

AGENDA: 12

# OWNING OUR AIR

## THE WEST OAKLAND COMMUNITY ACTION PLAN ANNUAL REPORT

Board of Directors Special Meeting  
December 2, 2020

Alison Kirk, Principal Environmental Planner  
Jay Howard, Assembly Bill 617 Project Manager



West Oakland  
Environmental  
Indicators  
Project



BAY AREA  
AIR QUALITY  
MANAGEMENT  
DISTRICT



# Owning Our Air: 2020 Implementation



Steering Committee continued meeting monthly – remotely due to COVID-19

Community members stepped up to Co-chair four Subcommittees, taking on increasing responsibility and ownership over implementation

The Subcommittee structure is supporting the development of new community leadership

Subcommittees are applying key implementation criteria including centering equity

*Charles Tyrone Reed,  
Co-Chair Land Use*



# Community-led Subcommittees



**Four Subcommittees formed to focus on partner agency strategy implementation:**

- Transit/Bike/Walk
- Land Use
- Port and Freight
- Health and Living Buffers

**Subcommittees are Co-chaired by one community member and one agency member**

*Mercedes S. Rodriguez  
Transit/Bike/Walk Subcommittee Co-chair*



# Implementation Approach



## Equity at Center

**Steering Committee and Subcommittees are focused on centering equity in strategy implementation:**

- Deep partnership with City of Oakland Department of Race and Equity, including training and support to Subcommittees and Steering Committee
- Subcommittees are assessing equity implications and opportunities

**STOP BURNING  
IN OUR  
COMMUNITY**



**All Burning  
Negatively Impacts  
You and Your  
Neighbors**



# Early Implementation Wins



Air District funding for low-emission equipment

- 16 gantry crane engine replacements at the SSA Terminal; 12 tugboat engine replacements; 1 new switcher locomotive

MERV 16 air filtration systems installed at

- KIPP Bridge Academy Charter School, Martin Luther King, Jr., Lafayette Elementary, Hoover Elementary, and Prescott School

City of Oakland Capital Improvement Program

- Each Subcommittee submitted one strategy for funding

See [West Oakland webpage](http://www.baaqmd.gov/ab617woak)

(<http://www.baaqmd.gov/ab617woak>) for links to videos, Annual Report Slide Deck, and other materials



# Looking Forward



## Continue working with agency partners

- Align with City of Oakland on Equitable Climate Action Plan implementation
- Inform the City of Oakland's General Plan update
- Advance the West Oakland Truck Management Plan (City and Port of Oakland)
- Support the Port of Oakland Seaport Air Quality 2020 and Beyond Plan





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# **Air District Board Member Composition and Compensation Discussion**

**Board of Directors Special Meeting  
December 2, 2020**

**Alan Abbs  
Legislative Officer**

# County Representation



Population of 300,000 or less:

- 1 representative each: Marin and Napa

Population of 750,000 or less, but more than 300,000:

- 2 representatives each: Solano and Sonoma

Population of 1,000,000 or less, but more than 750,000:

- 3 representatives each: San Francisco and San Mateo

Population of more than 1,000,000:

- 4 representatives each: Alameda, Contra Costa, and Santa Clara



# Board Compensation



- Board compensation and expenses are allowed pursuant to Health and Safety Code section 40227.
- Members of the Board are allowed “actual and necessary expenses incurred in the performance of their duties” and may be compensated up to “one hundred dollars (\$100) for each day attending meetings” of the Board or its committees.

# Selection Process



- In appointing representatives from individual counties, the first appointee is a county supervisor, the second a city councilmember or mayor, the third a county supervisor, and the fourth a city councilmember or mayor.
- Appointees are determined by the respective county boards of supervisors or city selection committees, and in some instances county boards of supervisors have exercised their prerogative to appoint a member from the list provided by a city selection committee to fill a county supervisor seat.

# Other Air Districts



Air District	Population	Counties (whole and partial)	Total Board Members	External Appointee(s) Information
<b>Bay Area</b>	7.5 million	9	24 County Elected (14) City Elected (10)	Mayor of San Francisco currently appoints a deputy to act on her behalf
<b>South Coast</b>	17 million	4	13 County Elected (4) City Elected (6) External Appointee (3)	1 - Governor Appointed 1 - State Senate Rules Committee Appointed 1 - Speaker of State Assembly Appointed
<b>San Joaquin</b>	4.3 million	8	15 County Elected (8) City Elected (5) External Appointee (2)	Governor Appointed with the advice and consent of Senate: 1 - Physician 1 - Medical or scientific expertise
<b>Sacramento Metro</b>	1.6 million	1	14 County Elected (5) City Elected (9) External Appointee (0)	None
<b>San Diego</b>	3.3 million	1	11 County Elected (2) City Elected (6) External Appointee (3)	Board Appointed 1 - Physician or Public Health Professional 1 - Environmental Justice Representative 1 - Scientific or Technical Background



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# **Update on Bay Area Hyperlocal Air Quality Mapping Project**

