

2017

2017 Annual Report: Envision Deliver Protect

Bay Area Air Quality Management District

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• SAN FRANCISCO

• OAKLAND

Envision Deliver Protect

FIG.4.3.2

37.7879° N,
122.3915° W

• PALO ALTO

OUR JURISDICTION



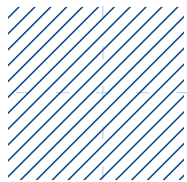
- AIR MONITORING SITES
- ◆ METEOROLOGICAL SITES
- GHG MONITORING SITES

View From the Top



LETTER FROM THE EXECUTIVE OFFICER

2017 was a year of progress in the face of adversity. From new obstacles to environmental protections at the federal level, changes at the state level and increasing effects of our changing climate, the Bay Area Air District forged ahead with our innovative vision for a sustainable future. We passed the most health-protective toxics regulation in the nation, Rule 11-18, and launched the *Spare the Air, Cool the Climate* Clean Air Plan for a 2050 post-carbon Bay Area.



The Air District played a key role supporting the region with important health advisories during the North Bay wildfires. We supported first responders with weather and smoke information, supported Sonoma and Napa counties with health advisories and delivered 40,000 N95 masks for residents suffering in those counties. As the effects of our changing climate become more pronounced, the Air District is stepping up its efforts to protect public health through its wildfire response efforts.

Our new Technology Implementation Office will serve as a catalyst for innovative technologies in the field of GHG emission reductions. Through our climate protection grants which will launch next year, we look forward to partnering with local communities and public agencies with incentives for a post-carbon future.

California has always been on the cutting edge of environmental protection. The Bay Area Air District is proud to follow in that tradition through its determination and vision of a clean air future.

Jack P. Broadbent

Executive Officer
Air Pollution Control Officer



Protecting Our Planet

2017 ACCOMPLISHMENTS

Key projects and the results from the Air District's health-protective work over the past year.

2017 was another year of innovation and progress in air quality and climate protection. With the adoption of the *Spare the Air, Cool the Climate* 2017 Clean Air Plan early in the year, the Air District laid out a plan for the Bay Area to become a post-carbon region by 2050.

This bold vision of sustainability led to the development of the Bay Area Solar Photovoltaic Ordinance Toolkit, a tool for local governments to enable the adoption of rooftop solar and the transition to zero-net energy. Projects to further decarbonize the energy system will continue through 2018 with ongoing EV charging grants and incentives and support for local Community Choice Energy programs.

- ▶ The Bay Area Air District launched the **Technology Implementation Office** in 2017 to serve as a catalyst for innovation by incentivizing disruptive, low-cost technologies that combat climate change by reducing GHG emissions from both mobile and stationary emission sources.

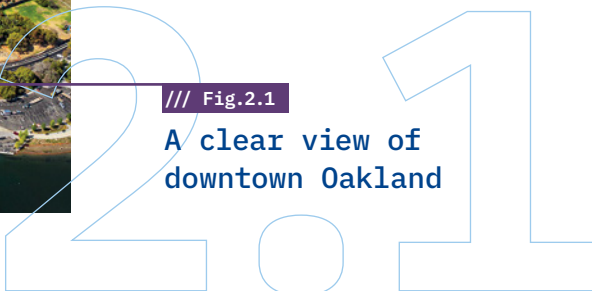
Working to further protect public health from air toxics, the Air District developed and the board adopted **Regulation 11, Rule 18: Reduction of Risk from Air Toxic Emissions at Existing Facilities**. This new regulation is the most health protective of its kind in the nation, which will reduce toxic air emissions from facilities ranging in size from large-scale factories and oil refineries to smaller operations like back-up generators and gas stations.

In collaboration with UC Davis, the Air District conducted a methane study by airplane over a variety of types of methane sources in the Bay Area region, including landfills, refineries, sewage treatment plants, and dairies, and found higher levels of methane than were previously reported from some source types. These findings will help support new methane rule development strategies.



/// Fig.2.1

A clear view of downtown Oakland






/// Fig.2.2

MODIS satellite image
Thursday 10.12.2017

40,000
N-95 particulate
masks distributed
in North Bay
communities



During the tragic [North Bay wildfires](#) in Napa and Sonoma counties, the Air District played a critical role providing smoke-related health advisories through the media and social media, responding to thousands of questions from the public, distributing 40,000 N-95 particulate masks in North Bay communities, and deploying temporary air monitors in Napa and Sonoma counties to provide localized air quality data. In light of the increasing severity and frequency of wildfire incidents due to our changing climate, the Air District is working on [improvements to its response plans](#) for the coming year, including grants for [clean energy and sustainable housing solutions](#) for those rebuilding in the communities affected by the wildfires.



In 2018, the Air District will launch an exciting **Climate Protection Grant Program** to help further the vision of *Spare the Air, Cool the Climate*.

