



BAY AREA
AIR QUALITY
MANAGEMENT
DISTRICT

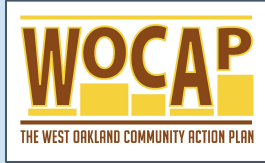


**West Oakland
Environmental
Indicators Project**
know which way the wind blows



Steering Committee

September 4, 2024



Welcome!

Name, Affiliation/Organization

Please sign in/add comments in the sheet:

- **Member Sign In Sheet-**

https://docs.google.com/spreadsheets/d/1ZUjiWSCkRbAC_LMAq9rPuIWrmDVoP5LY90A49kwajbA/edit?gid=0#gid=0

- **Meeting Attendees-**

https://docs.google.com/spreadsheets/d/1bWPa8x_geSudkn5Wcv0u1Wd7OKEYOf9hAvRaKgMDXNY/edit?gid=660277727#gid=660277727

Owning Our Air - West Oakland AB 617 Steering Committee Meeting

Wednesday, September 4, 2024 | 6:00 pm to 8:00 p.m.

Time	Item
6:00-6:05 pm (5 min)	Roll Call
6:05-6:10 pm (5 min)	Welcome and Co-leads Report
6:10-6:20 pm (10 min)	Follow Up from Previous Meeting
6:20-6:30 pm (10 min)	WOCAP Implementation Timeline and Highlights
6:30-6:50 pm (20 min)	Emissions Reduction Grants
6:50-7:10 pm (30 min)	Enforcement Progress
7:10-7:40 pm (30 min)	Emissions Inventory Update
7:40-7:50 pm (10 min)	Meeting Evaluation Survey



Welcome and Co-Leads Report

Co-Leads Report

- Facility Relocations

CASS



Town Hall Guest Speakers

- Veronica Eady - Resources Legacy Fund
- Davida Hurt - Aclima
- Paul Cort -EarthJustice



WOCAP 2024 Schedule

Date	Meeting Type
Wednesday, September 4 @ 6:00-8:00pm	Public Virtual Quarterly Meeting: Five Year Report
Wednesday, October 2 @ 12:00-1:30pm	Steering Committee Only: In-Person Work Session
Wednesday, November 6 @ 6:00-8:00pm	Public Town Hall / Community Celebration



Follow-Up from August Meeting

August Meeting


- 5 Year WOCAP successes
- Community Description - updated





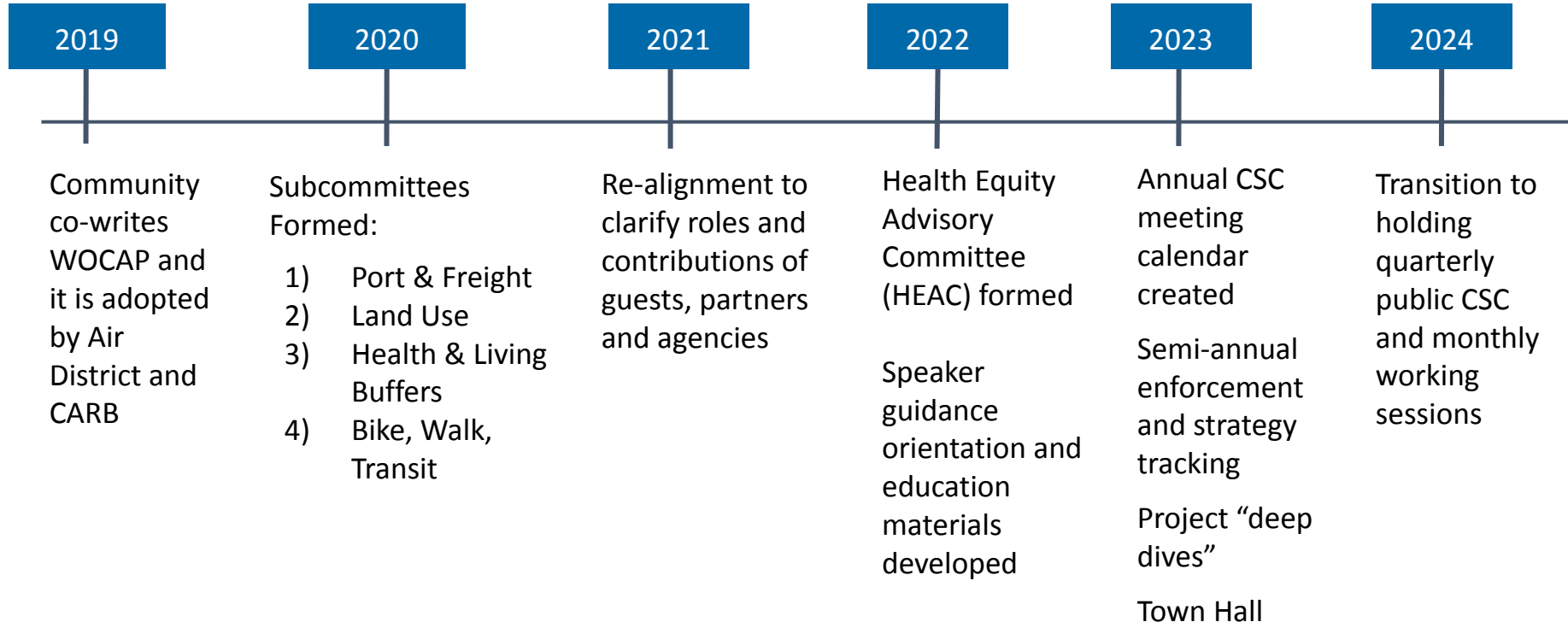
WOCAP Fifth Year Report

Recap Fifth Year Report Process

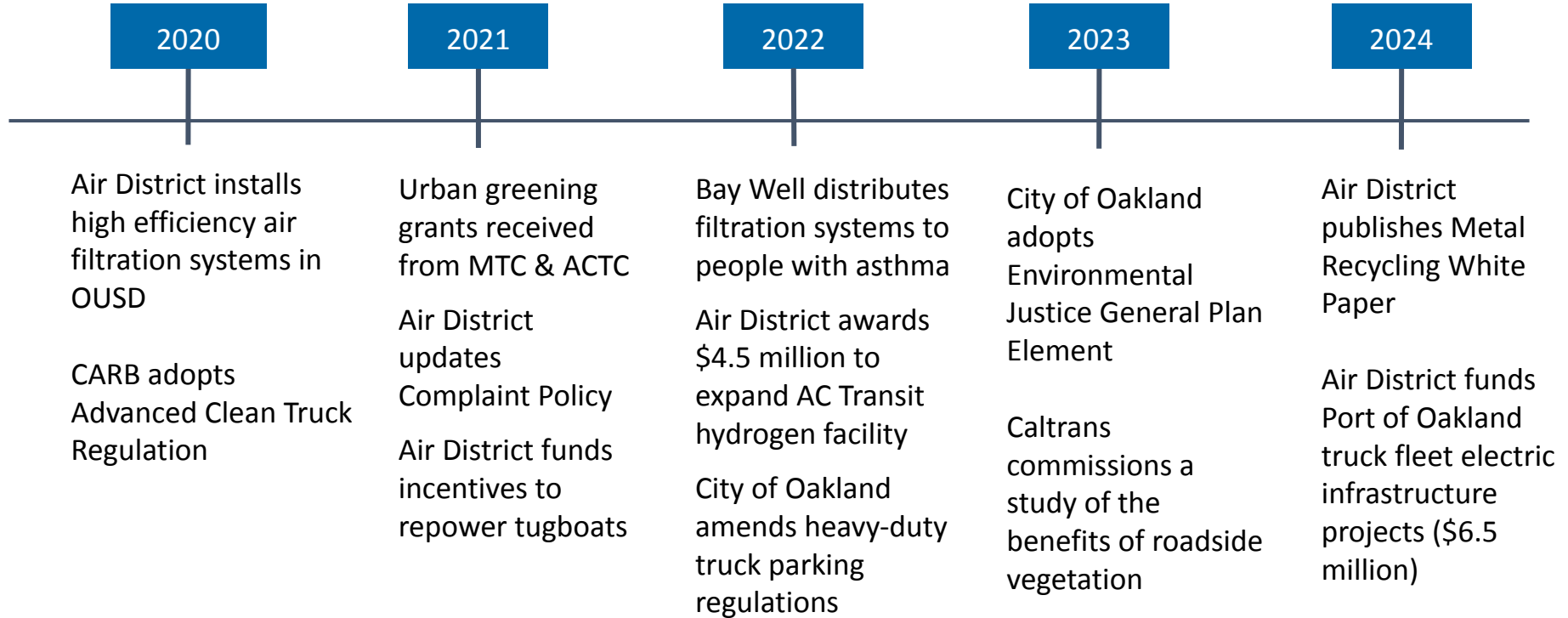


Implementation Timeline

WOCAP Implementation Timeline



WOCAP Implementation Highlights



Emissions Reduction Grants

WOCAP 5-Year Report: Emissions Reductions Grants

A Summary of Air District Grant Investments to Fund Implementation of WOCAP Strategies

