

California Air Resources Board Zero-Emission Vehicle 2024-2025 Action Plan

Introduction: Zero-Emission Vehicle Role

The California Air Resources Board (CARB) employs a comprehensive portfolio of regulatory, incentive, and planning strategies to promote zero-emission transportation, with a particular emphasis on equitably reducing community exposure to vehicular air pollution. The suite of strategies outlined below addresses both upstream and downstream portions of the transportation sector, from fuels production to vehicle design. CARB works to develop, promote, and support new clean technologies, making them broadly accessible to all Californians. These strategies are even more critical now, as they provide essential support for zero-emission transportation and serve as part of a comprehensive effort to ensure California achieves the emissions reductions needed for criteria pollutants, greenhouse gases, and air toxics.

Equity Focus:

CARB's work on zero-emission vehicles has become increasingly focused on equity and environmental justice as we get closer to achieving zero emissions. California's most vulnerable populations—children, older adults, and especially lower-income households and communities of color—bear a disproportionate burden of pollution and have the most to gain as transportation moves to zero emissions. This is why CARB works to ensure zero-emission transportation is accessible for all Californians and that benefits are directed to priority communities. Priority communities include disadvantaged communities, low-income communities, and low-income households that have historically been disproportionately impacted by poor air quality.

In 2022, Governor Newsom signed [EO N-16-22](#). This executive order calls on the State of California to incorporate equity into all strategic plans and programs. It also calls on the state government to engage with disadvantaged California communities, including California Native American tribes, that have been historically underserved in our policies and programs.

CARB's vision for racial equity defines racial equity as a future where race is no longer a predictor of 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. CARB also developed the [Community Engagement Model](#) to equip staff with tools to meaningfully engage with communities. The model is designed to strengthen relationships and support equitable outcomes for all Californians. It was co-developed in partnership with communities across the state to ensure it reflects and builds upon their knowledge, expertise, and lived experience.

2024 Highlights and Lessons Learned:

- A strong emphasis on partnerships. CARB works to collaborate with national, state, and local regulators who are advancing zero-emission vehicles and non-road engines, and low-carbon transportation planning. CARB also looks to set priorities and develop programs in close collaboration with communities. These efforts include, for instance, 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 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 the 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 and non-road engines, 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, and use zero-emission equipment, such as portable generators and powered lawn and garden equipment to move and work 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 fuels and power sector

programs and collaborations work to reduce the carbon intensity of fuels, drop electricity sector emissions, and support economic development, including by promoting the 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 and Assembly Bill 32 Scoping Plans.

Regulation: Develop and implement regulations to require investment into the 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 fueling 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, the 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 the 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 (CDHC), Department of General Services (DGS), 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 (Continued)

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 the 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 are committed to addressing each

measure as described in the 2022 State Strategy for the State Implementation Plan and undertaking the actions detailed.

2024 Key Results:

- Initiated and/or continued regulatory development of several 2022 State Strategy for the State Implementation Plan measures.
- Began implementation of several 2022 State Strategy for the State Implementation Plan measures.
- Brought to the Board for consideration 2022 State Strategy for the State Implementation Plan measures commitments for the 12 μ g/m³ PM_{2.5} annual standard state implementation plans.

2024 Outcomes:

- In June and July of 2024, staff presented for the Board's consideration, and the Board adopted the 2022 State Strategy for the State Implementation Plan measure commitments for the 12 ug/m³ PM_{2.5} annual standard South Coast and San Joaquin Valley nonattainment areas.
- Throughout 2024, regulatory development continued for several 2022 State Strategy for the State Implementation Plan measures for future Board consideration.
- Implementation began for several measures from the 2022 State Strategy for the State Implementation Plan.

2025 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.

B. Mobile Source Strategy (Continued)

The Mobile Source Strategy takes an integrated planning approach to identify the cleaner mobile source technologies needed to achieve 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 is pausing development of the 2025 Mobile Source Strategy and reconsidering the approach. In light of the recent staffing cuts, and because there are several areas of work on transportation already happening, we are exploring approaches to avoid duplicative work.

2024 Key Results:

- Initiated the formal public process for development of the 2025 Mobile Source Strategy that will now be on hold in light of the recent staffing cuts, and because there are several areas of work on transportation already happening, we are exploring approaches to avoid duplicative work.
- Participated in meetings with interested parties.
- Released a 2025 Mobile Source Strategy Discussion Draft for public review and input.

2024 Outcomes:

- In January 2024, the development of the 2025 Mobile Source Strategy was initiated with a kick-off public workshop.
- Throughout 2024, participated in six new and existing meetings with interested parties to hear input and feedback on potential mobile source strategy scenarios.
- In October 2024, the 2025 Mobile Source Strategy Discussion Draft was released, and staff hosted a second public workshop to receive public responses and feedback on the discussion draft.

2025 Key Results:

- CARB is pausing development of the 2025 Mobile Source Strategy and reconsidering the approach. In light of the recent staffing cuts, and because there are several areas of work on transportation already happening, we are exploring approaches to avoid duplicative work.

C. Climate Change Scoping Plan (Continued)

The 2022 Scoping Plan for Achieving Carbon Neutrality, or 2022 Scoping Plan Update, 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 (Muratsuchi, Chapter 337, Statutes of 2022).

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 Key Results:

- Produced the annual Assembly Bill 32 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 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.
- In coordination with the California Public Utilities Commission and the Energy Commission, initiated an evaluation of hydrogen production and use in California per Senate Bill 1075 (Skinner, Chapter 363, Statutes of 2022).
- In coordination with the Energy Commission and California Public Utilities Commission, continued development of the 2025 Senate Bill 100 Joint Agency Report to the Legislature, or 2025 Senate Bill 100 report, providing an update on clean electricity progress and studying scenarios to understand the cost, benefits, and impacts of alternate paths to achieve a 100% renewable and zero-carbon electricity retail sales target by 2045. Planning for a decarbonized electric grid with the ability to plug in at places of convenience for all customers is central to zero-emission vehicle deployment.
- In coordination with the Energy Commission, began 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 (Skinner, Chapter 1, Statutes of 2023 First Extraordinary Session).

2024 Outcomes:

- The 2024 edition of the inventory includes greenhouse gas emissions released during the 2000-2022 calendar years. On-road transportation emissions were found to have decreased by 5.7 million metric tons of carbon dioxide equivalent (4.2%) from 2021 to 2022. The decrease was due in large part to reduced use of fossil distillate (17.6%) and fossil gasoline (1.7%).
- Initiated technical analyses to evaluate hydrogen production, transmission, distribution, and end use to accelerate progress toward the State of California's climate and energy goals per Senate Bill 1075.
- Continued public engagement to inform the development of the 2025 Senate Bill 100 report through public workshops and other meetings with stakeholders such as California balancing authorities, tribes, and the Disadvantaged Communities Advisory Group. Topics covered include analytical aspects of potential pathways to meet Senate Bill 100, including electricity demand, electricity supply system modeling, land use, non-energy impacts and social costs, and utilities' progress toward statutory goals.
- Assembled a workgroup with community, labor, and industry organizations and held meetings discussing transportation fuel supply, workforce transition,

and community impacts to support the development of the Transportation Fuels Transition Plan as called for by Senate Bill X1-2.

2025 Key Results:

- Produce the 2025 edition of the inventory.
- Continue public engagement and release of technical analyses for public review to inform the development of the Senate Bill 1075 report.
- Produce modeling results and hold additional public engagement in support of the release of the 2025 Senate Bill 100 report.
- Organize in-person community meetings and workgroup meetings to gather public input to support the development of the Transportation Fuels Transition Plan as called for by Senate Bill X1-2.

2. Regulations

Develop and implement regulations to require investment into the 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:

Building Standards Commission, 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 (Continued)

The Advanced Clean Cars II regulations continue stringent emission control of passenger cars and light-duty trucks while setting a zero-emission standard for vehicle manufacturers, with the ultimate requirement of 100% of new cars sold into California being zero-emission or plug-in hybrid electric vehicles by 2035.

The regulations will ensure that consumers have access to cleaner vehicle options starting with the 2026 model year through 2035. Advanced Clean Cars II also establishes new minimum technical requirements for zero-emission vehicles to help ensure they provide durable emission reductions, including standardized vehicle charging, durable electric vehicle range, warranty requirements, transparent and standardized data requirements, and ensuring vehicles can be repaired by independent repair shops. Advanced Clean Cars II will reduce smog-forming and greenhouse gas emissions that harm Californians, especially those living along transportation corridors. Increased zero-emission vehicle requirements and innovative environmental justice vehicle values will increase the likelihood that lower-income individuals will be able to access the technology.

Congress adopted and President Trump signed a resolution disapproving of the waiver of federal preemption for these regulations. California disputes this action and has filed suit against the U.S., U.S. EPA, and its Administrator, and President Trump in federal court. Governor Newsom also issued Executive Order N-27-25, directing CARB to develop further regulations to reduce greenhouse gas, criteria pollutants, and toxic emissions from passenger cars and light-duty trucks, either building on or as an alternative to Advanced Clean Cars II.

2024 Key Results:

- Worked with manufacturers to communicate regulatory requirements as part of their product planning and certification process.
- Working closely with manufacturers, communities, and non-governmental organizations to ensure the successful implementation of the Zero-Emission Vehicle Regulation and reduce barriers for manufacturers participating in environmental justice provisions through the Zero-Emission Vehicle Equity Task Force that was launched in 2023.
- Continued to coordinate with other states that have adopted California's Advanced Clean Cars II regulations.
- Prepared for the implementation of Advanced Clean Cars II regulations by working with manufacturers to communicate regulatory requirements and developing a new reporting system and associated templates while challenging the illegal resolutions of disapproval.

2024 Outcomes:

- In 2024, staff continued the Zero-Emission Vehicle Equity Task Force, which brings together equity-interested parties, manufacturers, public agencies, and representatives from other key sectors to accelerate the 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 2024 and convened a community tour in the Imperial Valley.
- Staff met regularly with manufacturers throughout the year to support compliance with the new suite of zero-emission vehicle assurance measures, understand industry concerns, and track product development.
- Eleven 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.

2025 Key Results:

- Certify 2026 model year vehicles—the first to meet the new Advanced Clean Cars II requirements.
- Continue to coordinate with other states promoting zero-emission transportation.
- Continue the work of the Zero-Emission Vehicle Equity Task Force, including convening two task force meetings, supporting workgroup meetings and projects, collaborating with participants on community tours, and fostering manufacturers to provide equitable access to clean transportation.
- Continue to develop a new reporting system and associated templates for the Advanced Clean Cars II Zero Emission Vehicle regulation implementation.
- Support California efforts to combat threats of hostile federal action, including on the Advanced Clean Cars II program.
- Initiate work and launch a public process in response to EO N-27-25 to develop additional regulatory measures to reduce greenhouse gas, criteria air pollutants, and toxic emissions and identify further strategies to advance progress on light-duty zero-emission vehicle adoption in California.

B. Advanced Clean Fleets (Continued)

The goal of the Advanced Clean Fleets Program is to achieve emissions reductions by accelerating the introduction of zero-emitting trucks and buses in fleets that are well suited to include them in their operations 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. Because U.S. EPA did not act on CARB's waiver request before the change in federal administration, and because the incoming federal administration was not going to approve that request, CARB

withdrew that waiver request in January 2025. Given these developments, to reduce confusion and uncertainty for regulated entities and to resolve litigation challenging the Advanced Clean Fleets Regulation, CARB is proposing to consider repealing the high-priority and drayage truck fleet provisions of the Advanced Clean Fleets Regulation. The section applicable to state and local government fleets is being implemented.

