

## Acronyms, Abbreviations, and Initialisms

AADT: Annual Average Daily Trips  
AB: Assembly Bill  
ACC: Advanced Clean Cars  
ACF: Advanced Clean Fleets  
ACM2: Asymmetric Convective Model Version 2  
ACT: Alternative Control Techniques  
ACT: Advanced Clean Trucks  
ADF: Alternative Diesel Fuel  
AERO: Advanced Emission Reduction Options  
AFO: Animal Feeding Operation  
AgTech: Agricultural Technical Committee  
AIM: Aerosol Inorganics Model  
AMMP: Alternative Manure Management Practices  
AO: Agricultural Operations  
APA: Administrative Procedures Act  
APCD: Air Pollution Control District  
APCO: Air Pollution Control Officer  
APU: Auxiliary Power Units  
AQ: Air Quality  
AQI: Air Quality Index  
AQIP: Air Quality Improvement Program  
AQMD: Air Quality Management District  
ARB: California Air Resources Board  
ASM: Acceleration Simulation Mode  
ATCM: Airborne Toxic Control Measure  
ATV: All-Terrain Vehicles  
BAAQMD: Bay Area Air Quality Management District  
BACM: Best Available Control Measure  
BACT: Best Available Control Technology  
BAM: Beta-Attenuation Method  
BAR: Bureau of Automotive Repair  
BDSNP: Berkeley-Dalhousie Soil NO<sub>x</sub> Parameterization  
BEEP: Building Energy, Energy and Power  
BEV: Battery Electric Vehicle  
bhp: Brake Horsepower  
BMP: Best Management Practice  
BTU: British Thermal Units  
CAA: Clean Air Act  
CAC: Citizens Advisory Committee  
CAEP: Committee on Aviation Environmental Protection  
CAF: Confined Animal Facility  
CAPP: Community Air Protection Program  
CAPCOA: California Air Pollution Control Officers Association  
CARB: California Air Resources Board

CaRFG: California Reformulated Gasoline  
CASAC: Clean Air Scientific Advisory Committee  
cc: cubic centimeters  
CC4A: Clean Cars 4 All  
CCDAQ: Clark County Department of Air Quality  
CDFA: California Department of Food and Agriculture  
CE: Cost Effectiveness  
CEC: California Energy Commission  
CEIDARS: California Emission Inventory Development and Reporting System  
CEMS: Continuous Emissions Monitoring System  
CEPAM: California Emissions Projection Analysis Model  
CEQA: California Environmental Quality Act  
CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act  
CE-CERT: Center for Environmental Research and Technology  
CFR: Code of Federal Regulations  
CGYM: Clean Green Yard Machine  
CH&SC: California Health and Safety Code  
CHC: Commercial Harbor Craft  
CHE: Cargo Handling Equipment  
CI: Compression-Ignition  
CLEEN: Continuous Low Energy, Emissions, and Noise  
CM: Control Measures  
CMAQ Model: Community Multiscale Air Quality Model  
CMAQ: Congestion Mitigation and Air Quality  
CMP: Conservation Management Practice  
CMS: Clean Miles Standard  
CNG: Compressed Natural Gas  
CO: Carbon Monoxide  
CO2: Carbon Dioxide  
CORE: Clean Off-Road Equipment  
CP: Crude Protein  
CPUC: California Public Utilities Commission  
CRPAQS: California Regional Particulate Air Quality Study  
CSD: California Department of Community Services and Development  
CSN: Chemical Speciation Network  
CTG: Control Techniques Guidelines  
CTM: Chemical Transport Model  
DAC: Direct Annual Costs  
DC: Direct Costs  
DERA: Diesel Emission Reductions Act  
DI: Direct Installation (cost)  
DISCOVER-AQ: Deriving Information on Surface Conditions from Column and Vertically Resolved Observations Relevant to Air Quality  
District: San Joaquin Valley Air Pollution Control District  
DM: Dry matter  
DMV: Department of Motor Vehicles