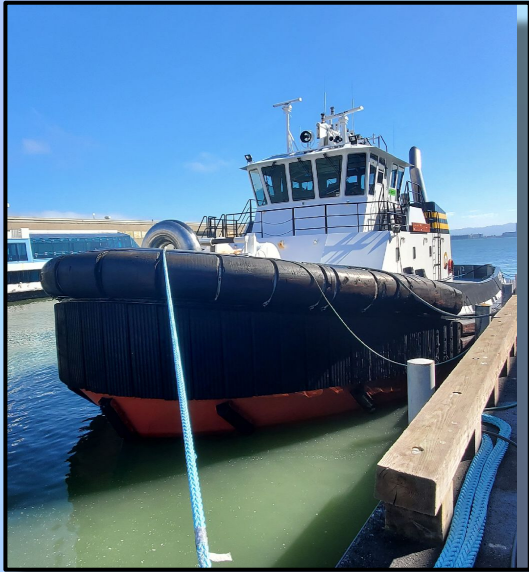
Strategic Incentives Division
& Technology Implementation Office

**Adriana Kolev (Presenter),
Alona Davis, & Tin Le**



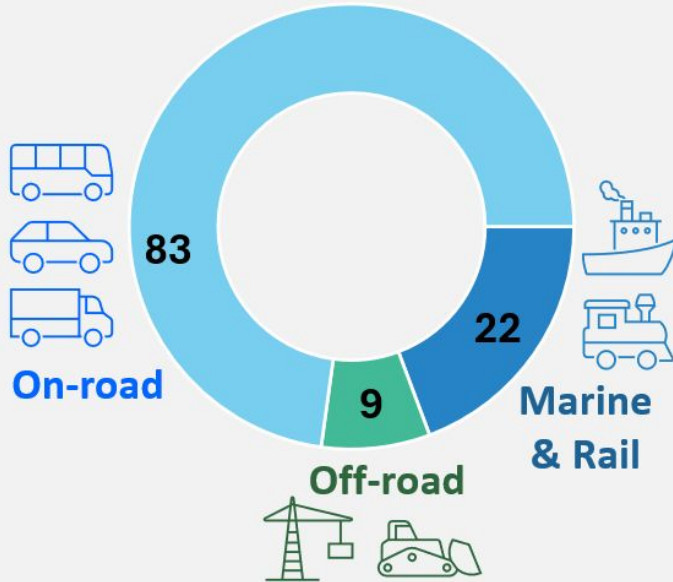
Project Types

- Replacing or Scrapping Polluting Engines/Equipment
- New Zero Emission Equipment and Infrastructure

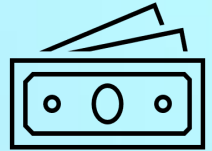


Grant Investment Summary

114 Projects Funded



\$51.5M Invested



Projects Started

96

Projects Starting Soon

18

Port Project Highlights

The Air District funded **\$43.7 million** to projects at the **Port of Oakland**

(84% of all funding to West Oakland)

Featured Projects



- 13 tugboats repowered to cleaner engines



- 16 cranes upgraded to hybrid



- 30 hydrogen trucks purchased instead of diesel



- 102 electric heavy-duty truck chargers

Within The Greater Community

Featured Projects



- 64 older residential vehicles scrapped



- 55 electric vehicle chargers for cars and trucks

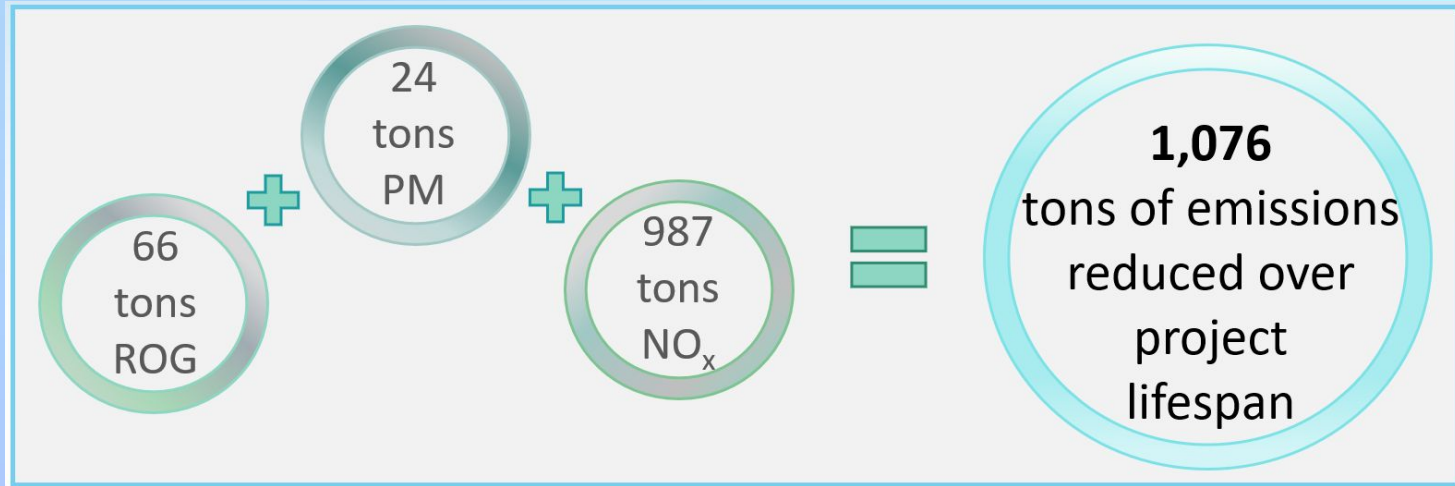


- 16 diesel trucks replaced to zero emission

In response to the WOCAP, the Air District has improved programs by:

- Focusing outreach on West Oakland equipment operators
- Limiting eligibility to only West Oakland and other priority communities
- Increasing award funding for residential vehicle programs

Emissions Reductions



Emissions are reduced by replacing dirty, polluting engines/equipment with new, cleaner options

Emission reductions are based on California Air Resources Board approved calculations

Legend: ROG = Reactive Organic Gases, PM = Particulate Matter, NO_x = Nitrogen Oxides

Questions?

Thank you!

To learn more about Air District grants,
visit www.baaqmd.gov/grants

or

email us at grants@baaqmd.gov



Enforcement Progress



BAY AREA
AIR QUALITY
MANAGEMENT
DISTRICT

WOCAP 5-Year Report: C&E Content Review

Alicia Parker & Dennis Quach

Presentation Agenda



- Recap of WOCAP Enforcement-related strategy implementation progress
- Summary of CSC input into enforcement activities
- Summary of Enforcement Data
- Future reporting and strategic plan

Recap: Implementation Progress— Snapshot of All Six Enforcement (Enf) Strategies



Strategy #	Description	Status
Enf-1	Increase frequency of compliance inspections at stationary sources: <ul style="list-style-type: none">- Inspect all permitted facilities and sources within a 2-year period- Inspect any unpermitted facilities and sources identified by the Steering Committee- Annually track and document the number of inspections including type, date, and location	Completed
Enf-2	Develop educational and outreach material on open burning to address concern of illegal backyard burning.	Completed
Enf-3	Provide annual reports on enforcement activities of stationary sources for the next 5 years	Completed
Enf-4	Update Air District Complaint Policy	Completed
Enf-5	Enhance enforcement referral process	Completed
Enf-6	Identify unpermitted sources: CARB and Air District staff consults with community for areas where there may be potentially unpermitted sources of emissions	Ongoing

Recap: Implementation Progress— Strategy Enf-1



Strategy #	Description	Status
Enf-1	<p>Increase frequency of compliance inspections at stationary sources:</p> <ul style="list-style-type: none">- Inspect all permitted facilities and sources within a 2-year period- Inspect any unpermitted facilities and sources identified by the Steering Committee- Annually track and document the number of inspections including type, date, and location	Completed

Summary of Progress

- In 2020 and 2021, enforcement staff completed Compliance Verification (CV) inspections for all the permitted facilities in West Oakland
 - o This does not include backup generators
- Improved tracking system developed to annually track and document the inspection details.

Recap: Implementation Progress— Strategy Enf-2



Strategy #	Description	Status
Enf-2	Develop educational and outreach material on open burning to address concern of illegal backyard burning.	Completed

Summary of Progress

- Developed educational and outreach material on “open burning”
- Materials were printed as door hangers and distributed in the West Oakland community in February 2021

Recap: Implementation Progress— Strategy Enf-3



Strategy #	Description	Status
Enf-3	Provide annual reports on enforcement activities of stationary sources for the next 5 years	Completed

Summary of Progress

- Provided annual reports and updates to community on enforcement activity which included summaries of inspections, violations, the number of complaints, and type of complaints received.

