Bay Area Air District

COMMUNITY ADVISORY COUNCIL
CLEAN AIR FOR ALL

BOARD OF DIRECTORS
COMMUNITY ADVISORY COUNCIL
July 17, 2025

COUNCIL MEMBERS

SEJAL BABARIA
WILLIAM GOODWIN
MS. MARGARET GORDON
ARIEANN HARRISON
JOHN KEVIN JEFFERSON
PATRICK MESSAC
RIO MOLINA
MAYRA PELAGIO
CYNTHIA PRIETO-DIAZ
DOMINICK RAMIREZ
DR. JEFF RITTERMAN
KEVIN RUANO HERNANDEZ
FAGAMALAMA VIOLET SAENA
KEN SZUTU
LATASHA WASHINGTON
DR. JUAN AGUILERA

MEETING LOCATION(S) FOR IN-PERSON ATTENDANCE BY COUNCIL MEMBERS AND MEMBERS OF THE PUBLIC

Bay Area Metro Center
1st Floor Yerba Buena
375 Beale Street
San Francisco, CA 94105

THE FOLLOWING STREAMING OPTIONS WILL ALSO BE PROVIDED

These streaming options are provided for convenience only. In the event that streaming connections malfunction for any reason, the Community Advisory Council reserves the right to conduct the meeting without remote webcast and/or Zoom access.

The public may observe this meeting through the webcast by clicking the link available on the air district's agenda webpage at www.baaqmd.gov/about-the-air-district/community-advisory-council/agendasreports.

Members of the public may participate remotely via Zoom at https://bayareametro.zoom.us/j/89539953556, or may join Zoom by phone by dialing (669) 900-6833 or (408) 638-0968. Para Español, marque: (888) 688-2099. Esta línea telefónica es solo para escuchar, no hay moderador.

The Webinar ID for this meeting is: 895 3995 3556

Public Comment on Agenda Items: The public may comment on each item on the agenda as the item is taken up. Members of the public who wish to speak on a matter on the agenda will have three minutes each to address the Council on that agenda item, unless a different time limit is established by the Co-Chairs. No speaker who has already spoken on an item will be entitled to speak to that item again.

The Council welcomes comments, including criticism, about the policies, procedures, programs, or services of the District, or of the acts or omissions of the Council. Speakers shall not use threatening, profane, or abusive language which disrupts, disturbs, or otherwise impedes the orderly conduct of a Council meeting. The District is committed to maintaining a workplace free of unlawful harassment and is mindful that District staff regularly attend Council meetings. Discriminatory statements or conduct that would potentially violate the Fair Employment and Housing Act – i.e., statements or conduct that is hostile, intimidating, oppressive, or abusive – is *per se* disruptive to a meeting and will not be tolerated.

COMMUNITY ADVISORY COUNCIL
MEETING AGENDA

THURSDAY, JULY 17, 2025
6:00 PM

Land Acknowledgement Statement

We begin by acknowledging that this land is unceded Indigenous land. The territories, or counties we represent, are of the Indigenous people. To acknowledge this history of our country - that this nation was built on genocide, the exclusion and erasure of Indigenous people - grounds our work in truth. We also acknowledge that our modern global economy was founded on the free and forced labor of enslaved Black people. And that exploited labor continuously perpetuates itself in disadvantaged communities of color, as we see in the treatment of farm workers, immigrant workers, prison labor, and domestic workers. This practice of land acknowledgement calls on us to recognize our violent history that is the foundation of white supremacy, and to recognize the longstanding and ongoing resistance of People of Color to dehumanization, repression, and homicide. And that the brilliance and leadership of People of Color in resistance, vision, wisdom, and love be honored and recognized as we work to dismantle ongoing legacies of settler colonialism and anti-blackness.

1. Call to Order - Roll Call

   The Facilitator, on behalf of the Council Co-Chairs, shall call the meeting to order and the Clerk of the Boards shall take roll of the Council Members.

2. Public Comment on Non-Agenda Matters

   Pursuant to Government Code Section 54954.3, members of the public who wish to speak on matters not on the agenda will be given an opportunity to address the Council. Members of the public will have three minutes each to address the Council, unless a different time limit is established by the Chair. The Council welcomes comments, including criticism, about the policies, procedures, programs, or services of the District, or of the acts or omissions of the Council. Speakers shall not use threatening, profane, or abusive language which disrupts, disturbs, or otherwise impedes the orderly conduct of a Council meeting. The District is committed to maintaining a workplace free of unlawful harassment and is mindful that District staff regularly attend Council meetings. Discriminatory statements or conduct that would potentially violate the Fair Employment and Housing Act – i.e., statements or conduct that is hostile, intimidating, oppressive, or abusive – is per se disruptive to a meeting and will not be tolerated.

3. Report of the Executive Officer/APCO

CONSENT CALENDAR (Item 4)

The Consent Calendar consists of routine items that may be approved together as a group by one action of the Council. Any Council member or member of the public may request that an item be removed and considered separately.

4. Approval of the Draft Minutes of the Community Advisory Council Special / Retreat Meeting of May 16 and May 17, 2025

   The Council will consider approving the Draft minutes of the Community Advisory Council Special / Retreat Meeting of May 16 and May 17, 2025.

INFORMATIONAL ITEM(S)

5. Fifth Year Annual Report on Owning Our Air: The West Oakland Community Action Plan

   The Council will discuss highlights from the first 5 years of implementation of Owning Our Air: The West Oakland Community Action Plan (WOCAP). The West Oakland Community Action Plan was the first community emissions reduction plan developed in the Bay Area under Assembly Bill 617. This item will be presented by Stephen Reid, Senior Advanced Projects Advisor in Assessment, Inventory & Modeling and Nicole Merino Tsui, Senior Project Manager of the West Oakland Environmental Indicators Project.

6. Overview of Emission Inventories

   The Council will discuss an overview of how the Air District develops air pollution emissions estimates for sources in the region. There will be a focus on stationary sources because those are within the Air District's regulatory authority. Air District staff will highlight the data sources, methodologies, and key considerations that inform these estimates and shape rulemaking, air quality planning, and community engagement efforts. Air District staff will also describe how information from regulated facilities is used in this process and how that information is verified. This item will be presented by Greg Nudd, Deputy Executive Officer of Science and Policy.

OTHER BUSINESS

7. Members Selection Ad Hoc Committee Update

   The Council will receive an update from the Community Advisory Council Member Selection Ad Hoc Committee.

8. Compliance and Enforcement Ad Hoc Committee Update

The Council will receive an update from the Community Advisory Council Compliance and Enforcement Ad Hoc Committee.

9. Council Member Comments / Other Business

Any member of the Council, on his or her own initiative or in response to questions posed by the public, may: ask a question for clarification, make a brief announcement or report on his or her own activities, provide a reference to staff regarding factual information, request staff to report back at a subsequent meeting concerning any matter or take action to direct staff to place a matter of business on a future agenda.

10. Time and Place of Next Meeting

Thursday, September 18, 2025, at 6:00 p.m. The location is to be determined. The meeting will be in-person for the Community Advisory Council members and members of the public will be able to either join in-person or via webcast.

11. Adjournment

The Council meeting shall be adjourned by the facilitator.

CONTACT:
MANAGER, EXECUTIVE OPERATIONS **(415) 749-4941**
375 BEALE STREET, SAN FRANCISCO, CA 94105 **FAX: (415) 928-8560**
vjohnson@baaqmd.gov **BAAQMD homepage:**
www.baaqmd.gov

- Any writing relating to an open session item on this Agenda that is distributed to all, or a majority of all, members of the body to which this Agenda relates shall be made available at the Air District's offices at 375 Beale Street, Suite 600, San Francisco, CA 94105, at the time such writing is made available to all, or a majority of all, members of that body.

Accessibility and Non-Discrimination Policy

The Bay Area Air District (Air 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, or 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 administered by Air District. 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 the Air District. 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 under this policy. This non-discrimination policy also applies to other people or entities affiliated with Air District, including contractors or grantees that the Air District utilizes 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 an Air District program or activity, 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's Non-Discrimination Coordinator, Diana Ruiz, Acting Environmental Justice and Community Engagement Officer at (415) 749-8840 or by email at druiz@baaqmd.gov.

BAY AREA AIR DISTRICT
375 BEALE STREET, SAN FRANCISCO, CA 94105
FOR QUESTIONS PLEASE CALL (415) 749-4941
EXECUTIVE OFFICE:
MONTHLY CALENDAR OF AIR DISTRICT MEETINGS

JULY 2025

TYPE OF MEETING	DAY	DATE	TIME	ROOM
Board of Directors Policy, Grants and Technology Committee	Wednesday	16	10:00 a.m.	1st Floor Board Room
Board of Directors Finance and Administration Committee	Wednesday	16	1:00 p.m.	1st Floor Board Room
Community Advisory Council Meeting	Thursday	17	6:00 p.m.	1st Floor, Yerba Buena Room

AUGUST 2025

NO MEETINGS SCHEDULED

SEPTEMBER 2025

TYPE OF MEETING	DAY	DATE	TIME	ROOM
Board of Directors Meeting	Wednesday	3	10:00 a.m.	1st Floor Board Room
Board of Directors Stationary Source Committee	Wednesday	10	10:00 a.m.	1st Floor, Yerba Buena Room
Board of Directors Community Equity, Health, and Justice Committee	Wednesday	10	1:00 p.m.	1st Floor, Yerba Buena Room
Board of Directors Policy, Grants and Technology Committee	Wednesday	17	10:00 a.m.	1st Floor Board Room
Board of Directors Finance and Administration Committee	Wednesday	17	1:00 p.m.	1st Floor Board Room
Community Advisory Council Meeting	Thursday	18	6:00 p.m.	TBD

MB 7/10/25 – 11:25 AM G/Board/Executive Office/Moncal

AGENDA: 4.

BAY AREA AIR DISTRICT
Memorandum

To: Chairpersons John Kevin Jefferson III, Mayra Pelagio, and Ken Szutu and Members of the Community Advisory Council

From: Philip M. Fine
Executive Officer/APCO

Date: July 17, 2025

Re: Approval of the Draft Minutes of the Community Advisory Council Special / Retreat Meeting of May 16 and May 17, 2025

RECOMMENDED ACTION

Approve the Draft Minutes of the Community Advisory Council Special / Retreat Meeting of May 16 and May 17, 2025.

BACKGROUND

None.

DISCUSSION

Attached for your review and approval are the Draft Minutes of the Community Advisory Council Special / Retreat Meeting of May 16 and May 17, 2025.

BUDGET CONSIDERATION/FINANCIAL IMPACT

None.

Respectfully submitted,

Philip M. Fine
Executive Officer/APCO

Prepared by: Marcy Hiratzka
Reviewed by: Vanessa Johnson

ATTACHMENT(S):

1. Draft Minutes of the Community Advisory Council Special / Retreat Meeting of May 16 and May 17, 2025

Bay Area Air Quality Management District
Community Advisory Council Special / Retreat Meeting
Day 1: Friday, May 16, 2025
Day 2: Saturday, May 17, 2025

Holiday Inn San Jose – Silicon Valley
1350 North 1st Street, San Jose Ballroom
San Jose, CA 95112

DRAFT MINUTES

This meeting was webcast, and a video recording is available on the website of the Bay Area Air Quality Management District at
Community Advisory Council

DAY 1
CALL TO ORDER

1. **Opening Comments:** The meeting Facilitator, Randolph Belle of Randolph Belle, Artist (RBA) Creative, called Day 1 of the Community Advisory Council (Council) Retreat to order at 1:06 p.m.

   Roll Call:

   Present, In-Person (Holiday Inn San Jose – Silicon Valley, 1350 North 1st Street, San Jose Ballroom, San Jose, CA 95112): Council Co-Chairpersons John Kevin Jefferson, Mayra Pelagio, Ken Szutu; and Council Members Dr. Juan Aguilera, Sejal Babaria, Ms. Margaret Gordon, Arieann Harrison, Patrick Messac, Cynthia Prieto-Diaz, Dominick Ramirez, Dr. Jeff Ritterman, Kevin G. Ruano Hernandez, Violet Saena, and Latasha Washington.

   Absent: Council Members William Goodwin and Rio Molina.

   Also Present: Bay Area Air District's Chair of the Board of Directors, Lynda Hopkins.

