 and 2019.

Figure 2: HVIP Vouchers Requested by Year



⁶ California Air Resource Board. *2020 Annual Report to the Legislature on California Climate Investments Using Cap-and Trade Auction Proceeds*. March 2020. https://ww3.arb.ca.gov/cc/capandtrade/auctionproceeds/2020_cci_annual_report.pdf.

The increase in funding demand proved so significant that the program entered a waitlist in July 2019 and was forced to close for new voucher requests in November 2019 after approximately 1,600 voucher requests on the waitlist surpassed the entire available FY 2019-20 budget that was approved by the Board in October 2019. The waitlist was fully processed by the end of April 2020, meaning all voucher requests had been verified and approved. Low proceeds generated in the May 2020 Cap-and-Trade auction (the fourth and final auction supplying FY 2019-20 Low Carbon Transportation Investments) and subsequent direction from the Department of Finance reduced the project's available funds by nearly \$21 million. Funding associated with any canceled vouchers will remain in HVIP and potentially be available for new voucher requests consistent with policy changes approved by the Board in this Funding Plan.

The unprecedented waitlist experience helped define HVIP waitlist protocol discussed in public workgroups and included in the current Implementation Manual. HVIP will remain closed for new voucher requests until funding is available. Orders made while HVIP is closed will not be eligible for funding. When HVIP reopens, vouchers will only be available for purchases made at that time, anticipated first quarter 2021. Until then, however, redemption of existing approved vouchers will continue as vehicles are delivered, along with all other aspects of HVIP administration including monitoring and reporting, outreach, and program development.

Component Cost Analysis: CARB continues to analyze component cost for eligible vehicles. CARB staff is working with vehicle manufacturers and other partners to obtain accurate updated cost information. CARB staff is also adding a component cost survey as part of the required HVIP vehicle eligibility documentation for each model year to help maintain current data and identify cost trends. Staff anticipates continuing to use the results to better determine voucher incentive amounts or modify voucher amounts for specific applications, vehicle classes, or technologies. This work further supports staff efforts to ensure that HVIP strategically invests funds to promote California's climate and air quality goals.

Project Solicitation: CARB held a competitive solicitation for the selection of an HVIP Grantee in October 2019. In January 2020, CALSTART was selected as the Grantee to administer HVIP for FY 2019-20 via a three-year competitive solicitation with the option of adding the FY 2020-21 and FY 2021-22 funds with an updated grant agreement. CARB used this option in the past and recommends using this option again. Therefore, CARB will not issue a new solicitation for FY 2020-21 HVIP.

HVIP Guiding Principles

Changing markets, evolving needs, and limited resources are driving tough decisions on project priorities. Guiding principles direct an organization or program throughout its life, irrespective of changes in its strategies, circumstances, or abilities. The original guiding principles for AQIP were described in the FY 2009-10 Funding Plan, and were

the basis for staff's evaluation of updated guiding principles specifically for HVIP. After incorporating stakeholder feedback, staff is proposing the following guiding principles, with no value in order. They are designed to not be strictly interpreted, but rather reflect foundational values that would be factored in decision-making. HVIP would establish seven guiding principles:

- Accelerate market transformation for the cleanest advanced technologies to support the State's climate, air quality and petroleum reduction goals
- 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

The guiding principles acknowledge values and goals that have long guided HVIP and have been echoed by stakeholders. Indeed, staff's proposal that follows would be consistent with the guiding principles.

Staff Proposal for FY 2020-21

HVIP remains a critical piece of the transportation decarbonization puzzle; a piece made more important than ever by growing commitments to economy-wide transformation. Executive Order N-79-20 reaffirms the State's commitment to achieve an accelerated and total transformation of transportation in California. This Executive Order, along with recent and upcoming zero-emission technology-driving regulations, and an update to the Mobile Source Strategy, demonstrate California's commitment to address the climate change crisis, protect public health, and promote equity. It underscores the gravity of CARB's responsibilities in transforming the heavy-duty sector. Incentives like those provided by HVIP are an integral tool for developing nascent and future markets for the ZEVs that must be ubiquitous in just years. Considering the State's ambitious ZEV targets, HVIP must focus on supporting their achievement.

With California's goals, CARB's responsibilities, and the proposed guiding principles in mind, HVIP faces urgent challenges to address. Following lower than anticipated proceeds from the Cap-and-Trade auction in May 2020, HVIP's oversubscribed FY 2019-20 allocation decreased further. Under current program policies, voucher demand in FY 2020-21 is expected to outstrip new funds by an order of magnitude, all but guaranteeing that the project will quickly reenter an extended waitlist or shutdown. Waitlists—which elevate uncertainty, diminish the program's economic benefits, and leave fleets and technology providers without sustained funding—are undesirable at any time and it is CARB's goal to avoid them. This year however, the extent of the funding shortfall makes it even more important to apply limited dollars to

actions that are most supportive of HVIP's goals. Doing so requires substantial changes to align with the proposed guiding principles and stretch resources. No single policy change will yield necessary savings to meet all market demand. Therefore, multiple modifications will be needed. Staff is recommending the changes below.

Staff's Proposed Changes to Project Criteria:

Progress by advanced technologies in the heavy-duty sector has accelerated in recent years and expanded sales and component supply chains are lifting the curtain on a more certain zero-emission future. But nascent zero-emission markets must continue receiving support if the State is to realize air quality and climate change goals, as demonstrated by the Scoping Plan, Sustainable Freight Action Plan, and Mobile Source Strategy.

New market uncertainty and unprecedented fiscal crises—that have left the program on hold since November 2019—augment the need to clarify HVIP's goals and double down on priorities if the project is to remain successful. After receiving input from stakeholders, staff is proposing the following changes to project criteria:

- Streamline voucher tables and reduce amounts
- Reduce fleet voucher caps
- Introduce manufacturer rolling voucher caps
- Graduate conventional internal combustion engines
- Modify vehicle eligibility

Below is a description of each proposed modification with the rationale for the modification:

Streamline Voucher Tables and Reduce Amounts

To align with the goal of maintaining simplicity and a fleet-friendly process for funding applications, staff proposes to simplify the existing set of multiple voucher amount tables.

The Long-Term Heavy-Duty Investment Strategy appended to this Funding Plan points out one of the traits of ZEV components: they are largely the same. Under the skin of a diverse array of specialized trucks and buses is a battery and/or fuel cell stack, power electronics, and electric traction motors. The primary factor differentiating electric drivetrains is energy demand—correlated to duty cycle but more consistently to weight. Across all heavy-duty ZEVs, components are similar with scaling primarily for energy storage. With an electric chassis of a given class, the drivetrain should be similar in specifications and cost whether that chassis is fitted with a bus body, a work truck body, or a box truck body.