Recap: Implementation Progress— Strategy Enf-4



Strategy #	Description	Status
Enf-4	Update Air District Complaint Policy	Completed

Summary of Progress

- Air Quality Complaint Program was updated based on public workshops conducted.
- In addition, the complaint website and reporting system has been updated
- Informational material on the complaint program created such as complaint brochures and video series

Recap: Implementation Progress— Strategy Enf-5



Strategy #	Description	Status
Enf-5	Enhance enforcement referral process	Completed

Summary of Progress

- Our staff are trained to work closely with our enforcement partners on enforcement cases to resolve violations

Recap: Implementation Progress - Strategy Enf-6



Strategy #	Description	Status
Enf-6	Identify unpermitted sources: CARB and Air District staff consults with community for areas where there may be potentially unpermitted sources of emissions	Ongoing

Summary of Progress

- This is a continuous strategy, and we work closely with the Steering Committee on identifying unpermitted sources in West Oakland

CSC Input into Enforcement Activities



Themes from the semi-annual enforcement-focused CSC meetings

- Community to be enforcement’s “eyes, nose and ears” and thus to report any perceived violations using as much detail as possible.
- Call from community for agencies to:
 - Address after hours enforcement (before 5am, after 5pm and on weekends)
 - Provide joint enforcement and coordination
 - Go beyond data snapshot (of complaints, violations and inspections) during enforcement presentations and to help community understand what the data means.

Enforcement Data - Inspections & Violations

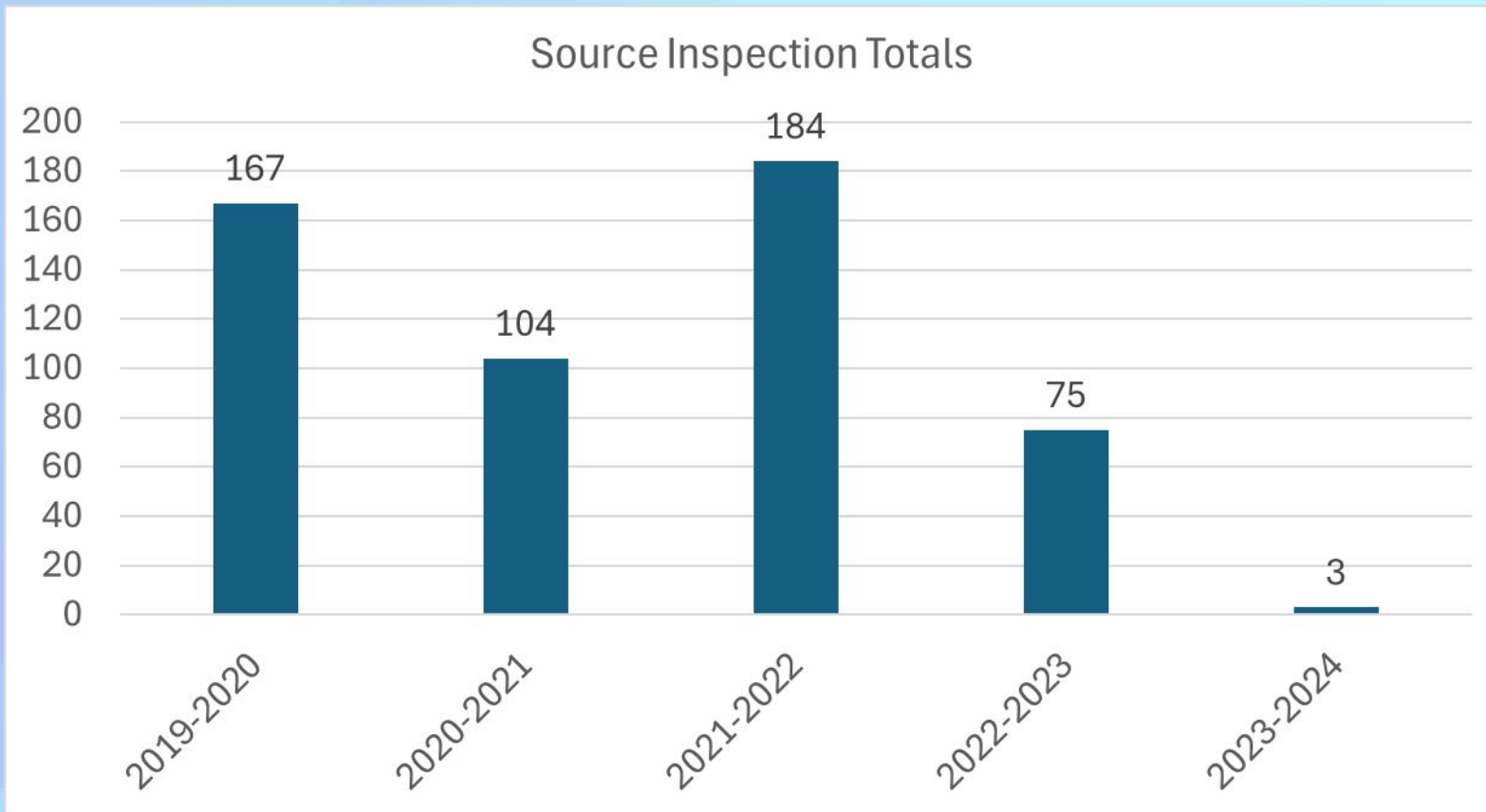
Source Inspections from 2019-2024



- All permitted sites/facilities were inspected within the first two years
 - Inspections start slowing down after the third reporting period due to the cyclical nature of the inspection program
- Approximately, 189 permitted facilities and 370* sources in area codes 94607 and 94608
 - *Includes backup generators