DOF: California Department of Finance  
DPF: Diesel Particulate Filter  
DPR: Department of Pesticide Regulation  
DV: Design Value  
e-AIM: Extended Aerosol Inorganics Model  
EBI: Euler Backward Iterative Solver  
EC: Elemental Carbon  
EDCAQMD: El Dorado County Air Quality Management District  
EF: Emission Factor  
EFMP: Enhanced Fleet Modernization Program  
EGR: Exhaust Gas Recirculation  
EIA: Energy Information Administration  
EIC: Emission Inventory Code  
EIS: Emissions Inspection System  
EJ: Environmental Justice  
EJAG: Environmental Justice Advisory Group  
EMFAC: Emission Factors Model  
EO: Executive Order  
EPA: U.S. Environmental Protection Agency  
EPCRA: Emergency Planning and Community Right-to-Know Act  
ERC: Emission Reduction Credits  
ESP: Electrostatic Precipitator  
EU 5: European Union 5 (standards)  
EV: Electric Vehicle  
FAA: Federal Aviation Administration  
FARMER: Funding Agricultural Replacement Measures for Emission Reductions  
FCEV: Fuel Cell Electric Vehicle  
FDDA: Four Dimension Data Assimilation  
FEM: Federal Equivalent Method  
FFLDRS: Feed, Fertilizer and Livestock Drugs Regulatory Services  
FHWA: Federal Highway Administration  
FIAB: Fertilizer Inspection Advisory Board  
FIP: Federal Implementation Plan  
FMMP: Farmland Mapping and Monitoring Program  
FMP: Flare Minimization Plan  
FR: Federal Register  
FREP: Fertilizer Research and Education Program  
FRM: Federal Reference Method  
FTA: Federal Transit Administration  
FY: Fiscal Year  
GEOS: Goddard Earth Observing System  
GGRF: Greenhouse Gas Reduction Fund  
GHG: Greenhouse Gas  
g/kW-hr: grams per kilowatt-hour  
g/m<sup>2</sup>/day: Grams Per Square Meter Per Day  
GSE: Ground Support Equipment

GVWR: Gross Vehicle Weight Rating  
H<sub>2</sub>SO<sub>4</sub>: Sulfuric Acid  
HAL: Healthy Air Living  
HC: Hydrocarbon  
HD: Heavy Duty  
HD I/M: Heavy-Duty Inspection and Maintenance Program  
HDPE: High Density Polyethylene  
HDVIP: Heavy-Duty Vehicle Inspection Program  
HHDV: Heavy Heavy-Duty Vehicles  
HNO<sub>3</sub>: Nitric Acid  
HP: Horsepower  
HRRS: Heath Risk Reduction Strategy  
HVIP: Hybrid and Zero-Emission Truck and Bus Voucher Incentive Project  
I/M or I&M: Inspection and Maintenance  
IAC: Indirect Annual Costs  
IASI: Infrared Atmospheric Sounding Interferometer  
IC: Internal Combustion  
ICAO: International Civil Aviation Organization  
ICEV: Internal Combustion Engine Vehicles  
ICT: Innovative Clean Transit  
IIJA: Infrastructure Investment Jobs Act  
ILRP: Irrigated Lands Regulatory Program  
IMPROVE: Interagency Monitoring of Protected Visual Environments  
IOA: Index of Agreement  
IRA: Inflation Reduction Act  
IRP: Integrated Review Plan  
IRR: Integrated Reaction Rate  
ISA: Integrated Science Assessment  
ISOR: Initial Statement of Reasons  
ISR: Indirect Source Review  
kg: Kilogram  
kW: Kilowatt  
kWH: Kilowatt-Hour  
LAER: Lowest Achievable Emission Rate  
LAI: Leaf Area Index  
lb/MMBtu: Pounds per Million British Thermal Units of Heat Output  
LCFS: Low Carbon Fuel Standard  
LDT: Light-Duty Trucks  
LEV: Low-Emission Vehicle  
LHDV: Light Heavy-Duty Vehicles  
LPG: Liquefied Petroleum Gas  
LSI: Large Spark-Ignition  
MATS: Model Attainment Test Software  
MB: Mean Bias  
MBARD: Monterey Bay Air Resources District  
MCF: Thousand Cubic Feet