Pursuant to the directives of the Assembly Bill 1594, CARB will propose revising the Advanced Clean Fleets regulation to provide additional flexibilities for public agency utilities.

2024 Key Results:

- Staff held two workshops. Staff held training webinars and informative sessions regarding the Advanced Clean Fleet regulation.
- State and local government fleets completed initial reporting for the Advanced Clean Fleets regulation in CARB's Truck Regulations Upload, Compliance, and Reporting System, known as TRUCRS.
- Staff tabled at events to answer specific questions about regulatory requirements.
- Staff assembled Truck Regulation Implementation Groups and covered topics related to outreach strategies, zero-emission vehicle infrastructure deployment, challenges faced by border fleets, and rule provisions to support the implementation of the Advanced Clean Fleets regulation.
- Staff held two workshops in 2024 to discuss the implementation of Assembly Bill 1594 (Garcia, Chapter 585, Statutes of 2023).

2024 Outcomes:

- Staff have held 19 workgroups, two workshops to implement the requirements of Assembly Bill 1594 amendments to the Advanced Clean Fleets regulations.
- Staff have held five webinars and question-and-answer sessions focused on several specific elements of the regulation: high priority fleets, drayage, state and local government.
- U.S. EPA waiver request for the high priority fleets, drayage trucks, and 2036 100 Percent Medium- and Heavy-Duty Zero-Emissions Vehicle Sales Requirements has been withdrawn, and these portions of the regulation are not being enforced.
- Staff began implementation of the State and Local Government Fleet section of the regulation.
- Staff held 19 Truck Regulation Implementation Group meetings. The meetings were in a panel format consisting of representatives from various stakeholder groups. Recommendations from the groups were used to assist in the implementation of the Advanced Clean Fleets regulation.

2025 Key Results:

- Staff plan to continue holding Truck Regulation Implementation Group meetings for rule provision and infrastructure.
- Trainings for state and local governments will be held to cover the requirements of the regulation; staff will also continue to meet one-on-one with stakeholder groups.
- Staff plan to continue developing and releasing outreach and implementation materials for state and local government fleets.
- State and local government fleets are continuing to report in CARB's Truck Regulations Upload, Compliance, and Reporting System, known as TRUCRS.
- Staff plans to present proposed amendments to the Advanced Clean Fleets regulation to reflect the repeal of requirements applicable to drayage and private and federal agency fleets, and to implement the requirement of Assembly Bill 1594 to the Board by October 31, 2025. The repeal of drayage and private and federal agency fleets requirements will allow CARB to consider other strategies to maintain the momentum in the zero-emission vehicle market and continue to reduce emissions.
 - After Board approval, staff will begin implementation of the proposed changes to the regulation, including preparation of outreach materials and setting up reporting systems for initial requirements.

C. Advanced Clean Trucks (Continued)

The Advanced Clean Trucks Program continues stringent emission control of medium- and heavy-duty trucks and reduces the amount of harmful emissions generated from on-road mobile sources.

The regulation requires medium- and heavy-duty vehicle manufacturers to adjust their percentage of sales of zero-emission vehicles starting with the 2024 model year and increasing through 2035. In July 2023, CARB entered into the Clean Truck Partnership with major manufacturers to ensure commitments to producing and introducing zero-emitting trucks into California are met.

Advanced Clean Trucks is expected to result in about 100,000 zero-emission medium- and heavy-duty trucks by 2030 and 320,000 by 2035. Reporting and record-keeping requirements began in 2022 for 2021 model year sales. Based on information reported for vehicle model years 2021 through 2024, manufacturers are currently several years ahead of compliance with the regulation and have already produced enough zero-emission vehicles to meet the 2024, 2025, and 2026 model year requirements.

Also, the preliminary data from the 2024 model year reporting shows that zero-emission vehicles make up about 16.5% of the total new medium- and heavy-duty vehicle sales in California, and continues the trend of increasing zero-emission vehicle sales over the past four years.

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.

Congress adopted and President Trump signed an illegal resolution disapproving of the waiver of federal preemption for these regulations. California disputes this action and has filed suit against the U.S., U.S. EPA, and its Administrator, and President Trump in federal court. Governor Newsom also issued Executive Order N-27-25, directing CARB to develop further regulations to reduce greenhouse gas, criteria pollutants, and toxic emissions from medium- and heavy-duty vehicles, either building on or as an alternative to Advanced Clean Trucks.

2024 Key Results:

- Manufacturers completed the 2023 model year reporting March 31, 2024.
- In 2023, manufacturers reported they sold 116,483 vehicles in California, where 18,473 were zero-emission vehicles. Combined sales from 2021 through the 2023 model year total 26,924 zero-emission vehicles.
- CARB staff analyzed the reported data and published the [2024 model year sales data](#) for medium- and heavy-duty vehicles in May 2024.
- In October 2024, the Board approved the first set of amendments to Advanced Clean Trucks. These amendments primarily included the following changes:
 - Establish that compliance would be based on the reported sales of vehicles delivered for sale in California and not based on when vehicles reach the ultimate purchaser.
 - Extend the deficit makeup period from one model year to three model years.
 - Permit secondary vehicle manufacturers to opt into the Advanced Clean Trucks credit trading and transfer provision.

2024 Outcomes:

- Continue to develop amendments to fulfill CARB's commitments in the Clean Truck Partnership.
- Continue to coordinate with other states promoting zero-emission transportation.
- Data reported by manufacturers for the 2024 model year shows that zero-emission vehicle sales accounted for approximately 23% of the total new medium- and heavy-duty zero-emission vehicle sales in California. This is the fourth consecutive year of increasing Class 2b-8 ZEV sales. Manufacturers now have more than 26,000 excess credits banked for future compliance, which is 400% more than needed to meet 2024 ZEV sales targets.
- In October 2024, the Board adopted the first set of amendments to the Advanced Clean Trucks program.

- In December 2024, CARB staff hosted a follow-up public workshop for the Advanced Clean Trucks credit pooling concept via webcast to capture stakeholder input on the proposal.

2025 Key Results:

- Released a new version of the Advanced Clean Trucks Reporting System to streamline manufacturer reporting, and credit and deficit calculations for sales in California or in other states that elect to use it for implementing the regulation.
- Manufacturers completed the 2024 model year reporting March 31, 2025, using the new Advanced Clean Trucks Reporting System
- CARB staff is reviewing reported data and expects to publish 2024 model year sales data for medium- and heavy-duty vehicles before the end of 2025.
- Hold a Board hearing in summer as part of the process for the second set of amendments to provide manufacturers with additional flexibility to meet their compliance obligations, which includes a credit pooling provision to be used among states that have adopted the Advanced Clean Trucks program.
- Support California efforts to combat threats of hostile federal action, including on the Advanced Clean Trucks program.
- Initiate work and launch a public process in response to EO N-27-25 to develop additional regulatory measures to reduce greenhouse gas, criteria air pollutants, and toxic emissions and identify further strategies to advance progress on medium- and heavy-duty zero-emission vehicle adoption in California.

D. Clean Miles Standard (Continued)

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 of 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, or CPUC, implements the standards.

As part of the implementation of the Clean Miles Standard, the CPUC 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 with ride-hailing driver zero-emission vehicle incentives, robust engagement and working groups, annual surveys, and reports on driver impacts and barriers.

2024 Key Results:

- Regulatory requirements for the 2024 calendar year began, which include a 4% zero-emission miles target and greenhouse gas emissions reductions.
- Supported the CPUC in finalizing the Phase 1 decision of their proceeding to implement the regulation and in launching the Phase 2 analysis.
- Coordinated with transportation network companies and the program administrator of the Driver Assistance Program to align incentive program development and outreach to drivers.
- Completed the first driver survey and analyzed results under the CARB research contract with UC Davis, assessing the impacts of the regulation on California ride-hailing drivers.

2024 Outcomes:

- Supported the CPUC in oversight of the 2024 calendar compliance data, which included a 4% zero-emission miles target and greenhouse gas emissions reductions.
- Supported the CPUC in their implementation of Phase 1 following the commission decision in March 2024, and provided support for Phase 2 analysis.
- First survey completed and analyzed under CARB research contract with UC Davis titled, "Assessing the Early Impacts of the Clean Miles Standard on California Ride-hailing Drivers."
- Second survey under CARB research contract with UC Davis launched.

2025 Key Results:

- Regulatory requirements for the 2025 calendar year begin, which include a 13% zero-emission miles target and greenhouse gas emissions reductions.
- Support the CPUC in finalizing Phase 2 of their proceedings to fully implement the regulation.
- Support the CPUC in launching the program administrator of the Drivers Assistance Program and implementing the incentive program, and begin outreach to drivers. The incentive program leverages revenue raised with a new \$0.09/ride fee with ride-hailing services following a CPUC decision in March 2025.
- Complete the second driver survey and review the final report under the 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 (Continued)

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 by 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 the 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 consumers' preferences for paying for goods, access to contactless payment technologies, and barriers lower-income drivers experience at public charging locations.

In 2023, Senate Bill 123 was signed, which modified the payment hardware requirements to match the National Electric Vehicle Infrastructure funding requirements and transferred authority over to the California Energy Commission. The California Energy Commission has completed one workshop and is working through its regulatory process.

2024 Key Results:

- Continue to implement and track compliance with the regulation.

2024 Outcomes:

- Coordinated with the California Energy Commission to support their rulemaking process to implement Senate Bill 123.
- Posted reports pertaining to the contactless payment market expansion.

2025 Key Results:

- Continue to track compliance with the regulation.
- Work with the California Energy Commission to support their rulemaking process to implement Senate Bill 123.

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

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 the U.S. EPA in 2011 and by CARB in 2013. The Phase 2 greenhouse gas standards, adopted by the 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 the 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.

Despite the benefits of these standards, the U.S. EPA under the Trump Administration has indicated it intends to repeal these standards. See, e.g., U.S. EPA, EPA Launches Biggest Deregulatory Action in U.S. History, March 12, 2025, <https://www.epa.gov/newsreleases/epa-launches-biggest-deregulatory-action-us-history> [Reconsideration of light-duty, medium-duty, and heavy-duty vehicle regulations that provided the foundation for the Biden-Harris electric vehicle mandate (Car GHG Rules)]; Executive Order No. 14154, Unleashing American Energy, Jan. 20, 2025.

2024 Key Results:

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

2024 Outcomes:

- CARB staff reviewed the proposed federal Heavy-Duty Phase 3 Greenhouse Gas Regulation and submitted substantial comments advocating for stringent standards to the U.S. EPA rulemaking docket in June 2023. U.S. EPA published the final version of the federal Heavy-Duty Phase 3 Greenhouse Gas Regulation in April 2024.

2025 Key Results:

- CARB staff will assess the final U.S. EPA regulation and consider any future CARB rulemaking activity and actions to oppose federal repeals.

G. Innovative Clean Transit (Continued)

The Innovative Clean Transit regulation is the first regulation in California and the United States requiring heavy-duty vehicles to move to zero-emission technologies. It requires all public transit agencies to gradually reduce fleet vehicle tailpipe emissions 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 in 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.