**Board of Directors Special Meeting  
December 2, 2020**

**Ranyee Chiang, Ph.D.  
Director of Meteorology and Measurement**

# Presentation Outline



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Motivation

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Project Scope

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Data Evaluation

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Potential Uses for Data





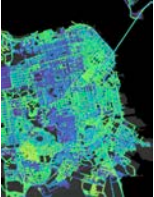

Presentation from Aclima

David Herzl, CEO and Co-Founder

- Methodology and tools
- Status update
- Data access

# Hyperlocal Air Quality Mapping Complements Other Bay Area Monitoring Efforts



	Accuracy	Geographical Coverage	Time	Goals
 <p><b>Regional Monitoring Network</b></p>	High	33 sites	Continuous, hourly, near-real time, etc.	Regional air quality, National Ambient Air Quality Standards
 <p><b>Mobile and Portable Monitoring</b></p>	High	Communities of concern	Short-term studies	Investigate concerns identified by communities
 <p><b>Hyperlocal Mapping</b></p>	Medium	All publicly-accessible streets	Annual average	Identify hotspots for further investigation
 <p><b>Sensor Networks</b></p>	Low	Dense network	Continuous, real-time	Trends in air quality over time and space, Personal decision-making

# Goals of Aclima Project



- Determine air quality impacts at a highly localized scale (block-by-block) for all communities in the Bay Area
- Identify “hotspots” and areas for further study
- Strengthen partnerships with communities around air quality concerns and data-driven actions to reduce emissions

# Project Scope



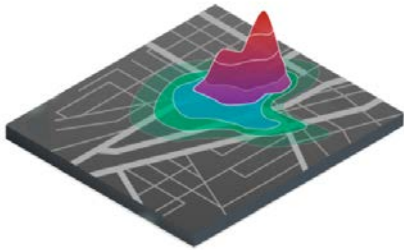
## Customized, high-grade sensor systems measuring:

- Particulate Matter (PM<sub>2.5</sub>), Ozone (O<sub>3</sub>), Nitrogen Oxide (NO and NO<sub>2</sub>), Carbon Dioxide (CO, and CO<sub>2</sub>)



## Drive the entire Bay Area

- Bay Area-wide baseline for annual average pollutant concentrations



## Analytics and data portal

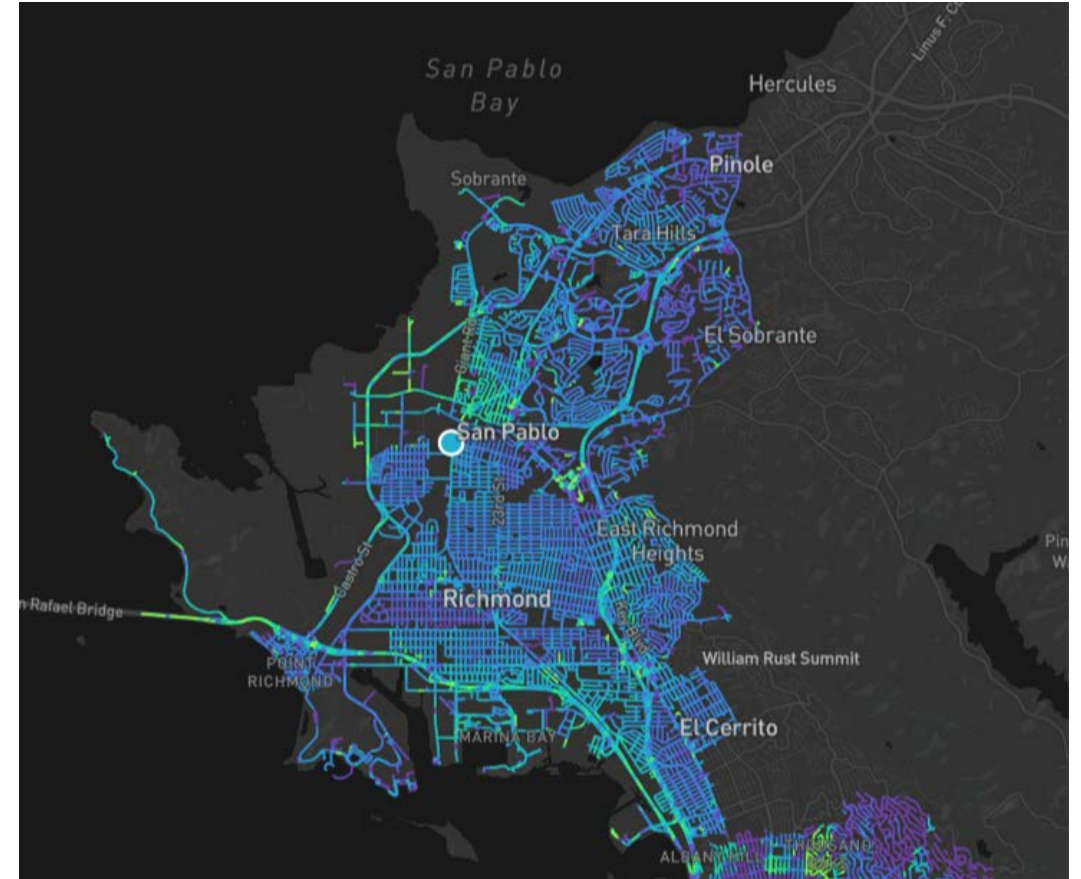
- Website presents the information in an easily understood format that incorporates community input
- <https://insights.aclima.io/>
- Aclima Pro for advanced visualization and analytics