37.7879° N,
122.3915° W

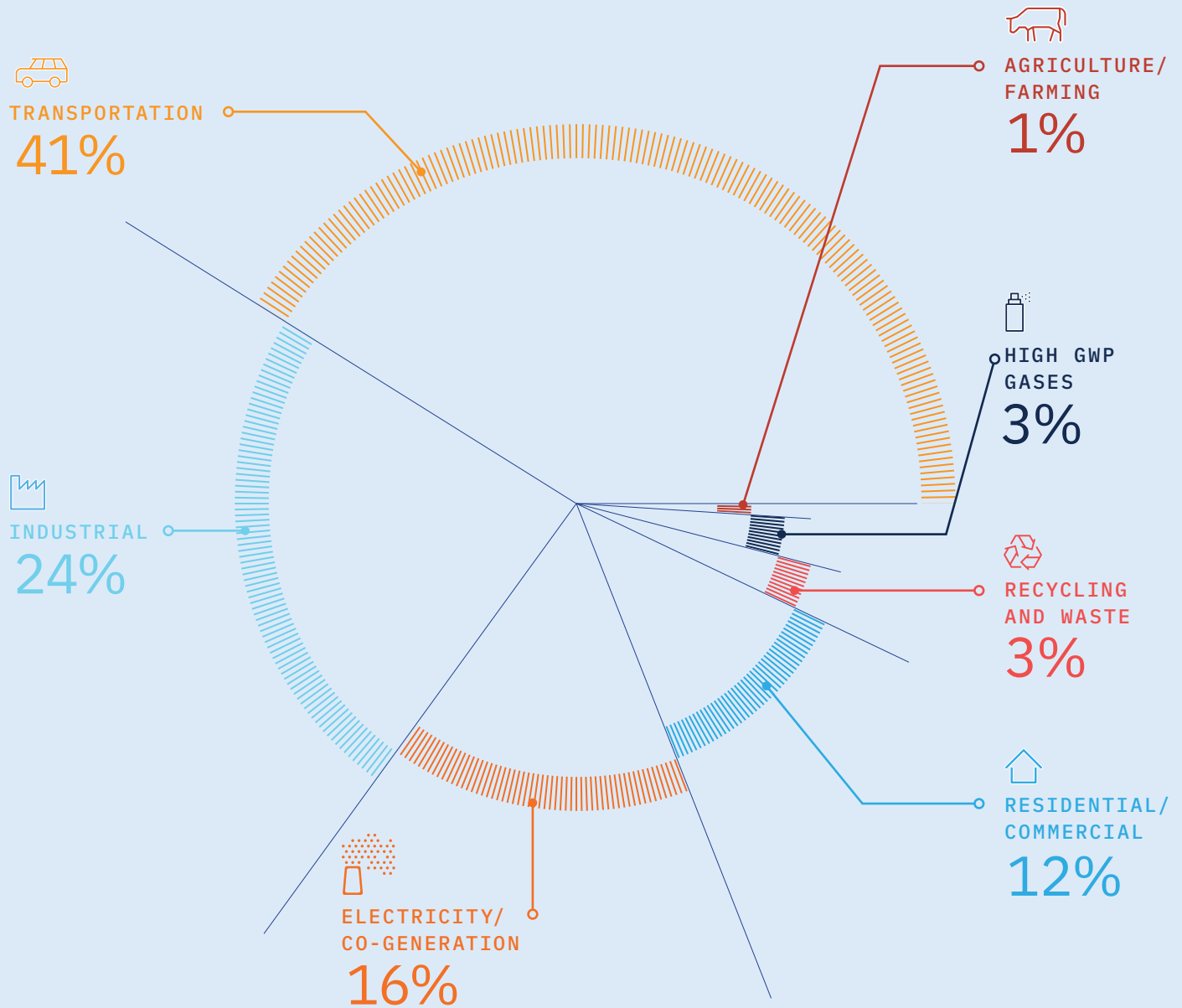
Throughout 2017, the Air District worked in close collaboration with the environmental justice community on [Regulation 12, Rule 16: Petroleum Refining Facility-Wide Emissions Limits](#). The Air District was unable to find a solution to make the rule both health protective and enforceable in large part due to changes in the Air District’s regulatory power over GHG emissions mandated by the recently-adopted state Assembly Bill 398.

In 2018, the Air District will launch an exciting [Climate Protection Grant Program](#) to help further the vision of *Spare the Air, Cool the Climate* by providing public agency grants to lower greenhouse gases in existing buildings and for innovations that lower GHG emissions from a variety of sources.

