California Air Resources Board
Zero-Emission Vehicle
2023-2024
Action Plan

Introduction: ZEV Role

The California Air Resources Board, or CARB, uses a broad portfolio of regulatory, incentive, and planning strategies to support zero-emission transportation, with a strong focus on equitably reducing community exposure to vehicular air pollution. These strategies embrace both upstream and downstream portions of the sector, from fuels production to vehicle design, and are implemented in partnership with the federal government and other states. CARB works to develop, promote, and support new clean technologies and to make them broadly accessible to all Californians.

Equity Focus: CARB's work on zero-emission vehicles has become increasingly focused on equity and environmental justice as we go to zero. California's most vulnerable populations—children, older adults, and especially lower-income households and communities of color—bear the burden of pollution and have the most to gain as transportation goes to zero emission. This is why CARB works to ensure zero-emission transportation is accessible for all Californians and that benefits are directed to priority communities.

CARB's vision for racial equity defines racial equity as a future where race is no longer a predictor for life outcomes. CARB is committed to addressing environmental justice and advancing equity (including racial equity) in its work to respond to vehicular pollution exposure by opening transportation opportunities for all, including in its incentive and regulatory programs. By using tools such as CARB's Racial Equity Lens, CARB is working to develop clear metrics across the agency to assess for racial equity in its programs, with metrics in varying stages of development by program—this includes identifying and documenting inequities, examining the root causes of inequities, and working with interested parties and communities to understand and consider appropriate equitable alternatives and improvements for implementation.

Highlights and Lessons Learned:

- A strong emphasis on partnerships. CARB works to support national, state, and local regulators who are advancing zero-emission vehicles and low carbon transportation planning. CARB also looks to set priorities and develop programs in close collaboration with communities. These efforts include, for instance, working with the U.S. Environmental Protection Agency to move

forward regulations that can cut pollution and promote zero-emission vehicles, supporting other federal efforts (both regulatory and incentive-based), collaborating with other states that seek to advance these policies, and working with other regulators in California. Within California, these collaborations include ongoing work with energy, transportation, and housing regulators to ensure the transportation system continues to evolve toward an affordable and equitable new state that reduces dependence on single-occupancy vehicles and provides more transportation choices. Similarly, CARB looks to community organizations for partnerships and to assist with design of programs to ensure programs serve low-income communities, communities of color, and communities disproportionately impacted by air pollution and climate change.

- Continuing to focus on communities disproportionately impacted by air pollution while also reducing the negative impacts of climate change in these communities. CARB's investments aim to speed up the use of clean, zero-emission vehicles, while helping to boost the economy and train people for jobs. CARB supports small businesses by funding more community-led projects to create ways to make it easier for everyone to walk, bike, and use public transportation to move around their communities and beyond. These investments are important not just to support clean vehicles, but also to help create sustainable communities. In addition, these investments provide much needed reductions in emissions of greenhouse gases and criteria pollutants across the state.
- Recognizing important connections between sectors and working to decarbonize the economy as a whole. CARB's many fuels and power sector programs and collaborations work to reduce the carbon intensity of fuels, drop electricity sector emissions, and support economy-wide transitions—including development of needed infrastructure for a zero-emission vehicle market. CARB works to plan and develop these programs in tandem with vehicle programs. CARB is also focused on collaborating with other agencies to ensure continuing charging and fueling infrastructure buildout occurs comprehensively and equitably, with reliable access for all.

These themes, along with emerging priorities in this evolving space, continue to inform CARB's work, along with the specific priorities described below.

ZEV Market Development Objectives

Analysis: Maintain shared analytical understanding of the role of transportation in air quality/toxic and climate emissions. State Implementation Plan and climate goals.
Regulation: Develop and implement regulations to require investment into production, sale and use of zero-emission vehicles/transportation and mobility, freight, and off-road equipment considering needs identified by communities most impacted by poor air quality. Propose building standards that prepare California for

a 100% zero-emission vehicle fleet (coordinate with the Building Standards Commission, Department of Housing and Community Development, California Energy Commission, California Public Utilities Commission, and GO-Biz).
Incentives: Create and implement incentive systems that build awareness and market demand, facilitate market expansion—with a focus on meeting unique community transportation and mobility needs, and share lessons learned to replicate or expand creative projects and approaches where feasible. Ensure that all incentives support the state's high-road workforce goals as well and encourage high-road market expansion and improved job quality for California workers.
Community Engagement: Community engagement with feedback that informs program development and implementation. Explicit programs that develop partnerships and relationships that facilitate collaboration with our zero-emission vehicle programs.
ZEV Market Development: Expand new and used zero-emission vehicle markets and programs, consumer education and awareness, and increase access to clean mobility. Lead hydrogen infrastructure analysis, support electric vehicle supply equipment analysis and local zero-emission vehicle readiness (in collaboration with the California Energy Commission, California Public Utilities Commission, and GO-Biz).
Mobility and Technology Advancement: Invest in research, development, and demonstration to advance clean mobility and zero-emission vehicle technology, including opening/enabling new markets.
External Market Development: Leadership/collaboration with other states, nations, federal government, local government, and community-based organizations, etc.
Consumer and Worker Awareness: Strengthen and expand zero-emission vehicle-related education and outreach, and tailor to unique needs of impacted communities, to ensure all Californians understand cleaner mobility options.

1. Analysis

Maintain shared analytical understanding of the role of transportation in air quality/toxic and climate emissions.

Key Collaborators:

GO-Biz, California Energy Commission, California Public Utilities Commission, California Transportation Commission, California State Transportation Agency, Caltrans, California Department of Housing and Community Development, Department of General Services, Labor and Workforce Development, Air Districts, Local and Regional Governments, Metropolitan Planning Organizations, Tribal Governments, Federal Government, International Governments, Community-Based Organizations, Non-Governmental Organizations, Organized Labor, Electricity and Hydrogen Providers, Infrastructure Providers, Industry, Academia, Other State Governments, Transportation Planning Agencies, Environmental Groups, Industry Associations.

Key Results and Actions:

A. State Strategy for the State Implementation Plan (Ongoing)

The federal Clean Air Act requires areas that exceed the health-based national ambient air quality standards to develop State Implementation Plans that demonstrate how they will attain the standards by specified dates. The 2022 State Strategy for the State Implementation Plan describes the State of California's commitments to develop control measures and reduce emissions from state-regulated sources as needed to support attainment. CARB collaborated with local air districts on development of regional State Implementation Plans and solicited stakeholder input on the development of the 2022 State Strategy for the State Implementation Plan. The Board approved the 2022 State Strategy for the State Implementation Plan in 2022. CARB staff committed to address each measure as described in the 2022 State Strategy for the State Implementation Plan and undertake the actions detailed.

2024 Targeted Key Results:

- Initiate and/or continue regulatory development of several 2022 State Strategy for the State Implementation Plan measures for future Board consideration.
- Implementation will begin for several 2022 State Strategy for the State Implementation Plan measures.
- Bring to the Board for consideration 2022 State Strategy for the State Implementation Plan measure commitments for the 12 ug/m3 PM2.5 annual standard South Coast and San Joaquin Valley nonattainment areas.

B. Mobile Source Strategy (Ongoing)

The Mobile Source Strategy takes an integrated planning approach to identify the level of transition to cleaner mobile source technologies needed to achieve all of California's targets. CARB completed the 2020 Mobile Source Strategy in 2021, and the programs and concepts in the 2020 Mobile Source Strategy were incorporated in other planning efforts, including the 2022 State Strategy for the State Implementation Plan, 2022 Climate Change Scoping Plan Update, and community emissions reduction programs developed as a part of Assembly Bill 617's Community Air Protection Program. CARB staff has initiated the development of the 2025 Mobile Source Strategy and will build on the integrated planning approach from the 2016 and 2020 Mobile Source Strategy while conducting early and thoughtful public engagement with interested parties.

2024 Targeted Key Results:

- Initiate the formal public process for development of the 2025 Mobile Source Strategy with a kick-off public workshop.
- Participate in new and existing meetings with interested parties.

- Release a 2025 Mobile Source Strategy Discussion Draft and host a public workshop for public responses.

C. Climate Change Scoping Plan (Ongoing)

The 2022 Scoping Plan Update for Achieving Carbon Neutrality lays out a path to achieve targets for carbon neutrality and reduce anthropogenic greenhouse gas emissions by 85% below 1990 levels no later than 2045, as directed by Assembly Bill 1279. The 2022 Scoping Plan Update covers all sectors of the economy and provides a comprehensive framework for deployment of clean technologies and fuels, further reductions in short-lived climate pollutants, support for sustainable development, increased action on natural and working lands to reduce emissions and sequester carbon, and the capture and storage of carbon. The transportation sector is the largest contributor to California's greenhouse gas emissions and the 2022 Scoping Plan Update relies on strategies that will enable zero-emission vehicles, provide an adequate supply of low- and zero-carbon alternative fuels and fueling infrastructure, and reduce vehicle miles traveled, as the cornerstones for transportation decarbonization.

2024 Targeted Key Results:

- Produce the annual statewide Greenhouse Gas Emissions Inventory, which is one tool to track progress of California's climate programs toward achieving statewide greenhouse gas targets. The emissions included in the Greenhouse Gas Emissions Inventory represent actual emissions released into the atmosphere from the seven sectors identified in the 2022 Scoping Plan Update: transportation, electric power, industrial, commercial and residential, agriculture, high global warming potential, and recycling and waste.
- Maintain a climate dashboard, per Senate Bill 1145 that will provide publicly available information regarding the State's progress toward meeting its statewide climate change goals.
- In coordination with the California Public Utilities Commission and the Energy Commission, initiate an evaluation of hydrogen production and use in California per Senate Bill 1075.
- In coordination with the Energy Commission, begin development of a transportation fuels transition plan to ensure that the supply of petroleum and alternative transportation fuels is affordable, reliable, equitable, and adequate to meet demand for those fuels per Senate Bill X1-2.

2. Regulation

Develop and implement regulations to require investment into production, sale and use of zero-emission vehicles/transportation and mobility, freight, and off-road equipment considering needs identified by communities most impacted by poor air quality. Propose building standards that prepare California for a 100% zero-emission vehicle fleet (coordinate with Building Standards Commission,

Department of Housing and Community Development, Energy Commission, California Public Utilities Commission, GO-Biz).

Key Collaborators:
GO-Biz, California Energy Commission, California Public Utilities Commission, California Transportation Commission, California State Transportation Agency, Caltrans, California Department of Housing and Community Development, Department of General Services, Labor and Workforce Development, Air Districts, Local and Regional Governments, Metropolitan Planning Organizations, Tribal Governments, Federal Government, International Governments, Community-Based Organizations, Non-Governmental Organizations, Organized Labor, Electricity and Hydrogen Providers, Infrastructure Providers, Vehicle Manufacturers, Fleets, Freight Facilities, Industry, Academia, Investors/Financing Institutions, Grid Operators; Battery, Locomotive and Fuel Cell Manufacturers; Fleets, Other State Governments, Railroads, Transportation Network Company Drivers, Transportation Planning Agencies, Technology Providers, Workforce Training and Development Institutions, Component Suppliers, Environmental Groups, Industry Associations, Transport Refrigeration Unit Manufacturers.

Key Results and Actions:

A. Advanced Clean Cars II (Ongoing)
The Advanced Clean Cars II regulations continue stringent emission control of gasoline vehicles while setting a zero-emission standard for vehicle manufacturers, with the ultimate requirement of 100% of new cars sold into California being zero-emission vehicles by 2035. The regulations will ensure that consumers have access to cleaner vehicle options starting with the 2026 model year through 2035. New zero-emission vehicle requirements also include consumer assurance provisions to increase consumer confidence in zero-emission vehicles throughout their life, including standardized vehicle charging, durable electric vehicle range, transparent and standardized data requirements, and ensuring vehicles can be repaired by independent repair shops. With Advanced Clean Cars II, CARB has guaranteed fewer smog-forming and greenhouse gas emissions that will harm Californians, especially those living along transportation corridors. Increased zero-emission vehicle requirements and innovative environmental justice vehicle values will increase the likelihood lower-income individuals will be able to access the technology.

2023 Targeted Key Results:

- Further focus efforts on equitable transition to zero-emission vehicle technology by working closely with manufacturers, communities, and non-governmental organizations to ensure successful implementation of the Zero-Emission Vehicle Regulation and reduce barriers for manufacturers participating in environmental justice provisions.

- Continue to support other states seeking to adopt California's Advanced Clean Cars II regulations.

2023 Outcomes:

- In 2023, staff launched the Zero-Emission Vehicle Equity Task Force, which brings together equity interested parties, manufacturers, public agencies, and representatives from other key sectors to accelerate deployment of zero-emission vehicles and charging infrastructure in California's low-income and disadvantaged communities. The Zero-Emission Vehicle Equity Task Force met twice as a large group and regularly in smaller workgroups over the course of 2023.
- Twelve states and the District of Columbia have now adopted the Advanced Clean Cars II regulations. These states constitute more than 30% of new light-duty vehicle sales in the U.S.

2024 Targeted Key Results:

- Continue to support other states seeking to adopt California's Advanced Clean Cars II regulations.
- Continue the work of the Zero-Emission Vehicle Equity Task Force, including convening task force meetings, supporting work group projects, collaborating with participants on community tours, developing new tools and analyses to inform task force efforts, and fostering manufacturer participation in the Advanced Clean Cars II environmental justice provisions.
- Prepare for implementation of the Advanced Clean Cars II regulations by developing a new reporting system and associated templates and working with manufacturers as they seek to certify 2026 model year vehicles.
- Continue the public process to develop amendments to Advanced Clean Cars II to bring to the Board in 2025. The goal of the amendments is to further reduce greenhouse gas emissions from the light-duty vehicle fleet and incorporate new zero-emission vehicle assurance measures to support the market.

B. Advanced Clean Fleets Regulation (Ongoing)

The Advanced Clean Fleets Regulation contributes to achieving the state's criteria pollutant and greenhouse gas reduction goals and cleaner technology targets needed to protect communities. The goal of the regulation is to achieve emissions reductions by accelerating the market for zero-emission trucks and buses by requiring fleets that are well suited to phase-in zero-emissions technology over several decades.

The regulation supports the Governor's Executive Order N-79-20 to reach 100% zero-emission drayage trucks by 2035 and 100% zero-emission medium- and heavy-duty vehicles by 2045, where feasible. It is part of a comprehensive strategy

that would accelerate widespread uptake of zero-emission vehicles in the medium- and heavy-duty truck sector and light-duty package delivery vehicles.

The regulation applies to drayage trucks that visit ports and intermodal rail yards, state and local government fleet vehicles, and high priority fleets that are well suited for zero-emission vehicles. High priority fleets are federal government agencies and other entities with $50 million in revenue or that operate 50 or more trucks under common ownership and control and operate at least one vehicle in California. The regulation begins in 2024 and also establishes a clear end to medium- and heavy-duty internal combustion engine vehicle sales starting in 2036.

The regulation complements the zero-emission vehicle sales required by the Advanced Clean Trucks regulation. These two regulations together are expected to result in 520,000 zero-emission vehicles by 2035 and more than 1.25 million by 2045.

2023 Targeted Key Results:

- Staff have held one workgroup and one workshop in early 2023.
- Staff plans to release modifications to the proposed regulation in March 2023 and return to the Board for a final vote during the April 2023 Board hearing. If approved, staff will complete the rulemaking process and submit the package to the Office of Administrative Law in 2024.
- After Board approval, staff will begin implementation of the regulation, including preparation of outreach materials and setting up reporting systems for initial requirements beginning January 1, 2024.

2023 Outcomes:

- Staff held one workgroup and one workshop in 2023 for regulatory development.
- Staff released modifications to the proposed regulation in March 2023 and presented the regulation to the Board for a final vote during the April 2023 Board hearing.
- Staff completed the rulemaking process and submitted the package to the Office of Administrative Law in August 2023.
- The rulemaking was approved by the Office of Administrative Law with an effective date of October 1, 2023.
- In December 2023, staff launched a Truck Regulations Implementation Group with a diverse representation of affected interested parties and held four workgroup meetings to gather input and help coordinate efforts related to outreach, infrastructure, rule provisions, and border community strategies.
- Staff began implementation efforts by scheduling training sessions, updating webpages, user guides, making reporting system updates and

adding frequently asked questions to the Advanced Clean Fleets web page.