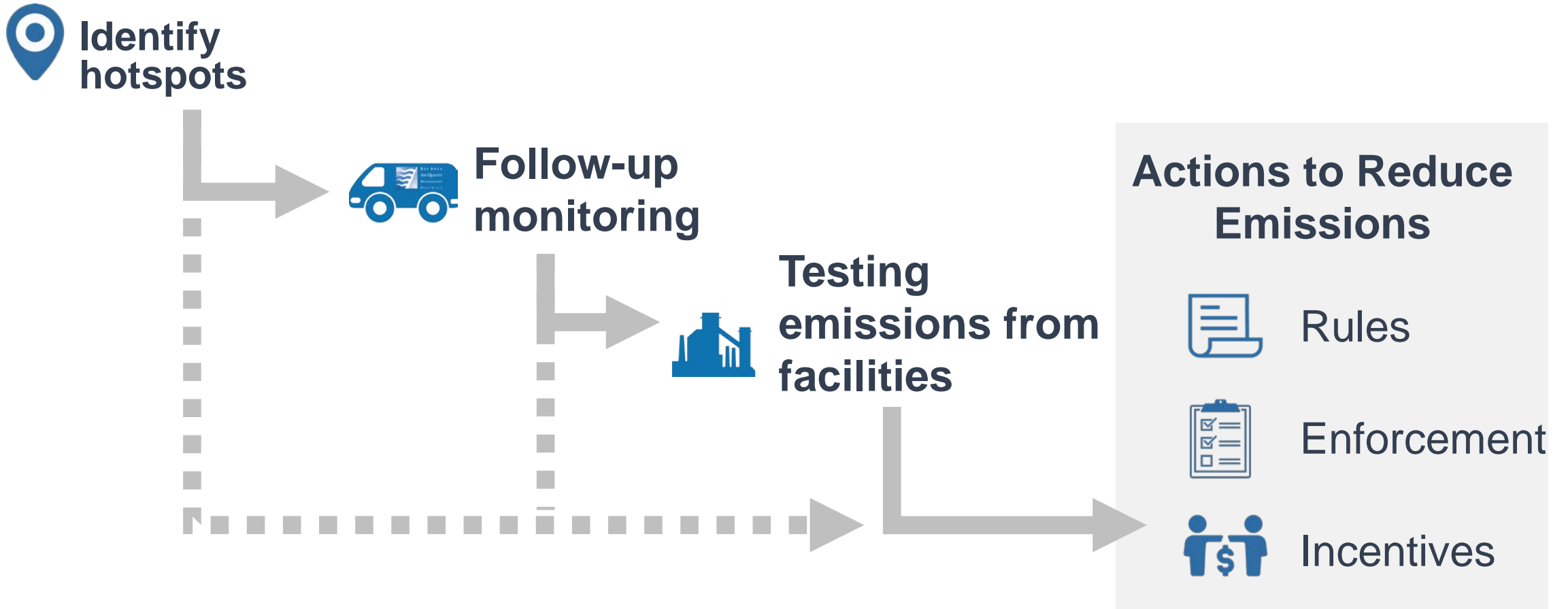
# Data Evaluation by Air District and Aclima



- Sensor collocation at Air District monitoring stations to ensure data accuracy
- Development of data visualization and analysis tools
- Reviewing driving coverage (geographic and time), potential biases, metrics, uncertainty
- Reviewing impacts of shelter-in-place and wildfires on data