2024 Key Results:

- Engagement with industry and regulated entities to provide consistent outreach and establish productive partnerships.
- Continued collaboration with the California Transit Association, California Association for Coordinated Transportation, transit agencies, and the National Renewable Energy Laboratory, along with the University of California, Berkeley, on the preparation of Phase 2 of the Innovative Clean Transit Comprehensive Review. Phase 2 work will examine program readiness for the implementation of the 2026-2028 zero-emission bus purchase requirements. The report is anticipated to be released in late 2025.
- Collaborated with Pacific Gas and Electric Company and transit agencies in their territories to support the utility's better understanding of the future regional power needs based on planned zero-emission bus deployment and charging site information.
- Transit agency annual reporting started in 2021 and will continue through 2050.
- Annual implementation update provided to the Board.

2024 Outcomes:

- Enhanced outreach efforts and provided additional regulatory support on information about multiple regulations (e.g., Clean Truck Check, Advanced Clean Fleets, etc.) to transit agencies.
- Teamed up with Alameda-Contra Costa Transit District and CALSTART to host the first Generation Zero: Interactive ZEB Technology Experience event. The event featured a hydrogen station tour at the transit agency's yard, use of augmented reality to support off-site repairs or remote troubleshooting, zero-emission bus-related courses, a Clean Truck Check on-board diagnostic testing demonstration, and more.
- Based on CARB's collaboration initiatives with Pacific Gas and Electric Company and transit agencies, the utility developed a data template to forecast the required electricity load of participating transit agencies. This exercise enables the utility to improve its load and cost forecasts for the coming years and better allocate those costs among customer classes.
- Annual implementation update provided to the Board.
- Zero-emission bus purchase requirements for large transit agencies started in 2023. Based on 2023 data reported by transit agencies, all large transit agencies were compliant in 2023 and expected to be compliant in 2024 as well.

- As of December 31, 2023, there were 827 zero-emission buses (709 battery-electric and 118 fuel cell electric buses) in service and 464 zero-emission buses (356 battery-electric and 108 fuel cell electric buses) on order. The 2023 data also show an 18% increase in total zero-emission bus deployment in California compared to the previous year. The cumulative number of zero-emission buses deployed (in service and on order) in California at the end of 2023 was very close to the Innovative Clean Transit's target of 1,347 zero-emission buses in 2027. Many transit agencies took early actions and are above and beyond the requirements of the Innovative Clean Transit regulation.

2025 Key Results:

- Redouble the outreach effort to help transit agencies comply with multiple CARB regulations.
- Target outreach and collaboration to address implementation challenges and infrastructure barriers.
- Collaborate with the California Transit Association and California Association for Coordinated Transportation to create a multi-agency executive-level task force to identify and address transit agencies' challenges in acquiring and using zero-emission buses. The Innovative Clean Transit Zero-Emission Bus Task Force comprises principal-level state agencies' leaders and transit agencies' representatives meeting quarterly for two years. The first task force meeting was held in March 2025.
- Phase 2 of the Innovative Clean Transit Comprehensive Review report is anticipated to be released in 2025.
- A new contract, Analysis for a Scale-up Effect Study, is anticipated to start. This study will assess the readiness of the zero-emission bus purchase requirements for 2029 and beyond, which require all new bus purchases to be zero-emission, regardless of the transit agency's size.
- Serve as co-vice chair of the Innovative Clean Transit Zero-Emission Bus Task Force's quarterly meetings to discuss transit agencies' major challenges and come up with solutions as recommended near-term strategies.
- Monitor transit agencies' annual reporting and the zero-emission bus market.

H. Low Carbon Fuel Standard (Continued)

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, such as low-carbon intensity electricity. 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 Key Results:

- Presented amendments to the Low Carbon Fuel Standard for Board consideration in November 2024, after releasing a staff report for public comment in January and two 15-day packages in summer and fall. The amendments strengthen support for zero-emission vehicles and create new crediting opportunities for electric vehicle charging and hydrogen refueling infrastructure.

2024 Outcomes:

- The Board approved the amendments to the Low Carbon Fuel Standard for adoption in November 2024.

2025 Key Results:

- Submitted the final Low Carbon Fuel Standard amendments rulemaking package to the Office of Administrative Law in January 2025, which it disapproved in February 2025.
- Resubmitted final rulemaking package with updates to address comments from the Office of Administrative Law in May 2025.
- Begin implementation of the amended Low Carbon Fuel Standard if approved by the Office of Administrative Law following resubmission.
- Establish a Clean Fuels Reward program in coordination with utilities to support on-the-hood rebates for medium and heavy-duty trucks.

I. Transport Refrigeration Units (Continued)

Continue implementation of the 2022 Transport Refrigeration Unit Air Toxic Control Measure amendments to the existing [Transport Refrigeration Unit rule](#).

CARB requested authorization from the U.S. EPA for the 2022 Transport Refrigeration Unit Air Toxic Control Measure amendments on January 9, 2023. On January 3, 2025, U.S. EPA granted partial authorization under the Clean Air Act of the 2022 amendments, but did not act on the zero-emission truck transport refrigeration unit fleet requirement, which required at least 15% of the diesel-fueled truck transport refrigeration unit fleet by December 31, 2023, and each year thereafter. In response, CARB withdrew its request for this specific requirement on January 13, 2025, which U.S. EPA accepted the next day.

Continue development of a new rule to reduce transport refrigeration unit emissions for all classes. The timing and requirements of the new regulation are still to be determined.

Requiring lower-emission transport refrigeration units will improve air quality across California, particularly in disadvantaged communities. As part of the rulemaking process, CARB staff will conduct a comprehensive community engagement effort to ensure meaningful participation from impacted communities.

2024 Key Results:

- Conducted outreach on new requirements that began in 2023.
- Implemented new regulatory requirements.

2024 Outcomes:

- Conducted outreach on the 2022 Transport Refrigeration Unit Air Toxic Control Measure 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 Transport Refrigeration Unit Air Toxic Control Measure 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 and a second concept workshop in May 2024.

2025 Key Results:

- Continue outreach on the 2022 Transport Refrigeration Unit Air Toxic Control Measure amendments.
- Continue regulatory development, including community engagement efforts, for a new rule to increase the use of zero-emission for all transport refrigeration units.
- Hold additional public workshops on new rule development.

J. Zero-Emission Airport Shuttle Regulation (Continued)

The Zero-Emission Airport Shuttle Regulation requires airport shuttle operators to acquire an increasing percentage of zero-emitting airport shuttles commencing on December 31, 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 regulation requires fleets to report and update their information in the Truck Regulation Upload and Reporting System, known as TRUCRS, database annually, starting in 2022. Congress adopted and President Trump signed an illegal resolution disapproving of the waiver of federal preemption for these regulations. California disputes this action and has filed suit against the U.S., U.S. EPA, and its Administrator, and President Trump in federal court. Governor Newsom also issued Executive Order N-27-25, directing CARB to develop further regulations to reduce greenhouse gas, criteria pollutants, and toxic emissions from medium- and heavy-duty vehicles, either building on or as an alternative to the Zero-Emission Airport Shuttle Regulation.

2024 Key Results:

- By March 1, 2024, fleet owners had to report their information as it was on December 31 of the prior year (2023).

2024 Outcomes:

- As required by the regulation, fleets have continued to report vehicle information in TRUCRS.

2025 Key Results:

- Fleets completed annual reporting requirements for calendar year 2024 in TRUCRS by March 1, 2025.
- Provided program information at the Interagency Transportation Electrification meeting.

K. Zero-Emission Forklift Rulemaking

CARB adopted the Zero-Emission Forklift Regulation in June 2024. This measure aims to 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 warehouses 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.

2024 Key Results:

- CARB staff proposed the Zero-Emission Forklift Regulation to the Board on June 27, 2024.

2024 Outcomes:

- The Board approved the regulation on June 27, 2024.
- The Office of Administrative Law approved on September 16, 2024.

2025 Key Results:

- CARB staff will begin developing compliance assistance documents to prepare for requirements that take effect January 1, 2026. However, to settle pending litigation, CARB entered an agreement not to enforce the regulations against private parties until it receives federal authorization waiving preemption under the Clean Air Act.

L. Phased Advanced Clean Equipment Rulemaking (Continued)

CARB is developing the Phased Advanced Clean Equipment regulation, formerly known as the Targeted Manufacturer Rule. This measure would require manufacturers of heavy-duty off-road equipment and/or engines to produce for sale zero-emission equipment and/or powertrains as a percentage of their annual statewide sales volume to ensure these globally emerging zero-emission products and related innovations come to California. It is anticipated that criteria pollutants and greenhouse gas emissions reductions will be obtained by this measure.

The regulation will be structured to make timely progress while accounting for cost and the diversity of off-road equipment for sale in California.

Sales/production mandate levels would be developed based on the projected feasibility of zero-emission technology to enter and grow in the various off-road equipment types currently operating in California, while taking into account cost. This measure is expected to increase the availability of zero-emission options in the off-road sector and support other potential measures that promote and/or require the purchase and use of such options.

Key Results:

- CARB held a public workshop in September 2024 to engage the public in the rulemaking process.

2024 Outcomes:

- CARB received important feedback and followed up with stakeholders who provided comments during the public workshop.

2025 Results:

- The rulemaking team is continuing to meet with manufacturers, vendors, and operators of heavy-duty off-road equipment to better understand the zero-emission options and practical needs of stakeholders.

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 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, Driving Clean Assistance Program, and Financing Assistance for Lower Income Consumers programs.

2024 Key Results:

- 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.

2024 Outcomes:

- CARB invested 1.6 billion dollars, with approximately 40% of funds benefiting priority populations. In addition, more than 590,000 zero-emission vehicles were 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](#).

2025 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. These will continue to be made publicly available on the CVRP website.

B. Driving Clean Assistance Program (New)

The new joint statewide program, now referred to as the Driving Clean Assistance Program, provides several incentive pathways and supports both a scrap-and-replace incentive as well as a non-scrap portion. The non-scrap portion, more commonly referred to as the Financing Assistance pathways, provides a grant of up to \$7,500 toward the purchase or lease of a new or used cleaner vehicle with an additional \$2,000 incentive toward charging solutions for income-qualified individuals whose household income is at or below 300% of the Federal Poverty Level (in 2024 this was \$90,000 for a family of four).

On the other hand, the scrap-and-replace portion, commonly referred to as the Statewide Clean Cars 4 All pathway, provides a grant of up to \$12,000 toward the purchase or lease of a new or used vehicle, when scrapping an older vehicle, with an additional \$2,000 incentive to offset charging costs. On top of these incentives, participants of the Driving Clean Assistance Program would be able to access low-interest rate loans capped at 8% through a variety of credit union partnerships. The Driving Clean Assistance Program and Clean Cars 4 All programs, which are administered by the various air districts and more commonly referred to as Regional Clean Cars 4 All, are designed to be complementary to each other.

The Driving Clean Assistance Program officially launched beginning in Imperial Valley in September 2024 and moved upward throughout the state monthly, with a cumulative statewide opening in March 2025, providing both Financing Assistance and statewide Clean Cars 4 All incentives to regions of the state that have not had historical access to either incentive program. The Driving Clean Assistance program is currently working in collaboration with regional air districts and their respective Clean Cars 4 All programs to best establish a referral system to ensure that individuals living within regional air districts and are currently administering their respective Clean Cars 4 All program would have access to these 8% capped interest rate loans through a transparent and streamlined process.

2024 Key Results:

- The Community Housing Development Corporation has been selected to be the administrator of the Driving Clean Assistance Program. They use and leverage partnerships with various community-based organizations, outreach partners, and air districts to provide services ranging from

financial counseling, outreach, and scrappage to provide a streamlined process to incentives. The Driving Clean Assistance Program officially launched in September 2024.

