



Racial Equity Impact Analysis: Eliminating Lead Paint Hazards in Oakland & Alameda County

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Environmental / Justice Solutions

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- ★ Inform policy initiatives with community-supported best practices to maximize equitable outcomes, including ongoing community oversight during implementation.
- ★ Develop equity performance indicators and metrics for guidance and accountability during implementation.

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EXECUTIVE SUMMARY

Lead poisoning caused by lead paint remains a dire threat to public health, well-being, and life outcomes in Oakland and Alameda County. The problem is so large that the rate of lead poisoning in some Oakland zip codes is higher than in Flint, Michigan at the height of its lead in the water crisis. Lead paint hazards disproportionately affect low-income and Black, Indigenous, and Latinx communities due to the **prevalence of older, dilapidated housing, which exposes children in poverty to lead paint hazards at the greatest rates**. Moreover, after lead exposure, children in poverty suffer greater harms than children from higher-income families.

Environmental Justice Solutions (E/J Solutions) prepared this Racial Equity Impact Analysis (“REIA”) on behalf of the City of Oakland’s Department of Race and Equity (“DRE”) to **guide the City of Oakland** in partnering with Alameda County to develop and implement an equitable lead hazard abatement program. E/J Solutions conducted an independent review of existing research and quantitative data, to isolate indicators that can be used to identify the racial demographics and geographic locations of the communities most vulnerable to lead paint hazards. In addition, relying on best practices proposed by public health departments, lead equity advocates, or implemented in other cities, this report recommends policies that **prioritize at-risk communities, remedy barriers to resources, ensure lead hazards are expeditiously removed from homes in vulnerable communities, and bolster local economic resilience**.

Achieving equitable outcomes will require Oakland and Alameda County to align their joint efforts behind a geographically focused approach that ensures early and comprehensive action in the vulnerable neighborhoods experiencing high poverty, fewer resources, and greater exposure to health risks. Equity requires every program, policy, and investment to provide **significant and sustained support to the people hurting most**.¹ Through thoughtful, whole-systems thinking that dedicates the majority of available funds to removing lead hazards from housing before children are poisoned in ways that meet priority community needs, Oakland and Alameda County can eliminate racial disparities in exposure to lead paint hazards, and reduce the severity and number of new cases of lead poisoning.

I have a case of a child who came two years ago as a refugee. His blood lead level was 8 µg/dL. We were able to figure out that the lead source may have been due to the eye makeup that they had been using since birth. The doctor recommended another blood lead test and six months later when it was tested, his blood lead level went up to 72 µg/dL. **It was from the house this time.**

Diep Tran, Alameda County Public Health Nurse²

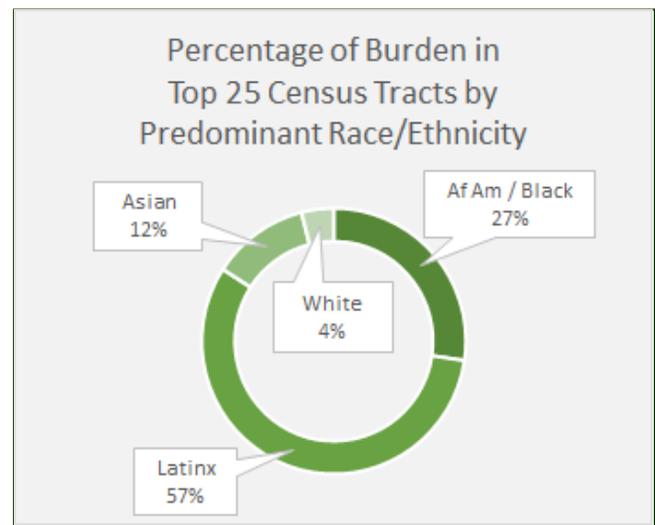
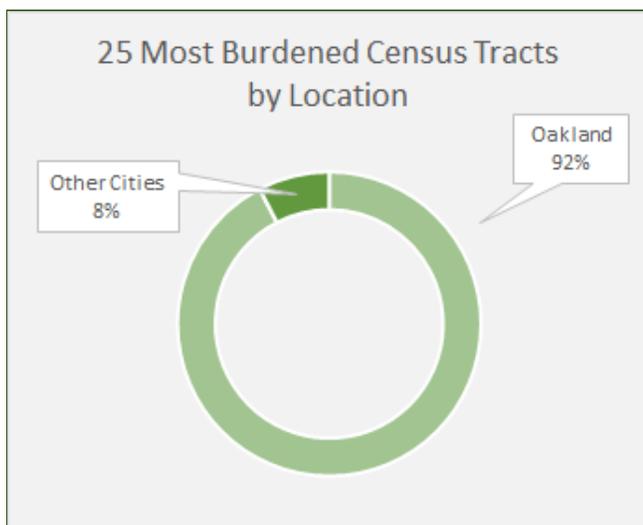
¹ [PolicyLink](#).

² Tram Nguyen, et al., [Housing Habitability and Health: Oakland’s Hidden Crisis](#), Alameda County Public Health & Healthy Homes, April 2018, p. 13.

Existing Racial Disparities in Oakland & Alameda County

Socio-economic indicators, including education, neighborhood and physical environment, employment, social support networks, and access to health care, determine our health, well-being and life outcomes. Inequities in key indicators of well-being disproportionately burden communities of color and low-income, low-wealth communities increasing their vulnerability to environmental hazards. Scoring and ranking census tracts is one helpful way to understand varying degrees of cumulative burden and compare the most burdened and least burdened communities. This report gathers data to define existing disparities and shed light on the conditions and lived experiences of the most burdened and marginalized communities within Oakland and Alameda County.

Methodology and Findings. E/J Solutions gathered data on 357 census tracts in Alameda County from various sources. We converted the results for each indicator into a scale of 0-10 then summed the scores for each indicator to create an **Overall Burden Score** for each census tract. To zero in on the most burdened communities, we isolated the top 25 most burdened census tracts overall *and* for each indicator. We identified the share by race/ethnicity and compared Oakland to the remainder of Alameda County. We then averaged Oakland's share of overall burden with its share of the most burdened census tracts as a way to identify Oakland's equitable share of available lead paint settlement funds for Alameda County: **60-70%**. This also corresponds to the percentage of lead hazard cases reported to Alameda County between 2015-2020 that were located in Oakland.



Limitations. For brevity of reference this report defaults to the racial/ethnic categories of: (a) **Black** (b) **Latinx** (c) **Asian** and (d) **White**, which are the predominant racial categories in Alameda County census tracts. We acknowledge that this glosses over many distinctions within these categories and significantly smaller groups, such as Indigenous populations, Mixed Race, and Pacific Islander are not well-highlighted. The overall racial burden scores highlighted above identify each census tract by its predominant demographic group, but the report also includes several demographic tables that identify all of the major racial/ethnic groups: Latinx, White, Black Asian, Pacific Islander and Other/Multiple. In

many neighborhoods, such as **4064 (Reservoir Hill/Manzanita)**, Oakland's three largest racial ethnic groups are similar in size.

Shifting Demographics. Over the last two decades, significant racial demographic shifts have resulted in census tracts with higher lead risk that were until recently predominantly African American, such as **Gaskill (4009)**, North Oakland: **Bushrod and Santa Fe (4006 & 4007)**, **Temescal 1 (4011)**, and **Longfellow (4010)** neighborhoods now being predominantly White. In addition, Latinx majorities in some census tracts grew. While African American and other Black residents may not be the predominant group, Oakland still remains home to a majority of Alameda County's Black residents and this community remains a significant plurality in the most burdened neighborhoods.

Existing Equity Gaps

- Lack of proactive policies and programs to locate and abate lead paint hazards in at-risk housing.
- Insufficient outreach, education, and blood lead testing in at-risk communities. Outreach to tenants must directly result in increased blood lead testing.
- Scattershot and racially inequitable implementation.
- Lack of coordination between overlapping jurisdictions.
- Disjointed and outdated data.
- Insufficient program capacity.
- Misplaced blame due to the myth of "personal responsibility."
- Mistrust resulting from poor community engagement.
- Inadequate protections and lack of enforcement of existing tenant protections for low-income tenants.
- Financial barriers to remediation for low-income homeowners and landlords.
- Missed opportunity to boost local economic resilience through development of a robust pipeline of RRP-certified local businesses and contractors and workforce development programs that target at-risk individuals.

Recommended Actions

The City of Oakland and County of Alameda must address the factors that drive racially disparate lead poisoning impacts through holistic and proactive lead hazard abatement programming that prioritizes permanent lead rehabilitation in at-risk communities and simultaneously addresses multiple sources of lead alongside habitability and climate resilience needs. The following recommendations assume that the City and County will devote around 60-70% of Settlement Funds to the City of Oakland, with the entity that carries out the activity managing the necessary funds.

- 1. Improve ongoing ability to screen for and eliminate lead hazards through proactive approaches: (a) proactive inspections of rental properties dwellings and (b) lead-safe certification requirements for childcare facilities and schools.**

- a. The City of Oakland will **proactively inspect for all habitability issues** including lead paint hazards, **beginning in priority census tracts** and executing blanket coverage of at-risk dwellings block-by-block.
- b. As inspections progress, City inspectors will carefully assess the number of temporary relocations needed and gather qualitative data about other significant burdens to the neighborhood, such as road blockages or noise.
- c. The City and County will prioritize lead-safe certifications for OUSD schools and childcare facilities.

2. Prioritize abatement, testing, outreach, and education activities in high-risk areas and serving the populations most likely to live in high-risk dwellings.

- a. The City and County will utilize a geographically-phased approach in Oakland which begins in the overburdened census tracts that are most vulnerable to lead paint hazards.
- b. When lead paint hazards are found in homes where children reside, the City will immediately refer the case to the County for blood lead testing and other case management services.
- c. The County will also receive reports of unsafe housing conditions in Oakland. The most efficient way to share this information with the City would be for the County to have direct access to the shared Equitable Lead Hazard Abatement Program database.

3. Ensure efficient remedy of lead hazards and simultaneously address all habitability issues and all sources of lead in the places at-risk children spend time.