# Potential Uses and Actions from Data



# Presentation from Aclima



**David Herzl, CEO and Co-Founder**

**Presentation will include:**

- Methodology and tools
- Status update
- Data access

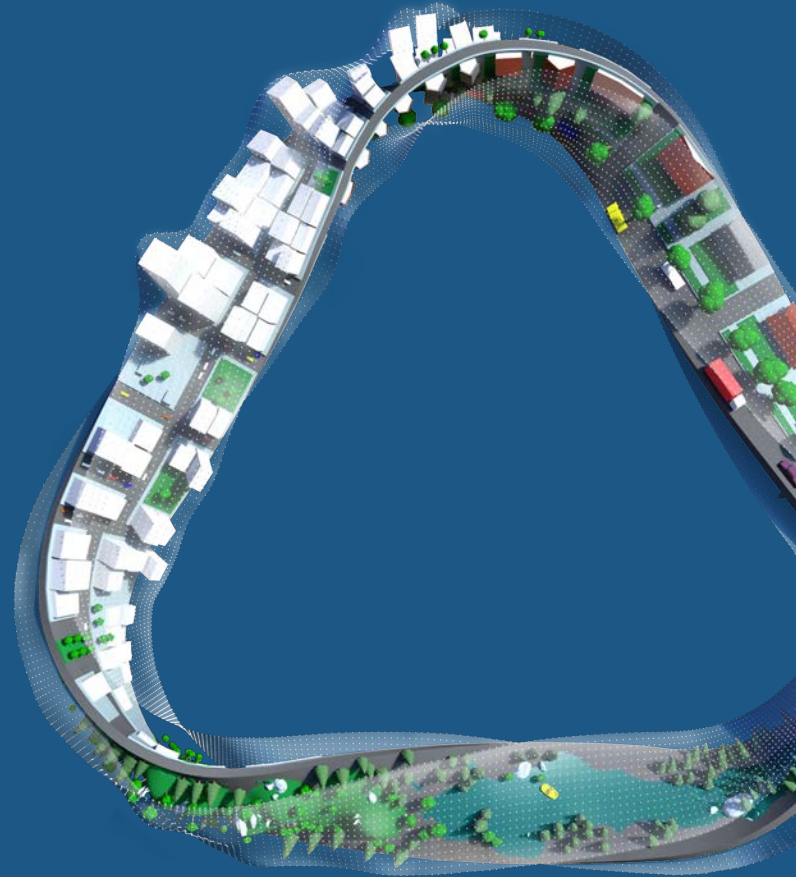
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# Aclima Progress Update

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David Herzl, CEO  
December 2, 2020



# Built for good. Catalyzing change.

A **Public Benefit Corporation**, Aclima is the leader in hyperlocal air quality and greenhouse gas measurement and analysis, delivering environmental intelligence to communities, government and enterprise customers, block-by-block and around the world.

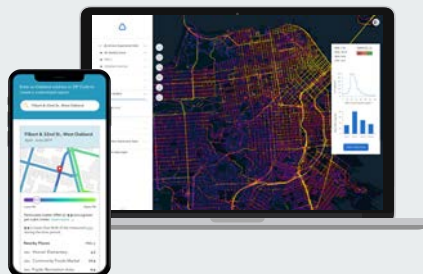
## A PIONEER, BORN IN CALIFORNIA

Over the last **+10 years**, Aclima has pioneered the science of block-by-block air pollution and GHG measurement and analysis. Born and grown in CA. Built in partnership with communities.



## PROVIDING A ONE-STOP SHOP

Breakthrough sensing technology, software and data science, delivered in a single package, enabling regulators & communities to focus on protecting public health and reducing emissions.

