

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

Background

The East Los Angeles, Boyle Heights, West Commerce community identified children’s exposure to harmful air pollutants as a priority with additional focus on childcare centers, community spaces (such as community centers), and public housing developments. A major pollutant of concern in this community is diesel particulate matter (PM), generated by neighborhood and freeway truck traffic, and the railyards. The CSC also expressed concern about emissions from metal processing facilities, fugitive dust from general industrial sources, and auto body shops. Children, seniors, and people with certain medical conditions are especially sensitive to the impacts of air pollution. However, proactive steps such as installing high performance air filtration systems in schools and notifying the public when air quality is unhealthy can reduce the public’s exposure to harmful air pollutants.

Community Air Quality Priority – Reducing Exposures at Schools, Childcare Centers, Community Centers, Libraries, and a Public Housing Project

CSC members identified schools and other places where children spend a lot of time (e.g., childcare centers, libraries, and community centers) as places where the South Coast AQMD should focus on reducing exposure to harmful air pollutants. Table 5g-1 lists childcare centers, community centers, libraries, parks, and a public housing project identified by the CSC. The CSC provided examples of air pollution sources, such as the idling of diesel trucks, and dust from metal processing facilities and other general industrial sources that are near schools and community centers. CSC members also shared instances where students and other sensitive populations near sources of air pollution experienced health problems.

To address community concerns about the health impacts of air pollution, CSC members prioritized installing school air filtration systems, modifying routes for trucks to minimize movement through residential neighborhoods, and partnerships with community-based organizations for outreach and engagement efforts as ways to reduce exposure to harmful air pollutants. This includes providing information on pollutants of concern within this community, and proactive steps that can be taken to reduce exposure at schools, childcare centers, and community centers, when outdoor air pollution levels are unhealthy.

The CSC asked for the Community Emissions Reduction Plan (CERP) to focus installation of school air filtration systems at locations close to major sources of diesel PM and dust from industrial sources. Specific locations mentioned as priorities included schools near major traffic sources, such as freeways and truck routes, railyards, and metal processing facilities.

Table 5g-1: List of CSC identified childcare centers, community centers, libraries, parks, and a public housing project in the East Los Angeles, Boyle Heights, West Commerce community

CSC Identified Locations Where Children Spend Time	
Atlantic Branch Library	Garcia Park
Bandini Park	Ramona Head Start/State-Pre School
Boys and Girls Club (Ramona Gardens) ^{i,ii,iii}	Rosewood Park and Library
Bristow Park and Library	Volunteers of America Humphreys Head Start
City of Commerce Teen Center	

Ongoing Efforts

School Air Filtration Program

The installation of air filtration systems in schools can reduce exposure to air pollution inside school buildings. There are certain types of air filtration systems (“high efficiency air filters”) that are effective in filtering very small particles from diesel engines and other dust sources. Small particles can be inhaled deep into the lungs and cause health problems. These filtration systems may be beneficial to schools located near freeways, truck routes, rail yards, metal processing facilities, auto body shops plants and other sources¹ of PM emissions.

South Coast AQMD has helped install air filtration systems at schools in the Los Angeles Unified School District since 2006, including 20 schools and one community center within the East Los Angeles, Boyle Heights, West Commerce community. Figure 5g-22 shows a map of the schools and community centers with South Coast AQMD installed air filtration systems.

ⁱ Ramona Gardens is a public housing project and would require funding sources or programs to be identified for a residential air filtration system. Residential air filtration systems have not been approved by CARB. South Coast AQMD plans to continue to work with CARB to establish a protocol where residential air filtration systems can be installed.

ⁱⁱ Air filtration systems will generally be less effective in older, pre-2006 homes due to lower energy efficiency typically found in Environmental Justice or disadvantaged communities. Limited research on the efficiency of high performance air filtration systems in older homes suggests a 25% - 30% lower efficiency for PM2.5 and ultrafine PM is expected, which is comparable to having open doors and windows. Most data collected on efficiency of high performance air filtration systems has been on 2006 and new homes, showing an average removal efficiency of 90% for PM2.5 and ultrafine PM.