2. **WELCOME AND OPENING REMARKS**

The Bay Area Air District's Chair of the Board of Directors, Lynda Hopkins, welcomed the Council, members of the public, and Air District staff to the retreat and gave opening remarks.

CONSENT CALENDAR

3. **APPROVAL OF THE DRAFT MINUTES OF THE COMMUNITY ADVISORY COUNCIL MEETING OF MARCH 20, 2025**

Public Comment

No requests received.

Committee Comments

None.

Committee Action

Co-Chair Jefferson made a motion, seconded by Council Member Babaria, to approve the Draft Minutes of the Community Advisory Council Meeting of March 20, 2025; and the motion carried by the following vote of the Council:

AYES:	Aguilera, Babaria, Harrison, Jefferson, Messac, Pelagio, Prieto-Diaz, Ramirez, Ritterman, Ruano Hernandez, Saena, Szutu, Washington.
NOES:	None.
ABSTAIN:	None.
ABSENT:	Goodwin, Gordon, Molina.

INFORMATIONAL ITEMS

4. COMMUNITY ADVISORY COUNCIL ENVIRONMENTAL JUSTICE PRIORITIES IN PRACTICE: TRANSPARENCY, INNOVATION, AND ADVANCING ENVIRONMENTAL JUSTICE

A. Environmental Justice Community Voices on Air Quality Concerns

This item provided an opportunity for community members – particularly those in communities disproportionately impacted by air pollution and environmental injustices – to speak directly to the Council and the Air District about their air quality concerns.

Speakers included: Mr. Charles Reed; East Oakland Assembly Bill (AB) 617 Community Steering Committee (CSC) Co-Chair; Paul Wenker, Citizen Air Monitoring Network of Vallejo; Marina Muñoz, East Oakland resident; and Ed Kelly, Vallejo resident.

Council Comments

The Council and staff discussed the request to dive deep into the Compliance and Enforcement Division's database and identify the top complaints within each of the nine Bay Area counties; and the suggestion that the Air District's Complaint system be updated to send people copies of their submitted complaints, as well as establishing whether the person wishes to remain anonymous earlier in the process.

B. Roadmap to Improved Air Monitoring Programs

The Council discussed a roadmap of projects planned through 2026, aimed at improving air monitoring in the Bay Area, in response to concerns raised by the Council and other community partners. The Council provided direction for prioritizing additional air monitoring improvements to begin after 2026.

Dr. Kate Hoag, Assistant Meteorology and Measurement Manager, gave the staff presentation *Roadmap to Improved Air Monitoring Programs,* including: objectives; outline; motivation for the roadmap to improve air quality monitoring; what we have heard; approach; what guided the roadmap; CAC EJ priorities; align roadmap for improved air monitoring with EJ priorities and document through the Strategic Plan; proposed air monitoring improvements through December 2026; uses for air monitoring data; air monitoring program types; regulatory air monitoring; re-align regulatory air monitoring with current priorities; air monitoring requirements for facilities; strengthen facility community fenceline air monitoring; incident response air monitoring; implement model for community-partnered air pollution sampling for incidents; methods to assess local air quality; increase community air quality investigations; support communities collecting and using data; overarching plans related to air monitoring data; how to stay connected; what improvements should come next after December 2026; and prioritizing projects beyond 2026.

Council Comments

The Council and staff discussed the suggestion of allocating funds to disadvantaged communities to assist them with the upfront costs pertaining to just transition (shifting to electrification); whether the Air District has any fallback plans as federal or even State funding for environmental programs become revoked, eliminated or scarce; whether the Air District approaches air monitoring through an EJ lens (does it listen to this Council, its scientific Advisory Council, or members of impacted communities who do not serve on the Council); the Air District's involvement with the Particulate Matter (PM) sensor project in East Oakland (part of the East Oakland Air Monitoring Project); concerns regarding the Council's invitation to prioritize what monitoring improvements should come next after December 2026 (the perception of rushing the Council and providing vague language in some areas), and staff's intended objective of the activity; brands of community-deployed PM sensors that the Air District wishes to increase in overburdened communities where gaps in coverage were identified; desire for more data in staff presentations, to capture what is happening now (problem areas, limitations, and barriers), versus presentations that focus on future projections only; the way in which air monitoring holds the polluters accountable; the desire for additional air monitors in the Bay Area and the approximate cost per monitor; whether real-time title air monitoring data from Title V facilities is publicly accessible; whether the Air District uses technology that can analyze the composition of plumes (column or clouds of smoke, gases, or PM in the atmosphere); what additional community data would be needed that does not already exist, from Strategic Plan Strategy 2.2; whether the Air District has mapped the location and types of all permitted facilities; concerns about the practice of facilities being able to self-report their own data to the Air District, and suggestions on how to enforce more accountability from permitted facilities; the belief that the residents of fenceline communities should be consulted as to the placement of air monitors, rather than staff solely making the decision; the Air District's level of engagement with other agencies or companies who collect air quality data, such as Aclima; the desire to see every Bay Area fenceline community organize toxic tours; the suggestion that the Air District produces reports of air monitoring data for the community in less technical language that is easy to understand; the request for additional swipe testing conducted; and the request that "Teach community how to read

air monitoring data" be added to the projects list that the Council was invited to prioritize, following this discussion.

NOTED PRESENT: Council Member Ms. Margaret Gordon was noted present at 2:26 p.m.

NOTE: Because the schedule was running behind, an optional break was offered from 3:20 p.m. until 3:32 p.m. during discussion of Item 4B. During this time, the Council Members who wished to participate in a dot activity to prioritize future projects (due to discussion, this activity was generally waived but most Council Members identified their priorities on the board). Time was not taken out of the agenda to do this, as was originally planned.

C. Cumulative Impacts and Permitting: Update on Advisory Council Work

The Council discussed the work of the Air District's (scientific) Advisory Council in developing a series of recommendations for the Air District Board of Directors regarding consideration of cumulative impacts with a focus on the Air District's permitting program for new and modified facilities.

Dr. Phil Martien, Vice Chair of the Air District's Advisory Council, gave the presentation *Cumulative Impacts and Permitting - Update on the Advisory Council,* including: who is the Advisory Council; current topic: cumulative impacts; key interim findings; focus on permitting; and next steps and goal.

Council Comments

The Council and staff discussed the desire for more frequent interaction between the Air District's Advisory Council and this Council; whether the Air District maps redlined areas of the Bay Area that include data on diabetes and high mortality rates; the Advisory Council's current primary objective, regarding Board action, and the anticipated timeline of joint meetings of both councils and Board recommendations; whether the Advisory Council would consider the elimination of facilities' ability to self-report" its emissions; the suggestion that the Advisory Council become well versed in the Air District permitting issues before analyzing cumulative impacts; the request for a facilitated orientation on permitting and self-reporting for both councils; the request for clarification on the draft workplan that the Advisory Council is tasked with developing (to provide recommendations on methods to identify, assess, and reduce the cumulative impacts of air pollution in the Bay Area), and the request for outreach plans for the workplan; whether the Advisory Council's cumulative impact policy changes would be mandated for all Title V facilities; the desire for cumulative impact studies on the resilience of those that specifically rent their homes; whether the Advisory Council wishes to shift existing policy or create new policy; the suggestion that the Advisory Council utilizes tools other than CalEnviroScreen; whether the Advisory Council utilizes the practice of bio monitoring; and whether cumulative impact studies are based on health impacts.

D. Air Quality Complaint Data Web Tool

The Council reviewed a new air quality complaint data look-up tool that is currently in development to increase public accessibility and transparency of information on the Air District website.

Anja Page, Assistant Enterprise Systems Manager, gave the staff presentation *Air Quality Complaint Data Web Tool,* including: goals and objective; Complaint Data Web Tool – key features; and tool demonstration.

Council Comments

The Council and staff discussed the desire for real-time, community-facing status updates to those who submit complaints, and whether the complaint has been resolved; the desire for receipts or a copy of submitted complaints sent back to the sender; whether data that is downloaded by the public lists comments, penalty or violation information, or data metrics; concern regarding the perceived trend that the Air District creates new systems before asking for community input, and the desire for community to be involved from the beginning of the development process; whether a test pilot phase will occur before this tool is officially deployed; whether this tool was created from scratch, or based off of an existing model; the need for excellent visuals within this tool (color distinction and font size); concern that those who are not well versed in computer technology will not be able to use this tool; outreach plans for this tool; reasons why woodsmoke and smoking vehicles will be managed separately and not part of this tool; whether investigator responses are standardized; the suggestion of adding the following filter (search) options: issue type, level of severity, and number of days since complaint was submitted; the suggestion of including a map that plots complaint locations; whether this tool could interact with a permitted facilities map or real-time air quality/monitoring data; and whether this tool will be available in multiple languages.

E. Public Comment on Items 4A – 4E

Public comments were given by Mr. Charles Reed; East Oakland Assembly Bill (AB) 617 Community Steering Committee (CSC) Co-Chair; Rasheeda Foster, African-American Women for Social Justice; and Marina Muñoz, East Oakland resident.

DAY 1 of the Community Advisory Council Retreat recessed at 5:11 p.m. and resumed on May 17, 2025, at 9:07 a.m.

DAY 2
CALL TO ORDER

5. The meeting Facilitator, Randolph Belle of Randolph Belle, Artist (RBA) Creative, called Day 2 of the Community Advisory Council (Council) Retreat to order at 9:07 a.m.

Roll Call:

Present, In-Person (Bay Area Metro Center, 375 Beale Street, 1st Floor Yerba Buena Room, San Francisco, California, 94105): Council Co-Chairpersons John Kevin Jefferson, Mayra Pelagio, Ken Szutu; and Council Members Dr. Juan Aguilera, Sejal Babaria, Ms. Margaret Gordon, Arieann Harrison, Patrick Messac, Cynthia Prieto-Diaz, Dominick Ramirez, Dr. Jeff Ritterman, Kevin G. Ruano Hernandez, Violet Saena, and Latasha Washington.

Absent: Council Members William Goodwin and Rio Molina.

Also Present: Bay Area Air District's Chair of the Board of Directors, Lynda Hopkins.

6. **WELCOME AND REPORT OF THE EXECUTIVE OFFICER / AIR POLLUTION CONTROL OFFICER (APCO)**

Dr. Philip M. Fine, Executive Officer/APCO, reported the following:

- There is a lot of concern regarding Congress potentially overturing California's vehicle emission waivers that effectively allow California set its own emission standards. The revocation of the waivers would impact the State's authority or even local authority.
- California's Cap and Trade Program is set to expire in 2030 and the State Legislature is currently debating its reauthorization to extend its operation beyond that date. (AB 617 funding comes from the allowances that the program auctions off.)
- At a time when the National Environmental Justice Advisory Council is dismantled, funding is pulled from environmental and environmental justice organizations, and policy changes threaten protections on the environment, the Bay Area Air District remains committed to protecting public health and the environment for everyone. We continue working to ensure that all individuals—regardless of immigration status—can safely and meaningfully participate in our efforts to improve air quality and environmental justice. The Air District has authority under State law to adopt and implement our regulations, and our rules will remain fully enforceable regardless of federal rulemaking.

NOTED PRESENT: Council Member Ms. Margaret Gordon was noted present at 9:22 a.m.

Public Comment

Public comments were given by Marina Muñoz, East Oakland resident.

Council Comments

The Council and staff discussed anticipated lobbying action from Kadesh & Associates on the Air District's behalf, and the request that the Council and James Cary Smith grant recipients receive regular updates regarding such lobbying efforts at the federal level; and what legal action the Air District is willing to take against federal agencies that threaten the State and/or Air District's authority and protection on the environment.

INFORMATONAL ITEMS

7. **COMMUNITY ADVISORY COUNCIL ENVIRONMENTAL JUSTICE PRIORITIES IN PRACTICE: INTEGRATE ENVIRONMENTAL JUSTICE INTO CORE FUNCTIONS, COMMUNITY INVESTMENTS, AND APPROPRIATE LEGAL REMEDIES**

A. Notice of Violation Trends and Data-Driven Insights

The Council reviewed five years of Notice of Violation data highlighting patterns, penalty ranges, operational context, and progress indicators – key themes that frame the Air District's current compliance landscape.

