

CERP IMPLEMENTATION UPDATE

UPDATE – 1ST QUARTER 2021

East Los Angeles, Boyle Heights, West Commerce
February 25, 2021

NISH KRISHNAMURTHY, PH.D.
AIR QUALITY SPECIALIST

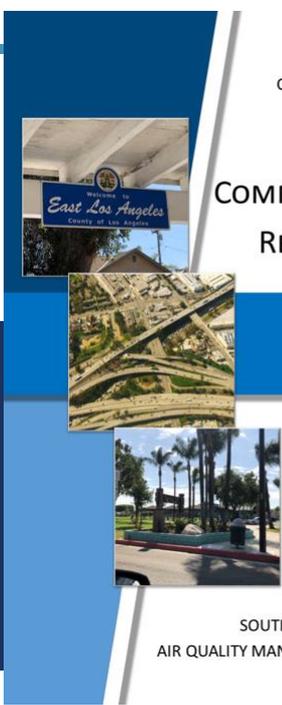
ASSEMBLY BILL (AB) 617
COMMUNITY AIR INITIATIVES

COMMUNITY EMISSIONS REDUCTION PLAN

EAST LOS ANGELES,
BOYLE HEIGHTS,
WEST COMMERCE

September 2019
Final

SOUTH COAST
AIR QUALITY MANAGEMENT DISTRICT



AGENDA



- Incentives Strategy Discussion
- Air Quality Priority: General Industrial - Waste Transfer Stations
- Current Activities
- Enforcement Update





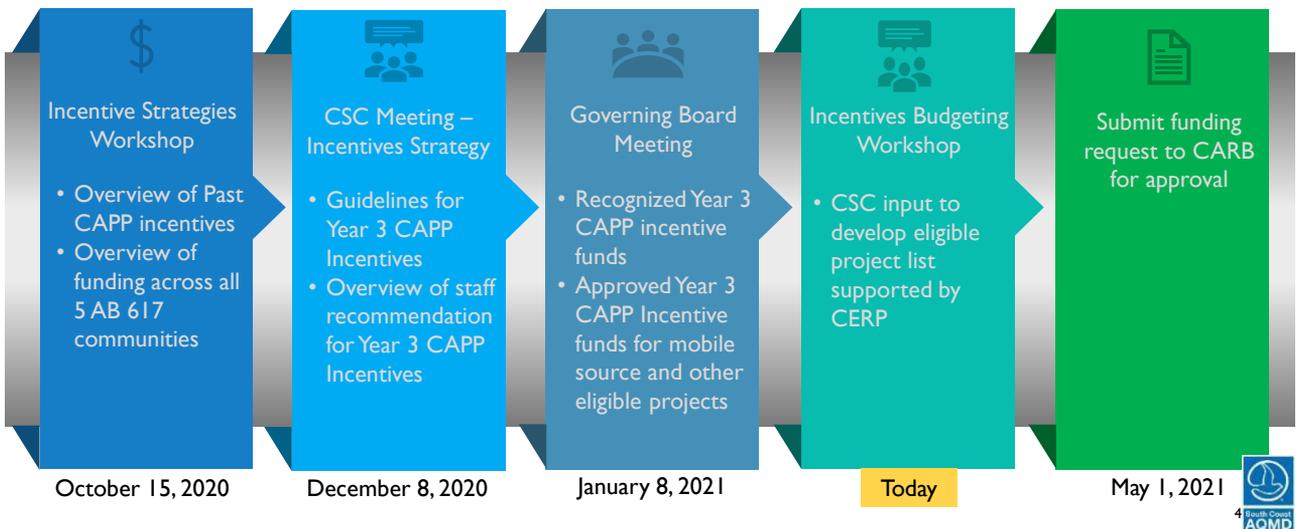
INCENTIVES BUDGETING WORKSHOP



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PROJECT FUNDING PROCESS – OVERVIEW



October 15, 2020

December 8, 2020

January 8, 2021

Today

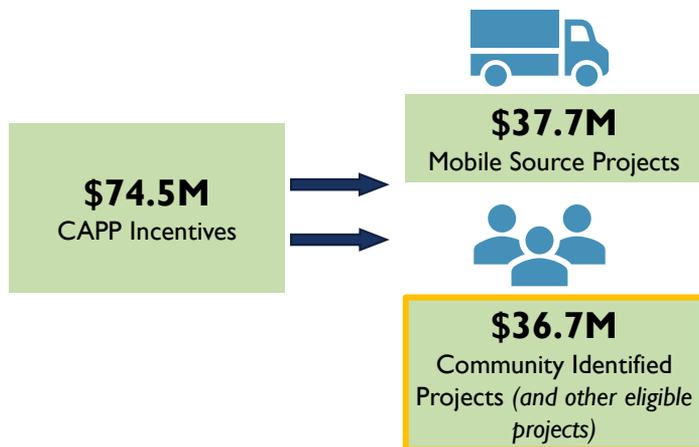
May 1, 2021



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DECEMBER CSC MEETING RECAP – INCENTIVES STRATEGY FOR YEAR 3 CAPP FUNDS

- South Coast AQMD Governing Board approved Year 3 CAPP incentive funds for
 - Mobile source projects
 - Community identified and other eligible projects



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INCENTIVES STRATEGY FOR YEAR 3 CAPP FUNDS

Total Year 3 CAPP Funds: \$74.5 Million



MOBILE SOURCE PROJECTS* (~\$37.7 MILLION)

- \$614,000 for mobile source projects in ELABHWC
 - 0.7 tons of NO_x
 - 0.05 tons of DPM reductions
- CSC provided input on funding mobile source projects (e.g., zero emission, near-zero, and disadvantaged communities near AB 617 communities)



