

# 2019

ANNUAL REPORT



Dear Friends,

This year, we watched COVID-19 quickly spread across the United States and the world, changing our way of life. We saw the virus impact communities of color and those with underlying medical conditions, like asthma and other respiratory diseases, heart disease and diabetes. And we watch these communities be more susceptible to hospitalization and death as a result.



These same underlying medical conditions are affected by the air we breathe. It is important now more than ever to continue our work and to keep true to our mission here at South Coast AQMD. Through our rules, actions and incentive programs we continue to see improvements year after year.

In fact, 2019 was the cleanest year on record for fine particulate matter (PM2.5). Levels of PM2.5 have dropped by more than half since measurements began 20 years ago. Ozone levels have declined significantly with nearly an 80% reduction since the 1950s. We project that nitrogen oxide (NOx) emissions, a precursor to smog and PM2.5, have shrunk from over 1,200 tons per day in the year 2000 to 350 tons this year.

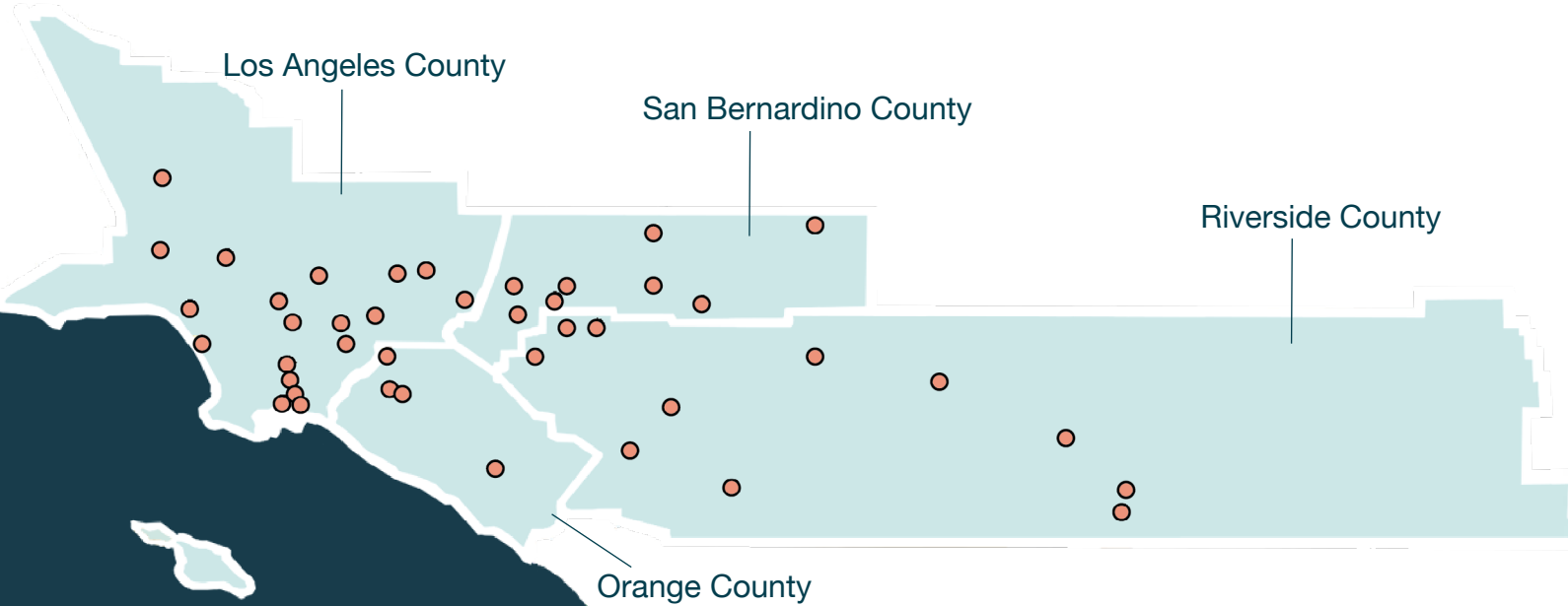
In spite of our continued efforts, there is still much work to be done and our efforts must not diminish.

As you read through this year's annual report and reflect upon the work and accomplishments in 2019, remember that we will vigilantly continue our work. And although we face economic uncertainty in the year to come, rest assured that we remain committed to fighting for environmental equality for our communities of color and cleaning the air for all.