2024 Targeted Key Results:

- Staff plan to continue holding Truck Regulation Implementation Group meetings, trainings on the regulation, and continue to meet one-on-one with stakeholder groups.
- Staff plan to continue developing and releasing outreach and implementation materials.
- Drayage fleets, high priority fleets, and state government and local government fleets are due to report for the Advanced Clean Fleets regulation in CARB's Truck Regulations Upload, Compliance, and Reporting System, known as TRUCRS.
- Staff will post information about enforcement of the regulation once U.S. EPA issues a waiver to enforce the regulation. A waiver is not needed to enforce requirements for state and local government agencies.

C. Advanced Clean Trucks Regulation (Ongoing)

The purpose of the Advanced Clean Trucks Regulation is to accelerate the widespread uptake of zero-emission vehicles in the medium- and heavy-duty truck sector and reduce the amount of harmful emissions generated from on-road mobile sources. The regulation requires medium- and heavy-duty vehicle manufacturers to sell an increasing percentage of sales as zero-emission vehicles starting in 2024 and increasing through 2035. The regulation is expected to result in about 100,000 zero-emission trucks by 2030 and 300,000 by 2035. Reporting and record keeping requirements began in 2022 for 2021 model year sales. In 2022, manufacturers reported a total of 104,558 medium- and heavy-duty trucks that were produced and delivered for sale into California. Of that total, approximately 7,600 were zero-emission vehicles, which is about 7.5% of the total reported medium- and heavy-duty vehicle sales; no zero-emission vehicle sales were required.

The regulation provides solutions that overcome barriers to deploy heavy-duty zero-emission vehicles for low-income residents and promote environmental justice. The deployment of heavy-duty zero-emission vehicles in low-income and disadvantaged communities eliminates tailpipe emissions, reduces particulate matter associated with brake wear, reduces petroleum use, reduces energy consumption, and helps California achieve its air quality and climate protection goals.

2023 Targeted Key Results:

- Manufacturers completed 2022 model year reporting in early 2023.
- CARB staff published 2022 model year sales data for medium- and heavy-duty vehicles.

2023 Outcomes:

- CARB entered into the Clean Truck Partnership with major manufacturers to advance development of zero-emission vehicles.
- Began the process to amend the Advanced Clean Trucks regulation to fulfill CARB's commitments in the Clean Truck Partnership.
- Released improvements to the Advanced Clean Trucks Reporting System to streamline manufacturer reporting and provide secure user logins, real-time data validation, and credit and deficit calculations.
- Conducted outreach to manufacturers via Manufacturers Advisory Correspondence outlining updates to the reporting process.
- Data reported by manufacturers in 2023 show that for the 2022 model year, zero-emission vehicle sales accounted for approximately 7.5% of the total medium- and heavy-duty zero-emission vehicle sales when no zero-emission vehicle sales were required. This percentage of sales is already higher than the annual sales percentage required for the 2024 model year.

2024 Targeted Key Results:

- By March 30, 2024, manufacturers are due to report 2023 model year sales.
- Publish 2023 model year sales data in the second half of 2024.
- Hold a Board hearing as part of the rulemaking process for the first set of amendments to the Advanced Clean Trucks regulation.
- Continue to hold workshops as part of the rulemaking process for second set of amendments to present a zero-emission vehicle credit pooling concept among states that adopt the regulation.

D. Clean Miles Standard (Ongoing)

The Clean Miles Standard is a regulation to increase zero-emission miles and reduce greenhouse gas emissions from passenger ride-hailing services offered through transportation network companies like Uber and Lyft. The regulation requires, by 2030, that 90% of vehicle miles traveled in ride-hailing fleets be zero-emission miles and that ride-hailing fleets reduce their greenhouse gas emissions to 0 grams carbon dioxide, or CO2, per passenger mile traveled. CARB adopted the regulation in May 2021. Pursuant to Senate Bill 1014, the California Public Utilities Commission implements the standards.

As part of implementation of the Clean Miles Standard, the California Public Utilities Commission is required to ensure minimal negative impact on low-income and moderate-income drivers and support the goals of clean mobility for low- and moderate-income individuals. Equity is addressed through proposals for incentives, robust engagement and working groups, annual surveys, and reports on driver impacts and barriers.

2023 Targeted Key Results:

- Regulatory requirements for zero-emission miles and greenhouse gas emissions reductions begin in 2023.
- Continue to support California Public Utilities Commission in their proceeding to implement the regulation.
- Help provide insights on barriers for drivers transitioning to zero-emission vehicles and the financial impacts of the Clean Miles Standard implementation on drivers through surveys conducted under a CARB research contract with UC Davis titled, "Assessing the Early Impacts of the Clean Miles Standard on California Ride-Hailing Drivers."

2023 Outcomes:

- Regulatory requirements for the 2023 calendar year include a 2% zero-emission miles target and greenhouse gas emissions reductions.
- Supported the California Public Utilities Commission in their proceeding to implement the regulation. The California Public Utilities Commission staff released a supplemental proposal for program implementation in May 2023.
- First survey launched under CARB research contract with UC Davis titled, "Assessing the Early Impacts of the Clean Miles Standard on California Ride-hailing Drivers."

2024 Targeted Key Results:

- Implement regulatory requirements for the 2024 calendar year, which include a 4% zero-emission miles target and greenhouse gas emissions reductions.
- Support the California Public Utilities Commission in finalizing Phase 1 of their proceeding to implement the regulation and in launching Phase 2.
- Coordinate with transportation network companies and the program administrator of the Drivers Assistance Program to align incentive program development and outreach to drivers.
- Complete first driver survey and analyze results under CARB research contract with UC Davis on assessing the impacts of the regulation on California ride-hailing drivers.

E. Electric Vehicle Supply Equipment Standards Regulation (Ongoing)

CARB's Electric Vehicle Supply Equipment Standards Regulation, adopted pursuant to Senate Bill 454, establishes requirements for electric vehicle service providers to enable drivers to confidently and reliably access public charging infrastructure. The regulation is intended to broaden access to public plug-in electric vehicle infrastructure through setting minimum payment hardware and signage requirements. In implementing the regulation, CARB continues to evaluate barriers to access and the extent to which the regulation is adequately addressing those barriers. In 2022, staff conducted a technology review including surveys of drivers' experiences at public charging stations and evaluated the

availability and use of different payment methods to understand whether the requirements of the regulation remain appropriate. The initial technology review showed that more research is needed on usage of contactless payment technology, reliability and cost of payment systems, and barriers lower-income drivers experience at public charging locations.

Through the regulation, staff aim to learn more about lower-income consumer preferences for paying for goods, access to contactless payment technologies, and barriers lower-income drivers experience at public charging locations.

2023 Targeted Key Results:

- Continue to implement and track compliance with the regulation.
- Publish the second iteration of the standards technology review in late spring 2023, which will focus on reliability and cost of payment systems, lower-income access to contactless payment technologies, barriers to paying for charging in public, and communicating state actions to increase access to public charging stations through web content.
- Provide an informational update to the Board on the second technology review in summer 2023.

2023 Outcomes:

- The California Legislature passed Assembly Bill 123 which aligned the payment hardware requirements with National Electric Vehicle Infrastructure Formula Program, known as NEVI standards, and also transferred responsibility for implementation to the Energy Commission.

2024 Targeted Key Results:

- Post results from the second technology review.
- Update and enforce the CARB regulation consistent with legislation passed in 2023.
- Work with the Energy Commission to support their rulemaking process to transfer the regulation to them.

F. Heavy-Duty Phase 3 Greenhouse Gas Standards (Ongoing)

There have been several phases of progressively more stringent greenhouse gas standards for medium- and heavy-duty engines and vehicles. The Phase 1 greenhouse gas standards, based on off-the-shelf technologies and applicable to 2014 and later model year medium- and heavy-duty engines and vehicles, were adopted by U.S. EPA in 2011 and by CARB in 2013. The Phase 2 greenhouse gas standards, adopted by U.S. EPA in 2016 and CARB in 2018, were more technology-forcing than Phase 1. The requirements begin with model year 2021 for medium- and heavy-duty engines and vehicles and will be fully implemented by model year 2027. Phase 2 required manufacturers to build lower greenhouse gas emitting medium- and heavy-duty vehicles, but it had no

specific mandate for manufacturers to increase the penetration rate of heavy-duty zero-emission vehicles nationwide. California encouraged U.S. EPA to adopt Phase 3 Greenhouse Gas Standards that are more ambitious and stricter than previous regulations with significant penetration of heavy-duty zero-emission vehicles and maximized carbon dioxide benefits.

The deployment of cleaner and energy efficient heavy-duty vehicles in low-income and disadvantaged communities reduces petroleum use and energy consumption, and helps California achieve its air quality and climate protection goals.

2023 Targeted Key Results:

- Reviewed and commented on U.S. EPA's expected federal Heavy-Duty Phase 3 Proposal in Spring 2023.

2023 Outcomes:

- CARB staff reviewed the proposed federal Heavy-Duty Phase 3 Greenhouse Gas Regulation and submitted substantial comments advocating for stringent standards to U.S. EPA rulemaking docket in June 2023.

2024 Targeted Key Results:

- U.S. EPA has released the final version of the federal Heavy-Duty Phase 3 Greenhouse Gas Regulation in 2024. CARB staff will assess the final U.S. EPA regulation and consider any future CARB rulemaking activity.

G. Innovative Clean Transit (Ongoing)

The Innovative Clean Transit regulation is the first regulation in California and the United States requiring heavy-duty vehicles to move from internal combustion technologies to zero-emission technologies. It requires all public transit agencies to gradually transition to zero-emission technologies with a planning goal of a 100% zero-emission bus fleet by 2040 and encourages them to provide innovative first- and last-mile connectivity and improved mobility for transit riders. The regulation requires a progressive increase of a transit agency's new bus purchases to be zero-emission buses based on their fleet size.

Zero-emission buses are an important component of CARB's zero-emission portfolio as they provide affordable, accessible clean transportation means to local communities, especially the low-income and disadvantaged communities.

2023 Targeted Key Results:

- Continued outreach to assist small transit agencies complete rollout plans.
- Rollout plans for small transit agencies are due June 2023.
- Target workgroups to address implementation.

- Transit annual reporting started in 2021 and will continue through 2050.
- Annual implementation updates will be provided to the Board.

2023 Outcomes:

- Enhanced outreach efforts and provided additional regulatory support by supplying information of multiple regulations (e.g., Heavy-Duty Inspection and Maintenance, Advanced Clean Fleets, etc.) to transit agencies.
- Staff finished reviewing and approved Zero-Emission Bus Rollout Plans that cover more than 95% of the statewide bus population. Four major takeaways were identified, which enable staff and the industry to better understand the market and fleet needs.
    - Commitment: transit agencies are committed in taking strong early actions and achieving a zero-emission bus fleet ahead of 2040 goal.
    - Technological trends: transit agencies are mainly choosing depot-charging strategy. There is also an increasing interest in fuel cell electric bus deployment.
    - Challenges: improvements are still needed in the areas of infrastructure, buses, fuel, and workforce development.
    - Collaboration: There is need for regional coordination.
- Transit annual reporting started in 2021 and will continue through 2050.
- Annual implementation update was provided to the Board.
- Zero-emission bus purchase requirements for large transit agencies started in 2023 with no sign of noncompliance.
- As of December 31, 2022, there were 636 zero-emission buses (540 battery-electric and 96 fuel cell electric buses) in service and 458 zero-emission buses (405 battery-electric and 53 fuel cell electric buses) on order. When combining the zero-emission bus numbers with the 2023 funding awards, transit agencies are ahead of the Innovative Clean Transit's target of 1,347 zero-emission buses in 2027.

2024 Targeted Key Results:

- Redouble the outreach effort to help transit agencies comply with multiple CARB regulations.
- Target various workgroups to address implementation challenges and infrastructure barriers.
- Continue collaboration with the California Transit Association, California Association for Coordinated Transportation, transit agencies, and the National Renewable Energy Laboratory, on the preparation of Phase 2 of the comprehensive review. Phase 2 work will examine program readiness for 2026-2028. The report is anticipated to be released in 2025.
- Transit agencies annual reporting and zero-emission bus market monitoring.

H. In-Use Locomotive Regulation (Ongoing)

By 2023, return to the Board for adoption of the In-Use Locomotive Regulation requires deposits into a spending account for locomotive emissions emitted in California. Funds would be used to mitigate emissions through use and demonstration of cleaner technologies, including zero-emissions equipment and infrastructure. Use of zero-emissions equipment is encouraged by zero-emission credit until 2030 that reduces the deposit obligations if eligible zero-emissions equipment is used. Beginning in 2030, only locomotives less than 23 years of age could be operated in California. Additionally, starting in 2030, the regulation would require switch, industrial and passenger locomotives with original engine build date of 2030 or newer to be operated in a zero-emission configuration in California, and starting in 2035, line haul locomotives with original engine build dates of 2035 or newer must be operated in a zero-emission configuration in California.

More than half of all rail yards in California are in disadvantaged communities. Requiring zero-emissions for switch and industrial locomotives will reduce emissions from rail yards. Requiring locomotives to operate as zero-emission will provide cleaner air for all of California, especially those rail yards located in or near disadvantaged communities. Use of eligible zero-emissions equipment and infrastructure in a disadvantaged community will accrue double zero-emission credit.

2023 Targeted Key Results:

- Return to Board for adoption in spring 2023.
- Begin regulatory implementation in fall 2023.

2023 Outcomes:

- Regulation became effective January 1, 2024.

2024 Targeted Key Results:

- Prepare for implementation of the regulation by developing a new reporting system and working with operators as the first reporting date of July 1, 2026, approaches.
- Continue outreach to small rail operators to assist with federal and state grant funds for zero-emission locomotives.

I. Low Carbon Fuel Standard (Ongoing)

The Low Carbon Fuel Standard is designed to decrease the carbon intensity of California's transportation fuel pool and provide an increasing range of low-carbon and renewable alternatives, including zero-emission vehicles, which is a key strategy of achieving statewide climate change goals. The Low Carbon Fuel Standard provides substantial incentives for using electricity and hydrogen in zero-emission vehicles, as well as separate provisions that support early buildout

of zero-emission vehicle refueling infrastructure and requirements that utilities reinvest Low Carbon Fuel Standard credit proceeds to support zero-emission transportation in California.

2024 Targeted Key Results:

- Present amendments to the Low Carbon Fuel Standard Regulation for Board approval.

J. Small Off-Road Engines (Ongoing)

The Small Off-Road Engine regulations apply to new engines manufactured for sale in California. New amendments to the regulations were adopted in December 2021 and became effective January 1, 2023. The emission standards for oxides of nitrogen and reactive organic gases are zero beginning in model year 2024 for engines used in most equipment and are tightened for engines used in generators and large pressure washers beginning in model year 2024 and zero beginning in model year 2028.

The regulations are industry-wide and apply directly to manufacturers, not to end users. Professional landscapers will be exposed to fewer harmful emissions when using zero-emission equipment instead of small-engine-powered equipment. CARB will focus outreach and engagement toward smaller, less-resourced landscaping businesses that are critical for ensuring the successful deployment of zero-emission equipment. These businesses are more difficult to reach and have shown hesitance to adopt zero-emission equipment. Small engine dealers—frequently a central gathering point for landscapers and a conduit for sharing equipment information—will be a critical venue for outreach and community engagement efforts. Upfront cost of zero-emission equipment can be higher than upfront cost of small-engine-powered equipment, particularly for professional-grade equipment. Cost savings from decreased maintenance and fuel costs can be realized within the lifetime of equipment. Small landscaping businesses face higher risk with investment in new technology, so education on the cost and health-related advantages of zero-emission equipment and incentive availability will be critical. More discussions will take place with communities on how zero-emission equipment can be introduced over time to make any shift in operations gradual. Language access will be an essential element of engagement.

