

MS523: Air Regulatory Overview for Public Schools in California

November 8, 2023

Presentation Contents

- Periodic Smoke Inspection Program
- Clean Truck Check
- Truck & Bus Regulation
- Public Agency & Utility Regulation
- Advanced Clean Fleets Regulation
- Idling Limitations
- Portable Equipment Registration Program
- Off-Road Regulation
- Funding Opportunities





Periodic Smoke Inspection Program (PSIP)





PSIP Requirements

- California-based on-road fleets with two or more diesel vehicles greater than 6,000 lbs. GVWR and an engine model four years or older must self-test annually and promptly repair if necessary.
- PSIP will remain in effect until at least July 2024 (when the Clean Truck Check periodic testing requirements take effect).





PSIP Opacity Limits

On-Road Engine Type	Opacity Limit
Engines Equipped with a Diesel Particulate Filter (DPF)/Level 3 Verified Diesel Emission Control Device (VDECS)	5%
1997-2006 Model Year (MY) Engines not equipped with a DPF/VDECS	20%
1991-1996 MY Engines not equipped with a DPF/VDECS	30%
Pre-1991 MY Engines not equipped with a DPF/VDECS	40%
Engines Equipped with a Level 2 VDECS	20%
Two-Engine Cranes Driven by a Non-DPF Off-Road Engine	40%



PSIP Smoke Tester Training Requirements

- Contracted PSIP Smoke Testers
 - Successful completion of the CCDET HDVIP/PSIP training course
 - CCDET certification is valid for 4 years
 - College Member Contacts | California Council on Diesel Education and Technology (CCDET)
 - Any other CARB approved training course
- Direct Employees of the Fleet
 - Complete online training course through the CARB website (MS 529), or
 - Complete any of the options available to contracted smoke testers



PSIP Reporting Requirements

- Current Requirements:
 - Keep records of annual opacity testing for 2 years.
 - Present records upon audit by CARB.
- Options:
 - For OBD-equipped engines (2013 Model Year and Newer), fleets can choose to submit a vehicle's OBD data to CARB in lieu of performing annual opacity tests.
 - <u>Periodic Smoke Inspection Program On-Board Diagnostic Submission</u> <u>Guide (ca.gov)</u>
 - Vehicles with PM-related fault codes would need to undergo repairs to clear the codes.



Clean Truck Check





Clean Truck Check Requirements

- Requires all non-gasoline heavy-duty vehicles with a gross vehicle weight rating (GVWR) more than 14,000 pounds to pass emissions inspections and enter vehicle info into CARB's Clean Truck Check Database to operate in California
- Equivalent to the BAR's Smog Check program for heavy-duty vehicles
- Periodic inspections are required to ensure emissions control systems are maintained and functioning properly
- Ensures quick repairs to minimize excess emissions



Clean Truck Check Applicability

- Who is subject to requirements of Clean Truck Check Regulations?
 - Owners and drivers of heavy-duty non-gasoline vehicles
 - Clean Truck Check compliance testers
 - Freight contractors and brokers
 - Applicable freight facilities
 - OBD test device vendors



Vehicles Subject to Clean Truck Check

- All non-gasoline heavy-duty vehicles operating in California with a GVWR greater than 14,000 lbs.
- This includes:
 - Diesel
 - Alternative Fuel
 - Diesel Hybrid
 - Alternative Fuel Hybrid
- Single vehicle fleets or owner/operator vehicles that meet this criteria are subject



Vehicles Not Subject to Clean Truck Check

- Vehicles not subject to the Clean Truck Check regulation include:
 - Zero-emission heavy-duty vehicles
 - Emergency vehicles
 - Vehicles with a Historical Vehicle License Plate
 - Vehicles operating under a CARB-issued experimental permit
 - Gasoline heavy-duty vehicles already covered under the Bureau of Automotive Repair's Smog Check program
 - New vehicles with engines certified to the most stringent optional NOx (.01) standard (Currently none available for purchase. Only exempt for the first four years of the program.)