- a. The City and County will both provide lead hazard control. The Equitable Lead Hazard Abatement Program Specialist will monitor all efforts in Oakland to ensure identified hazards are remediated in a timely fashion.
- b. The County will continue to operate its HUD-funded Lead Hazard Repair Program, but will immediately refer dwellings within Oakland that it cannot service to the City, for lead hazard control to be overseen by the Equitable Lead Hazard Abatement Program Specialist.
- c. The ELHAP specialist will coordinate with landowners/homeowners and schools to offer any needed funding support for tenant relocation and lead hazard rehabilitation.

4. Ensure robust data collection; compile a database of all lead hazards identified within the City of Oakland and maintain comprehensive and up-to-date public records on lead hazards and rehabilitation and remediation efforts.

- a. The City and County will enter every dwelling or other facility where habitability issues are found into a Equitable Lead Hazard Abatement Program database that is searchable and sortable by habitability issues, particularly lead.
- b. ELHAP will not close a case until all habitability issues have been remedied.
- c. The ELHAP program will monitor and produce annual evaluations of the impacts of the program disaggregated by race/geographic proxy (census tract level preferred), which will be periodically reported to the public for transparency and community engagement.

5. Prioritize the needs of vulnerable and overburdened tenants, landlords and homeowners.

- a. The City will actively enforce existing tenant protections to prevent eviction and displacement.
- b. The City and County will minimize financial burdens by increasing the amount of financial support available to low-income homeowners who may be undergoing financial hardship— both owner-occupied dwellings and landlords providing affordable housing— to fund rehabilitation and repair activities, including grants or zero-interest loans, in order to ensure that lead hazards are abated in a timely fashion.
- c. The City will support low-income landlords who provide affordable housing by making funds available to enable them to follow through on their obligation under Oakland City Ordinance Section 8.22.800 to provide temporary relocation assistance for tenants.

6. Bolster local economic resilience.

- a. ELHAP should support workforce development to increase high-road, union-wage, family-sustaining jobs creation in partnership with the Oakland Workforce Development Board and the Cypress Mandela Training Center, and offer job-placement support post certification.
- b. The City will increase Renovation, Repair, and Painting training and certification opportunities for existing small local businesses through targeted outreach to businesses registered to do business in Oakland, particularly those owned by people of color.
- c. The City and County will collaborate to provide wraparound services to small local businesses located in at-risk neighborhoods.

7. Increase targeted public education efforts in vulnerable communities.

- a. Focusing on at-risk areas, the County should make education about lead hazards, remediation, and lead testing more widespread and accessible through popular education and translation of lead outreach materials into additional languages.
- b. The City will collaborate with the County to develop and carry out effective outreach to hard-to-reach populations, including through partnerships with local community-based organizations that are active on the ground.
- c. The County will ensure that outreach efforts translate directly into increased blood lead testing.

8. Ensure meaningful community participation and oversight of lead poisoning prevention efforts.

- a. The City and County will ensure equitable governance, community oversight, and transparency by building in **ongoing collaboration with affected communities**. Well-intentioned policies may nevertheless have unintended negative consequences if the most impacted community members are not part of the process. Unintended consequences include increased financial hardship, unfair stigmatization, failing to identify children / households with lead risks, and prolonged exposure to lead.

- b. Prioritize impacted community needs in all phases of policy development, treating their lived experience and input with the same level of consideration given to other highly-credible types of data and information.
- c. Make lead risk data available to families, policymakers, and other stakeholders who need information about sources of exposure, such as property-specific information on leaded drinking water pipes and lead in the water, dust, paint, and soil at or near homes, schools, and child care facilities.
- d. Increase the number of community representatives on the Joint Powers Authority Board.

9. Generate additional funding to support ongoing lead remediation systems.

Conclusion

In addition to improving quality of life and the quality of the housing stock, Oakland and Alameda County can realize multiple cascading public health, safety, environmental, social, and economic benefits by creating and fully funding an equitable lead hazard abatement program. Researchers have found that eradicating lead paint hazards from older homes where children from low-income families reside would provide a return of approximately \$1.39 in future benefits per dollar invested.

Dedicated funding for an equitable lead hazard abatement program would protect young children from accruing high levels of untreated lead poisoning, which can cause brain damage, anti-social, erratic, or violent behavior, and limit their future economic livelihood. Lowering exposure to lead paint hazards will increase students' academic performance, supporting higher attendance, graduation rates, and success later in life. Furthermore, Oakland can bolster economic and community resilience by ensuring more Oakland residents are gainfully employed in rehabilitating Oakland's housing stock and adapting to climate change, addressing lead paint hazards, alongside mold, asbestos, weatherization for energy efficiency, and solar and electrification projects. As lead poisoning, unemployment, housing insecurity, and houselessness decrease, so too will criminalized behavior, addressing multiple root causes of insecurity and significantly increasing public safety for *all* Oakland residents.

1. INTRODUCTION

Across the United States there are deeply entrenched inequities drawn along racial lines. Both historically and in the present day, racial discrimination has been perpetuated *de jure* through federally and locally sanctioned practices. These systemic policies and practices cumulatively impact **health outcomes, lived experiences, and life expectancy**. Across almost every socio-economic indicator, Black, Indigenous, Latinx and other non-White communities fare the worst, resulting in poor quality of life and shortened life expectancy.³ The racial **income and wealth gap** is enormous: African Americans earn 60% of the average White income and own only 5% of the wealth, a disparity which analysts estimate cost the U.S. about \$2.4 trillion in 2014.⁴ Nationally, in 2015, **racial health disparities** were found to “cost the [national] economy an estimated \$245 billion in excess health care expenditures, illness-related lost productivity, and premature deaths.”⁵

Although Oakland is one of the most racially diverse cities in the country, it has a long history of systemic racial and economic discrimination. Within the City of Oakland and the broader context of Alameda County, there are extreme disparities between neighborhoods and across numerous key determinants of well-being, including access to a clean environment, healthy food, recreational and open space, educational achievement, living wage employment, and decent housing.

Exposure to lead paint and lead poisoning are among the inequitable outcomes facing low-income communities and Latinx, Black, immigrant, and refugee communities in the City of Oakland and Alameda County. Several years ago, Oakland’s Office of Planning, Building & Neighborhood Preservation estimated that medical services, special education, disabilities, and lost wages due to **lead poisoning**, cost city residents upwards of \$150 million each year.⁶

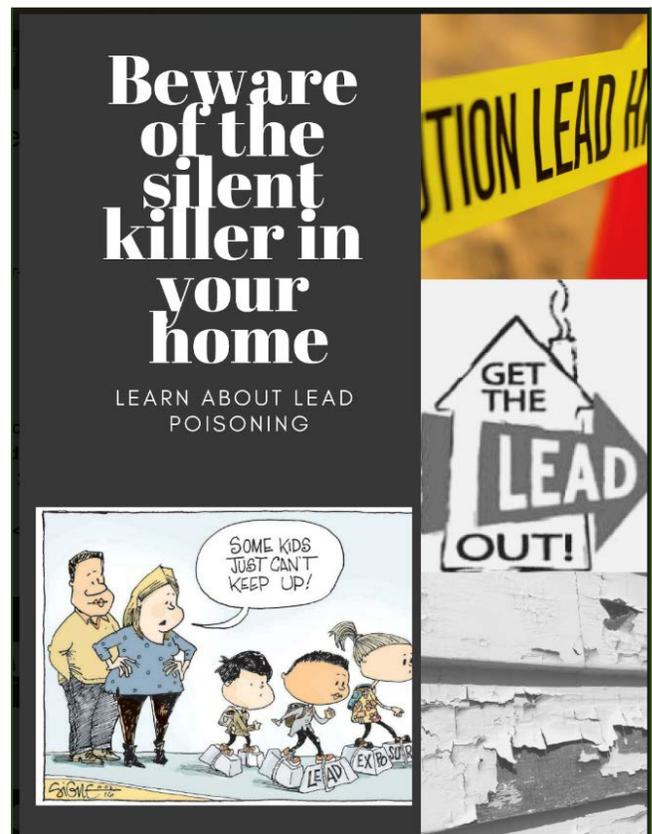


Figure 1. County of Alameda Lead Outreach Poster

³ City of Oakland Department of Race & Equity, [Oakland Equity Indicators: Measuring Change Toward Greater Equity in Oakland](#), 2018.

⁴ PolicyLink, [Racial Equity Impact Assessments](#).

⁵ Ibid.; John Z. Ayanian, MD, [The Costs of Racial Disparities in Health Care](#), Harvard Business Review, October 10, 2015.

⁶ City of Oakland Office of Planning, Building & Neighborhood Preservation, [Proposed Program Design for Proactive Code Enforcement Operations](#).

1.1. Racial Equity Assessment of Lead Paint Hazards in Oakland & Alameda County

As systemic institutional practices have placed certain groups in harm's way, each institution must play a part in reversing inequitable outcomes. Unless equitable considerations are infused into every aspect of policy design and implementation, even well-intended policy interventions may inadvertently exacerbate inequality, with costly results. Policymakers are now seeking out viable methodologies, programs, and policies that can remedy entrenched harms.

Oakland Municipal Code section 2.29.170 specifies that “the City of Oakland will intentionally integrate, on a Citywide basis, the principle of **‘fair and just’** in all the City does in order to **achieve equitable opportunities for all people and communities.**”⁷ Section 2.29.170 defines inequitable outcomes as “differences in well-being that disadvantage one individual or group in favor of another” and acknowledges that the “differences are systematic, patterned, unfair and **can be changed**. Inequities are not random; they are **caused by past and current decisions**, systems of power and privilege, policies and the implementation of those policies.” The Department of Race and Equity's *Racial Equity Implementation Guide* provides a roadmap for City departments to follow in developing racially equitable policies.

Following DRE's roadmap, E/J Solutions conducted an independent review of existing research and quantitative data from several public sources, including research and data shared by Alameda County Public Health Department's Healthy Homes Department, which has been working in lead poisoning prevention for several decades. The REIA identifies racial inequities that will be exacerbated if not directly addressed and actions that can be taken to advance equity and meaningfully impact outcomes in the low income communities and Latinx, Black, Indigenous, immigrant, and refugee communities in Oakland and Alameda County experiencing high poverty rates and greater exposure to health risks.