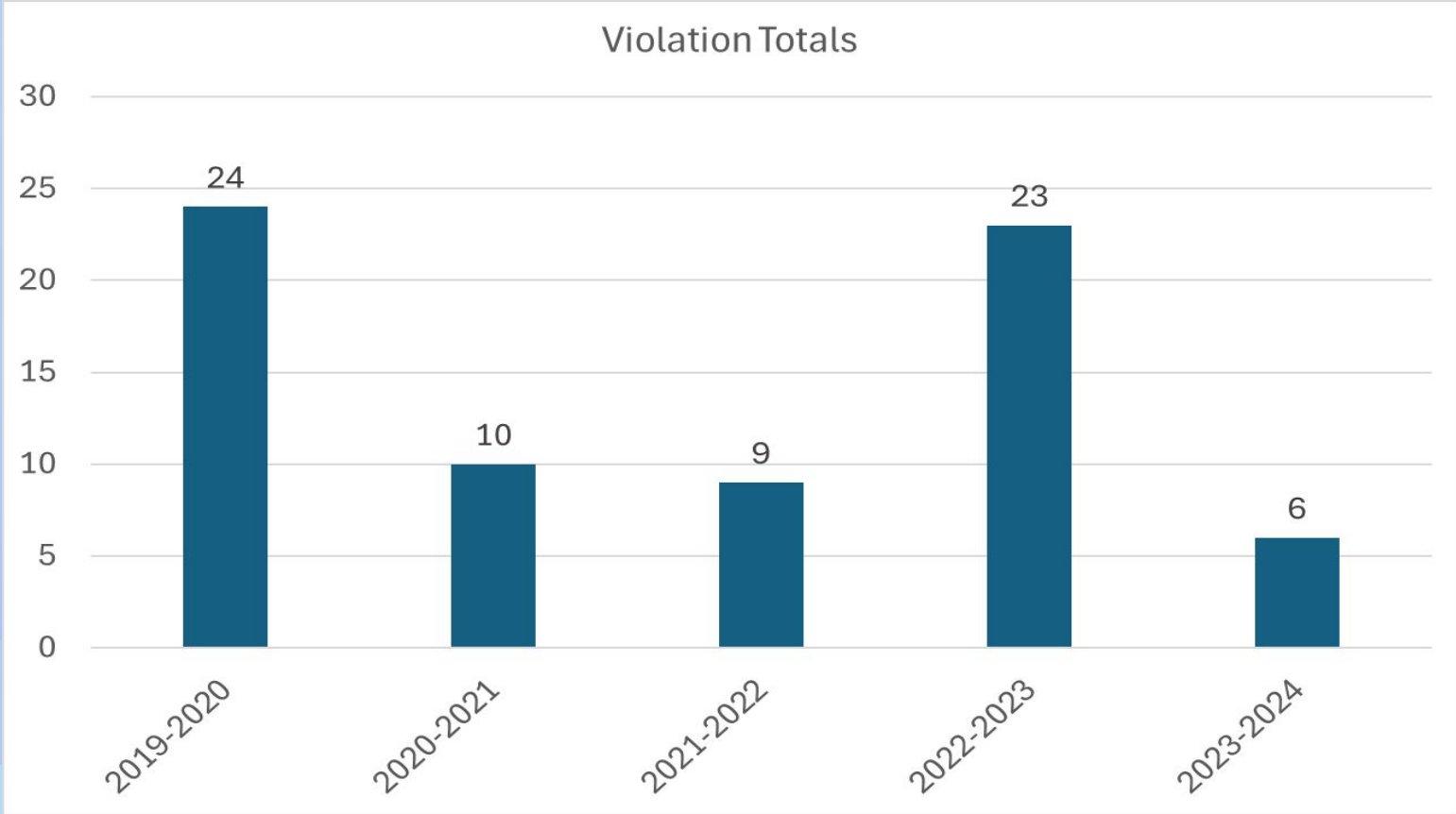
Enforcement Data - Source Inspections

Source Inspections from 2019-2024



Enforcement Data - Violations Data

Source Inspections from 2019-2024



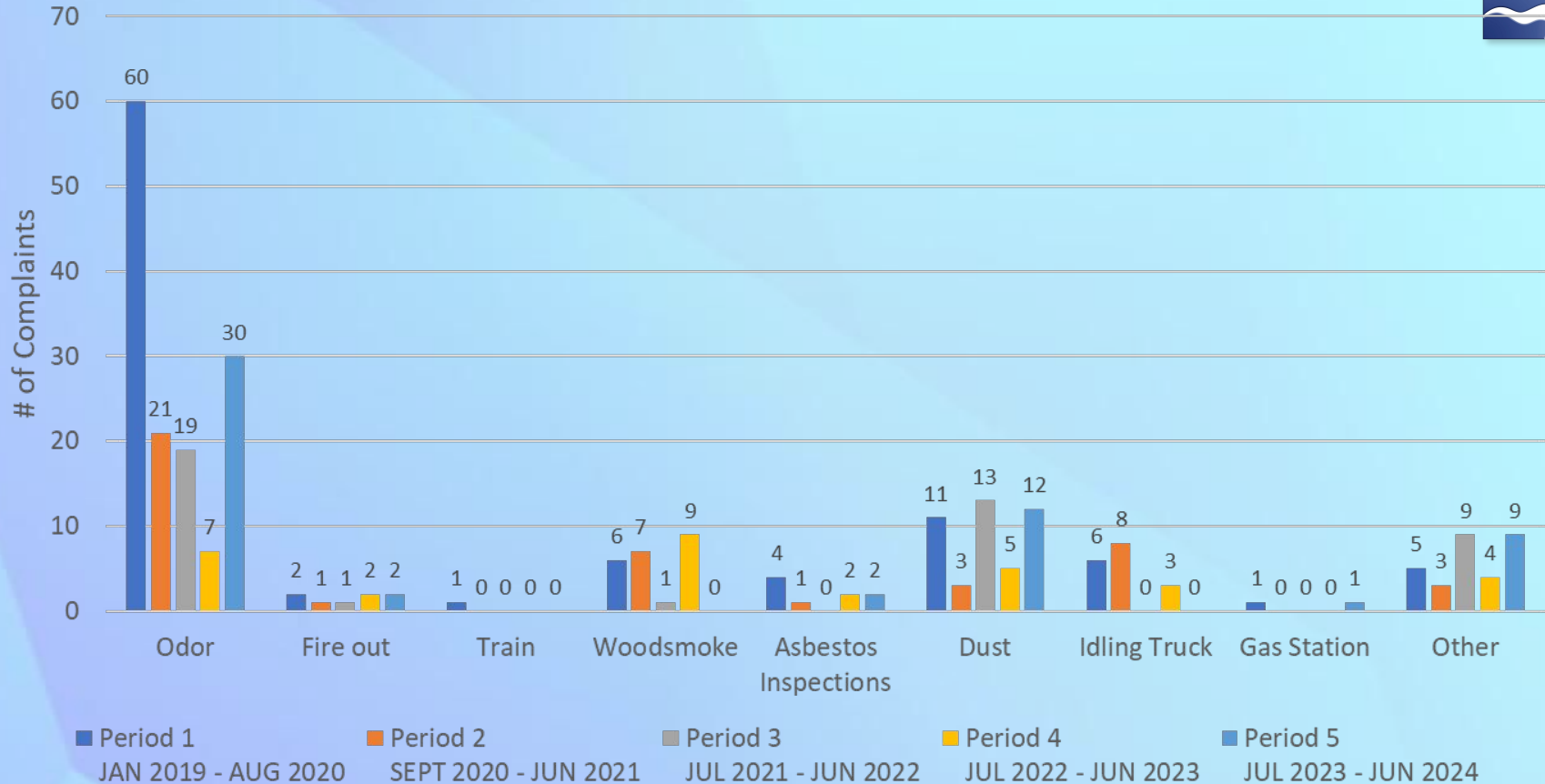
Enforcement Data - Complaints



- Overall **downward** trend of complaints in West Oakland
- Top 3 Complaint Categories:
 - Odor
 - Dust
 - Other
- Odor complaints have significantly **decreased**
- Slight **increased** trend of Dust and “Other” complaints

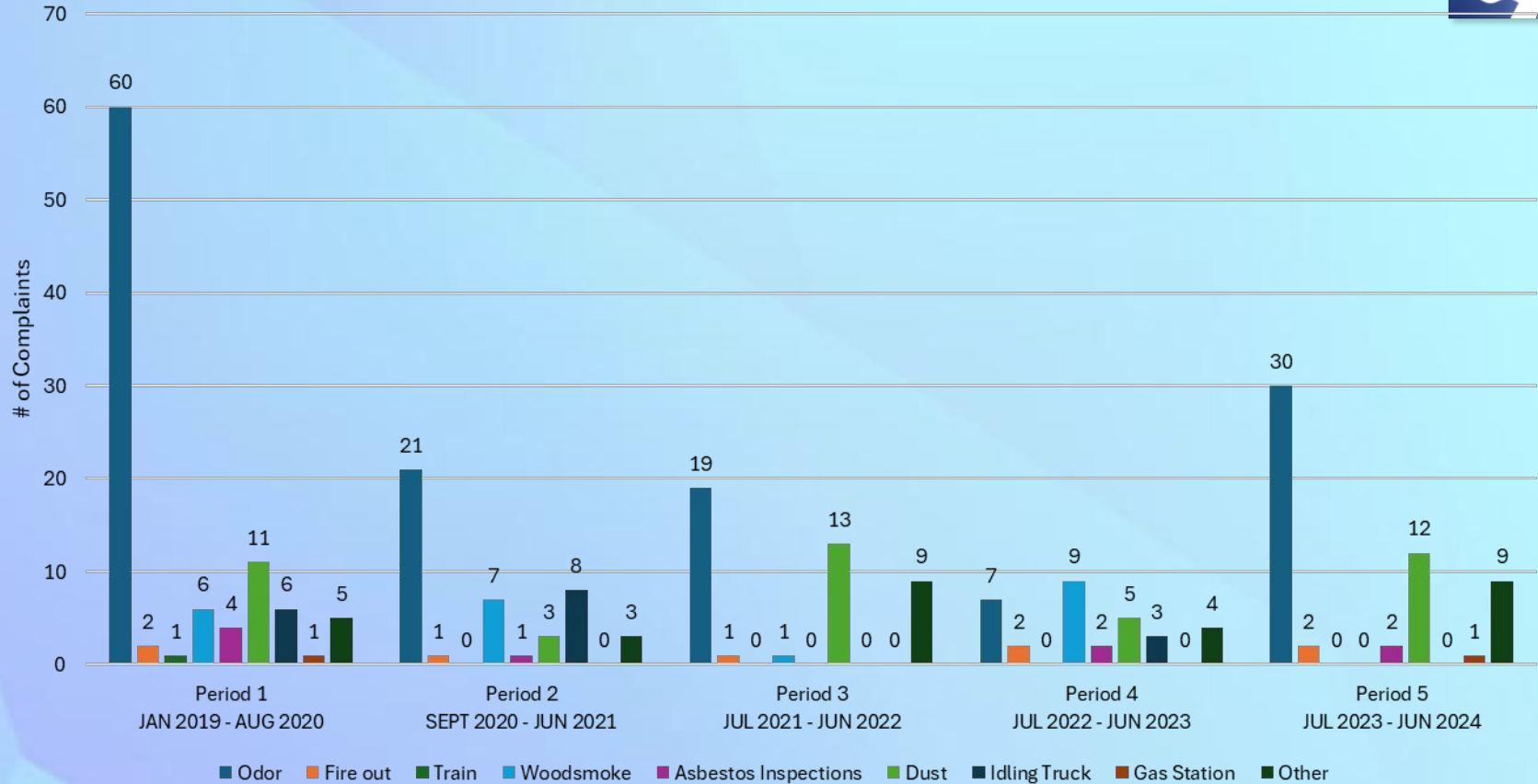


5 Year Review of West Oakland Complaints Received by Reporting Period





5 Year Review of West Oakland Complaints Received by Reporting Period



Future Reporting & Strategic Plan



Goal 1: Achieve Impact

“...To achieve impact, we will also strengthen our regulations, permitting and enforcement policies, and improve how we hold industry accountable when our regulations are violated.”

Goal 2: Advance Environmental Justice

“...We will directly engage with communities about compliance and enforcement activities, including recent incidents or other air pollution violations, our enforcement response, the extent of public harm, and legal actions we may take.”

Goal 4: Be Effective, Accountable, and Customer-Oriented

“...We will also increase the efficiency and effectiveness of our inspection and investigation resources to improve compliance rates and increase the impact of our enforcement programs.”

Future Reporting & Strategic Plan



Goal 1: Achieve Impact

“...To achieve impact, we will also strengthen our regulations, permitting and enforcement policies, and improve how we hold industry accountable when our regulations are violated.”

Goal 2: Advance Environmental Justice

“...We will directly engage with communities about compliance and enforcement activities, including recent incidents or other air pollution violations, our enforcement response, the extent of public harm, and legal actions we may take.”

Goal 4: Be Effective, Accountable, and Customer-Oriented

“...We will also increase the efficiency and effectiveness of our inspection and investigation resources to improve compliance rates and increase the impact of our enforcement programs.”