COMMUNITY-IDENTIFIED* AND OTHER ELIGIBLE PROJECTS (~\$36.7 MILLION)

- \$5.57 million for community identified projects in ELABHWC
- CSC to provide input on projects to be funded today

*Full list of Year 3 CAPP Incentive Awarded Projects may be found at: <http://www.aqmd.gov/home/programs/business/community-air-protection-incentives/year-3-capp-incentives>

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DECEMBER CSC MEETING RECAP – INCENTIVES STRATEGY FOR YEAR 3 CAPP FUNDS

Small Business

- Ensure incentive opportunity information is distributed to owner-operators or small businesses
- Prioritize investments in small businesses

Cleaner Technology

- Invest in replacing vehicles and infrastructure for zero emissions (ZE) or near-zero emissions (NZE)

Health Benefits

- Invest in other measures and projects that reduce health risks (such as home air filtration systems)

Equitable Distribution of Funds

- Ensure that incentives are distributed in an equitable manner across AB 617 communities



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INCENTIVES STRATEGY FOR YEAR 3 CAPP FUNDS – CERP INCENTIVE OPPORTUNITIES

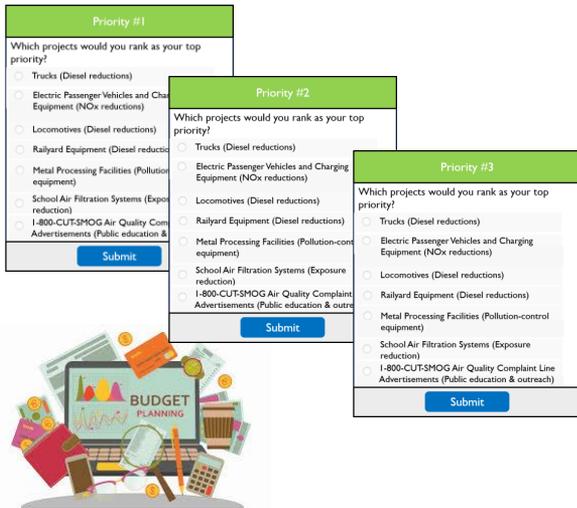
AQ Priority	CERP Incentive Opportunities
Truck Traffic and Freeways	<ul style="list-style-type: none"> • Replace older trucks with cleaner models • Replace older passenger vehicles with cleaner models • Install chargers at home and in the community
Railyards	<ul style="list-style-type: none"> • Zero-emission infrastructure installation • Replace diesel equipment with cleaner models
Metal Processing Facilities	<ul style="list-style-type: none"> • Reduce emissions from metal processing facilities (e.g., install air pollution control equipment)
Schools, Childcare Centers, etc.	<ul style="list-style-type: none"> • School air filtration systems and/or replacement filters • Library, childcare center, and community center air filtration systems and/or replacement filters • Home air filtration systems • Home weatherization
General Industrial	<ul style="list-style-type: none"> • Targeted advertising for I-800-CUT-SMOG complaint line



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TODAY'S PRIORITIZATION ACTIVITY



- Today staff will present cost and emission reductions information for incentive projects
- Staff will ask CSC members to prioritize incentive projects to fund in the community
- AB 617 funds currently available for the ELABHWC Community is \$5.57 M



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COST FOR CERP INCENTIVE PROJECTS – MOBILE SOURCE PROJECTS

Project Type	Project Cost	South Coast AQMD Funding Amount *	Avg. Cost Effectiveness (\$/ton)	Avg. NOx Reductions (tpy)	Avg. ROG Reductions (tpy)	Avg. PM Reductions (tpy)
Class 8 Low-NOx Truck	\$150,000 - \$190,000	\$51,618 - \$100,000	\$31,085	0.42	0.05	0.00
Class 8 Zero Emission Truck	\$380,000 - \$550,000	\$17,438 - \$200,000†	\$79,972	0.39	0.03	0
Zero Emission Cargo Handling Equipment	\$1 million	\$240,046	\$80,141	0.59	0.15	0.01
Tier 4 Hybrid Cargo Handling Equipment	\$640,200 - \$2.5 million	\$449,156	\$30,000	2.27	0.21	0.03
Tier 4 Off-Road Construction Equipment	\$48,000 - \$1 million	\$157,000	\$28,375	1.09	0.01	0.01
Tier 4 Locomotives (Freight)	\$2.5 million	\$1.9 million	\$21,830	4.7	0.25	0.08

• *Based on averages from previously awarded incentive projects. Averages are subject to change given new project applications, incentive program criteria and/or funding limits.
 • † Funding for ZE trucks is not capped at \$200k but rather at a percentage based on the size of the fleet.



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COST FOR CERP INCENTIVE PROJECTS – EXPOSURE REDUCTIONS AND OTHER PROJECTS

Project Type	Cost	Cost-Effectiveness	Air Quality Benefit
School Air Filtration System	\$30,000 - \$300,000*	N/A	Exposure Reductions
I-800-CUT-SMOG Advertisements	Varying	N/A	Public Education & Outreach

* Cost varies by school type, school size, and years of maintenance provided



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COSTS FOR CERP INCENTIVE PROJECTS – MOBILE SOURCE PROJECTS*

Project Type	Cost*	Implementation Difficulty	Diesel PM Emission Reductions	NOx Emission Reductions
Class 8 Low-NOx Truck	\$\$\$			
Class 8 Zero Emission Truck	\$\$\$\$			
Zero Emission Cargo Handling Equipment	\$\$\$\$			
Tier 4 Hybrid Cargo Handling Equipment	\$\$			
Tier 4 Off-Road Construction Equipment	\$\$			
Tier 4 Locomotives (Freight)	\$\$			

* Based on average cost-effectiveness from previously awarded incentive projects. Averages are subject to change given new project applications, incentive program criteria and/or funding limits.