2023 Targeted Key Results:

- Form a workgroup with landscapers to discuss the updated rules, the availability of incentives for purchasing zero-emission equipment, and landscapers' questions. Expect to invite interested parties to join the workgroup spring 2023 and hold the first meeting in early summer 2023.
- Conduct outreach to residents and businesses who are likely to be impacted by the updated rules. Share fact sheets, collaborate with air districts, communities, and others to ensure users are aware of 1)

incentives and know how to take advantage of them, and 2) timelines of regulations. Ensure we reach organizations with internal landscaping operations, including schools and municipalities, in addition to small landscaping businesses.
- Continue demonstration projects of zero-emission equipment, including the Zero-Emission Equipment Roadshow events.
- Provide zero-emission equipment to air districts that they can use for demonstrations to support incentive programs.
- Attend shows and expos with landscapers to inform them about regulations and incentive opportunities.
- Prepare a report on implementation of regulations to provide to the Board in early 2024.

2023 Outcomes:

- Conducted outreach to landscaping businesses and other interested parties through postcards, environmental justice blog posts, flyers at business organization meetings and trade shows, and in-person interactions at expositions.
- Landscaper Workgroup:
    - Held Landscaper Workgroup Meetings; number of attendees has increased.
    - Formed a panel of landscapers to participate in discussions and share experiences with zero-emission equipment and incentive programs.
    - Meeting content included updates to the small off-road engine regulations, information on incentive funding, guest panelists from air districts, landscaper storytelling.
- Continued implementation of the Zero-Emission Equipment Roadshow demonstration project.
- Evaluated different loaning models other than to air districts.
- Shows and events:
    - Attended several Clean Off-Road Equipment Voucher Incentive Project events throughout the state.
    - Hosted booth and presented on updates to the regulations at the Anaheim Landscape Expo in Anaheim, Calif., on September 20-21, 2023.
    - Attended the Outdoor Power Equipment Institute's Equip Expo in Louisville, Ky., on October 17-20, 2023.
    - Presented on updates to the regulations and incentive funding at the Electric Equipment Expo at McKelvey Park, in Mountain View, Calif., on October 19, 2023.
- Supported implementation by creating a 2021 small off-road engine regulations amendments fact sheet and responding to emailed inquiries.

- Drafted an implementation report that focuses on outreach and compliance assistance, engine and evaporative family certification, certification credit programs, compliance testing, surveys, incentive programs, and analysis of zero-emission market growth.

2024 Targeted Key Results:

- Continue quarterly Landscaper Workgroup Meetings and continue to accept landscaper panelist nominations.
- Continue outreach to landscaping businesses and other interested parties through various media and events to ensure they are aware of regulation amendments and incentive funding.
- Continue outreach through the Zero-Emission Equipment Roadshow demonstration.
- Set up an additional zero-emission equipment loan program.
- Continue to support implementation of the 2021 small off-road engine regulation amendments through the landscaper workgroup, incentive funding, surveys, engagement with engine and equipment manufacturers, market analysis, and annual updates to the Board. Because new emission standards begin model year 2024, the next implementation report will focus on engine and evaporative family certification meeting the more stringent emission standards and the development of the zero-emission market.

K. Transport Refrigeration Units (Ongoing)

Continue implementation of the 2022 amendments to the existing Transport Refrigeration Unit rule, which include a zero-emission fleet requirement for truck transport refrigeration units that began December 31, 2023. Continue development of a new rule to transition non-truck transport refrigeration units to zero -emissions. Non-truck transport refrigeration units include refrigeration units mounted on or in trailers, domestic shipping containers, and railcars; as well as generator sets used to provide power to electrically-driven refrigeration units. Timing and requirements of the new regulation are still to be determined.

Requiring transport refrigeration units to be zero emissions will provide cleaner air for all of California, including those located in or near disadvantaged communities.

CARB staff plans to incorporate a comprehensive community engagement effort to engage communities impacted by transport refrigeration unit activity thoughtfully and intentionally to encourage participation throughout as part of the rulemaking process for the new rule.

2023 Targeted Key Results:

- Conduct outreach on new requirements that begin in 2023.
- Implement new regulatory requirements.

- Begin development for new rule transitioning non-truck transport refrigeration units to zero emissions.

2023 Outcomes:

- Conducted outreach on the 2022 amendments (sent program updates via printed flyers, emails, and list serve notices; updated Transport Refrigeration Unit Program webpages; and posted new guidance documents).
- Implemented new requirements included in the 2022 amendments.
- Held an informative community-focused session on transport refrigeration units and CARB's regulatory development process in September 2023.
- Held an initial concept workshop on zero-emission non-truck transport refrigeration units in November 2023.

2024 Targeted Key Results:

- Continue outreach on the 2022 amendments.
- Continue regulatory development, including community engagement effort, for new rule to bring non-truck transport refrigeration units to zero emissions.
- Hold additional public workshops on new rule development.

L. Zero-Emission Airport Shuttle Regulation (Ongoing)

The Zero-Emission Airport Shuttle Regulation requires airport shuttle operators to transition to zero-emission vehicle technologies starting in 2027 and achieve 100% zero emissions by the end of 2035. The regulation applies to airport shuttle operators who own, operate, or lease vehicles at any of the 13 California airports regulated under this rule (regulated airports). The reporting requirements for the fleets began in 2022.

2023 Targeted Key Results:

- The regulation requires fleets to report and update their fleet information into the Truck Regulation Upload and Reporting System, or TRUCRS, annually starting in 2022.
- By March 1, 2023, fleet owners will have reported their information as it was on December 31 of the year prior (2022). The number of reported vehicles is expected to increase since reporting requirements began in 2022.

2023 Outcomes:

- Fleet information has been reported in the Truck Regulation Upload and Reporting System.

2024 Targeted Key Results:

- Fleets are required to ensure fleet information is kept up to date.

M. Zero-Emission Forklift Rulemaking (Ongoing)

CARB staff is currently developing a measure that would reduce emissions of oxides of nitrogen, fine particulate matter, other criteria pollutants, toxic air contaminants, and greenhouse gases from large spark-ignition forklifts. This measure, which has been identified in CARB's Mobile Source Strategy, State Implementation Plan, and Sustainable Freight Action Plan, is one of several near-term actions intended to facilitate further zero-emission equipment penetration in the off-road sector.

Internal-combustion forklifts emit harmful pollutants and are used at warehouse and distribution centers, industrial facilities, and other locations that are commonly near schools, hospitals, elder care facilities, and residential neighborhoods. These locations are prevalent in low-income communities and communities of color. The accelerated deployment of zero-emission forklifts would reduce emissions in such communities, decrease petroleum use, reduce energy consumption, and help California achieve its equity, air quality, and climate protection goals.

2023 Targeted Key Results:

- September 2023 Board date.

2023 Outcomes:

- Staff held two workshops in 2023 for regulatory development.
- In November 2023, staff published the Notice of Public Hearing for the regulatory proposal.

2024 Targeted Key Results:

- Staff plans to release modifications to the proposed regulation in spring 2024.
- June 2024 Board date.

3. Incentives

Create and implement incentive systems that build awareness and market demand, facilitate market expansion—with a focus on meeting unique community transportation and mobility needs, and share lessons learned to replicate or expand creative projects and approaches where feasible. Ensure that all incentives support the state's high-road workforce goals as well and encourage high-road market expansion and improved job quality for California workers.

Key Collaborators:

GO-Biz, California Energy Commission, California Public Utilities Commission, Caltrans, Department of General Services, Air Districts, Local and Regional Governments, Tribal Governments, Federal Governments, Community-Based

Organizations, Non-Governmental Organizations, Fleets, Industry, Academia, Infrastructure Providers, Investors/Financing Institutions, California Department of Consumer Affairs, Department of Finance, State Treasurer's Office, California Infrastructure and Economic Development Bank, Bureau of Automotive Repair, California Infrastructure and Economic Development Bank, California State Transportation Agency, Capitol Corridor Joint Power Authority, Vehicle Manufacturers, Investors/Financing Institutions, Insurance, Farmers, California Department of Food and Agriculture, Cal Recycle, California Department of Education, School Districts, Utility Providers.

Key Results and Actions:

A. Clean Vehicle Rebate Project (Ended)

The Clean Vehicle Rebate Project, or CVRP, supported California's zero-emission vehicles deployment goals and provided support to increase zero-emission vehicle uptake in priority communities. As one of CARB's flagship incentive programs, CVRP provided rebates on a first-come, first-served basis for the purchase or lease of new battery-electric, fuel cell electric and plug-in hybrid-electric vehicles, and zero-emission motorcycles. In addition, CVRP offered prepaid charge cards to eligible low- to moderate-income applicants to address charging barriers. The Clean Vehicle Rebate Project ended in late 2023. CARB has transitioned investments to focus on lower-income consumers through the Clean Cars 4 All and Financing Assistance for Lower Income Consumers programs.

2023 Targeted Key Results:

- Outreach and education, particularly to priority communities. A majority of in-person outreach will be accomplished through CVRP's Community Partner Network, a statewide coalition of a growing number of community-based organizations that have a common goal of ensuring clean air for all Californians. CVRP works with community-based organizations and their respective communities by breaking down barriers to zero-emission vehicle ownership and providing information on available incentives.
- Ongoing: track and collect metrics on program use.
- Updated program information regarding rebate statistics, various analyses, survey data, and outreach statistics will continue to be provided on the CVRP website.
- In line with the requirements of the budget act of 2021, program changes for CVRP are being implemented over the course of the next few fiscal years in order to ramp down the incentive while still offering critical support to the zero-emission vehicle market, particularly for lower income applicants. The next phase of changes will be implemented no earlier than February 2023 and will include an increase in the incentive amount offered to low- and moderate-income consumers, expansion of the CVRP Rebate Now preapproval pilot statewide to bring the incentive to the

point of purchase for eligible low-income applicants, and inclusion of a prepaid card to eligible CVRP increased rebate applicants to be used at public charging stations to address charging barriers. More information can be found in the fiscal year 2022-2023 Funding Plan for Clean Transportation Incentives.

2023 Outcomes:

- To date, $1.6 billion have been invested, with approximately 40% of funds benefitting priority populations. In addition, more than 587,000 zero-emission vehicles have been funded. CVRP achieved its goal of accelerating the deployment of zero-emission vehicles in California and provided highly useful zero-emission vehicle market information to interested parties in California and beyond.
- CVRP metrics can be found on the Universal Dashboard and the CVRP Data and Reports website.

2024 Targeted Key Results:

- Complete program closeout activities including, but not limited to, updating final metrics on program use, information regarding rebate statistics, various analyses, survey data, and outreach statistics will continue to be made publicly available on the CVRP website.

B. Driving Clean Assistance Program (New)

The new joint statewide program uses a needs-based model in which consumers who live in disadvantaged communities or those with greater needs for incentives will be prioritized. The program will provide a statewide financing assistance program (formerly known as the Financing Assistance Program for Lower Income Consumers) and expand access to Clean Cars 4 All to air districts that do not offer Clean Cars 4 All at the local level. For air districts that already operate their own Clean Cars 4 All program, this joint program will provide their program participants with access to low interest rate loans and will provide opportunities for collaboration and cross-promotion of programs.

The statewide financing assistance program provides grants to reduce the upfront cost of advanced clean vehicle grants for lower-income consumers at the point of purchase. The program offers electric vehicle home charger installation grants or prepaid charge cards along with portable Level 1 chargers. In addition, the project facilitates access of low-income consumers to low-interest loans at 8% annual percentage rate by providing loan loss reserves to participating financial institutions to mitigate their risks. The original Financing Assistance for Lower Income Consumers Program was implemented as two pilots—a local and a statewide pilot—which both closed at the end of 2023. After testing various implementation models through the two Financing Assistance Program pilots over

the last few years and to streamline access to vehicle purchase incentives, CARB merged the two financing assistance pilots along with the statewide Clean Cars 4 All program and is re-launching as one statewide program.

The new program will be administered by a single program administrator to maximize efficiency and streamline application processing for lower-income consumers who are eligible for Financing Assistance Program and statewide Clean Cars 4 All. CARB selected the Community Housing Development Corporation as the program administrator through a competitive solicitation process in 2023 and aims to launch the new program in 2024.

2023 Targeted Key Results:

- A joint solicitation to select one program administrator to run the Financing Assistance Project and statewide Clean Cars 4 All is one of the key actions for CARB in 2023. This will result in better management of communication across the projects, consolidated processing of rebate applications, cooperative relationships with dealers, more streamlined efforts, and more efficient use of outreach tools, resources, and materials. It also results in fewer administrators and reduces complexity in collaboration among programs and partners.
- Adoption of the needs-based model in this project will safeguard funds and help keep the program open year-round for those who need them most. CARB is planning to substitute the first-come, first-served model with the needs-based model and implement it in other equity projects moving forward.
- In addition, the new model requires program administrators to expand their collaboration with community-based organizations and outreach partners to better understand the needs of various communities across the state and use the unique capacities of community-based organizations to deliver the program benefits to communities.
- Application processing, program and eligibility criteria will be more aligned with other equity-focused programs such as Clean Cars 4 All and Clean Vehicle Rebate Project's increased rebates to maximize offered benefits and reduce application processing to low-income consumers.

2023 Outcomes:

- A joint solicitation was released to select one program administrator to run the Financing Assistance Project and statewide Clean Cars 4 All, now known as the Driving Clean Assistance Program.
- Community Housing Development Corporation was selected as the grantee.

2024 Targeted Key Results:

- Roll-out of the Driving Clean Assistance Program expected in 2024.

- Continued and expanded collaboration with community-based organizations and outreach partners to implement the program.
- Collaboration and coordination with air districts that currently implement Clean Cars 4 All programs.
- Updates provided through public work groups and workshops.

C. Regional Clean Cars 4 All Programs (Ongoing)

Clean Cars 4 All provides incentives for lower-income consumers who scrap their old light-duty vehicles and purchase new or used hybrid, plug-in hybrid-electric, or zero-emission replacement vehicles. Participants can also 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 and battery-electric vehicles are eligible for home charger incentives or prepaid cards for public charging facilities. This program is currently available in the South Coast Air Quality Management District, San Joaquin Valley Unified Air Pollution Control District, Bay Area Air Quality Management District, Sacramento Metropolitan Air Quality Management District, and San Diego Air Pollution Control District. A statewide program is also under development to support the remaining district territories.

The program requires a household income equal to or less than 300% the Federal Poverty Level ($90,000 for a family of four). In addition to income qualification, the program offers higher incentives amounts to participants that live in disadvantaged communities and choose the cleanest replacement technologies. Clean Cars 4 All also requires consumer protections and education as foundational components of the program.

2023 Targeted Key Results:

- Select the program administrator and begin implementation of the statewide program.
- Expand access to the program to all areas of participating air districts.
- Annual reporting: reporting period varies annually.
- Implement a needs-based approach to ensure that the program is accessible to households and communities that would benefit most from the assistance.
- Ongoing: Implement revised participant survey to improve collection and tracking of metrics on program use including details of program performance relative to established goals, funding and expenditure status, program analysis, program modifications, and goals for the upcoming year.
- Increase priority community access through Access Clean California and related outreach efforts.

2023 Outcomes:

- Expanded access to the program to all areas of participating air districts.
- Increased incentive amounts to participants that live in disadvantaged communities and choose the cleanest replacement technologies.
- See outcomes for the statewide Clean Cars 4 All under the Driving Clean Assistance Program.

2024 Targeted Key Results:

- Program evaluation to ensure accessibility to households and communities that would benefit most from the assistance.
- Implement revised participant survey to improve collection and tracking of metrics on program use including details of program performance relative to established goals, funding and expenditure status, program analysis, program modifications, and goals for the upcoming year.
- Increase priority community access in district-run programs through coordination with the Driving Clean Assistance Program, Access Clean California, and related outreach efforts.

D. California E-Bike Incentive Project (Ongoing)

The California E-Bike Incentive Project provides incentives to reduce the purchase price for electric bicycles, known as e-bikes, to income-qualified consumers. The pilot will be designed to help Californians reduce their vehicle miles traveled by lowering barriers to e-bike ownership, reduce greenhouse gas emissions, replace car trips for e-bike trips, provide bicycle safety education, and support local businesses.

2023 Targeted Key Results:

- Ongoing public process to develop program policies.
- Program estimated to launch in the first quarter of 2023. More information can be found in the fiscal year 2022-2023 Funding Plan for Clean Transportation Incentives.
- Ongoing: track and collect metrics on program use.

