Richmond Air Rangers
Monitoring, Modeling & Job Training
California Air Resources Board
Community Air Grant Program
Here’s what Poverty & Pollution look like throughout California
Inequality in the Bay Area
Mapping Inequality here at home.
Current Monitoring Sites
Mobile Source Pollution

Routine Pollution that remains un-monitored throughout much of California
Stationary Sources the represent a unique challenge within our study area.
EXISTING AIR QUALITY TOOLS

AIR QUALITY MONITORING STATIONS FOR RICHMOND
GOOGLE EARTH, 2019, BAAQMD PM2.5 AIR MONITORING MAPVIEW

REGIONAL MODEL WITH A 1 KM RESOLUTION
RICHMOND STEERING COMMITTEE, 2019, PM2.5 FILTER MAPVIEW

Our network was designed by the community to look at the places that matter to them.

Residents placed the network where they live, work & play instead.

Monitoring the people who are impacted most.

We can go beyond litigation and property ownership.
Built For Us, By Us.
The Clarity Open Map has been hugely useful for identifying bad air days like this one during last Fall’s wildfire episode.

This was the day the school district closed and sent our kids outside to walk home in the smoke.
Air Rangers Installing Sensors, Learning Technical Skills and following the Scientific Method.
City of Richmond, 2020,
https://www.transparentrichmond.org/
Discrete PM 2.5 Data Currently Available on Transparent Richmond
Discrete points are challenging to understand. Shair gives a full picture.
SHAIR INTERFACE slated to replace Clarity Map on Transparent Richmond (app.ramboll-shair.com)
Shair models and layers multiple environmental variables to contextualize air pollution:

- Sensor Data
- Fusion Model
- Street-canyon model
- Regional Model
- Traffic Measurements
- Meteorology Forecast
- Shairsense
- Shairfuse
- Shairstreet
- CAMx
- Traffic Emissions Model
- WRF Meteorological Model
- Reference Monitors
- Real-time congestion data
- Sensors
- Comprehensive Emissions Inventory

- Improve local estimates
- Mass conservation
- Block by Block
- Pollutant Insights
- Patterns,
- Source
- Apportionment
- Real-time
- traffic
- emissions
- Pollutant
- dispersion

**Coming Soon** - BAAQMD San Pablo Monitoring RoofTOP

**HOW SHAIR WORKS**
More granular spatial and temporal data than ever before
The center of strategic planning

~ Real-time, accessible information ~  Locate and identify hotspots ~
~ Track trends and effectiveness of strategies over time ~
~ Share information and notify when levels reach a particular threshold ~
The Air Rangers Van will Collect Gravimetrically Speciated Samples of airborne metals

PHASE II

~Workforce Development transitions from sensor installation to filter sample collection~

~SHAIR Model directs sample collection identifying airborne compounds of concern~

Lab verified results helping us all to utilize hyper-local data for decision-making
RICHMOND - SAN PABLO
COMMUNITY PATH TO
CLEAN AIR

Richmond