Clean Truck Check Timeline

- Phase 1: High-Emitter Screening and Roadside Inspections
 - Began January 1, 2023.
- Phase 2: Reporting & Compliance Fees
 - Started in October and runs though December 31, 2023.
- Phase 3: Periodic Testing Requirements
 - Testing is planned to start on July 1, 2024.
 - Tester Training Course and Credentialed Testers.
 - Periodic Smoke Inspection Program sunsets.



Clean Truck Check Periodic Testing Calendar

- For vehicles that register with the DMV annually, testing deadlines are based on registration date.
- Other vehicle deadlines are based on the last digit of vehicle's VIN and each digit is assigned a month.
 - The test deadline is on the last day of the assigned month.

 October November December January February March April May 	<u>VIN</u>	<u>Month</u>
 December January February March April May 	0	October
 January February March April May 	1	November
 February March April May 	2	December
5 March6 April7 May	3	January
6 April 7 May	4	February
7 May	5	March
	6	April
0	7	May
8 June	8	June
9 July	9	July





Truck & Bus Regulation (T&B)



Who Must Comply with T&B?

- Private and federal fleets (one or more vehicles)
 - Diesel or alternative diesel fuel
 - GVWR over than 14,000 lbs.
 - Operating in California
- Public and private school buses
- Two-engine street sweepers
- Public agency & private utility fleets are not subject and must comply with separate rules.
 - Public agencies follow the Public Agency and Utility Rule.
 - Private utilities follow the Truck and Bus Regulation.







T&B Applicability to Schools

- Diesel-fueled school buses with a Gross Vehicle Weight Rating over 14,000 lbs.
- School buses (as defined in California Vehicle Code 545) are vehicles providing transportation of any school pupil:
 - At or below the 12th-grade level
 - To or from a public or private school
 - To or from public or private school activities



Vehicles Exempt from T&B Performance Requirements

- School buses with a GVWR of 14,000 lbs. or less;
- School buses registered as historic vehicles;
- Non-diesel fueled school buses such as compressed natural gas fueled school buses.
- Low-use school buses
 - Must be driven less than 1,000 miles per year
 - Must have a functioning odometer
 - Records are required (kept internally)



T&B Compliance Requirements

- School buses must have Level 3 DPM, retrofit, or original equipment manufactured (OEM) PM filter installed.
 - Level 3 Filters (retrofit or manufacturer installed) have been required since January 1st, 2014.
 - Unlike other vehicles subject to the Truck and Bus regulation, school buses are not required to upgrade their engines to 2010 or newer.



T&B Additional Information

- Reporting is not required.
 - School buses should only be reported in the TRUCRS system when requested by a funding program
- Fleet owners of school buses shall maintain records of the following:
 - Owner contact information
 - Vehicle information
 - Engine information
 - Verified Diesel Emission Control Strategy (VDECS) information (including VDECS failures and maintenance)
 - Low-use vehicle information
- Records should be maintained in a location where they can be produced within 5 days.
 - May be requested in an audit or for funding





Public Agency and Utility Regulation (PAU)



PAU Applicability

- Vehicles owned, leased or operated by a municipality or public agency in the State of California
 - Privately-owned company vehicles that provides same or similar services for water, natural gas, and electricity
- Diesel vehicles greater than 14,000 lbs. GVWR
 - 1960-2006 model year engines
 - 2007 or newer model year engines that do not have a PM exhaust filter



PAU Vehicle Exemptions

Vehicles Exempt From PAU Rule

- Emergency vehicles
- Off-road vehicles
- School buses
- Urban buses
- Transit fleet vehicles
- Solid waste collection vehicles
- 2007 and newer model year engines

Vehicles Not Exempt From Rule

- School district vehicles
- Shuttles
 - Colleges and universities



PAU Compliance Requirements

- General Compliance:
 - 100% of vehicles must meet Best Available Control Technology (BACT).
- Low Population County Status Compliance:
 - If using accelerated turnover, all engines must currently be a 1994 or newer, and must be filtered by December 31, 2025.