2023 Outcomes:

- Held two implementation workgroups in 2023 to finalize program requirements.

2024 Targeted Key Results:

- The project is currently working with four California communities to hold a soft launch. The soft launch will help test our systems by developing a dealer network, building relationships with community-based organizations for outreach assistance, and ensuring an efficient application process for the statewide launch in spring 2024.

- Track and collect metrics on program use.

E. California Integrated Travel Project Payment Issuance Strategy and Demonstration (Ongoing)

The California Integrated Travel Project Payment Issuance Strategy and Demonstration, also known as Cal-ITP, supports various efforts across CARB's light-duty vehicle incentive projects and seeks to ensure that any transit customer—specifically underbanked and unbanked customers—can easily pay for transit by accepting Euro Pay, Master Card, and Visa open-loop payments. CARB is collaborating with Capital Corridor Joint Powers Authority and allocating funds to support and expand upon the work that has begun to identify payment issuance approaches to make vehicle charging and other mobility options easier to access for low-income, banked, or unbanked individuals.

CARB's contract with Capital Corridor Joint Powers Authority is focused to extend the benefits of seamless payment issuance to equity-focused projects such as Financing Assistance, statewide Clean Cars 4 All, and other equity focused programs. CARB's contract with Capital Corridor Joint Powers Authority has launched pilot projects to provide proof of concept, research, data, and lesson learned for Cal-ITP and CARB to improve the travel experience and implement scalable solutions and is expanding to next phases.

2023 Targeted Key Results:

CARB intends to support various projects across light-duty vehicle incentive programs and regulations in an agreement with Capital Corridor Joint Powers Authority. This contract provides funds to support their effort on Payment Issuance Strategy and Demonstrations and provide opportunities to expand the concept in clean vehicle purchase incentive programs such as eligibility and income verification.

This agreement will help provide recommendations on the Electric Vehicle Supply Equipment Standards Regulation to inform potential future modifications to the regulation that will impact driver access to public charging stations. These may include:

- Insights on the transition of payment technologies from Europay, Mastercard and Visa, or EMV, chip to contactless payment, or cEMV, for the U.S. market.
- Identification of opportunities to improve lower-income residents' access to public charging stations.
- Guidance on a recommended market threshold(s) upon which there is confidence residents will have access to cEMV payment technologies.

2023 Outcomes:

- Completed the first phase of the Prepaid Card Demonstration. Sacramento Metropolitan Air Pollution Control District and San Joaquin Unified Air Pollution Control District are committed, engaged, and aligned for procuring prepaid cards for Clean Cars 4 All and Drive Clean Assistance Program (Joint Statewide Financing Assistance and Statewide Clean Cars 4 All programs).
- Completed the rewards market sounding.

2024 Targeted Key Results:
CARB and Cal-ITP will continue to work on different work-tasks to achieve following goals:

- cEMV for zero-emission vehicles: Understanding how the uptake of contactless EMV payments could impact uptake of zero-emission vehicles in low-income communities.
- Rewards and incentives: Improve financial inclusion and increase transportation affordability through opportunities to integrate monetary incentives into the transit/mobility ecosystem and maximize the value of transportation choices for recipients.
- Eligibility verification: Streamline eligibility verification of transportation benefit programs made available through CARB.
- Mobility benefits: Make improvements to how low-income residents obtain and use benefits, and how CARB can increase efficiency in their benefits distribution.

F. Clean Mobility Options Voucher Pilot Program (Ongoing)

The Clean Mobility Options Voucher Pilot Program provides funding for various community clean transportation projects (other than vehicle ownership), including zero-emission car sharing, vanpools, electric and regular bicycle sharing, scooter sharing, micro-transit and fixed route transit services for low-income and disadvantaged communities across California.

This program supports all four pillars of the Zero-Emission Vehicle Market Development Strategy, including providing clean vehicles, zero-emission vehicle infrastructure, increasing consumer awareness and education, and supporting a local workforce. In addition, this program supports broader zero-emission vehicle goals of reducing emissions by increasing clean transportation and mobility offerings in communities, building out the zero-emission vehicle network and clean transportation ecosystem, and allowing for equity in the decision-making process, such as implementing community-led ideas and directly addressing community feedback in program design.

This program supports many zero-emission vehicle objectives, including increasing access to and affordability of clean mobility options for California's low-income and disadvantaged populations. In addition, the program supports

reducing reliance on personal vehicles while providing mobility options that meet community-identified needs, which is a critical to improving the state's transportation system.

2023 Targeted Key Results:

- Transportation needs assessment projects: 24 needs assessment projects completed in 2022. About 12 new projects will launch in mid-2023.
- Planning and construction phase: 17 mobility projects are in the planning and construction phase.
- Mobility projects: Three projects launched. About 15 new mobility projects will launch in 2024.
- Metrics: Numbers and types of clean vehicles, chargers, and clean mobility options introduced into priority communities; number of residents participating as drivers or riders; zero-emission vehicle miles traveled, and number of trips taken; and improvements in access to mobility experienced by participants.
- Ongoing: Expand access to clean transportation and mobility options in priority communities through additional training, technical assistance, learning tools and information-sharing opportunities, and ensuring that awarded projects are responsive to community needs and preferences.
- Providing additional funding for mobility projects in 2023 and through further training, technical assistance, learning tools and information sharing opportunities.
- Holding informational webinars through early 2023 to support interested applicants for the second application window.

2023 Outcomes:

- The second application window opened in November 2022 for community transportation needs assessments and in March 2023 for mobility project vouchers.
- Twelve new needs assessment vouchers awarded as a result of the second application window.
- Seven mobility projects are in the planning and construction phase.
- Thirteen shared mobility projects launched services and are in various stages of implementation.

2024 Targeted Key Results:

- There are 18 new mobility projects awarded in early 2024 as a result of second application window. These projects are expected to launch services in mid-2025.
- Twelve new transportation needs assessments are expected to be completed by summer 2024.
- Holding the second shared Mobility Forum in fall 2024.

G. Sustainable Transportation Equity Project (Ongoing)

The Sustainable Transportation Equity Project is a competitive grant program that aims to increase transportation equity by addressing community residents' transportation needs, increasing access to key destinations and services, and reducing greenhouse gas emissions and vehicle miles traveled. The project provides larger-scale project funding that is focused on advancing multiple clean transportation strategies within a community. Examples of funded projects include new electric shuttles and e-bike lending libraries, public transit and shared mobility subsidies, urban forestry to encourage pedestrian activity, new bike paths, workforce training on electric vehicle charger installation and electric vehicle maintenance, community transportation needs assessments, and active transportation education and outreach events. All projects are required to incorporate significant community engagement during all phases of planning, development, and implementation to ensure that residents have a role in making decisions about their transportation systems. The Sustainable Transportation Equity Project awarded 13 grants (five implementation and eight planning and capacity building) from its first solicitation in 2020. Projects are now underway in communities across the state and will wrap up between 2024 and 2026.

Sustainable Transportation Equity Projects are required to benefit disadvantaged and low-income communities. All projects are required to contribute to an increase in transportation equity, which may include providing new transportation options for residents that have lacked options in the past or removing barriers to accessing existing transportation services.

2023 Targeted Key Results:

- Continue public process with at least two work group meetings and one public comment period to update the solicitation for the next round of funding, January-March 2023.
- Conduct joint solicitation for fiscal year 2022-2023 funds for Sustainable Transportation Equity Project, Clean Mobility in Schools, and Planning and Capacity Building Grant Project, spring/summer 2023.
- Award two to six grants through the Sustainable Transportation Equity Project and Clean Mobility in Schools through the fiscal year 2022-2023 solicitation, for $15 million total from each program, $30 million cumulative total, fall 2023.
- Continue implementation of previously awarded grants, which includes five implementation grants and eight grants from the Planning and Capacity Building Grant Projects, and continue improving evaluation of funded projects, all year.

2023 Outcomes:

- Hosted two additional work group meetings and a public comment period to develop and update the joint solicitation.

- Successfully conducted a two-phased joint solicitation for the Sustainable Transportation Equity Project, Clean Mobility in Schools, and Planning and Capacity Building. Received 32 Sustainable Transportation Equity Project and Clean Mobility in Schools concept applications, requesting $207.4 million. Received 17 Sustainable Transportation Equity Project and Clean Mobility in Schools full applications, requesting $123.7 million. More information on the Planning and Capacity Building results is below.
- Provided technical assistance to all interested applicants in the joint solicitation through a contract with the Institute for Local Governments.
- Continued to implement the previously awarded implementation and planning grants, including completing and closing out one of the planning grants.

2024 Targeted Key Results:

- Award 10 Sustainable Transportation Equity Project and Clean Mobility in Schools grants through the joint solicitation with $62.87 million in funding from fiscal years 2022-2023 and 2023-2024.
- Publish a final report on the solicitation and technical assistance, including recommendations for future funding.
- Through the Institute for Local Governments contract, continue to provide technical assistance to unawarded applicants to support clean transportation project and partnership development.
- Continue to implement the previously awarded implementation and planning grants, including completing and closing out three of the planning grants.

H. Clean Mobility in Schools (Ongoing)

Clean Mobility in Schools funds a variety of clean transportation and supporting projects in and around school communities. Grants provide funding for zero-emission vehicles, charging infrastructure, active and alternative modes of transportation, fleet and energy transition plans, education, curriculum, workforce training, and more. Funded projects are designed and implemented with school officials, students, teachers, and community members to address school-related transportation needs with solutions to reduce air pollution, greenhouse gas emissions, and vehicle miles travelled.

The zero-emission vehicles will operate almost exclusively in disadvantaged communities. Grantees will leverage battery-electric school buses and other zero-emission technologies into peer-led educational programs and materials for students, faculty, staff, and community members.

2023 Targeted Key Results:

- Continue implementation of previously awarded grants and launch one new grant in the Sacramento area at Twin Rivers Unified School District. The project includes zero-emission school buses and infrastructure, a zero-emission workforce training component, zero-emission utility carts, passenger vans, trucks, and a Class 6 truck will also be deployed.
- Continue public process (at least two work group meetings and one public comment period) to update the solicitation for the next round of Sustainable Transportation and Equity Project, Planning and Capacity Building, or Clean Mobility in Schools funding, January-March 2023.
- Conduct joint solicitation for fiscal year 2022-2023 funds for Sustainable Transportation and Equity Project, Clean Mobility in Schools, and Planning and Capacity Building, spring/summer 2023.
- Award two to six grants through the Sustainable Transportation and Equity Project and Clean Mobility in Schools Project through the fiscal year 2022-2023 solicitation ($15 million total from each program, $30 million total), fall 2023.

2023 Outcomes:

- CARB and Twin Rivers Unified School District executed a Clean Mobility in Schools grant to run April 2023 through June 2025.
- CARB held public work group meetings to develop a joint request for applications with partner grant programs Sustainable Transportation Equity Project and Planning and Capacity Building projects for $32 million.
- The request for applications resulted in four awarded Clean Mobility in Schools grant projects.

2024 Targeted Key Results:

- Execute four new grant agreements.
- Publish two Clean Mobility in Schools final reports.

I. Planning and Capacity Building Grant Program (Ongoing)

Planning and capacity building grants fund efforts that improve local understanding of residents' transportation needs, prepare communities to implement clean transportation and land use projects, and develop a foundation for organizational and community capacity building. This category of funding develops a foundation for organizational and community capacity building by enabling communities to identify and prioritize transportation choices that improve livability and quality of life for residents, build community wealth, and connect residents to good jobs, education, affordable housing, medical care, childcare, recreation, and healthy food options.

This program will support community-led transportation planning, expand community transportation assessments of under-resourced community mobility needs, facilitate community engagement to leverage community knowledge, and

incorporate community feedback into transportation and land-use planning and future transportation investments.

2023 Targeted Key Results:

- Continue public process (at least two work group meetings and one public comment period) to update the solicitation for the next round of Sustainable Transportation Equity Project, Planning and Capacity Building Grant Program, or Clean Mobility in Schools funding, January-March 2023.
- Conduct joint solicitation for fiscal year 2022-2023 funds for Sustainable Transportation Equity Project, Clean Mobility in Schools, and Planning and Capacity Building Grant Program, spring/summer 2023.
- Award four to 15 grants through Planning and Capacity Building Grant Program through the fiscal year 2022-2023 solicitation ($2 million), fall 2023.
- Conduct solicitation for statewide Technical Assistance and Planning Grant program administrator.
- Award one grant for statewide Technical Assistance and Planning Grant administrator.

2023 Outcomes:

- Hosted two additional work group meetings and a public comment period to develop and update the joint solicitation.
- Successfully conducted a two-phased joint solicitation for Planning and Capacity Building, Clean Mobility in Schools, and Sustainable Transportation Equity Project. Received 23 Planning and Capacity Building concept applications, requesting $9.2 million. Received 10 Planning and Capacity Building full applications, requesting $4.5 million. See the Clean Mobility in Schools and the Sustainable Transportation Equity Project sections for results.
- Seven community-led Planning and Capacity Building projects totaling $3.1 million were selected for funding from fiscal year 2022-2023 (six projects fully funded and one partially funded).
- Provided technical assistance to all interested applicants in the joint solicitation through a contract with the Institute for Local Governments.
- Successfully conducted a solicitation for a Statewide Planning and Capacity Building Project administrator. Received four applications.
- Selected a Statewide Planning and Capacity Building Project administrator.

2024 Targeted Key Results:

- Fully award seven community-led Planning and Capacity Building projects with $3.3 million in funding from fiscal years 2022-2023 and 2023-2024.
- Publish a final report on the fiscal year 2022-2023 solicitation and technical assistance, including recommendations for future funding.

- Through the Institute for Local Governments contract, continue to provide technical assistance to unawarded applicants to support clean transportation projects and partnership development.
- Award $5 million to the Statewide Planning and Capacity to oversee the seven Planning and Capacity Building projects and provide implementation and administrative support to five Clean Mobility in Schools and Sustainable Transportation Equity Projects (funded through fiscal year 2022-2023).
- Supplement the Statewide Planning and Capacity Building administrator grant agreement with $10 million from fiscal year 2023-2024 funds.
- Provide administrative and implementation support through the Planning and Capacity Building Project administrator for five additional Clean Mobility in Schools and Sustainable Transportation Equity Projects selected with fiscal year 2023-2024 funds. See Clean Mobility in Schools and Sustainable Transportation Equity Projects for project details.
- Conduct a new solicitation with fiscal year 2023-2024 funds for Planning and Capacity Building community-led projects, summer/fall 2024.
- Provide pre-solicitation outreach to priority populations throughout California and provide technical assistance (throughout the fiscal year 2023-2024 solicitation) to all interested Planning and Capacity Building applicants through Statewide Planning and Capacity Building Project administrator.
- Select and award up to 15 Planning and Capacity Building grants through the fiscal year 2023-2024 solicitation ($7.3 million), spring 2025.

J. Community Air Protection Incentives Program (Ongoing)

The Community Air Protection Incentives Program supports the broader Community Air Protection Program, established by Assembly Bill 617, with incentives to improve air quality and reduce exposure to criteria air pollutants and toxic air contaminants in the communities most impacted by air pollution. AB 617 calls for active engagement with members of heavily impacted communities, and to follow their guidance and address local sources of concern.

The California Legislature has appropriated over $1.4 billion for Community Air Protection Incentives since fiscal year 2017-2018. These funds are administered by air districts in partnership with local communities and priority is given for cleaner vehicles and equipment and community guided zero-emission projects. Eligible project types include mobile source projects through either the Carl Moyer Program or the Proposition 1B Program, medium- and heavy-duty zero-emission charging infrastructure, projects to reduce emissions from stationary sources of air pollution, and community-identified projects developed by air districts consistent with actions identified in applicable Community Emissions Reduction Programs.