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ESTIMATED COSTS FOR CERP INCENTIVE PROJECTS – EXPOSURE REDUCTIONS AND OTHER ELIGIBLE PROJECTS

Project Type	Cost	Air Quality Benefit
School Air Filtration System	\$30,000 - \$300,000* per project	Exposure Reduction
I-800-CUT-SMOG Advertisements	Varying	Public Education & Outreach

* Cost varies by school type, school size, and years of maintenance provided



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INCENTIVES STRATEGY FOR YEAR 3 CAPP FUNDS – PROJECT EXAMPLES

~\$5.57* million =



45 School Air Filters

- Install air filters at 45 schools
- Exposure reductions

OR



10 Electric Trucks

- Replace ~ 10 class 8 trucks with zero-emission trucks
- Reduces ~ 3.5 tpy of NOx and 0.27 tpy of ROG

OR



29 Low – NOx Trucks

- Replace ~ 29 class 8 trucks with low-NOx trucks
- Reduces ~ 12.18 tpy of NOx and 1.45 tpy of ROG

* Costs vary by project



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DISCUSSION

- Are there any additional projects* that you want to suggest that support actions in the ELABHWC CERP?
- Staff will send a follow-up survey by e-mail for community members unable to participate in today's poll



* If needed, a plan will be developed for community-identified projects for approval by CARB



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Priority #1

Which projects would you rank as your top priority?

Priority #2

Which projects would you rank as your top priority?

Priority #3

Which projects would you rank as your top priority?

- Trucks (Diesel reductions)
- Electric Passenger Vehicles and Charging Equipment (NOx reductions)
- Locomotives (Diesel reductions)
- Railyard Equipment (Diesel reductions)
- Metal Processing Facilities (Pollution-control equipment)
- School Air Filtration Systems (Exposure reduction)
- 1-800-CUT-SMOG Air Quality Complaint Line Advertisements (Public education & outreach)

PRIORITIZATION OF PROJECT TYPES

- Please rank your top three priorities (#1 is highest priority)
- Zoom polls to select rankings
 - Select one option per poll
 - If you are participating by phone, please email your rankings to ab617comments@aqmd.gov



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CERP IMPLEMENTATION – WASTE TRANSFER STATIONS

■ Chapter 5h (General Industrial), Action 4

- CSC to help identify waste transfer stations of highest priority within the community to conduct inspections
- South Coast AQMD to conduct training course for transfer station facility operators; unannounced inspections; and initial screening using air measurements

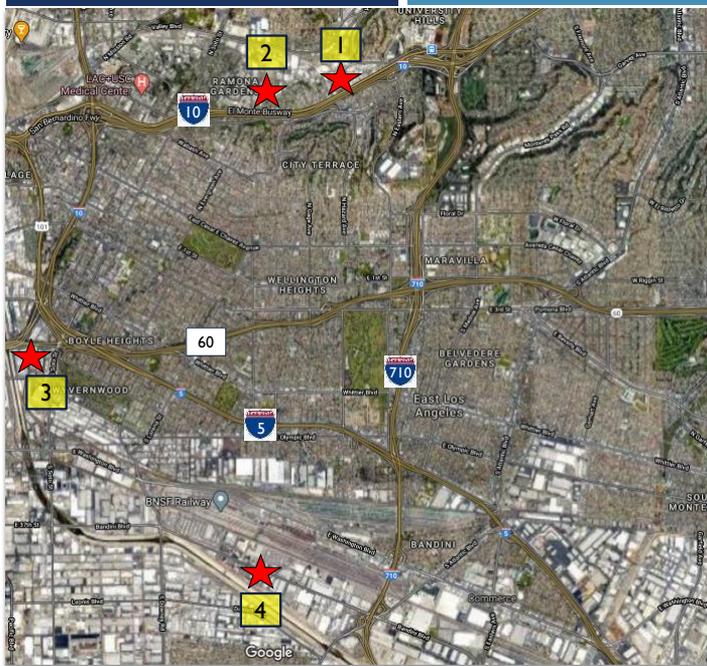


AQ Priority: General Concerns about Industrial Facilities, including Waste Transfer Stations



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1. Republic Services East LA Transfer Station

- 1512 Bonnie Beach Pl, Los Angeles 90063
- Industrial and residential

2. City Terrace Recycling and Waste Transfer Station (Southland Disposal)

- 1511 Fishburn Ave., Los Angeles, 90023
- Industrial and residential

3. Waste Management Los Angeles Transfer Station

- 840 S. Mission Blvd., Los Angeles, 90023
- Industrial and commercial

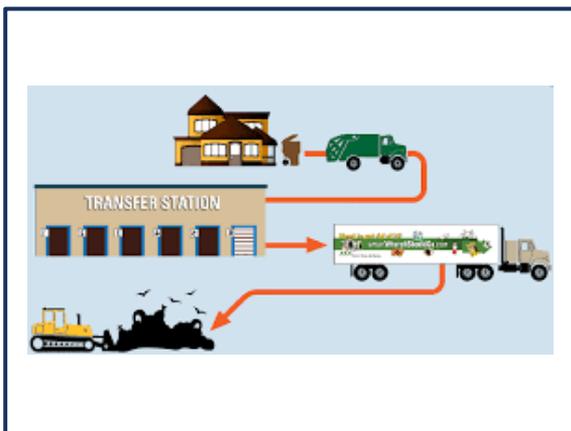
4. Republic Services Innovative Waste Control Transfer Station