PAU Vehicles Exempt from BACT

- Low usage vehicles
 - Record keeping required
- Low-population county, low usage vehicles
 - Record keeping required
- Dedicated snow removal vehicles
 - Dump trucks used in snow removal are <u>NOT</u> considered snow removal equipment.



PAU Low Usage Vehicles and Low-Population Low Usage Vehicles

- Low usage vehicles
 - Less than 1,000 miles per year
 - Less than 50 hours per year
- Low-population county low usage vehicles
 - Less than 3,000 miles per year
 - Less than 150 hours per year
- 5-year "rolling" annual average
- Properly functioning odometer, tachograph, or other reliable device to measure usage



PAU Best Available Control Technology (BACT)

- Qualifying BACT options:
 - Engine certified to 0.01g/bhp-hr PM standard (2007 engine), or
 - Engine certified to 0.01g/bhp-hr PM and retrofit with highest level verified diesel emission control strategy (DECS), or
 - Alternative-fuel, gasoline, or heavy-duty pilot ignition engine certified to lowest optional PM standard, or
 - Existing engine retrofit with highest level verified DECS
 - Installing Diesel Particulate Filter (DPF)



PAU Low Population Counties

Populations of less than 125,000						
Alpine	Glenn	Mendocino	San Benito	Trinity		
Amador	Inyo	Modoc	Sierra	Tuolumne		
Calaveras	Lake	Mono	Siskiyou	Yuba		
Colusa	Lassen	Nevada	Sutter			
Del Norte	Mariposa	Plumas	Tehama			



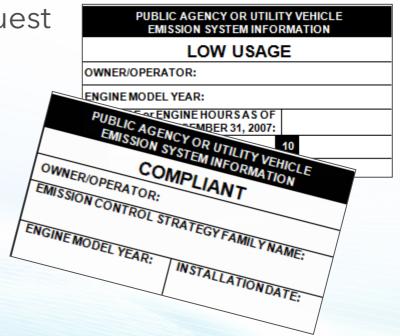
PAU Accelerated Turnover Option (Low Population County)

- Schedule section 2022.1(c)(3)
 - Replace all 1993 and older MY engines with 1994 and newer MY engines by 2020.
 - Apply BACT to 1994 to 2006 engines by 2025.
- Application section 2022.1(d)(6)
 - Had to submit letter of intent to Executive Officer by July 31, 2008.
 - Available to low-population counties and fleets granted low-population county status.



PAU Recordkeeping Requirements

- Fleet Vehicle Records
 - Keep updated records either as hard copy or electronic computer record
 - Must be made available to CARB upon request
- Vehicle Labels
 - Durable and legible
 - Driver's side door jamb
 - Accurate information





PAU Vehicle Label Requirements

Install <u>durable and legible</u> label

Install on driver side door jamb or other readily accessible location

known to the driver

Types of labels:

- Compliant
- Low usage
- Experimental
- Low-population county

REFUSE COLLECTION VEHICLE EMISSION SYSTEM INFORMATION Owner:City of L.A. Truck#:37007 ECS#:CA/ENG/2001/PM3/N00/ON/DPF01 Installed:8/17/2004