Because of these common traits, and recognizing that battery size is the largest determinant of battery-electric vehicle (BEV) cost, staff recommends that HVIP should

offer a base incentive by vehicle weight rating. From there, HVIP can augment the base voucher in recognition of costlier vehicle bodies and to support unique fleets, like public transit and school districts. Through this streamlining, shown in Table 9 below, staff also considered the Long-Term Heavy-Duty Investment Strategy (Appendix D), voucher data, and manufacturer input to make modest reductions across all vouchers. The reductions help maximize the project’s impact while following through on the principle that incentives should wane as markets become more mature, as well as help to address the ongoing fiscal crisis.

Table 9: Proposed Streamlined Voucher Table

Proposed ZEV Incentives	
Vehicle Weight Class	Base
Class 2b	TBD
Class 3	\$45,000
Class 4-5	\$60,000
Class 6-7	\$85,000
Class 8	\$120,000
Class 8 Drayage Truck Early Adopter*	\$150,000

**Drayage tractor voucher amounts revert to Class 8 voucher amounts on 12/31/21*

Voucher Modifiers (plus-ups and discounts)	
Disadvantaged Community	+10%
Class 8 Fuel Cell	+100%
Public Transit Agencies	+15%
School Buses for Public School Districts	+65%
Plug-in Hybrid (>35 mi AER)	-50%
In-Use Converted/Remanufactured	-50%

In the new voucher table, an approved vehicle’s voucher amount is determined by the vehicle’s weight and then multiplied by the appropriate modifiers. There can be multiple modifiers, but the additions or subtractions do not compound. For example, a full-sized urban bus (class 8, \$120,000), sold to a transit agency (15% x \$120,000), and domiciled in a DAC (10% x \$120,000) would receive the base voucher amount of \$120,000 plus the sum of its modifiers (\$18,000 + \$12,000), or \$150,000. While most new voucher amounts represent a modest 8 to 10 percent reduction, vehicles purchased by public agencies, like transits and school districts, would continue using matching funding sources, including those from the Federal Transit Administration (FTA), AB 923, and local sales tax revenue. Notably, the table does not include ePTO. Those voucher amounts, which are set very differently from the other technologies in HVIP, will remain unchanged.

Acknowledging the accelerated turnover of drayage trucks called for in Executive Order N-79-20, and recognizing drayage as a priority market for

newly-emerging class 8 zero-emission trucks, the voucher table offers an increased incentive for aggressive early adoption. To encourage as much adoption as early as possible, the increased amount will only be available for truck orders and corresponding voucher requests submitted through the end of 2021, subject to available funding.

Reduce Fleet Voucher Caps

HVIP has included several levels of fleet caps over time, allowing each fleet to request no more than a certain number of vouchers in a calendar year. Fleet caps are valuable for multiple reasons: reducing fiscal drain on the program, allowing more fleets to participate, and focusing resources on aiding fleets taking their first steps into the advanced technology market. The current fleet cap is 200 vouchers per year. Addressing fiscal needs and doubling down on supporting early deployments, staff is recommending a reduced fleet cap of 30 vouchers per year to focus on overcoming significant barriers with initial fleet deployments. In keeping with CARB's commitment to zero-emission drayage trucks, described above, the cap for drayage fleets would be elevated to 50 vouchers per year. Staff believes this accommodation, along with the temporary increased incentives, will be an effective driver of that segment's market transformation and an important boost for the numerous class 8 ZEVs new to HVIP.

Introduce Manufacturer Rolling Soft Cap

Manufacturer caps can take different forms, including an annual cap like the fleet cap discussed above, or a lifetime cap, similar to the federal tax rebate for light-duty ZEVs. Acknowledging feedback from many stakeholder groups that these types of caps (particularly annual limits) could be detrimental to HVIP's technology advancement and market transformation goals, staff is not recommending these at this time.

However, staff is recommending a rolling manufacturer voucher "soft" cap to improve HVIP availability and encourage faster vehicle delivery while still offering the flexibility needed by advanced technology providers. A rolling manufacturer cap governs how many unredeemed vouchers a manufacturer is allowed to hold at any given time. When a manufacturer reaches its cap, no more vouchers can be requested for vehicles from that manufacturer until it delivers vehicles and redeems associated vouchers. When vehicles are delivered and those vouchers paid, the paid vouchers are closed out, allowing new ones to be requested. The "soft" cap under consideration would not prohibit manufacturers from requesting vouchers in excess of the specified limit, but would necessitate case-by-case review prior to voucher approval. In the case-by-case review, CARB would require manufacturers to supply additional information affirming production timeframe and ability to deliver within the maximum-allowed voucher term for all vouchers currently outstanding. Considering available resources and the number of manufacturers in HVIP, staff recommends setting the rolling manufacturer cap at 100 vouchers.

As a related means of encouraging timely delivery and reducing the risk of prolonged funding holds, staff proposes working with stakeholders following approval of this

Funding Plan to create a framework for manufacturer probation. The mechanism would add restrictions and additional review should underperformance criteria be met or at CARB discretion. Consequences might include a hold on new voucher requests, case-by-case evaluation, or voucher reduction schedules. CARB already has authority to take these actions as a function of project oversight, but adding structure should help set participant performance expectations and improve project outcomes.

Graduate Internal Combustion Engines

Under current policies, HVIP can provide funding to offset the incremental cost of some 11.9-liter natural gas engines that are certified to 0.02 grams per brake horsepower-hour (g/bhp-hr) nitrogen oxides (NOx) and are fueled exclusively with in-state-produced renewable natural gas. In August 2020, the Board approved for adoption the Heavy-Duty Engine and Vehicle Omnibus Regulation and Associated Amendments, which lowers the mandatory NOx standard to 0.050 g/bhp-hr in 2024 and to 0.020 g/bhp-hr in 2027. The Omnibus regulation also would create a new optional standard of 0.01 g/bhp-hr NOx.

Staff proposes to graduate all internal combustion engines that are certified to the 0.02 g/bhp-hr NOx standard, and expand the definition of near zero eligibility to include engines meeting the new optional standard of 0.01 g/bhp-hr when paired with in-state renewable fuels. In addition, near zero-emission technologies include ePTOs and vehicles that pair zero-emission technology with a range extending cleaner combustion engine operating on in-state renewable fuel and that operate in zero-emission mode for a portion of the vehicle's duty cycle.

In FY 2018-19, CARB discontinued vouchers for the purchase of new internal combustion engine refuse trucks in existing natural gas fleets and all internal combustion engine transit buses because natural gas engines meeting the 0.02 g/bhp-hr NOx standard had become the predominant technology available on the market for those vehicle vocations. Similarly, in FY 2019-20, the Board approved discontinuing HVIP eligibility for all 8.9-liter natural gas engines given that those engines had reached the necessary level of maturity to graduate. The determination was guided by evaluating the market acceptance, technology readiness, barriers to adoption, and economic factors facing natural gas internal combustion engines. The primary purpose would not be for cost savings—though it would yield a fiscal benefit in the tens of millions annually at current funding levels. Rather, this follows through on the principle of graduating commercialized and market-established technologies.