Council Member Patrick Messac, and Alexander Crockett, Air District General Counsel, gave the presentation *Environmental Justice Priorities in Practice: Integrate Environmental Justice into Core Functions, Community Investments, and Appropriate Legal Remedies,* including: Notice of Violation (NOV) trends and data-driven insights; outline; pollution; A Call to Action; permits; inspections; air pollution violation dashboard; penalized violations (2020 – 2025); violation map; legal authority – penalties; typical penalty amounts; status of NOVs issued 2020-2024; violations resolved – penalty breakdown; small claims cases – average and median penalties; attorney cases – average and median penalties; do you know your Bay Area Air District representative; list of Air District Board of Directors; and example of letter to Board members.

Council Comments

The Council and staff discussed whether permitted facilities must pay for the Air District's attorneys' fees if the Air District wins a case in court; the desire for a list of permitted facilities who have violate their permit conditions multiple times over the years; whether there is a threshold of violations that would warrant the mandated ceasing of a facility's operations; whether Air District inspectors use their own equipment when conducting site tests; what steps the Council may take to guide staff, after having received this report; the desire for escalated action for repeat violators; action that the Air District is taking to address the issues identified in this presentation; the belief that the Air District's cease and desist authority, and the job description of its inspectors, are not clear to the public; the desire for new Board members to go on toxic tours of fenceline communities, and the request that staff creates outline of how to support fenceline communities who don't yet have toxic tours; the desire for more data in staff presentations, moving forward; the request for policies on penalties for small

businesses; the reason for the disclosure language that added to Council Member Messac's slides that says, "The views and opinions expressed in this presentation are those of CAC Member Messac and do not necessarily reflect the official policy, position, or endorsement of the Bay Area Air District"; whether the Air District has public-facing data on facilities that have been found to be unpermitted; and concerns about worker exposure (toxic risk).

THE COUNCIL RECESSED AT 10:51 A.M., AND RESUMED AT 11:04 A.M.

B. Development of a Targeted Inspection Program and Policy

The Council discussed the new targeted inspection program and policy and how the Air District's Strategic Plan Strategies relate to the Council's EJ priorities. Air District staff shared new approaches to review compliance trends, identify patterns of non-compliance, and utilize the knowledge of our regulatory partners and impacted communities to transform the current inspection program.

Dennis Quach, Air Quality Specialist, gave the staff presentation *Development of a Targeted Inspection Program and Policy,* including: outline; outcome; Strategic Plan framework; Targeted Inspection Program and Policy goals and objectives; current inspection program background; compliance inspection types; elements of a compliance inspection; overview of a Targeted Inspection Program and Policy; routine inspections by source types; enhanced inspection priorities in overburdened communities; analyze compliance data to target inspections; community engagement and partnership; additional strategies associated with policy changes; pilot project in Bayview Hunters Point; next steps; and discussion questions.

Council Comments

The Council and staff discussed the suggestion that fenceline communities be informed of Title V facilities within their community (shown on a map); what became of the Council's recommendation that the Air District create a budget for two EJ inspectors; whether the Air District plans to increase its number of inspectors; the desire for escalated action for repeat violators; metrics used by the Air District to measure success of such pilot programs; the belief that one-size-fits-all solutions cannot be applied to the multiple Bay Area fenceline communities; the Air District's outreach plan to ensure that Bayview Hunters Point is prepared for the pilot; the request for a report on the pilot after it has concluded, included lessons learned in Bayview Hunters Point so that the Council may see how another pilot would be conducted in a different community; the request that Air District field staff learn how to give presentations and include additional visuals in their presentations; the suggestion of the creation of a "ride along" program for members of the public to accompany inspectors in the field, and the desire for staff to ask fenceline community residents which facilities to inspect; the belief that an air pollution log seems redundant; whether the existing inspection process is efficient; the desire for inspectors to work after business hours and on weekends and holidays; the request for EJ attention in other neighborhoods/districts of San Francisco, including Mission, Fillmore, and Tenderloin; the desire for more Air District staff composed of members of fenceline communities; the suggestion of making inspection

reports and results available to the public; the suggestion of identifying trends in submitted complaints; the suggestion of identifying elementary schools with high asthma rates, drawing a radius around those markers, and inspecting facilities within that radius (a reverse approach); and the suggestion of repeating the greening of elementary schools, as was done at Brookfield Elementary School in Oakland in 2017 (a coalition of non-profits, school districts, and government agencies collaborated to reduce pollutants and improve students' health).

THE COUNCIL RECESSED AT 12:15 P.M., AND RESUMED AT 1:15 P.M.

C. Air District Five-Year Rulemaking Schedule

The Council discussed the Five-Year Rulemaking Schedule and reviewed and prioritized potential rulemaking efforts for the Schedule.

Victor Douglas, Director of Rules and Strategic Policy, gave the staff presentation *Five-Year Rulemaking Schedule,* including: overview; Strategic Plan goals and strategies; why are rules important; Air District mission and authority; rule development process; rule development and public engagement; rule development timeframes; metal recycling and shredding operations; flare minimization; fugitive dusk (particulate matter); current and planned rule development; considered rule development; and prioritization criteria.

Council Comments

The Council and staff discussed which existing Air District regulations *staff* believe need to be amended, due to how long ago they were adopted; the request for examples of ideal and more stringent regulations from other California air districts; the suggestion that staff use the Compliance and Enforcement database and list of permitted facilities that repeat violations to determine which rules should be prioritized; the importance of inspectors' knowledge on how to enforce adopted regulations; anxiety about permitting efficiency; how frequently backup generators are used (how often can they be used before they are no longer a backup); whether Air District whitepapers are produced internally; whether newly adopted rules are to be applied to facilities retroactively; the suggestion that newly adopted rules take into consideration ISO standards (internationally agreed-upon guidelines that outline best practices for specific tasks, such as product manufacturing, service delivery, or process management); the request for clarification on Air District Regulation 1-301, Public Nuisance; whether the Air District plays a role in dismantling brownfields, or has jurisdiction over Parcel G in Bayview Hunters Point that will begin demolition; and whether soil must be wetted for consideration of dust, asbestos, or radionucleotides (during demolition.)

At this time, the Council engaged in a dot voting activity, to prioritize the 12 potential Air District rulemakings over the next five years.

D. Managing Community Investments

The Council learned about local and regional funds administered by the Community Investments Office, priorities identified by the community, and the plan to distribute funds.

Miriam Torres, Senior Advanced Projects Advisor, gave the staff presentation *Managing Community Investments,* including: outline; background; CAC EJ priorities; managing community investments alignment with Strategic Plan; managing community investments action plan; Community Investments Office goals; funds overview; policy definitions; penalty allocation breakdown; overview of available funds; and Local Community Benefits Fund (as of December 3, 2024).

Council Comments

The Council and staff discussed whether Fiscal Year penalty budget caps have been set for 2026 and 2027; the fact that Oakland and South San Francisco have less allocated funds within the Local Community Benefits Fund, questions about whether the City of San Francisco receives any funds at all, and concerns about the allocation for Oakland, which is believed to be too low based on lived experience with pollution; the manner in which the closure of the Valero refinery in Benicia in 2026 may impact allocations to Benicia; the reason why the Board considers adoption of the Community Investments Action Plan in September 2025, but implementation is not anticipated to begin until December 2026); concerns regarding timing constraints (by when the allocated funds must be spent), and the suggestion of implementing a regulated disbursement of funds; whether the Air District plans to engage with elected officials in the communities that are awarded funds; caution against protecting funds from well-intentioned project applicants whose work is not immediately related to EJ; the desire for funds to be allocated to low-income areas first; the number of Community Investments Surveys that were collected, and whether the Local Community Benefits Fund can help incentivize people to take the survey; and the suggestion that the Air District engages with environmental non-government organizations to help distribute surveys or offer incentives for people to take the surveys.

E. Public Comment on Items 7A – 7E

No requests received.

OTHER BUSINESS

8. **PUBLIC COMMENT ON NON-AGENDA MATTERS**

No requests received.

9. COUNCIL MEMBER COMMENTS ON NON-AGENDA ITEMS

The Council Members were asked to share one thing that was important to them from the retreat, or they were invited to make comments on non-agenda items. Topics spoken on included:

- Disappointment in lack of Council Member recruitment of EJ community activists at the retreat.
- Desire for more toxic tours, fireside chats, and town hall meetings in impacted communities, where members of impacted communities can meet with Air District staff and Board members.
- Desire for more collaboration between the Council and staff
- Desire for more data in staff presentations, moving forward
- Request for future agenda item: formal proposal on how to onboard new Council Members
- Request for future agenda item: deep dive on Compliance and Enforcement Division's database and identify the top complaints within each of the nine Bay Area counties
- Desire for more improved engagement, transparency, and openness between the Council and Air District staff. Appreciation for difficult conversations and efforts to improve Council/staff. Discussion seems to be stifled in the name of doing futile activities. Request for future agenda item that addresses the Council's concerns over limitations imposed by the Ralph M. Brown Act and the Council's desire for more freedom of discourse (the ability to dialogue with staff, no timed comments, the way in which Council meetings are run, expectations, etc.)

10. TIME AND PLACE OF NEXT MEETING

Thursday, July 17, 2025, at 6:00 p.m. at 375 Beale Street, San Francisco, CA 94105. The meeting will be in-person for the Community Advisory Council members and members of the public will be able to either join in-person or via webcast.

11. ADJOURNMENT

The retreat was adjourned at 3:29 p.m.

Marcy Hiratzka
Clerk of the Board

BAY AREA AIR DISTRICT
Memorandum

To: Chairpersons John Kevin Jefferson III, Mayra Pelagio, and Ken Szutu and Members of the Community Advisory Council

From: Philip M. Fine
Executive Officer/APCO

Date: July 17, 2025

Re: Fifth Year Annual Report on Owning Our Air: The West Oakland Community Action Plan

RECOMMENDED ACTION

The Council will discuss this item, but no action is requested at this time.

BACKGROUND

Assembly Bill (AB) 617, signed in 2017, and implemented by the California Air Resources Board (CARB), focuses on improving local air quality and health in disproportionately impacted communities. The West Oakland Environmental Indicators Project partnered with the Air District (together, the "Co-leads") to develop *Owning Our Air: The West Oakland Community Action Plan*. The Board of Directors adopted the plan on October 2, 2019. Over the last five years, the WOCAP Community Steering Committee and the Co-leads have worked together to implement West Oakland Community Action Plan.

DISCUSSION

This agenda item provides an overview of the development and implementation of West Oakland Community Action Plan and a summary of the Fifth Year Annual Report that was prepared and submitted to the California Air Resources Board in October 2024. Highlights include results of five years of emissions reduction grant investments.

During implementation, the West Oakland Community Action Plan demonstrated an effective reduction of air pollution and health risk in an impacted community under the AB 617 program. Based on the Air District and the community collaborative analysis, Diesel Particulate Matter (DPM) was identified as the biggest air pollution concern in West Oakland, with tugboats noted as a significant source of DPM. Over the last five years, the Air District has funded 114 projects with over $51 million to reduce air pollution in West Oakland, leading to the replacement of old, dirty and heavily polluting equipment and engines with cleaner options. Investment outcomes include cleaner tugboats, hybrid cranes, zero-emission trucks, electric charging stations and scrapping

of older heavily polluting vehicles.

An updated emissions inventory prepared for the Fifth Year Annual Report shows that DPM emissions from local sources targeted by the West Oakland Community Action Plan decreased by 31% between 2017 and 2024. These DPM reductions were due to a combination of statewide regulations and the targeted deployment of incentives described above. The largest emissions decreases were from diesel trucks and harbor craft, and these reductions resulted in a 56% decrease in the average residential DPM exposure across West Oakland. These findings point to significant progress in reducing impacts from the diesel sources of greatest concern to the Community Steering Community. Reductions were less pronounced for fine particulate matter ($PM_{2.5}$), as emissions from key local sources decreased by 10% and average residential exposure to $PM_{2.5}$ was reduced by 8%. This data underscores the need for enhanced local and regional efforts to address $PM_{2.5}$ impacts.

BUDGET CONSIDERATION/FINANCIAL IMPACT

None.