Sincerely,

Dr. William A. Burke  
Chairman, South Coast AQMD Governing Board

# SOUTH COAST AQMD AIR MONITORING NETWORK



**43+ permanent air monitoring sites**  
**260 air monitors**  
**65,000+ data points per week**  
**Provides near real time data on air quality information for the website, mobile app and forecasts.**

## AIR MONITORING HIGHLIGHTS

### SOUTH COAST AQMD PARTNERS WITH GOOGLE FOR MOBILE SENSING PROJECT

The Air Quality Sensor Performance Evaluation Center (AQ-SPEC) at South Coast AQMD began a partnership with Google Earth Outreach to test the performance of low-cost sensors on moving vehicles. As part of this project, low-cost sensors were used to take ambient air measurements on a Google StreetView car as it drove through different locations. The project is intended to look at the capabilities and limitations of low-cost sensors for measuring fine particulate matter (PM2.5) and ozone, and determine which types may be best suited for mobile uses. Mobile sensors allow collection of more air pollution information over a much larger area than traditional air monitoring technologies that stay in one location. This project is expected to demonstrate how much pollution can change over various distances, such as a city block or throughout an entire neighborhood. For more information please visit: [www.aqmd.gov/aq-spec](http://www.aqmd.gov/aq-spec).



### ADVANCED MEASUREMENT TECHNOLOGY SOUTH COAST AQMD USES LEADING EDGE EQUIPMENT TO AID IN AIR MONITORING EFFORTS

- 5 Mobile Platforms
- More than 400 Air Quality Sensors
- 2 Near Real Time Metals Monitors



# STATE OF THE AIR

## SOURCES OF AIR POLLUTION IN THE BASIN

### FACTORS THAT INFLUENCE PM 2.5 LEVELS

NOx, VOC, PM2.5 Emissions



Sunlight



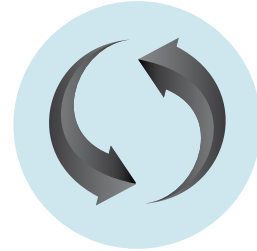
Fog and Humidity



Storms



Mixing and Ventilation

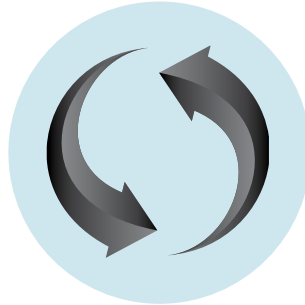


### FACTORS THAT INFLUENCE OZONE LEVELS

NOx, VOC, PM2.5 Emissions



Mixing and Ventilation



Seasons

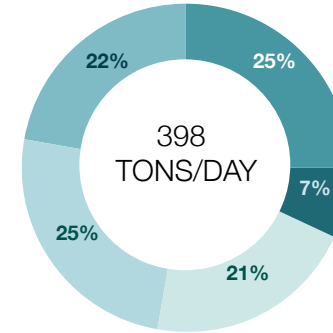


Temperature



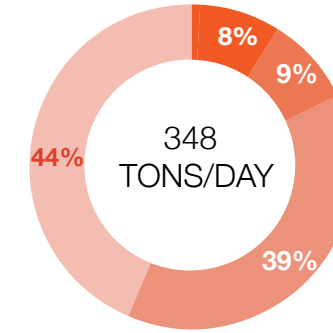
## 2019 EMISSION SOURCES

### VOC EMISSIONS



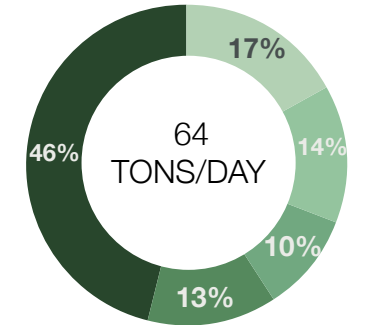
- Off-Road 25%
- On-Road 22%
- Architectural Coating and Consumer Product 25%
- Area 21%
- Point 7%