Resource constraints highlight the importance of critically evaluating the goals of HVIP and the need to strategically fund those technologies that best advance the project's unique goals. As technologies mature, it becomes necessary to move them out of HVIP and into other programs within the portfolio, if necessary, to ensure that HVIP achieves its objective of supporting the cleanest early commercial vehicles, and helping reap the benefits of improved economies of scale.

Though the Board recognized limited zero-emission options for class 8 trucks last year when extending funding for 11.9-liter natural gas engines meeting the lowest optional NOx standard at the time, over the last year the class 8 zero-emission market has expanded significantly. Now, there are several zero-emission class 8 options eligible for HVIP funding, including trucks from BYD, Freightliner, Lion, Kenworth, and Peterbilt. New entrants expected over the next year—Volvo, Tesla, and others—will expand fleet options and call for fiscal dedication to zero-emission trucks and near zero technologies such as ePTO systems and potentially plug-in hybrid trucks.

Fortunately, CARB's large incentive portfolio includes other, well-suited funding sources. Perhaps most prominent is the Carl Moyer program, which continues to allow implementing air districts to fund projects with higher maximum funding amounts up to \$100,000 for truck replacements with the cleanest available combustion technologies.⁷

Modify Vehicle Eligibility

Staff is recommending raising the minimum GVWR for HVIP vehicle eligibility from 8,001 to 10,001 pounds. The move has no immediate fiscal impact, but would align with HVIP's role as an incentive program for commercial heavy-duty fleets and reduce future potential for funding non-commercial vehicles in HVIP as zero-emission options in the lower weight segment begins to expand. HVIP and CVRP staff coordinated the move to ensure continued incentive opportunities for all weight classes. While no commercial ZEVs have been announced in this space for this funding cycle, staff anticipates that products could emerge in time for the following funding cycle (late 2021). Staff proposes to work with stakeholders in the coming year to identify all potential vehicle offerings, distinguish commercial-use vehicles from those for personal use, maintain HVIP eligibility for vehicles designed to be used exclusively for commercial uses, and determine appropriate incentive amounts. Vehicles with a significant personal use market share would be eligible for CVRP or other incentive programs.

Consider Support of Future Regulations

CARB's planning, regulatory, and funding documents describe the importance of coordinated incentives and mandates for a cohesive and effective air quality and climate change strategy. While incentives should not be used to pay for compliance, they can help prime the market ahead of compliance dates. Recently adopted heavy-duty zero-emission regulations—and more on the horizon—will drive faster deployment of zero-emission technologies, making HVIP's technology preparation and market transformation goals even more important. Staff began a discussion with stakeholders this year on concepts that HVIP can consider to support CARB regulations, such as prioritizing incentive availability or flexibility to accelerate market development for the most challenging segments facing future mandates. The

⁷ California Air Resources Board. 2017 Carl Moyer Program Guidelines, Chapter 4, Table 4-4. April 2017. <https://ww3.arb.ca.gov/msprog/moyer/guidelines/current.htm>

consideration of potential changes will continue into the next Funding Plan development cycle for FY 2021-22.

Effective Date: Upon approval, all proposed changes to HVIP will become effective the day after the Board meeting.

Contingency Proposal

Policy Flexibility for FY 2020-21

Staff anticipates that HVIP will have insufficient resources to meet demand, although the severity of the funding shortfall could vary. In addition to the proposed allocation, staff expects funds from canceled vouchers will be available for implementation, but the total available at the time the project reopens is unknown in advance.

Staff worked with stakeholders to develop the policy recommendations above. While all of the policies are needed, many offer varying degrees of effect beyond the specific recommendations made by staff (e.g. higher or lower caps, greater or lesser voucher reductions, etc.). Given the propensity for fiscal circumstances to change, equipping HVIP with the ability to adjust policies to suit varying fiscal conditions yields unique value. As a result, staff is seeking authority for the Executive Officer to ease policies during the implementation phase should HVIP receive additional resources before the next funding cycle or to respond to significant market changes. Specifically, staff request that the Executive Officer be granted the ability to increase the fleet cap to up to 50 vouchers per fleet per year and increase the manufacturer rolling soft cap to up to 200 vouchers.

Reduce voucher amounts by up to 20 percent

In considering the FY 2019-20 Funding Plan, the Board granted authority to CARB's Executive Officer to reduce some or all voucher amounts by up to 20 percent.⁸ Staff recommends maintaining this option to lessen the severity of funding shortfalls in the coming fiscal year. Staff recognizes that sweeping reductions may adversely impact some vehicle or technology categories more than others. However, budget shortfalls and frequent waiting lists adversely impact the market for advanced technologies by creating uncertainty and artificially starting and stopping demand. A primary goal of HVIP is to support the market for these technologies, so staff considers stability in funding availability to be a priority.

AB 1550 Disadvantaged Community and Low-Income Household/Community Benefits

HVIP will continue to be implemented on a first-come, first-served, statewide basis, so it is not possible to estimate in advance exactly how much funding will be spent in disadvantaged and low-income communities. In the 2019 reporting cycle, about 48 percent of HVIP funding was spent in disadvantaged communities and an additional

⁸ California Air Resources Board. *Fiscal Year 2019-20 Funding Plan for Clean Transportation Incentives*. September 2019. <https://ww2.arb.ca.gov/sites/default/files/2019-09/fy1920fundingplan.pdf>

17 percent in low-income communities that don't overlap with disadvantaged communities as reported in the April 2020 Annual Report to the Legislature on California Climate Investments Using Cap-and-Trade Auction Proceeds.

Currently, a higher HVIP incentive is offered for zero-emission vehicles domiciled and operating in disadvantaged communities as a way to encourage HVIP participation from fleets operating in these communities. As part of the Cap-and-Trade auction proceeds reporting requirements, CARB will track where HVIP funds are spent, so it can calculate and report AB 1550 investment criteria.

Terms and Conditions

HVIP Terms and Conditions are intended to notify potential participants of the requirements of the program prior to submitting an application. Additionally, CARB and the project administrator developed an Implementation Manual to further define these rules and explain roles and responsibilities. The current Terms and Conditions and Implementation Manual for HVIP are available at <https://www.californiahvip.org/resources/#implementation-manuals>

Project Reopening and Continued Public Process

Following Board approval of this Funding Plan, HVIP will begin the process of reopening the project for voucher requests. After being closed for 13 months at the time of Board consideration of the Plan, CARB and its grantee need to think critically about the best way to reopen the project carefully to avoid confusion, fiscal drain, or other undesirable outcomes. Staff must also consider circuit breakers that allow a change in strategy if necessary, such as limiting the amount of funding available at any given time, or considering random selection process if initial demand overwhelms available resources. Staff also appreciates the importance of opening HVIP quickly and intends to do so in the first quarter of 2021.

Separately from the task of reopening the project, several other elements of this Funding Plan will require follow-up with stakeholders. As part of the annual process, staff will also be updating the Implementation Manual for HVIP, conducted through public process. Like in many previous years, staff envisions a workgroup for HVIP implementation in the spring of 2021.