Respectfully submitted,

Philip M. Fine
Executive Officer/APCO

Prepared by:	Stephen Reid and Lisa Flores
Reviewed by:	Amy Smith and Diana Ruiz

ATTACHMENT(S):

1. Fifth Year Annual Report on Owning Our Air: The West Oakland Community Action Plan Powerpoint Slides

Bay Area Air District

Fifth Year Annual Report on Owning Our Air: The West Oakland Community Action Plan – West Oakland Case Study

Community Advisory Council Meeting

July 17, 2025

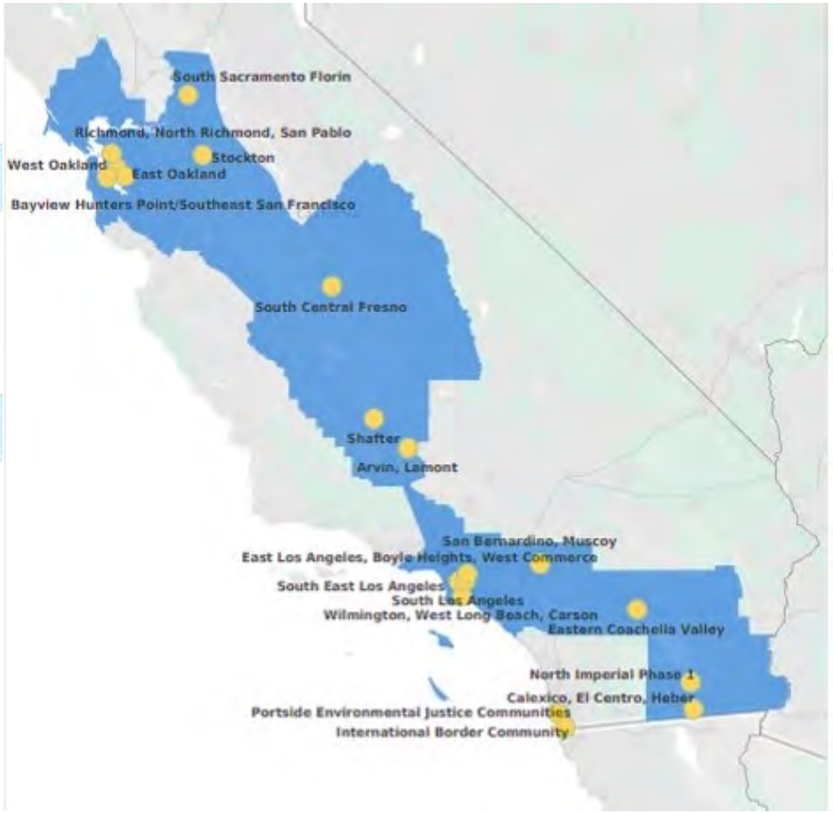
Stephen Reid
Senior Advanced Projects Advisor
Air District Assessment, Inventory & Modeling Division

Nicole Merino Tsui
Senior Project Manager
West Oakland Environmental Indicators Project

Presentation Outline

- Background on Assembly Bill (AB) 617
- West Oakland Overview
- The West Oakland Community Action Plan (WOCAP)
- 5-Year progress report
- Milestones and next steps

Background on AB 617



Designated AB 617 communities in California. Map from California Air Resources Board.

- State mandated program that responds to the history of environmental injustice
- Focused on reducing exposure in communities most impacted by air pollution
- Committed to deep partnerships with community to develop and implement new strategies to measure air pollution and reduce health impacts

West Oakland Overview

- Alameda County neighborhood adjacent to the Port of Oakland and surrounded by three major freeways
- First Bay Area community selected for Community Emissions Reduction Plan (CERP) development (August 2018)
- Air District and West Oakland Environmental Indicators Project (WOEIP) were project co-leads

West Oakland housing adjacent to the Port and Freeways

West Oakland Overview (cont.)

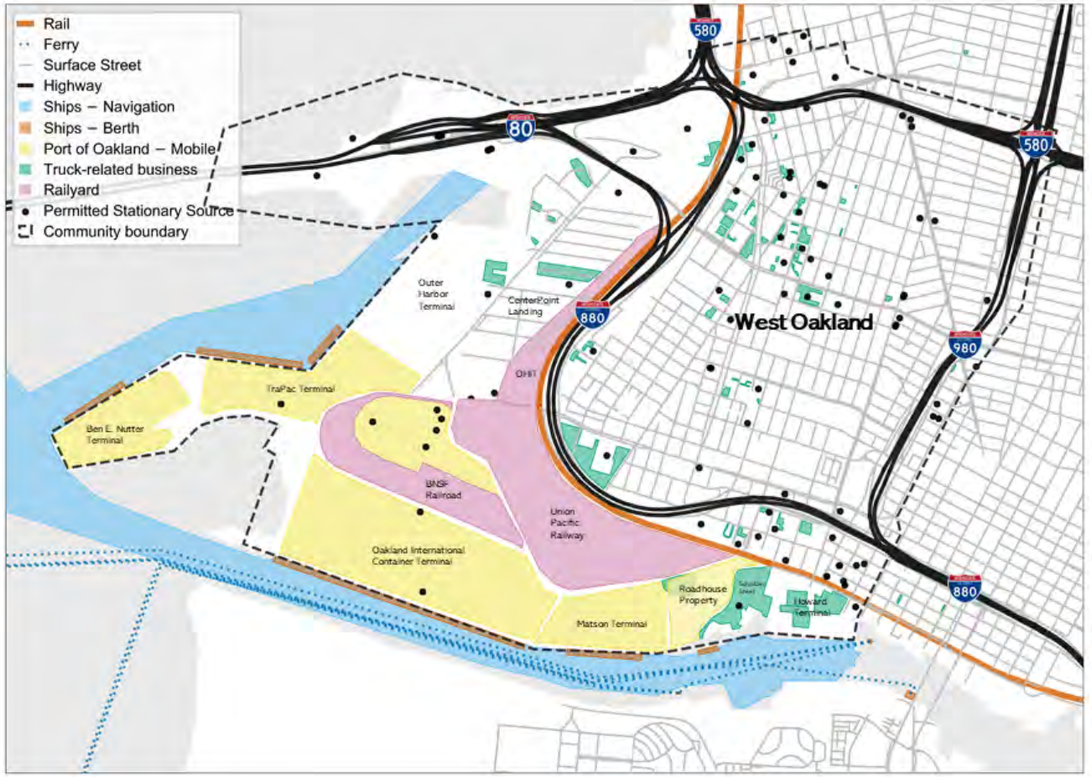
- WOEIP and its partners have been studying local air quality for over two decades, with a focus on diesel pollution
- WOEIP worked with the Environmental Defense Fund to measure black carbon (BC) and other pollutants in 2015/2016
- BC is an indicator of DPM exposure, but not a direct measurement of DPM
- This work led to the identification of 7 impact zones with higher BC levels
- These zones informed the development of targets in the CERP

West Oakland Impact Zones

* DPM = Diesel particulate matter

West Oakland Overview (cont.)

- In addition to air quality monitoring, plan development was supported by emissions inventory development and a modeled exposure assessment
- The WOCAP was adopted in 2019 and completed its five years of implementation in December 2024



West Oakland emissions sources included in the technical assessment

WOCAP Summary

- The plan contains 80+ actions to reduce emissions and exposures in West Oakland
- Strategies require the involvement of state, regional and local agencies
- Partners include the City of Oakland, California Air Resources Board (CARB), Alameda County Public Health Department, Office of Environmental Health Hazard Assessment, and the Port of Oakland

Emissions Reduction Grants - Investment Summary

$51.5 million invested, for example

At the Port of Oakland:

- 13 tugboats repowered with cleaner engines
- 30 hydrogen trucks purchased

In the West Oakland Community:

- 55 electric vehicle chargers for cars and trucks
- 16 diesel trucks replaced with zero emission trucks

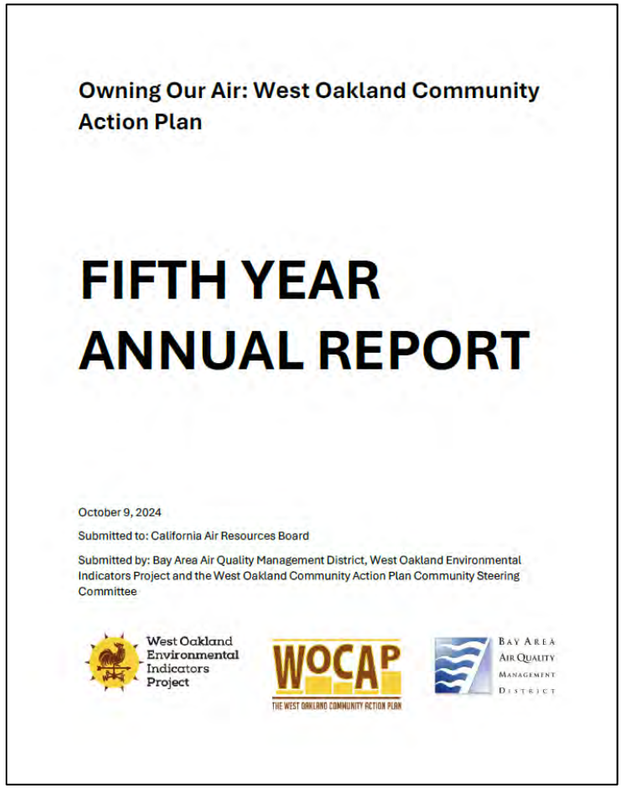
Source: WOCAP Fifth Year Annual Report, page 9

West Oakland Technical Assessment

- To support WOCAP development, emissions inventories were developed for a 2017 baseline and forecast years of 2024 and 2029
- Dispersion modeling was performed using emissions and meteorological data to evaluate source contributions to Particulate Matter ($PM_{2.5}$) and DPM* concentrations and cancer risk
- Based on the Air District's and the community's collaborative analysis, DPM was identified as the biggest air pollution concern

West Oakland Fifth Year Annual Report

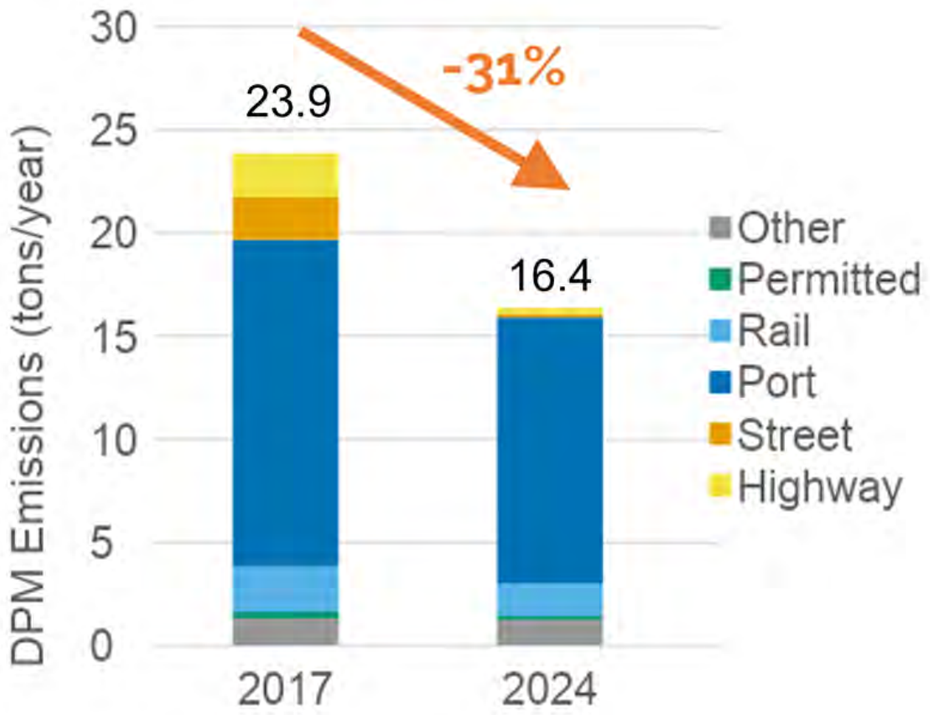
- To support the Fifth Year Report to CARB, the 2024 emissions inventory was updated and compared to the 2017 baseline
- Because emissions inventory methods and datasets change over time, two versions of the inventory updates were produced: (1) historical methods (match original approach); and (2) best methods (incorporate new models and datasets)
- CARB provided support with estimating the impact of statewide actions (e.g., At-Berth Rule)