1. Census tract by census tract comparison of the disparities facing a) low-income and b) non-White communities in Oakland and Alameda County that lead to increased vulnerability to lead poisoning;
2. Methodologies for prioritizing high-risk populations and neighborhoods;
3. Identification of equity gaps in present-day lead poisoning prevention efforts: the agencies, programs, and protocols related to discovery and remediation or abatement of lead paint hazards; and
4. Description of equitable program elements, including data gathering data to monitor and evaluate program implementation and ensure equity goals are met.

This REIA will guide the City of Oakland in partnering with Alameda County to ensure that joint efforts result in equitable discovery and abatement of lead hazards and dramatically reduce present-day racial disparities in lead poisonings. The REIA's approach and recommendations are particularly aligned with Alameda County's “Housing Habitability and Health: Oakland's Hidden Crisis” published in April 2018 as

⁷ City of Oakland [Municipal Code Section 2.29.170](#).

well as the lead equity recommendations developed by lead policy experts during the Equity Analysis of Lead Policies Consensus Conference held in November 2018.

Only by directing a lion's share of any available funds toward addressing the deeply entrenched barriers that have hindered progress toward total remediation of lead hazards will vulnerable communities no longer be systematically exposed to lead hazards and receive the resources necessary to thrive.⁸ This equitable goal provides an opportunity for transformative approaches that shun the status quo and dismantle and reverse the policies and practices that exacerbate inequitable outcomes. The framework is centered on actualizing the equity principle of healthy housing as a **community asset** in which local and regional governments should invest for the benefit of the greater good. The numerous benefits associated with closing racial equity gaps and increasing access to healthy housing include:

- Efficient and effective resource allocation that reduces intransigent problems more quickly;⁹
- Reversing legacies of discrimination;
- Making access to affordable and habitable housing a human right;
- Improving public health, safety and quality of life;
- Boosting Oakland and Alameda County's tax base and desirability as places to live.

1.2. Lead Paint Lawsuit & Settlement Agreement

In July 2019, Santa Clara, Alameda, Los Angeles, Monterey, San Mateo, Solano, and Ventura Counties along with the City and County of San Francisco, and the Cities of Oakland and San Diego, entered into a landmark \$305 million Settlement Agreement with Sherwin-Williams Co., ConAgra Grocery Products Co. and NL Industries Inc., lead paint manufacturers who knowingly sold a harmful product in accordance with "industry standards." Alameda County and the City of Oakland are the only two parties to the Settlement Agreement with overlapping jurisdiction and shared responsibility to reduce child lead poisoning in Oakland.

Under the Lead Settlement Memorandum of Understanding, Alameda County and the City of Oakland will jointly receive 10% of the settlement abatement funds to be paid out over seven years (approximately \$24 million). The abatement funds were allocated by averaging percentages of pre-1978 housing stock and pre-1951 housing stock. The funds will be "distributed to the County of Alameda to be held in a trust account in the County of Alameda treasury until the County of Alameda and the City of Oakland come to a joint agreement on the ultimate disposition of the funds."

The settlement funds may be used to address public health hazards, bodily injury, personal injuries, and property damage related to lead paint. Such efforts may include but are not limited to developing or enhancing "programs that abate lead from housing, particularly housing occupied by low-income individuals;" providing "services to individuals, particularly children who have been exposed to lead

⁸ Human Impact Partners, [Achieving Equity in Lead Poisoning Prevention Policy Making: Proceedings from a Consensus Conference](#), November 2018, p. 12.

⁹ Oakland-Berkeley-Alameda County Continuum of Care, [Centering Racial Equity in Homeless System Design](#), January 2021, p. 3.

paint; and educating the public “about the hazards caused by lead paint, and the best means of avoiding exposure to and remediating the harms caused by lead paint, including the availability of funding for lead abatement.”

1.3. Alameda County’s Proposal: Lead-Safe Alameda County: 2030

Along with overlapping jurisdiction, the City of Oakland and Alameda County have shared responsibility to reduce child lead poisoning and can work in partnership as both have existing programs that provide lead abatement services. “The County of Alameda and the cities of Alameda, Berkeley, Emeryville, and Oakland have worked together for 27 years . . . to address the multi-faceted problems presented by lead-based paint and other lead hazards in our communities.”¹⁰

Alameda County proposes a ten-year plan for primarily ramping up existing lead poisoning prevention activities in Oakland and Alameda County, utilizing over two million annually of the settlement funds under a comprehensive, coordinated plan, MOU, and a jointly-approved spending framework. The Lead Abatement Joint Powers Authority would provide oversight and the Plan would be ratified through adoption by both the Alameda County Board of Supervisors and Oakland City Council. City and County activities will “complement and support each other” and both jurisdictions can leverage existing programs and seek out additional funding to enhance services and fill gaps.

Alameda County initially proposed to spend no less than 34% of settlement funds in Oakland, with the possibility for that percentage to rise to 42% “based upon community needs assessment.” After early discussions about this REIA’s findings, Alameda County now proposes to spend no less than 60% of settlement funds in Oakland.

1.4. Lead Paint

Lead (atomic symbol **Pb**) is a naturally occurring, “soft, grayish metal with poisonous salts.”¹¹ This toxic metal is relatively easy to find and extract, and especially useful for industrial purposes. It is **non-biodegradable**, durable yet malleable, resistant to certain levels of corrosion, and helps reduce long-term water damage.¹² These properties make lead a widely-used commercial additive. Tetraethyl lead was added to gasoline in 1921 to help reduce engine knocking and wear and tear. Almost immediately, industry workers started to become extremely ill, and some lost their lives. “At Dupont’s manufacturing plant in New Jersey, it was particularly bad — eight workers died between 1923 and 1925.”¹³ At one time or another, lead has been used in gasoline, paint, solder, water pipes, and cosmetics, as well as other products. Despite this widespread use, lead is an extremely potent toxin; exposure to lead is extremely dangerous to human health and well-being, and is **particularly harmful to young children** (0-6 years old).

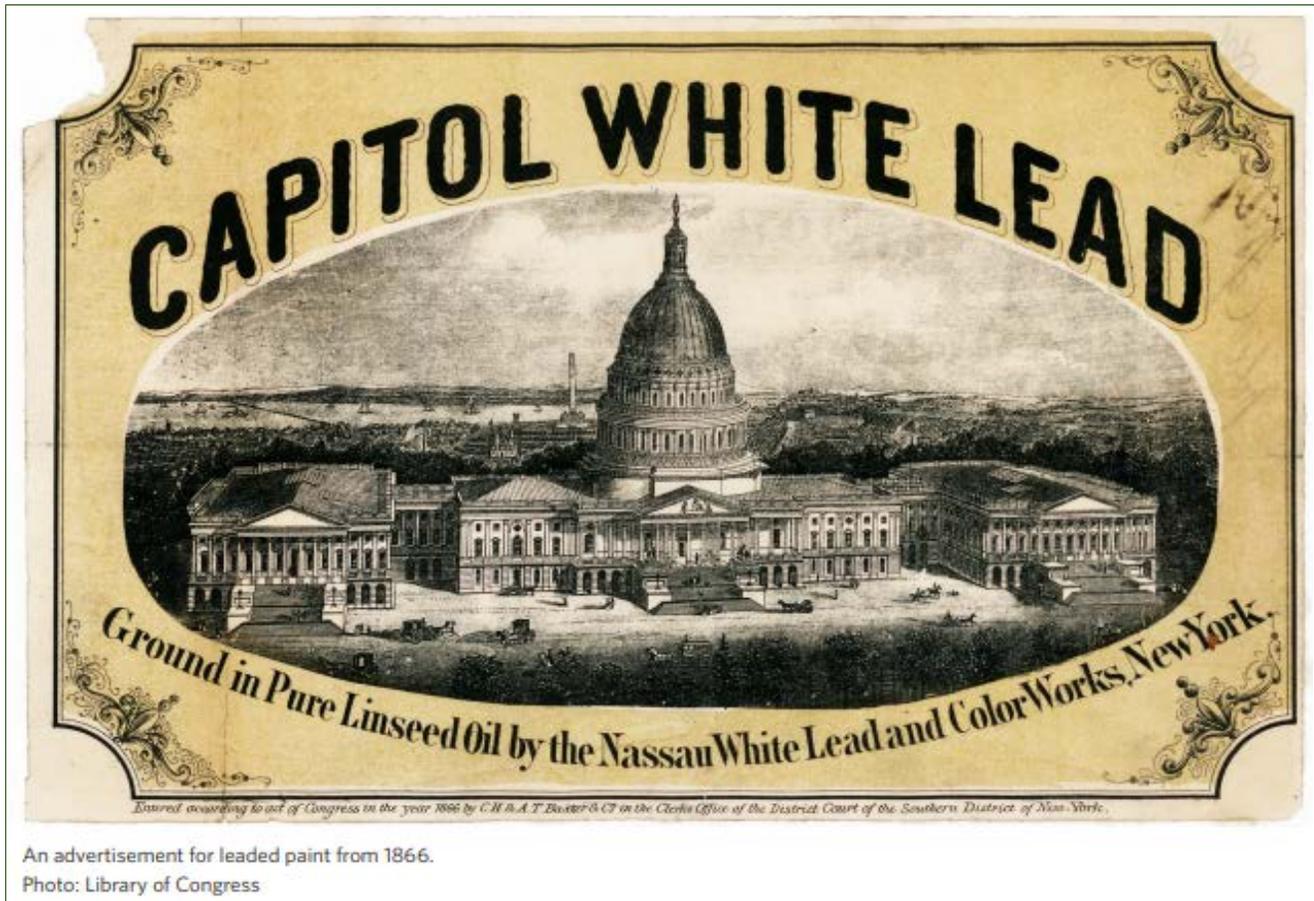
¹⁰ Alameda County Community Development Agency, Healthy Homes Department, *Lead-Safe Alameda County: 2030*, p. 6.

¹¹ Concept Page, “[Lead](#),” Harvard Catalyst Profiles (“atomic number 82, atomic weight 207.19”).

¹² California State Auditor, [Childhood Lead Levels: Millions of Children Have Not Received Required Testing for Lead Poisoning](#), January 2020, p. 5; see also Traci Pedersen, “[Facts About Lead](#),” Live Science, October 6, 2016.

¹³ Clair Patterson And The Age Of The Earth, [History of Lead Use in America](#), publish.illinois.edu.