Outcomes

While certain metrics, like cost-effectiveness, are commonly used to evaluate the effectiveness of programs, criteria pollutant emissions reductions are not the primary goal of HVIP. Rather, technology evolution and ensuring that advanced technology will be commercially available at the scale to meet California's long-term goals remain among the primary objectives of HVIP. Through the Long-Term Heavy-Duty Investment Strategy, staff continues to work with stakeholders to develop metrics that can be used to quantify HVIP's progress towards these goals.

While not the primary goal, HVIP does produce emission reductions. With the proposed \$25 million allocation, staff expect to fund about 200 vouchers, providing an estimated 98,400 metric tons of carbon dioxide (CO₂) equivalent GHG emission reductions. Staff also estimates about 85 tons of NO_x, 2 tons of fine particulate matter (PM 2.5), and 0.84 tons of reactive organic gas (ROG) emissions will be reduced as the advanced technology vehicles replace conventional diesel trucks and buses. Appendix B provides additional details on the emission estimates.

As a technology transformation program, it should be expected that technologies will graduate out of HVIP as they become more established in the market. This is not to say that CARB does not continue to support, or invest in these technologies, but rather that the technology has matured and achieved a high enough level of commercialization and acceptance in the market that its continued funding in HVIP is no longer congruent with program goals. After graduating a technology from HVIP, the technology will generally continue to see support from other programs within CARB's broader portfolio where emission reductions can be directly counted for meeting Federal ambient air quality standards. Further support may also be available from other State, local and federal programs.

Graduating technologies from HVIP is essential to ensure that the program is effective and able to continue to focus on its core mission—accelerating the deployment of early commercial technologies. Retaining a technology in HVIP for too long will lead to a disproportionate amount of HVIP dollars being spent on a technology that is already widely accepted, thereby limiting CARB's ability to invest in the technologies that would benefit the most from HVIP's unique structure. For more information on the importance of incentives as a temporary aid, the concepts behind graduation, how CARB evaluates technologies and markets, and why graduation for conventional internal combustion technologies is appropriate, see the Long-Term Heavy-Duty Investment Strategy (Appendix D).

The HVIP policy changes in the preceding pages are recommended because they further HVIP's program goals. As an added benefit, they provide cost savings at a critical time. Without these changes, the proposed AQIP allocation will fall short of demand by more than an order of magnitude. Though HVIP is still likely to run out of funds even after making all of the recommended changes, staff expects the project would operate for longer, tend to more priorities, and provide greater benefit to the markets and fleets the project serves.

CLEAN CARS 4 ALL

Proposed AQIP Allocation – \$3 million

Clean Cars 4 All (also known as the EFMP Plus-up Pilot Project) provides incentives for lower-income consumers living in and near disadvantaged communities who scrap their old vehicles and purchase new or used hybrid, plug-in hybrid, or ZEV replacement vehicles. Furthermore, participants can choose an alternative mobility option such as an electric bike and accessories, a voucher for public transit, or a combination of clean transportation options allowed under the program in lieu of purchasing a replacement vehicle. In addition, buyers of plug-in hybrid-electric vehicles (PHEVs) and BEVs are also eligible for home charger incentives. Participants must have a household income of less than 400 percent of the federal poverty limit and live in a ZIP Code containing a disadvantaged community census tract.

Annual goals for this and the scrap-only component of the enhanced fleet modernization program use participation rates as a measure of success for FY 2019-20. FY 2020-21 annual goals are established through a public process shortly after the approval of this Funding Plan. In addition to participation rates, projections for number of vehicles funded in total and by replacement vehicle technology type, and number of participants choosing the alternative mobility option will be included.

Current Project Status

Since FY 2014-15, CARB has allocated \$112 million for Clean Cars 4 All, including \$102 million of Low Carbon Transportation funding and \$10 million of Volkswagen settlement funding. South Coast Air Quality Management District (AQMD) has received \$61 million while San Joaquin Valley Air Pollution Control District received \$28 million. The Bay Area AQMD and Sacramento Metropolitan AQMD have more recently launched Clean Cars 4 All programs and have been allocated \$14 million and \$9 million respectively.

Staff Proposal for FY 2020-21

Staff proposes to allocate \$3 million dollars to Clean Cars 4 All to ensure that air districts administering the program do not run out of funding before additional funds become available. CARB will continue to monitor demand at the air district level, and will direct the funds to the district with the highest demand and greatest need for additional funding.

Staff's Proposed Changes to Project Criteria:

- **Direct Administrators to Align Definitions and Participate in One-Stop-Shop:** CARB is proposing to direct the air districts that administer Clean Cars 4 All programs to revise the definitions of household and income and other definitions as necessary to align with other clean vehicle purchase incentive programs and participate in One-Stop-Shop pilot project (One-Stop-Shop). This proposal is described in detail on page 35.
- **Proposed Program Requirements:** AB 630 (Cooper, Chapter 636, Statutes of 2017), codified the EFMP Plus-up Pilot Project into a formal, stand-alone program. In 2018, the Board approved guidelines for the Clean Cars 4 All Program as required by AB 630. This year, CARB will incorporate the detailed requirements of the Clean Cars 4 All Program Guidelines into the Funding Plan. Those requirements are:

Scrapped Vehicle Minimum Eligibility Requirements:

1. To receive an incentive from Clean Cars 4 All, an individual must be the registered owner of the vehicle with vehicle title issued in their name.
2. A vehicle that holds a salvage title is eligible for participation if registered as operable at the time of application.
3. The vehicle must meet one of the following requirements:
 - a. It shall meet the DMV requirements as specified in sections 3394.4(b)(6)(C) and 3394.4(b)(6)(D) of Title 16 of Division 33, Article 11 of the California Code of Regulations; or
 - b. An unregistered vehicle, or a currently registered vehicle not meeting (c)(1) above, may also be eligible if operated in California for the last two years and not registered in any other state or country in the last two years. Documentation of operation in California includes the following:
 - i. Proof of continuous insurance coverage in California for the two consecutive years preceding application to Clean Cars 4 All, without lapses in insurance coverage totaling more than 120 days; or
 - ii. At least two invoices from an Automotive Repair Dealer registered at the time of the repair with the Bureau pursuant to section 9884.6 of the Business and Professions Code showing the following:
 1. The Automotive Repair Dealer's valid registration number, as issued by the Bureau;
 2. The name and address of the Automotive Repair Dealer, as shown on the Bureau's records;
 3. Description of a repair or maintenance operation performed to the vehicle;

4. The vehicle year, make, model, and vehicle identification or license plate number matching the vehicle to be scrapped; and
 5. The date of the repair or maintenance visit.
- iii. Invoices submitted for the purpose of satisfying the requirements of section (B) shall be from two separate calendar years. The oldest invoice may not be older than twenty-four months prior to the date of application receipt.
4. The vehicle must be voluntarily dismantled at a Dismantler under contract with BAR.
 5. A vehicle must have a gross vehicle weight rating of 10,000 pounds or less, and be a passenger vehicle, truck, sport utility vehicle, or van.
 6. A vehicle must complete a functionality test.