MCIP: Meteorology-Chemistry Interface Processor  
ME: Mean Error  
MEGAN: Model of Emissions of Gases and Aerosols from Nature  
MFB: Mean Fractional Bias  
MFE: Mean Fractional Error  
MHDV: Medium Heavy-Duty Vehicles  
MHP: Medium Horsepower  
MOU: Memorandum of Understanding  
MMBtu/hr: Million British Thermal Units per Hour  
MOZART: Model for Ozone and Related Chemical Tracers  
MPO: Metropolitan Planning Organization  
MSM: Most Stringent Measure  
MSW: Municipal Solid Waste  
MV: Motor Vehicle  
MVEB: Motor Vehicle Emissions Budgets  
MW: Megawatts  
MY: Model Year  
N<sub>2</sub>O: Nitrous Oxide  
NAAQS: National Ambient Air Quality Standards  
NACAA: National Association of Clean Air Agencies  
NAEMS: National Air Emissions Monitoring Study  
NARR: North American Regional Reanalysis  
NASA: National Aeronautics and Space Administration  
NBPT: N-(n-butyl) thiophosphoric triamide  
NCEI: National Centers for Environmental Information  
NCR: National Center for Atmospheric Research  
NESHAP: National Emission Standards for Hazardous Air Pollutants  
ng/J: Nanograms per Joule of Heat Output  
NG: Natural Gas  
NH<sub>3</sub>: Ammonia  
NH<sub>4</sub>NO<sub>3</sub>: Ammonium Nitrate  
NIOSH: National Institute of Occupational Safety and Health  
NMB: Normalized Mean Bias  
NME: Normalized Mean Error  
NMHC: Non-methane Hydrocarbons  
NNSR: Nonattainment New Source Review  
NSR: New Source Review  
NO: Nitrogen Oxide  
NO<sub>2</sub>: Nitrogen Dioxide  
NOAA: National Oceanic Atmospheric Administration  
NO<sub>x</sub>: Oxides of Nitrogen  
NNSR: Nonattainment New Source Review  
NPRM: Notice of Proposed Rulemaking  
NRC: National Research Council  
NRCS: Natural Resources Conservation Service  
NSCR: Non-Selective Catalytic Reduction

NSPS: New Source Performance Standard  
NSR: New Source Review  
NWS: National Weather Service  
OAQPS: Office of Air Quality Planning and Standards (EPA)  
OBD: On-Board Diagnostics  
OC: Organic Carbon  
OGV: Ocean-Going Vessels  
OHRV: Off Highway Recreational Vehicle  
OM: Organic Matter  
OYW: One Year's Worth  
PA: Policy Assessment  
PAN: Peroxy Acetyl Nitrate  
PAW: Public Advisory Workgroup  
PBL: Planetary Boundary Layer  
PCAPCD: Placer County Air Pollution Control District  
PE: Purchase Equipment  
PEC: Purchased Equipment Costs  
PEER: Permit-Exempt Equipment Registration  
PERP: Portable Equipment Registration Program  
PHEV: Plug-In Hybrid Electric Vehicle  
PM: Particulate Matter  
PM0.1: Ultrafine Particles  
PM10: Particulate Matter 10 micrometers in diameter and smaller  
PM2.5: Particulate Matter 2.5 micrometers in diameter and smaller  
ppb: parts per billion  
ppm: parts per million  
ppmv: parts per million by volume  
psi: pounds per square inch  
psig: pounds per square inch gauge  
PSIP: Periodic Smoke Inspection Program  
PTO: Permit to Operate  
PUC: Public Utilities Commission  
RAAN: Real-Time Air Quality Advisory Network  
RACM: Reasonable Available Control Measures  
RACT: Reasonably Available Control Technology  
RCTP: Restaurant Charbroiler Technology Partnership  
REA: Risk/Exposure Assessment  
RECLAIM: Regional Clean Air Incentives Market  
RFG: Reformulated Gasoline  
RFP: Reasonable Further Progress  
RFP: Request for Proposals  
RH: Relative Humidity  
RMA: Roadmap to a Million Acres  
RMSE: Root Mean Square Error  
ROG: Reactive Organic Gases  
RRF: Relative Response Factor