Although corporations in the lead paint industry were well aware of lead's toxicity and its risks to public health by the early 20th century, the federal government did not ban use of leaded paint until 1978. It is possible for any home built before 1978 to have lead paint, although the older the home, the more



likely it is to have several layers of decaying lead paint. Lead paint manufacturers were also aware that lead paint “powders and chalks” “soon after it is applied” and produces lead dust after a couple of years. Sales of lead paint peaked in 1922, began decreasing in the 1920s and early 1930s and by 1944, use of lead paint for residential interiors had declined to a low level.¹⁴ In addition to lead paint hazards, nearly all homes built before the 1980s also have lead solder connecting to copper pipes. Leaded gasoline was not fully banned for all on-road vehicles until 1996, and the fallout from those tailpipe emissions still contaminates outdoor soil.¹⁵ The aviation fuel “avgas” and industrial batteries still contain lead and some cosmetics and toys have been found to contain lead.¹⁶

After the lead paint ban was enacted, there was little systemic action to remove the lead paint that remained on the interior and exterior surfaces of dwellings and other buildings. In essence, the national emergency was swept under the rug. Due to this inaction, and the fact that lead does not degrade once it is in the environment, **lead paint has remained a pressing public health issue that disproportionately affects low-income, low-wealth communities and Latinx, Black, immigrant,**

¹⁴ See *People v. Conagra Grocery Products Company*, (2017) 17 Cal.App.5th 51.

¹⁵ Nathan McClintock, [Assessing Soil Lead Contamination at Multiple Scales in Oakland, California: Implications for Urban Agriculture and Environmental Justice](#).

¹⁶ *Ibid.*

and refugee communities. While blood lead levels in the general U.S. population have declined steadily, there continues to be a high prevalence of low-level lead exposure among the general population, including pregnant women.¹⁷

1.5. Lead Poisoning

Lead is an extremely powerful neurotoxicant, which “can affect almost every organ and system in the body” and **the brain** (central nervous system) is the most sensitive, particularly in young children. Humans are poisoned when they **breathe in or ingest the lead**, which circulates through the blood, leading to elevated blood lead levels, and is distributed to the brain, liver, kidney, and bones. Teeth and bones store the lead where it accumulates over time. Exposure to lead presents a dire threat to public health, well-being, and children’s growth, education, development, and life outcomes.

Table 1: Terminology & Abbreviations	
Lead	Pb
Blood Lead Level	BLL or PbB
Elevated Blood Lead Level	EBLL
Micrograms per deciliter <i>Unit of measurement for blood lead levels</i>	µg/dL

Although there are a number of sources of lead hazards, **the main and most important method of exposure for children is ingestion of lead paint dust and chips.**¹⁸ Lead paint in homes is a major contributor to blood lead levels because the lead content in lead-based paint is high, while most other sources only contain trace amounts of lead. A well-maintained surface with lead-based paint does not pose a hazard. However, as lead paint ages, it chinks, peels, or chips, creating hazardous conditions when old buildings fall into disrepair or are renovated improperly. Deteriorating lead paint, especially on surfaces that rub together, such as sliding windows, **contaminates indoor dust and outdoor soil.**

Lead-based paint and lead paint contaminated dust are the most widespread and hazardous sources of lead exposure for young children in the United States.

[Center for Disease Control](#)

Low-income communities and Latinx, Black, immigrant, and refugee communities “face disparate risk from older, poor-quality housing.”¹⁹ Children younger than six are especially vulnerable to lead poisoning and its harmful effects— due to their increasing mobility (crawling, putting their hands in

¹⁷ Motao Zhu *et al.*, [Maternal low-level lead exposure and fetal growth](#), Environmental Health Perspectives, vol. 118,10 (2010) (In 2003–2004, “the mean PbB among women 18–49 years of age was 1.2 µg/dL, with a 95th percentile of 2.6 µg/dL.”)

¹⁸ David Norris, Jillian Olinger, and Mary McKay, [The Weight of Lead — Part I: How Contaminated Houses Are Poisoning the Poor](#), ChangeLab Solutions, January 2018.

¹⁹ [Housing Habitability and Health: Oakland’s Hidden Crisis](#) at p. 6.

their mouths) and early stage of development. Lead-contaminated environments can cause a young child's blood lead concentrations to increase rapidly between the ages of six and 12 months, with the rapid rise peaking between 18 months and 36 months of age. Young children can also absorb lead more efficiently than adults, are less likely to eliminate it through their waste once it has entered their bodies, and are more susceptible to its negative health effects. Lead remains harmful to children over the age of six, adults, and the elderly, and can harm the reproductive system.



Millions of women of child-bearing age have lead stored in their bones due to exposure as children. Lead stored in a pregnant mother's bones is released during pregnancy, **exposing the developing fetus to lead poisoning.**

Studies have linked slightly elevated maternal blood lead levels (5 -10 µg/dL) to reproductive problems such as reduced fetal

growth and low birthweight, and highly elevated maternal PbB ($\geq 10 \mu\text{g/dL}$) doubles the risk of harm to the baby.²⁰ Even lead exposure that ends well before pregnancy can lead to reduced birth weight or developmental issues.²¹ Lead contamination begins in the second trimester of pregnancy, increases during the third trimester "when the baby is growing rapidly and incorporates nutrients and toxins from its mother," and continues to accumulate after birth during the baby's first year.²² Lead may also leach into breastmilk, further exposing newborns to lead poisoning even before they are able to crawl about and ingest any hazards in their environment.

The Center for Disease Control and Prevention (CDC) now defines an elevated blood lead level as **5 µg/dL** and states that **no level of lead exposure is safe.**²³ Indeed, for young children, blood lead levels *below* 5 µg/dL can harm normal development patterns, and impair nervous system development,

²⁰ [Maternal low-level lead exposure and fetal growth.](#)

²¹ World Health Organization, [Lead Poisoning and Health](#) ("Because lead is known to delay physical and mental development in babies, lead poisoning is a likely contributor to babies born with low birth weight").

²² Leigh Hopper, [Lead contamination found in baby teeth of children living near Exide battery plant](#), USC News, May 6, 2019.

²³ Center for Disease Control and Prevention, [Blood Lead Levels in Children](#) ("This value [5 µg/dL] is based on the U.S. population of children ages 1-5 years who are in the highest 2.5 percent of children when tested for lead in their blood.")

resulting in permanent brain damage, learning disabilities, speech and language deficiencies, attention deficit hyperactivity disorder, and aggression. Many of the health impacts are irreversible, causing lifelong debilitation, including delinquency, and antisocial behaviors. Health care providers do not treat lead poisoning “until the child’s blood lead level is above 4.5 µg/dL because the medicines also remove other good things in the body like potassium and calcium, creating a serious imbalance.”²⁴

Table 2. Increasing Harmful Effects of Lead Poisoning²⁵

BLL (µg/dL)	Potential Health Impacts	Services Available
Below 4.5	<p>Harm to Brain/Central Nervous System</p> <ul style="list-style-type: none"> ● Reduced IQ ● Attention Deficit Hyperactivity Disorder (ADHD, inability to pay attention). <p>The American Academy of Pediatrics has found that “one in five cases of attention deficit/hyperactivity disorder among U.S. children has been attributed to lead exposure,” limiting their prospects for academic achievement and reducing their productivity later in life.</p>	<p><u>Tested Children:</u> Health care providers will assess nutrition, consider lead exposure risk, and provide counsel on identified risk factors.</p> <p><u>Untested Children:</u> High likelihood of EBLL going undetected due to absence of other health impacts and systematic lack of testing.</p>
4.5 - 9.4	<p>Damaged Hearing</p> <p>Similarly to ADHD, a child’s undiagnosed hearing loss due to undiagnosed lead poisoning could lead to severe disciplinary consequences.</p>	<p><u>Tested Children:</u> Health care providers will retest in 1-3 months, test for iron sufficiency, and the local prevention program provides outreach and education.</p> <p><u>Untested Children:</u> High likelihood of EBLL going undetected due to absence of other health impacts and systematic lack of testing.</p>
9.5 - 14.4	<p>Behavioral Disorders (aggressive, destructive or delinquent behaviors)</p>	<p><u>Tested Children:</u> Health care providers will retest in 1-3 months. If at this level for two tests at least 30 days apart, the local prevention program provides “full case management services.”</p> <p><u>Untested Children:</u> High likelihood of EBLL going undetected due to absence of other health impacts and systematic lack of testing.</p>

²⁴ [Housing Habitability and Health: Oakland's Hidden Crisis](#) at p. 13.

²⁵ [Childhood Lead Levels: Millions of Children Have Not Received Required Testing for Lead Poisoning](#) at p. 6.

14.5 - 69.4	<p>Harm to Cardiovascular System (<i>high blood pressure</i>)</p> <p>Harm to Immune System</p> <p>Anemia</p> <p>Vitamin D Deficiency</p> <p>Impaired Tooth & Bone Development</p>	<p><u>Tested Children:</u> Full case management services with increasing frequency of testing. Hospitalization and chemical treatment to reduce BLLs after BLL reaches 44.5. Test kidney function.</p> <p><u>Untested Children:</u> Severe physical impacts will likely result in medical attention.</p>
Above 69.5	<p>Seizures</p> <p>Comas</p> <p>Death</p>	<p><u>Tested Children:</u> Hospitalization and chemical treatment to reduce BLLs after BLL reaches 44.5. Test kidney function.</p> <p><u>Untested Children:</u> Severe physical impacts will likely result in medical attention.</p>

According to the City of Pasadena’s Public Health Department, a very small amount of lead can cause lead poisoning, **“just enough lead to equal one granule of sugar each day over a period of time** will raise a child’s blood lead level enough to require treatment.”²⁶ Because of lead’s bioaccumulative nature, most cases of lead poisoning are caused by this type of chronic exposure to low-doses of lead, or **slow lead poisoning** as lead accumulates in the body over time.²⁷ A child with lead poisoning **may not seem sick**, but some children may have stomach problems, trouble sleeping, less energy than normal or may have problems concentrating. For children, slow lead poisoning may present *primarily* as learning and behavioral issues; in teens and young adults, it may be associated with increased school dropout rates and aggressive behavior. Thus, “despite the very real and measurable impacts of lead poisoning on children, their families, and society at large, children who are lead poisoned often **exhibit few or no obvious symptoms at the time when intervention is most effective**: when the child is young.”²⁸

The California State Legislature has named childhood lead exposure as the most significant childhood environmental health problem in the state.²⁹

²⁶ City of Pasadena Public Health Department, [Childhood Lead Poisoning Prevention](#).