- 4133 Bandini Blvd., Vernon, 90023
- Industrial



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CERP IMPLEMENTATION – WASTE TRANSFER STATIONS



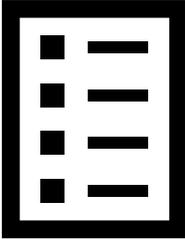
- Waste transfer stations consolidate waste collection for the economical shipment to a final disposal site
- Waste loaded onto trailers, containers, or railcars for shipment
- Final disposal sites include:
 - Landfills
 - Waste-to-energy plants
 - Composting facilities



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WASTE TRANSFER STATIONS – SOUTH COAST AQMD RULES

	Rule 402	Prohibits discharge of contaminants which cause a public nuisance (e.g., odors, fugitive dust, etc.)
	Rule 403	Reduces particulate matter emissions from fugitive dust sources
	Rule 1146	Reduces NOx emissions from boilers
	Rule 1470	Reduces emissions from diesel generators



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WASTE TRANSFER STATIONS – COMPLIANCE UPDATE



All four waste transfer stations in ELABHWC last inspected on December 4, 2020

Facility	Last Inspection	Disposition
Republic Services East LA Transfer Station	12/4/2020	In compliance
City Terrace Recycling and Waste Transfer Station	12/4/2020	In compliance
Waste Management Los Angeles Transfer Station	12/4/2020	In compliance
Republic Services Innovative Waste Control Transfer Station	12/4/2020	In compliance



Each facility in compliance with South Coast AQMD rules



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WASTE TRANSFER STATIONS – NEXT STEPS



Inspections

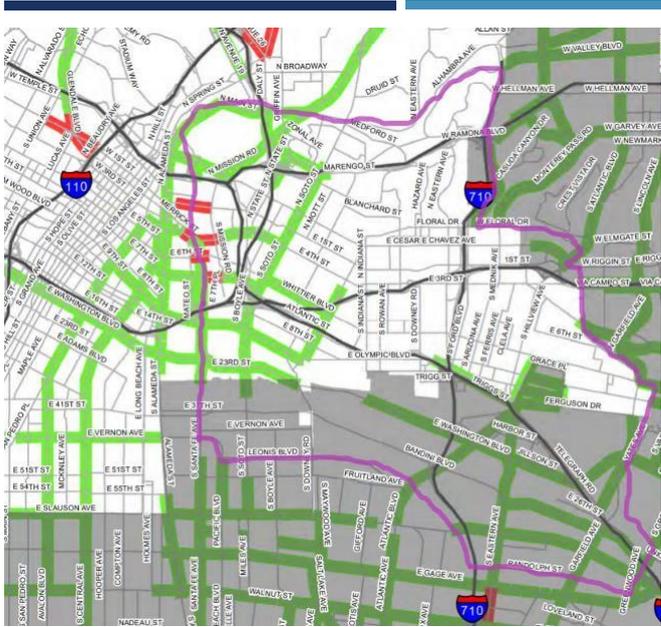
- Continue ongoing unannounced inspections

Air Monitoring

- Conduct initial air monitoring screening
- Perform follow-up measurements to track progress

Outreach

- Conduct trainings on best management practices and applicable rules for facility operators



CERP IMPEMETNATION – TRUCK ROUTES



CERP IMPLEMENTATION – TRUCK ROUTES

- Chapter 5b (Neighborhood and Freeway Traffic from Trucks and Automobiles), Action 2

Work with the city or the county to evaluate potential designated truck routes and identify resources to enforce these routes



AQ Priority: Neighborhood and Freeway Traffic from Trucks and Automobiles



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CERP IMPLEMENTATION – TRUCK ROUTES

Collaboration meeting between South Coast AQMD and City of Los Angeles Department of Transportation (LADOT) * on February 4th

*Note this is separate from truck routes meeting with Los Angeles County Public Works (Oct. 29, 2020) mentioned at last CSC meeting

Topics discussed:

- Considerations (e.g., enforcement) for truck routes
- Truck idling signs report to LADOT's Environment Committee – anticipated March 2021

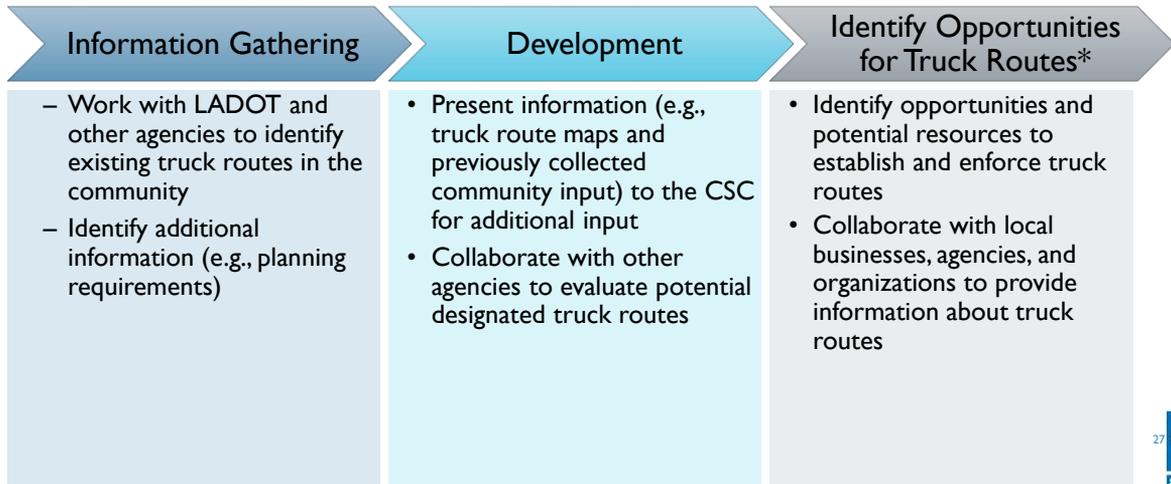
Next Steps

- Share truck route concerns raised by the CSC with LADOT (e.g., maps)
- Work with LADOT staff to identify existing truck routes and signage in Boyle Heights
- Identify opportunities to improve truck routes and discourage illegal idling