SOURCES OF BAY AREA POLLUTION

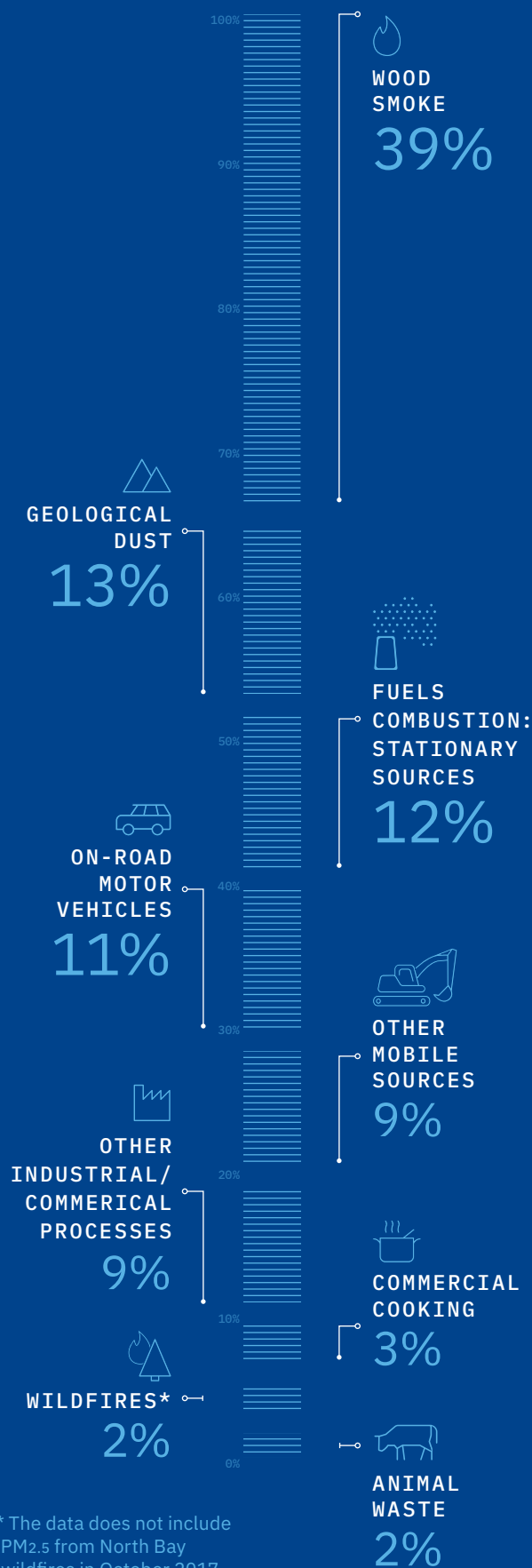
The largest source of greenhouse gas (GHG) emissions and ozone pollution in the Bay Area is traffic. During the winter months, shifting weather patterns and colder temperatures cause wood smoke to become the largest source of air pollution.

BAY AREA SOURCES OF GREENHOUSE GAS EMISSIONS



WINTER SOURCES

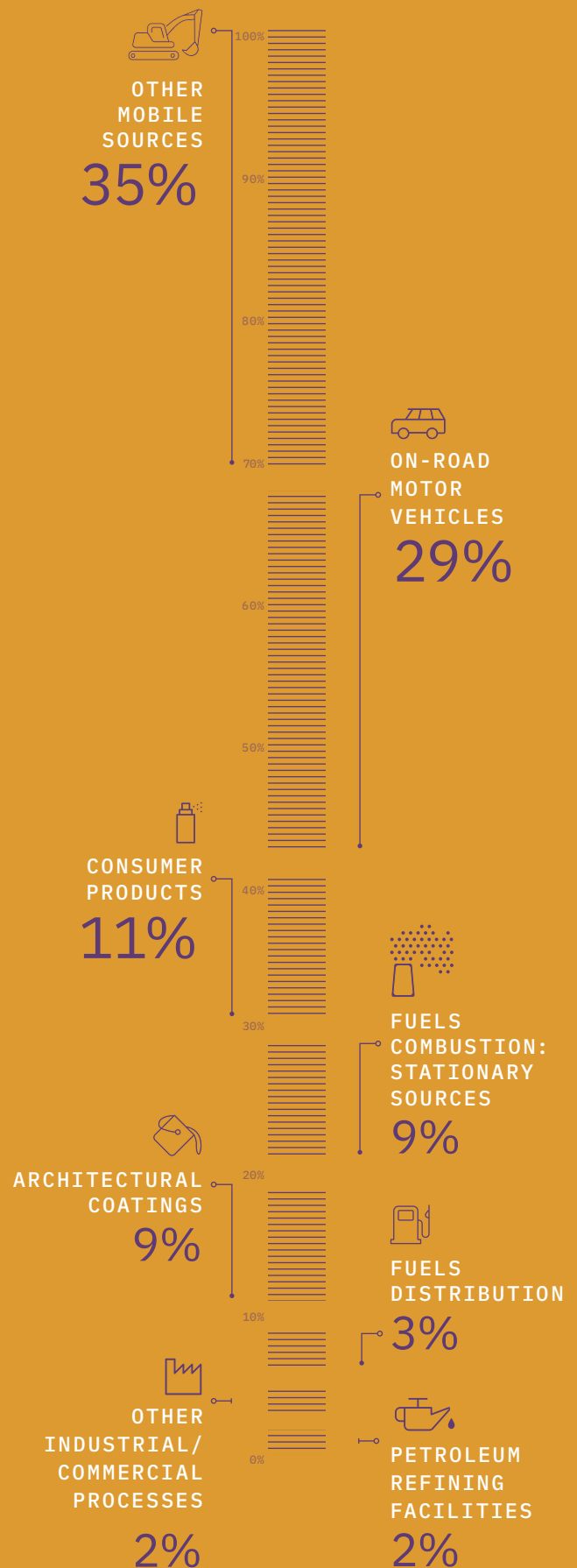
[OF BAY AREA FINE PARTICULATE POLLUTION]