ⁱⁱⁱ The South Coast AQMD will work with CARB’s Indoor Air Quality program and its contractor to identify effectiveness and opportunities for residential filtration and share this information with the CSC.

Table 5g- provides a list of these schools and community centers.

Figure 5g-2: Map of completed and potential schools for air filtration systems in the East Los Angeles, Boyle Heights, West Commerce

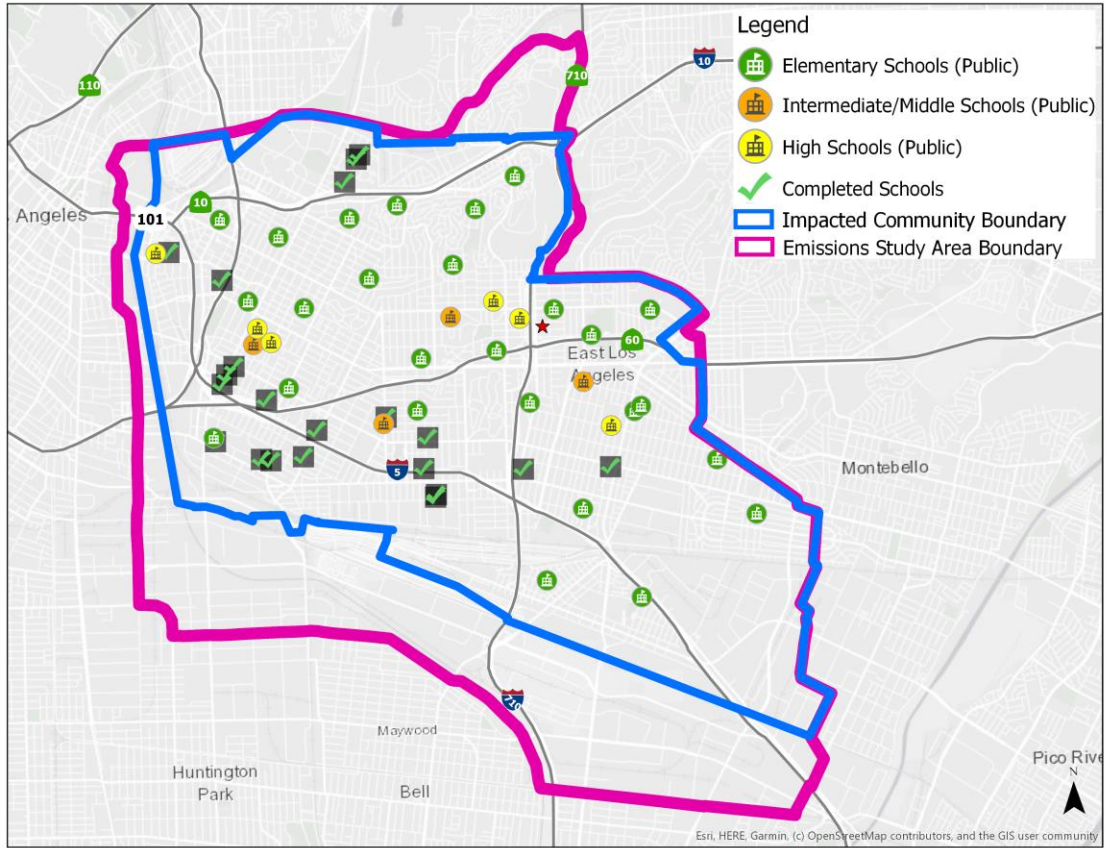


Table 5g-2: List of schools in the East Los Angeles, Boyle Heights, West Commerce community with air filtration systems installed through the South Coast AQMD program