### NOx EMISSIONS



- On-Road 44%
- Off-Road 39%
- Point 9%
- Area 8%

### PM2.5 EMISSIONS



- Area 46%
- Point 13%
- Off-Road 10%
- Road Dust 14%
- On-Road 17%

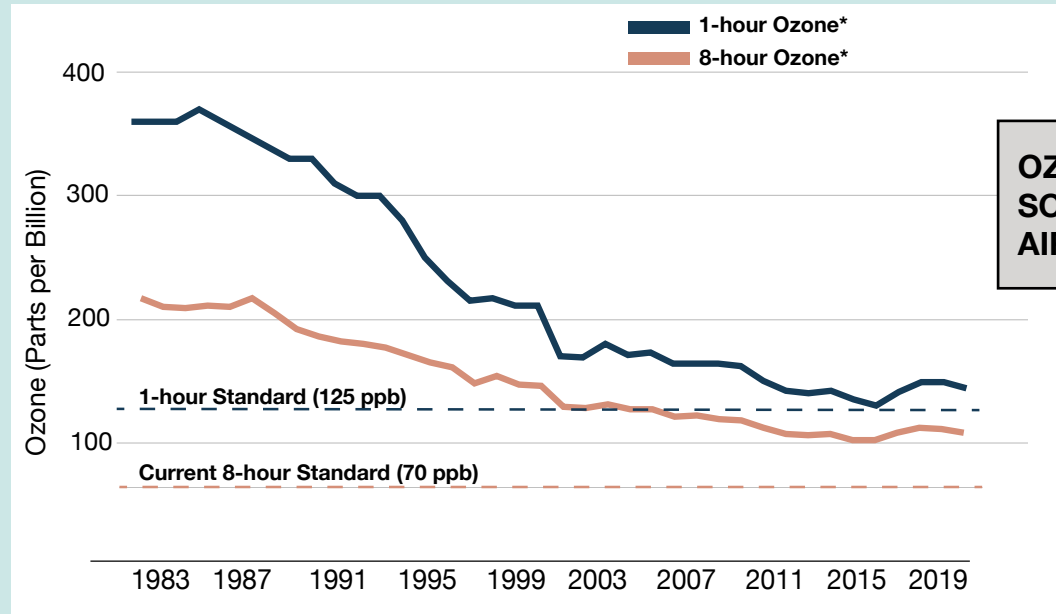
**Fine Particulate Matter (PM2.5)**- inhalable particles, smaller than a human hair, that are emitted from a variety of sources such as vehicles, fugitive dust and industrial sources. PM2.5 can also be formed in the atmosphere from the reaction of gases emitted from these same sources.

**Nitrogen oxides (NOx)**- formed in the atmosphere when oxygen combines with nitrogen from sources like vehicles, wood smoke and consumer products.

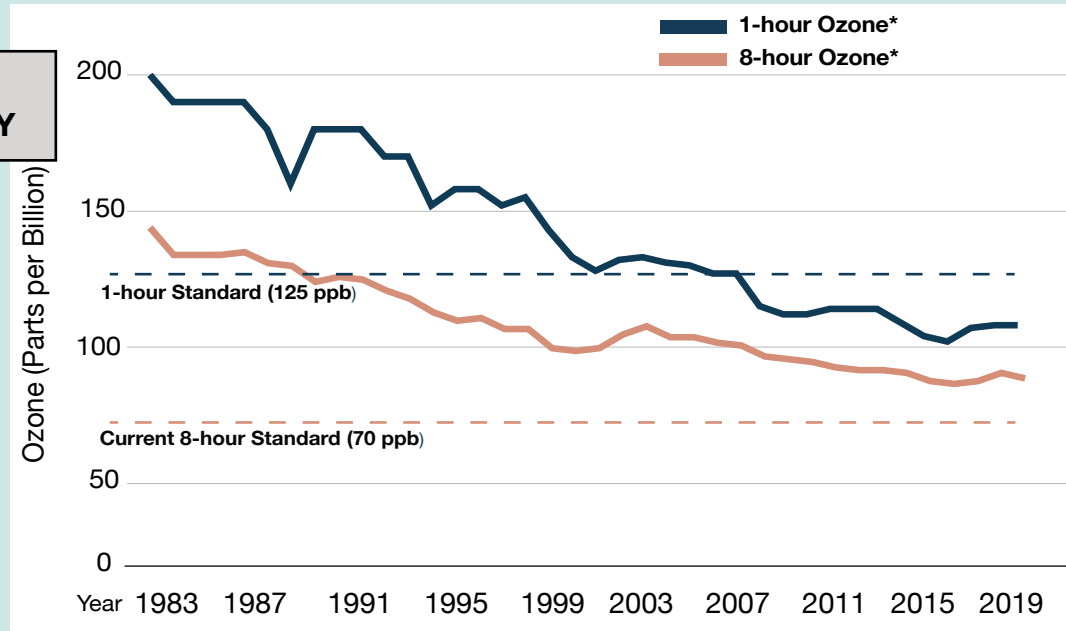
**Volatile organic compounds (VOCs)**- can be emitted through fossil fuels or a variety of gases from liquids or solid objects such as paints and lacquers, cleaning supplies, pesticides, and building materials and furnishings.