Emissions Reduction Highlight: Significant Reductions in DPM

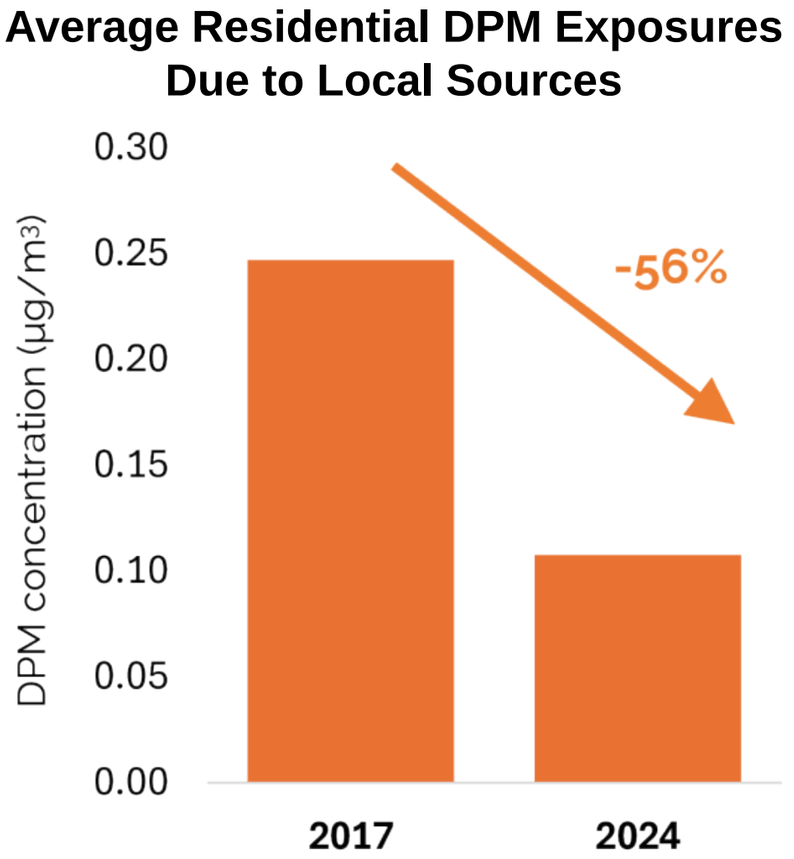
- During WOCAP implementation, DPM emissions from local sources declined by 31% from 2017 to 2024
- Emissions reductions resulted from a combination of statewide regulations and local actions
- The largest emissions decreases were for diesel trucks (3.9 tons) and harbor craft (2.3 tons)

West Oakland DPM Emissions by Year



Emissions Reduction Highlight: Significant Reductions in DPM

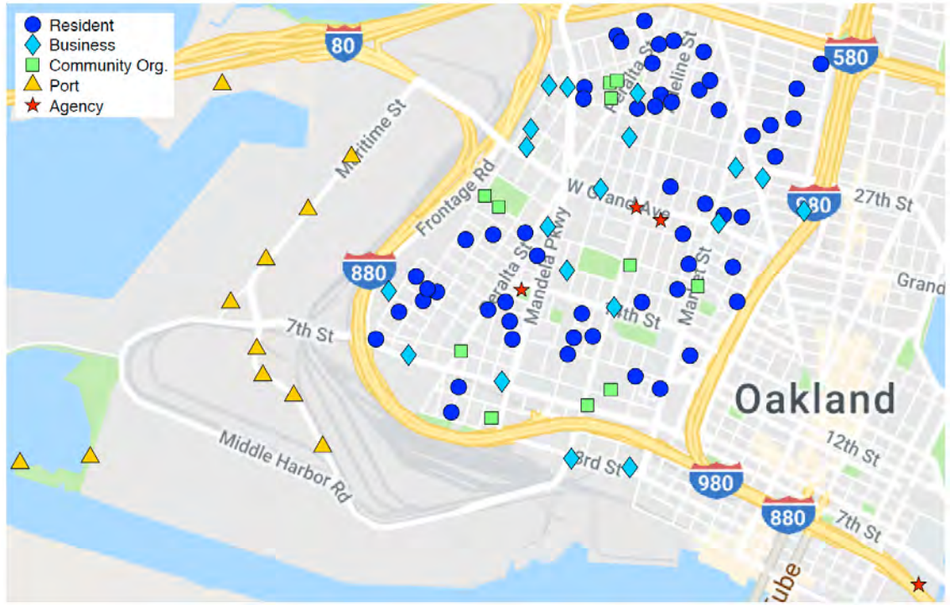
- Dispersion modeling results were updated using the new 2024 emissions inventory
- These results were used to assess progress toward WOCAP targets
- Overall, modeling results showed that average residential DPM exposure attributable to local sources was cut in half between 2017 and 2024



Emissions Reduction Highlight: Significant Reductions in DPM

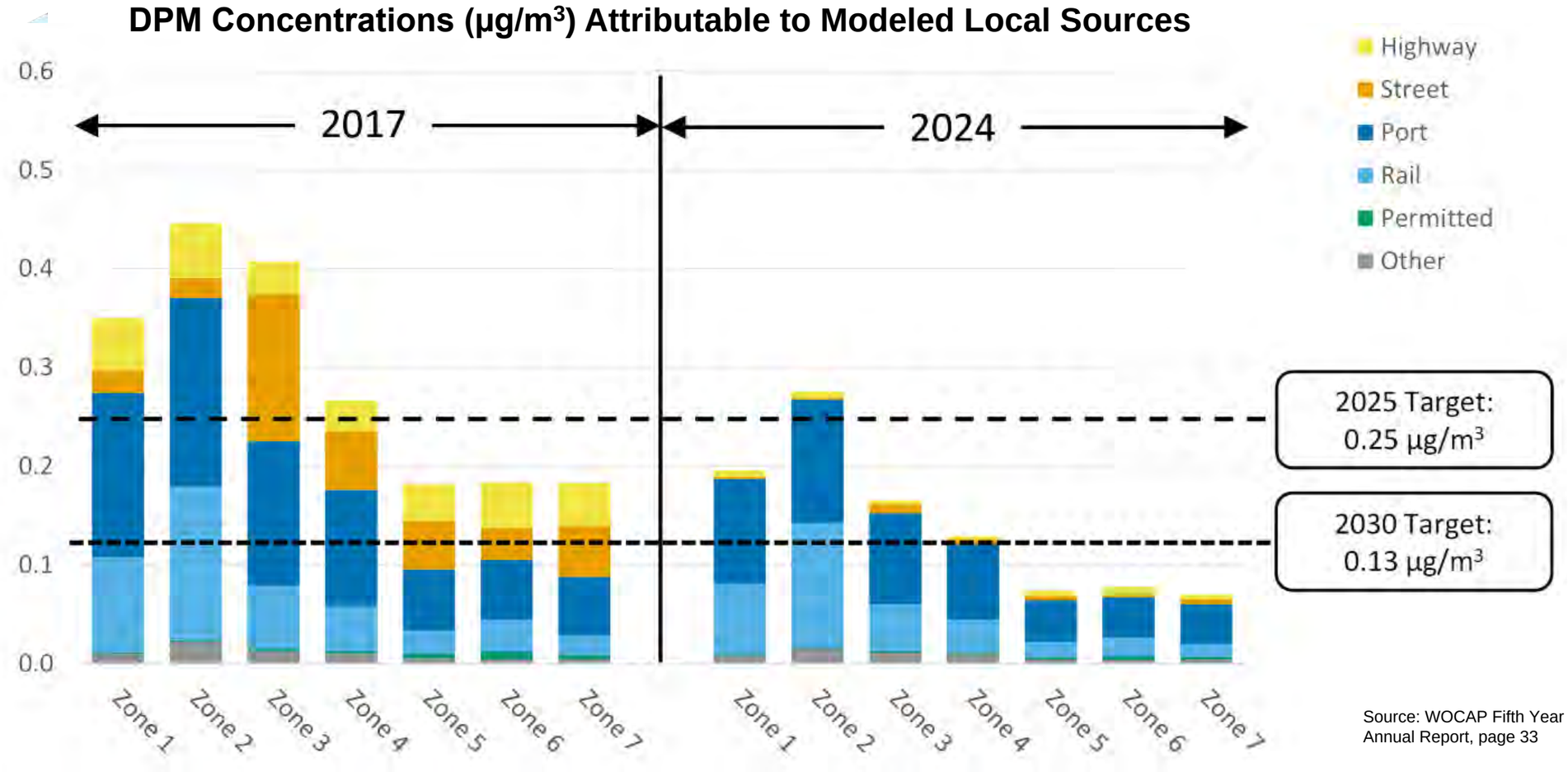
- In 2017, WOEIP and University of California, Berkeley collaborated to collect BC measurements at 100 locations across West Oakland for 100 days
- In 2024, WOEIP and Sonoma Technology replicated the 2017 study to assess changes in BC concentrations
- Preliminary analyses show an average BC reduction of **38%** from 2017 to 2024

Monitoring Locations for the 100x100 Study



Caubel, J.J., Cados, T.E., Preble, C.V., Kirchstetter, T.W. (2019). Distributed Network of 100 Black Carbon Sensors for 100 Days of Air Quality Monitoring in West Oakland, California. Environ. Sci. Technol., doi:10.1021/acs.est.9b00282.

Emissions Reduction Highlight: DPM Exposure Reductions

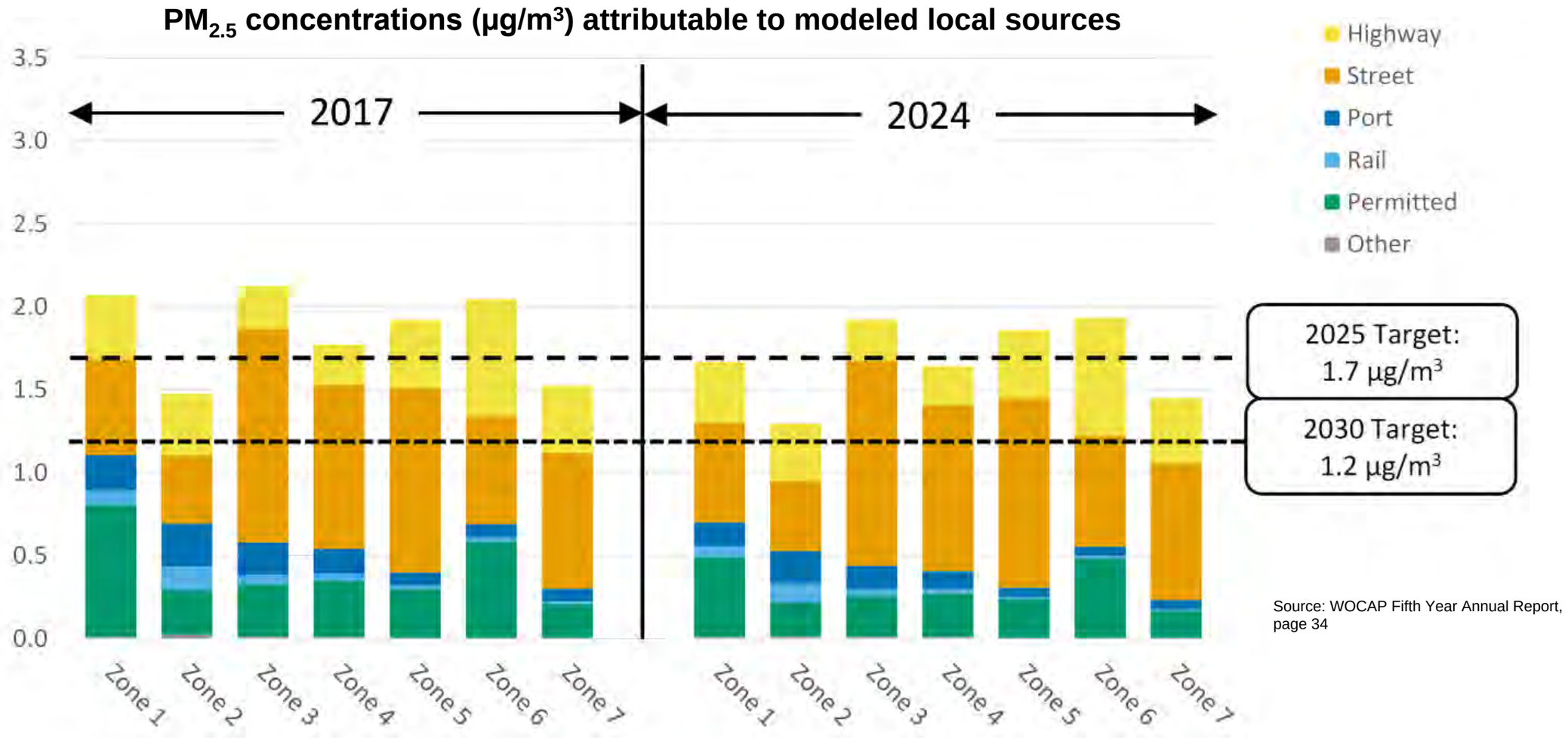


Source: WOCAP Fifth Year Annual Report, page 33

Emissions Reduction Highlight: $PM_{2.5}$

- Reductions were less pronounced for $PM_{2.5}$
- Emissions from key local sources decreased by 10% (8.3 tons) between 2017 and 2024, and average residential $PM_{2.5}$ exposure attributable to local sources was reduced by 8%
- Most of the reduction was from ocean going vessel berthing (1.4 tons) and harbor craft (2.2 tons)