Future Reporting & Strategic Plan



Strategy 1.5 Enhance Violation Investigations



“...We will enhance our procedures for investigating violations of Air District regulations in communities overburdened by air pollution to better protect community health.” (page 39)



Strategy 1.6 New Enforcement Policy

“...We will collaborate with communities to develop an enforcement policy to better prevent violations of air quality regulations.” (page 39)



Strategy 4.5 Improve Compliance Investigations

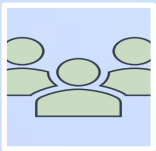
“...We will increase the efficiency and effectiveness of inspection and investigation resources to improve compliance and increase the impact of our enforcement program.” (page 78)

Future Reporting & Strategic Plan



Strategy 2.5 Air Quality Complaints

“...We will improve the complaint process to ensure it is effective and transparent (page 51)



Strategy 2.6 Talk with Communities

“...Meet regularly with community members on compliance and enforcement activities, recent incidents or other air pollution violations, enforcement response, the extent of public harm, and legal actions we may take.” (page 53)



Questions?

Thank you!

To learn more about Air District enforcement progress,
visit

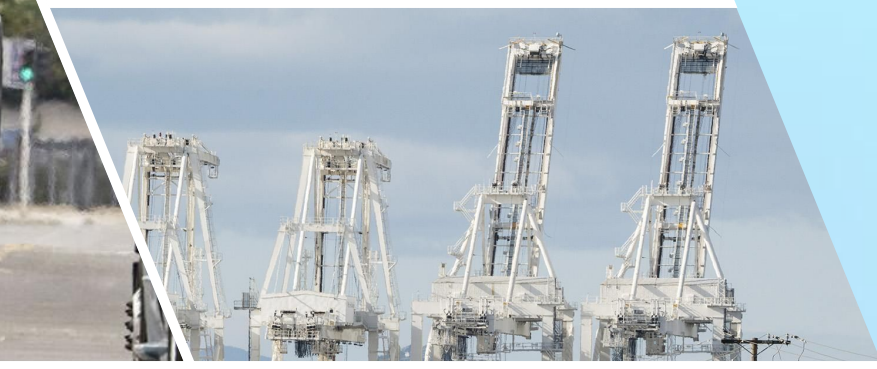
<https://www.baaqmd.gov/en/rules-and-compliance/compliance-assistance>

or

email us at compliance@baaqmd.gov

Emissions Inventory Update

West Oakland Emissions Inventory Updates



BAY AREA AIR QUALITY
MANAGEMENT DISTRICT

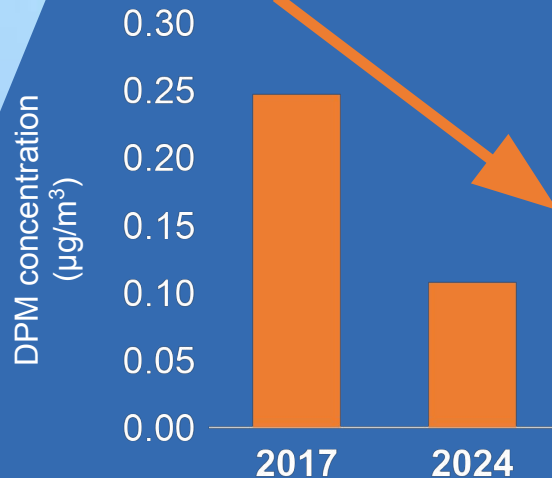
Steve Reid (Presenter)

Presentation Outline

- Overview of the West Oakland technical assessment
- Summary of the inventory update approach
- Results of emissions inventory updates
- Revised exposure results and progress toward targets
- Next steps

5-Year Highlights

- Inventory updates show significant reductions in emissions from diesel sources
- Exposure analyses show good progress toward plan targets
- Work remains to be done, especially for PM_{2.5} (local and regional issue)



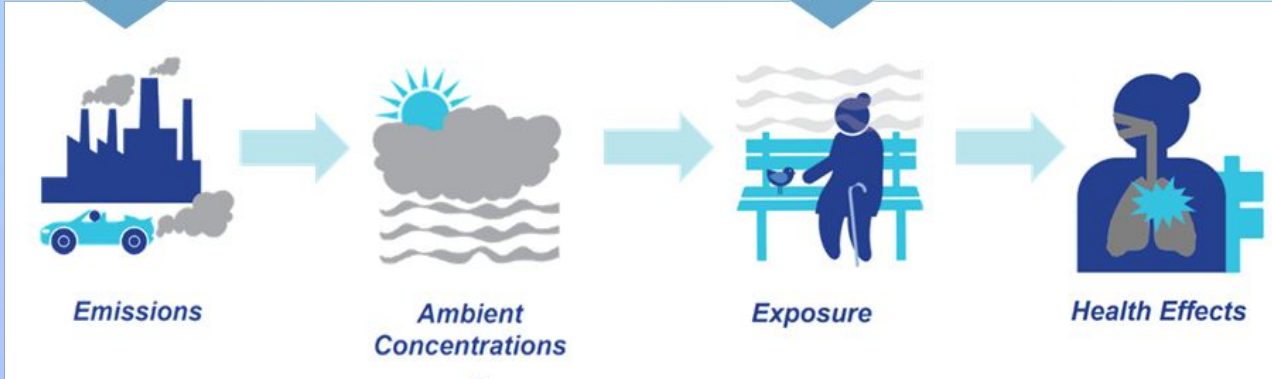
Average residential exposures to diesel particulate matter decreased by **56%** between 2017 and 2024*

**Estimated based on modeling of local source emissions*

West Oakland Technical Assessment

How much air pollution is being emitted?

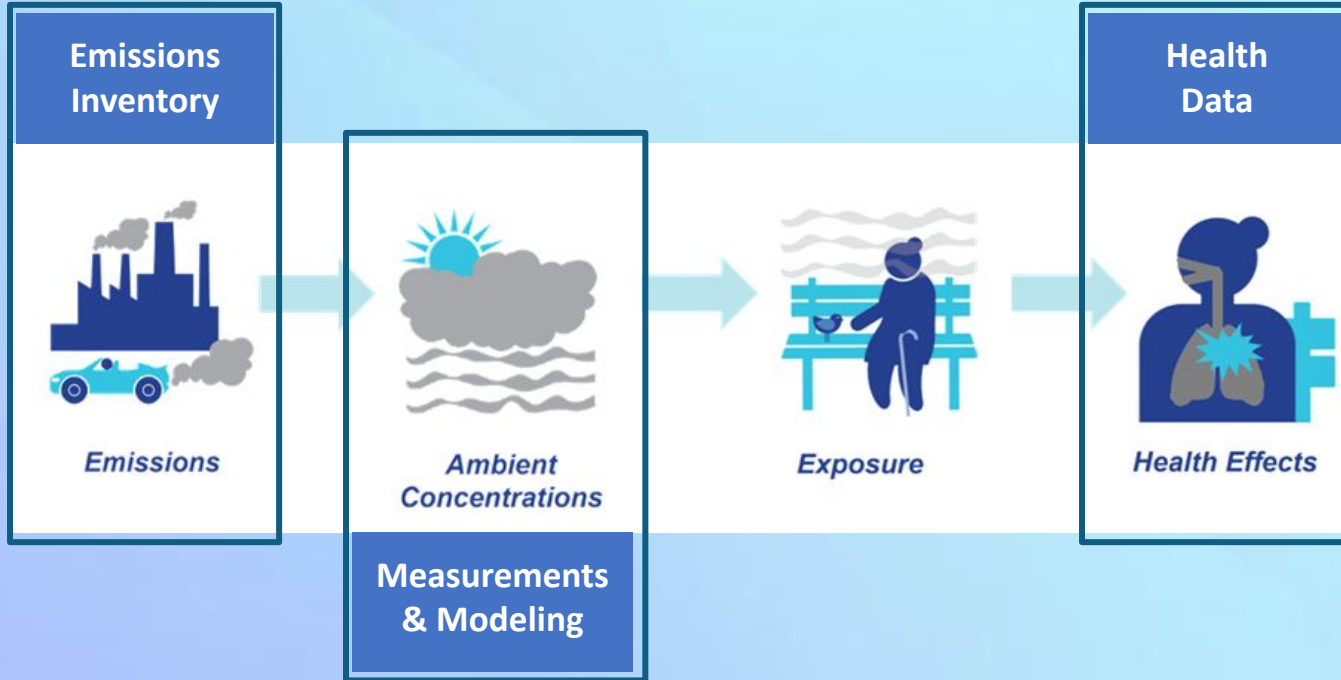
Who ends up breathing the air pollution?



What happens to the air pollution after it is emitted?

How does the pollution impact people's health?