Replacement Vehicle and Mobility Option Incentive Amounts:

1. Program incentives may not be redeemed for the purchase of a dismantled vehicle or a vehicle with a salvaged title (as described in Vehicle Code section 544).
2. Clean Cars 4 All incentives may only be redeemed for mobility options or a replacement vehicle that is 8 years old or newer and that is one of the following:
 - a. A conventional hybrid that meets or exceeds a minimum combined fuel economy rating of 35 miles per gallon;
 - b. A plug-in hybrid; or
 - c. A zero-emission vehicle.
3. An applicant determined to be eligible under the Clean Cars 4 All incentive program may receive one of the following minimum incentives depending on income eligibility and choice of replacement vehicle or mobility option:

Income Eligibility	Eight Years Old or Newer Hybrid Electric Vehicle 35+ MPG (Combined)	Eight Years Old or Newer Plug-In Hybrid and Zero-Emission Vehicle	Mobility Option
Low Income ≤225% FPL	\$7,000	\$9,500 (Plus up to \$2,000 for electric vehicle supply equipment [EVSE])	\$7,500 Face Value
Moderate Income ≤300% FPL	\$5,000	\$7,500 (Plus up to \$2,000 for EVSE)	\$7,500 Face Value
Above Moderate Income ≤400% FPL	Not Available	\$5,500 (Plus up to \$2,000 for EVSE)	\$7,500 Face Value

Definitions:

Household: Household members include you and your spouse and anyone you claim as a dependent on your tax form. If you are claimed as a dependent on someone else's tax form, your household size includes the person who claimed you as a dependent, that person's spouse, and all claimed dependents including yourself.

Outcomes

Staff estimates the proposed \$3 million allocation would pay for 286 vehicle replacements and reduce 3,183 metric tons of CO₂ equivalent GHG emissions, 2.45 tons of NO_x, 0.13 tons of PM 2.5, and 0.49 tons of ROG emissions over the lifetime of the project. In addition to these clean air and climate change benefits, the program is helping low-income participants reduce the cost of owning and operating a vehicle by replacing older and less reliable cars with newer and significantly more fuel efficient cars. So far, the average replacement vehicle is 17 years newer, and considerably more fuel-efficient than the average scrapped vehicle. Reducing the cost of ownership provides an economic benefit to participants and their local communities. Appendix B provides additional details on the emission estimates.

Participating air districts must report project information on a quarterly basis based on project administration and consumer surveys. With this information, and through continued interaction with stakeholders and analysis of the state of the light-duty vehicle market, CARB will be able to determine the participation rate and advancement of clean vehicles for disadvantaged communities and lower-income consumers, assess future funding needs, and evaluate other opportunities for making program enhancements.

CARB will report in Annual Reports and future Funding Plans the outcomes of this project including GHG reductions achieved or anticipated using the appropriate CARB quantification methodology; progress in meeting or exceeding SB 535 and AB 1550 targets for investment in and benefits to disadvantaged communities; updates on economic, environmental, and public health co-benefits achieved or anticipated; and transaction locations. Metrics to measure progress for this project includes information on the types of vehicles utilized, the number of participants, and clean mobility improvements experienced by participants.

CHAPTER 3: PROPOSED REVISIONS TO CRITERIA FOR EXISTING PROJECTS

While the Legislature has deferred action on the FY 2020-21 Cap-and-Trade Expenditure Plan, including Low Carbon Transportation, several projects have funds remaining from previous fiscal year allocations and would benefit from targeted changes to project criteria. Although funding allocations are not included for these projects at this time, the potential changes will help address a variety of goals to ensure that the projects are able to run smoothly over the course of FY 2020-21. Changes recommended will help streamline requirements between complementary programs, clarify requirements to make them more consumer friendly, enable programs to stretch remaining dollars further, and address necessary administrative changes.

Since staff is not proposing to allocate any new funding to these projects as part of the FY 2020-21 Funding Plan, clean air and climate change benefits associated with allocated funds are estimated in previous funding plans. CARB will continue to report in Annual Reports and future Funding Plans the outcomes of projects described in this section, in addition to the other projects funded by Low Carbon Transportation Investments not listed below. The report will include GHG reductions achieved or anticipated using the appropriate CARB quantification methodology; progress in meeting or exceeding SB 535 (De León, Chapter 830, Statutes of 2012) and AB 1550 targets for investment in and benefitting disadvantaged communities; updates on economic, environmental, and public health co-benefits achieved or anticipated; and transaction locations.

ALIGNING VEHICLE PURCHASE INCENTIVES: CVRP, CLEAN CARS 4 ALL AND FINANCING ASSISTANCE FOR LOWER INCOME CONSUMERS

To facilitate streamlined access through the One-Stop-Shop project and improve consistency and clarity across CARB's various lower-income consumer vehicle purchase incentive projects, staff is working to align various policies and criteria related to consumer eligibility. In particular, staff is examining income criteria and the definition of household used in CVRP for Lower-Income Applicants, Clean Cars 4 All, and Financing Assistance for Lower-Income Consumers (Financing Assistance).

Aligning definitions and requirements for these programs will reduce consumer confusion, make these programs more accessible for its target population, and streamline the application process. Alignment of these programs requires three modifications: income cap alignment, household definition alignment, and income definition alignment, which are discussed below. Since many of these changes will be made within individual projects, they are also discussed in their respective project revisions.

- **Income Cap Alignment:** Currently, programs use different income cap limits to determine applicant eligibility. Financing Assistance and Clean Cars 4 All use income caps of 400 percent of the Federal Poverty Level, whereas the CVRP increased rebates for lower-income applicants uses an income cap of 300 percent of the Federal Poverty Level. Staff recommends that all vehicle purchase incentive equity projects move to an income limit of 400 percent of the Federal Poverty Level.
- **Household definition:** The definition of household currently varies across programs, with some programs using a definition that mirrors the definition used by the IRS for tax purposes and others use alternative definitions that include roommates in the definition of household. Staff recommends that these programs adopt the following definition of household: Household members include the applicant, their spouse and anyone they claim as a dependent on their tax form. If the applicant is claimed as a dependent on someone else's tax form, the applicant's household size includes the person who claimed them as a dependent, that person's spouse, and all claimed dependents including the applicant.
- **Income Definition:** Staff recommends that these programs use gross income rather than adjusted gross income to better serve these programs' target audience. The adjusted gross income reflects an individual's income after deductions have been made. The tax laws typically change every year, and some examples of adjustments include contributions to an individual retirement account (IRA), capital losses, and gift and estate deductions. Deductions, like the ones listed, are typically incurred by those with higher incomes and more disposable incomes. In many cases, the target audience's adjusted gross income is the same or close to their gross annual income. Using gross income for these programs would better ensure that the funds are reaching the population for which they were intended.