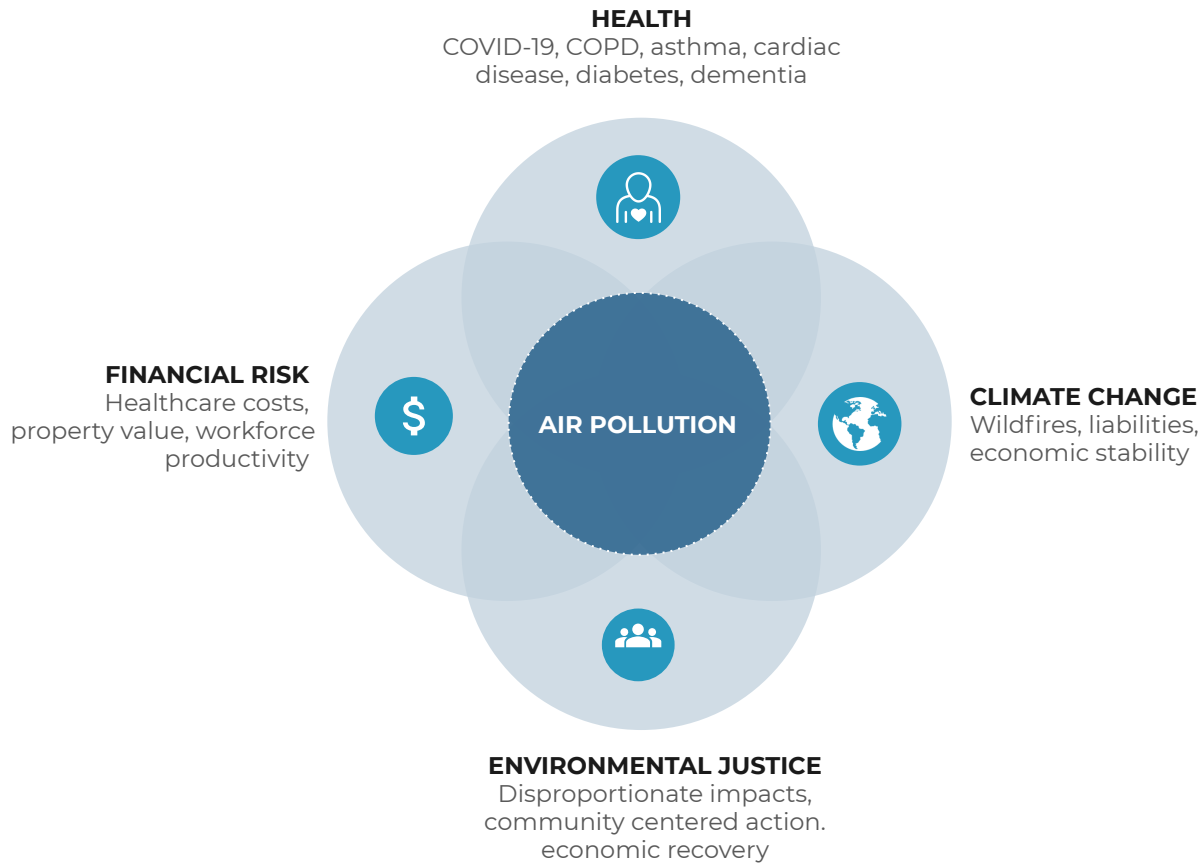


## WORKING TOGETHER TO ADVANCE INNOVATION

We are already serving nearly **25%** of the California population through our contract with BAAQMD, far more than populations included in AB 617 communities.



# 2020 has made our work more relevant than ever



# Innovation Workflows

Our work together represents an investment in innovation to meet rapidly emerging needs. Work is in-progress across three innovation workflows to ensure that Aclima data and software will deliver maximum value to the District and the public.

## DATA PRODUCT COLLECTION & REVIEW



## DATA PRODUCT COMMUNICATION



## MAXIMIZING DATA UTILITY & VALUE



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# Data product collection

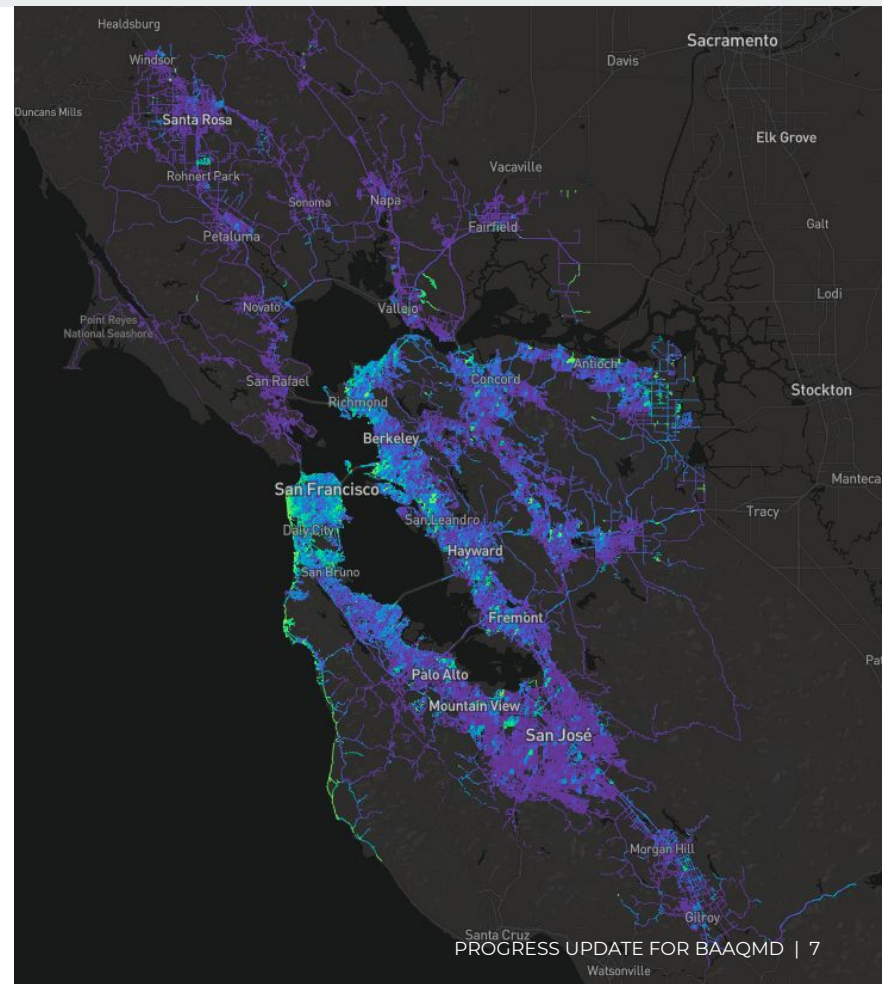




# Year 1 baseline collection status

This program is the first of its kind in the world, unprecedented in scale and reach. Year 1 baseline maps across all nine counties are nearly complete:

- ✓ San Francisco: **Complete**
- ✓ Contra Costa: **Complete**
- ✓ San Mateo: **Complete**
- Alameda: **On track** (1 more month)
- Santa Clara: **On track** (~4 more months)
- Napa + Marin: **On track** (~5 more months)
- Sonoma + Solano: **On track** (~5 more months)