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CERP IMPLEMENTATION – TRUCK ROUTES



*Truck routes are enforced by California Highway Patrol



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CERP IMPLEMENTATION – EXPOSURE REDUCTION OUTREACH



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CERP IMPLEMENTATION – EXPOSURE REDUCTION OUTREACH

■ Chapter 5g (Exposure Reduction), Action 2

Partner with community-based organizations on asthma-based programs and air quality notifications that inform the community about proactive steps to reduce exposure to harmful air pollutants



AQ Priority: Schools, Childcare Centers, Community Centers, Libraries, and Public Housing Projects – Exposure Reduction

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CERP IMPLEMENTATION – EXPOSURE REDUCTION OUTREACH

South Coast AQMD, AltaMed, and Council of Mexican Federations in North America (COFEM) met on February 11



Community Outreach

- Discussed opportunities for community outreach (e.g., grocery stores, food drives, health clinics, media outlets)
- Focus on health messaging for air pollution exposure reduction and asthma

Next Steps

- Work with AltaMed and COFEM on air pollution exposure reduction and asthma outreach materials
- Identify venues and events where South Coast staff can provide outreach material to the community

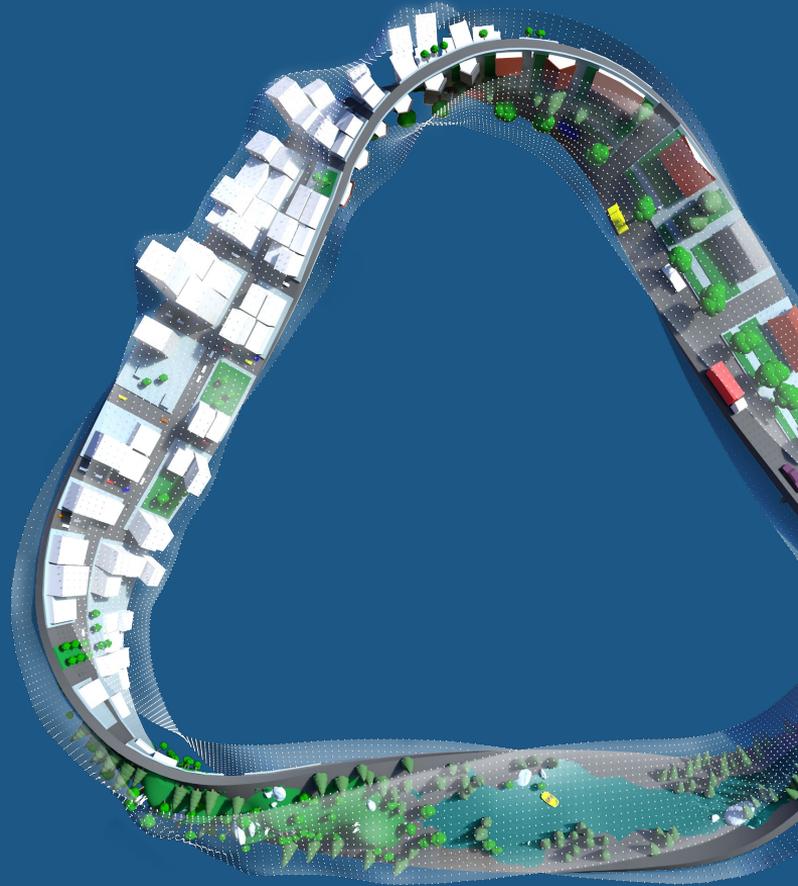


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acLima Overview

DAVIDA HERZL, CO-FOUNDER & CEO
hello@aclima.io



Why we're here

“ Air pollution is a pandemic.
You can't escape it.
The people who suffer are the most vulnerable.

Janet Johnson
Environmental Justice Organizer
Richmond, CA

Built for good. Catalyzing change.

A **Public Benefit Corporation**, Aclima is the world leader in hyperlocal air quality and greenhouse gas measurement and analysis. Our full stack monitoring platform helps governments, communities, and businesses reduce emissions, protect public health and advance equity.

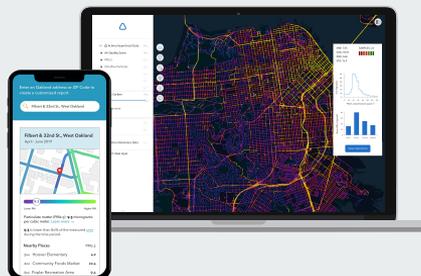
A PIONEER, BORN IN THE USA

Over the last +10 years, Aclima has pioneered the science of block-by-block air pollution and GHG measurement and analysis. Founded in the 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 reducing emissions and protecting health.



TO DELIVER CLEAN AIR FOR ALL

We are already covering millions, in partnership with advocates in communities and government, from small NGOs to the EPA.





Built in partnership with communities

Aclima's participatory development process engages community members directly in technology design. Investing in trust and long-term relationships unlocks rich feedback loops.