**Ozone** (commonly known as smog) is formed from the reaction of VOCs and NOx in the presence of sunlight. Higher temperatures and amounts of sunlight tend to accelerate the formation of ozone.

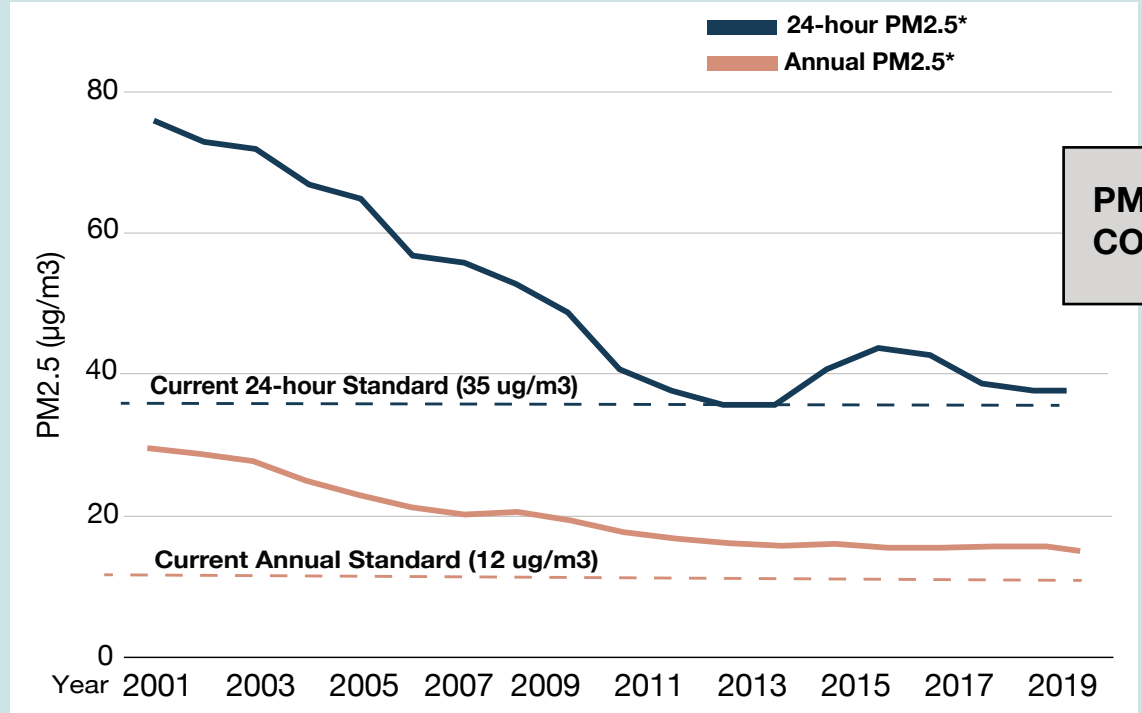
# AIR QUALITY TRENDS



## OZONE IN THE COACHELLA VALLEY



\*Concentrations in the graphs are design values, which are metrics developed by U.S. EPA to determine attainment of the air quality standards.



Number of days exceeding the 2015 Ozone standard in 2019

**126**

Number of days exceeding the 24-hr PM2.5 standard in 2019 (excluding exceptional events)

**12**

Number of No Burn Days Declared in 2019

**23**

# PROTECTING COMMUNITIES

## Assembly Bill 617 (AB 617)

South Coast AQMD continued its efforts under AB 617 to reduce air pollution in communities that experience disproportionate burdens. Community Air Monitoring and Emissions Reduction Plans were developed for the 2018-designated communities of: 1) Wilmington, Carson, West Long Beach; 2) San Bernardino, Muscoy; and 3) East Los Angeles, Boyle Heights, West Commerce. In 2019, two additional communities were designated: the Southeast Los Angeles community (South Gate, Florence-Firestone, Walnut Park, West Huntington Park, Cudahy, Bell Gardens) and the Eastern Coachella Valley community (Indio, Coachella, Thermal, Oasis, Mecca, North Shore). To develop air monitoring and emission reduction plans for first year communities, Community Steering Committees worked closely with South Coast AQMD staff, including 37 committee meetings and workshops, 4 community tours, and more than 60 individual meetings.