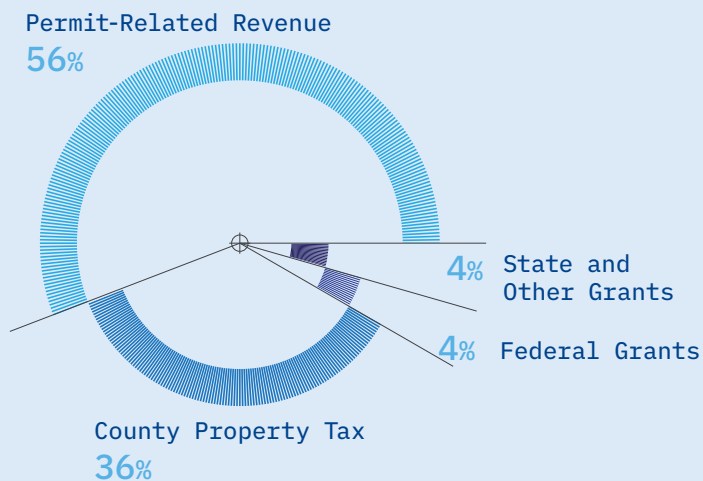
* The data does not include PM2.5 from North Bay wildfires in October 2017.

SUMMER SOURCES

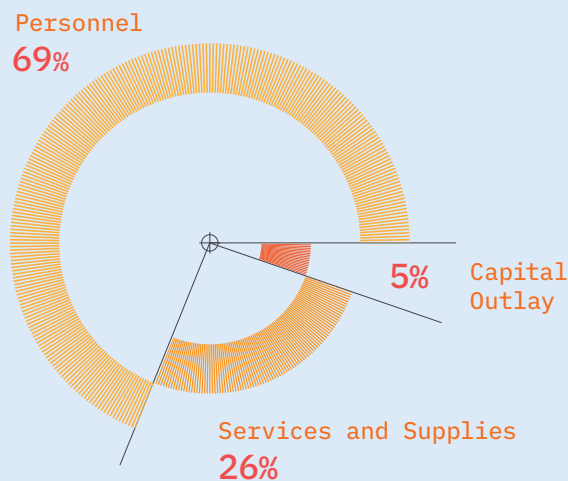
[OF BAY AREA OZONE-FORMING POLLUTANTS]



2017 REVENUE



2017 EXPENDITURE



RULEMAKING ACTIVITY

2017 RULES ADOPTED OR AMENDED

JUNE 21, 2017

Regulation 3: Fees – amendments adopted

NOVEMBER 15, 2017

Regulation 11, Rule 18: Reduction of Risk from Air Toxic Emissions at Existing Facilities

DECEMBER 6, 2017

PERMITTING RULES

Regulation 2, Rule 1:
Permits – General Requirements

Regulation 2, Rule 2:
Permits – New Source Review

Regulation 2, Rule 4:
Permits – Emissions Banking

Regulation 2, Rule 6:
Permits – Major Facility Review

2017 EXCEEDANCES OF AIR QUALITY STANDARDS

OZONE

Days over National 8-Hour Standard	6
Days over California 1-Hour Standard	6
Days over California 8-Hour Standard	6

PARTICULATE MATTER

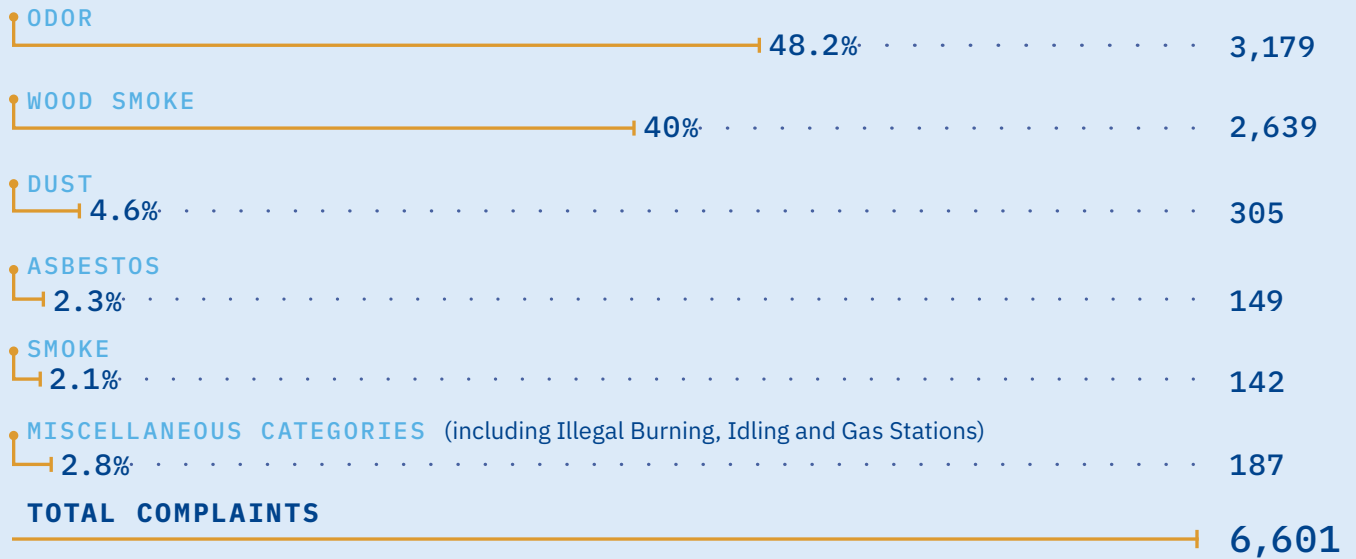
Days over National 24-Hour PM ₁₀ Standard	0
Days over California 24-Hour PM ₁₀ Standard	6*
*5 exceedance days due to wildfires	
Days over National 24-Hour PM _{2.5} Standard	18*
*14 exceedance days due to wildfires	