RTO: Regenerative Thermal Oxidizer  
RVP: Reid Vapor Pressure  
RWC: Residential Wood Combustion  
SANDWICH: Sulfate, Adjusted Nitrate, Derived Water, Inferred Carbon Hybrid material balance  
SAPRC: Statewide Air Pollution Research Center  
SASS: Spiral Aerosol Speciation Sampler  
SB: Senate Bill  
SBCAPCD: Santa Barbara County Air Pollution Control District  
SCAQMD: South Coast Air Quality Management District  
SCR: Selective Catalytic Reduction  
SCS: Sustainable Community Strategies  
SDAPCD: San Diego County Air Pollution Control District  
SGMA: Sustainable Groundwater Management Act  
SI: Spark-Ignition  
SIP: State Implementation Plan  
SJV: San Joaquin Valley  
SJVAPCD: San Joaquin Valley Air Pollution Control District  
SJVUAPCD: San Joaquin Valley Unified Air Pollution Control District  
SLAMS: State and Local Air Monitoring Stations  
SLOCAPCD: San Luis Obispo County Air Pollution Control District  
SMAQMD: Sacramento Metropolitan Air Quality Management District  
SMAT: Speciated Modeled Attainment Test  
SMAT-CE: Software for the Modeled Attainment Test – Community Edition  
SMS: Smoke Management System  
SNCR: Selective Non-Catalytic Reduction  
SOA: Secondary Organic Aerosol  
SORE: Small Off-Road Engines  
SOx: Oxides of Sulfur  
SRIA: Standardized Regulatory Impact Assessment  
SUV: Sports Utility Vehicle  
SWCV: Solid Waste Collection Vehicle  
SwRI: Southwest Research Institute  
TAC: Toxic Air Contaminant  
TAP: Technology Advancement Program  
TASC: Technical Advisory Subcommittee  
TCI: Total Capital Investments  
TCM: Transportation Control Measure  
TNC: Transportation Network Company  
TOG: Total Organic Gases  
tpd: Tons per Day  
tpy: Tons per Year  
TRP: Truck Replacement Program  
TRU: Transport Refrigeration Unit  
TSD: Technical Support Document  
TSI: Two-Speed Idle

TxLED: Texas Low Emission Diesel Program  
U.S. EPA: United States Environmental Protection Agency  
UC ANR: University of California Agricultural and Natural Resources  
UCCR: University of California Cooperative Extension  
UDS: Unified Diagnostic Services  
UK: United Kingdom  
ULN: Ultra-low NOx  
ULNB: Ultra-low NOx Burner  
ULSD: Ultra Low Sulfur Diesel  
UNECE: United Nations Economic Commission for Europe  
UP: Union Pacific  
US: United States  
USDA: United States Department of Agriculture  
USDA-ARS: United States Department of Agriculture-Agricultural Research Service  
USDA-NRCS: United States Department of Agriculture-Natural Resources Conservation Service  
U.S. EPA: United States Environmental Protection Agency  
USG: Unhealthy for Sensitive Groups  
Valley CAN: Valley Clean Air Now  
VCAPCD: Ventura County Air Pollution Control District  
VDE: Visible Dust Emissions  
VDEC: Verified Diesel Emission Control Strategy  
VDT: Vehicle Daily Trip  
VFA: Volatile Fatty Acids  
VMT: Vehicle Miles Traveled  
VOC: Volatile Organic Compounds  
VW: Volkswagen  
WDG: Wet Distillers Grain  
WDR: Waste Discharge Requirements  
WRF: Weather and Research Forecasting  
YSAQMD: Yolo-Solano Air Quality Management District  
ZEB: Zero-Emission Bus  
ZEE: Zero-Emission Equipment  
ZELE: Zero-Emission Landscaping Equipment  
ZEM: Zero-Emission Motorcycle  
ZEV: Zero-Emission Vehicle  
µg/m<sup>3</sup>: Micrograms per Cubic Meter