Legible and Durable

Not Legible and Durable

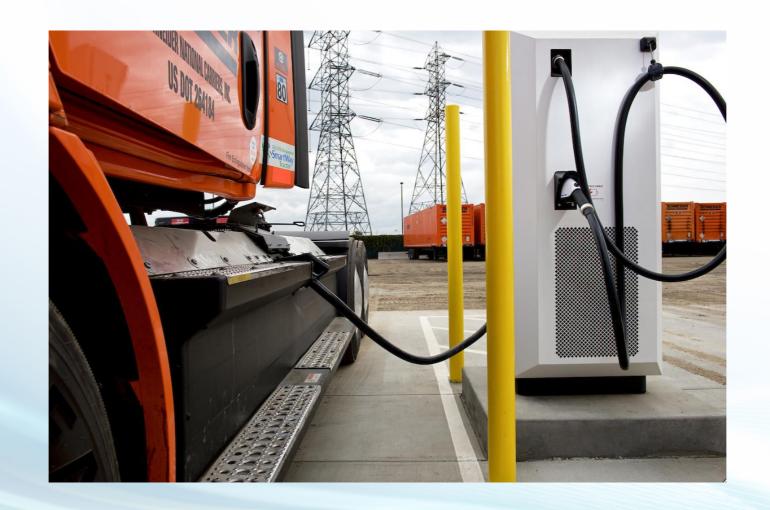


Common Areas of PAU Non-Compliance

- Fleet records are not being kept annually or readily available to submit to CARB upon request
- Vehicle labels are not updated with status change
- Third party vehicle sellers are not being notified of out-of-state vehicle sale requirements
- Vehicles that are used through contracts are not compliant with applicable CARB diesel regulations



Advanced Clean Fleets (ACF) Regulation





Advanced Clean Fleets (ACF) Regulation Basics and Applicability

- ACF Regulation was approved on October 1, 2023.
- Complementary to the Advanced Clean Trucks Regulation.
- Requires fleets to begin transitioning medium and heavy-duty vehicles to zero-emission vehicles starting in 2024.
 - Affects on-road vehicles with a GVWR greater than 8,500 lbs.
 - School buses are exempt, but white fleet vehicles are subject.
- State and local governments that contract with other companies must verify that their contractor is compliant.
- By 2036, manufacturers may sell only zero-emission medium and heavy-duty vehicles.



ACF Requirements

- School districts are subject to State and Local Government Agency requirements.
- Two compliance options are available:
 - Purchase Schedule option: 50% of annual vehicle purchases ZE by 2024, and 100% by 2027.
 - ZEV Milestones option: Transition an increasing percentage of vehicles to ZE by milestone dates. Milestone dates vary by vehicle type.



ACF State and Local Government, ZEV Purchase Requirements

2024-2026

January 1, 2027

50 percent of purchases must be ZEV or NZEV

All purchases must be ZEV or NZEV

- Agencies in designated counties and divisions with 10 or fewer trucks exempt until 2027
- May use exemptions and extensions





ACF ZEV Milestone Phase-In Option

- Open to High Priority and State and Local Government fleets
- Must meet ZEV milestones as a percent of total fleet
- Flexibility to add new or used ICE vehicles meeting cleanest engine requirements

Zero-Emission Fleet Percentage	10%	25%	50%	75%	100%
Group 1: Box trucks, vans, 2-axle buses, yard trucks, light-duty package delivery vehicles	2025	2028	2031	2033	2035
Group 2: Work trucks, day cab tractors, 3-axle buses	2027	2030	2033	2036	2039
Group 3: Sleeper cab tractors and specialty vehicles	2030	2033	2036	2039	2042



Idling Limitations







Commercial Vehicle Idling Limitation

- 5-minute idling limit for diesel fueled commercial vehicles greater than 10,000 lbs. GVWR.
- Exceptions:
 - Testing, servicing, repair
 - Queuing
 - When needed to operate equipment (PTO)
 - Certified Clean Idle vehicles with Clean Idle label





School Zone Idling Limitation

- Turn off vehicle immediately upon arriving at, or within 100 feet of a school or residence.
- Restart engine no more than 30 seconds before departing.
- Applies to all commercial vehicles including gasoline.



Portable Equipment Registration Program (PERP)









What is PERP?

