Bay Area Air District

East Oakland Community Air Monitoring

Background and Motivation

The Air District, in partnership with Communities for a Better Environment (CBE), is conducting an Air Monitoring Project in East Oakland to collect data to inform the development of effective strategies to reduce emissions and limit exposure. East Oakland community members and organizations have long advocated for health equity, cleaner air, and investments to promote a green and regenerative economy. A majority Black and Brown community, East Oakland contains large tracts of industrially zoned land with a complex mix of pollution sources. East Oakland is also a major transportation corridor with goods moving via air, ship, rail, freeways, and truck routes. These pollution sources are often near residences, schools, and other locations where people work and spend time.

Project Approach

The Air District will use its air monitoring van to conduct measurements of volatile organic compounds (VOCs) and particulate matter (PM) in areas of interest or concern to the East Oakland community. Equipped with a proton-transfer reaction mass spectrometer (PTR-MS), the air monitoring van can measure concentrations of many VOCs at 1-second intervals. The air monitoring van is also equipped with particle sizers that can accurately measure various sizes of PM and PM characteristics.

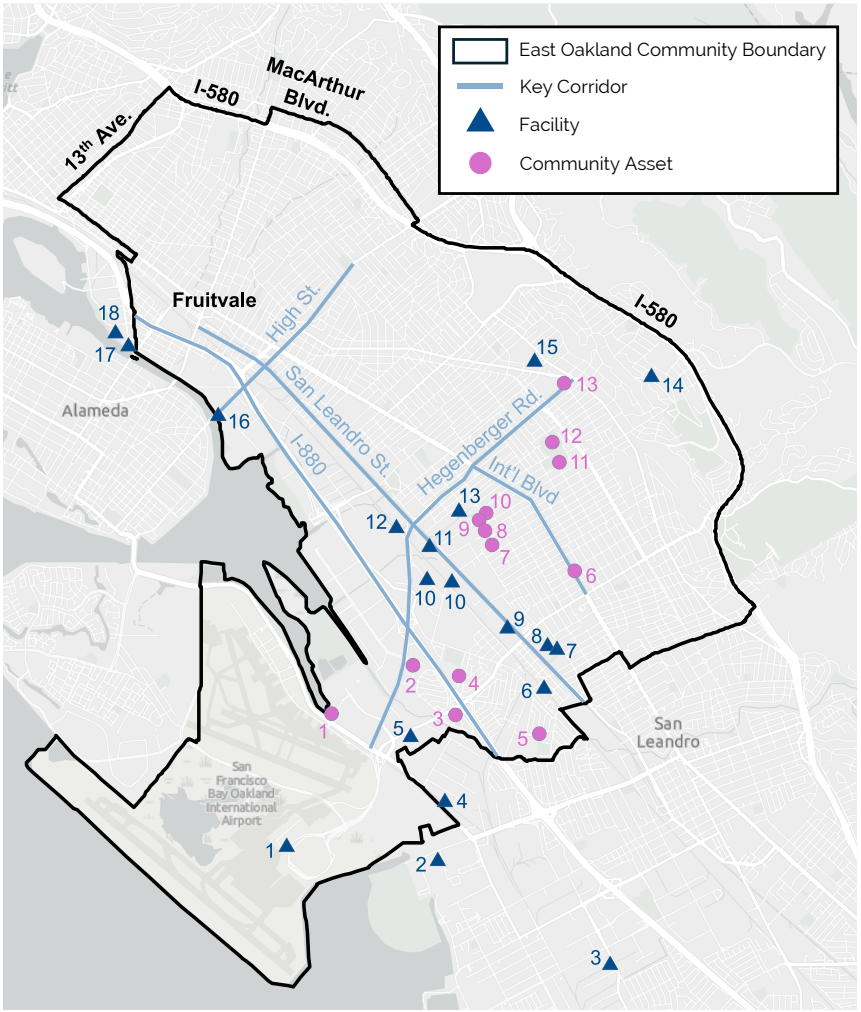
The Air District's air monitoring van

The air monitoring van will drive in the vicinity of prioritized facilities multiple times and in other areas of interest to the community. Monitoring will also be planned for different times of day during work hours and on different days of the work week for added representativeness. However, given the short duration of measurements in any one location, changes in air quality or intermittent pollution events that occur outside the time and location of active monitoring will not be reflected in the data. In addition, since these mobile measurements are short snapshots in many locations, they do not provide enough information to estimate health risks. When plumes or notable peaks in pollutant concentrations are detected, additional monitoring may be conducted to investigate the extent of the detected issue. Data will be reviewed and evaluated at regular intervals to help determine whether sufficient data has been collected.

In addition to pointing to potential opportunities for emissions and exposure reductions, findings may highlight the need for additional information to further characterize air pollution sources or other concerns. This may include the use of follow-up short-term air monitoring studies. Throughout the process, CBE will continue to actively engage with community members to gather insights on local air quality concerns, provide feedback on the collected data, and identify potential data gaps.

Study Area

Monitoring using the Air District's air monitoring van will be focused around facilities, key corridors, and community assets identified by the East Oakland community, as shown in the map below.



Facilities

1. OAK Airport
2. Davis St. Transfer Station
3. Cultured Marble Products
4. PCC Structurals
5. East Bay Crematorium
6. Aaron Metals
7. Sterling Environmental
8. HTI Tank Wash / Quala
9. Oakland Foreign Trade Zone
10. Argent
11. AB&I Redevelopment
12. Coliseum Complex
13. R&A Trucking
14. EBMUD Water Treatment Plant
15. Evergreen Crematorium
16. Gallagher & Burk
17. CEMEX
18. Miller Milling

Community Assets

1. MLK Jr. Regional Shoreline
2. Lighthouse Comm. Charter Public School
3. Columbia Gardens
4. Brookfield Elem.
5. Madison Park Academy
6. Acts Cyrene Apts.
7. Tassafaronga Rec. Center
8. Acta Non Verba
9. Acorn Woodland Elem.
10. 81st Ave. Library
11. East Oakland Pride Elem.
12. Arroyo Viejo Park
13. Liberation Park

Expected Project Outcomes

This project will provide essential and transparent information for implementing effective strategies for reducing air pollution exposure and emissions in East Oakland. This project is expected to:

- Provide a publicly available dataset and a summary of insights, findings, and knowledge gained from the data collection.
- Build engagement with community to provide input on sources of air pollution and community assets, as well as to gather feedback regarding any potential data gaps.
- Provide a better understanding of the variations in air pollution concentrations within East Oakland and local sources contributing to air pollution.
- Increase access to air monitoring data to support existing efforts to address environmental injustices experienced by East Oakland residents.
- Inform follow-up studies in the second phase of this Air Monitoring Project.

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