²⁷ Traci Pedersen, [Facts About Lead](#), Live Science, October 6, 2016.

²⁸ Toledo Lead Poisoning Prevention Coalition, [Lead Poisoning Report: The Effects of Lead Poisoning on African-American and Low-Income Families in Toledo, Ohio](#), Kirwan Institute, March 2016.

²⁹ [Childhood Lead Levels: Millions of Children Have Not Received Required Testing for Lead Poisoning](#) at p. 10.

1.6. Lead Poisoning Prevention

1.6.1. Primary Prevention

The gold standard—the most direct way to prevent childhood lead poisoning— is to completely remove lead hazards from the dwellings and day care centers where young children spend significant amounts of time *before* a child is exposed, referred to as **primary prevention**. Primary prevention has two main prongs: (1) **proactive discovery of lead based paint hazards** and (2) **total abatement of lead hazards**. Older, dilapidated housing occupied by low-income families carries the greatest lead risks. Much of the housing in vulnerable neighborhoods was built long before the lead paint ban, is renter-occupied, and is generally low value, making it less likely that property owners have invested in maintenance and renovations to contain or remove lead paint hazards, especially on doors and window frames where lead dust particles are most likely to originate. Residential lead hazard control is an effective prevention strategy that has been found to significantly reduce the likelihood of subsequent lead poisoning cases in buildings where children had been poisoned in the past. Researchers have found that the most effective existing policies for equitably achieving primary prevention of lead paint hazards include **proactive rental inspection programs** and **funding for lead abatement** to ensure the work is completed in a timely and safe manner.³⁰

Removing Lead Hazards

Remediation refers to the use of temporary containment measures, such as dust clearance, paint stabilization (covering exposed lead paint surfaces with non-lead paint), control of abrasion or friction points (repairs to eliminate surfaces where friction can generate lead dust particles if lead paint is present), and other measures that can effectively minimize lead exposure.

These interim control measures can be less costly, but have a shelf life and will have to be repeated. The tenant or homeowner will need to perform proper and adequate maintenance to keep the threat minimized, and the City will have to inspect the property periodically, at appropriate intervals, and reapply the control measures.

Abatement refers to the permanent elimination of lead-based paint hazards, which tends to be more costly, time and labor intensive, and require tenant relocation. However, the social benefits of promoting total abatement likely outweigh the economic costs.

Lead Renovation, Repair and Painting Program “Unsafe and unregulated remodeling and renovation of older housing that contains lead-based paint poses significant hazards that can increase children’s blood lead levels by as much as 69 percent.”³¹ EPA’s Lead Renovation, Repair and Painting Rule (RRP) Rule requires that firms performing renovation, repair and painting projects that disturb lead-based paint in homes, child care facilities and pre-schools built before 1978 be certified

³⁰ Jill Witkowski Heaps, [Stop Lead Poisoning from Harming Your Community](#), Earthjustice, p.2.

³¹ Health Impact Project, [10 Policies to Prevent and Respond to Childhood Lead Exposure: An assessment of the risks communities face and key federal, state, and local solutions](#), Pew Charitable Trust, 2018, p. 52.

by EPA (or an EPA-authorized state), use certified renovators who are trained by EPA-approved training providers and follow lead-safe work practices.

Applying equity standards (prioritization of the neediest groups) to primary prevention results in the following program goals:

- Prioritizing the complete abatement of lead hazards from high-risk locations where vulnerable children spend time in order to minimize exposures and eliminate racial disparities in lead poisoning. **This means, intentionally prioritizing abatement of lead hazards in dwellings occupied by low-income residents in the flatlands of Oakland and other high-risk, highly burdened areas in Alameda County.**
- Making lead-safe property management and maintenance the “standard of care in Alameda County”³² by fostering the development of local knowledge of lead-safe work practices and bolstering the local economy through strategies that: (a) increase the number of small, local, BIPOC-owned businesses EPA-certified for renovation, repair, and painting (b) provide workforce development, job placement, and wraparound support services for disadvantaged workers.

1.6.2. Secondary Prevention

Blood lead testing and follow-up services, referred to as **secondary prevention**, are an essential safety net that should be deployed alongside primary prevention efforts. State law mandates a targeted approach that prioritizes testing the children (at ages 1 and 2) who are at the greatest risk of lead poisoning. Blood lead testing is not liberally accessible, however, and even children mandated by law to receive lead tests have not been tested. There needs to be more systematic blood lead testing of all children ages 0-6 years. Due to the likelihood that behavioral or learning issues may be the only external indicator of possible lead poisoning, our public health and public school system should be investigating whether children exhibiting behavior problems have potentially been exposed to lead.

It is important to note, however, that **blood lead levels may not be the most effective methodology for understanding lead exposure over time.** Though lead exposure is typically measured through blood tests, some lead policy experts maintain that blood tests can only detect relatively recent exposures as lead does not remain in the bloodstream indefinitely, instead moving from the blood to be stored in organs, teeth, and bones. Researchers have pointed to the much more comprehensive data on prenatal and early life exposure that can be gleaned from teeth, such as the ability to “**assign time points for lead contamination,**” which includes the ability to confirm in-utero lead poisoning. The lead stored in teeth can be an important indicator of harm; higher lead in teeth means higher lead in the brain, kidney and bones.³³

³² *Lead-Safe Alameda County: 2030*

³³ Jill E. Johnston et. al., [Lead and Arsenic in Shed Deciduous Teeth of Children Living Near a Lead-Acid Battery Smelter](#), *Environmental Science & Technology* 2019 53 (10), 6000-6006. DOI: 10.1021/acs.est.9b00429; see also [Lead contamination found in baby teeth of children living near Exide battery plant.](#)

2. Racial Disparities in Oakland & Alameda County

2.1. Racial/Ethnic Demographics

Oakland is the oldest city in Alameda County, first incorporated as the Town of Oakland in 1852, and reincorporated as the City of Oakland in 1854. Oakland is also remarkably one of the most diverse cities in the United States. Unfortunately, this diversity is not only in flux, but it has always been subject to extreme racial disparities in lived experiences and outcomes. Between 2000 and 2015, historically Black cities and neighborhoods across the Bay Area, particularly in the flatland neighborhoods in Oakland, lost thousands of low-income Black households. The City **lost over 54,000 black residents** between 1990 and 2010, a 33.6 percent decline.³⁴ **Low-income households of color were much more vulnerable than low-income White households to the impact of rapid increases in housing prices.** A 30% tract-level increase in median rent paid between 2000 and 2015 was associated with a 28% decrease in low-income households of color, but there was no significant **relationship between rent increases and losses of low-income White households.**³⁵

Table 3. Racial/Ethnic Demographics of Oakland

Race/Ethnicity	# of Residents	Percentage of Population
Asian	65,902	15.5%
African American/Black	100,966	23.8%
Latinx	117,942	27%
White	150,827	35.5%
Total Population		435,637

Oakland is about one quarter of the population of Alameda County. The majority of Alameda County's African American/Black population (57%) resides in Oakland.

Table 4. Racial/Ethnic Demographics of Alameda County (Includes Oakland)

Race/Ethnicity	# of Residents	Percentage of Population
African American/Black	175,751	10.6%
Latinx	371,019	22.4%
Asian	499,382	30.1%
White	670,364	40.5%
Total Population	1,716,516	

Source: 2019 American Community Survey 5-year estimate

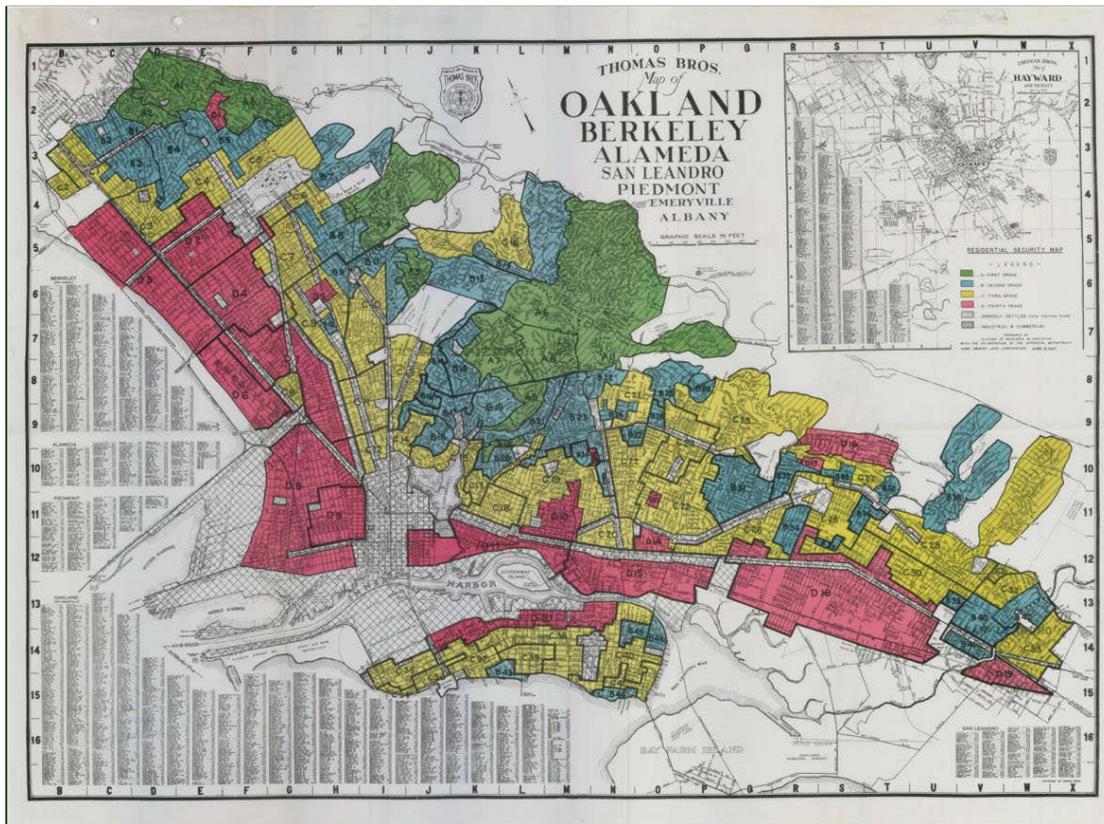
³⁴ PolicyLink & City of Oakland, [A Roadmap Toward Equity: Housing Solutions for Oakland, California](#), 2015.