COMPLIANCE AND ENFORCEMENT ACTIVITY

2017 COMPLIANCE INSPECTIONS

Source Inspections	7,658
Air Pollution Complaints (Excluding Smoking Vehicles)	4,870
Gasoline-Dispensing Facility Inspections	1,443
Asbestos Inspections	2,244
Naturally-Occurring Asbestos Inspections	1,174
Reportable Compliance Activities	415
Diesel Compliance and Grant Inspections	1,916
TOTAL	19,720

AIR POLLUTION COMPLAINT CATEGORIES



PERMITTING ACTIVITY

BAY AREA PERMITTED FACILITIES	
Refineries	5
Major Facilities Excluding Refineries	80
Gasoline Dispensing Facilities	2,329
All Other Facilities	8,312
TOTAL	10,726
PERMITTED DEVICES AND OPERATIONS	24,039
NEW PERMIT APPLICATIONS	
Major Source Review (Title V)	64
New Source Review (NSR)	1,056
TOTAL	1,120
HEALTH RISK SCREENING ANALYSES	
Diesel Engines	133
Gasoline Dispensing	13
Other Commercial/Industrial	61
TOTAL	207

2017 CIVIL PENALTIES AND VIOLATIONS

2017 Civil Penalties:	\$1,833,715
Violations Resolved with Penalties:	540

LABORATORY—2017 Samples Analyzed in the Lab

Provides information about emissions in ambient air. Helps to identify area for further reductions.

PM*	3,781
Toxics	803
Source-Oriented Analyses	10
Interagency projects	38
TOTAL	4,632

*Accounts for PM₁₀ and PM_{2.5} samples; includes completion of 2016 analysis backlogs encountered due to District move

SOURCE TEST ACTIVITY—2017 Number of Source Tests

Refinery Source Tests	116
Compliance Rate	99.1%
TV Facility Source Tests (Excluding Refineries)	18
Compliance Rate	100.0%
Gasoline Compliance Tests	136
Compliance Rate	97.8%
Gasoline Dispensing Facilities	89
Compliance Rate	62.9%
Other Misc Source Tests	16,296
Compliance Rate	99.7%
TOTAL SOURCE TESTS	16,643
TOTAL VIOLATIONS	79
COMPLIANCE RATE	99.5%

Planning For the Future

GRANTS AND PROGRAMS

Innovative Air District initiatives and our vision for the future.



/// Fig.3.1
Solar Charger

3

/// Fig.3.2

Aerial photo of Coffey Park neighborhood devastated by the Tubbs Fire



RESILIENT RESIDENTIAL REBUILD PROJECT

The Air District Board set aside up to \$3 million to be added to federal, state and county funds to aid wildfire recovery efforts in North Bay communities. Through the Resilient Residential Rebuild Project, the Air District is working to partner with local agencies to incentivize and encourage energy efficiency and improved air quality measures in the rebuilding of homes destroyed by the northern California wildfires.



/// Fig.3.3

Solar rooftop installation in San Francisco

[CLIMATE PROTECTION GRANT PROGRAM]

The goal of the Climate Protection Grant Program is to achieve significant GHG reductions by accelerating the implementation of the Air District’s *Spare the Air, Cool the Climate* 2017 Clean Air Plan. The grant program focuses on areas where the Air District’s Clean Air Plan complements communities’ objectives in local climate action plans. Grants will focus on reducing GHGs from energy use in existing buildings through energy efficiency and reducing natural gas use, and on new innovative strategies that hold promise for long-term GHG reductions in other sectors.

FROM THE STATE CAPITOL

2017 LEGISLATIVE SUMMARY

In 2017, air quality and climate were important topics in Sacramento with the GHG reducing cap-and-trade program, which was extended through the passage of AB 398 (E. Garcia). Subsequently, AB 398 prevented the adoption of the Air District’s Rule 12-16 due to the statewide provision limiting local air districts’ ability to regulate CO2. Integral to the cap-and trade bill extension was AB 617 (C. Garcia), which imposes new requirements on local air districts concerning new community air monitoring programs, comprehensive community emission reduction plans, Best Available Retrofit Control Technology for certain sources, and emissions inventories. The bill also raises the civil penalty ceiling to \$5,000 per day for stationary source violations. The state-allocated funding to date (\$4.8 million for the Bay Area Air District) is not adequate to cover the work mandated by the bill.