- Adoption of the needs-based model in this project will safeguard funds and help keep the program open year-round for those who need it 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.
- Application processing, program, and eligibility criteria will be more aligned with other equity-focused programs, such as Clean Cars 4 All, to maximize offered benefits and reduce application processing for low-income consumers.

2024 Outcomes:

- Community Housing Development Corporation was selected as the grantee.
- The Driving Clean Assistance Program has since launched and is now providing both scrap-and-replace and non-scrap incentive options to all areas of the state.

2025 Key Results:

- Community Housing Development Corporation continues to expand collaboration with community-based organizations, outreach partners, and air districts.
- Collaboration and coordination with air districts that currently implement Clean Cars 4 All programs.
- Updates provided through public workgroups and workshops.

C. Regional Clean Cars 4 All Programs (Continued)

Clean Cars 4 All provides incentives for lower-income consumers who scrap their old light-duty vehicles and purchase new or used 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, instead 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 District, Sacramento Metropolitan Air Quality Management District, and San Diego Air Pollution Control District. The statewide Driving Clean Assistance Program has also recently been developed to support the remaining district territories.

The program requires a household income equal to or less than 300% the Federal Poverty Level (in 2024, this was \$90,000 for a family of four). In addition to income qualification, the program offers higher incentive amounts to participants who 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.

2024 Key Results:

- Expanded access to the program to all areas of four participating regional Clean Cars 4 All districts, including South Coast Air Quality Management District, San Joaquin Valley Unified Air Pollution Control District, Bay Area District, and Sacramento Metropolitan Air Quality Management District, such that individuals living in disadvantaged communities, and now individuals living outside of disadvantaged communities, can participate.
- Completed annual reporting through the [Fiscal Year 2024-25 Funding Plan for Clean Transportation Incentives](#).
- Implemented a needs-based approach through the statewide Driving Clean Assistance Program to ensure that the program is accessible to households and communities that would benefit most from the assistance.
- Coordinated with air districts and the statewide administrator to develop an updated funding allocation for all future funding allocations.
- Implemented 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.
- Increased priority community access through Access Clean California, the statewide Driving Clean Assistance Program, and related outreach efforts.

2024 Outcomes:

- Collaborated with air districts to expand access to the program to all areas of participating air districts.
- Supported air districts in implementing additional program elements, including the addition of offering incentives for adaptive equipment.
- Collaborated with air districts on expanding surveying efforts and increased reporting to better track program spending.
- Collaborated with air districts and the statewide administrator to update the funding allocation formula.
- See outcomes for the statewide Clean Cars 4 All under the Driving Clean Assistance Program.

2025 Key Results:

- Conduct program evaluation to ensure accessibility to households and communities that would benefit most from the assistance.

- Further 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 air district-run programs through coordination with the Driving Clean Assistance Program, Access Clean California, and related outreach efforts.
- Complete annual reporting through the Funding Plan for Clean Transportation Incentives.
- Expand access to the program to all areas of the San Diego County Air Pollution Control District. Increase alignment across regional air district programs, Driving Clean Assistance Program, and other light-duty incentive programs.

D. California E-Bike Incentive Project (Continued)

The [California E-Bike Incentive Project](#) provides incentives for California residents 18 years or older to reduce the purchase price for electric bicycles, known as e-bikes, to income-qualified consumers. The pilot has been designed to help Californians reduce their vehicle miles traveled by lowering barriers to e-bike ownership and replacing car trips with e-bike trips. The project is intended to reduce greenhouse gas emissions, provide bicycle safety education, and support local businesses.

Eligible applicants can receive up to \$2,000 toward the purchase of an e-bike and eligible accessories such as helmets, locks, lights, racks, baskets, and mirrors. The project requires a household income at or below 300% of the Federal Poverty Level (in 2024, this was \$90,000 for a family of four). The project offers additional funding for applicants who have a household income at or below 225% of the Federal Poverty Level (in 2024, this was \$70,200 for a family of four) or live in a disadvantaged community (Senate Bill 535) or a low-income community (Assembly Bill 1550).

2024 Key Results:

- Staff held two public workgroups in 2024 to solicit feedback on implementation changes and e-bike eligibility.
- Key takeaways include staff proposals for multiple application windows, increasing and simplifying the incentive structure, and requiring battery and electrical component certifications for e-bikes, also known as Underwriters Laboratories 2849 and European Standard 15194.
- The project worked with four communities to complete the project soft launch. Those communities are Barrio Logan (San Diego), Fresno, the East Bay Area, and the tribal governments that work with the Native American Environmental Protection Coalition.

- Feedback from soft launch communities further refined the project with suggestions for an improved e-bike buyer experience and expanding the eligible accessories available to voucher recipients.
- December 18, 2024, the California E-Bike Incentive Project launched the first statewide application window with \$3 million available for e-bike incentives.
- The program administrator, Pedal Ahead, in coordination with CARB staff, continued to build and expand outreach networks and add retailers participating in the project.

2024 Outcomes:

- Application Window 1 launched in December 2024 and to date has approved 916 incentives. The eligible accessories list was expanded to include baskets and mirrors to increase e-bike functionality and safety.
- The retailer network consists of 389 retailers (both online and brick-and-mortar locations across the state).
- Twenty-two community-based organizations assisted with education and outreach for the project.
- The project partners with Access Clean California to leverage their outreach network.

2025 Key Results:

- Application Window 2 will launch in 2025, with 1,000 e-bike incentives available.
- Data collection by the UC Davis Institute for Transportation Studies has started and will evaluate travel patterns of voucher recipients through surveys and travel diaries.
- Application Window 2 will also include \$1 million in funding for a voucher set-aside reserved for community-based organizations. These project partners will assist income-eligible residents in completing and submit applications to the program administrator to ensure that more vouchers are awarded to eligible applicants.
- The project continues to expand the community-based organization network to new regions throughout California.
- CARB will release a solicitation for a program administrator in the second quarter of 2025.

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

The [California Integrated Travel Project](#), also known as Cal-ITP, supports various efforts across CARB's light-duty vehicle incentive projects and seeks to ensure that all Californians—especially low-income and underbanked and unbanked mobility customers—can easily pay for transit, electric vehicle charging, and other sustainable modes of travel. 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 on extending 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 the Capital Corridor Joint Powers Authority has launched pilot projects to provide proof of concept, research, data, and lessons learned for Cal-ITP and CARB that improve the distribution of mobility incentives and enhance the customer payment experience. Its focus continues to be on implementing scalable solutions and expanding the scope and breadth of impact in the next program phases.

2024 Outcomes:

- Leveraging learnings from the earlier Prepaid Card Demonstration, supported CARB grantee administrators in a collaborative procurement for prepaid card supply for Clean Cars 4 All and Drive Clean Assistance Program (Joint Statewide Financing Assistance and Statewide Clean Cars 4 All programs).
- Published the findings of a [rewards market sounding](#).
- Engaged with industry to assess the opportunity to use credit-building products in conjunction with mobility subsidies and subsequently developed a working hypothesis for increasing financial inclusion tied to government disbursement.
- Created an [implementation guide](#) for California agencies that leverages a wallet and rewards to encourage the use of carpooling.
- Supported LA Metro's One Car Challenge using rewards to incentivize reduced vehicle miles traveled, including technology and market assessment, product architecture recommendations, and support of procurement activities.
- Worked with industry and state representatives to assess gaps in the electric vehicle charging data and payment experience, publishing a [white paper](#).
- Worked with CARB staff to improve tracking of program impact and increase alignment across subsidy programs.

2025 Key Results:

CARB and Cal-ITP will continue to work on different work tasks to achieve the following goals. Examples of expected results include:

- Supporting LA Metro to roll out their One Car Challenge rewards demonstration and demonstrate additional rewards tools in California mobility contexts.

- Continued use of prepaid cards for subsidy disbursements by supporting transit agencies and CARB grantees with procurement and implementation activities.
- Publish updated prepaid card guidance on the Cal-ITP website.
- Demonstrate the use of secured credit cards in a subsidy context to validate the opportunity to increase financial inclusion while improving mobility affordability.
- Create financial education collateral that enables CARB grantees and relevant stakeholders (i.e., organizations who do not yet support financial inclusion activities) to leverage Cal-ITP's existing partnership with BankOn.
- Showcase examples of good public electric vehicle charging customer experience, to establish a benchmark for industry best practice.
- Work with payment industry stakeholders to improve the implementation of electric vehicle charging merchant category codes and create a new code(s) for green mobility modes (bikeshare, etc.).

F. Clean Mobility Options Voucher Pilot Program (Continued)

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 non-electric (human-powered) bicycle sharing, scooter sharing, micro-transit, and fixed route transit services for low-income and disadvantaged communities across California, including federally recognized Native American tribes.

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 critical to improving the state's transportation system.

2024 Key Results:

- Community transportation needs assessment projects: 24 needs assessment projects completed in 2022, where nine project grantees were successful in

receiving implementation grants in the following years. Twelve new projects were launched between mid-2023 and early 2024.

- Mobility projects: Four projects launched 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 ensure that awarded projects are responsive to community needs and preferences.
- Provided additional funding for current mobility projects and continued further training, technical assistance, learning tools, and information sharing opportunities.
- Held the second annual Clean Mobility Forum in Pasadena. This event is focused on shared mobility and clean transportation, where participants can network and connect with like-minded peers, create partnerships, and problem-solve in a supportive, community environment. Attendees include clean mobility project awardees, mobility operators, community-based organizations, nonprofits, tribes, and other experts in the clean transportation field.

2024 Outcomes:

- The second application window opened in November 2022 for community transportation needs assessments, and in March and August 2023 for mobility project vouchers (two-phase application process).
- Twelve new needs assessment voucher agreements were executed as a result of the second application window.
- Nineteen mobility projects are in the planning and construction phase.
- Nineteen mobility projects launched services and are in various stages of implementation.

2025 Key Results:

- There are 18 new mobility projects awarded in early 2024 as a result of the second application window. These projects are expected to launch services in mid-2025, and four have already launched in late 2024/early 2025.
- Twelve new transportation needs assessments are expected to be completed by summer 2025.
- Holding the third annual Clean Mobility Forum in Fresno, October 2, 2025.

G. Sustainable Transportation Equity Project (Continued)

The Sustainable Transportation Equity Project is a competitive grant program that aims to increase transportation equity by addressing community residents' transportation needs and increasing access to key destinations and services, while 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 designed to encourage pedestrian activity, bike and pedestrian pathways, 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 and an additional six grants (implementation) from its second solicitation (2023 Request for Applications). Projects are now underway in communities across the state. These projects will be completed between 2025 and 2028.

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

2024 Key Results:

- Presented at 10 public workgroup meetings to provide status updates on the Sustainable Transportation and Equity Project, Planning and Capacity Building, Clean Mobility in Schools grants, and the upcoming Request for Applications for the Planning and Capacity Building fiscal year 2023-2024 funding.
- Continued scoring and selection of awards for the fiscal year 2022-2023 Joint Request for Applications.
- Awarded \$17.9 million to four grants from the Sustainable Transportation and Equity Project and Clean Mobility in Schools Project fiscal year 2022-2023 Joint Request for Applications, including three new grants and the remaining budget from a previously awarded grant.
- Continued implementation of previously awarded grants, which include eight implementation grants and eight grants from the Planning and Capacity Building Grant Projects.

2024 Outcomes:

- Provided technical assistance to all interested applicants in the Joint Request for Applications through a contract with the Institute for Local Government.