West Oakland Technical Assessment



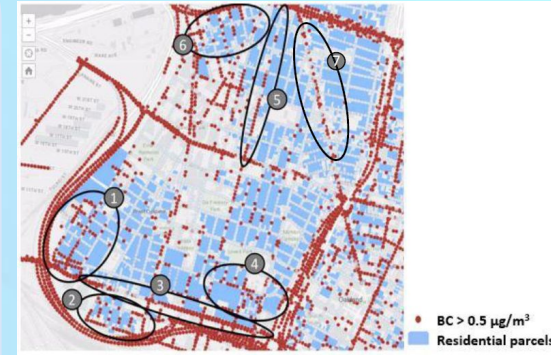
West Oakland Technical Assessment

Monitoring Studies

- WOEIP partnered with EDF, Google, and Aclima to conduct detailed measurements from May 2015-May 2016.
- EDF developed maps showing black carbon (BC) measurements

Impact Zones

- The Steering Committee used the EDF maps to identify **7 impact zones**
- Each impact zone had BC measurements above the West Oakland median value



West Oakland Neighborhood Zones with high measured levels of black carbon - Figure 4-2 from the WOCAP



West Oakland Technical Assessment

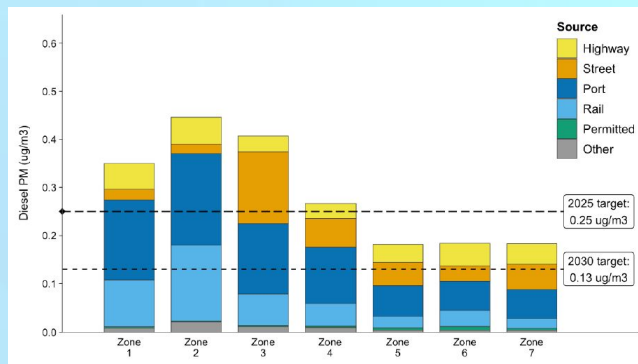
Community-Scale Emissions Inventory

- WOCAP includes tabulated data for 2017, 2024, and 2029
- Main focus was on PM_{2.5}, diesel particulate matter (DPM) and cancer risk-weighted emissions
- Emissions data organized by source grouping (e.g., highways, port, etc.)

Exposure Analysis

- Dispersion modeling done for local sources with sufficient data
- Provided pollutant concentrations at 20-meter resolution
- Modeling results evaluated by source category and impact zone

Source Contributions



DPM concentrations by source category and impact zone (local sources only) - Figure 5-11 from the WOCAP

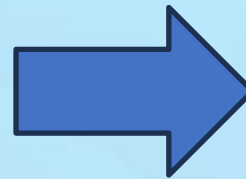


Emissions Inventory Updates

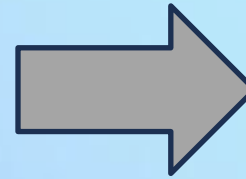
Why do emissions inventories change?

3 Major Reasons:

1. Activity levels change (e.g., goods movement increases or decreases)
2. Control programs are enacted (e.g., CARB's Truck & Bus Rule)
3. Emissions estimation methods or datasets are updated (e.g., CARB's EMFAC2017 model replaced with EMFAC2021)



Historical methods
inventory for tracking
against an established
baseline

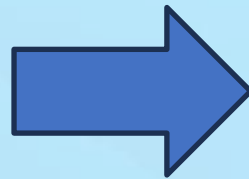


Best methods
inventory with an
updated baseline

Why do emissions inventories change?

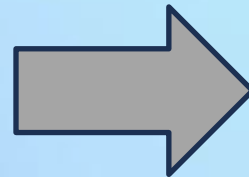
3 Major Reasons:

1. Activity levels change (e.g., good movement increases or decreases)
2. Control programs are enacted (e.g., CARB's Truck & Bus Rule)



Historical methods inventory for tracking against an established baseline (**main report**)

3. Emissions estimation methods or datasets are updated (e.g., CARB's EMFAC2017 model replaced with EMFAC2021)



Best methods inventory for starting over with an updated baseline (**appendix**)

Emissions Inventory Updates— Sources

Source

	Highway
	Street
	Port
	Rail
	Permitted
	Other

Source

Updated Information

On-road vehicles
(highway and street)

EMFAC fleet turnover, regulatory, and activity changes; impacts of new CARB regulations

Permitted facilities

Latest Air District reporting data

Port and Rail

2020 Port Inventory, Marine Exchange data, berth electrification updates, tug engine replacements, BCDC growth rates, etc.

Other (ferries, truck businesses, etc.)

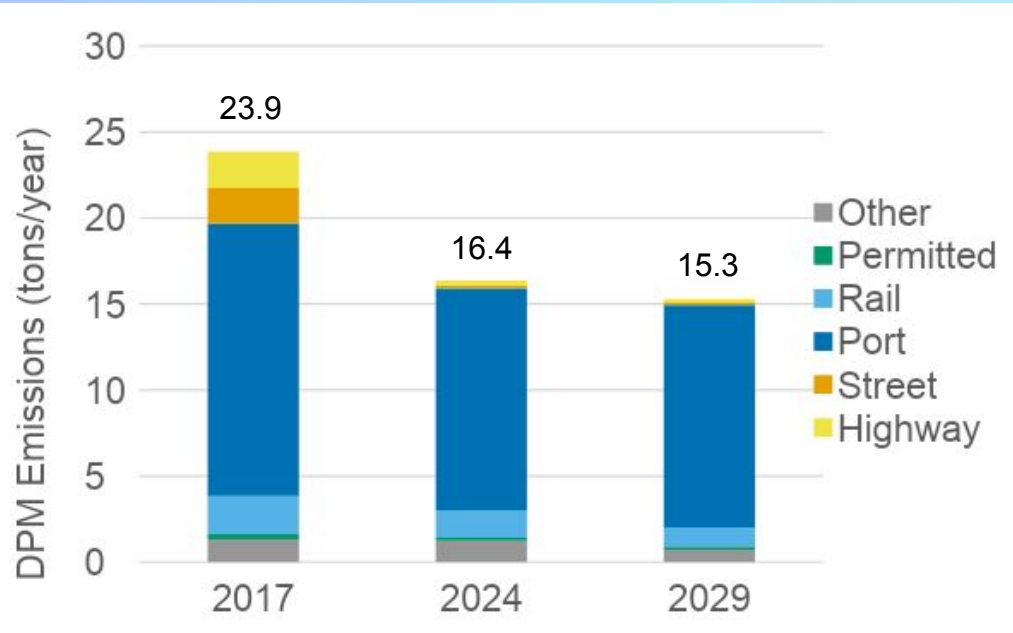
Latest activity and fleet data

Emissions Inventory Updates— Regulations

Updates account for the impact of recent CARB regulations, including:

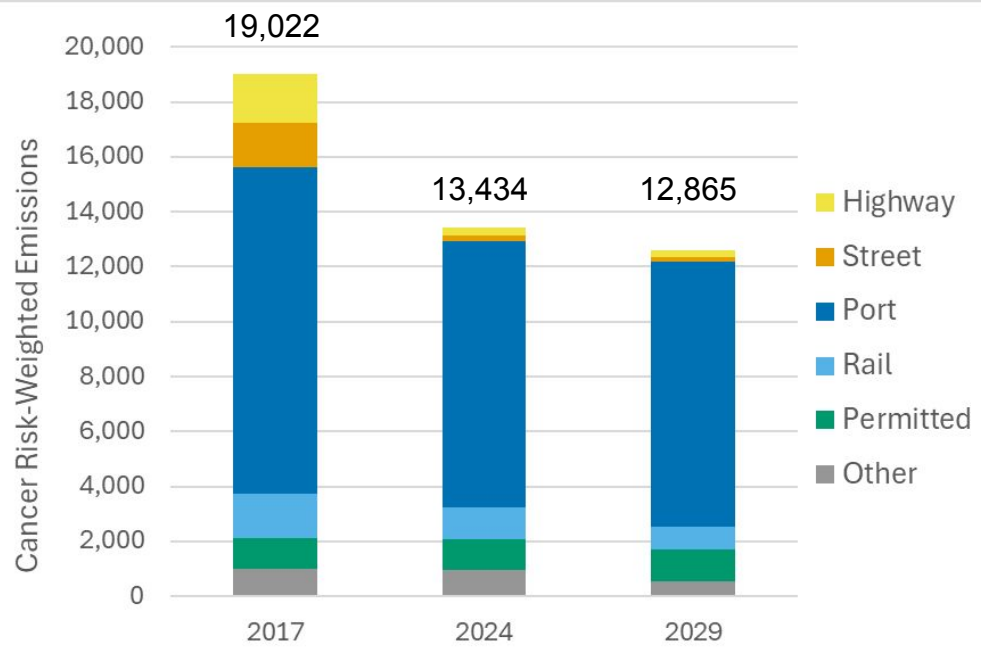
New CARB Regulations	Adoption Date
Advanced Clean Cars II (ACCII)	November 2022
Advanced Clean Fleets	April 2023
Heavy-Duty Inspection and Maintenance (HDIM)	December 2021
Small Off-Road Engine (SORE) Amendment	December 2021
Transportation Refrigeration Unit (TRU) Regulation	February 2022
Commercial Harbor Craft (CHC) Regulation	March 2022
In-Use Locomotive Regulation	April 2023