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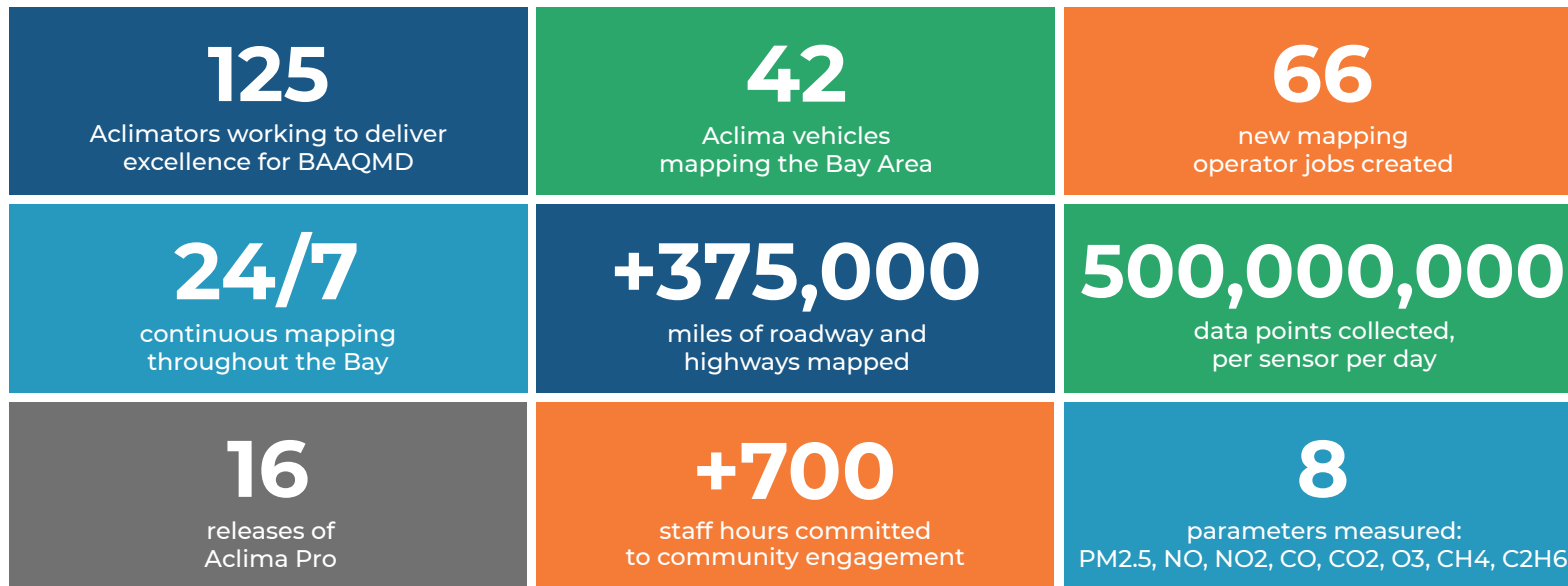
# Community job creation

The Aclima fleet of hybrid and electric vehicles is powered by drivers hired from local communities. We partner with environmental justice organizations, advocates and AB 617 steering committees to recruit and hire locally.

Jobs are full-time with benefits, and provide a path to upskilling and careers in the green economy. Employees that started as drivers are now Aclima fleet managers and data scientists.



# Our work together, by the numbers



# End-to-end quality control operation



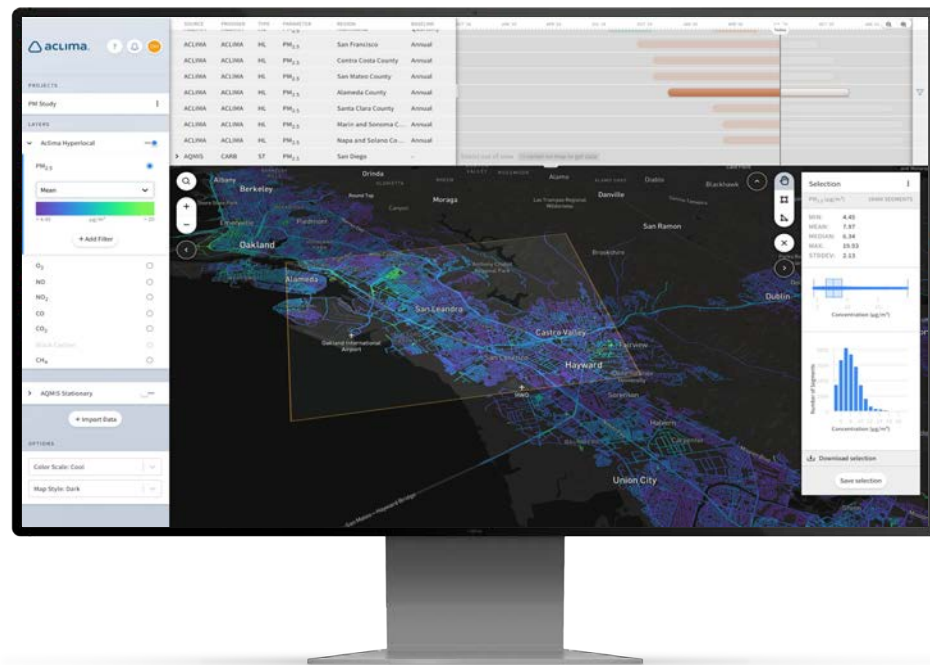
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# Data product communication

# Aclima Pro

Professional web-based software to visualize and analyze hyperlocal air quality and GHG data. We are currently working with staff to ensure that Pro enables any District user to easily interpret and use data.