2023 Targeted Key Results:

- Staff implementing the Community Air Protection Program expect to present a new version of their Community Air Protection Blueprint to the Board in late 2023. The blueprint exists to guide CARB and air district staff, participating community members, and other stakeholders involved in the program as they work to implement AB 617.
- Following approval of the blueprint, staff implementing Community Air Protection Program incentives plan to present a set of revisions to the Community Air Protection Incentives Guidelines to the Board in 2024, with the intention of incorporating new elements of the revised blueprint into the guidelines.
- Staff will continue to grant and disburse Community Air Protection Incentives to the air districts, and air districts will continue to solicit for and select new incentive projects using these funds in line with community guidance. CARB has already granted air districts funds appropriated in fiscal year 2022-2023, and staff expects air districts to begin requesting disbursement of these funds in early 2023.
- CARB provided a pathway in its guidelines for air districts to create project plans to allow incentive funding for new kinds of stationary source and community-identified projects upon CARB's approval. CARB has reviewed and approved dozens of these project plans as of 2023, and staff expect air districts to submit additional project plans this year.

2023 Outcomes:

- The Board approved the revised Community Air Protection Blueprint (referred to as Blueprint 2.0) in October 2023, which included key actions relating to incentives to bring the benefits and lessons learned in AB 617 selected communities to other communities in need statewide.
- Concurrent with and following Board approval of the Blueprint 2.0, staff worked with their local air district partners to develop proposed revisions to the Community Air Protection Incentives Guidelines to achieve the goals laid out in the Blueprint 2.0. Staff planned to publish the revised guidelines in April 2024 upon receiving approval from the executive officer, acting on authority delegated by the Board in Resolution 19-12.
- The Legislature has continued to make annual appropriations for these incentives, and staff continued to work with their local air district partners to allocate, grant, and disburse funds to them, while they in turn selected, funded, and implemented projects eligible under the Community Air Protection Incentives Guidelines.
- Air districts have continued to submit new project plans for new stationary source and community-identified projects. Throughout 2023, staff approved 13 new project categories across 18 distinct project plans. Even as staff work to revise and expand the Community Air Protection Incentives

Guidelines, they expect to continue to receive new project plan submissions in 2024.

2024 Targeted Key Results:

- Staff will publish the revised Community Air Protection Incentives Guidelines in April 2024, and air districts will be able to begin likewise modifying and expanding their local programs, depending on resource availability and local priorities, to take advantage of new incentives options statewide.
- Proposed guideline revisions include expanding the scope of existing project categories, as well as the creation of new categories based off the most successful and universally applicable project plans created by air districts, allowing many more impacted communities statewide to potentially take advantage of the groundwork laid by air districts and their community partners in their AB 617 selected communities.
- Following publication of the revised guidelines in April 2024, staff will similarly consider expanding eligibility for these incentives to include other statewide incentives programs. Additionally, staff will update the administrative requirements of the program to align with other related incentives programs such as the Carl Moyer or Funding Agricultural Replacement Measures for Emission Reductions, known as FARMER, programs.

K. Carl Moyer Program (Ongoing)

Since 1998, the Carl Moyer Program provides grant funding for cleaner-than-required engines, equipment, and other sources of air pollution. The program, implemented as a partnership between CARB and the state's 35 local air districts, has filled a critical niche in California's strategy to achieve clean air. The statewide emission reductions program supports a variety of project types, including on-road heavy-duty trucks and buses, locomotives, marine vessels, off-road projects, and infrastructure projects. Emission reductions funded through the program must be surplus, permanent, enforceable, and quantifiable in order to meet the underlying statutory provisions and creditable to the State Implementation Plan.

To ensure that projects are surplus to regulations, funded projects must not be required by any federal, state, or local rule or regulation. Since the program was established, the types of funded projects have changed over time to meet local and state air quality objectives. Air districts retain flexibility to select projects that meet their local needs and priorities through the Carl Moyer Program. The Rural Assistance Program through the Carl Moyer Program continues to support rural air districts by streamlining the grant administrative process and encouraging the pooling of financial and technical resources. Additionally, up to 10% of the Carl Moyer Program funds is reserved annually, as State Reserve, to provide funding

toward project categories that have been determined to be in need, which all air districts may voluntarily apply for. The Carl Moyer Program strives to provide equitable opportunities and mitigates the perception of risk for the adoption of the cleanest and most advanced technologies available.

2023 Targeted Key Results:

- Staff will continue to grant and disburse program incentives allocated by the California Legislature to the air districts.
- Maintain communication with air districts to monitor implementation progress of updated On-Road Heavy-Duty Voucher Incentive Program zero-emission vehicle projects and updated Carl Moyer Program Chapter 10 infrastructure.
- Continue monitoring implementation progress of Senate Bill 129 allocation of $45 million to air districts in severe or extreme nonattainment (South Coast and San Joaquin Valley air districts) through Carl Moyer Program for the purchase of non-diesel medium- and heavy-duty vehicles emitting no more than 0.02g/bhp-hr NOx or lower that replace diesel vehicles. Remaining monies after fiscal year 2022-2023 exclusively dedicated to zero-emission vehicles.

2023 Outcomes:

- Staff hosted On-Road Heavy-Duty Voucher Incentive Program workgroups and Carl Moyer Program Chapter 10: Infrastructure workgroups with air districts. During workgroups, staff and air districts collectively reviewed the respective program and chapter, identifying areas needing additional clarity, streamlining, or improvement. Proposed changes will be reflected in the 2024 Carl Moyer Program guidelines updates to be presented to the Board for approval.
- South Coast Air Quality Management District and San Joaquin Valley Unified Air Pollution Control District continue to fund projects through SB 129.

2024 Targeted Key Results:

- Continue to grant and disburse program incentives allocated by the California Legislature to the air districts.
- Maintain communication with air districts to support and monitor implementation of the program. Strengthen CARB staff and air district relationship through enhanced liaison engagement.
- As part of a collaborative effort to update the Carl Moyer Program guidelines, staff will continue to have robust discussion with air districts through workgroups, as well as host virtual public workshops to present the process and progress for the guideline updates.

L. Hybrid and Zero-Emission Truck and Bus Voucher Incentive Project (Ongoing)

The Hybrid and Zero-Emission Truck and Bus Voucher Incentive Project, known as HVIP, supports the long-term transition to zero-emission vehicles in the heavy-duty market and supporting investments in other emerging technology areas to achieve greenhouse gas emission reductions and ambient air quality standards. HVIP provides point-of-sale discounts at participating dealerships for dozens of eligible vehicles, making the cleanest technologies affordable for California fleets.

HVIP offers dedicated set-asides and increased incentive amounts for public transits and school districts and additional funding for vehicles domiciled in a disadvantaged community. Small fleets are provided special fund-stacking allowances in standard HVIP to provide additional support to these fleets. In addition, the Innovative Small e-Fleets Pilot is entirely focused on equitable investments that creatively address challenges to zero-emission technology adoption for owner/operators and small fleets. The Hybrid and Zero-Emission Truck and Bus Voucher Incentive Project continues to explore ways to support the equitable transition to zero-emission vehicles in the heavy-duty sector and deployment of clean heavy-duty technologies in priority communities. This spring, HVIP will begin collecting minority-owned and small business status data on new voucher requests to generate deeper insight into who the program benefits and lay the groundwork for future investments targeting priority groups.

2023 Targeted Key Results:

- Open $492 million of fiscal year 2022-2023 funding for voucher requests from Hybrid and Zero-Emission Truck and Bus Voucher Incentive Program standard, drayage trucks, and transit buses in January 2023.
- Release solicitation for program administrator in spring 2023.
- Publish new project implementation manual by March 2023 to establish all project policies and protocol for fiscal year 2022-2023.
- Release the $35 million of funding for the Innovative Small e-Fleet Pilot, by summer 2023 to implement innovative funding mechanisms geared toward supporting small fleets transition to zero-emission trucks.
- Launch $135 million set aside for zero-emission public school buses in spring 2023.
- Outreach to priority communities where appropriate.
- To monitor progress, CARB will continue to track the number of clean trucks and buses supported, tons of air pollution reduced, growth in the number of eligible clean technology manufacturer and vehicle types, number of purchasers and fleets that have participated, clean miles driven, and percent of vouchers supporting vehicles deployed in priority communities.

2023 Outcomes:

- In 2023, more than 1,886 vouchers were requested and nearly $298 million in funds was encumbered by voucher requests.
- The program administrator was selected in winter 2023 and the contract has been signed by all parties.
- New project implementation manual for 2022-2023 changes is currently being finalized and a workgroup is being held in March 2024 to present the changes to interested parties.
- $135 million in school bus funding was released on June 20, 2023, and all funds are committed.
- CARB continues to tally and track the number of clean trucks and buses supported, tons of air pollution reduced, growth in the number of eligible clean technology manufacturer and vehicle types, number of purchasers and fleets that have participated, clean miles driven, and percent of vouchers supporting vehicles deployed in priority communities.

2024 Targeted Key Results:

- Continue to fund voucher requests from the Hybrid and Zero-Emission Truck and Bus Voucher Incentive Program standard, drayage trucks, and transit buses in fiscal year 2023-2024.
- Continue to develop policies that will support small and disadvantaged fleets that have a need for funding through the Innovative Small e-Fleet Pilot program.
- Continue outreach to priority communities where appropriate.
- Publish new project implementation manual and establish all project policies and protocol for fiscal year 2023-2024.

M. Clean Off-Road Equipment Voucher Incentive Project (Ongoing)

The Clean Off-Road Equipment Voucher Incentive Project, or CORE, is an incentive program for California fleets to purchase or lease zero-emission off-road equipment. It also provides a streamlined voucher process by which potential purchasers can receive funding to help offset the higher cost of zero-emission off-road equipment. CORE is a first-come, first-served program and does not require scrappage of old equipment.

Increased funding is available to encourage equipment deployments in disadvantaged and low-income communities, small businesses, as well as infrastructure expansion. Currently, CORE is voluntarily requesting demographic data from owners and operators who apply for CORE incentive funds. The collected data will help identify how to focus outreach efforts to lay the groundwork for future investments targeting priority groups.

2023 Targeted Key Results:

- Stakeholder workgroup meeting wrap up fiscal year 2021-2022 and start launch of fiscal year 2022-2023.
- Series of workgroup meetings to update the implementation manual.
- Finalize implementation manual and release to public.
- Launch next round of CORE zero-emission vouchers, second quarter of 2023.
- Continue with outreach to new equipment manufacturers, owners in disadvantaged communities, and small businesses.

2023 Outcomes:

- Eleven different off-road equipment categories were funded with $15.4 million each; five were oversubscribed. After 6 months voucher requests were closed, and the remaining funding used to fund vouchers in 2024.

2024 Targets:

- Stakeholder workgroup meeting wrap up fiscal year 2022-2023 and start launch of fiscal year 2023-2024.
- Series of workgroup meetings to update the implementation manual.
- Finalize implementation manual, equipment eligibility, and release to public.
- Launch next round of CORE zero-emission vouchers, second quarter of 2024.
- Continue with outreach to new equipment manufacturers, owners in disadvantaged communities, and small businesses.

N. Funding Agricultural Replacement Measures for Emission Reductions (Ongoing)

The Funding Agricultural Replacement Measures for Emission Reductions, or FARMER, program provides incentive funding to farmers for the replacement of older diesel vehicles and equipment with the cleanest available technology. CARB sets guidelines for the program and air districts implement the program according to the guidelines. These guidelines include the ability to fund commercially available zero-emission vehicle technologies and support local demonstration projects of pre-commercial zero-emission vehicle technologies.

The program directs funding to air districts around the state based on emissions from agricultural equipment and attainment status. Program sets target for at least 55% of funding to be invested in Assembly Bill 1550 priority populations. Dedicated project categories provide additional funding opportunities for small farmers.

2023 Targeted Key Results:

- In 2022, the FARMER program added a dedicated project category for zero-emission agricultural equipment (e.g., battery-electric tractors and forklifts).
- In 2023, CARB will continue working with air districts to implement FARMER program-eligible projects, including zero-emission vehicle and equipment replacement projects through this new project category.
- CARB will continue to track and support program administration by local air districts, including tracking the number of zero-emission equipment deployed and new zero-emission agricultural demonstration projects.

2023 Outcomes:

- As of September 2023, FARMER program has funded more than 3,400 zero-emission projects totaling more than $43 million.
- In December 2023, CARB staff conducted a public workshop and participated in an evening community meeting notifying attendees of the upcoming public process to update FARMER program guidelines.

2024 Targeted Key Results:

- In 2024, CARB will engage in a public process to update FARMER program guidelines to provide additional flexibility in project categories and aid in air district implementation of the program.
- CARB will continue working with air districts to implement FARMER program-eligible projects, including zero-emission vehicle and equipment replacement projects.
- CARB will continue to track and support program administration by local air districts, including tracking the number of zero-emission equipment deployed and new zero-emission agricultural demonstration projects.

O. Volkswagen Appendix D Environmental Mitigation Trust (Ongoing)

The Volkswagen Appendix D Environmental Mitigation Trust is intended to fully mitigate all past and future excess nitrogen oxides, or NOx, emissions from the vehicles subject to the diesel emissions settlement by requiring VW to pay about $2.7 billion into a national mitigation trust fund. California's allocation of the trust is about $423 million. The types of projects being funded fall into these categories: 1) zero-emission transit, school and shuttle buses, 2) zero-emission Class 8 trucks, 3) zero-emission freight and marine, 4) combustion freight and marine, and 5) light-duty zero-emission vehicle infrastructure. The program includes funding for combustion categories where zero-emission options are not commercially available, which helps to ensure NOx reductions in all of these sectors. The program's investments in zero-emission vehicle technologies will help accelerate the deployment of zero-emission buses, trucks, and freight equipment.

Senate Bill 92 in the California Legislature set a 35% target for the state's trust allocation to benefit disadvantaged or low-income communities; the Beneficiary

Mitigation Plan for the State of California set a minimum of 50% of the funding will benefit disadvantaged or low-income communities. At the end of 2023 the projects that benefit disadvantaged or low-income communities far exceeded the 50% threshold.

2023 Targeted Key Results:

- In 2022, the VW program continued to fund eligible projects throughout the state for all five categories.
- In 2023, CARB anticipates that the second installment for most, if not all the project categories will be available to the public.
- CARB will continue to work with the air districts to ensure the project funds are going to applicants that will achieve the necessary NOx reductions along with giving preference to projects that operate in disadvantaged communities and low-income communities.

2023 Outcomes:

- Updated the Board in spring 2023 on the progress of California's Beneficiary Mitigation Plan under Appendix D of the VW Consent Decree which resulted in enhancements to the program. Staff updated the original projected NOx emission reduction target, increased funding amounts to better align with other CARB incentive programs and made clarified equipment eligibility based on lessons learned over the early years of program implementation.
- Funding for the zero-emission school us category is oversubscribed and is now closed. CARB is still accepting applications for zero-emission transit buses, but all new applicants are being waitlisted.
- Construction of the first light-duty zero-emission hydrogen site funded through VW was completed, and the site is open and operational. Additionally, construction of the first of three sites housing 16 light-duty zero-emission chargers was completed, and the site is open and operational.
- The zero-emission freight and marine project category has seen a significant increase in participation as a result of the program enhancements, coupled with upcoming regulatory deadlines.

2024 Targeted Key Results:

- In 2024, the air districts will continue to implement the program enhancements with the goal of contracting at least 60% of each project category by the end of the year.
- CARB will monitor the effectiveness of the program enhancements approved in 2023.
- CARB will assess the demand for eligible projects and consider funding allocation adjustments if necessary.

- CARB will continue to work with air districts to ensure project funds are achieving NOx reductions along with giving preference to projects that operate in disadvantaged communities and low-income communities.

P. Zero-Emission Truck Loan Pilot Project (Ongoing)

The new zero-emission Truck Loan Pilot Project is designed to combine financing for both heavy-duty zero-emission vehicles and charging or fueling infrastructure. CARB is partnering with the Energy Commission to build on the existing successful relationship with California Pollution Control Financing Authority in implementing the Truck Loan Assistance Program through their California Capital Access Program. The pilot will allow the agencies and lenders to learn from borrowers of small business fleets about what is needed to successfully move to zero-emission vehicles and what additional areas of support are required. The Zero-Emission Truck Loan Pilot Project fits within the larger goals of Senate Bill 372, which requires CARB to develop and provide financial and non-financial support to medium- and heavy-duty fleets seeking to purchase zero-emission vehicles.