DPM Emissions Trends



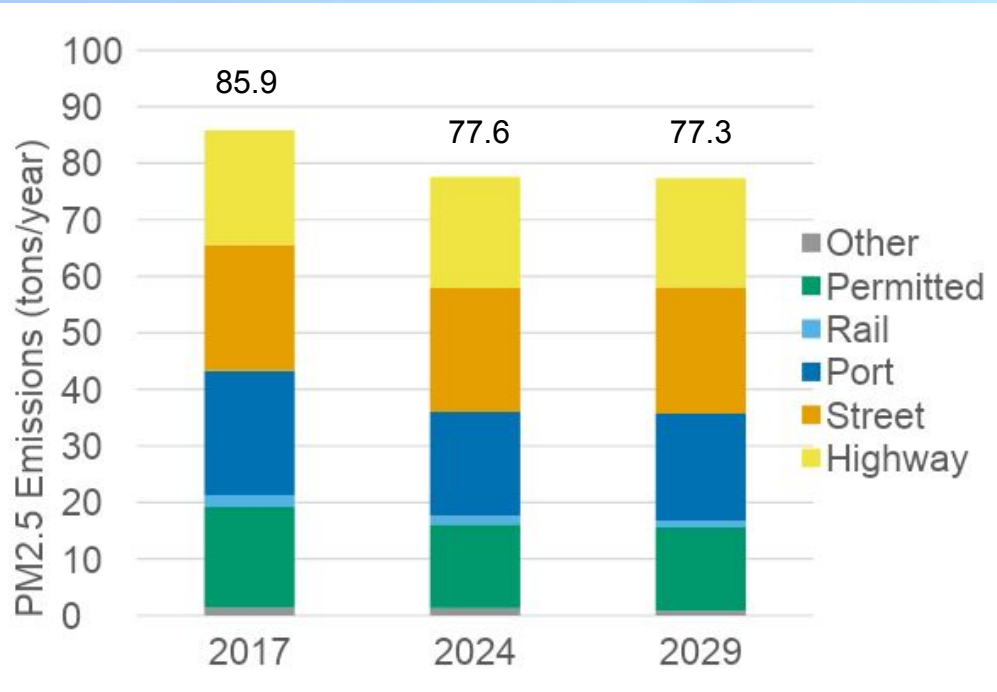
- DPM emissions decreased by 31% (7.5 tons) between 2017 and 2024
- The largest decreases were for diesel trucks (3.9 tons) and harbor craft (2.3 tons)
- Additional reductions for 2029 largely offset by forecasted growth
- Updated DPM emissions for 2024 are 13% lower than WOCAP projections (18.8 tons)

Cancer Risk-Weighted Emissions Trends



- Cancer risk-weighted emissions tracks closely with DPM (29% decrease between 2017 and 2024)
- As with DPM, diesel trucks and harbor craft had the largest decreases
- Updated cancer risk-weighted emissions for 2024 are 6% lower than WOCAP projections

PM_{2.5} Emissions Trends



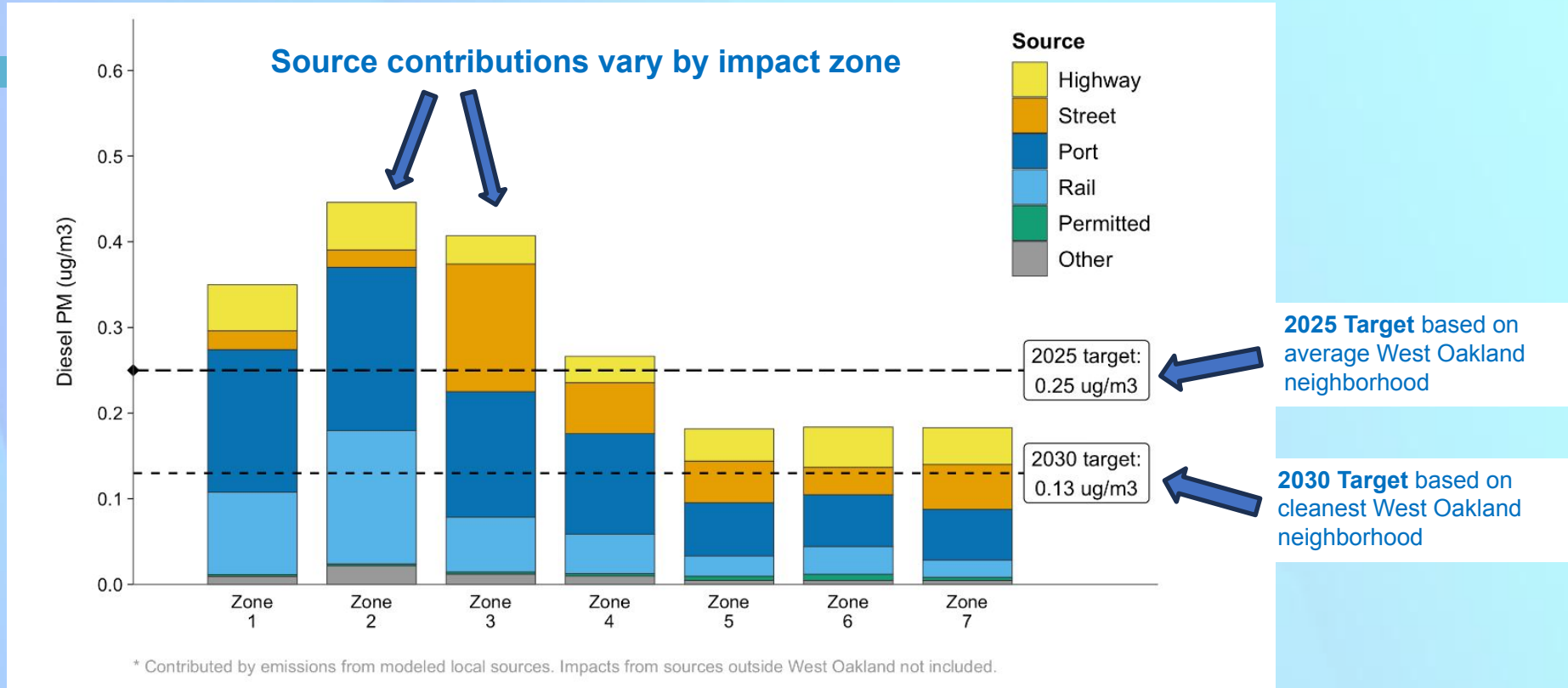
- PM_{2.5} emissions decreased by 10% (8.3 tons) between 2017 and 2024
- The largest decreases were for OGV berthing (1.4 tons) and harbor craft (2.2 tons)
- Additional reductions for 2029 were offset by forecasted growth
- Updated PM_{2.5} emissions for 2024 are 7% lower than WOCAP projections (83.4 tons)

Emissions Mitigation Measures

Action	Affected Sources	2024 Reductions (tons)			2029 Reductions (tons)		
		PM2.5	DPM	Cancer Risk-Weighted	PM2.5	DPM	Cancer Risk-Weighted
Heavy-Duty Inspection and Maintenance (HDIM)	Heavy-duty diesel vehicles	0.15	0.16	115	0.15	0.16	118
Expanded Berth Electrification	Ocean-going vessels at the Port of Oakland	1.36	0.23	174	--	--	--
Cargo handling equipment engine upgrades through grant programs	Rubber-tired gantry (RTG) cranes at the Port of Oakland	0.30	0.30	223	0.28	0.28	207
Harbor craft engine upgrades through grant programs	Assist tugs, dredgers, bunkering barges	2.02	2.08	1,555	--	--	--
CARB's commercial harbor craft (CHC) regulation	Assist tugs, dredgers, bunkering barges, ferries	--	--	--	1.32	1.36	1,013
TOTAL		3.83	2.77	2,067	1.75	1.80	1,338

Exposure Assessment Updates

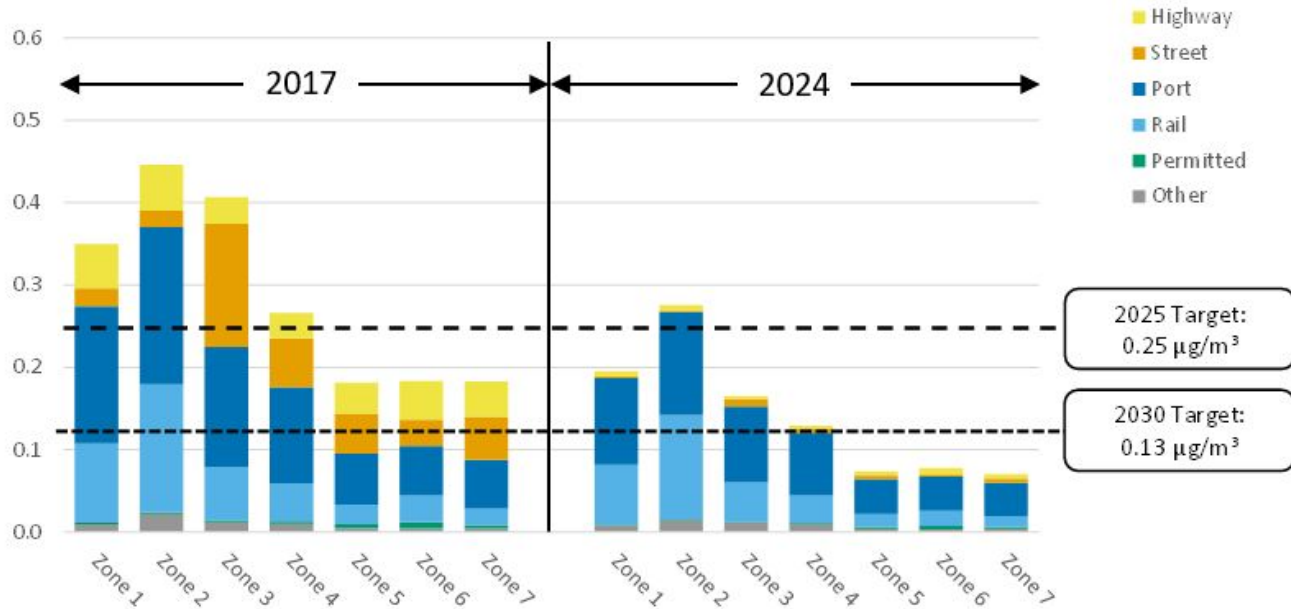
Source Contributions & Targets



WOCAP Figure 5-11. Targets and Source Apportionment for Diesel PM in 2017 (Baseline)