Green job creation

Aclima's approach to community-based monitoring will provide local economic stimulus through job creation:

- ✓ Full-time jobs with benefits
- ✓ Path to upskilling in the green economy
- ✓ Capacity building for employees and their communities
- ✓ Local economic stimulus, serving those most impacted
- ✓ Recruitment and hiring in partnership with environmental justice organizations



**A solution built
for this moment**

Pollution varies up to 800% from one block to the next



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Article
pubs.acs.org/est

High-Resolution Air Pollution Mapping with Google Street View Cars: Exploiting Big Data

Joshua S. Apte,^{*,†,‡} Kyle P. Messier,^{†,‡} Shahzad Gani,[†] Michael Brauer,[§] Thomas W. Kirchstetter,^{||} Melissa M. Lunden,[‡] Julian D. Marshall,[#] Christopher J. Portier,[‡] Roel C.H. Vermeulen,[∇] and Steven P. Hamburg[‡]

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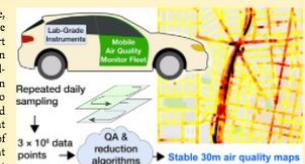
[‡]Adlima, Inc., 10 Lombard St., San Francisco, California 94111 United States

[#]Department of Civil and Environmental Engineering, University of Washington, Seattle, Washington 98195 United States

[∇]Institute for Risk Assessment Science, Utrecht University, Utrecht 3584 CM Netherlands

Supporting Information

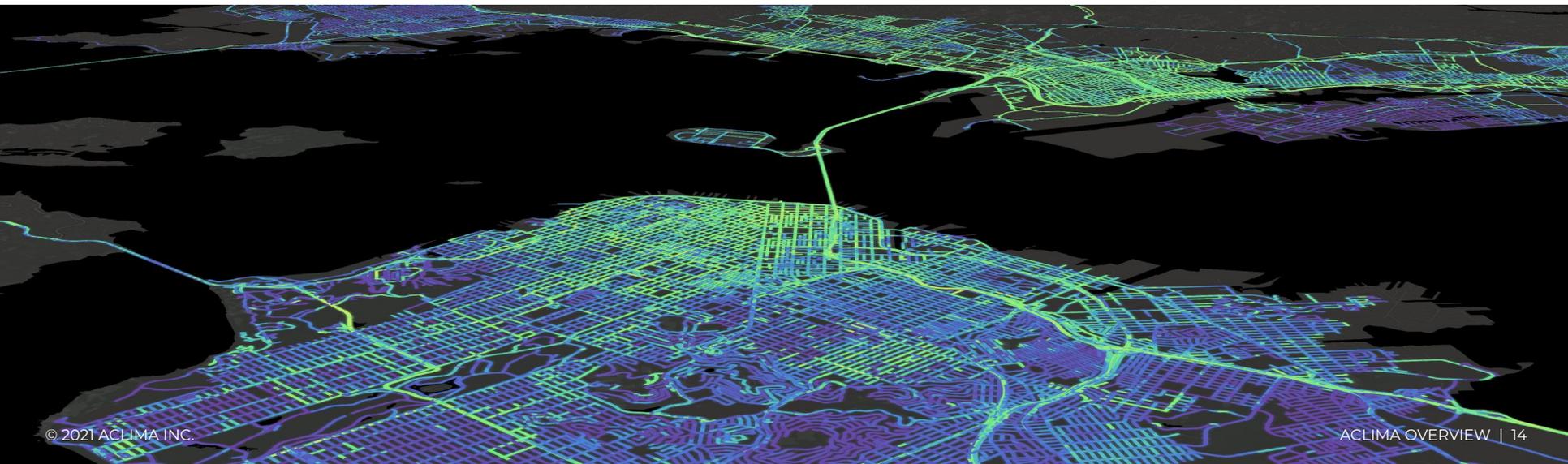
ABSTRACT: Air pollution affects billions of people worldwide, yet ambient pollution measurements are limited for much of the world. Urban air pollution concentrations vary sharply over short distances ($\ll 1$ km) owing to unevenly distributed emission sources, dilution, and physicochemical transformations. Accordingly, even where present, conventional fixed-site pollution monitoring methods lack the spatial resolution needed to characterize heterogeneous human exposures and localized pollution hotspots. Here, we demonstrate a measurement approach to reveal urban air pollution patterns at 4–5 orders of magnitude greater spatial precision than possible with current central-site ambient monitoring. We equipped Google Street View vehicles with a fast-response pollution measurement platform and repeatedly sampled every street in a 30-km² area of Oakland, CA, developing the largest urban air quality data set of its type. Resulting maps of annual daytime NO, NO₂, and black carbon at 30 m-scale reveal stable, persistent pollution patterns with surprisingly sharp small-scale variability attributable to local sources, up to 5–8× within individual city blocks. Since local variation in air quality profoundly impacts public health and environmental equity, our results have important implications for how air pollution is measured and managed. If validated elsewhere, this readily scalable measurement approach could address major air quality data gaps worldwide.



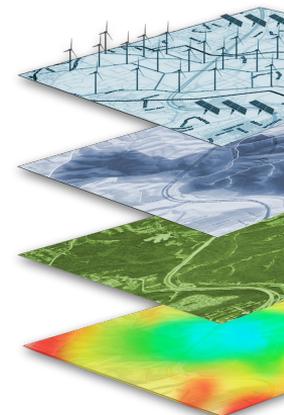
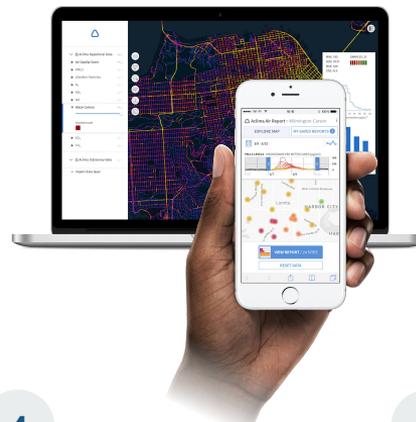
Measure what matters, everywhere

