

Environmental Health Equity Action Plan: Resident Recommendations for Addressing Threats of Soil Lead to Environmental and Human Health in Santa Ana, CA

Background: Soil Lead in Santa Ana, CA

In 2017, reporter Yvette Cabrera published an [investigative report](#) that found high levels of lead in the soil in some parts of Santa Ana, CA. Lead is a neurotoxin that particularly affects brain development and is linked with behavioral issues and other health outcomes. Though these issues can impact anyone, young children are the most vulnerable to the effects of lead. The Centers for Disease Control and Prevention (CDC) notes that [there is no safe level of lead](#). Orange County Environmental Justice (OCEJ) has done research, advocacy, and organizing to bring awareness to the soil lead issue in Santa Ana. In 2022, OCEJ worked with other community groups and advocates to successfully push for lead-related policies in the General Plan Update for the City of Santa Ana, including removing the lead from the soil (prioritizing a method called bioremediation), improving access to blood lead testing for residents, and creating lead removal jobs, among other environmental justice policies.

What is an Environmental Health Equity Action Plan?

An Environmental Health Equity Action Plan (EHEAP) is a plan that outlines community priorities and action steps to address environmental and health injustices. This EHEAP is focused on resident feedback on strategies to address the threats of soil lead to environmental and human health, as outlined in the General Plan Update.

Process of Developing the Environmental Health Equity Plan

From fall 2022 to summer 2023, OCEJ held 7 group discussions with residents and members of community-based organizations or neighborhood associations to learn about their familiarity with lead in the soil in Santa Ana and their feedback on potential strategies to address the lead in the soil. OCEJ asked about a couple of strategies that were included in the 2022 General Plan Update for the City of Santa Ana, which included bioremediation (using plants to absorb lead from the soil) and access to lead testing for residents. In total, we connected with 33 community members through in-person meetings, phone calls, discussion forms, and Zoom sessions.

Key Findings

Soil Lead in Santa Ana, CA

“The problem of soil lead is difficult to get people to pay attention to because the problems associated with soil lead are subtle and hard to attribute to any particular cause [...] It takes time and energy for people in the community to go out and investigate whether or not their families were impacted. And because the lead in the soil isn’t as visible as say an oil spill or a gas leak seeping into a water supply, it’s hard for people to know [and] see that the problem is even there.” - Participant A

When looking at [maps](#) showing areas in Santa Ana with the highest levels of lead in the soil, **participants noted that residents who are most affected are low-income residents and Latinx residents**, many of whom struggle to make ends meet. They also noted that these same communities have other environmental hazards, such as railroad traffic, automotive industries, few or poorly funded parks, and streets that are not pedestrian-friendly.

Participants noted that older residents and residents with limited access to the internet are less likely to access information about soil lead or to see announcements about community meetings.

Bioremediation: Using Plants to Absorb and Remove Lead from the Soil

OCEJ sought feedback on 2 strategies to address lead in the soil: (1) traditional remediation that uses a large labor force to dig up the soil and move it elsewhere and (2) bioremediation, or planting native plants or fungi to absorb lead from the soil.

“If we try to plan something for remediation purposes, lead is soaked up into the plant and creates biowaste. [I’m] interested in learning more about that because maybe workers need to be really protected. Moving soil around and exposing air to lead so that is something that’s been on my mind.” -Participant B

Most participants were in favor of bioremediation. Some participants asked about the consequences of disturbing the soil, such as impacts on workers’ exposures to lead and/or suspending lead in the air; what happens with plants that absorb lead, how long it would take to absorb and remove lead; and how renters can get involved.

Participants expressed frustration with the time that it takes to address community concerns when collaborating with the City. They pointed to the urgency of addressing soil lead, citing the wide-scale nature of the issue (e.g., parks, schools, plots of land) and its impacts on human health.

“[A] solution is not throwing [...] your problems in someone else’s backyard. Like, that just perpetuates the problem.” - Participant C

Some residents wanted the community to take remediation into their own hands. Participants were generally supportive of using a seed ball approach to address soil lead and noted that OCEJ is poised to lead this effort given their history of raising awareness of soil lead and organizing for lead policies included in the General Plan Update. A seed ball is a ball of dirt with seeds for plants and fungi that are known to help absorb soil lead. OCEJ proposed creating seed balls and hosting workshops on how to properly care for and dispose of these plants so that residents can do bioremediation on a smaller scale in their backyards and ease their concerns about the side effects of lead.