The program works by contributing a percentage of each enrolled loan into a lender's loan loss reserve account. In the event that a qualifying loan defaults, the lender can then request reimbursement for the principal loss and the amount is deducted from the lender's loan loss reserve account. With these funds available, lenders are better equipped to lend to businesses that need extra assistance, and typically offer more favorable terms than the business would otherwise qualify for. The program targets outreach to fleets operating in lower-income and disadvantaged communities.

2023 Targeted Key Results:

- Workgroups will be held to gather stakeholder feedback.
- California Pollution Control Financing Authority pilot project is currently under development with an anticipated launch in mid-2023.

2023 Outcomes:

- Meetings and a public workgroup were completed. The interagency agreement was completed and approved by the California Pollution Control Financing Authority board.

2024 Targeted Key Results:

- Final interagency agreement execution in January 2024.
- Develop program applications, regulations, and support materials.
- Conduct lender training and launch program for borrowers by May 2024.

Q. Legacy Truck Loan Assistance Program (Ended)

The Truck Loan Assistance Program provided small business truck owners that fall below conventional lending criteria and are unable to qualify for traditional financing opportunities to upgrade their fleets with newer compliant trucks. The program provided these financing opportunities to qualified business owners affected by CARB's In-Use Truck and Bus Regulation. New loan enrollments ceased on July 31, 2023. The existing enrolled loans will remain in the program until maturity.

2023 Targeted Key Results:

- CARB expects that fleets will continue to use the program to turn over vehicles throughout 2023 to meet the final In-Use Truck and Bus Regulation deadlines and Department of Motor Vehicle registration requirements.
- CARB staff continues to work with California Pollution Control Financing Authority and participating lenders to support zero-emission heavy-duty truck financing for small fleets. This includes exploring possible modifications to the existing loan program and incorporating learnings from the new Innovative Small e-Fleet Pilot set-aside in Heavy-Duty Voucher Incentive Program, where possible.
- Prospective borrowers will be provided notifications to acknowledge that they're aware of upcoming zero-emission regulations when purchasing a vehicle.

2023 Outcomes:

- Loan enrollments in the program ended July 31, 2023. CARB is now prioritizing funding to support zero-emission heavy-duty vehicles and plans to offer financing assistance opportunities through the new Zero-Emission Truck Loan Pilot Project.
- The legacy program invested more than $260 million to leverage $3.1 billion in private financing to support the purchase of more than 45,000 cleaner trucks and equipment.

2024 Targeted Key Results:

- Identify any potential surplus funds available to support the pilot Zero-Emission Loan program.

R. Rural School Bus Pilot Project (Ongoing)

The Rural School Bus Pilot Project provided funding for zero-emission school buses (battery-electric technology) and charging infrastructure to replace the oldest conventionally-fueled school buses in California. The project may also fund new renewable-fueled school buses.

Schools in rural communities with the oldest and worst polluting fleets that traditionally have had fewer opportunities for grant funding were given funding priority.

2023 Targeted Key Results:

- Fiscal year 2017-2018 grant will be final and closed out in 2023.
- For 2023, zero-emission school bus projects will be closely coordinated with the Energy Commission's Energy Infrastructure Incentive program.

2023 Outcomes:

- Closed out fiscal year 2017-2018 grant agreement.

2024 Targeted Key Results:

- All school buses to be delivered by December 1, 2024, and complete for all fiscal year grants.

S. Local Educational Agency School Bus Replacement Grant (Ongoing)

Assembly Bill 181 provided CARB and the Energy Commission with $1.5 billion in Proposition 98 General Funds to support grants to local educational agencies. Senate Bill 114 modified this appropriation to revert the $1.5 billion and instead appropriated $500 million for fiscal year 2023-2024 with a commitment to appropriate an additional $500 million for zero-emission school buses and infrastructure in fiscal year 2024-2025 and fiscal year 2025-2026. CARB received $375 million to replace internal combustion school buses with new zero-emission school buses, and the Energy Commission received $125 million for the accompanying infrastructure, and other associated costs. Department of General Services, in coordination with CARB and the Energy Commission, will set statewide procurement contracts for zero-emission school buses for use by local educational agencies. Funding will be administered through Heavy-Duty Voucher Incentive Program as set-aside funding, starting with the 2023-2024 fiscal year.

Funding is prioritized for small and rural school districts operating the oldest internal combustion engine school buses.

2023 Targeted Key Results:

- CARB, Energy Commission and Department of General Services collaborate closely on required specifications for statewide procurement contracts which are expected to be in place by late 2023.
- Solicitation to school districts is expected in early 2024.
- Outreach to priority school districts where appropriate.

2023 Outcomes:

- The Department of General Services entered into statewide procurement contracts with five zero-emission school bus dealers in October 2023. Any

Local Education Agency in California can purchase a zero-emission school bus off the contracts.
- CARB and the Energy Commission conducted the first public work group to develop program guidelines in December 2023.

2024 Targeted Key Results:
- CARB and the Energy Commission will conduct a second public work group to seek feedback on proposed requirements.
- The initial solicitation for Local Educational Agencies is expected to open May 2024 and close in September 2024.
- CARB and the Energy Commission will conduct outreach to priority school districts where appropriate.

4. Community Engagement

Community engagement with feedback that informs program development and implementation. Explicit programs that develop partnerships and relationships that facilitate collaboration with our zero-emission vehicle programs.

Key Collaborators:

Community-Based Organizations, Non-Governmental Organizations, Organized Labor, Tribal Governments, Environmental Groups, Labor and Workforce Development, GO-Biz, California Energy Commission, California Public Utilities Commission, California Transportation Commission, Workforce Training and Development Institutions, Infrastructure Providers, Vehicle Manufacturers, Electricity and Hydrogen Providers, Technology Providers, Industry Associations.

Key Results and Actions:

A. Zero-Emission Vehicle Equity Task Force (New)

In 2022, CARB adopted the Advanced Clean Cars II regulations. As part of this commitment, the Board directed CARB staff to work with vehicle manufacturers and equity and environmental justice advocates to implement strategies to expand low-income and disadvantaged communities' access to zero-emission vehicles and zero-emission mobility, including incentives, transportation-system-based, and regulatory strategies. To implement the Board's direction, CARB staff formed the Zero-Emission Vehicle Equity Task Force in May 2023.

2024 Targeted Key Results:
- Convene the Zero-Emission Vehicle Equity Task Force biannually, bringing together representatives from various sectors involved in zero-emission vehicles and mobility.
- Since the initial task force meeting in 2023, smaller workgroups were formed to focus on specific projects that could achieve the goals of the task force. CARB staff will continue to convene smaller workgroups to advance the task force goal of expediting the deployment of zero-emission vehicles

and charging infrastructure in low-income and disadvantaged communities throughout the state.
- Plan at least one community tour in 2024 that includes task force participants.

B. Evening Community Meetings (New)

In previous years, the Funding Plan for Clean Transportation Incentives development process involved primarily daytime public workshops and workgroup meetings. These meetings posed challenges for community members who faced unique barriers to attendance compared to individuals who work in industry, government, and non-governmental organizations. To address this issue, CARB introduced monthly evening community meetings as an accessible alternative for community members to engage with staff. These evening meetings cover topics beyond Funding Plan development process, including the Carl Moyer Program, California Climate Investments, investment plan team, the Zero-Emission Vehicle Equity Task Force, Clean Truck Check, and Energy Commission programs, and provide less technical details and information in a more accessible manner.

2024 Targeted Key Results:

- Continue to engage with a variety of individuals, community-level organizations, local businesses, and governments over the course of several evening community meetings throughout 2024.

5. ZEV Market Development

Expand new and used zero-emission vehicle markets and programs, consumer education and awareness, and increase access to clean mobility. Lead hydrogen infrastructure analysis, support electric vehicle supply equipment analysis and local zero-emission vehicle readiness (in collaboration with Energy Commission, California Public Utilities Commission and GO-Biz).

Key Collaborators:

GO-Biz, California Energy Commission, California Public Utilities Commission, Local and Regional Governments, Non-Governmental Organizations, Electricity and Hydrogen Providers, Vehicle Manufacturers, Industry, Department of Housing and Community Development; Building Standards Commission, Infrastructure Providers, Vehicle Manufacturers, Industry, California Department of Food and Agriculture, Department of Motor Vehicles, Electricity and Hydrogen Providers, SAE International and CSA, National Renewable Energy Laboratory, Labor and Workforce Development, Tribal Governments, Community-Based Organizations, Non-governmental Organizations, Organized Labor, Academia, Fleets, Industry

Key Results and Actions:

A. CALGreen Building Codes (Ongoing)

CARB works with the Department of Housing and Community Development and the California Building Standards Commission to advance infrastructure requirements in newly constructed residential and non-residential buildings to support light-duty and medium- and heavy-duty zero-emission vehicle charging in the CALGreen building code.

In December 2021, California Building Standards Commission approved proposed updates to the CALGreen building code. Starting January 1, 2023, the approved code requires non-residential buildings to have 20% of spaces be electric vehicle capable (conduit and panel capacity for future charging station installations) and 25% of electric vehicle capable spaces to have electric vehicle chargers installed. The code allows for the installation of DC fast chargers, reducing the number of required electric vehicle capable spaces. For multi-unit dwellings and hotels and motels, the code requires 10% of parking spaces to be electric vehicle capable, 25% of spaces to be electric vehicle ready (a Level 2 cord-set compatible electrical receptacle), and an additional 5% of parking spaces to have electric vehicle chargers installed for developments of 20 units or more. Additionally, for medium- and heavy-duty vehicles, there will be a mandatory requirement to install charging infrastructure to support later additions of electric vehicle chargers up to 400 kW refueling in new warehouses, grocery stores, and retail buildings that have off-street loading spaces.

CARB and Department of Housing and Community Development and the Building Standards Commission are committed to increasing access to charging in commercial and residential buildings. Both Department of Housing and Community Development and Building Standards Commission will continue to increase the required percentages of electric vehicle charging infrastructure.

2023 Targeted Key Results:

- Continue to support the Department of Housing and Community Development and the Building Standards Commission in updating the current CALGreen Code. The Building Standards Commission is expected to hear and vote on the proposed code updates in July 2023. The proposed code updates will go into effect July 1, 2024.
- For medium- and heavy-duty zero-emission vehicle charging infrastructure requirements, CARB will continue to support the Building Standards Commission in a proposal to extend the building codes to include installation at new commercial buildings.
- Above and beyond installation of zero-emission vehicle charging infrastructure, CARB will also support Department of Housing and Community Development and Building Standards Commission to consider both transportation and building electrification holistically, for

example, through the development of all-electric new construction standards that align with the AB 32 Scoping Plan scenario.

2023 Outcomes:

- In summer 2023, the Building Standards Commission and the Department of Housing and Community Development presented several code proposals to increase access to charging in nonresidential and residential buildings. The proposed code was approved and will be effective July 1, 2024.

2024 Targeted Key Results:

- The 2022 Intervening Code Cycle (effective July 1, 2024) has been approved. The Building Standards Commission proposed several additional components to promote greater flexibility to meet the variety of charging needs in nonresidential buildings. For medium- and heavy-duty electric vehicle charging infrastructure, the Building Standards Commission has proposed to include office buildings and manufacturing facilities that have off-street loading in their electric vehicle charging requirements. Further, the Building Standards Commission has proposed provisions for existing facilities that undergo a qualifying addition or alteration. The Department of Housing and Community Development has increased the percentages of electric vehicle ready spaces and Level 2 charging equipment installed.
- CARB will continue to support the development of CALGreen Code provisions. Updates to the CALGreen code are currently being proposed, and any approved proposal will be effective January 1, 2026.

B. Annual Evaluation of and Report on Hydrogen Station Network (Ongoing)

With the reauthorization of the Clean Transportation Program Investment Plan in Assembly Bill 126, around $15 million per year will be dedicated to co-funding hydrogen fueling stations and expanding project eligibility to all types of stations. This will continue CARB's annual evaluation of fuel cell electric vehicle deployment and hydrogen station network development to advise the Energy Commission on using funds to support the sufficient development of hydrogen fueling stations in California to meet the needs of existing and expected hydrogen vehicles. The annual report includes an analysis characterizing how the hydrogen fueling station network coverage relates to disadvantaged community residents and evaluates the differences compared to California's general population.

2023 Targeted Key Results:

- Complete and transmit Annual Evaluation to the Energy Commission for final review by June 30 every year; public release follows, typically in the third quarter of each year.

- Energy Commission publishes Joint Agency Staff Report on Assembly Bill 8 by December 31 each year.

2023 Outcomes:

- Published "2023 Annual Hydrogen Evaluation Report."
- Coordinated on the published "Joint Agency Staff Report on Assembly Bill 8: 2023 Annual Assessment of the Hydrogen Refueling Network in California."

2024 Targeted Key Results:

- Publish the Annual Hydrogen Evaluation Report by the third quarter of 2024, and coordinate with the Energy Commission on review.
- Coordinate with the Energy Commission on publishing the Joint Agency Staff Report on Assembly Bill 126.

C. Hydrogen Station Network Development Support (Ongoing)

CARB's hydrogen fueling station validation program provides station confirmation testing services for the Energy Commission's Assembly Bill 8-funded projects and privately funded stations, including light-, medium-, and heavy-duty vehicle focused stations, if applicable. Energy Commission-funded stations are required to be tested to ensure that fueling events are fast, safe, and consistent prior to opening. Likewise, hydrogen fuel cell electric vehicle manufacturers require testing of both publicly and privately funded stations prior to opening. The program's primary goal is to accelerate the development and proliferation of a self-sufficient, safe, and reliable hydrogen fueling station network for a growing fleet of hydrogen fuel cell electric vehicles, a key component of CARB's zero-emission vehicle goals.

2023 Targeted Key Results:

- Conduct hydrogen fueling station confirmation testing using the hydrogen station testing equipment performance, or HyStEP, device on light-duty stations as well as provide preliminary testing results for medium- and heavy-duty stations.
- CARB and Energy Commission have an interagency agreement to fund the building of the next generation testing device, HyStEP 2.0. Design criteria have been developed in partnership with the Energy Commission and National Renewable Energy Laboratory, or NREL. CARB is finalizing the development of a request for proposals to procure a device that meets the NREL criteria from a contractor. CARB staff anticipate the request for proposals will be available in early 2023 and will hold a webinar for applicants to ask clarifying questions. CARB staff anticipates beginning the contract in 2023.
- Continue involvement in the SAE International and CSA/American National Standards Institute standard protocols and test methods

developments for light-duty fuel cell vehicles, and preliminary work on the medium- and heavy-duty fueling standard protocol development.
- Continue collaborative efforts with California Department of Food Agriculture's Division of Measurement Standards on potential hydrogen fueling station regulations for light-duty vehicles. Division of Measurement Standards hosted a pre-rulemaking workshop in 2022. Based on feedback from that workshop, CARB and Division of Measurement Standards are developing a project plan for 2023 to gather data needed to formulate the regulation.

2023 Outcomes:

- Continued to use the HyStEP device to open new hydrogen stations. Four stations are currently under development with an additional nineteen stations working through the permitting process.
- Opened two solicitation processes for the HyStEP 2.0 device. Applications are due late January 2024, and the execution of the contract is scheduled for the second quarter of 2024.
- Continued involvement with hydrogen standards through SAE International, CSA Group/American National Standards Association test procedures, and International Standardization Organization. Staff have contributed to the development of the heavy-duty high pressure fueling protocol, communication, fuel quality, nozzle/receptacle standards, and testing procedures.
- Used the HyStEP device to help facilitate the opening of medium- and heavy-duty stations (to the extent possible and within the limitation of the existing device).
- Collaborated with California Food and Agriculture's Division of Measurement Standards on the potential hydrogen fueling station regulations for light-duty vehicles. Together the two agencies created a data plan to collect information to determine the appropriate frequency of station testing and evaluation. Testing continues with the HyStEP device.

2024 Targeted Key Results:

- Continue support to open new hydrogen stations and share key findings on issues to help shape light-duty fueling protocols.
- Execute a contract to begin the design and build of the HyStEP 2.0 device.
- Continue involvement with standard and test procedure development to promote the commercialization of fuel cell vehicles by ensuring standards are clear, vehicles and stations are protected, and future project funding is not using outdated standards.
- Continue to help facilitate all hydrogen stations, including medium- and heavy-duty, and aid in creating medium- and heavy-duty fueling protocols.
- Continue to work with California Food and Agriculture's Division of Measurement Standards to determine potential hydrogen fueling station

regulations. Continue to evaluate and test stations to determine the ideal frequency of station testing.