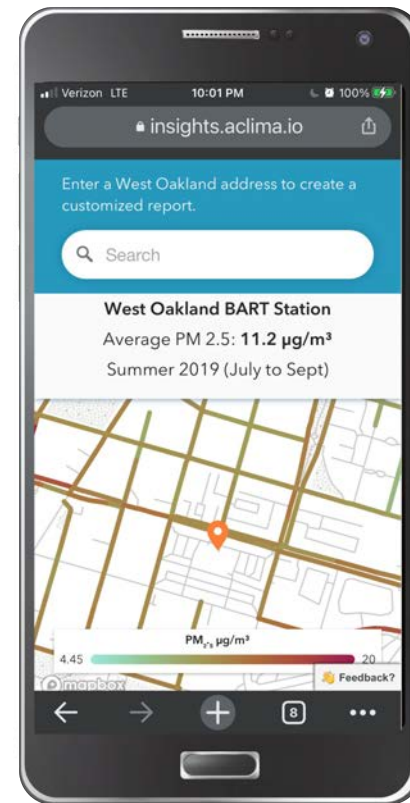
Pro also integrates regulatory and citizen sensor data, as well as contextual data sets, like satellite and demographic data. Features are being developed to support specific District workflows.



# Public releases

Free Aclima public portals present air quality information in an easily understood format that incorporates community input. We have already released beta portals featuring West Oakland and Richmond-San Pablo baseline maps.

San Francisco, Contra Costa, and San Mateo completed baselines are going through final reviews for presentation to the District before public release in early 2021.





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# Maximizing data utility & value

# From diagnosis to action

Our goal is to maximize the value of hyperlocal data for the District and the public. Data review with District staff is informing the various ways hyperlocal data can support actions to reduce emissions and protect public health.



## IDENTIFY POLLUTION HOTSPOTS

Determine air quality disparities at block-by-block scale for all Bay Area communities. Identify hotspots and areas for further study.

## INVESTIGATE & ASSESS

Investigations might require follow-on monitoring or emissions testing, or in depth analysis enabled by Aclima measurement data.

## ACT TO REDUCE EMISSIONS & EXPOSURE

Data driven actions to reduce emissions include rules, enforcement, and incentives. Actions to reduce exposure include filtration programs, public communication, etc.

## TRACK PROGRESS

Use ongoing data collection to track impacts of interventions over time and assess benefits. Learn quickly and scale what works.

# Adding value beyond our scope with the District



# Contextual data for better decisions

To enhance insights and decision-making based on hyperlocal air quality and greenhouse gas data, Aclima is integrating various contextual data sets into Aclima Pro.

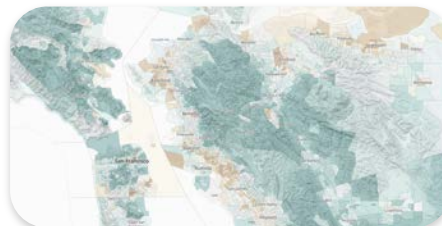
EnviroScreen will be integrated and tested with District users in early Q1 2021. Additional data sets, including land use, building, climate risk, and health data will be integrated on an ongoing basis based on District feedback.



**SOCIO-DEMOGRAPHIC DATA**



**WILDFIRE RISK DATA**



**HOUSEHOLD INCOME**



**ASTHMA PREVALENCE**



**LAND USE & BUILDING DATA**



**BUILDING ENERGY USE**



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## Deep investments in West Oakland & Richmond-San Pablo