Although these alignments efforts complement the One-Stop-Shop, creating a successful streamlined application ultimately requires the equity project administrators to work closely and cooperatively with the One-Stop-Shop grantee. Integration with One-Stop-Shop ensures all consumer-focused equity projects are easily accessible to the families and communities who are in the greatest need and stand to benefit the most from clean and affordable transportation. CARB staff will be closely monitoring the integration process, and CARB's future funding allocations may take into account each equity projects administrator's commitment to this end.

Staff have been asked by stakeholders for clarity regarding issuing 1099's to individuals that receive funding through these purchase incentive projects. While CARB is not a federal or tax regulating entity, staff believes that because these incentives are intended to serve as purchase price buy-downs, there is federal income tax law authority for treating incentive payments as non-taxable, and thus, not being

subject to Internal Revenue Service reporting requirements. Staff will continue to work with grantees on this issue.

CLEAN VEHICLE REBATE PROJECT (CVRP)

CVRP offers vehicle rebates to eligible applicants on a first-come, first-serve basis for light-duty ZEVs, plug-in hybrid electric vehicles, and zero-emission motorcycles. CVRP helps get the cleanest vehicles on the road in California by providing consumer rebates to partially offset the higher initial cost of these advanced technologies. Increased rebates for low-income applicants were introduced in 2016.

Staff's Proposed Changes to Project Criteria: Based on the current state of the economy, staff does not want to introduce uncertainty into the ZEV market by introducing major changes to the project. Therefore, staff is not proposing any major changes to CVRP at this time. However, staff is proposing minor program adjustments that will make implementation easier down the road and allow for alignment with other Clean Transportation Equity Projects, such as Financing Assistance and Clean Cars 4 All.

Staff is proposing the following program adjustments:

- Changing from using the Urban Dynamometer Driving Schedule, or UDDS, to determine all-electric range for plug-in hybrid vehicle eligibility to using United States Environmental Protection Agency (U.S. EPA) all-electric ranges as this information is more readily available to consumers. A U.S. EPA all-electric range of 25 miles is equivalent to the current minimum of 35 miles UDDS all-electric range requirement.
- Increase the minimum all-electric range requirement for PHEVs. Consistent with Board direction last year, this change will ensure the continued prioritization of available funding towards the cleanest vehicles and continue a push toward full electric vehicles over time. With this in mind and after reviewing stakeholder feedback, staff is proposing to increase the all-electric range requirement for PHEVs from 25 miles EPA (35 miles UDDS) to 30 miles EPA (45 miles UDDS). This change will decrease the list of eligible PHEVs from 10 vehicles to four vehicles. The updated eligible PHEV list would include the Chrysler Pacifica, Ford Escape Plug-In Hybrid, Toyota RAV4 Prime, and the Honda Clarity Plug-In Hybrid. Staff proposes that this change be effective April 6, 2021. Any applications received for PHEVs on the current vehicle eligibility list before this date will be eligible for a rebate. All applications received on or after April 6, 2021, will only be eligible for a rebate if the vehicle is on the updated eligible vehicle list at the time of application.

- Increasing the maximum gross vehicle weight rating (GVWR) for vehicle eligibility from 8,500 pounds GVWR to 10,000 pounds. Currently, vehicles that fall under this weight class are eligible for incentives through HVIP. However, HVIP staff is recommending an increase in the minimum GVWR for HVIP vehicle eligibility from 8,001 pounds to 10,001 pounds in this funding plan. HVIP and CVRP staff coordinated the move to ensure continued incentive opportunities for all weight classes. As more non-commercial ZEVs are released in this weight class, it makes sense to provide incentives for them under CVRP since HVIP is focused exclusively on commercial heavy-duty fleets and CVRP is geared more toward personal-use, light-duty vehicles. While no ZEVs are expected to launch in this space for this funding cycle, staff anticipates that products could emerge in time for the following funding cycle (late 2021). Staff proposes to work with stakeholders in the coming year to identify all potential vehicle offerings and distinguish commercial-use vehicles from those for personal use. Vehicles with a significant personal use market share would be eligible for CVRP or other incentive programs as long as they meet vehicle eligibility criteria for those programs.
- Increasing the income limit for increased rebates from a maximum of 300 percent of the federal poverty level to 400 percent to align with other incentive programs as discussed in the previous section.
- Directing the CVRP administrator to participate in One-Stop-Shop and revise the definition of household and other definitions as necessary to align with other clean vehicle purchase incentive programs as discussed in the previous section.
- Changing the outreach requirement for the CVRP administrator. Currently, the administrator must spend at least 50 percent of rebate processing fees on outreach. This requirement allowed the administrator to develop a very robust outreach program for CVRP focusing on the new car ready, low- and moderate-income, and dealer audiences. To support legislative and Board direction to provide outreach for increased rebates for low- to moderate-income consumers, staff proposes changing the outreach requirement in the CVRP grant to specify that at least 50 percent of rebate processing fees spent on outreach must be focused on targeting low- and moderate-income consumers. Staff will amend the current grant agreement to adjust the outreach requirement.
- Setting a framework to bifurcate vehicle eligibility requirements. During various public work groups and workshops, staff discussed the possibility of bifurcating CVRP vehicle eligibility requirements as EVs in larger vehicle classes are expected to hit the market as soon as next year. Staff proposes to bifurcate vehicle eligibility requirements by U.S. EPA vehicle class as this is what consumers will be most familiar with. Staff proposes that there be two

categories: (a) Cars and (b) Trucks, Vans, and Sport Utility Vehicles (SUVs). Staff proposes dividing U.S. EPA vehicle classes between the two categories as follows⁹:

Table 10: Proposed CVRP Vehicle Eligibility Bifurcation Categories

Cars	Trucks, Vans, and SUVs
Compact Cars	Small Pickup Trucks 2WD
Large Cars	Small Pickup Trucks 4WD
Midsized Cars	Standard Pickup Trucks 2WD
Minicompact	Standard Pickup Trucks 4WD
Subcompact Cars	Small SUV 2WD
Two Seaters	Small SUV 4WD
Midsized Station Wagons	Standard SUV 2WD
Small Station Wagons	Standard SUV 4WD
	Minivan 2WD
	Minivan 4WD
	Vans, Passenger Type

- At this time, staff is only proposing a framework for bifurcation of vehicle eligibility requirements. Staff recommends using this framework to adjust all-electric range requirements for PHEVs and the base MSRP cap for BEVs and PHEVs in the future. Staff recommends that all vehicles in both categories be subject to the minimum vehicle eligibility requirements at this time. As we get closer to the release date of new EVs in larger vehicle classes, staff will work with manufacturers and other stakeholders through the public process to set vehicle eligibility requirements to ensure that they do not limit consumer choice but focus on incentivizing the cleanest vehicles. Staff also recommends that in each vehicle class there should be at least two model choices available to consumers.