- Voluntary program for registering portable engines and equipment units that need a permit to operate
 - Any engine rated >50 hp (regardless of fuel type)
 - Equipment units vary by Air district
- Local air districts determine what needs permit or not
- PERP registration issued by CARB, but enforced by local air districts
- PERP registration allows for statewide operation with some exceptions



PERP Application Process

- Hard copy applications are required for any action in PERP (initial, change of ownership, replace sticker, etc.).
- If application has missing or incorrect information, it will be deemed incomplete within 30 days.
- Full registration issued no later than 90 days from deemed complete usually much faster.
- Temporary registration available for Tier 4 final engines issued within a few business days.
- Processing times are dependent on compliance with other applicable CARB programs.



PERP Labeling Requirements

- All registered engines and equipment units must have labels and placards, except Tactical Support Equipment
- Registration documents must be kept onsite
- Different color placards to be issued for Tiers
 - T1: red, T2: brown, T3: green, T4: blue











PERP Prohibitions

- Certain operations are forbidden and are listed in PERP Regulation and in operating conditions of registration
- If registration invalid → Air district permit takes over
 - Air district permit for that specific location
 - PERP remains valid at other locations
- Equipment Units may not emit Hazardous Air Pollutants (HAPs)



PERP Prohibitions (cont.)

- Generators are not allowed to power into grid or stationary facility or equipment EXCEPT:
 - Emergency events
 - <u>Unexpected</u> power loss
 - Maintenance & repair operations
 - Temporary replacement of stationary generator under specific circumstances (new)
 - Electrical upgrade operations <90 days
- May not operate as part of a stationary source
 - Share common process or material
 - Includes returning to location repeatedly
- · Contact local air districts before operation if unsure



Portable Diesel Engine ATCM

- Affects only portable diesel engines ≥ 50 bhp
- Reduces Diesel PM emissions in 3 main ways
 - Removal of Tier 0 and Tier 1 engines
 - Restricting older engines from entering CA
 - Fleet emission reduction requirements
- ATCM requirements listed on PERP Registration



Portable Diesel Engine ATCM Fleet Requirements

- Engines removed from service in California according to phase-out schedule
- Fleets are defined as large (>750 bhp) and small (≤750 bhp)
- Retrofitted (level 3), low-use, and emergency-use engines are exempt from phase-out
- Large fleets have a Fleet Average option



Portable Diesel Engine ATCM Phase-Out Schedule

• Engines may not operate on or after dates listed:

Engine Certification	Engines rated 50 to 750 bhp: Large Fleet	Engines rated 50 to 750 bhp: Small Fleet	Engines rated >750 bhp
Tier 1	1/1/2020	1/1/2020	1/1/2022
Tier 2 built prior to 1/1/2009	1/1/2022	1/1/2023	1/1/2025
Tier 2 built on or after 1/1/2009	NA	NA	1/1/2027
Tier 3 built prior to 1/1/2009	1/1/2025	1/1/2027	NA
Tier 3 built on or after 1/1/2009	1/1/2027	1/1/2029	NA
Tier 1, 2, and 3 flexibility engines	December 31 of the year 17 years after the date of manufacture	December 31 of the year 17 years after the date of manufacture	December 31 of the year 17 years after the date of manufacture



In-Use Off-Road Diesel-Fueled Fleets Regulation









Off-Road Applicability

- Diesel and alternative diesel fueled vehicles (including biodiesel) that are:
 - Operated within California
 - Self-propelled (no generators, etc.)
 - 25 horsepower or greater
 - True off-road vehicles (check engine label)
- Two-engine vehicles that are:
 - Not already subject to the PAU Fleet Rule
 - Not two-engine sweepers
 - Not using a Tier 0 auxiliary engine
- Workover Rigs



Off-Road Exemptions

- Vehicles used only for 100% agricultural, forest operations, or personal use are completely exempt.
- Exempt from performance requirements (still must report, label and do recordkeeping)
 - Low-use vehicles operated <200 hours/year
 - Emergency vehicles
 - Dedicated snow removal vehicles
 - Equipment used most of the time for agricultural purposes (>50%)