2025 Key Results:

- With CARB's Mobile Source Control Division, pursue technical assistance for unawarded applicants to support clean transportation projects and partnership development.
- Continue to implement the previously awarded implementation and planning grants, including completing and closing out three of the planning grants and two implementation grants.

H. Clean Mobility in Schools (Continued)

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, clean fleet and energy 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 traveled.

The zero-emission vehicles will operate almost exclusively in disadvantaged communities due to disproportionate pollution impacts in these 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.

2024 Key Results:

- Presented at 10 public workgroup meetings to provide status updates on the Sustainable Transportation and Equity Project, Planning and Capacity Building, Clean Mobility in Schools grants, and the upcoming Request for Applications for the Planning and Capacity Building fiscal year 2023-2024 funding.
- Presented two project posters, 1) San Diego Unified School District and 2) Twin Rivers Unified School District, at the Light-Duty Clean Transportation Equity Incentives Symposium held April 18, 2024.
- Continued scoring and selection of awards for the fiscal year 2022-2023 Joint Request for Applications.
- Executed and launched four new grants to: City of Hayward, Ecology Action in Watsonville, City of San Jose, and Porterville Unified School District.
- Published two Clean Mobility in Schools final reports 1) San Diego Unified School District and 2) El Monte Union High School District. Each report features lessons learned from battery electric school bus deployments, zero-emission

vans, cars, trucks, landscape and custodial equipment, a Clean Energy Fellowship, zero-emission curriculum for high school students, student-led outreach campaigns, and workforce training and development projects focused on zero-emission technology.

2024 Outcomes:

- Provided technical assistance to all interested applicants in the Joint Request for Applications through a contract with the Institute for Local Governments.
- Provided support to awardees through the Clean Mobility Equity Alliance via the Clean Mobility Options administrator team.

2025 Key Results:

- Publish one Clean Mobility in Schools final report from Stockton Unified School District featuring battery-electric school bus deployment, charging infrastructure and management projects, zero-emission landscape equipment, a zero-emission fleet and equipment use plan, clean technology training programs, student-led educational campaigns, and more.
- Pursue technical assistance for unawarded applicants to support clean transportation projects and partnership development.
- Continue to implement the previously awarded grants, including supporting technical assistance provided through the Planning and Capacity Building administrator team.

I. Planning and Capacity Building (Continued)

Planning and Capacity Building funds efforts that improve the 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. These grants provide communities with support to identify and prioritize transportation choices that improve livability and quality of life for residents, and connect residents to good jobs, education, affordable housing, medical care, childcare, recreation, and healthy food options.

Planning and capacity-building projects are intended to 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.

2024 Key Results:

- Presented at 10 public workgroup meetings to provide status updates on the Sustainable Transportation and Equity Project, Planning and Capacity Building, Clean Mobility in Schools grants, and the upcoming Request for Applications for the Planning and Capacity Building fiscal year 2024-2025 funding.

- Continued scoring and selection of awards for the fiscal year 2022-2023 Joint Request for Applications.
- Awarded and executed a \$5.2 million dollar grant with a Statewide Planning and Capacity Building Administrator to oversee seven Planning and Capacity Building projects and provide implementation and administrative support to 10 Clean Mobility in Schools and Sustainable Transportation Equity Projects (funded through fiscal years 2022-2023 and 2023-2024).
- Presented a workgroup meeting to discuss draft requirements for the upcoming Request for Applications for the Planning and Capacity Building fiscal year 2023-2024 funding.

2024 Outcomes:

- Hosted one work group meeting to receive public feedback on an upcoming Request for Applications for the Planning and Capacity Building fiscal year 2024-2025 funding.
- Fully awarded seven community-led Planning and Capacity Building projects with \$3.2 million in funding from fiscal years 2022-2023 and 2023-2024.
- Through CARB's Sustainable Transportation and Communities Division, provided technical assistance to all interested applicants in the Joint Request for Applications through a contract with the Institute for Local Governments.

2025 Key Results:

- Supplement the Statewide Planning and Capacity Building Project administrator grant agreement with \$9.8 million from fiscal year 2023-2024 funds.
- Provide Planning and Capacity Building, Clean Mobility in Schools, and Sustainable Transportation Equity Projects selected with fiscal year 2022-2023 and 2023-2024 funds with administrative and implementation support through the Statewide Planning and Capacity Building Project Administrator. 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 2025.
- 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 the 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), fall/winter 2025.

J. Community Air Protection Incentives Program (Continued)

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 \$1.64 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 to 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, 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.

2024 Key Results:

- Beginning in late 2023, staff engaged with local air districts and the California Air Pollution Control Officer's Association in a two-part process to revise the Community Air Protection Incentives Guidelines; phase one of the process, which would culminate in the release of revised guidelines in mid-2024, would primarily focus on adding a variety of new project types patterned off of project plans developed by air districts, in collaboration with their AB 617 communities, to address their highest priority concerns. Staff would engage in phase two of the process in late 2024 and complete it by 2025.
 - Staff will continue to grant and disburse Community Air Protection Incentives to the air districts, and air districts will continue to solicit and select new incentive projects using these funds in line with community guidance. CARB has already granted air districts funds appropriated in fiscal year 2023-2024 and will soon finalize grants with air districts for fiscal year 2024-2025 funds; staff expect air districts to begin requesting disbursement of these funds in 2025 and 2026, respectively.

2024 Outcomes:

- CARB published its revised Community Air Protection Incentives Guidelines in April 2024, concluding phase one of the extended guideline update process it began in 2023. In this revision, staff expanded 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.
- 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 or modifications for stationary source and community-identified projects throughout 2024. This year, staff approved one new project plan and five modifications to existing project plans. Staff expect there will be a continued need for air districts to continue to develop new project plans even as air districts statewide begin to make use of the expanded options in the guidelines, and they will continue to review and approve new project plans as air districts submit them.

2025 Key Results:

- Staff is currently engaged in phase two of their extended guideline update process, which will conclude with publication of the final revised guidelines in May 2025. In phase two, staff is primarily focused on aligning administratively with recent updates to the Carl Moyer Program Guidelines, as well as extending eligibility to a new project type patterned off an existing statewide incentive program administered by the California Air Pollution Control Officer's Association to reduce emissions via replacement or retirement of wood burning stoves and fireplaces.

K. Carl Moyer Program (Continued)

Since 1998, the [Carl Moyer Program](#) has provided 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 to meet the underlying statutory provisions and be creditable to the State Implementation Plan.

To ensure that projects are surplus with 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 are reserved annually, referred to as the 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 mitigate the perception of risk for the adoption of the cleanest and most advanced technologies available.

2024 Key Results:

- Staff continued to grant and disburse program incentives allocated by the California Legislature to the air districts.
- Maintained 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.
- Continued 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 the Carl Moyer Program for the purchase of non-diesel medium- and heavy-duty vehicles emitting no more than 0.02g/bhp-hr NO_x or lower that replace diesel vehicles. Remaining monies after fiscal year 2022-2023 will be exclusively dedicated to zero-emission vehicles.

2024 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.
- The 2024 Carl Moyer Program Guidelines were approved by the Board in October 2024. The Carl Moyer Program Guideline updates:
 - Ensure program accountability and good stewardship of public funds.
 - Ensure Moyer Program projects provide emission reductions that the U.S. EPA will find creditable in the State Implementation Plan.
 - Emphasize emission reductions in communities with higher pollution exposure, including communities of minority and low-income populations.
 - Provide sufficient incentive to encourage California businesses to participate in and benefit from the program, achieving surplus emission reductions within cost-effectiveness limits.

2025 Key Results:

- South Coast Air Quality Management District and San Joaquin Valley Unified Air Pollution Control District funded projects through Senate Bill 129.
- 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 the 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 discussions with air districts through workgroups, as well as host virtual public workshops, to present the process and progress for the guideline updates.

L. Clean Truck and Bus Voucher Incentive Project (Continued)

The Clean [Truck and Bus Voucher Incentive Project](#), known as HVIP, supports the use of low-emission vehicles in the heavy-duty market and supports 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 transit agencies and school districts, and additional funding for vehicles domiciled in a disadvantaged community. Small fleets are provided special fund-stacking allowances in the 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. 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.

2024 Key Results:

- Released \$82 million of funds in fiscal year 2023-2024 from the Clean Truck and Bus Voucher Incentive Program.
- Published project implementation manual, which established policies and protocols for fiscal year 2023-2024.
- Released \$14.3 million in funding for the Innovative Small e-Fleet Pilot, to implement innovative funding mechanisms geared toward supporting small fleets using innovative emission-control technology.
- Outreach to priority communities where appropriate.
- Continued to monitor and track the number of clean trucks and buses supported, tons of air pollution reduced, growth in the number of eligible clean technology manufacturers and vehicle types, number of purchasers and fleets that have participated, clean miles driven, and the percentage of vouchers supporting vehicles deployed in priority communities.

2024 Outcomes:

- Published updated project implementation manual in October 2024, which established all project policies and protocols for fiscal year 2023-2024.
- In 2024, roughly 2,135 vouchers were requested from standard HVIP, and nearly \$257 million in funds were encumbered. Standard HVIP closed in November 2024 due to all funds being requested.
- Forty-nine vouchers requested with roughly \$5 million in funds encumbered.
- Published updated program implementation manual for fiscal year 2023-2024.
- Pilot in June 2024, which established all project policies and protocols for fiscal year 2023-2024.

2025 Key Results:

- Publish updated implementation manual to establish project policies and protocol for fiscal year 2024-2025.
- Hold workgroups to present policy changes to interested parties before releasing the new implementation manual.
- Reopen standard HVIP with consideration to policy changes to allow larger fleets to apply for incentives and support market momentum.
- Release the \$14.97 million in funding for the Innovative Small e-Fleet Pilot, to implement innovative funding mechanisms geared toward supporting small fleets.
- Continue to develop policies and implement innovative funding mechanisms designed to support small fleets adopting zero-emission vehicles through the Innovative Small e-Fleet Pilot program.
- Release solicitation for program administrator. Continue outreach to priority communities where appropriate.
- 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 manufacturers and vehicle types, number of purchasers and fleets that have participated, clean miles driven, and the percentage of vouchers supporting vehicles deployed in priority communities.

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

The Clean Off-Road Equipment Voucher Incentive Project, or CORE, is designed to encourage California businesses to purchase or lease cleaner off-road equipment. CORE offers a streamlined voucher process through which purchasers can receive funding to help offset the higher cost of zero-emission off-road equipment. Vouchers are available on a first-come, first-served basis.

Increased funding is available to encourage small business participation and equipment deployments in disadvantaged and low-income communities. The program is also collecting voluntary demographic data from applicants to inform

outreach strategies and guide future investments that better serve priority populations.

2024 Key Results:

- Hosted stakeholder workgroup meeting to incorporate fiscal year 2023-2024 Funding Plan changes and launched fiscal year 2024-2025.
- Conducted workgroup meetings and updated the implementation manual.
- Finalized implementation manual and released to the public.
- Launched a new round of CORE zero-emission vouchers in August 2024.
- Continued outreach with new equipment manufacturers, owners in disadvantaged communities, and small businesses.

2024 Outcomes:

- Eleven different off-road equipment categories were funded, including agricultural equipment, construction equipment, commercial harbor craft, and more.
- Of the \$126 million included in the August 2024 launch of the project, voucher requests exceeded available funds, and CORE was oversubscribed by approximately \$16 million.