A majority of these changes are administrative in nature and have no impact to CVRP funding need. Staff anticipates that increasing the income limit for CVRP increased rebates from 300% to 400% FPL will have a minor impact on funding need. Based on income data from 2019 rebate applications, about 7 percent of applications from individuals were from applicants in the 300 percent to 400 percent FPL household income range. Given this information, staff anticipates a corresponding percentage increase in rebates for increased rebates after incorporating this change.

⁹ <https://www.fueleconomy.gov/feg/byclass/2020ClassList.shtml>

Staff anticipates that increasing the maximum GVWR for vehicle eligibility to 10,000 pounds will not have an immediate impact to CVRP funding need as there currently aren't any CVRP-eligible EVs in the 8,501-10,000 pound GVWR weight class. As larger EVs come to the market, staff will be able to better analyze how this change will impact funding need. Staff also anticipates that an increased all-electric range requirement for PHEVs will decrease CVRP funding need since the number of eligible vehicles will decrease. Staff will evaluate the fiscal impact to the program as it reviews funding need projections in early 2021. Staff will continue to meet with stakeholders to discuss how to design CVRP in a way that supports California's ZEV deployment goals and provides a stimulus to the ZEV market.

FINANCING ASSISTANCE FOR LOWER-INCOME CONSUMERS

The Financing Assistance for Lower-Income Consumers pilot project (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 low-interest loans. In addition, funding is available to consumers for EVSE. By increasing adoption of advanced clean vehicles, the project supports the State's ZEV deployment, air quality, greenhouse gas reduction and equity goals.

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.

Staff's Proposed Changes to Project Criteria:

- **Maintain Annual Percentage Rate at 12 Percent:** As part of recent project changes, CARB reduced the Annual Percentage Rate (APR) of loans issued by outside lenders from 16 to 12 percent. Last year staff suggested reducing the cap further to 8 percent for FY 2020-21 to be consistent with the APR cap on loans issued by Beneficial State Bank. However, analysis of the APR loans issued by outside lenders shows that 20 percent of applicants took loans with APR of more than 12 percent. Furthermore, stakeholders have also argued that flexibility should be maintained through a higher interest rate to ensure that credit-challenged applicants continue to have some options. Given the available data and stakeholders' input, staff proposes not to reduce the APR loan caps until further program changes occur and more data becomes available. Staff instead is proposing to give the Executive Officer the authority to adjust the interest rate for outside lenders as necessary to meet program needs as they occur.

- **Direct Administrators to Align Definitions and Participate in One-Stop-Shop:** Staff is proposing to direct program administrators to revise the definition of household and other definitions as necessary to align with other clean vehicle purchase incentives and participate in One-Stop-Shop as discussed on page 35.

ZERO-EMISSION ASSURANCE PROJECT PILOT

According to the SB 350 Guidance Document, one of the biggest barriers to ZEV adoption in the marketplace is affordability—if ZEV components fail, replacement batteries in electric vehicles can cost over \$5,000 and for many lower-income consumers this type of expenditure makes it unattractive or even impossible to purchase a ZEV. In an effort to address this concern, AB 193 (Cervantes, Chapter 363, Statutes of 2018) established the Zero-Emission Assurance Project (ZAP) 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 ZAP 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 and the FY 2020-21 Cap-and-Trade Expenditure Plan has been delayed, CARB is unable implement ZAP at this time; however, staff will continue to do research and lay the groundwork in anticipation of a direct funding appropriation.

CLEAN OFF-ROAD EQUIPMENT VOUCHER INCENTIVE PROJECT (CORE)

The Clean Off-Road Equipment Voucher Incentive Project (CORE) established a first-come, first-served voucher program for off-road equipment that began funding equipment in February 2020. The project targets commercialized products that have yet to achieve a significant market foothold. It is designed to accelerate deployment of cleaner technologies by providing a streamlined process for fleets ready to purchase specific zero-emission equipment to receive funding to offset the higher cost of such technologies. By promoting the purchase of zero-emission off-road equipment over internal combustion options, the project reduces emissions, particularly in areas that are most impacted by pollution; helps build confidence in zero-emission technology; and provides other sector-wide benefits, such as technology transferability, reductions in zero-emission component costs, and larger infrastructure investments.

Although the FY 2017-18 and FY 2019-20 Funding Plans set the framework for CORE, as a new program covering a wide variety of equipment applications, certain CORE elements were finalized by staff through a public work group process. Specifically, following three work group meetings held throughout the State, staff finalized the voucher amounts and determination methodologies, the types of voucher enhancements offered, and equipment types eligible for CORE funding at program launch. In response to stakeholder feedback, staff added both mobile power units and shore power cable management systems to the eligible equipment types to help address the challenges of providing power for zero-emission off-road equipment.

On August 4, 2020, CORE closed to new vouchers applications as all of the \$44 million funding allocation to CORE had been reserved, 6 months from when the program began accepting voucher requests. A wide variety of off-road equipment types, including 127 terminal tractors, 96 transport refrigeration units, 48 mobile power units, 22 large forklifts, and 16 railcar movers, received funding. Seventy-three percent of the vouchers have been reserved for equipment domiciled in low-income and/or disadvantaged communities.

As of September 2020, there were 13 manufacturers offering 49 unique equipment models eligible for vouchers in CORE. CORE has made a meaningful impact by stimulating growth in a number of zero-emission off-road markets that are just beginning to enter the early commercialization phase. While some manufacturers began to make their first few commercial sales using CORE, others were able to use the program to help make larger scale deployments of their equipment.

Despite it being the first year of the program, the activity generated by CORE is a strong indicator of the project's role in helping drive the market. Should funding become available in the future, CORE will continue to deploy more zero-emission equipment, encourage green investment in the state, and reduce emissions in areas that are most impacted by pollution.

CHAPTER 4: CONTINGENCY PROVISIONS

The proposed FY 2020-21 Funding Plan is based on the latest available information. However, circumstances may change between the time the proposed Funding Plan is released for public comment and when the Board approves the Funding Plan, project solicitations are issued, project funds awarded, or as projects are implemented. This section describes staff's proposed contingency plans to ensure that funds are spent expeditiously, efficiently, and where the need is the greatest. Under these provisions, the Board would grant the Executive Officer authority to make adjustments as necessary.

AQIP FUNDING LEVELS

Over past funding cycles, AQIP revenues were sometimes lower than the levels included in the State Budget, and project solicitations had to be scaled back. AQIP appropriation levels have been adjusted in the State Budget in recent years to more closely track anticipated revenues, however, the current economic crisis creates significant uncertainty surrounding FY 2020-21 revenues. As such, staff is proposing to leave \$0.64 million of the AQIP appropriation unallocated to function as a prudent reserve. As noted in Chapter 2, staff proposes the following contingency provisions specifying how the \$0.64 million in reserve funds would be allocated if revenues are sufficient. The additional funding would be allocated to HVIP, CORE, or Clean Cars 4 All if there is demonstrated demand. Under these provisions, the Board would grant the Executive Officer authority to allocate the AQIP reserve to one or more of these projects.