Schools and Community Center with Air Filtration Systems	
Amanecer Primary Center	Murchison Elementary School
Carmen Lomas Garza Primary Center	Plaza Community Services
Christopher Dena Elementary School	Resurrection Elementary School
Dacotah Early Elementary Center	Salesian High School
Eastman Avenue Early Education Center	Santa Isabel Elementary School
Ford Boulevard Elementary School	Santa Teresita Elementary School
Kipp Academy of Innovation	Second Street Elementary School
Las Flores Preschool	Soto Street Elementary School
Lorena Street Elementary School	Sunrise Elementary School
Murchison Early Education Center	Utah Street Elementary School

Environmental Justice Community Partnership (EJCP)² Clean Air Ranger Education (CARE)³

The EJCP is designed to build relationships with community members and organizations to achieve clean air and healthy, sustainable communities. The Clean Air Ranger Education (CARE) Pilot Program is a program designed for elementary school education and includes topics on air pollution and health, air quality advisories, air quality flags, and zero-emission technologies.

Why Air Quality Matters (WHAM) High School Education Program

The South Coast AQMD is implementing Why Air Quality Matters (WHAM), a Science, Technology, Engineering and Math (STEM) and experiential learning based curriculum, in high schools located within environmental justice communities. WHAM will increase teacher and student awareness on air quality issues in their communities and beyond through activities and experiments, including measuring PM using low-cost, hand-held sensors.

Opportunities for Action

In addition to air filtration systems, the CSC prioritized education and outreach as a way to reduce exposure to harmful air pollutants. In addition, Chapter 5b: Neighborhood Truck Traffic describes actions to provide data on truck traffic and potential emissions near schools, which may be useful to support decision-making for truck routing.

Action 1: Reduce Exposure to Harmful Air Pollutants through Public Outreach	
Course of Action:	
<ul style="list-style-type: none"> • Provide air quality related programs to schools, including the Environmental Justice Community Partnership (EJCP), Clean Air Ranger Education (CARE) and Why Air Quality Matters (WHAM) programs • Partner with AltaMed, Council of Mexican Federations (COFEM), and other community-based organizations to provide information on how to receive air quality advisories, and how to reduce exposure to air pollution, particularly for sensitive populations • Partner with community-based organizations such as AltaMed and COFEM to share information or provide outreach to schools for asthma related programs • Work with appropriate parties to negotiate access to conduct school-based air monitoring to provide air quality information at that location for limited-term assessments 	
Strategies:	
<ul style="list-style-type: none"> • Public Information and Outreach • Collaboration • Monitoring 	
Goal(s):	
<ul style="list-style-type: none"> • Collaborate with community-based organizations (e.g., AltaMed and COFEM) to provide information to the public on how to receive air quality advisories, and how to reduce exposure to air pollution, particularly for sensitive populations • Participate in at least two public outreach events (e.g., health fair, Earth Week event) during the implementation period of this CERP at schools or childcare centers to provide information relating to air quality and reducing exposure • Provide information relating to air quality effects on young children and reducing exposure to facilities where children are located (e.g., schools, childcare centers, community centers, libraries, etc.), prioritizing based on CSC input during the implementation period of this CERP • Implement CARE and WHAM programs at least two schools in 2020, with possibility of continuing for up to three years^{iv} • Work with appropriate entities to negotiate access to conduct school-based air monitoring for limited-term assessments 	
Estimated Timeline:	
<ul style="list-style-type: none"> • Beginning 2020 through 2022, implement CARE and WHAM programs at schools • Fourth quarter of 2019, begin working with AltaMed on developing health messaging for advisories 	

^{iv} Number of schools and duration of program is contingent upon renewing funding source for subsequent years.