## 2018 COMMUNITY MONITORING AND EMISSIONS REDUCTIONS PLANS

### SAN BERNARDINO/ MUSCOY

Additional reductions in air pollution from local sources:

#### By 2024

- ↓ 10% Nitrogen Oxide
- ↓ 10% Diesel Particulate matter

#### By 2029

- ↓ 21% Nitrogen Oxide
- ↓ 15% Diesel Particulate matter

#### ACTIONS INCLUDE:

Conduct focused enforcement on truck idling.

Implement air monitoring and inspections for concrete and asphalt batch plants and other identified facilities.

Develop Indirect Source Rules for rail yards and warehouses.

### WILMINGTON/WEST LONG BEACH/CARSON

Additional reductions in air pollution from local sources:

#### By 2024

- ↓ 7% Nitrogen Oxide
- ↓ 10% Diesel Particulate matter

#### By 2030

- ↓ 35% Nitrogen Oxide
- ↓ 22% Diesel Particulate matter

#### ACTIONS INCLUDE:

Reduce nitrogen oxides, sulfur oxides and volatile organic compounds from refineries by 50 percent.

Use advanced monitoring at ports and oil production facilities.

Conduct focused enforcement on truck idling.

Develop Indirect Source Rules for rail yards and warehouses.

### EAST LOS ANGELES, BOYLE HEIGHTS, WEST COMMERCE

Additional reductions in air pollution from local sources:

#### By 2024

- ↓ 8% Nitrogen Oxide
- ↓ 9% Diesel Particulate matter

#### By 2029

- ↓ 20% Nitrogen Oxide
- ↓ 13% Diesel Particulate matter

#### ACTIONS INCLUDE:

Conduct air monitoring and reduce emissions from metal processing, rendering, and other industrial facilities, including auto body shops.

Replace older polluting cars and trucks with cleaner models.

Conduct focused enforcement on truck idling.

Develop Indirect Source Rules for rail yards and warehouses.

# COMMUNITY OUTREACH



**13** public meetings including Town Hall, Community, AB 2588 Air Toxics, and Committee meetings.



Participated in **62** community events such as health and environmental justice resources fairs, Council of Government General Assemblies, and air quality related forums and conferences.



Planned, organized and produced **5** major events including Martin Luther King, Jr. Day of Service, Cesar Chavez Day of Remembrance and the EJ Conference.



Facilitated tours and presentations for **38** organizations, dignitaries and speakers bureaus from China and Korea.



Organized **7** Environmental Justice Community Partnership meetings.



Developed and implemented **4** Los Angeles Inter-Agency Task Force meetings to address environmental justice issues in government agencies.



Press and Social Media

- **95** news releases issued (English and Spanish). Including smoke, odor and other advisories.
- **17** No-Burn Alerts.
- **364** press interactions.
- Social Media outreach for wildfires in October, resulted in **500+** Twitter followers and more than **108,714** impressions (individual reach) from one tweet.

## WHAM HIGH SCHOOL EDUCATION PROGRAM

The Why Healthy Air Matters (WHAM) Program is South Coast AQMD's high school air quality education program. The goal of the WHAM Program is to increase awareness of air quality issues within the region, especially in environmental justice communities, and empower youth to drive positive change during a time when they are developing and forming their own habits. The WHAM program will be implemented at 100 high schools located throughout South Coast AQMD's jurisdiction. Trained South Coast AQMD staff volunteers teach the WHAM curriculum, giving students the opportunity to interact firsthand with air quality scientists, engineers, inspectors, and others.



## CLEAN AIR RANGER EDUCATION PROGRAM

The Clean Air Ranger Education (C.A.R.E.) Program aims to educate and empower elementary school students in environmental justice communities on air quality public health issues. In 2019, the C.A.R.E. program engaged with more than 2,100 students at local elementary schools in Southern California.