Three additional bills that inform the Air District’s work were signed into law:

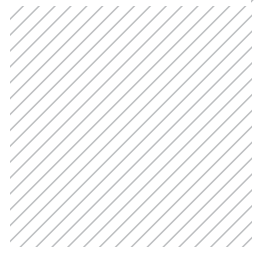
AB 1274 (O’Donnell) extends the current smog check exemption on newer cars for an additional two years, with seven- and eight-year-old vehicles paying a fee to the Carl Moyer Program in lieu of a smog check, raising nearly \$52 million annually for the Carl Moyer Program.

AB 1132 (C. Garcia) allows air pollution control officers to issue an emergency abatement order in cases of imminent and substantial public endangerment.

SB 1 (Beall), adopts a range of new taxes and fees and blocks registration of trucks that are in violation of air quality regulations. Unfortunately, the bill also limits the ability of the California Air Resources Board to place further restrictions on heavy-duty vehicles subject to existing regulation.

BASIN-WIDE METHANE STRATEGY

Given the importance and potential co-benefits of controlling methane, the Air District is implementing a comprehensive Basin-Wide Methane Strategy to reduce the region’s methane emissions.



Main efforts under the Methane Strategy include:

Updating the Air District’s methane emissions inventory.

Developing a rule (Regulation 12, Rule 1) to prohibit significant methane releases throughout the District.

Crafting a strategy to address methane emissions from the organic material recovery and waste sector.

Addressing methane and co-pollutant emissions from the oil and gas sector.



/// Fig.3.3
Methane monitoring van

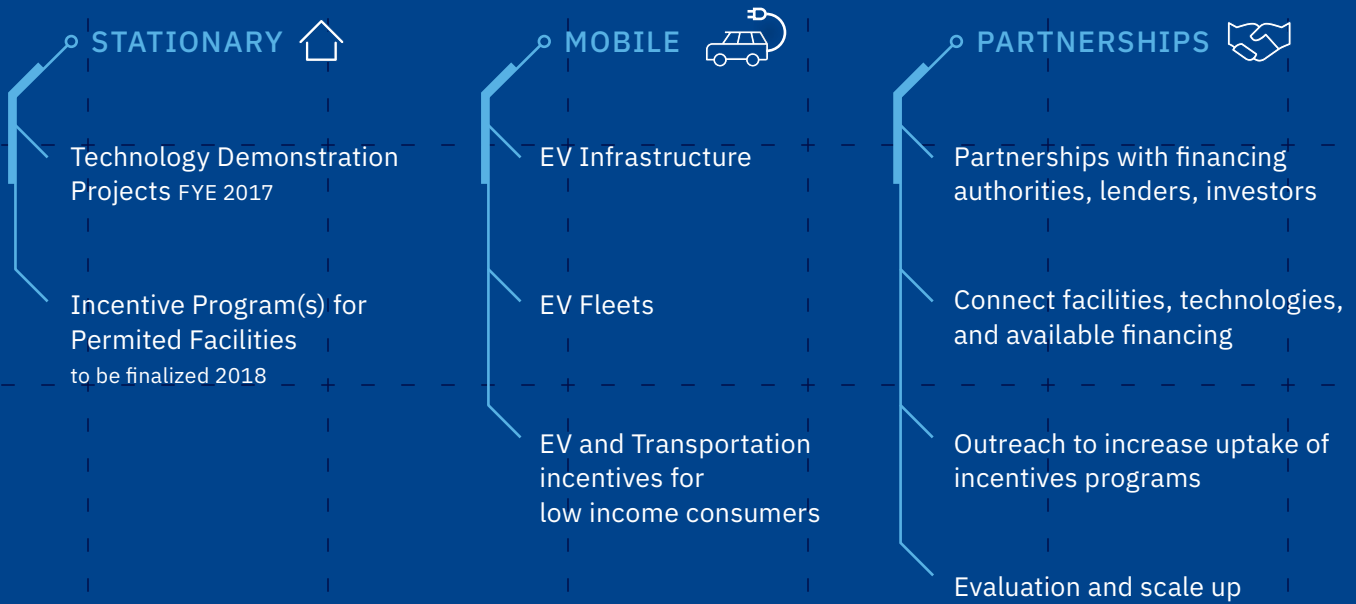
COMPOSTING FACILITY RULES

California organic waste diversion goals will nearly double organic waste processing in the Bay Area. The Air District is developing rules to improve tracking of organic waste while providing best management practices and control requirements for composting operations to improve accuracy of emissions inventory, strengthen compliance, and ensure consistency in permitting of these facilities.