Emissions Reduction Highlight: $PM_{2.5}$ Exposure Reductions



Source: WOCAP Fifth Year Annual Report, page 34

West Oakland Milestones

- Five Years of Implementation (completed)
- Prescott Greening Project (in progress)
- Street Sweeping and Road Dust Study (in progress)
- Fugitive Dust Further Study Action (in progress)

Next Steps for West Oakland

- Strengthen regional collaboration
- Advance statewide advocacy efforts for emissions reduction

Acknowledgements

- Ms. Margaret Gordon, WOEIP Co-Founder and Co-Director (retired)
- Alicia Parker, Principal Environmental Planner, Air District

Questions & Discussion

For more information:

Nicole Merino Tsui | Senior Project Manager
West Oakland Environmental Indicators Project | nicole@woeip.org

Stephen Reid | Senior Advanced Projects Advisor
Air District | sreid@baaqmd.gov

BAY AREA AIR DISTRICT
Memorandum

To: Chairpersons John Kevin Jefferson III, Mayra Pelagio, and Ken Szutu and Members of the Community Advisory Council

From: Philip M. Fine
Executive Officer/APCO

Date: July 17, 2025

Re: Overview of Emission Inventories

RECOMMENDED ACTION

None; the Council will discuss this item, but no action is requested at this time.

BACKGROUND

The Air District is required under law to maintain comprehensive emission inventories that quantify pollutants emitted across the Bay Area region. These comprehensive emissions inventories include all the local sources that contribute to air pollution. This includes stationary sources as detailed below as well as mobile sources such as trucks, locomotives, and ships. It also includes biogenic sources such as trees that contribute significant amounts of some pollutants.

The stationary source inventories include two primary categories:

- Permitted Point Sources – Facilities that operate under Air District permits, including refineries, power plants, manufacturing plants, data centers, hospitals, and research laboratories.
- Areawide Sources – Numerous smaller or non-permitted sources such as residential fireplaces, commercial cooking equipment, backup generators, and small industrial boilers.

Emissions estimates for permitted stationary sources draw on facility-reported activity data, source-testing campaigns, Continuous Emission Monitoring Systems (CEMS), and published emission factors. Emissions estimates for areawide stationary sources are typically estimated using standardized emission factors combined with activity data, such as fuel consumption, industrial process rates, or population statistics. Information about the emissions inventory, including an interactive tool for exploring contributions from various source categories may be found on the Air District's website.

The following interactive maps provide more information specifically about sources permitted by the Air District:

- Facilities map showing permit information including emissions of some pollutants
- Map showing toxic emissions from permitted facilities

DISCUSSION

The Council will discuss an overview of how the Air District develops stationary-source inventories—the sources of data, the conversion of source information into emissions estimates, and how the results inform the Air District's work. The presentation is organized around the following five key elements:

- **Regional Perspective** – Stationary sources account for roughly 20% of toxicity-weighted carcinogenic pollution, 40% of regional fine particulate matter ($PM_{2.5}$) emissions, 71% of sulfur dioxide (SO_2) emissions, and about 11% of nitrogen oxide (NO_X) emissions in the latest (2023) inventory.
- **Calculations** – Permitted facilities report activity information that supplements source test data, CEMS, or published factors, while areawide source emissions are developed using county-level activity statistics and emission factors.
- **Confidence Tiers** – Data quality ranges from high (direct CEMS readings) to low (fugitive or event-based emissions). These tiers can assist the public in understanding the relative uncertainty behind the numbers and how to best use the estimated emissions data in practice.
- **Representative Examples** – Uncertainties in emissions estimation may vary by source type and pollutant. For example, for complex refinery processes, source test-based estimation of PM emissions usually has low uncertainty, but carbon monoxide (CO) emissions estimation using referenced emission factors may have high uncertainty. Emissions from simple permitted processes like diesel engines typically have low uncertainty when using engine certification data for estimation. Emissions from areawide stationary sources, such as residential water heaters and woodburning activities will also have a wide range of uncertainty, given the limitation and assumptions made in different calculation methods.
- **Improvements Underway** – Air District staff are currently evaluating tighter refinery flare and fenceline monitoring, refreshed wood-burning and commercial-cooking inventories, and development of methods for previously unquantified toxics.

BUDGET CONSIDERATION/FINANCIAL IMPACT

None.

Respectfully submitted,

Philip M. Fine
Executive Officer/APCO

Prepared by: Brian Butler
Reviewed by: Greg Nudd, Amy Smith and Diana Ruiz

ATTACHMENT(S):

1. Overview of Emission Inventories Powerpoint Presentation

Bay Area Air District

Overview of Emission Inventories

Community Advisory Council Meeting

July 17, 2025

Greg Nudd

Deputy Executive Officer of Science and Policy

Outline

- **Purpose of the Presentation**
- **Background on Regulatory Scope**
- **Regional and Local Inventories**
- **Stationary Source Emissions**
  - Understanding levels of uncertainty in emissions calculations
  - Examples by source type
  - Mandatory reporting requirements and compliance oversight
- **Air District's Ongoing Efforts**

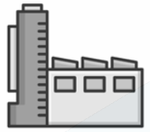
Purpose of the Presentation

- Provide an overview of the regional and local emissions inventories
- Discuss stationary source emissions: data source, method, uncertainty, examples, and mandatory reporting requirements
- Highlight Air District's ongoing effort to improve emissions estimation

Background on Regulatory Scope

Stationary Sources

Permitted



Facilities with sources that have been issued a permit or registered by the Air District

Areawide

Small, dispersed sources such as fireplaces, water heaters, and consumer products

Mobile Sources

On-road

Vehicles that travel on roadways, such as cars, trucks, and buses

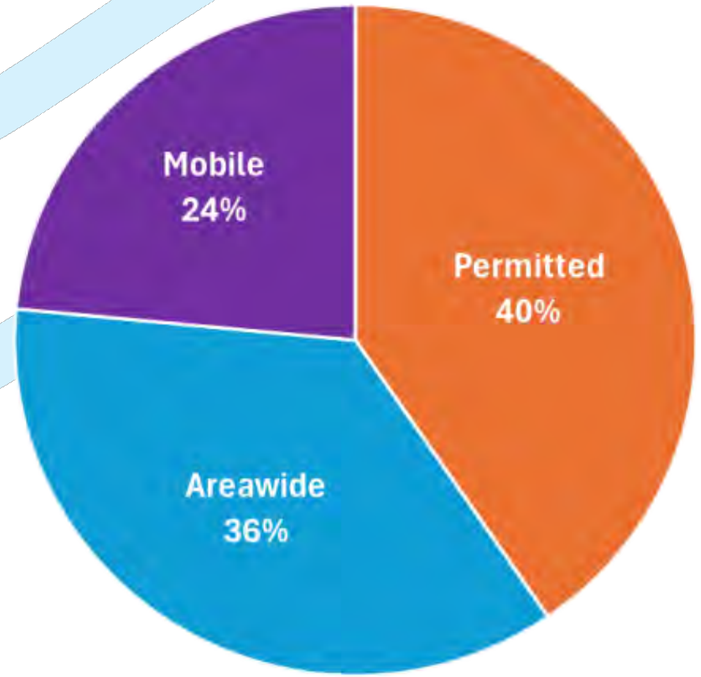
Off-road

Vehicles and equipment such as trains, aircraft, ships, and bulldozers

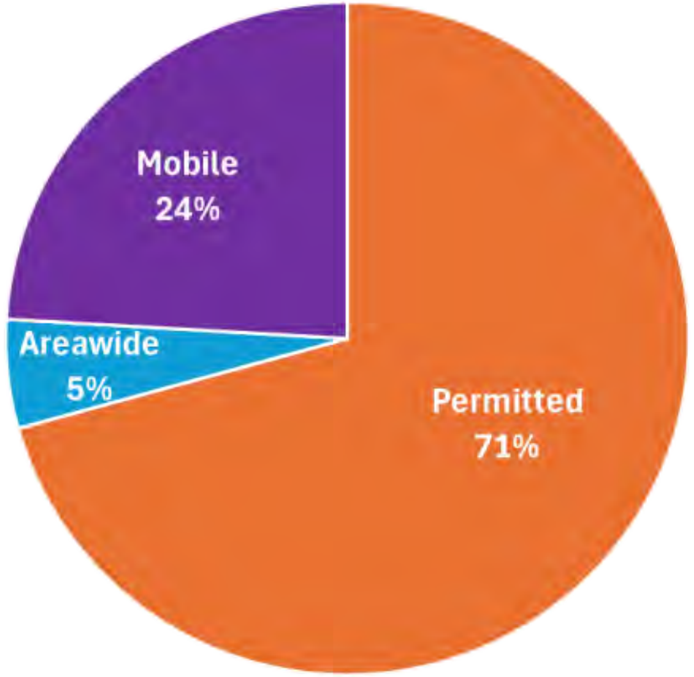
- The Air District regulates stationary sources (refineries, power plants, fireplaces, etc.); California Air Resources Board (CARB) and United States Environmental Protection Agency (US EPA) regulate mobile sources.
- The Air District uses incentives and indirect-source authority to address mobile emissions.

Regional Emissions Inventory

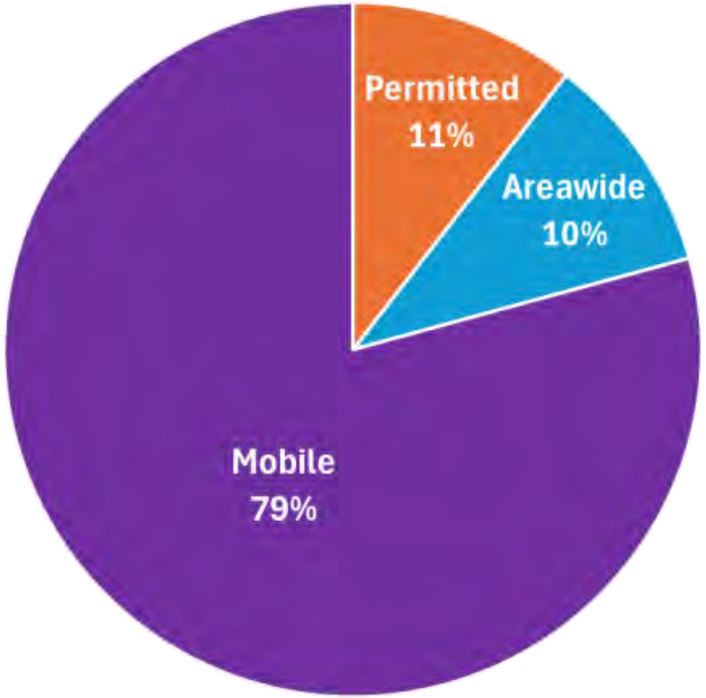
$PM_{2.5}$



SO_2



NOx

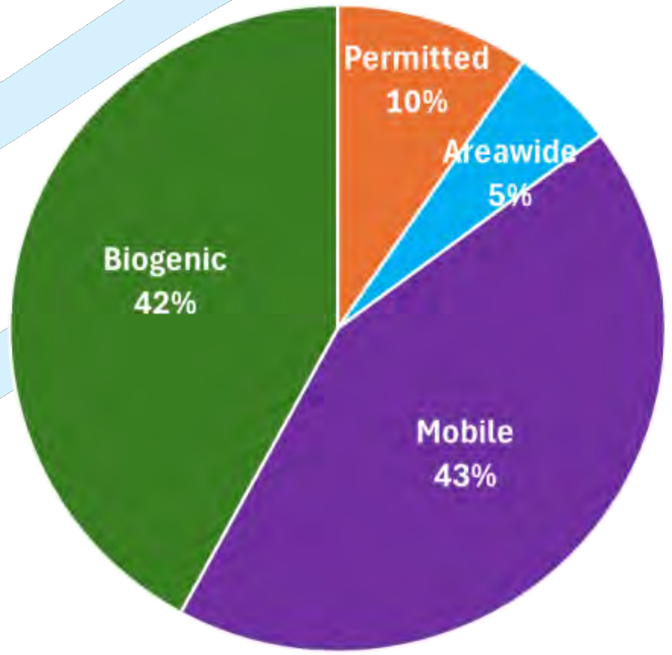


Year 2023 regional emissions estimates by source

Fine Particulate Matter (PM2.5)
Sulfur Dioxide (SO2)
Nitrogen Oxide (NOx)