# 2019 REGULATORY MILESTONES

## 40 RULES ADOPTED OR AMENDED IN 2019



### Lowering Emissions from Non-Refinery Flares

Rule 1118.1 was adopted to regulate the operation of non-refinery flares located at landfills, wastewater treatment plants, oil and gas production facilities, organic liquid loading stations, and tank farms. Rule 1118.1 lowers NOx emissions and encourages facilities to use gas beneficially.

### Reducing Toxic Emissions

Amendments to Rule 1407 revised toxic (arsenic, cadmium, and nickel) emission standards for non-chromium metal melting operations. The amendments added and enhanced provisions for pollution control equipment and building enclosures, housekeeping, source testing, monitoring, and recordkeeping and reporting requirements.

### Strengthening Protection from Metal Contaminants

Rule 1480 will require a facility to conduct ambient monitoring and sampling of metal toxic air contaminants under specific criteria. The new rule also includes monitoring, reporting, and recordkeeping requirements.

### Progress in Establishing NOx Emission Limits for RECLAIM Transition

Rules 1110.2 and 1134 for stationary internal combustion engines and gas turbines were amended to establish NOx emission standards for RECLAIM and non-RECLAIM facilities using Best Available Retrofit Control Technology. The amendments are part of the transition of facilities from the RECLAIM program (a cap-and-trade approach) to command-and-control (a more traditional regulatory structure).

# PUBLIC INFORMATION

In 2019, the South Coast AQMD has once again strived to provide top notch access to public information.



Over 20,000 installs of the mobile app. Available for Apple and Android Phones



Processed 2,903 walk-up inquiries through the Public Information Center in the South Coast AQMD Lobby



Responded to more than 4,600 Public Records Requests



Conducted 178 Compliance trainings and workshops



Facilitated 42,684 phone calls from the Public

A new version of **Facility Information Details (FIND)** was released in 2019. FIND provides facility information including equipment lists, Notices of Violations, Notices to Comply and annual emissions data. The updated FIND site features an intuitive navigation screen, mobile compatibility, and facility locations displayed on a map interface.

The **South Coast AQMD Mobile APP** was released in Spanish on both iOS and Android devices. It is the first government agency app in California to provide this kind of information to Spanish speaking residents.





# 2019 BY THE NUMBERS

## LAB SAMPLES ANALYZED

TYPE	ANALYSIS COUNT
Asbestos	1,405
Compliance	2,671
Microscopy	38
Particulates	24,003
Toxics	7,700
Total	35,268

## PERMITTING

Permits to construct issued

2,219

Permit applications processed

6,727

## COMPLAINT AND EQUIPMENT BREAKDOWNS RECEIVED

Asbestos

1,278

Over Spray

160

Dust

1,600

Residential Wood Burning

269

Equipment Breakdown

1,032

Rule 461 (service station)

166

Odors

7,519

Smoke

1,039

Open Fire

72

Spots

1

Other

583

Total

13,719



**COMPLIANCE ACTIVITY**

**NUMBER OF  
ACTIVE FACILITIES**

**26,218**

**363**

Title V Inspections

**269**

RECLAIM Audits Completed

**10,941**

Complaints Investigated

**895**

Breakdowns Investigated

**7,855**

Other Stationary Source  
Inspections Completed

**3,849**

Portable Equipment Registration  
Program Inspections Completed

**2,277**

Notices of Violations Issued

**3,782**

Notices to Comply Issued

# CLEAN AIR INVESTMENTS

In 2019, South Coast AQMD invested more than **\$130 Million** in innovative clean air initiatives that paved the way for a cleaner future. These investments resulted in more than **5,163** equipment or vehicles replaced or upgraded and NOx emissions by more than **697** tons per year.

## \$37.36 MILLION

for 141 engines, equipment and other sources of air pollution through the Carl Moyer Program provided grant funding for cleaner-than-required engines, equipment, and other sources of air pollution.



## \$1.8 MILLION

to purchase 21 cleaner agriculture-related equipment such as tractors, harvesting equipment and other vehicles.

## \$17.9 MILLION

for the Replace Your Ride Program which allowed residents to exchange almost 2,200 high-polluting cars with a newer model, a hybrid or electric car, or public transit vouchers.



## \$4.2 MILLION

for the Voucher Incentive Program for smaller fleet owners to replace old, high-polluting heavy-duty trucks with newer, lower emission vehicles. More than 100 in-use trucks were replaced.