<ul style="list-style-type: none"> Beginning 2020 through 2022, participate in public outreach events on reducing exposure to air pollution Early 2020, begin outreach efforts with community-based organizations (e.g., AltaMed) Installation of air monitoring at schools^v, childcare centers, libraries, and community centers^{vi} prioritized by CSC , as necessary 	
Implementing Agency, Organization, Business or Other Entity:	
Name:	Responsibility:
South Coast AQMD	<ul style="list-style-type: none"> Implement the CARE and WHAM programs to schools 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 Collaborate with organizations to implement outreach events Work with appropriate entities to negotiate access to conduct school-based air monitoring Participate in AltaMed Environmental Health Working Group to identify and address local air quality issues
Community-Based Organizations (e.g., AltaMed, COFEM)	Partner with South Coast AQMD to develop health messaging and share information and/or provide outreach to schools for air quality, public health, asthma-related programs
Additional Information:	
<ul style="list-style-type: none"> COFEM: https://www.cofem.org/ AltaMed: https://www.altamed.org/ 	

Action 2: Reduce Exposure to Harmful Air Pollutants at Schools, Childcare Centers, Libraries and Community Centers

Course of Action:

- Work with Los Angeles Unified School District, other local school districts, and CSC members to prioritize schools, childcare centers, libraries, and community centers

^v Some schools or community centers have had air filtration systems previously installed; however, filter replacements may be needed. Replacement filters will continue to be provided to schools that have had air filtration systems installed. Given that these projects are dependent on available funding, the CSC will need to prioritize schools for air filtration systems.

^{vi} Installation of air filtration at childcare centers, libraries, and community centers is dependent upon having contacts at locations identified by CSC members who would be able to assist in the placement of monitoring equipment, and may be dependent on the functionality of existing HVAC systems.

<p>near truck routes, railyards, and other industrial sources identified by the CSC^{vii} that may benefit from installation of air filtration systems</p> <ul style="list-style-type: none"> • Work with appropriate agencies toward replacing filters at schools that have existing air filtration systems and installing systems at schools, childcare centers, libraries and community centers that do not have these systems 	
Strategy:	
<ul style="list-style-type: none"> • Exposure Reduction 	
Goal:	
<ul style="list-style-type: none"> • Install air filtration systems at schools^{viii}, childcare centers, libraries, and community centers • Facilitate input from the CSC on locations to install air filtration systems 	
Estimated Timeline:	
<ul style="list-style-type: none"> • Mid-2020, work with appropriate agencies toward the installation of high efficiency air filtration systems, replacing filters at schools with air filtration systems and installation at schools without these systems during the implementation period of this CERP 	
Implementing Agency, Organization, Business or Other Entity:	
Name:	Responsibility:
South Coast AQMD	Implement air filtration systems at prioritized schools, childcare centers, libraries and/or community centers without these systems and replacement filters at existing locations
Los Angeles Unified School District and other local school districts	Partner with South Coast AQMD on the installation of air filtration systems at schools at prioritized locations
Appropriate Entities (e.g., cities and county)	Partner with South Coast AQMD on the installation of air filtration systems at libraries and community centers, if these community spaces are prioritized by the CSC
Additional Information:	
<p>School air filtration program: https://www.aqmd.gov/docs/default-source/ceqa/handbook/aqmdpilotstudyfinalreport.pdf</p>	

^{vii} Public schools, including charter schools, childcare centers, and public community centers, are eligible for the South Coast AQMD program.

^{viii} Some schools or community centers have had air filtration systems previously installed; however, filter replacements may be needed. Replacement filters will continue to be provided to schools that have had air filtration systems installed. Given that these projects are dependent on available funding, the CSC will need to prioritize schools for air filtration systems.

References

1. Polidori, A., et al. "Pilot Study of High-Performance Air Filtration for Classroom Applications." *Indoor Air*, vol. 23, no. 3, 2012, pp. 185–195., doi:10.1111/ina.12013
2. South Coast AQMD, Environmental Justice Community Partnership, <http://www.aqmd.gov/ejcp>, Accessed June 6, 2019.
3. South Coast AQMD, Environmental Justice Community Partnership Advisory Council, June 2019, <http://www.aqmd.gov/docs/default-source/Agendas/Environmental-Justice/2019-ejcp-agenda-june-5.pdf>, Accessed June 6, 2019.

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