TECHNOLOGY IMPLEMENTATION OFFICE

[INCENTIVIZE CLIMATE ACTION THROUGH DIVERSE SOLUTIONS]



VISION

[TYING IT ALL TOGETHER WITH A GLOBAL PERSPECTIVE]


Local Air Quality Plans

Regional Air Quality Goals

Mobile Source Emissions Reductions

Climate Efforts

GLOBAL  Greenhouse Gases

REGIONAL  Criteria Air Pollutants

LOCAL  Toxic Air Contaminants



Working With Our Partners

COMMUNITY COLLABORATION

Solving the problem of air pollution and the global climate depends on collaboration with partners and participation from the greater Bay Area community.

SPARE THE AIR EVERYDAY PROGRAM

The Spare the Air Program continues to encourage clean commute choices increasing biking, carpooling, telework and trip linking to reduce transportation-related air pollution and vehicle miles traveled. The Spare the Air Employer Program organized eight Carpool Now luncheons at workplaces in 2017 including: Santa Clara University, Sonoma County, Marin County, Abaxis, Ariat International, Workday, Raytheon and Gilead. There are plans to expand outreach to new organizations in 2018 and to provide smaller employers with do-it-yourself toolkits to host their own Carpool Now events.

COMMUNITY AIR RISK EVALUATION (CARE) PROGRAM

In collaboration with UC Berkeley sponsored projects, the Air District added additional low-cost air sensors in San Francisco, including sensors on the rooftops of the Air District headquarters, the San Francisco Hall of Justice and San Francisco's General Hospital.

Together with the San Francisco Planning Department, Department of Public Health, and community members, we began updating the San Francisco Community Risk Reduction Plan, first developed in 2012.



/// Fig.4.1

YES conference



The Spare the Air Youth Program sponsors this student-led conference annually.

YES CONFERENCE—YOUTH FOR THE ENVIRONMENT AND SUSTAINABILITY

Over 500 middle and high school students from across the Bay Area participated in the 2017 YES Conference at the new Bay Area Metro Center in San Francisco. The Spare the Air Youth Program sponsors this student-led conference annually through a partnership between the Bay Area Air District and the Metropolitan Transportation Commission. The conference included nearly 40 student-led presentations and workshops to educate, inspire, and empower youth and families about clean commute options and environmental sustainability in their communities.

TIER 4 SWITCHER LOCOMOTIVES

The Air District awarded \$19.4 million in grants for ten Tier 4 switcher and passenger locomotive replacements to Richmond Pacific Railroad, Port of San Francisco, Altamont Corridor Express (ACE), Union Pacific, and Oakland Global Enterprise. Funding was provided from the Proposition 1B Goods Movement Program, Carl Moyer Program, US EPA DERA, and the San Joaquin Valley APCD (for the ACE train).



/// Fig.4.2

New cleaner switcher locomotive in Richmond

\$19.4 MILLION

was awarded in grants for ten Tier 4 switcher and passenger locomotive replacements



Photo: John Calambokidis
Cascadia Research

/// Fig.4.3

Vessel Speed Reduction Program

4.3

VESEL SPEED REDUCTION PROGRAM

In 2017, the Air District partnered with the Santa Barbara and Ventura Air Pollution Control Districts, the National Oceanic & Atmospheric Administration (NOAA) and the National Marine Sanctuary Foundation in a voluntary Vessel Speed Reduction (VSR) incentive program covering the Santa Barbara Channel and the approaches to San Francisco Bay. Eleven global shipping companies participated, with 84 vessels slowing to 12 knots or less while approaching or leaving the Bay, reducing both emissions and the risk of fatal ship strikes on whales.

CALIFORNIA BASELINE OZONE TRANSPORT STUDY

The Air District participated in a comprehensive air quality study in northern California, conducted collaboratively by the U.S. EPA, NOAA, NASA and CARB. Goals of the study were to collect three-dimensional ozone and precursor data, to improve estimates of ozone along the West Coast, and to quantify intercontinental ozone transport to California.

GRANT AND INCENTIVE PROGRAMS

TFCA REGIONAL FUND GRANTS—2017

Total Funds Awarded	\$10.92M
Number of Projects/Programs Awarded Grants	51

Estimated Lifetime Emissions Reduction for the Projects Funded (tons)

Reactive Organic Gases (ROG)	15.58
Oxides of Nitrogen (NO _x)	12.12
Particulate Matter (PM ₁₀)	16.53
TOTAL	44.23
Carbon Dioxide (CO ₂)	30,713

TFCA COUNTY PROGRAM MANAGER FUND GRANTS —Fiscal Year Ending 2017

Total Funds Awarded	\$10.11M
Number of Projects/Programs Awarded Grants	47

Estimated Lifetime Emissions Reduction for the Projects Funded (tons)

ROG	40.38
NO _x	38.94
PM ₁₀	38.72
TOTAL	118.05
CO ₂	68,569

CARL MOYER PROGRAM/MOBILE SOURCE INCENTIVE FUND (MSIF)—2017

Total Funds Awarded	\$14.5M
Number of Engines Covered by Grant Projects	49

Estimated Lifetime Emissions Reduction for the Projects Funded (tons)

ROG	44
NO _x	692
PM ₁₀	22
TOTAL	758

GOODS MOVEMENT PROGRAM—2017

Total Funds Awarded	\$8.3M
Number of Engines Covered by Grant Projects	88

Estimated Lifetime Emissions Reduction for the Projects Funded (tons)