D. Zero-Emission Vehicle Workforce Training and Development (Ongoing)

This effort supports expansion of zero-emission workforce training and career pathway development for priority populations, including curriculum, zero-emission vehicle manufacturing and pre-apprenticeship training, train-the-trainer, tuition reimbursement, and other zero-emission vehicle and infrastructure training projects. CARB is working to build partnerships and collaborate with other state and local agencies that have workforce training programs to expand and strengthen existing programs. Agencies such as the Energy Commission and the Foundation for Community Colleges are key partners in this effort.

These projects focus on increasing training and career pathways specifically for priority populations, including low-income and disadvantaged communities.

2023 Targeted Key Results:

- Continue interagency agreement with the Energy Commission to implement the Inclusive, Diverse, Equitable, Accessible, and Local ZEV Workforce Training Pilot project, known as IDEAL.
- Develop and execute partnership with Foundation for California Community Colleges to expand and support zero-emission vehicle training programs in community colleges.
- Develop and administer solicitation for grant funding to support zero-emission vehicle training and workforce development for priority populations in adult education and vocational schools.

2023 Outcomes:

- Continued implementation of the IDEAL zero-emission vehicle workforce projects through coordination with the Energy Commission.
- Drafted a contract with the Foundation for California Community Colleges to expand and support zero-emission vehicle training programs and initiated the process for executing the contract.
- Successfully developed and released a competitive solicitation requesting proposals that would support zero-emission training and workforce development for priority populations in adult education and vocational schools. Two proposals were selected and the process for entering into grant agreements for these proposals was initiated.

2024 Targeted Key Results:

- Continue interagency agreement with the Energy Commission to implement IDEAL.

- Finalize the draft contract with the Foundation for California Community Colleges to expand and support zero-emission vehicle training programs and launch the project after execution of the contract.
- Enter into grant agreements with the two selected proposals that resulted from the solicitation for grant funding to support zero-emission vehicle training and workforce development for priority populations in adult education and vocational schools and begin implementation of these projects.

E. Medium- and Heavy-Duty Zero-Emission Fleet Purchasing Assistance Program (Ongoing)

Many of CARB's programs support the goal of Senate Bill 372's Medium- and Heavy-Duty Zero-Emission Fleet Purchasing Assistance Program which aims to make financing tools and non-financial supports available to operators of medium- and heavy-duty vehicle fleets to enable those operators to move to zero-emission vehicles.

There is a 75% target in SB 372 for supporting fleets operating in lower-income and disadvantaged communities.

2023 Targeted Key Results:

- Improve upon and promote the website, ZEV TruckStop, with information regarding the potential financing and grant options, and other technical assistance available through the program.
- Launch a technical assistance program for operators of medium- and heavy-duty vehicle fleets attempting to navigate the steps needed to use zero-emission vehicles in their fleets.
- Consult with various stakeholders and relevant state agencies regarding the research findings and policy considerations for future risk reduction strategies to enable further uptake of medium- and heavy-duty zero-emission vehicles.
- Expand medium- and heavy duty zero-emission vehicle education opportunities and resources.
- Conduct community listening sessions to understand barriers and provide support for zero-emission vehicle uptake.

2023 Outcomes:

- Launched the Cal Fleet Advisor technical assistance program.
- Residual value white papers developed.
- Continuing updates to TruckStop and ZEV TruckStop.
- Developed new educational tools such as videos, fact sheets, and others.

2024 Targeted Key Results:

- Expand Cal Fleet Advisor and continue to increase the number of fleets assisted.
- Hold "Next-Stop" events targeted at assisting fleets understand medium- and heavy-duty zero-emission vehicle regulations and the technology involved with operating these vehicles.
- Continue to develop new tools to assist fleets in understanding medium- and heavy-duty zero-emission vehicle regulations and the technology involved with operating these vehicles.
- Conduct an advertising campaign that will create awareness of CARB's regulations, with an emphasis on the Advanced Clean Fleets regulation.
- Continue work to establish residual values for this new technology to assist fleets in procuring loans and insurance.
- Attend conferences and other events to provide regulatory assistance.

6. Mobility and Technology Advancement

Invest in research, development, and demonstration to advance clean mobility and zero-emission vehicle technology, including opening and enabling new markets.

Key Collaborators:

GO-Biz, California Energy Commission, Air Districts, Local and Regional Governments, Federal Government, Community-Based Organizations, Non-Governmental Organizations, Organized Labor, Electricity and Hydrogen Providers, Infrastructure Providers, Vehicle Manufacturers, Fleets, Freight Facilities, Industry, Academia, California Transportation Commission, Caltrans, Consultants

Key Results and Actions:

A. Advanced Technology Demonstration and Pilot Projects (Ongoing)

Advanced Technology Demonstration and Pilot Projects are uniquely designed to take advantage of emerging opportunities. These projects are intended to accelerate the introduction of advanced emission reducing technologies that are on the cusp of commercialization into the California marketplace. They can use technologies already developed and in the demonstration phase that align with the State of California's goals to reduce emissions.

Advanced Technology Demonstration and Pilot Projects are generally required to be located in or benefit priority populations and projects that provide these benefits score higher than those projects that do not. As a result, 99% of all demonstration and pilot projects are located in or benefit priority populations.

2023 Targeted Key Results:

- Bring on board a third-party administrator for the Advanced Technology Demonstration and Pilot Project program.

- Public workgroup meetings to support development of the fiscal year 2021-2022 and fiscal year 2022-2023 Advanced Technology Demonstration and Pilot Project solicitation.
- Issuance of the fiscal year 2021-2022 and fiscal year 2022-2023 Advanced Technology Demonstration and Pilot Project solicitation.
- Execute grant agreements for projects selected from the fiscal year 2021-2022 and fiscal year 2022-2023 Advanced Technology Demonstration and Pilot Project solicitation.
- Public workgroup meetings to support the fiscal year 2023-2024 Low Carbon Transportation Funding Plan for Advanced Technology Demonstration and Pilot Projects.

2023 Outcomes:

- Released a competitive solicitation to select a third-party administrator for the Advanced Technology Demonstration and Pilot Project program and the Electric Power Research Institute was chosen.
- Entered into a grant agreement with the Electric Power Research Institute and began working with them as the new administrator.
- Held public workgroups to support development of the fiscal year 2021-2022 and fiscal year 2022-2023 Advanced Technology Demonstration and Pilot Project solicitation.
- Successfully released the above solicitation as a joint effort with the Energy Commission.
- Preliminarily selected 12 demonstration and pilot project proposals and began the grant agreement execution process.

2024 Targeted Key Results:

- Continue working with the Electric Power Research Institute to administer the Advanced Technology Demonstration and Pilot Project program.
- Complete the grant agreement execution process and launch all projects.
- Participate in public workgroup meetings to support the fiscal year 2024-2025 Low Carbon Transportation Funding Plan for Advanced Technology Demonstration and Pilot Projects.

B. White Paper: Sustainable Financing Tools and Strategies for Equitable, Community-Based Mobility and Transportation Solutions (Ended)

CARB had a one-year research contract with Steer Group to review, identify, and assess existing and possible future financing tools and strategies for creating, supporting, and sustaining projects and programs that provide localized, zero-emission, and community-scale mobility solutions to residents of low-income and disadvantaged communities. The final white paper 1) identifies and summarizes financing tools that have enabled community-scale mobility projects in low-income and disadvantaged communities based on examples of projects that have

been financed (at least partially) by resources other than direct grants, and 2) identifies and explores opportunities for financing tools and strategies that have not been tested in practice for mobility projects but that show promise based on success stories from other sectors or applications. The white paper will help CARB, other state government agencies, and local communities—including existing and future CARB grantees—identify potential tools and strategies that can fund or supplement State of California funding for clean mobility projects, given the high degree of demonstrated need and the limited, uncertain nature of funding.

This contract focused on funding and financing strategies in disadvantaged and low-income communities. The research considers equity in many ways, such as accounting for projects that will generate very limited or no funding from user fees and flagging potential inequities that could result from certain financing strategies.

2023 Targeted Key Results:

- Complete final draft of white paper, February 28, 2023.
- Consider additional research needs and potential future contracts in this area.

2023 Outcomes:

- Final draft of white paper completed and published on CARB's website.

2024 Targeted Key Results:

- Form an internal staff working group to pursue recommendations for CARB's mobility programs identified in the white paper. Connect with other California state government agencies (e.g., Caltrans, GO-Biz) on this work.
- Work with technical assistance providers and third-party administrators of CARB's mobility programs to provide individualized support to grantees and build resources on funding and financing mechanisms identified in the white paper that are of interest to grantees.

C. Climate Smart Communities Consortium Research: Metrics and Evaluation Methodologies for Clean Mobility and Sustainable Transportation Equity Projects (Ongoing)

Under this contract, UC Berkeley will 1) develop an evaluation model/process for CARB to use as a new standard for assessing the effectiveness, sustainability, and outcomes of CARB's clean mobility pilot projects for priority populations, 2) evaluate and compare existing clean mobility pilot projects and identify what criteria contribute to project success, 3) conduct pre-project assessments on future Sustainable Transportation Equity Project and Clean Mobility Options projects, 4) conduct implementation assessments on future Sustainable Transportation Equity Project and Clean Mobility Options projects, and 5) apply

lessons learned and develop policy recommendations for CARB's consideration in implementing existing and future transportation equity projects.

The purpose of this contract is to:

- Identify community and researcher-preferred indicators and metrics and those important to CARB's Low Carbon Transportation reporting.
- Conduct a hypothesis-based evaluation of CARB's clean mobility pilot projects focusing on equitable access, emission reductions and vehicle miles traveled, and financial sustainability.
- Develop policy recommendations on successful clean transportation project elements to inform future transportation equity funding.

The overarching goal of CARB's clean transportation equity projects is to prioritize investments in communities most impacted by air pollution and poverty and most vulnerable to the effects of climate change (i.e., disadvantaged communities). The pilots streamline access to funding for clean mobility projects for under-resourced communities that traditionally do not have the resources available to access funds for clean transportation choices.

2023 Targeted Key Results:

- Summary of key findings from grantee information, community of practice sessions and stakeholder feedback, August 2023.
- Draft technical report describing project evaluations and indicators of project success, October 2023.
- Summary of lessons learned and policy recommendations, October 31, 2023.
- Final report, June 2024.
- Research seminar, August 2024.

2023 Outcomes:

2024 Targeted Key Results:

- Continue to conduct program assessments.
- Initiate the data analysis phase of the contract.
- Begin drafting the final report (due in 2025).

7. External Market Development

Leadership and collaboration with other states, nations, federal government, local government, and community-based organizations, etc.

Key Collaborators:

GO-Biz, California Energy Commission, California Public Utilities Commission, California Environmental Protection Agency, Non-Governmental Organizations, Electricity and Hydrogen Providers, Infrastructure Providers, Vehicle Manufacturers,

Industry, Other States, International Governments, Caltrans, California State Transportation Agency, Local and Regional Governments, Community-Based Organizations, Fleets, Academia, Office of Planning and Research, Hydrogen Fuel Cell Partnership, Labor and Workforce Development, Federal Government, California Department of Food and Agriculture's Division of Weights and Standards, Electric and Gas Utilities

Key Results and Actions:

A. International Zero-Emission Vehicle Alliance (Ongoing)

Comprised of 23 jurisdictions, the International Zero-Emission Vehicle Alliance, or ZEV Alliance, members seek to collaborate with other governments to expand the global zero-emission vehicle market and enhance government cooperation on zero-emission vehicle policies to strengthen and coordinate efforts to combat air pollution, limit global climate change, reduce oil dependence, and increase zero-emission vehicle deployment. The collaboration includes the sharing of data, best practices, and lessons learned, and involves coordinating on action plans and long-term targets to help the group collectively achieve its zero-emission vehicle deployment goals. California is a member jurisdiction, and a founding member organization.

ZEV Alliance members are committed to continuing to take actions to overcome barriers, achieve targets, and increase zero-emission vehicle uptake while emphasizing more equitable access to clean transportation and mobility options.

2023 Targeted Key Results:

- Continue coordination among California state agencies to provide feedback and expertise on the three focus areas for 2023: the business case for charging infrastructure, maximizing convenient overnight charging access, and tailoring light- and heavy-duty zero-emission vehicle incentives.
- Participate in relevant webinars and events hosted by the ZEV Community. (The ZEV Community is a platform for exchange and is co-hosted by the secretariats of the ZEV Alliance and Under2 Coalition.)
- Participate in deep dive working sessions to facilitate knowledge sharing and collaborative problem solving on specific zero-emission vehicle policy challenges.
- Serve on the communication working group to help develop a communication strategy, as the ZEV Alliance has an important role in sharing policy lessons, statements of ambition, and other updates with a broad audience.
- Assist in developing the ZEV Alliance Annual Assembly meeting agenda and help organize California state agencies for hosting the convening in Sacramento, California in June 2023.

2023 Outcomes:

- The following two 2023 focus area reports were published by December 2023: 1) Charging solutions for multi-unit dwellings and, 2) business case for charging access, the latter of which also had a public webinar in December 2023.
- Webinars or deep dive sessions hosted on quantifying the environmental justice impacts of zero-emission vehicles, battery reuse and recycling, and electric vehicle battery fire safety.
- Published public summary report on charging infrastructure reliability, part of a 2022 deep dive session.
- California hosted the ZEV Alliance Annual Assembly in Sacramento, and provided logistics management, agenda coordination, two site visits, and local hospitality efforts.
- Served on the ZEV Alliance communications working group to help steer internal and external engagement and information sharing.

2024 Targeted Key Results:

- Continue coordination among California state agencies to provide feedback and expertise on the 2024 focus areas: 1) making charging more user friendly, 2) raw materials sources, sustainability, and pricing for zero-emission vehicles, and 3) zero-emission needs for rural communities.
- The 2023 focus area on tailoring light- and heavy-duty zero-emission incentives was finalized in late 2023 but will be published in the first quarter of 2024 alongside a public webinar.
- Participate in two 2024 deep dive sessions related to the role of hydrogen in decarbonizing heavy-duty transport.
- Circulate publication on approaches to mitigate electric vehicle fires risks in enclosed spaces.
- Participate in content creation and design review for new the ZEV Alliance website.
- Participate in relevant webinars and working groups hosted by the ZEV Community. (The ZEV Community is a platform for exchange and is co-hosted by the secretariats of the ZEV Alliance and Under2 Coalition.)

B. Multi-State Zero-Emission Vehicle Task Force (Ongoing)

The Multi-State Zero-Emission Vehicle Task Force is a coalition of 17 U.S. states, the District of Columbia, and the Canadian province of Quebec, committed to coordinating state policies and programs to propel light, medium-, and heavy-duty zero-emission vehicle market growth and support their zero-emission vehicle regulatory programs. The task force is led by the Northeast States for Coordinated Air Use Management, known as NESCAUM, that spearheaded the launch of the coalition in 2013. The task force serves as a unique forum to catalyze, guide, and

support state action to advance light-, medium-, and heavy-duty zero-emission vehicles.

Over the last decade, NESCAUM worked with the Zero-Emission Vehicle Task Force to develop action plans that identify barriers and opportunities for rapid and equitable deployment of zero-emission vehicles and actionable policy and program recommendations. To ensure steady progress on these action plans, NESCAUM meets regularly with the Zero-Emission Vehicle Task Force, facilitates a technical multi-state workgroup to support state adoption and implementation of California's advanced clean car and truck standards, and convenes ad hoc multi-state workgroups as needed.

2023 Targeted Key Results:

- Continue dialogue and collaboration with member states, especially around development of supporting policies for 100% zero-emission vehicle sales targets and implementation of actions from the Multi-State Medium- and Heavy-Duty Zero-Emission Vehicle Action Plan.
- Continue coordination on multi-state public education campaigns and look for opportunities to leverage other awareness campaigns.
- Coordinate and collaborate on the buildout of publicly accessible charging infrastructure.
- Coordinate with state partners as guidance for new federal incentives are rolled out.