ADDITIONAL FUNDING SOURCES

If funding from other sources is provided for any of the project categories discussed in the Funding Plan, these outside funds will be allocated as needed for projects or as specifically required by the authorizing entity. Additionally, projects receiving additional funding may be altered to accommodate any conditions placed upon the use of alternative sources of funding as long as these conditions are consistent with the statutory provisions for Low Carbon Transportation and AQIP. Staff will consult with project work groups prior to making any changes to projects.

PROJECT CONTINUITY BETWEEN FUNDING CYCLES

A primary goal of the vehicle purchase incentive projects is to grow the market for clean technologies. Waitlists and disruptions caused by insufficient funding can adversely impact the market. To address these concerns, staff proposes contingency provisions to prevent or reduce interruptions to ongoing voucher and rebate consumer purchase incentive projects. Should the Legislature appropriate FY 2020-21 Low Carbon Transportation funds to specific projects (e.g. CVRP, HVIP, Clean Cars 4 All), the Executive Officer would have the authority to immediately allocate up to the maximum amount of funding to the specified projects as directed by the Legislature. Should the Low Carbon Transportation appropriation include

sub-appropriations to broader project categories such as the Clean Vehicle Rebate Project; Clean Trucks, Buses and Off-Road Freight Equipment; and Enhanced Fleet Modernization Program, School Buses and Transportation Equity Projects, the Executive Officer may allocate funds to the projects listed in Table 11 below. The Executive Officer would have the authority to allocate up to the total funds listed below as either the dollar amount, or percentage of the sub-appropriation, whichever is less.

Table 11: Contingency Allocations for FY 2020-21 Low Carbon Transportation Funds

Sub-Appropriation Category	Project to Receive Allocation	Dollar Amount (Up to)	Percentage of Sub- Appropriation (Up to)
Clean Vehicle Rebate Project	CVRP	--	100%
Enhanced Fleet Modernization Program, School Buses and Transportation Equity Projects	Clean Cars 4 All	\$25 Million	33%
	Financing Assistance for Lower Income Consumers	\$8 Million	10%
Clean Trucks, Buses and Off-Road Freight Equipment	HVIP	\$60 Million	40%
	CORE	\$30 Million	20%

Any remaining Low Carbon Transportation funds would be allocated as part of the FY 2021-22 Funding Plan. As CARB is only requesting that the Executive Officer be granted authority to allocate funding to existing projects, CARB has addressed the SB 1204 Requirements and Performance Criteria Evaluation for Heavy-Duty Projects in prior years' Funding Plans. Similarly, CARB addressed the California Climate Investment Guidelines in the FY 2019-20 Funding Plan. If necessary, CARB will provide updates to these evaluations as part of the FY 2021-22 Funding Plan.

Similarly, staff proposes a contingency provision to allow for uninterrupted implementation of the Truck Loan Assistance Program in the event that consideration of the FY 2021-22 Funding Plan is delayed beyond July 2021. If CARB is appropriated AQIP funding in the FY 2021-22 State budget and the Executive Officer determines

that the Truck Loan Assistance Program would run out of funding prior to Board consideration of the FY 2021-22 Funding Plan, the Executive Officer would have the authority to allocate up to 50 percent of FY 2021-22 AQIP funds to the Truck Loan Assistance Program.

Additionally, to avoid disruptions to ongoing projects, staff proposes the Executive Officer have the authority to establish applicant waiting lists for CVRP, Financing Assistance for Lower-Income Consumers, Clean Mobility Options, HVIP, CORE, or Truck Loans in the event funding is exhausted prior to the end of the funding cycle. If any of these projects end up with waiting lists, the Executive Officer would have the authority to amend the FY 2020-21 grant agreements to add FY 2021-22 funding upon the enactment of the 2021-22 State budget if funding is appropriated to these projects in the budget.

TECHNICAL OR ADMINISTRATIVE CHANGES

The proposed Funding Plan specifies all policy-related details regarding the projects to be funded. However, technical or administrative changes may be needed from time to time to ensure these projects are successful. Staff proposes a transparent process in which changes to a project category would be publicly vetted through the project work group process that has been established to discuss the implementation details of each project.

As described in Chapters 2 and 3, staff are also proposing that the Executive Officer be granted authority to make specific changes to HVIP and Financing Assistance should certain conditions arise. Should additional HVIP funding become available, staff propose that the Executive Officer be granted authority to make adjustments to HVIP policies as described on page 28. For Financing Assistance, staff propose that the Executive Officer be granted the authority to adjust the interest rate for outside lenders as necessary to meet program needs as they occur as described on page 40.

Additionally, should Fiscal Year 2020-21 Low Carbon Transportation funds be directed to HVIP or CORE through the contingency provisions described in this chapter, staff proposes that the Executive Officer be granted authority to adjust some or all HVIP and CORE voucher amounts by 20 percent. Both projects have experienced significant demand that have resulted in their closures to new voucher requests. Reducing voucher amounts may reduce the risk of funding shortfalls and waitlists for these projects. Budget shortfalls and frequent waiting lists adversely impact the market for advanced technologies by creating uncertainty and artificially starting and stopping demand. As primary goals of these projects are to support the market for zero-emission technologies, staff considers stability in funding voucher availability to be paramount. Prior to any changes in voucher amounts, staff will hold public work groups to discuss the details.

ACRONYM LIST

1. AB – Assembly Bill
2. AQIP – Air Quality Improvement Program
3. AQMD – Air Quality Management District
4. BEV – battery-electric vehicle
5. CARB – California Air Resources Board
6. CCR – California Code of Regulations
7. CEQA – California Environmental Quality Act
8. CO₂ – carbon dioxide
9. CORE – Clean Off-Road Equipment Voucher Incentive Project
10. CVRP – Clean Vehicle Rebate Project
11. DMV – Department of Motor Vehicles
12. EA – environmental analysis
13. EFMP – Enhanced Fleet Modernization Program
14. EVITP – Electric Vehicle Infrastructure Training Program
15. EVSE – electric vehicle supply equipment
16. ePTO – electric power take-off
17. FY – fiscal year
18. g/bhp-hr – grams per brake horsepower-hour
19. GHG – greenhouse gas
20. GVWR – gross vehicle weight rating
21. HVIP – Hybrid and Zero-Emission Voucher Incentive Program
22. NO_x – nitrogen oxides
23. PHEV – plug-in hybrid-electric vehicle
24. PM_{2.5} – fine particulate matter
25. ROG – reactive organic gases
26. SB – Senate Bill
27. SUV – Sport Utility Vehicle
28. UDDS – Urban Dynamometer Driving Schedule
29. U.S. EPA – United States Environmental Protection Agency
30. ZAP – Zero-Emission Assurance Project
31. ZEV – zero-emission vehicle