2025 Key Results:

- Implementation manual workgroup planned to incorporate fiscal year 2024-2025 funding plan changes.
- Finalize implementation manual, equipment eligibility, and release to the public.
- Launch next round of CORE zero-emission vouchers, third quarter of 2025.
- Continue with outreach to new equipment manufacturers, owners in disadvantaged communities, and small businesses.

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

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. The program sets a 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.

2024 Key Results:

- In 2024, CARB engaged 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. These new guidelines were approved in October 2024.
- CARB worked with air districts to implement FARMER program-eligible projects, including zero-emission vehicle and equipment replacement projects.
- CARB continued to track and support program administration by local air districts, including tracking the number of zero-emission equipment deployed and zero-emission agricultural demonstration projects.

2024 Outcomes:

- As of September 2024, the FARMER program has funded more than 4,000 zero-emission projects totaling more than \$52 million.

2025 Key Results:

- 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 any new zero-emission agricultural demonstration projects.

O. Volkswagen Appendix D Environmental Mitigation Trust (Continued)

The [Volkswagen Appendix D Environmental Mitigation Trust](#) is intended to fully mitigate all past and future excess nitrogen oxides, or NO_x, 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 freight and port drayage trucks, (3) zero-emission freight and marine projects, (4) combustion freight and marine projects, and (5) light-duty zero-emission vehicle infrastructure. 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 of California's trust allocation to benefit disadvantaged or low-income communities; staff estimates that more than 50% of the total project funds will benefit disadvantaged or low-income communities. At the end of 2024, the projects that benefit disadvantaged or low-income communities far exceeded the 50% threshold.

2024 Key Results:

- In 2024, the VW program continued to fund eligible projects throughout the state for all five categories.
- In 2024, all funds from the first and second installments were made available to the public.
- CARB continued to work with the air districts to ensure the project funds are achieving NOx reductions along with giving preference to projects that operate in disadvantaged communities and low-income communities.

2024 Outcomes:

- All program categories have now implemented the changes from the spring 2023 CARB Board memo. The memo changes consisted of an updated oxides of nitrogen, or NOx, emission reduction target, increased funding amounts to better align with other CARB incentive programs and clarified equipment eligibility based on lessons learned over the early years of program implementation.
- Funding for the zero-emission school bus category was oversubscribed and closed.
- The zero-emission freight and marine project category has seen a significant increase in participation as a result of the program enhancements.

2025 Key Results:

- In 2025, the air districts will continue to implement the program enhancements and contracting projects until all program funds are exhausted.
- CARB will continue to monitor the effectiveness of the program enhancements approved in 2023.
- Based on program waitlists, CARB has allocated \$40 million dollars of remaining reserve funds and interest earned toward waitlisted projects in both the bus and locomotive Environmental Mitigation Actions.
- 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 (Continued)

The Zero-Emission Truck Loan Pilot Project is designed to combine financing for both heavy-duty zero-emission vehicles and charging or fueling infrastructure. CARB, in close coordination with the California Energy Commission and Southern California Edison, has partnered with the California State Treasurer's Office through the California Pollution Control Financing Authority, California Capital Access Program to implement the project. The pilot builds upon the legacy Truck Loan Program and will allow the agencies and lenders to learn from borrowers of

small business fleets about what is needed to successfully lower fleet emissions with the addition of 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 (Leyva, 2021), 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 loss and the amount is deducted from the lender's reserve account. With these funds available, lenders are better equipped to lend to businesses that need extra assistance, and they will 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.

2024 Key Results:

- Interagency agreement approved by the California Pollution Control Financing Authority board and fully executed.
- \$5 million dollars in initial funding disbursed, and \$3.97 million dollars in unused Truck Loan Program funds were identified and transferred.
- Program documents including website, lender list, FAQs and applications forms were created.
- Program training launched May 1, 2024. First lenders and loans enrolled.
- Ongoing outreach efforts to expand fleet and lender participation.
- Additional \$5 million from the 2024-2025 Funding Plan allocated.

2024 Outcomes:

- Interagency agreement finalized and program funds disbursed. Successful development and program launch in May 2024. Initial lenders trained and loans enrolled. Multiple outreach efforts to lenders and fleets were made.
- California Pollution Control Financing Authority conducted robust outreach to expand and enroll new lenders into the program.

2025 Key Results:

- Amending the Interagency Agreement to transfer additional program funding.
- Continual outreach efforts to lenders and fleets.
- Improve integration of Assembly Bill 794 (Carrillo, Wendy, 2021) labor attestation requirements into the program.

Q. Legacy Truck Loan Assistance Program (Ended)

The Truck Loan Assistance Program provided small business truck owners that fall below conventional lending criteria and were 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.

2024 Key Results:

- Continued to process loss claims.
- Analyzed the potential and timing for possible surplus funds to be available to support the Zero-Emission Truck Loan Pilot Project.

2025 Key Results:

- Continue to process claims.
- Improve integration of Assembly Bill 794 (Carrillo, Wendy, 2021) labor attestation requirements.

R. Rural School Bus Pilot Project (Ended)

The Rural School Bus Pilot Project provides funding for zero-emission school buses (battery-electric technology) and charging infrastructure to replace the oldest conventionally-fueled school buses in California. The project also replaces old school buses with 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. Funding was allocated in fiscal years 2016-2017; 2017-2018; 2018-2019; and 2019-2020 for a total of \$61.6 million dollars.

2024 Key Results:

- Continued implementation of school bus projects funded by fiscal year 2018-2019 and 2019-2020 funding.
- Nine new school buses were delivered.

2024 Outcomes:

- Worked closely with the administrator on amendment options due to known battery-electric school bus manufacturing delays.

2025 Key Results:

- Execute amendments to extend the final two grant funding years by one additional year; both grant terms will end together in June 2027.
- All school buses to be delivered by December 1, 2025, and complete for all fiscal year grants. CARB estimates a total of 190 school buses will have been delivered.
- Zero-emission school bus projects will be closely coordinated with the Energy Commission's Energy Infrastructure Incentive program.

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

Assembly Bill 181 provided CARB and the California Energy Commission with \$1.5 billion dollars in Proposition 98 General Funds to support grants to local educational agencies. Senate Bill 114 modified this appropriation to revert the \$1.5 billion dollars and replaced it with a \$500 million dollar appropriation for fiscal year 2023-2024. CARB received \$375 million dollars to replace internal combustion school buses with new zero-emission school buses, and the California Energy Commission received \$125 million dollars for the accompanying infrastructure, and other associated costs. With the appropriation, CARB and the California Energy Commission created the Zero-Emission School Bus and Infrastructure project to support the replacement of old school buses with new zero-emission school buses and accompanying infrastructure. Funding is being administered through Clean Truck and Bus Voucher Incentive Program as set-aside funding, starting with the 2023-2024 fiscal year.

Funding is prioritized for small and rural school districts, or local educational agency serving a high percentage of unduplicated pupils, operating the oldest internal combustion engine school buses.

2024 Key Results:

- Launched the program with a single application to request both new zero-emission school buses and accompanying infrastructure.
- One hundred ninety-six applications for the replacement of nearly 1,500 old school buses were received.
- One hundred forty-three applications totaling 1,000 school buses have been reserved funding for new zero-emission school buses and their accompanying infrastructure.

2024 Outcomes:

- Partnered with CalFleet Advisor to launch a zero-emission school bus technical advisor program.
- CARB and the Energy Commission conducted the second public work group to develop program guidelines in April 2024.

2025 Key Results:

- CARB and the California Energy Commission continue to guide applicants through steps needed for zero-emission school bus adoption.
- Agreements are expected to be executed starting late 2025.

T. California Clean Construction Program (Continued)

The California Clean Construction Program is meant to implement the measure called Clean Off-Road Fleet Recognition Program in the 2022 State Strategy for the State Implementation Plan. The goal of the California Clean Construction

Program is to create a voluntary non-monetary incentive to encourage off-road fleets to go beyond regulatory fleet rule compliance and adopt advanced technology equipment including zero-emission off-road technologies. For this voluntary non-monetary incentive program, CARB staff would develop the program parameters, and contracting entities, policymakers, and state and local governments could then incorporate the program in contract award considerations. Staff are also exploring whether a program like this could be used by local air districts or other lead agencies as part of a California Environmental Quality Act mitigation strategy.

2024 Key Results:

- CARB staff developed the program design and structure.

2024 Outcomes:

- CARB distributed a Request for Information to obtain feedback on how to best structure the program.

2025 Results:

- CARB staff will finalize the program and prepare for implementation in 2027.

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 (Continued)

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 Key Results:

- Convened 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 continued 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.
- Planned at least one community tour in 2024 that included task force participants.

2024 Outcomes:

- Convened two Zero-Emission Vehicle Equity Task Force meetings.
- Convened the workgroups seven times on topics such as outreach and education, clean mobility projects and incentives, and infrastructure.
- The workgroups created the Community Mobility Program Connections Directory, a web-based tool to help organizations and automakers find partners interested in vehicle discounts available through provisions in Advanced Clean Cars II.
- Toured two communities (Oxnard and Imperial Valley) that included task force participants.

2025 Key Results:

- Convene the Zero-Emission Vehicle Equity Task Force at least two times a year, bringing together representatives from various sectors involved in zero-emission vehicles, environmental justice, and mobility.
- Consolidate multiple workgroups into a singular workgroup that convenes on project-specific topics based on participants' interest in order 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 tribal community tour that includes task force participants.

B. Evening Community Meetings (Continued)

In previous years, the [annual 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 attend compared to individuals who work in industry, government, and non-governmental organizations. To address this issue, CARB introduced a monthly Evening Community Meetings series as a more accessible alternative for community members to engage with CARB staff within

multiple divisions. In addition to the funding plan, these evening meetings also present topics related to the [Low Carbon Transportation Incentives and Air Quality Improvement Program](#) workgroups and workshops.

Other topics of public interest presented include zero-emission infrastructure, programmatic updates and requests for information, and new regional outreach approaches and strategies. These meetings focus less on the technical details of technology and implementation and provide more opportunities to ask broad questions, making the content easier and more accessible for the general public.

Consistent with CARB's policy, interpretation in Spanish and American Sign Language are offered at the meetings, making them accessible to wider audiences. Additionally, staff request these interpretation services regardless of whether a person from the public requests them. Lastly, staff also get agendas and public notices translated to Spanish, regardless of whether a person from the public requests them.

2024 Key Results:

- Convened nine monthly evening community meetings.
- Continued to receive feedback and input from meeting attendees to gather topics of interest, listen to community concerns, and brainstorm how to better engage with general audiences.
- Staff [posted meeting information online](#) including agendas, public notices, presentation slides, and CARB staff contact information to engage with audiences ahead of meetings. Video recordings of meetings are also posted online to allow for continued engagement with the content.
- Gathered public meeting registrant information.
- Continued to offer the voluntary community survey that was developed in fiscal year 2022-2023 to collect community members' and community groups' input on low carbon transportation incentive priorities.

2024 Outcomes:

- Continued engagement with a variety of individuals, community-level organizations, local businesses, and governments over the course of several evening community meetings throughout 2024 with opportunities to continue conversations in one-on-one settings.
- Conducted outreach through various media (e.g., invitations from community groups and other local and state agencies) to share information about available incentives and grant opportunities, and listened to community members' needs, wants, challenges, and ideas for potential solutions.
- Posted meeting attendee lists online after meetings per the request of community members for transparency, collaboration, and networking opportunities.

- Analyzed the community survey results which were included in the [Proposed Fiscal Year 2024-25 Funding Plan for Clean Transportation Incentives](#). CARB staff used this information to ensure that investments in the Proposed Funding Plan were aligned with community perspectives.