“This is [the] perfect opportunity for apprenticeship programs out there to get local people involved with these paying jobs. [It could] provide strong benefits and invest in folks’ livelihood especially if they’re gonna be exposing themselves to the soil.” - Participant B

Who should lead soil bioremediation? Participants noted that residents should be employed for bioremediation to invest in the community and compensate residents.

Improving Access to Blood Lead Testing for Residents

“A lot of people don’t have good healthcare in this country.” - Participant D

“People would be more enticed to take the lead test if it was free. Having to figure out how to go about it with health insurance could be a hassle.” - Participant B

Participants noted that there is currently limited information about and funding for blood lead testing. They cited several barriers to blood lead testing, such as limited trust in health care systems, not having health insurance or access to health care and not having money to pay for blood lead testing, which they noted affects undocumented residents.

Participants recommended having mobile testing and events in neighborhoods to make it as simple as possible for those who have limited access to healthcare or have trouble making time to schedule appointments with their healthcare provider. They also recommended providing a meal or gift card to incentivize people to come out and get tested.

Engaging Residents to Address Soil Lead and Health Effects

“If you’d asked [them] to come to a meeting like this before college” they would have said, “why are you asking me about what’s in the soil when I’m trying to figure out where my next meal is going to come from?” - Participant E

Overall, participants were passionate about raising residents’ awareness about soil lead and emphasized the need to remove lead from the soil and address the health effects that can be long-term and affect generations of the community. Many participants expressed interest in getting involved, even those who have a busy schedule. Some participants recommended paying residents for their involvement.

“Bring these informational meetings to them so the labor on them is less.” - Participant F

“Language access should also be considered in the communications approach. We have a high monolingual Spanish-speaking population here in Santa Ana, and the information needs to be translated and interpreted if we want residents to get involved.” - Participant A

“Some of my neighbors aren’t always able to access the internet or social media, so they can’t see the map of toxic lead levels or get invitations to related meetings. The City isn’t doing any outreach in response to the soil lead issue, they would prefer that this literally stayed buried so they didn’t have to worry about being responsible for the remediation process.”
- Participant D

Participants noted the importance of meeting the community where they are at and strengthening relationships by simultaneously sharing information about soil lead and other resources (e.g., food banks) in residents’ primary language. They recommended several strategies to reach residents, including:

- Collaborating with other organizations (e.g., environmental, public health, Latinx, youth, parents), schools, and neighborhood associations that have connections with impacted communities;
- Sharing information via: town halls, the internet, mailers, TV, and news reports; creating a Spanish-language documentary with English subtitles; door-to-door knocking in impacted areas; canvassing areas residents frequent (e.g., laundromats); and tabling in areas where impacted residents may be such as food distribution sites; and
- Using active discussion strategies, such as scavenger hunts or comic books.

Summary and Next Steps

Discussions highlighted residents' ongoing concerns about lead in the soil in Santa Ana. They recommended continuing to raise awareness about soil lead, while also focusing efforts to remove lead from the soil using plant-based methods, hiring residents to lead bioremediation, and improving access to blood lead testing. **Participants emphasized the urgency of taking action as soon as possible.** OCEJ will share and discuss the findings with residents, public health officials, and city officials through both in-person and virtual meetings to further inform the development of environmental health equity action steps.

Acknowledgments

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For more information, please visit [<https://www.ocej.org/>]

Citations

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Participants Quoted:

Participant A - Young adult resident of Santa Ana for a bit less than 10 years, an educator and campaigns manager for a community organization focused on building people power and addressing the needs of working-class residents of OC, with particular emphasis on the Latino community in Santa Ana and Anaheim

Participant B - Adult resident of Santa Ana for almost 15 years

Participant C - Adult resident of Orange County, who has gone to school/worked in Santa Ana

Participant D - Adult resident of Santa Ana for around 10 years, an artist, writer/editor for a university, and volunteer with OCEJ, Green-MPNA, and Climate Mobilization Project

Participant E - Adult resident of Santa Ana for about 25 years, an undocumented community organizer working in public health community campaigns

Participant F - Adult resident of Santa Ana, born and raised, a grassroots community organizer

working on mobility justice and park equity and access