2024 Diesel Particulate Matter (DPM) Exposure

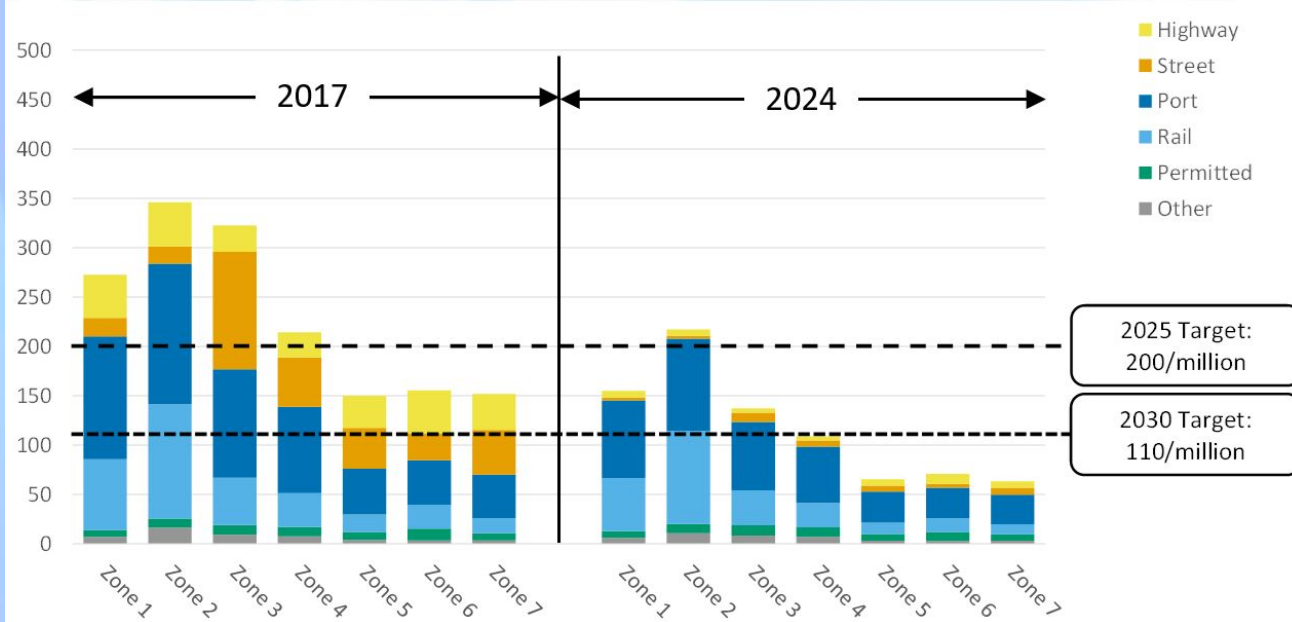
DPM concentrations ($\mu\text{g}/\text{m}^3$) attributable to modeled local sources



- Average residential DPM exposure reduced by **56%** between 2017 and 2024
- DPM exposure reduced by **38%** (Zone 2) to **62%** (Zone 7) between 2017 and 2024

2024 Cancer Risk

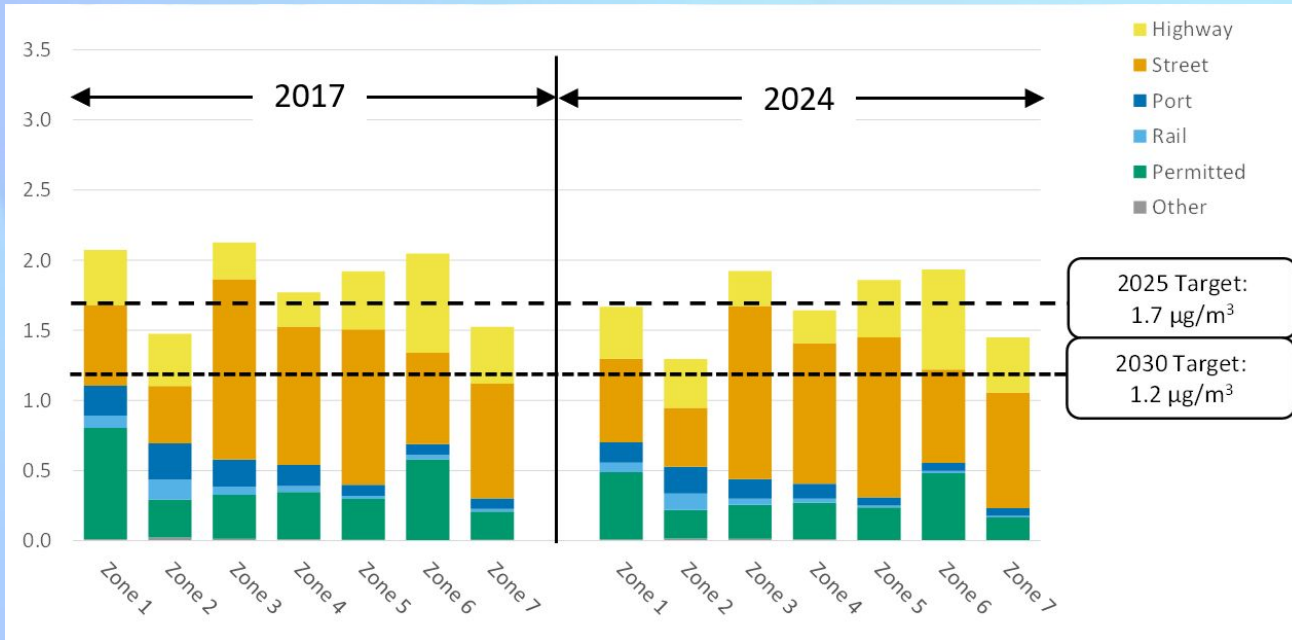
Cancer risk (per million) attributable to modeled local sources



- Average residential cancer risk reduced by **54%** between 2017 and 2024
- Cancer risk reduced by **37%** (Zone 2) to **58%** (Zone 7) between 2017 and 2024

2024 PM_{2.5} Exposure

PM_{2.5} concentrations ($\mu\text{g}/\text{m}^3$) attributable to modeled local sources

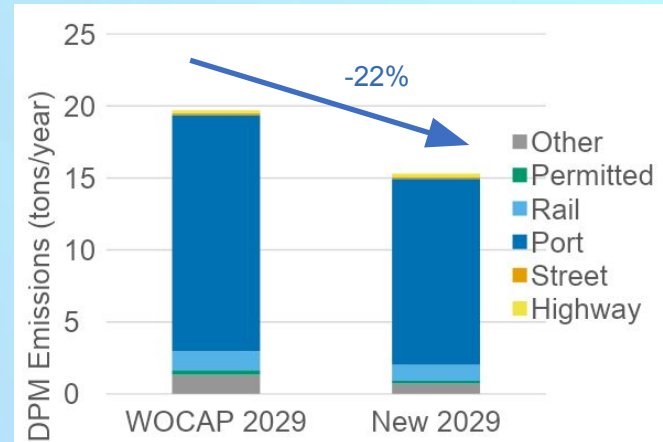


- Average residential PM_{2.5} exposure reduced by **8%** between 2017 and 2024
- PM_{2.5} exposure reduced by **3%** (Zone 5) to **20%** (Zone 1) between 2017 and 2024

2029 Forecasts

- CARB (EMFAC) projections for vehicle miles traveled (VMT)
- Annual port growth from Bay Conservation and Development Commission (BCDC) forecasts (+2.3% per year)
- High level of uncertainty for 5-year projections
- Rate of progress slows between 2024 and 2029
- New 2029 projections are consistently lower than the original WOCAP forecasts

2029 DPM Emissions Forecasts



Next Steps

- Incorporate findings into the emissions inventory section of the Five-Year Report
- Share updated emissions data with CARB
- Present 5-Year Report information to the October CEHJ Meeting
- Ongoing preparation for November Town Hall

Questions?



Evaluation

Monthly Post-Meeting Evaluation Survey

- You have time now to complete the survey
 - www.woeip.org/wocap-sc-survey
- We will also email the link after the meeting

Adjourn



Blue sign with text and symbols, likely a parking or accessibility notice.

RESERVED PARKING ONLY

RESERVED PARKING ONLY

New Business

(new standing agenda item)

- No content here this month
- This is a placeholder where every month
 - the Co-Leads can offer information about new items in response to a Steering Committee request
 - Co-Leads can solicit Steering Committee feedback on or assess interest in new items.
 - Be a space for SC to request future agenda items