Regional Scale
Block-by-block
Harmonized
Rigorous
Efficient
Cost-effective

Comprehensive coverage
 Hyperlocal spatial resolution
 Comparative data across geographies
 Science based standards of excellence
 Rapid, low-friction scale
 SaaS model pricing



A full stack solution



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Mobile & stationary sensors

Best-in-class data quality

End-to-end network management

Unprecedented scale + block-by-block resolution, via multi-pass driving

Data management + analytics

Synthesis of Aclima and integrated third party data to derive insights

Powerful software tools

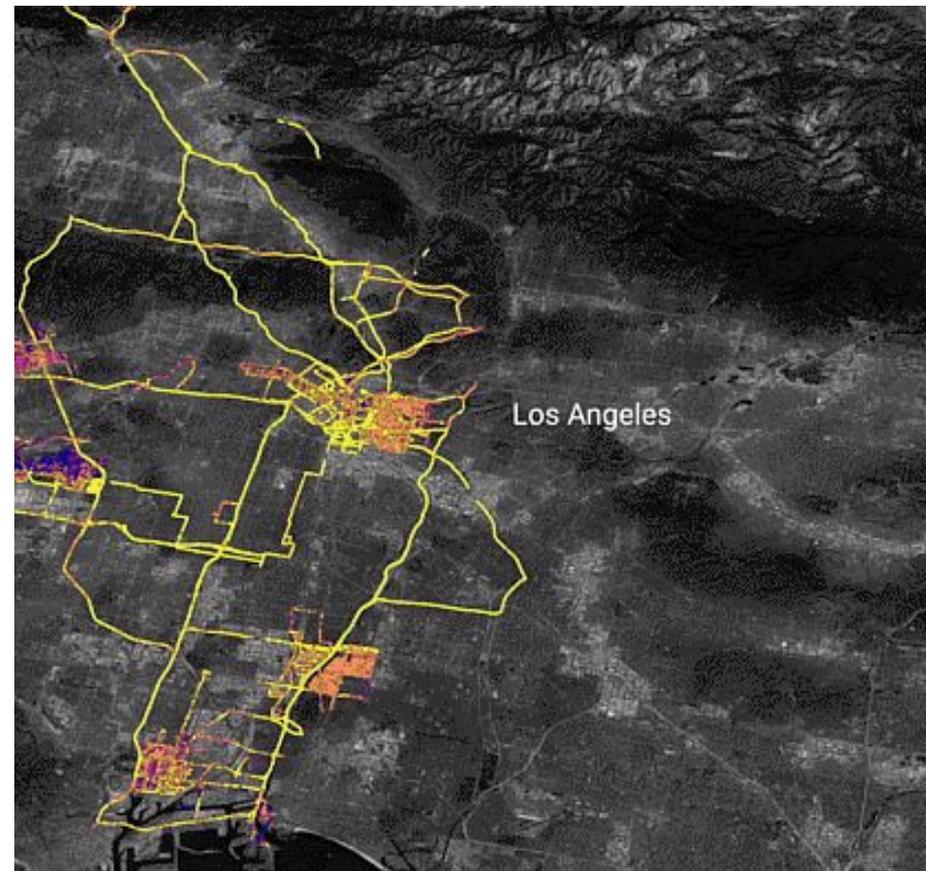
Intuitive software tools for experts and citizens to drive action

Data integration for diagnosis + action

Third party devices, wind, land-use, health data, more

Multipollutant approach

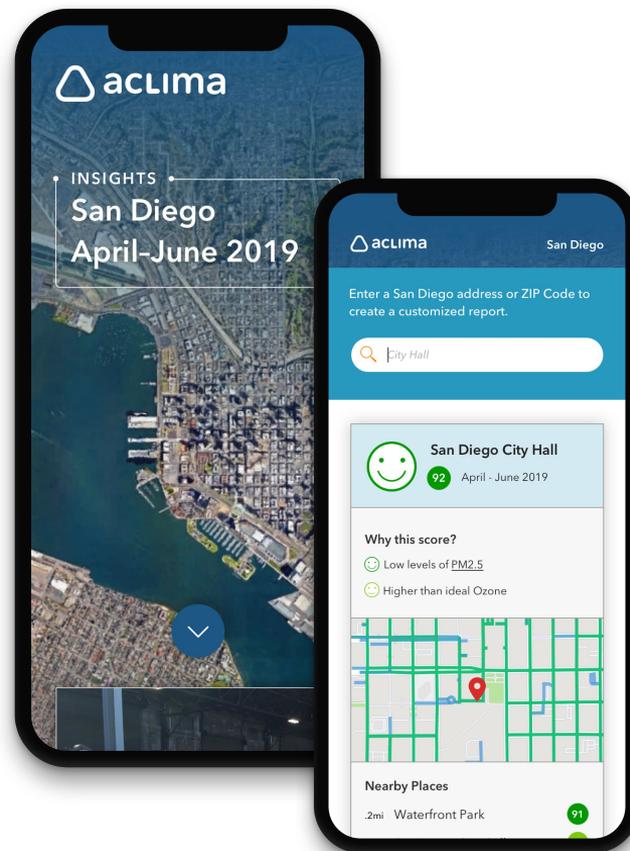
Carbon Dioxide (CO₂)
Carbon Monoxide (CO)
Ozone (O₃)
Nitrogen Dioxide (NO₂)
Nitric Oxide (NO)
Particulate Matter (PM_{2.5})
Black Carbon
Methane (CH₄) / Ethane (C₂H₆)
Total Volatile Organic Compounds (TVOC)
Temperature
+More



Free public portal

Aclima's public portal combines Aclima data with stationary sensor data from citizen sensors, including CARB grantee projects. Examples are PSE (Richmond) and WOEIP. A next-generation app is being developed for release in 2021 with extensive new features, informed by community input:

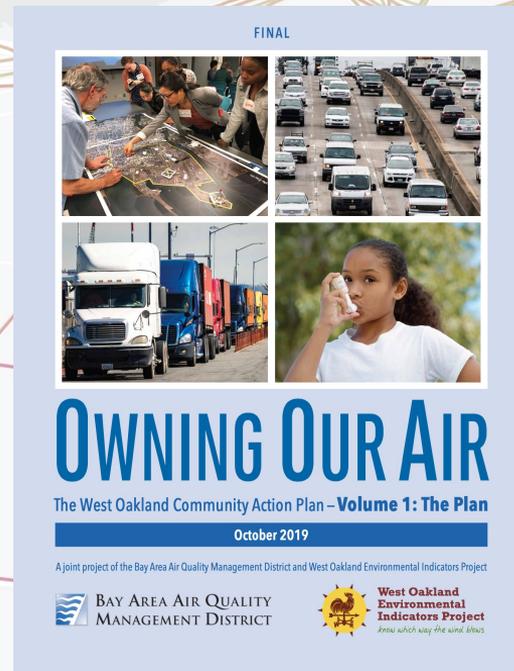
- ✓ Block-by-block data
- ✓ Real-time data from regulatory monitors
- ✓ Corrected data from citizen sensors
- ✓ Public annotation
- ✓ Social sharing



**A trusted partner,
delivering results**

Community-centered emissions reductions

The [West Oakland Environmental Indicators Project](#) draws on block-by-block Aclima data to lead an AB 617 steering committee. The [Community Emissions Reduction Plan](#) they created called “Owning Our Air” identifies seven Impact Zones and represents the most comprehensive community-led plan in California with 89 strategies.



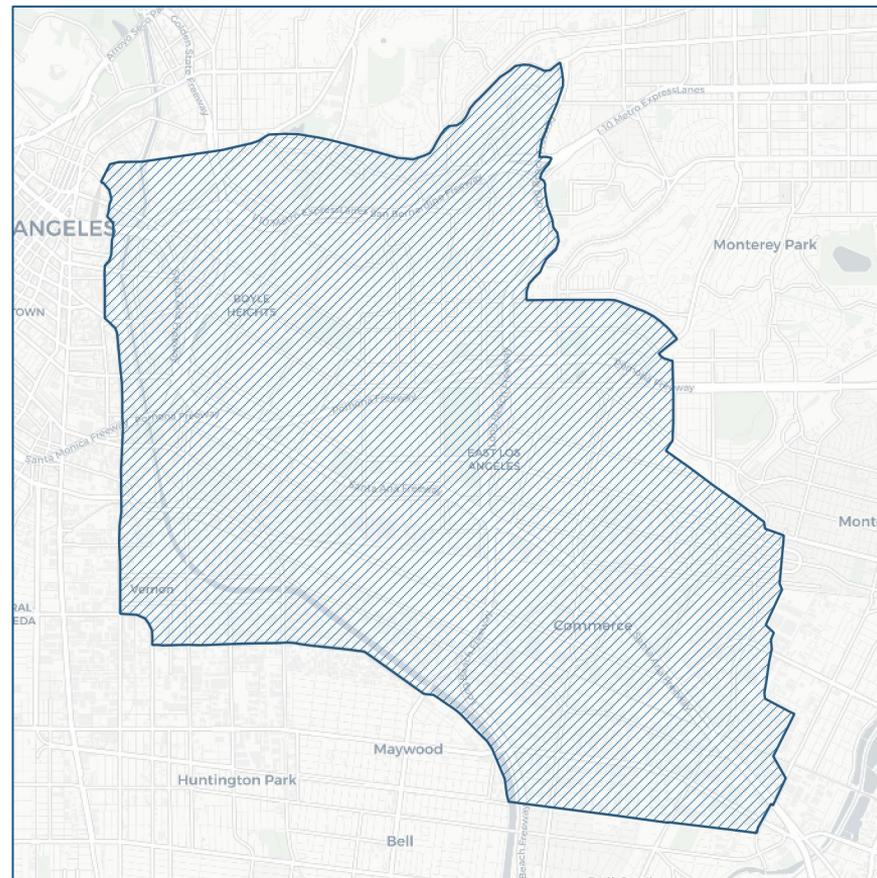


East Los Angeles, Boyle Heights, West Commerce

East Los Angeles, Boyle Heights, West Commerce

Aclima deploys an independently operated fleet of instrumented vehicles to conduct measurements. The cars are operated by drivers hired from the community. The collection campaign will monitor the broader geography for:

- 24 hrs/day, 7 days a week
- April 1 - June 30, 2021 (or July 1 - Sept 30, 2021)
- Measuring PM_{2.5}, Ozone, NO₂, NO, CO₂, CO, TVOC, Black Carbon, CH₄



Benefits of Aclima approach

By monitoring for multiple pollutants at the same time at the block level, we can better understand sources and their impacts on the air that community members breathe:

- Understand potential sources, such as:
 - Neighborhood Truck & Automobile Traffic
 - Railyards
 - Metal Processing Facilities
 - Rendering Facilities
 - Auto Body Shops
- Understand how the community is impacted at:
Schools, Childcare Centers, Libraries and Public Housing Projects



Aclima complements & enhances South Coast AQMD efforts

- Aclima's approach reveals persistent hotspots for further investigation by South Coast AQMD and the community
- Aclima also identifies areas of “anomalies”, which can be used to target testing with South Coast AQMD's platform
- Aclima is currently supporting a similar effort for Richmond-San Pablo and the Bay Area Regulator



Thank you.