³⁵ Urban Displacement Project, [Rising Housing Costs and Re-Segregation in the San Francisco Bay Area](#), p. 3

2.1.1. Historical Legacies

Many are unaware that Oakland and other Bay Area cities led the nation in developing racially exclusionary and segregationist policies that were subsequently adopted across the country. Article 34 in California's Constitution created major roadblocks to construction of public and affordable housing and originated in Oakland. Berkeley's 1916 explicitly racist zoning ordinance, which prohibited multi-family dwellings and apartments, has become a standard method for ensuring majority-White,

suburban and "desirable" neighborhoods that protect community wealth and high property values to the present day.³⁶



Map A. A "residential security map" created by the Home Owners' Loan Corporation (1937)³⁷

The federal practices of

[redlining](#), instituted in the 1930s, restrictive covenants in housing deeds prohibiting sale to African Americans, and excluding professions that were over 85% African American from the original [Social Security Act](#) allowing states to justify lower payouts for African Americans, merely continued and reinforced these local practices.

The ongoing legacy of exclusionary practices, such as redlining, is not only still visible today, it continues to cause extreme disparities in health and economic outcomes between majority White and majority non-White census tracts in Oakland and Alameda County. These disparities create significant and present danger for Latinx, Black, immigrant, and refugee communities—threatening health and wellbeing, and impeding growth, education, development, and wealth. Majority White census tracts have higher incomes, more tree cover, and better quality housing, while by contrast majority

³⁶ Haas Institute for a Fair and Inclusive Society, [Roots, Race & Place: A History of Racially Exclusionary Housing in the San Francisco Bay Area](#), UC Berkeley, October 2019, p. 15.

³⁷ Erika Kelly & Brian Watt, [Has Oakland's Fruitvale Neighborhood Ever Recovered From 'Redlining'?](#), KQED, February 9, 2018.

non-White census tracts have lower incomes, lack trees and open space, and bear “the brunt of unhealthy housing issues.”³⁸

The area known as the Fruitvale, was coded red on the HOLC map due to “odors from industries . . . the predominance of foreign inhabitants” and “infiltration of Negroes and Orientals.” This neighborhood still suffers from a dearth of investment today and **has more lead poisoned children than Flint, Michigan.**³⁹ When White residents fled to the suburbs, they left the redlined neighborhood to residents of color who were systematically denied access to credit, preventing them from becoming homeowners or entrepreneurs and severely limiting their opportunities to create generational wealth. All of the census tracts in the Fruitvale (4062.02, 4071.01, 4071.02, and 4072) are majority Latinx today.

From 1951 to 1957 municipalities in the agricultural and grasslands area of current-day Alameda County rushed to incorporate, resulting in the rapid development of new cities -- Newark, Fremont, and Union City -- and expanding Hayward. These newly-incorporated East Alameda County cities were recipients of the ‘White flight’ from the urban core of cities like San Francisco, Oakland, and Richmond. For example, within 15 years of incorporation Fremont remained 97% White -- typifying the demographic patterns in East County that resulted from local racially exclusionary practices and policies, paired with Federal subsidies.⁴⁰ As UC Berkeley’s Othering and Belonging Institute has documented, “racial segregation [in Alameda County] has changed very little since 1970, and remains almost exactly at the same level.”⁴¹

Mapping Disparities

Census Tracts. The most consistent data across indicators available is at the census tract level. The U.S. Census Bureau provides a **unique number** to identify each tract. Census tract data offers finer grained, more localized information than zip codes or citywide data. This report references census tracts as the primary geographic unit for comparison; where a data source uses zip codes or another geographic scale, the census tracts that fall within those boundaries are identified.

Unless otherwise noted, demographic data in this report is sourced from the most recent American Community Survey (ACS) data at time of writing. (Unless a source is otherwise indicated, the GIS maps used in this report were generated by E/J Solutions).

³⁸ Steve King et al., [Building an Indicator Base for Healthy Housing Issues in Oakland](#), Urban Strategies Council, Alameda County Healthy Homes Alliance, November 2013.

³⁹ M.B. Pell and Joshua Schneyer, [The thousands of U.S. locales where lead poisoning is worse than in Flint](#), Reuters, December 19, 2016.

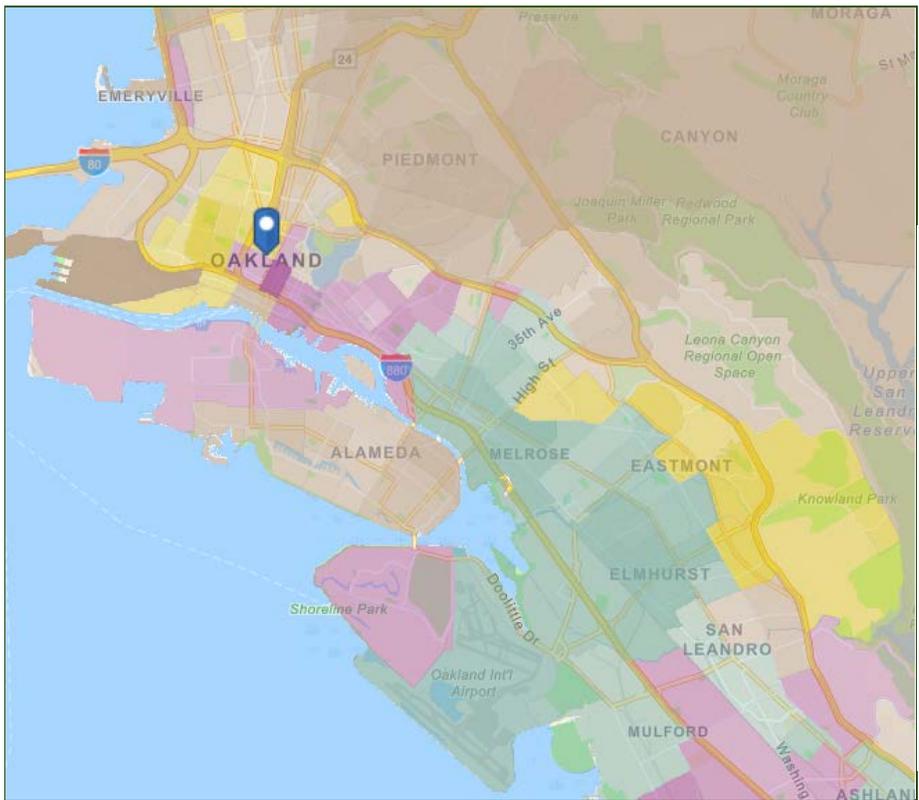
⁴⁰ Haas Institute for a Fair and Inclusive Society, [Roots, Race & Place: A History of Racially Exclusionary Housing in the San Francisco Bay Area](#), UC Berkeley, October 2019, p. 58.

⁴¹ Othering and Belonging Institute, [Racial Segregation in the San Francisco Bay Area, Part 3: Measuring Segregation](#), UC Berkeley, May 2019.

2.1.2. Predominant Race (with Lead Risk Percentile statewide ranking) by Census Tract

Data disaggregated by race is fundamental to racial equity impact assessments. Too often, however, the racial categorizations consistently available are concurrently extremely broad and extremely limiting. For example, the category of Asian covers people from numerous nationalities/ethnicities and it is often difficult to disaggregate the subcategories from the umbrella category, which masks the equity gaps experienced by some groups. Similarly, there is no category on the census that adequately represents Middle Eastern or North African identities. Nevertheless, the disparities between White and non-White census tracts are stark.

The maps of Oakland and Alameda County below color-code census tracts by the racial/ethnic group with greatest numbers; darker shades indicate higher concentrations of the predominant racial group. The tables below the maps list the census tracts according to their predominant racial/ethnic group alongside their statewide percentile rank for Lead Risk, as calculated by the California Environmental Protection Agency's Office of Environmental Health Hazard Assessment. On the tables, census tracts in the **top 5% of Lead Risk statewide (95+)** are coded in the darkest red; census tracts between the **top 15% - 6% (85-94)** are in the next darkest shade; the lightest shade of red marks the census tracts in the **top 25% - 14% (75-84)**. Below the 75th percentile is unshaded.



Map D. GIS map of Predominant Racial/Ethnic Group by Census Tract: Oakland
Key

- Predominant category
- Non-Hispanic White Population
 - Hispanic or Latino Population
 - Black or African American Population
 - Asian Population
 - American Indian and Alaska Native Population
 - Two or More Races Population
 - Native Hawaiian and Other Pacific Islander Population
 - Some Other Race Population
- Strength of predominance
- > 97
 - < 13

Table 5. Oakland: Predominantly Latinx Census Tracts

CT	Neighborhood	Lead Pctl	CT	Neighborhood	Lead Pctl
4059.01	Lower San Antonio 1	92.83	4086	Bancroft/Havenscourt 2	99.85
4061	Jingletown/Kennedy Tract	81.14	4087	Bancroft/Havenscourt 1	98.49
4062.01	Reservoir Hill/Meadow Brook	97.24	4088	Havenscourt/Coliseum	98.99
4062.02	Fruitvale/Hawthorne	96.13	4089	Fitchburg/Hegenberger	93.49
4063	San Antonio/Sausal Creek	93.83	4090	Oakland Airport	97.88
4065	Peralta/Hacienda	93.88	4091	Brockfield Village	99.43
4070	Lower Laurel/Allendale	89.26	4092	Sobrante Park	90.56
4071.01	Harrington/Fruitvale	90.71	4093	North Stonehurst	97.71
4071.02	Jefferson/Fruitvale	95.34	4094	Elmhurst Park	97.58
4072	Fruitvale	97.02	4095	Woodland/Tassafaronga	98.33
4073	Lockwood/Coliseum	95.43	4096	Webster	97.28
4074	Fremont	99.53	4097	Castlemont	92.68
4075	Seminary	99.37	4103	Cox/Elmhurst	94.86
4085	Arroyo Viejo	96.76	4104	Durant Manor	86.79