2025 Key Results:

- Collect more information and analyze evening community meeting demographic registration information in order to identify if further outreach to certain groups or areas of the state is needed.
- Continue outreach and engagement efforts to target the audience for evening community meetings to people not associated with an organization or company to engage with staff. Allow for the opportunity to public members who cannot typically attend daytime meetings to participate in dialogue with CARB staff.
- Use social media strategies to advertise evening community meetings, based on attendee feedback.
- Use poll questions, surveys, and discussion questions to encourage more collaboration and participation from audience members.
- Revamp, relaunch, and analyze the community survey.
- Notify meeting registrants and attendees when meeting materials are available online.
- Make it easier for community members and groups to request one-on-one meetings with CARB staff by offering an [online meeting request form](#).

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 (Continued)

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 2024, the California Building Standards Commission approved significant changes to the CALGreen Code. Starting January 1, 2026, the approved code requires different Level 2 electric vehicle supply equipment provisions for office and retail buildings. The code allows for the installation of DC fast chargers, reducing the number of required electric vehicle capable or Level 2 electric vehicle charger spaces.

The requirements for the multi-unit dwellings have also significantly changed, requiring all units with access to a parking space also have access to a low powered Level 2 receptacle. The code also increased the percentage of Level 2 electric vehicle chargers required. Hotels and motels also saw increases in the percentages of electric vehicle charging infrastructure required. 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.

2024 Key Results:

- Supported the Department of Housing and Community Development and the Building Standards Commission in updating the current CALGreen Code. The Building Standards Commission approved updates to the code in December of 2024. The proposed code updates will go into effect January 1, 2026.

2024 Outcomes:

- In winter 2024, 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 January 1, 2026.

2025 Key Results:

- The Building Standards Commission is considering additional updates to the code. For medium- and heavy-duty electric vehicle charging infrastructure, the code now includes 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 light-duty vehicle charging infrastructure at existing facilities that undergo a qualifying addition or alteration. The Department of Housing and Community Development is considering changes to the required percentages of Level 2 electric vehicle supply equipment.
- CARB has engaged 2,050 Partners to complete initial research to characterize the potential charging needs of Transportation Refrigeration Units, or TRUs, that are used in California's freight shipping operations. Most TRUs today are powered by diesel internal combustion engines, but industry has begun to develop hybrid and zero-emission options that may be deployed in the future, especially as California's zero-emission truck fleet expands. The market is still in early development and there is a need to collect and evaluate preliminary data, including typical operating schedules of TRUs, likely charging and discharging cycles, power and energy needs, standardized connectors and technology solutions, and integration with zero-emission truck on-board powertrains.
 - These studies will help inform an analysis of the potential need for charging infrastructure to support TRUs at commercial buildings. CARB will continue to support the development of CALGreen Code provisions. Updates to the CALGreen code are currently being considered, and any approved proposal will be effective July 1, 2027. For medium- and heavy-duty zero-emission vehicle charging infrastructure requirements, CARB will continue to support the Building Standards Commission in evaluating the need 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 Assembly Bill 32 Scoping Plan scenario.

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

With the reauthorization of the Clean Transportation Program Investment Plan in Assembly Bill 126, around \$15 million dollars per year will be dedicated to co-funding hydrogen fueling stations. This will continue CARB's annual evaluation of fuel cell electric vehicle deployment and hydrogen station network development

to advise the California 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 analyzes how the network of hydrogen fueling stations covers areas where disadvantaged communities live. It also compares the coverage for these communities with that of California's general population.

2024 Key Results:

- Completed and transmitted Annual Evaluation to the California Energy Commission for final review on November 20, 2024; public release was made on December 27, 2024.
- The California Energy Commission completed a Joint Agency Staff Report on Assembly Bill 126 on December 31, 2024. The report is under review by Governor's Office and will be released for the public at the end of first quarter of 2025.

2024 Outcomes:

- Published "2024 Annual Hydrogen Evaluation Report."
- Coordinated on the published "Joint Agency Staff Report on Assembly Bill 126: 2024 Annual Assessment of the Hydrogen Refueling Network in California."

2025 Key Results:

- Publish the Annual Hydrogen Evaluation Report by the third quarter of 2025 and coordinate with the California Energy Commission on review.
- Develop a technical manual for the analysis applied in the annual evaluation report.
- Coordinate with the California Energy Commission on publishing the Joint Agency Staff Report on Assembly Bill 126.

C. Hydrogen Station Network Development Support (Continued)

CARB's hydrogen fueling station validation program provides station confirmation testing services for the California Energy Commission's Assembly Bill 126 (previously Assembly Bill 8) funded projects and privately funded stations, including light-, medium-, and heavy-duty vehicle focused stations, if applicable. California Energy Commission-funded stations are required prior to opening to be tested to ensure that fueling events are fast, safe, and consistent. Likewise, hydrogen fuel cell electric vehicle manufacturers require testing prior to opening of both publicly and privately funded stations. 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.

2024 Key Results:

- Conducted hydrogen fueling station confirmation testing using the hydrogen station testing equipment performance, or HyStEP, device on light-duty stations and provide preliminary testing results for medium- and heavy-duty stations.
- CARB and the California 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 California Energy Commission and National Renewable Energy Laboratory, or NREL. CARB reviewed applications, coordinated with the California Energy Commission and contracted with PowerTech Labs to design, build and warranty the new updated device in July 2024. The device will be able to vent while testing, conduct back-to-back fills, conduct a variety of different size fills from two to over 30 kilograms, perform fills at both 60 and 90 grams per second, and have both 3mm and 4 mm receptacles. CARB staff anticipate the device to be completed in 2026.
- CARB will continue to work with NREL on the development of in-line hydrogen contamination detectors. These detectors will alert the station to hydrogen contamination in real time, thus limiting potential damage to vehicles. The project has finished bench-scale and preliminary tests at NREL's Golden, Colorado, station. Per contract terms, two detectors will be placed at two separate hydrogen stations, and data will be collected for two years.
- Continued 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.
- Coordinated the updated standards and fueling protocols into the new HyStEP device.
- Continued collaborative efforts with the California Department of Food and Agriculture's Division of Measurement Standards on potential hydrogen fueling station regulations for light-duty vehicles. Based on the project plan that CARB and the Division of Measurement Standards developed, CARB's Monitoring Laboratory Division conducted an in-use study of stations to evaluate best practices for re-evaluating stations. The data will be used to formulate the station evaluation period for the regulation.

2024 Outcomes:

- Continued to use the HyStEP device to open new hydrogen stations. Two stations are currently under development, with an additional 18 stations working through the permitting process.
- After two solicitation processes for the HyStEP 2.0 device, CARB staff selected a contractor to design, build, and warranty the new device. Applications were due late January 2024, and the execution of the contract was completed in the

third quarter of 2024. The device is scheduled for delivery in the second half of 2026.

- 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 light-duty fueling protocols, heavy-duty high pressure fueling protocols, station-vehicle communication, fuel quality specifications, nozzle/receptacle standards, and testing procedures.
- Guide standard development groups to ensure standards are clear, enforceable, and do not strand existing capital, vehicles, or projects under development.
- Used the HyStEP device to help facilitate the opening of medium- and heavy-duty stations (to the extent possible and within the limitations 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. CARB staff provided an in-use station evaluation report to California Food and Agriculture's Division of Measurement Standards in December 2024. This report will aid in the development of determining certification and validation of the stations, along with providing guidance for determining the frequency of testing for recertification policies.

2025 Key Results:

- Continue support to open new hydrogen stations and share key findings on issues to help shape light-duty, medium-duty, and heavy-duty fueling protocols.
- Complete the design and safety evaluations 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 and revising medium- and heavy-duty standards, fueling protocols, and test procedures.
- The Low Carbon Fuel Standard provides credits to support fueling infrastructure for hydrogen and electricity, helping offset costs for building and operating fueling stations for zero-emission vehicles (ZEVs), regardless of fleet size.
- 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 (Continued)

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 California 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.

2024 Key Results:

- Continued interagency agreement with the California Energy Commission to implement the Inclusive, Diverse, Equitable, Accessible, and Local ZEV Workforce Training Pilot project, known as IDEAL.
- Continued partnership with Foundation for California Community Colleges to expand and support zero-emission vehicle training programs in community colleges.
- Continued administering projects that were awarded funding as part of the Adult and Vocational School Zero-Emission Vehicle Training Solicitation that supports zero-emission vehicle training and workforce development for priority populations in adult education and vocational schools.
- Held a Next-Stop to Zero event to assist fleets in understanding medium- and heavy-duty vehicle and infrastructure technology.
- Funded zero-emission vehicles for owner/operators and small fleets in the Innovative Small E-Fleet Pilot program.

2024 Outcomes:

- Assisted 900 fleets through Cal Fleet Advisor. Residual value white papers developed.
- Continued updates to TruckStop and ZEV TruckStop.
- Developed new educational tools such as videos, fact sheets, and others.
- Attended events and conferences throughout the state to provide information on regulations and available resources.

2025 Key Results:

- Continue to increase the number of fleets assisted through Cal Fleet Advisor.
- 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.

- Continue to launch media through the advertising campaign that will create awareness of CARB's regulations and available resources.
- Continue work to establish residual values for this new technology to assist fleets in procuring loans and insurance.
- Continue to attend conferences and other events to provide regulatory assistance.
- Conduct a public workshop for the Innovative Small E-Fleet Pilot program to solicit feedback on the creation of a Used Truck Voucher Pilot concept, an Advanced Fleet Management Assistance program, and Insurance funding.
- Update the Innovative Small E-Fleet Pilot program implementation manual.

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. Sustainable Heavy-Duty Initiatives for Future Technology (Continued)

Sustainable Heavy-Duty Initiatives for Future Technology, called SHIFT, are uniquely designed to take advantage of emerging opportunities. The effort was previously known as Advanced Technology Demonstration and Pilot Projects. 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.

SHIFT 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.

2024 Key Results:

- Selected a third-party administrator for the Advanced Technology Demonstration and Pilot Project program.

- Facilitated 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.
- Executed grant agreements for projects selected from the fiscal year 2021-2022 and fiscal year 2022-2023 Advanced Technology Demonstration and Pilot Project solicitation.
- Conducted public workgroup meetings to support the fiscal year 2023-2024 Low Carbon Transportation Funding Plan for Advanced Technology Demonstration and Pilot Projects.

2024 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 the 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 California Energy Commission.
- Preliminarily selected 12 demonstration and pilot project proposals and began the grant agreement execution process.

2025 Key Results:

- Continue working with the Electric Power Research Institute to administer the SHIFT program.
- Completed the grant agreement execution process for eight projects.
- Participated in public workgroup meetings to support the fiscal year 2024-2025 Low Carbon Transportation Funding Plan for the SHIFT Projects.
- Hosted the 2025 SHIFT Symposium, which brought together CARB staff, grantees, and projects partners to learn from past experiences, share best practices, and improve project outcomes. In addition to the panel discussions, the symposium showcased vehicles and equipment funded through the SHIFT program.

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

Under this contract, UC Berkeley will (1) develop an evaluation model/process for CARB to use 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.

2024 Key Results:

- Conducted mobility project implementation research and interviews with voucher recipients and program administrators.
- Drafted and reviewed seven technical project reports.
- Drafted summary of lessons learned and policy recommendations, October 31, 2024.

2024 Outcomes:

- Completed two technical project reports.