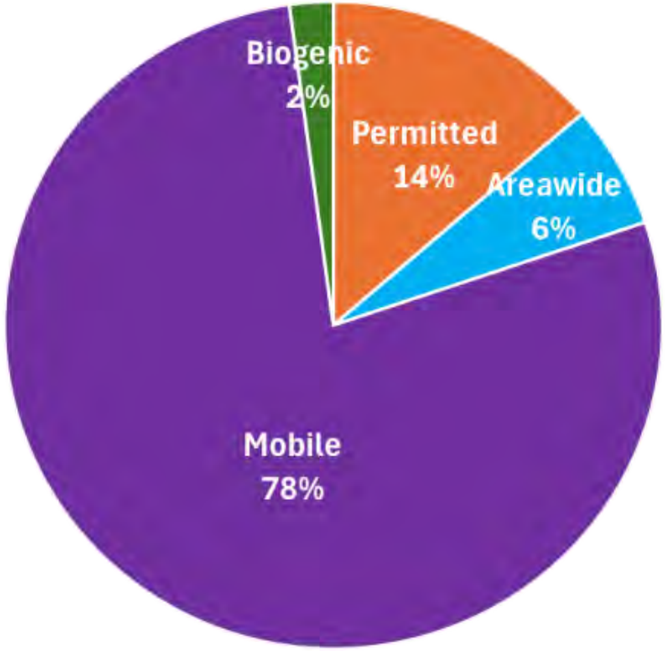
Regional Emissions Inventory

VOC

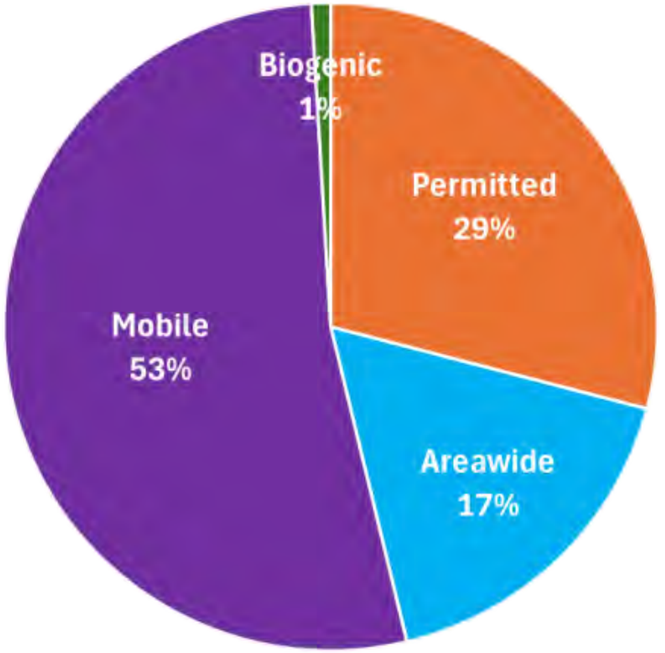


Volatile Organic Compounds (VOC)

Cancer Risk TWE

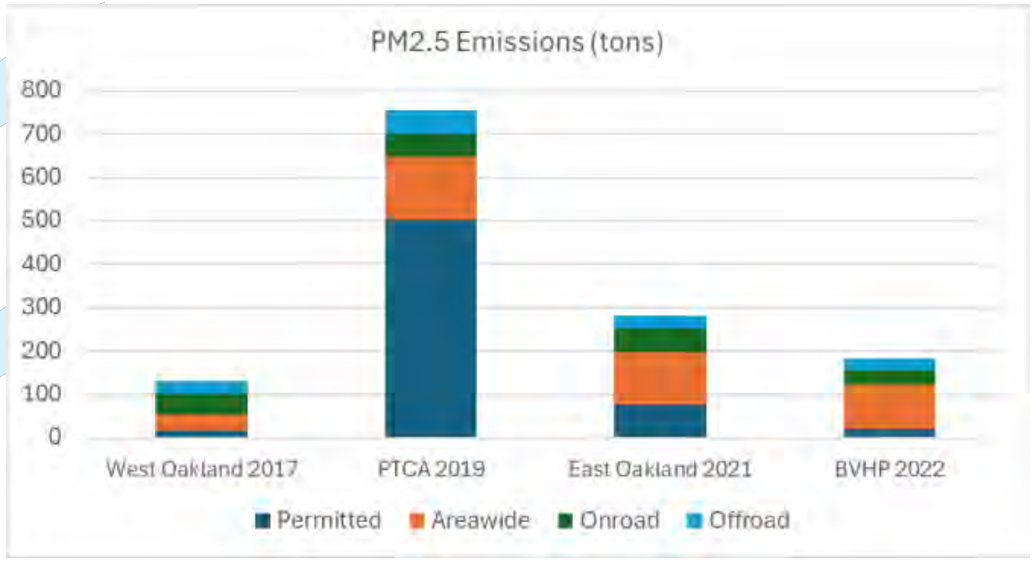


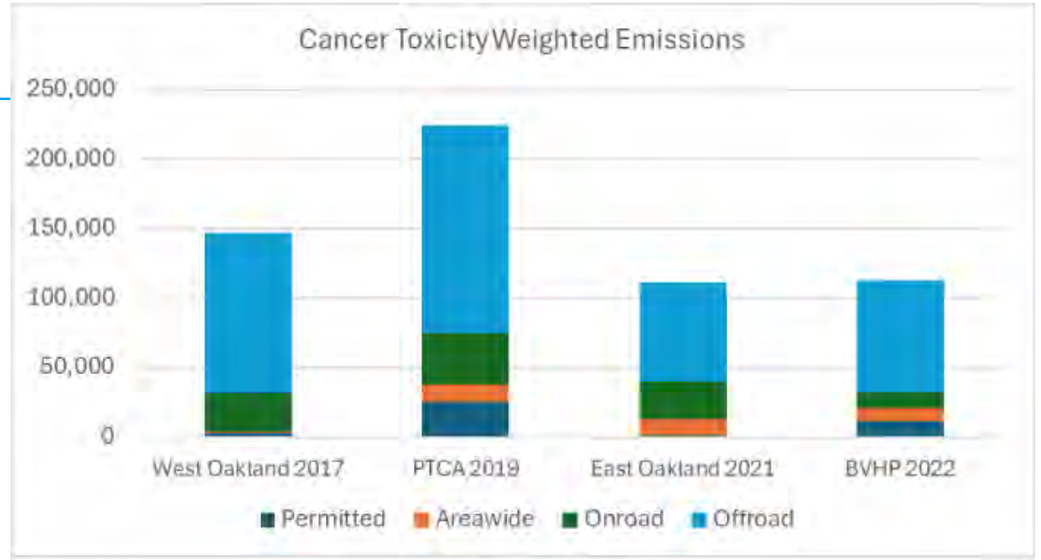
Chronic Hazard TWE

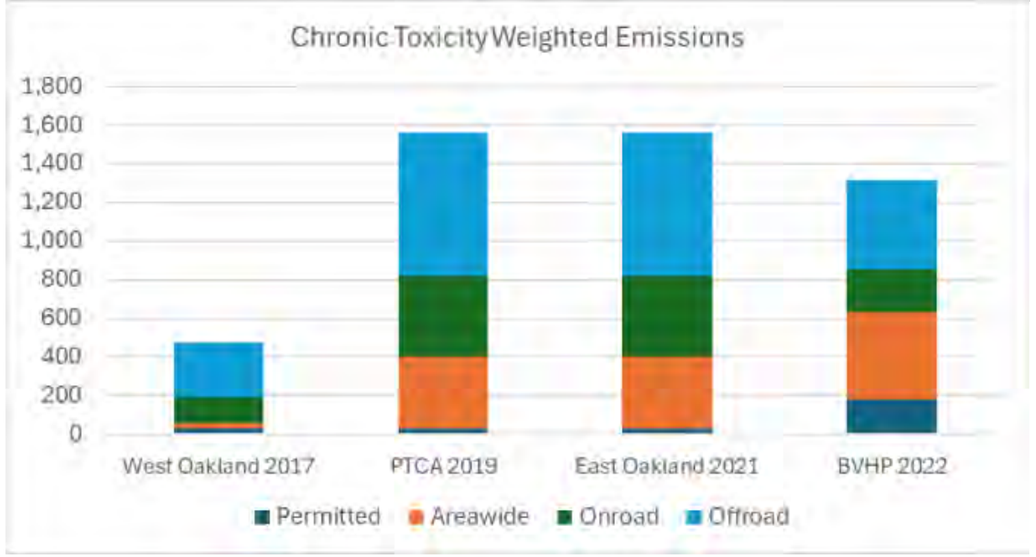


Regional 2023 VOC and 2020 toxicity weighted emissions (TWE) estimates by source

Local Emissions Inventory







- Detailed emissions estimates have been developed for four Assembly Bill 617 communities
- Emission levels and source contributions vary by pollutant and community

Path to Clean Air (PTCA)
Bayview Hunters Point (BVHP)

Bay Area Air District

Stationary Source Emissions: Typical Methods

Permitted Sources

- Refineries and supporting facilities under Regulation 12-15 annually update and submit emissions inventory at the process/device level to the Air District for technical review; the Air District verifies emissions estimates based on a variety of data, including samples of pollution collected from a stack or vent.
- The Air District calculates emissions for most facilities using their throughput submittals and approved emission factors under the permitting system.

Areawide Sources

- Emissions are usually estimated at the county level by the Air District, using activity data (e.g., gallons of fuel burned) and emission factors
- County-level emissions are allocated to communities using representative data (e.g., population density)

Stationary Source Emissions: Uncertainties

Emissions Quantity = Process Rate x **Emission Factor**

- Uncertainties depend on accuracy of process rates and emission factors
- Process rates are time dependent, updated, and reported annually, reflecting specific estimation assumptions and process conditions
- Emission factors are determined by a variety of methods, each with its own uncertainty or limitations
- For permitted facilities, process rates and selected factors are most representative of emissions at the time of permitting/renewal

Understanding Emissions Uncertainty Tiers

- **Low uncertainty** – emissions measured by Continuous Emission Monitoring System (CEMS) or calculated by simple mass balance (e.g., using stack gas flow and concentration data for SO2 estimation)
- **Medium uncertainty** – emissions from stable combustion sources calculated with simple emission factors and validated by stack tests (e.g., boilers and turbines).
- **High uncertainty** – complex or fugitive sources relying on limited data or generic default factors (e.g., equipment leaks, cooling-tower PM, tanks, wastewater ponds, dust, and flares)
- **Not routinely well characterized** – intermittent or excess emissions (e.g., startup, shutdown, maintenance, non-compliance incidents) that are not part of routine calculations but may impact local communities

Example: Most Permitted Sources

- Uncertainties in emissions estimates for permitted sources are highly dependent on the method of determination

Method	Example	Uncertainty
Direct Measurement	CEMS	Low
Source Testing	Stack emissions testing for a natural gas-fired boiler	Low / Medium
Material Balance	Safety Data Sheet % weight applied to process rate	Medium
Manufacturer’s Specification	Tested NOx emission factors	Medium
Other Literature Source	EPA Air Pollutant Emissions Factors	Medium / High

Example: Complex Process of Refineries

Fluid Catalytic Cracking Unit (FCCU)