2023 Outcomes:

- Participated in learning sessions on infrastructure related topics, including federal funding opportunities, lessons learned in contracting for public fast charging stations, and strategies to streamline permitting and zoning for fast charging stations.
- Participated in Zero-Emission Vehicle Task Force meetings, including an in-person meeting with representatives from major automakers to discuss Advanced Clean Cars II and supporting policies and an in-person task force meeting that focused on Advanced Clean Trucks adoption and implementation.
- NESCAUM supported state adoption of California's clean car and truck standards by conducting modeling of emission reductions and public health benefits for Section 177 states, drafting frequently asked questions and other resources, and providing technical assistance as needed.
- NESCAUM supported zero-emission vehicle complementary program development by: sharing a federal funding matrix of opportunities for zero-emission transportation under the Inflation Reduction Act and Infrastructure Investment and Jobs Act; developing a table of medium- and heavy-duty zero-emission vehicle incentive programs to identify programs that actualize recommendations for incentive programs in the Multi-State

Medium- and Heavy-Duty Zero-Emission Vehicle Action Plan; and drafting a fact sheet on strategies for state and local government action on improving permitting and zoning for fast charging stations.

2024 Targeted Key Results:

- Participate in Zero-Emission Vehicle Task Force meetings to identify and implement priority actions to accelerate the rapid and equitable deployment of zero-emission vehicles, elevate mutual ambitions, and galvanize state leadership on zero-emissions transportation.
- Support Section 177 state adoption and implementation of California's clean car and truck standards, facilitate cross-state collaboration, and troubleshoot issues.
- Assist Zero-Emission Vehicle Task Force states in developing and refining incentive programs for medium- and heavy-duty zero-emission vehicles and infrastructure by developing key resources and participating in peer-to-peer exchange.
- Participate in Zero-Emission Vehicle Task Force learning sessions on timely infrastructure-related topics to further the build out of robust and reliable charging and fueling networks.

C. Veloz (Ongoing)

Veloz is a California-based nationwide nonprofit pushing for 100% zero-emission vehicles through strategic communications, collaboration and purposeful convenings. Veloz is behind the nation's largest multi-stakeholder public awareness campaign for electric vehicles and provides events and programming that garners state and national attention. Veloz brings together a high-powered, diverse board and members from the public and private sectors.

Veloz's Electric For All consumer awareness and education campaign is focused on priority communities and bringing zero-emission vehicles into the mainstream consumer market. The effort increases zero-emission vehicle education and awareness in hard-to-reach communities through paid media, organic outreach efforts and strategic partnerships. CARB is a founding member of Veloz.

2023 Targeted Key Results:

- Participate in and promote Veloz's 2023 virtual summits and webinars, which gather stakeholders to help guide policy education and identify market solutions to overcoming common zero-emission vehicle barriers.
- Promote Veloz's *Myths Busting Myths* Electric For All public education campaign and assist with expanding the campaign's reach to priority communities.

2023 Outcomes:

- Participated in numerous virtual and in-person Veloz webinars, events, and board meetings throughout 2023, including the distinctive *Women Drive the EV Revolution* leadership summit in December 2023.
- Helped promote the Electric For All campaign via social media channels, partnerships, and high-level engagements by top leadership. Veloz's Electric For All campaign leaned on strategic partnerships with eight community organizations and tailored community outreach efforts to deliver more than 145 million impressions and nearly 15,000 in-person interactions with campaign and zero-emission vehicle education materials.

2024 Targeted Key Results:

- Participate in and promote Veloz's 2024 virtual summits and webinars, which gather interested parties to help guide policy education and identify market solutions to overcoming common zero-emission vehicle barriers.
- Promote Veloz's 2024 Electric For All public education campaign and assist with expanding the campaign's reach to priority communities.
- Coordinate on critical messaging around zero-emission vehicle market stability; infrastructure build-out, use, and reliability; and policy solutions and barriers.

D. Hydrogen Fuel Cell Partnership (Ongoing)

In 2022, the former California Fuel Cell Partnership finalized the transition to a nationally focused nonprofit named the Hydrogen Fuel Cell Partnership. The partnership is focused on growing the market for fuel cell electric vehicles and hydrogen fuel. Members collaborate on ideas and actions that will create a sustainable future for zero-emission cars, trucks, and other applications for hydrogen. The program plan has three main pillars: 1) "Drive Market Success," 2) becoming a "Trusted Resource," and, 3) "Win Hearts and Minds." CARB is a founding member organization.

The Hydrogen Fuel Cell Partnership has individual tasks that focus on evaluating the equity impacts of the hydrogen fueling network, including the location of fueling stations and workforce impacts of developing a hydrogen transportation industry in California.

2023 Targeted Key Results:

- Help communicate the benefits of fuel cell vehicles and hydrogen through outreach materials, webinars, events, social media, and media relations, and assist in providing education and outreach to state and local governments, priority communities, non-governmental organizations, and other stakeholders, securing greater awareness and support.

- Participate in coordination and development of California's Hydrogen Hubs application, known as ARCHES, for federal funding under the Infrastructure Investment and Jobs Act of 2022.
- Ensure outreach to light- and heavy-duty project partners, including expanding awareness and education among fleet and transit agencies on new Advanced Clean Trucks and Innovative Clean Transit regulations.
- Continue development of partnership's station map and network progress reports.
- Integrate all new public hydrogen stations into Station Operational Status System and expand visualization and other capabilities to increase stakeholder and consumer value.

2023 Outcomes:

- Helped communicate the benefits of fuel cell vehicles and hydrogen through outreach materials, webinars, events, social media, and media relations, and assisted in providing education and outreach to state and local governments, priority communities, non-governmental organizations, and other interested parties, securing greater awareness and support.
- Encouraged, promoted, and facilitated involvement in ARCHES. ARCHES is a separate nonprofit, specifically established as a public-private partnership to manage application and implementation of California's hub application. California was awarded a hub through the Infrastructure Investment and Jobs Act of 2022.
- The Partnership continued to expand its role in promoting and encouraging the growth of the hydrogen network and fuel cell electric vehicle deployment.
- The partnership's station map continues to be updated as stations open, experience disruptions, or undergo maintenance.
- The Station Operational Status System continues to be updated and expanded to add visualization and other capabilities.

2024 Targeted Key Results:

- Continue to encourage, promote, and facilitate involvement in ARCHES as the details in the application are finalized.
- Continue to ensure outreach to light- and heavy-duty project partners, including expanding awareness and education among fleet and transit agencies on Advanced Clean Trucks and Innovative Clean Transit regulations.
- Help coordinate and encourage collaboration and collective problem solving for the end users and across multiple application sectors.
- Support the continued development of the station map and network progress reports.
- Integrate all new public hydrogen stations into the Station Operational Status System and expand the system's capabilities.

E. Transport Decarbonisation Alliance (Ongoing)

California is a member of the Transport Decarbonisation Alliance, or TDA. TDA is a unique international collaboration among countries, cities, regions, and companies to accelerate the worldwide shift of the transport sector toward a net-zero emission mobility system before 2050.

This year, TDA will offer participants space to discuss regulatory approaches to accelerating deployment of zero-emission trucks. TDA is partnering with and contributing to other initiatives in the clean trucks space, but remain distinct by being inclusive of national and subnational jurisdictions at varying levels of ambition; connecting the private sector directly with regulators; focusing on the political aspects of developing and implementing regulations; and offering ad-hoc and regular meetings tailored to the needs of participants, from meetings between members to large group workshops with partners and experts.

2023 Targeted Key Results:

- Anticipate hosting several events at international conferences related to zero-emission trucks and active mobility (May, July, November).
- Host webinars highlighting members' pursuit to reaching their climate goals (throughout the year).

2023 Outcomes:

- Built strong collaborations with other jurisdictions around zero-emission truck policies.
- Participated in a revisioning effort on how the Transport Decarbonisation Alliance is organized and how it functions.

2024 Targeted Key Results:

- Continue participation in subject matter areas that are of importance to CARB.
- Expand state agency participation.

8. Consumer and Worker Awareness

Strengthen and expand zero-emission vehicle related education and outreach, and tailor to unique needs of impacted communities, to ensure all Californians understand cleaner mobility options.

Key Collaborators:

California Energy Commission, California Public Utilities Commission, Caltrans, Air Districts, Local and Regional Governments, Tribal Government, Community-Based Organizations, Non-Governmental Organizations, Organized Labor, Vehicle Manufacturers, Industry

Key Results and Actions:

A. Access Clean California (Ongoing)

Stemming from a priority recommendation of both the Energy Commission's Senate Bill 350 Low-Income Barriers Study and CARB's SB 350 Guidance Document, Access Clean California takes a multi-dimensional approach to outreach. The goal of the program is streamlining access to, and coordinating outreach for, the state's clean transportation and clean energy consumer-based equity projects. To date, CARB has allocated $15 million to Access Clean California.

Access Clean California provides funding and resources to the outreach partners to help CARB spread the word about its clean transportation equity programs and build trust and capacity in priority populations. The project also created and maintains a centralized application tool called Benefits Finder that helps users determine eligible programs and kick-start and streamline their applications. The Benefits Finder is hosted on the Access Clean California web platform and is currently available for facilitated use by the project's outreach partners via targeted outreach in priority populations. The Benefits Finder also provides a centralized income verification, which helps streamline one of the more burdensome steps for both applicants and program administrators. A case management system also helps applicants navigate their applications to multiple programs.

The goals of Access Clean California—formerly named the One-Stop-Shop Pilot Project—are to work with local community-based organizations and community leaders to help increase awareness of Clean Transportation Equity Projects funding opportunities, continue to build local community capacity, and streamline access to Clean Transportation Equity Projects. These investments help to reduce barriers to participation, expand education, and raise awareness in the most impacted and under-invested communities.

2023 Targeted Key Results:

- Scale up outreach implementation and expand the outreach partner network, with an emphasis on partnering with community-based organizations and other local grassroots organizations; increase participation from priority populations.
- Expand integration with existing and new programs, including the transition of the Clean Vehicle Assistance Program to a needs-based model and outreach for the statewide Clean Cars 4 All program, as well as the new Electric Bicycle Incentives Project.
- Continue working to expand the Benefits Finder to include additional programs to fulfill the ultimate vision, as outlined in CARB's SB 350 Guidance Document of being a multi-agency platform for the state's equity-focused clean transportation and energy programs.

2023 Outcomes:

- Outreach partner network expanded to 27 partner organizations, and their outreach efforts engaged an estimated 1,792 community members from priority populations.
- Initiated integration efforts with the new Electric Bicycle Incentive Project and the statewide Clean Cars 4 All/Financing Assistance Program.
- Benefits Finder web application tool visited 13,142 times, including 7,500 eligibility checks and 1,458 applications started; 79% of applicants applied to more than one incentive program.

2024 Targeted Key Results:

- Complete integration with Electric Bicycle Incentive Project and statewide Clean Cars 4 All/Financing Assistance Program.
- Continue to expand outreach partner network with new funding allocated in the fiscal year 2023-2024 funding plan, with a focus on partnering with grassroots community organizations.
- Continue to improve streamlining of application processes and expanding the range of incentive projects connected to the Benefits Finder.

B. DriveClean.ca.gov (Ongoing)

DriveClean.ca.gov is a consumer clean car buying guide with a focus on zero-emission vehicles. It lists all passenger vehicles sold in California since model year 2000, ranks them by smog and greenhouse gas score, and allows sorting by fuel economy, electric range, Manufacturers Suggested Retail Price—known as MSRP—and incentives. DriveClean delivers information on zero-emission vehicle benefits, functionality, charging and fueling, and provides an extensive clean car incentives database that is searchable by ZIP code.

DriveClean.ca.gov aims to provide resources on driving cleaner cars to all consumers, with updates focused on better serving lower-income users.

2023 Targeted Key Results:

- Upgrade the DriveClean.ca.gov website in early 2023 to establish one seamless vehicle and incentives search tool with images and MSRP, that delivers summed up incentives based on location and vehicle selection, and enhanced filters to better support lower-income users.
- Create software functionality to allow the upgraded search tool to be embedded into other CARB consumer-facing websites and select external partner platforms.
- Continue collaboration on consumer messaging and incorporate findings throughout the DriveClean website.

2023 Outcomes:

- The incentives search tool was redesigned, and new filters and sort options were added to support lower-income car buyers by delivering customized incentive results based on household income.
- The vehicle search tool was redesigned, images and MSRP were added, and a new calculator was created to estimate cost after incentives for each vehicle according to vehicle eligibility and user defined inputs.
- An Application Programming Interface, or API, was built for the vehicle search tool so it can be shared with CARB light-duty incentive programs and select external partners as a customized embed tool in their web platforms.
- Consumer messaging collaboration continued between light-duty zero-emission vehicle program staff to address real and perceived barriers.

2024 Targeted Key Results:

- Continue to add tools and refine messaging and support for lower-income car buyers and reinforce clean mobility in general.
- Refresh the DriveClean logo and overall website look and feel to modernize for continued engagement.
- Coordinate within external partners to integrate DriveClean with new incentive and outreach programs.
- Explore the development of an API for DriveClean's incentives search tool to meet partner needs and provide consistent data across websites.
- Investigate data sources to streamline maintenance of the site, especially for zero-emission vehicles.

C. Educational Materials (Ongoing)

CARB will provide outreach materials to support medium- and heavy-duty zero-emission vehicle regulations, including a new informational website.

There is targeted outreach to fleets operating in lower-income and disadvantaged communities and materials are developed in multiple languages.

2023 Targeted Key Results:

- Continue to develop and provide materials requested by medium- and heavy-duty CARB programs.
- Continue to send mailers to regulated community.
- Update, develop and evolve new and existing digital assistance such as the zero-emission vehicle TruckStop webpage.
- Continue to target smaller fleets, many of which are owned and operated in underserved communities.
- Continue to provide outreach material development to support medium- and heavy-duty zero-emission vehicle regulations.

2023 Outcomes:

- Created specific curriculum and content for multiple zero-emission vehicle educational events to support and promote medium- and heavy-duty zero-emission vehicle uptake, resources, and regulations.

2024 Targeted Key Results:

- Continue to develop and provide materials requested by medium- and heavy-duty CARB programs.
- Continue to send mailers to regulated community.
- Update, develop and evolve new and existing digital assistance such as the zero-emission vehicle TruckStop webpage.
- Continue to target smaller fleets, many of which are owned and operated in underserved communities.
- Continue to provide outreach material development to support medium- and heavy-duty zero-emission vehicle regulations.

D. Educational Events for Heavy-duty Fleet Owners (Ongoing)

Conduct events for heavy-duty zero-emission vehicle fleet owners to support increased vehicle uptake such as, infrastructure requirements, maintenance, etc. CARB monitors the number of attendees at these events and seeks stakeholder input, including surveys of event effectiveness.

There is targeted outreach to those operating in lower-income and disadvantaged communities.

2023 Targeted Key Results:

- Continue providing day-long educational events to address the educational needs and concerns of audience.
- Develop shorter, more targeted educational events to increase the convenience and approachability for the audience.
- Provide assistance and information for 200-300 participants per event.
- Ensure that the curriculum for these events continues to be designed for all operators including smaller fleets, many of which are owned and operated in underserved communities.
- As medium- and heavy-duty vehicle owners begin to electrify their fleets, CARB will monitor the number of attendees at these events and seek stakeholder input, including surveys of event effectiveness.

2023 Outcomes:

- Hosted multiple Next-Stop to Zero events which are online zero-emission vehicle educational events to support and promote medium- and heavy-duty zero-emission vehicle uptake, resources, and regulations.

2024 Targeted Key Results:

- Continue providing day-long educational events to address the educational needs and concerns of audience.
- Develop shorter, more targeted educational events to increase the convenience and approachability for the audience.
- Provide assistance and information for 200-300 participants per event.
- Ensure that the curriculum for these events continues to be designed for all operators including smaller fleets, many of which are owned and operated in underserved communities.
- As medium- and heavy-duty vehicle owners begin to add zero-emission vehicles to their fleets, CARB will monitor the number of attendees at these events and seek stakeholder input, including surveys of event effectiveness.