2025 Key Results:

- Completed the remaining technical project reports.
- Completed the data analysis phase of the contract.
- Research seminar conducted in February 2025.
- Technical reports on seven different clean mobility projects, completed March 2025.
- Completed Final Report on Lessons Learned and Policy Recommendations, March 2025.

7. External Market Development

Leadership and collaboration with other states, nations, the 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 (Continued)

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.

2024 Key Results:

- Coordinated California state agency feedback and expertise on the three focus areas for 2024: making charging more user-friendly; challenges and opportunities for zero-emission vehicles in rural communities; and battery minerals sourcing and sustainability.
- Participated in deep dive working sessions to facilitate knowledge sharing and collaborative problem solving on specific zero-emission vehicle policy challenges.
- Served on the ZEV Alliance communications working group to help steer internal and external engagement and information sharing and update the ZEV Alliance website.
- Participated 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.)

2024 Outcomes:

- The Incentives for the mainstream market 2023 focus area report was published in early 2024, followed by a public webinar in April 2024; other 2024 focus area reports were published in late 2024.
- Published research brief, Approaches to mitigate electric vehicle fire risk in enclosed spaces, based on 2023 deep dive session.
- British Columbia, Canada, hosted the ZEV Alliance Annual Assembly in Vancouver.
- The ZEV Alliance website has been redesigned and updated with member information, public-facing content, and easy-to-find focus area reports and briefs.

2025 Key Results:

- The 2024 focus areas on (1) challenges and opportunities for zero-emission vehicles in rural communities, and (2) battery minerals sourcing and sustainability were finalized in late 2024/early 2025 but will be published in the first quarter of 2025.
- Participate in multiple 2025 deep dive webinar series related to zero-emission vehicle misinformation and consumer awareness.
- Attend the annual assembly in Oslo, Norway, June 19-20, 2025. Participate in relevant webinars and working groups hosted by the ZEV Community.

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

The [Multi-State Zero-Emission Vehicle Task Force](#) is a coalition of 19 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, which 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.

2024 Key Results:

- Continued dialogue and collaboration with member states, especially around the 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.
- Continued coordination on multi-state public education campaigns and looked for opportunities to leverage other awareness campaigns.
- Coordinated and collaborated on the buildout of publicly accessible charging infrastructure.
- Coordinated with state partners as guidance for new federal incentives is rolled out.

2024 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 organizing meetings between CARB and Section 177 states to discuss amendments to the regulations, drafting frequently asked questions and other resources, and providing technical assistance as needed.
- NESCAUM supported zero-emission vehicle complementary program development by: hosting an in-person meeting of state agency staff to discuss best practices for zero-emission truck incentive programs; developing a

compilation document of medium- and heavy-duty zero-emission vehicle fleet education, outreach, and advisor programs; and drafting a whitepaper on electric vehicle battery recycling that provides an overview of state policies and approach to supporting circular battery economy.

2025 Key Results:

- Continue to 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-emission transportation.
- Continue to 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 identifying and implementing actions they can take, which are independent of funding for grant and incentive programs, to advance charging station deployment and zero-emission vehicle adoption.
- Participate in Zero-Emission Vehicle Task Force workshops on improving the reliability of public charging stations.

C. Veloz (Continued)

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 garner 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 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.

2024 Key Results:

- Participated in and promoted Veloz's 2024 virtual summits and webinars, which gather stakeholders to help guide policy education and identify market solutions to overcoming common zero-emission vehicle barriers.
- Promoted Veloz's Electric For All online public education tools and assisted with expanding the reach to priority communities.

2024 Outcomes:

- Participated in numerous virtual and in-person Veloz webinars, events, and board meetings throughout 2024.

- Helped promote Veloz and the Electric For All online tools and public education dialogues via social media channels, partnerships, and high-level engagements by top leadership.

2025 Key Results:

- Promote Veloz's 2025 effort to become a national nonprofit organization dedicated to electric vehicle education, outreach, and market uptake.
- Promote Electric For All public education campaign and assist with expanding the campaign's reach to priority communities, while leveraging national roll-out funding of \$43.5 million in sponsorship from Electrify America.
- Participate in and promote Veloz's 2025 virtual summits and webinars, which gather interested parties to help guide policy education and identify market solutions to overcoming common zero-emission vehicle barriers.
- 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 (Continued)

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 hydrogen applications. 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.

2024 Key Results:

- 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 stakeholders, securing greater awareness and support.
- Participated in the coordination and development of California's Hydrogen Hubs application, known as ARCHES, for federal funding under the Infrastructure Investment and Jobs Act of 2022.
- Ensured 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.

- Continued development of the partnership's station map and network progress reports.
- Integrated all new public hydrogen stations into the Station Operational Status System and expanded visualization and other capabilities to increase stakeholder and consumer value.

2024 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 the 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.
- Created a medium-duty working group and developed a white paper discussing infrastructure needs.
- 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.

2025 Key Results:

- Continue to encourage, promote, and facilitate involvement in ARCHES as the details in the application are finalized.
- Develop a multi-year outreach and education strategy that engages key audiences with essential information to build increasing hydrogen awareness and support.
- Build stakeholder awareness, trust, and confidence around market needs, progress, and challenges through responsible engagement and credible resources.
- Facilitate stakeholder engagement and collaboration to accelerate market commercialization through reliable data tracking and analysis tools and resources.
- 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.

8. Consumer and Worker Awareness

Strengthen and expand zero-emission vehicle-related education and outreach, and tailor to the 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 (Continued)

Stemming from a priority recommendation of both the Energy Commission’s Senate Bill 350 Low-Income Barriers Study and CARB’s Senate Bill 350 Guidance Document, Access Clean California takes a multi-dimensional approach to outreach. The goal of the program is to streamline access to and coordinate outreach for the state’s clean transportation and clean energy consumer-based equity projects. To date, CARB has allocated \$22.675 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 support 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 has historically provided centralized income verification, which is currently being phased out in favor of enhanced case management for applicants with high support needs based on feedback from applicants and program administrators. The case management system provides high-touch support to help higher-need 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.

2024 Key Results:

- Scaled up outreach implementation and expanded the outreach partner network, with an emphasis on partnering with community-based organizations and other local grassroots organizations; increased participation from priority populations.
- Expanded integration and collaboration 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 (now called Driving Clean Assistance Program), as well as the new Electric Bicycle Incentives Project.
- Continued working to expand the Benefits Finder to include additional programs to fulfill the ultimate vision, as outlined in CARB's Senate Bill 350 Guidance Document, of being a multi-agency platform for the state's equity-focused clean transportation and energy programs.
- Assisted in developing and hosting CARB's second annual Clean Transportation Equity Incentives Symposium, which brought together incentive project administrators, outreach partners, and stakeholders to share lessons learned, network, and foster collaboration.

2024 Outcomes:

- Outreach partner network expanded to 31 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.

2025 Key Results:

- Continue to expand the 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 expand the range of incentive projects connected to the Benefits Finder.
- Continue to improve on case management supports offered.
- Assist with developing and hosting CARB's third annual Clean Transportation Equity Incentives Symposium in Los Angeles.

B. DriveClean.ca.gov (Continued)

[DriveClean.ca.gov](https://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.

2024 Key Results:

- Built Application Programming Interface, or API, 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.
- Continue collaboration on consumer messaging and incorporate findings throughout the DriveClean website.

2024 Outcomes:

- Developed updated logo for the site that will be incorporated into the new design in 2025.
- Redesigned the incentives search tool with new filters and sort options to support lower-income car buyers by delivering customized incentive results based on household income.
- Redesigned the vehicle search tool with images and MSRP information.
- Added a new calculator to estimate the cost after incentives for each vehicle according to vehicle eligibility and user-defined inputs.
- Built an API 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.

2025 Key Results:

- Redesign DriveClean to improve the user experience and increase search engine optimization so that the website is more easily found by the public.
- Add tools and refine messaging and support for lower-income car buyers and reinforce clean mobility in general.
- Use the refreshed DriveClean logo and overall website look and feel to modernize for continued engagement.
- Coordinate with external partners to integrate DriveClean with new incentive and outreach programs.

- Explore ways to work with partners to take advantage of the 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 (Continued)

CARB will provide outreach to support medium- and heavy-duty zero-emission vehicle adoption and 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.

2024 Key Results:

- Continued to develop and provide materials requested by medium- and heavy-duty CARB programs.
- Continued to send mailers to the regulated community.
- Updated, developed, and evolved new and existing digital assistance, such as the zero-emission vehicle TruckStop webpage.
- Continued to target smaller fleets, many of which are owned and operated in underserved communities.
- Continued to provide outreach material development to support medium- and heavy-duty zero-emission vehicle regulations.
- Developed targeted online interactive tools to support outreach and education efforts, enhancing stakeholder engagement and understanding of zero-emission vehicle benefits and requirements.

2024 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.

2025 Key Results:

- Continue to develop and provide materials requested by medium- and heavy-duty CARB programs.
- Continue to send mailers to the 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.

- Develop outreach materials to educate stakeholders on the capabilities and benefits of medium- and heavy-duty zero-emission vehicles, to promote their widespread voluntary adoption.

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

Conduct events for heavy-duty zero-emission vehicle fleet owners to support increased vehicle uptake, such as coordinating discussions of 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.

2024 Key Results:

- Continued providing day-long Next-Stop to Zero educational events to address the zero-emission vehicle educational needs and concerns of the audience.
- Developed shorter, more targeted educational events to increase the convenience and approachability for the audience.
- Provided assistance and information for 200-300 participants per event.
- Ensured 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 monitored the number of attendees at these events and sought stakeholder input, including surveys of event effectiveness.
- Held two zero-emission ride events where fleets could become familiar with and test drive medium and heavy-duty vehicles, receive information on incentive opportunities and the Cal Fleet Advisor technical assistance program, and ask CARB staff about regulatory requirements.
- Held six One-Stop Truck outreach events throughout California. Provide presentations and one-on-one assistance on CARB's on-road and off-road diesel and zero-emission regulations and incentive programs.
- Conducted private training for stakeholders as requested.

2024 Outcomes:

- Hosted a hybrid (live/online) Next-Stop to Zero event, which is a zero-emission vehicle educational event to support and promote medium- and heavy-duty zero-emission vehicle uptake, resources, and regulations.
- The two zero-emission ride-and-drive events continued to grow in size, both in terms of attendance and the number of zero-emission vehicles on display. The events had a combined attendance of over 1,000 people and featured more than 125 zero-emission vehicles and pieces of off-road equipment on display.

- The six One-Stop Truck events had a combined attendance of 1,200 people. Staff also provided one-on-one assistance to more than 500 attendees.
- Staff held five private trainings for public and private fleet owners, parts suppliers, and industry associations.

2025 Key Results:

- Continue providing day-long Next-Stop to Zero educational events to address the educational needs and concerns of the audience.
- Staff will hold two zero-emission ride-and-drive events. The events will be expanded to include additional types of exhibitors and a section dedicated to assisting state and local government fleets with the specific challenges they face.
- Develop shorter, more targeted, in-person and online educational events to increase the convenience and approachability for the audience.
- Incorporate segments from Next-Stop to Zero events into other zero-emission vehicle-focused outreach opportunities—both CARB-hosted and external—to expand reach and reinforce key messaging. 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.
- Equip stakeholders with the necessary information to support and encourage the voluntary adoption of medium- and heavy-duty zero-emission vehicles.
- Hold four One-Stop Truck events, with at least two events in different regions of the state than the 2024 One-Stop Truck events. Events will include zero-emission heavy-duty vehicle panel discussions with public and private fleet owners, community organizations, and other industry members who are from local cities and communities.