Pollutant	Method	Uncertainty
PM_{10}	Source Test	Low
NOx	CEMS	Low
Ammonia	Source Test	Low
Toluene	Literature Source	Medium
CO	Literature Source	High

Carbon Monoxide (CO)

Example: Simple Permitted Process

Diesel Internal Combustion Engine

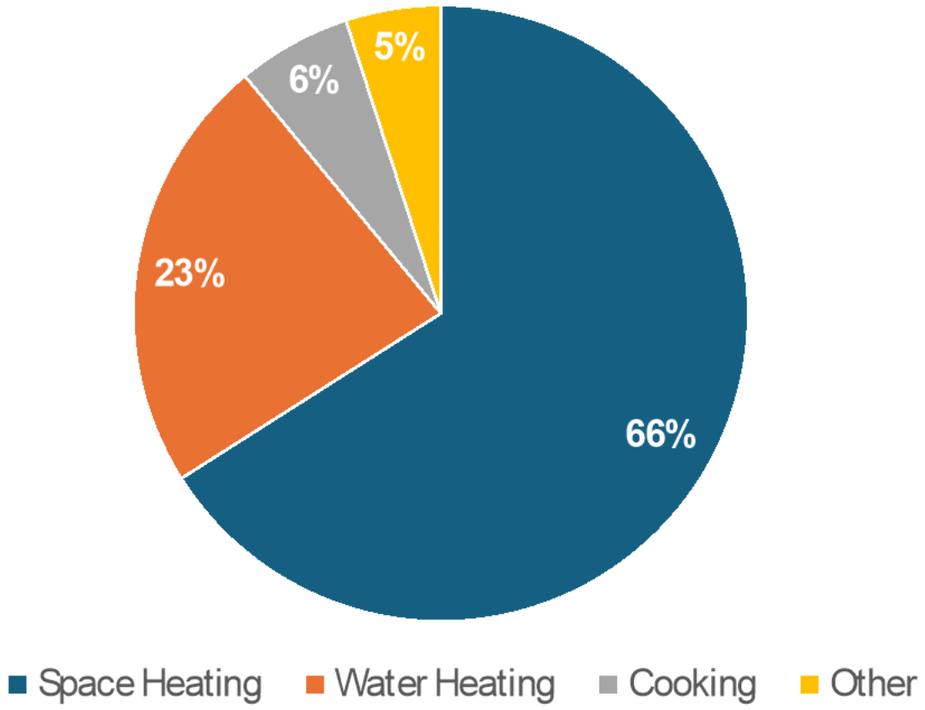
Pollutant	Method	Uncertainty
PM_{10}/DPM	CARB Engine Certification	Low
NOx	CARB Engine Certification	Low
CO	CARB Engine Certification	Low
Air Toxics	California Air Toxics Emission Factor (CATEF)	Medium

Diesel Particulate Matter (DPM)

Example: Residential Water Heating

- Throughput developed from county-level natural gas combustion data from the California Energy Commission (CEC)
- Emissions estimated using emission factors from US EPA Air Emissions Factors from Stationary Sources
- Control Factor to account for emission reductions associated with Regulation 9-4 and 9-6 and subsequent amendments

Breakdown of NOx emissions from residential natural gas combustion in the Bay Area



Example: Residential Water Heating

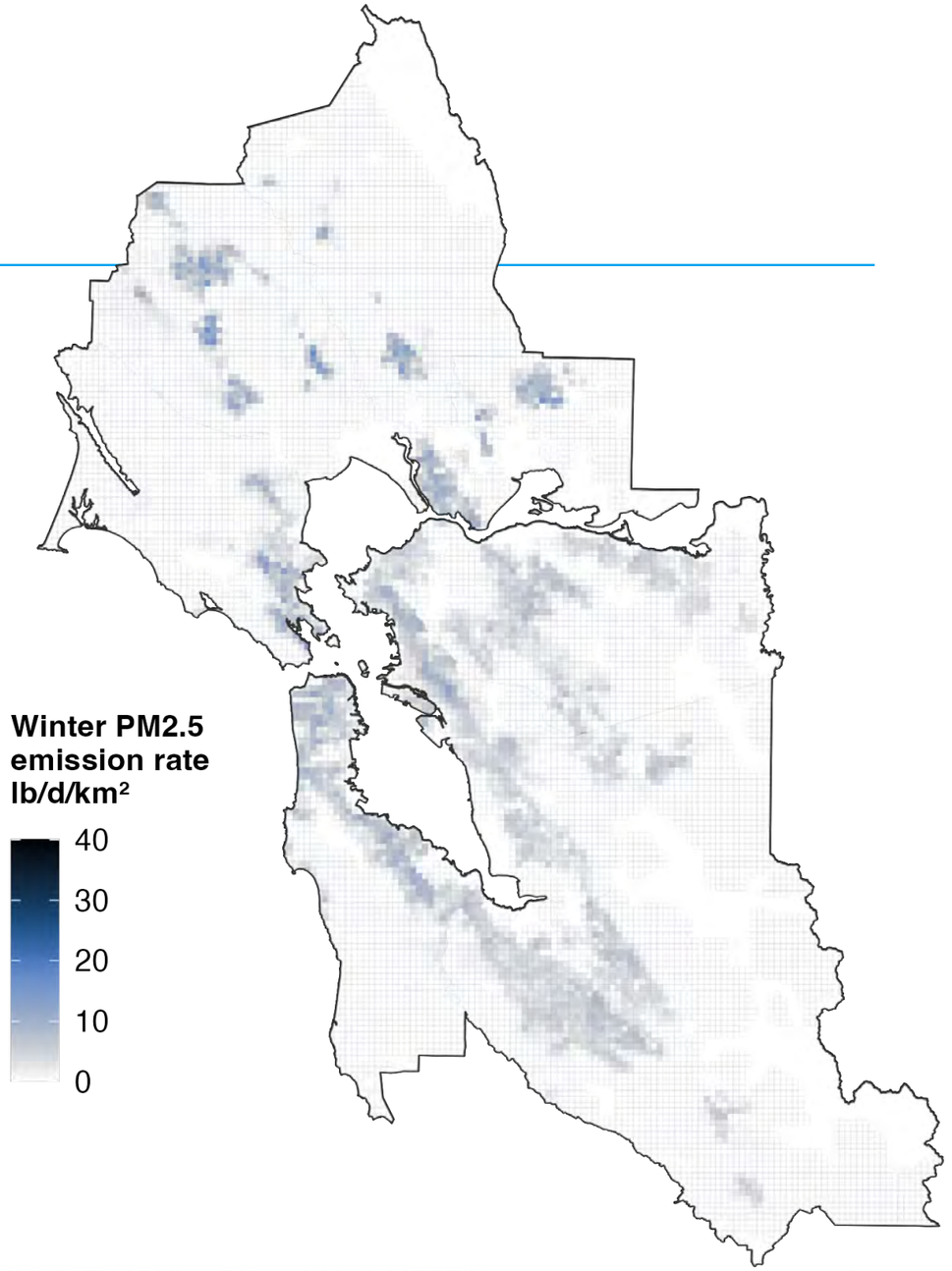
Emissions Estimation Uncertainties

- Leaks after the gas meter – We try to adjust for natural gas leaks after the meter, but studies show that leak amounts can vary a lot
- Fixed usage assumptions – We assume the relative proportion of gas use for water heating in homes stays the same over time, but that may not be accurate
- Simplified equipment turnover – We use a basic estimate of the expected service life of old water heaters, which may not reflect reality
- Unknown resident behavior – We don’t have good data on how often people in the Bay Area repair, replace, or use their water heaters

Example: Wood Burning

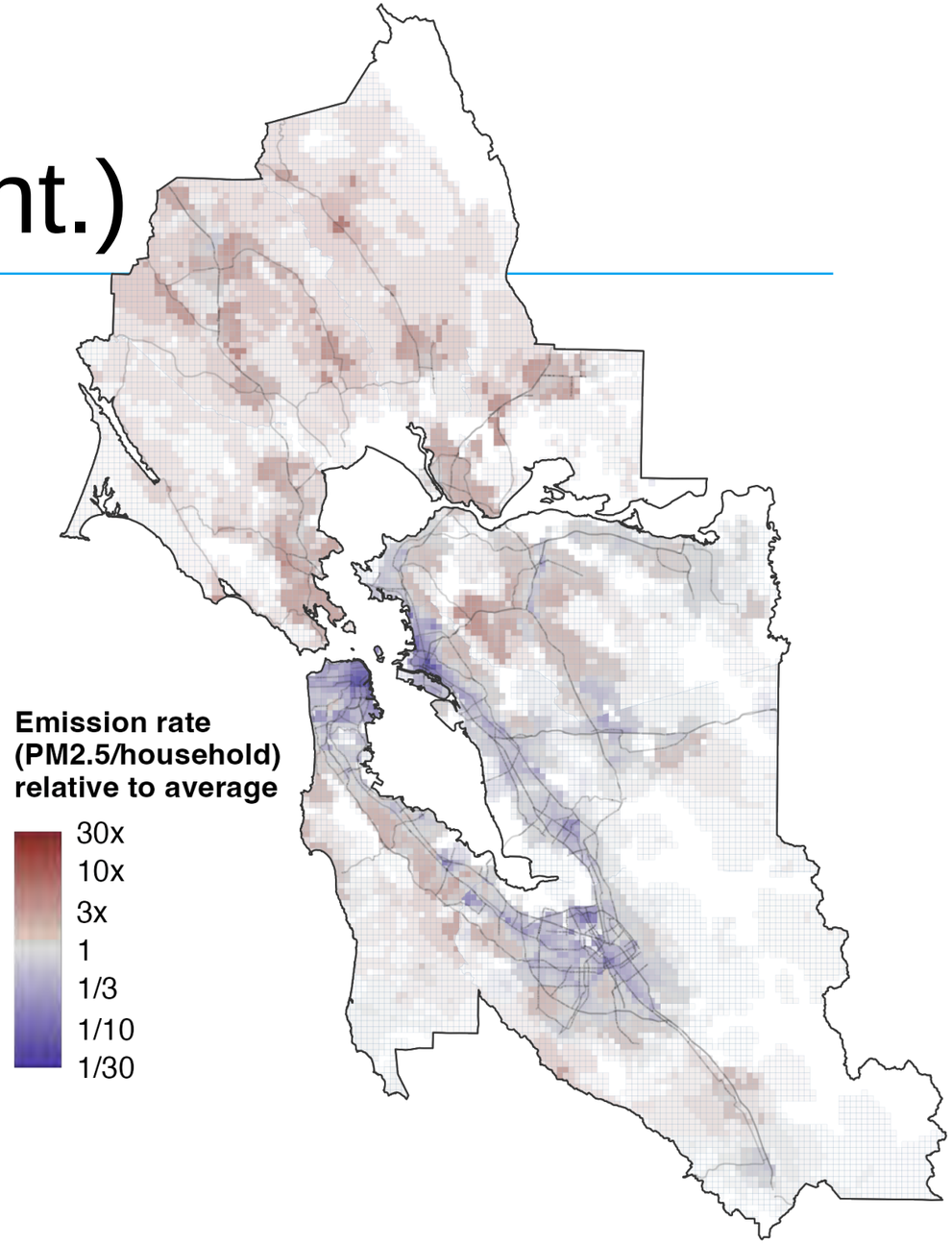
- Air District conducts annual surveys that support detailed insights
- Tracks fireplace and woodstove activity by:
  - ZIP Code, housing type, and year
- For emissions modeling:
  - Uses Census housing density to distribute activity within each ZIP code to a 1 km^2 grid
- Emission factors based on US EPA methodology

Zone Improvement Plan (ZIP)



Example: Wood Burning (cont.)

- Strength: long-term spatial patterns
- Opportunities for further improvements in emissions estimation:
  - Spring, fall, and summer activity
  - Wood burning outdoors
  - Fuel characteristics
  - Device characteristics
  - Burn timing and efficiency



Air District's Ongoing Efforts

- Strengthen rules on refinery fenceline monitoring, flare reporting, dust sources, and metal recycling/shredding
- Continue to improve area-source emissions inventory (e.g., wood burning and commercial cooking) and to partner with communities on ambient monitoring projects
- Develop methods for previously uncalculated emissions (e.g., areawide air toxics, emissions during periods of non-compliance)

Questions & Discussion

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