NO _x	178
PM ₁₀	0.65
TOTAL	178.65

VEHICLE BUY BACK PROGRAM—2017

Total Funds Awarded	\$4.7M
Number of Vehicles Scrapped in 2017	4,379

LOWER EMISSION SCHOOL BUS PROGRAM—2017

Bus Replacements and CNG Tank Replacements (MSIF funds)

Total Funds Awarded	\$656,123
Number of Buses Awarded Grants	22

EXECUTIVE MANAGEMENT

Jack P. Broadbent
Executive Officer/
Air Pollution Control Officer

Brian C. Bungler
District Counsel

Damian Breen
Wayne Kino
Jeff McKay
Greg Nudd
Rex Sanders
Deputy Air Pollution
Control Officers

Vanessa Johnson
Acting Manager,
Executive Operations

DIVISION DIRECTORS AND OFFICERS

John Chiladakis
Information Services

Judith Cutino
Health Officer

Lisa F. Fasano
Communications Officer

Henry Hilken
Planning and Climate Protection

Jeffrey Gove
Compliance and Enforcement

Pamela Leong
Director of Engineering

Maricela Martinez
Executive and Administrative
Resources

Eric Stevenson
Measurements and Meteorology

Elizabeth Yura
Community Protection Officer

CURRENT BOARD MEMBERS

ALAMEDA COUNTY
Pauline Russo Cutter
Scott Haggerty
Rebecca Kaplan
Nate Miley

CONTRA COSTA COUNTY
John Gioia
David E. Hudson, Chair
Karen Mitchoff
Mark Ross

MARIN COUNTY
Katie Rice, Vice-Chair

NAPA COUNTY
Brad Wagenknecht

SAN FRANCISCO COUNTY
Tyrone Jue (Mayor's Appointee)
Hilary Ronen
Third Seat Vacant

SAN MATEO COUNTY
David Canepa
Carole Groom
Doug Kim

SANTA CLARA COUNTY
Margaret Abe-Koga
Cindy Chavez
Liz Kniss
Rod G. Sinks, Secretary

SOLANO COUNTY
Pete Sanchez
Jim Spering

SONOMA COUNTY
Teresa Barrett
Shirlee Zane

CONTACT INFORMATION

AIR POLLUTION COMPLAINTS
800.334.ODOR (6367)

AIR QUALITY INFO
800.HELP.AIR (435.7247)
Daily Air Quality Forecasts,
Spare the Air Alerts,
Agricultural Burn Days

COMPLIANCE ASSISTANCE
415.749.4999

ENGINEERING SERVICES
415.749.4990

GENERAL BUSINESS
415.749.5000

PUBLIC INFORMATION
415.749.4900

REPORT SMOKING VEHICLES
800.EXHAUST (394.2878)

WINTER SPARE THE AIR ALERTS
877.4NO.BURN (466.2876)

WEBSITES
baaqmd.gov
sparetheair.org
[twitter.com/@sparetheair](https://twitter.com/sparetheair)
facebook.com/sparetheair
[twitter.com/@airdistrict](https://twitter.com/airdistrict)
facebook.com/bayareaairdistrict

SOCIAL MEDIA



The Bay Area Air Quality Management District does not discriminate on the basis of race, national origin, ethnic group identification, ancestry, religion, age, sex, sexual orientation, gender identity, gender expression, color, genetic information, medical condition, mental or physical disability, or any other attribute or belief protected by law. It is the Air District's policy to provide fair and equal access to the benefits of a program or activity that we administer. The Air District will not tolerate discrimination against any person(s) seeking to participate in, or receive the benefits of, any program or activity offered or conducted by us. Members of the public who believe they or others were unlawfully denied full and equal access to an Air District program or activity may file a discrimination complaint with us under this policy. This non-discrimination policy also applies to other people or entities affiliated with the Air District, including contractors or grantees that we utilize to provide benefits and services to members of the public. Auxiliary aids and services including, for example, qualified interpreters and/or listening devices to individuals who are deaf or hard of hearing, and to other individuals as necessary to ensure effective communication or an equal opportunity to participate fully in the benefits, activities, programs and services will be provided by the Air District in a timely manner and in such a way as to protect the privacy and independence of the individual. Please contact the Non-Discrimination Coordinator identified below at least three days in advance of a meeting so that arrangements can be made accordingly. If you believe discrimination has occurred with respect to one of our programs or activities, you may contact the Non-Discrimination Coordinator identified below or visit our website at www.baaqmd.gov/accessibility to learn how and where to file a complaint of discrimination. Questions regarding this policy should be directed to the Air District Non-Discrimination Coordinator, Rex Sanders, at 415.749.4951 or by email at rsanders@baaqmd.gov.



Bay Area Air Quality Management District
375 Beale St., San Francisco, CA 94105
415.749.5000
www.baaqmd.gov

CONTRIBUTORS

Communications Officer: Lisa Fasano
Communications Manager: Kristine Roselius
Editor: Tina Landis
Design/Production: We The Creative