Off-Road Requirements Vary by Fleet Size

- Determine fleet size by adding up all horsepower subject to the regulation
 - Must include all horsepower under common ownership or control
- Reporting system will exclude:
 - Low use vehicles (used <200 hours/year)
 - Emergency use vehicles
 - Dedicated snow removal vehicles
 - Vehicles used >50% for agricultural operations



Off-Road Requirements Vary by Fleet Size

Fleet Size Category	Description
Small	Fleet <= 2,500 hp, or Municipality <= 2,500 hp, or Municipality fleet in low population county, Captive attainment area fleet
Medium	Fleet with 2,501 to 5,000 hp
Large	Fleet with more than 5,000 hp All state and federal government fleets



Off-Road Low-Population Counties:

All municipal fleets in the following counties are covered by the applicable provisions for municipal fleets in low-population counties.

Alpine

Amador

Calaveras

Colusa

Del Norte

Glenn

Inyo

Lake

Lassen

Mariposa

Mendocino

Modoc

Mono

Nevada

Plumas

San Benito

Sierra

Siskiyou

Sutter

Tehama

Trinity

Tuolumne

Yuba





Off-Road Fleets Granted Low-Population County Status:

- City of Arcata
- City of Brawley
- City of California City
- City of Fortuna
- County of Humboldt
- County of Lake Special District
- County of Merced
- City of Needles
- City of Ridgecrest
- County of Shasta
- City of Tehachapi

- City of Avenal
- County of Butte
- City of Eureka
- City of Grass Valley
- County of Imperial
- County of Madera
- County of Napa
- City of Paradise
- County of San Luis Obispo
- City of South Lake Tahoe
- County of Yolo



Off-Road Captive Attainment Areas and Map

Attainment Counties:

 Alpine, Colusa, Del Norte, Glenn, Humboldt, Lake, Lassen, Mendocino, Modoc, Monterey, Plumas, San Benito, San Luis Obispo, Santa Barbara, Santa Cruz, Shasta, Sierra, Siskiyou, Trinity, Tehama, Yuba, and the portion of Sonoma County that lies within the boundaries of the North Coast Air Basin.





Off-Road Captive Attainment Area Fleets

- Fleets or fleet portions that operate only in listed NOx attainment counties (clean air areas)
- Become small fleets, regardless of total hp in fleet or fleet portion
- Fleets can travel within or between multiple attainment counties
- Optional provision, but designation is fleetwide
- Must affix green label on all vehicles



Off-Road Reporting Requirements

- Reporting is required for all vehicles subject to the regulation
- Report to CARB using the online reporting tool, DOORS
- Responsible Official Affirmation of Reporting (ROAR)

Fleet Size	Annual Reporting (due by March 1st of year)
Large	2012 - 2023
Medium	2016 - 2023
Small	2018 - 2028



Off-Road Labeling Requirements

- All vehicles subject to the regulation must be labeled
 - CARB assigns Equipment Identification Number (EIN)
 - Fleets must label vehicles within 30 days of receiving EIN
 - EIN stays with vehicle for life, even after vehicle sold
 - Labels not issued by CARB
 - Label Vendors
 - Label must be on both sides of vehicle

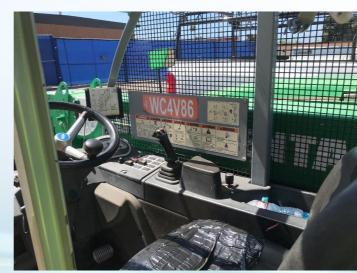




Off-Road Labeling Issues

- No label or only labeled one side
- EIN is illegible or not in clear view
- Created a new EIN for a vehicle that was already registered (False Data)
- EIN is incorrect
 - Should always be two letters, one number, one letter, two numbers









Off-Road Idling Limitation



- 5-minute limit on idling
- EXCEPTIONS:
 - Queuing
 - Maintenance
 - Ensuring safe operation
- Responsibility of owner or renter
- Large & Medium fleets must have written policy



Off-Road Sales Disclosure

Must include this language in bill of sale, and keep records for 3 years (only required for in-state transactions):

"When operated in California, any offroad diesel vehicle may be subject to the California Air Resources Board In-Use Off-Road Diesel Vehicle Regulation. It therefore could be subject to retrofit or accelerated turnover requirements to reduce emissions of air pollutants. For more information, please visit the California Air Resources Board website at www.arb.ca.gov/ordiesel."