## \$68.67 MILLION

for AB 617 incentive programs to reduce air pollution in disadvantaged communities. This year, 465 heavy-duty truck engines, trucks and school buses were upgraded or replaced to cleaner, near-zero or zero-emission versions.



## \$63 MILLION

to help improve technology for zero-emission Class 8 trucks with Daimler, Volvo and Cummins, and help deploy vital charging and hydrogen fuel infrastructure, leveraging public and private funds.



# CLEAN AIR POLICY

## 2019 LEGISLATIVE SUMMARY

South Coast AQMD actively participates in policy discussions to promote cleaner air and a green economy, to protect public health in accordance with state and federal standards.

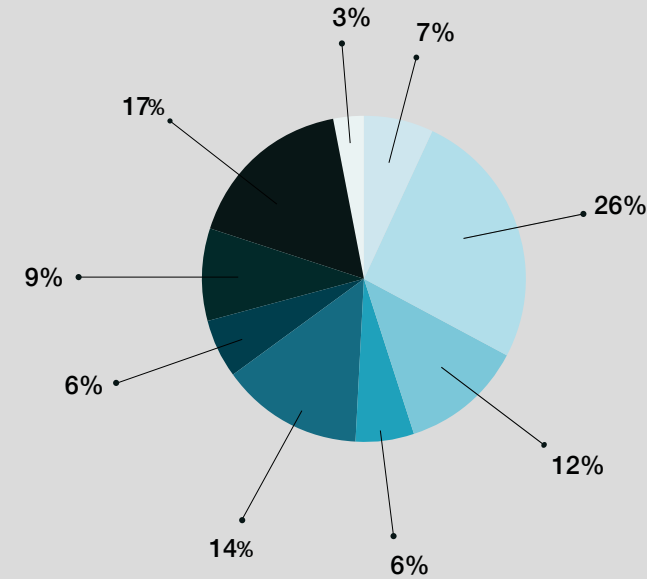
### STATE HIGHLIGHTS

- Assisted with efforts to secure \$50 million statewide to air districts to implement AB 617 and \$245 million statewide for AB 617 incentive funding.
- Actively worked to secure other key statewide Greenhouse Gas Reduction Fund allocations including:
  - \$238 million for Clean Vehicle Rebate Project
  - \$182 million for Clean Trucks, Buses & Off-Road Freight Equipment
  - \$65 million for Enhanced Fleet Modernization Program, School buses & Transportation Equity Projects
- Worked to ensure state legislation supported South Coast AQMD policy priorities, including the following bills which were signed into law:
  - AB 142** (C. Garcia) increases the lead-acid battery fee from \$1 to \$2 in perpetuity to fund activities relating to the clean-up of contamination caused by lead-acid batteries throughout the state.
  - AB 836** (Wicks) establishes a grant program to retrofit ventilation systems to create “clean air centers” for public access during wildfires or other smoke events.
  - SB 210** (Leyva) requires CARB to develop and implement a smog check program for heavy-duty vehicles, except zero emission vehicles.

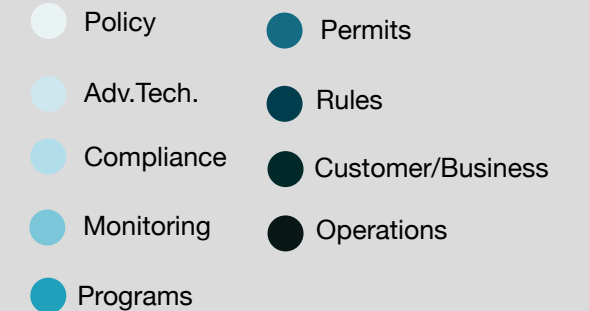
### FEDERAL HIGHLIGHTS

- Helped to secure \$87 million for the Diesel Emission Reductions Act (DERA) to reduce emissions from diesel engines.
- Helped to secure \$56.3 million for the Targeted Airshed Grants (TAG) to reduce air pollution in non-attainment areas.
- Prevented a diversion of funds from TAG to DERA.
- Assisted in restoration of funding for the U.S. EPA State and Local Grant Assistance program.