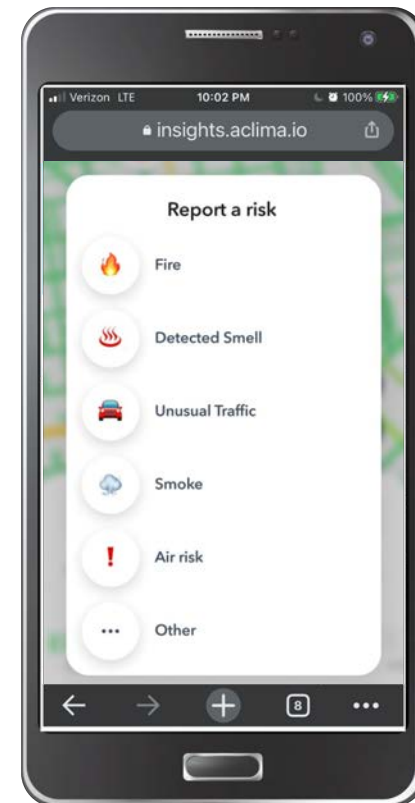
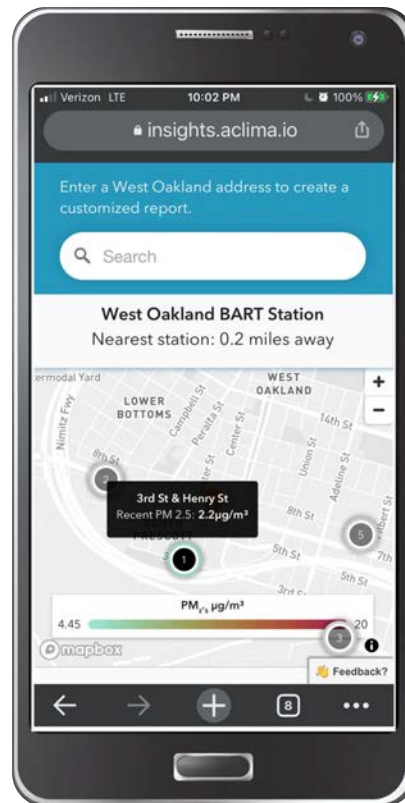
**RISING SUN**  
CENTER FOR OPPORTUNITY

We demonstrate our commitment to communities by investing our resources, time and attention. To date, we have invested +700 staff hours to supporting AB 617 Steering Committees, public meetings, trainings and interactive portal design sessions.

# Free public app

Aclima public portals now integrate stationary sensor data from CARB grantee projects, including PSE (Richmond) and WOEIP. A next-generation app is being developed for release in 2021 with extensive new features, informed by community input:

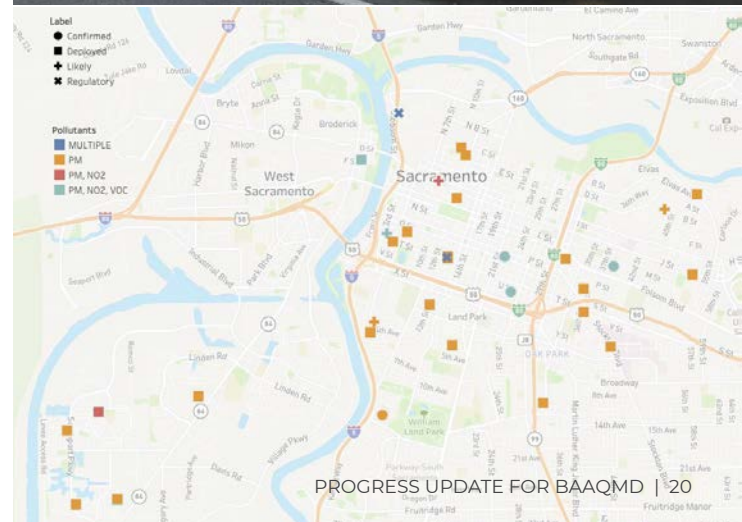
- ✓ Block-by-block data
- ✓ Real-time data from regulatory monitors
- ✓ Corrected data from citizen sensors
- ✓ Public annotation
- ✓ Social sharing



# CARB-funded demonstration

Through a CARB funded project, Aclima is demonstrating its patented capability to characterize and calibrate distributed stationary sensors.

Using our mobile platform, we propagate calibration information to consumer-grade stationary air quality sensors. Corrected sensor data is visualized on Aclima interfaces. This capability has the potential to address significant data quality challenges associated with low-cost stationary sensors, at scale.



# Wildfire product development

Wildfire product development interface showing a legend and filter options. The legend includes a color scale from yellow to red, labeled "Miss", with values from 0 to 10. Below the legend is a "+ Add Filter" button. The interface also shows a list of filters with toggle switches, including "D<sub>1</sub>", "D<sub>2</sub>", "D<sub>3</sub>", "D<sub>4</sub>", "D<sub>5</sub>", "D<sub>6</sub>", "D<sub>7</sub>", "D<sub>8</sub>", "D<sub>9</sub>", "D<sub>10</sub>", "D<sub>11</sub>", "D<sub>12</sub>", "D<sub>13</sub>", "D<sub>14</sub>", "D<sub>15</sub>", "D<sub>16</sub>", "D<sub>17</sub>", "D<sub>18</sub>", "D<sub>19</sub>", "D<sub>20</sub>", "D<sub>21</sub>", "D<sub>22</sub>", "D<sub>23</sub>", "D<sub>24</sub>", "D<sub>25</sub>", "D<sub>26</sub>", "D<sub>27</sub>", "D<sub>28</sub>", "D<sub>29</sub>", "D<sub>30</sub>". There is also a "+ Import Data" button and a "RUN/PAUSE" button.

**BEFORE**  
Jul 16-Aug 15



**AFTER**  
Aug 16-Sep 15





**Thank you.**