Table 6. Oakland: Predominantly African American/Black Census Tracts

CT	Neighborhood	Lead Pctl	CT	Neighborhood	Lead Pctl
4014	Hoover/Foster	88.57	4077	Maxwell Park	80.86
4015	Clawson/Dogtown	74.57	4082	Millsmont	85.51
4016	McClymonds	93.45	4083	Eastmont Hills	86.93
4018	Prescott	95.08	4084	Eastmont	98.55
4022	Prescott/Mandela Peralta	92.58	4098	Golf Links	86.87
4024	Bunche/Oak Center	84.15	4099	Sequoyah	52.31
4025	Acorn	92.62	4100	Chabot Park	50.66
4027	Bunche/MLK Jr	71.85	4101	Foothill Square/Toler Heights	79.88
4028	Uptown/Downtown	71.55	4102	Las Palmas	93.74
4036	Adams Point 1	56.68	4105	Defremery/Oak Center	97.2
4076	Fairfax/Lower Maxwell Park	92.91			

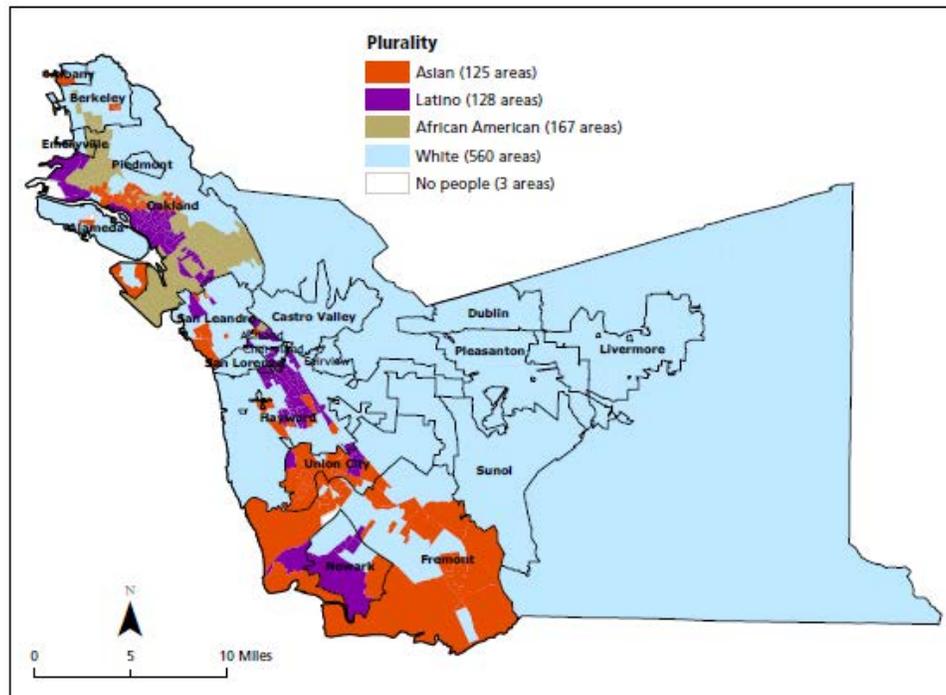
Table 7. Oakland: Predominantly Asian Census Tracts

CT	Neighborhood	Lead Pctl	CT	Neighborhood	Lead Pctl
4026	Jack London Gateway	53.91	4055	Ivy Hill	88.78
4029	Downtown	71.01	4057	Upper San Antonio/Highland Park	89.67
4030	Chinatown	35.51	4058	San Antonio/Highland Terrace	92.86
4031	Downtown/Old Oakland	12.09	4033	Chinatown/Laney	31.18
4059.02	Lower San Antonio 2	92.83	4060	Oakland Estuary	68.78
4053.02	Eastlake	63.97	4054.01	Eastlake Clinton 1	88.29
4054.02	Eastlake Clinton 2	93.04	4066.02	Lower Dimond School	88.52

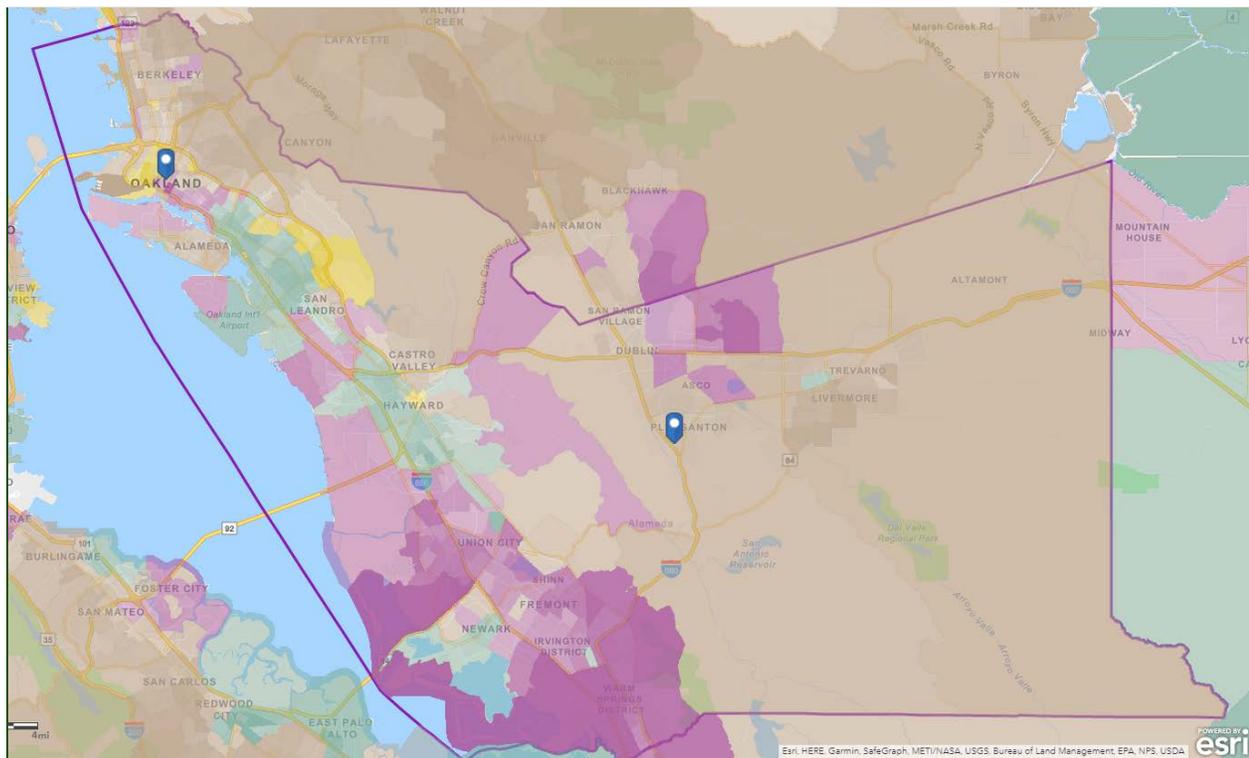
Table 8. Oakland: Predominantly White Census Tracts

CT	Neighborhood	Lead Pctl	CT	Neighborhood	Lead Pctl
4001	Panoramic Hill	7.49	4042	Upper Piedmont Ave	43.14
4002	Rockridge	68.71	4043	Upper Rockridge	43.33
4003	Shafter/Rockridge	63.81	4044	Glen Highlands	22.72
4004	Upper Telegraph/Fairview Park	68.54	4045.01	Montclair 1	60.87
4005	Bushrod/N. Oakland	65.61	4045.02	Montclair 2	42.07
4006	Bushrod/Children's Hospital	79.75	4046	Piedmont Pines	41.76
4007	Santa Fe/N. Oakland	79.46	4047	Oakmore 2	58.52
4008	Paradise Park/Golden Gate	72.47	4048	Oakmore 1	86.24
4009	Gaskill	81.39	4049	Glenview	74.79
4010	Longfellow	83.87	4050	Trestle Glen	65.31
4011	Temescal 1	76.45	4051	Crocker Highland	66.39
4012	Temescal 2	61.47	4052	Cleveland Heights 2	77.02
4013	Pill Hill	36.41	4053.01	Cleveland Heights 1	60.21
4017	Port of Oakland	61.96	4056	Bella Vista	65.22
4034	Lake Merritt	44.49	4064	Reservoir Hill/Manzanita	88.77
4035.01	Oakland/Harrison 1	46.25	4066.01	Laurel/Upper Peralta Creek	91.52
4035.02	Oakland/Harrison 2	42.2	4067	Lincoln Highlands	57.93
4037.01	Adams Point 3	46.8	4068	Redwood Heights 3	74.01
4037.02	Adams Point 2	42.83	4069	Redwood Heights 1	82.52
4038	Lakeshore	57.17	4077	Maxwell Park	80.86
4039	Grand Lake	48.99	4078	Mills College	68
4040	Piedmont Ave 3	42.41	4079	Redwood Heights 2	80.27
4041.01	Piedmont Ave 2	55.03	4080	Woodminster	32.73
4041.02	Piedmont Ave 1	55.55	4081	Caballo Hills	15.53

The significant demographic shifts that have taken place over the last two decades are visible in a comparison of the two maps of Alameda County below. Several predominantly White census tracts with higher than 75% Lead Risk percentiles were until recently predominantly African American / Black, such as **Gaskill (4009)**, North Oakland: **Bushrod and Santa Fe (4006 & 4007)**, **Temescal 1 (4011)**, and **Longfellow (4010)** neighborhoods. A table highlighting some of these demographic shifts is below in Table 32 (p.72).



Source: Census 2000.