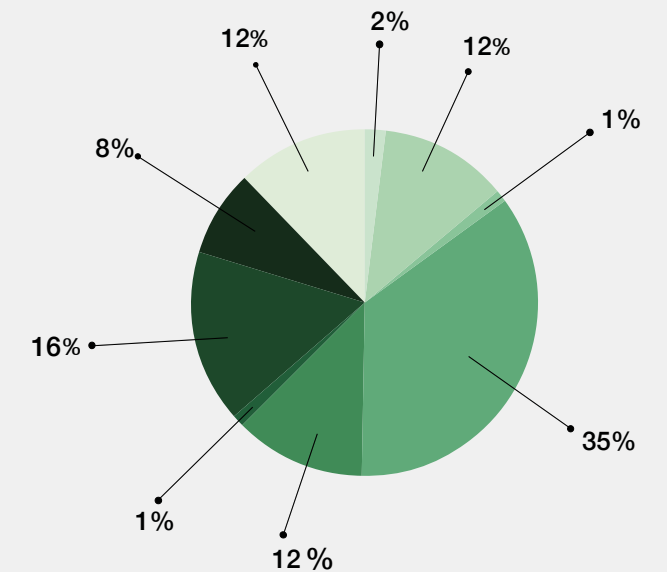
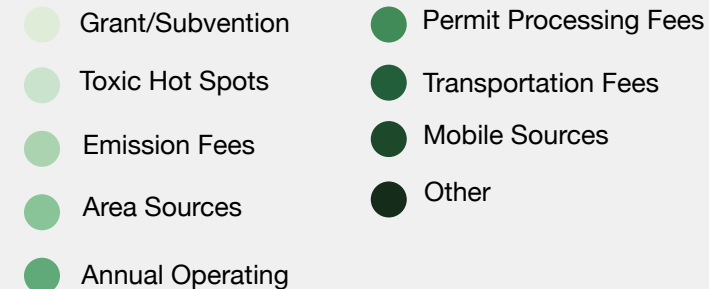
# ANNUAL BUDGET



### EXPENDITURES BY WORK PROGRAM



### FUNDING BY MAJOR CATEGORY





**Members of the Governing Board:**

**Chairman**  
**Dr. William A. Burke**  
 Speaker of the Assembly Appointee

**Vice Chairman**  
**Hon. Ben Benoit**  
 Mayor, Wildomar  
 Cities of Riverside County

**Hon. Kathryn Barger**  
 Supervisor, Fifth District  
 County of Los Angeles

**Hon. Lisa Bartlett**  
 Supervisor, Fifth District  
 County of Orange

**Hon. Joe Buscaino**  
 Council Member, 15th District  
 City of Los Angeles Representative

**Hon. Michael A. Cacciotti**  
 Council Member, South Pasadena/  
 Cities of Los Angeles County/Eastern  
 Region

**Hon. Vanessa Delgado**  
 CA State Senator (RET)  
 Senate Rules Committee Appointee

**Gideon Kracov**  
 Governor's Appointee

**Hon. Larry McCallon**  
 Mayor, Highland Cities of  
 San Bernardino County

**Hon. Judith Mitchell**  
 Mayor Pro Tem, Rolling Hills Estates  
 Cities of Los Angeles County/Western  
 Region

**Hon. V. Manuel Perez**  
 Supervisor, Fourth District  
 County of Riverside

**Hon. Carlos Rodriguez**  
 Council Member,  
 Yorba Linda

**Hon. Janice Rutherford**  
 Supervisor, Second District  
 County of San Bernardino

**KEY PHONE NUMBERS OTHER CONTACT INFORMATION**



**South Coast AQMD Headquarters**

21865 Copley Drive  
 Diamond Bar, CA 91765  
 Website: [www.aqmd.gov](http://www.aqmd.gov)

Main Phone Number	(909) 396-2000
Air Quality Complaints	(800) CUT-SMOG
Air Quality Forecasts	(800) CUT-SMOG
Clerk of the Board	(909) 396-2500
Public Advisor	(909) 396-2432
Public Information Center	(909) 396-2001
Small Business Assistance	(800) 388-2121

DO ONE THING FOR CLEAN AIR

NOW AVAILABLE  
IN SPANISH

DOWNLOAD

SOUTH COAST AQMD'S MOBILE APP

TODAY!

A ONE-STOP APP FOR

- Real-time Air Quality Alerts
- Report a Complaint
- Alternative Fuel Locations
- Weather



■ Visit Our Website: [www.aqmd.gov/mobileapp](http://www.aqmd.gov/mobileapp)

POINT YOUR CAMERA HERE

■ Visit the App Store



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Diamond Bar, CA 91765