Off-Road Performance Requirements

- Met by January 1st of compliance year
- Must meet one of the two options below:
 - Fleet average requirements
 - Overall NOx emissions meet target
 - Best Available Control Technology (BACT)
 - Turnover 10% of fleet each year (oldest vehicles)

Fleet Size	Compliance Dates
Large	2014-2023
Medium	2017-2023
Small	2019-2028



Off-Road Performance Requirements Fleet Average

- Compare fleet average index to fleet average target
 - DOORS shows this in Compliance Snapshot
- Index/target are horsepower weighted averages of NOx emissions (g/bhp-hr)
- Targets get more stringent with time
- One set of targets for large/medium fleets, a separate set for small fleets



Off-Road Performance Requirements BACT Method

- Option for fleets in lieu of meeting the fleet average targets
- Fleet must turnover vehicles or install VDECS on a certain percent (BACT rate) of fleet <u>horsepower</u> each year
 - Currently 10% for all fleets
- Must apply BACT to Tier 0/1 vehicles first
- Actions must be completed prior to January 1



Low-Use Vehicle Exemption

- Must be operated <200 hours/yr
 - Each engine on 2-engine vehicles

Year-by-year

- Very flexible for fleet average method
- Previous calendar year or 3year rolling average

Equipped with non-resettable hour meter

Permanent

- Generates BACT credit (within timeline)
- Violation for >200 hours/year
- Meet vehicle adding restrictions





Amendments to Off-Road Regulation

Approved by CARB in November 2022, effective October 1, 2023



• <u>Fact Sheet: Renewable Diesel Fuel Requirements | California Air Resources Board</u>











- Public School Bus Set-Aside & EnergIIZE Joint Application
 - \$300M allocated for ZE school buses and infrastructure.
 - Public School Districts and other local educational agencies located in small and medium air districts are eligible.
 - Up to \$395k available per ZE bus and up to \$100k available for associated infrastructure.
 - Requires scrappage of a MY 2010 bus or older.
 - Limited funding is available on a first-come, first-serve basis. Apply at https://californiahvip.org/.



- Vehicles
 - Hybrid & Zero-Emission Truck & Bus Voucher Incentive Project (HVIP) Standard
 - Air Districts
 - Federal Clean School Bus Program
 - Rebate funding currently available and applications must be submitted by January 31, 2024.
- Infrastructure
 - <u>EnergIIZE</u> (EV Fast Track & EV Jump Start)
 - Utility Make-Ready Programs (PG&E, SCE, SDGE)









- Local Educational Agency School Bus Replacement Grants
 - \$500M approved for ZE school bus replacement program.
 - Additional \$500 million expected in both FY 24-25 and FY 25-26.
- DGS Statewide Procurement Contract for Zero-Emission School Buses
 - Vehicles (dgs.ca.gov)
 - Implementation Timeline:





Additional CARB Program Contacts/Resources

- The TruckStop
- ZEV TruckStop
- GovDelivery





Additional CARB Program Contacts/Resources

Diesel Hotline & Email:

1-866-6DIESEL (1-866-634-3735)

8666diesel@arb.ca.gov

Clean Truck Check Email:

hdim@arb.ca.gov

TRUCRS Reporting Email:

TRUCRS@arb.ca.gov

PERP Email:

portable@arb.ca.gov

DOORS Hotline & Email:

1 (877) 59-DOORS (1-877-593-6677)

doors@arb.ca.gov

Smoking Vehicle and Complaint Hotline:

1-800-END-SMOG (1-800-363-7664)





Thank You!