

Background: Efforts to measure air quality are typically sparse and fail to capture the hyper-local nature of air pollution. In fact, air pollution can be eight times higher from one end of a city block to another.

Working with partners like Google and leading scientists, Aclima [pioneered measurement and mapping of climate emissions at the block-by-block level](#). Deploying in major regions across California including [Los Angeles](#), the [Central Valley](#), [San Francisco, and Oakland](#), Aclima generated an entirely new dataset that provides new insights about the hyper-local nature of air quality and how we can empower governments, impacted communities, and industry to advance solutions that improve the air we share.

Aclima's air quality mapping and analysis platform provides next-generation diagnostics of critical air pollutants — from carbon dioxide and ozone to particulate matter — at unprecedented block-by-block resolution. Aclima's platform delivers hyper-local air quality web tools that will allow the local community to engage with the data and help governments to diagnose problems, manage emissions, and take action.

Approach: Aclima's mobile nodes take many measurements, spread across days of the week and time of day, with the intent to generate statistically representative maps of persistent air quality down to the city block. This can be done as a representative picture of annual conditions, as Aclima is doing with the Bay Area Air Quality Management District across the entire region. It can also be done as a representative picture of a three month period, which generates the dataset more quickly than the annual picture (approximately 3 months vs 12), and can be used to prioritize resources and focus for future monitoring and reduction initiatives.

Aclima can be part of the Richmond-San Pablo community monitoring strategy by deploying its mobile platform in the near-term for three months on all publicly accessible roads in the area (Figure 1 below). Aggregating all of the many measurements collected during this period provides detailed, block-by-block measurements of PM_{2.5}, NO₂, NO, O₃, CO, and CO₂ in the Richmond-San Pablo community, including persistent hotspots. This unprecedented data resolution can assist the Steering Committee in the development of ongoing and future initiatives--such as placement of stationary monitors. Additionally, Aclima seeks to empower all interested members of the public, and provides a free Community Portal through which any member of the public can actively engage with hyper-local air quality insights.

Aclima is actively involving stakeholders in the Bay Area Air Quality District community in the Community Portal development process. Aclima practices a human-centered approach to designing products that includes research, ideation, development, testing, and iteration. We are committed to a long-lasting relationship with Community Portal users by getting to know them and their goals through a variety of methods.

Aclima hopes to engage the Steering Committee in the development of the Community Portal.

Figure 1. DRAFT BAAQMD Richmond-San Pablo Quarterly-Resolution Monitoring Map