Maps E & F. Predominant Racial/Ethnic Group by Census Tract: Alameda County

Table 9. Alameda County: Predominantly Latinx Census Tracts

CT	City/CDP	Lead Pctl	CT	City/CDP	Lead Pctl
4323	San Leandro	70.78	4366.02	Hayward	61.39
4324	San Leandro	85.74	4367	Hayward	57.32
4326	San Leandro	69.02	4368	Hayward	90.49
4331.03	San Leandro	68.3	4369	Hayward	92.9
4331.04	San Leandro	57.99	4370	Hayward	65.14
4338	San Leandro	86.99	4373	Hayward	94.42
4339	Ashland	80.02	4374	Hayward	92.7
4340	Ashland	91.56	4375	Hayward	87.99
4351.02	Hayward	21.4	4376	Hayward	79.73
4351.04	Hayward	45.12	4377.01	Hayward	76.04
4352	Hayward	49.86	4377.02	Hayward	74.46
4353	Hayward	62.31	4378	Hayward	62.3
4355	Cherryland	84.22	4379	Hayward	88.39
4356.01	Cherryland	91.66	4381	Hayward	83.2
4356.02	Cherryland	88.01	4382.01	Hayward	89.23
4357	San Lorenzo	86.53	4402	Union City	83.57
4358	San Lorenzo	82.17	4430.01	Fremont	59.12
4359	San Lorenzo	83.96	4443.02	Newark	64.09
4360	San Lorenzo	84.44	4444	Newark	75.38
4361	San Lorenzo	76.79	4445	Newark	57.12
4362	Hayward	78.4	4514.04	Livermore	81.93
4365	Hayward	73.73	4366.01	Hayward	90.37

Table 10. Alameda County: Predominantly White Census Tracts

CT	City/CDP	Lead Pctl	CT	City/CDP	Lead Pctl
4201	Albany	67.55	4305	San Leandro	76.07
4204	Berkeley	44.34	4306	Castro Valley	52.36
4205	Albany	78.35	4307	Castro Valley	75.76
4206	Albany	65.19	4308	Castro Valley	85.81
4211	Berkeley	60.92	4309	Castro Valley	74.74
4212	Berkeley	67.69	4310	Castro Valley	82
4213	Berkeley	65.42	4311	Castro Valley	80.48
4214	Berkeley	65.36	4312	Castro Valley	54.69
4215	Berkeley	57.91	4321	San Leandro	83.5
4216	Berkeley	60.76	4322	San Leandro	81.25
4217	Berkeley	68.97	4327	San Leandro	61.53

4218	Berkeley	65.41	4364.01	Hayward	72.91
4219	Berkeley	74.69	4364.02	Hayward	27.63
4220	Berkeley	62.6	4401	Union City	15.11
4221	Berkeley	68.82	4411	Fremont	34.62
4222	Berkeley	61.43	4412	Fremont	42.15
4223	Berkeley	66.94	4426.02	Fremont	73.49
4224	Berkeley	40.26	4441	Newark	35.31
4225	Berkeley	64.39	4443.01	Newark	43
4227	Berkeley	52.26	4502	Dublin	7.27
4230	Berkeley	59.29	4503	Dublin	15.1
4231	Berkeley	66.78	4504	Dublin	31.53
4232	Berkeley	71.07	4505.01	Dublin	14.82
4233	Berkeley	76.99	4505.02	Castro Valley	2.72
4234	Berkeley	78.91	4506.01	Pleasanton	12.49
4235	Berkeley	78.13	4506.02	Pleasanton	8.8
4236.01	Berkeley	72.77	4506.03	Pleasanton	22.38
4236.02	Berkeley	48.82	4506.04	Pleasanton	25.05
4237	Berkeley	73.91	4506.05	Pleasanton	10.11
4238	Berkeley	62.49	4506.06	Pleasanton	6.65
4239.01	Berkeley	64.59	4506.07	Pleasanton	24.52
4239.02	Berkeley	63.05	4507.01	Livermore	2.9
4240.01	Berkeley	81.02	4507.41	Pleasanton	22.35
4251.01	Emeryville	28.4	4507.42	Pleasanton	9.5
4251.03	Emeryville	10.31	4507.44	Pleasanton	10.4
4251.04	Emeryville	46.33	4507.46	Pleasanton	14.56
4261	Piedmont	60.96	4511.01	Livermore	8.03
4262	Piedmont	76.4	4511.02	Livermore	3.55
4271	Alameda	69.1	4512.01	Livermore	23.99
4272	Alameda	72.43	4512.02	Livermore	11.22
4277	Alameda	64.73	4513	Livermore	18.31
4278	Alameda	77.27	4514.01	Livermore	23.5
4279	Alameda	76.64	4514.03	Livermore	43.9
4280	Alameda	61.38	4515.01	Livermore	26.8
4281	Alameda	65.73	4515.03	Livermore	58.97
4282	Alameda	56.96	4515.04	Livermore	6.42
4284	Alameda	74.95	4515.05	Livermore	4
4285	Alameda	50.69	4515.06	Livermore	35.98
4286	Alameda	21.43	4516.01	Livermore	15.31
4301.02	Castro Valley	13.6	4516.02	Livermore	31.85
4302	Castro Valley	36.52	4517.01	Livermore	39.4
4303	Castro Valley	47.89	4517.03	Livermore	24.92

4304	Castro Valley	51.96	4517.04	Livermore	21.5
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Table 11. Alameda County: Predominantly Asian Census Tracts

CT	City/CDP	Lead Pctl	CT	City/CDP	Lead Pctl
4202	Albany	75.02	4415.01	Union City	1.59
4203	Albany	53.37	4415.03	Newark	4.14
4226	Berkeley	NA	4415.21	Fremont	2.42
4228	Berkeley	55.58	4415.22	Fremont	12.71
4229	Berkeley	22.77	4415.23	Fremont	9.99
4251.02	Emeryville	5.83	4415.24	Fremont	2.83
4273	Alameda	58.12	4416.01	Fremont	35.17
4276	Alameda	71.74	4416.02	Fremont	72.06
4283.01	Alameda	21.02	4417	Fremont	37.68
4283.02	Alameda	5.35	4418	Fremont	26
4287	Alameda	15.8	4419.21	Fremont	15.98
4301.01	Castro Valley	11.2	4419.23	Fremont	31.9
4325.01	San Leandro	86.35	4419.24	Fremont	22.69
4325.02	San Leandro	78.03	4419.25	Fremont	3.7
4328	San Leandro	43.34	4419.26	Fremont	39.1
4330	San Leandro	86.73	4419.27	Fremont	11.48
4331.02	San Leandro	72.36	4420	Fremont	7.4
4332	San Leandro	83.62	4421	Fremont	14.14
4333	San Leandro	90.64	4422	Fremont	40.94
4334	San Leandro	18.45	4423.01	Fremont	66.92
4335	San Leandro	81.68	4423.02	Fremont	28.31
4336	San Leandro	76.49	4424	Fremont	55.5
4351.03	Castro Valley	2.57	4425	Fremont	67.35
4371.01	Union City	30.17	4426.01	Fremont	32.74
4371.02	Hayward	60.43	4427	Fremont	33.06
4372	Hayward	54.97	4428	Fremont	36.36
4380	Hayward	82.09	4429	Fremont	21.38
4382.03	Hayward	36.78	4430.02	Fremont	51.95
4382.04	Hayward	41.27	4431.02	Fremont	5.3
4383	Hayward	94.6	4431.03	Fremont	6.02
4384	Hayward	42.01	4431.04	Fremont	20.75
4403.01	Union City	36.09	4431.05	Fremont	1.42
4403.04	Union City	38.53	4432	Fremont	2.15
4403.05	Union City	24.67	4433.01	Fremont	8.61
4403.06	Union City	56.11	4433.21	Fremont	3.21
4403.07	Union City	16.47	4433.22	Fremont	20.16

4403.08	Union City	22.73	4442	Newark	39.81
4403.31	Union City	43.97	4446.01	Newark	23.12
4403.32	Union City	5.2	4446.02	Newark	9.52
4403.33	Union City	9.39	4501.01	Dublin	0.38
4403.34	Union City	36.13	4501.02	Dublin	0.13
4403.35	Union City	10.26	4507.43	Pleasanton	7.53
4403.36	Union City	48.84	4507.45	Pleasanton	0.43
4413.01	Fremont	4.23	4507.5	Dublin	0.67
4413.02	Fremont	26.38	4507.51	Pleasanton	0.77
4414.01	Fremont	22.4	4507.52	Pleasanton	0.96
4414.02	Fremont	19.25			

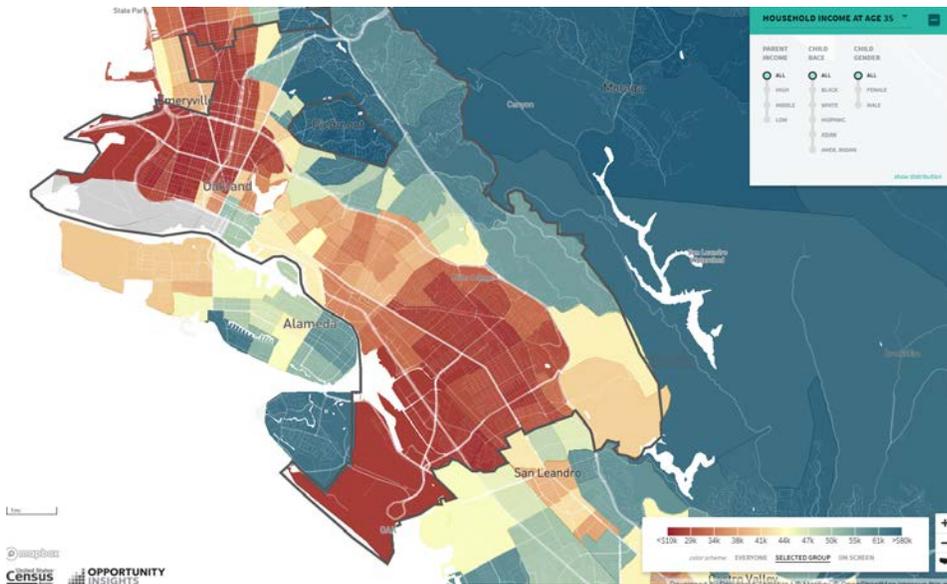
Table 12. Alameda County: Predominantly African American/Black Census Tracts

CT	City/CDP	Lead Pctl	CT	City/CDP	Lead Pctl
4354	Hayward	66.04	4240.02	Berkeley	75.36

2.1.3. Life Outcomes by Race

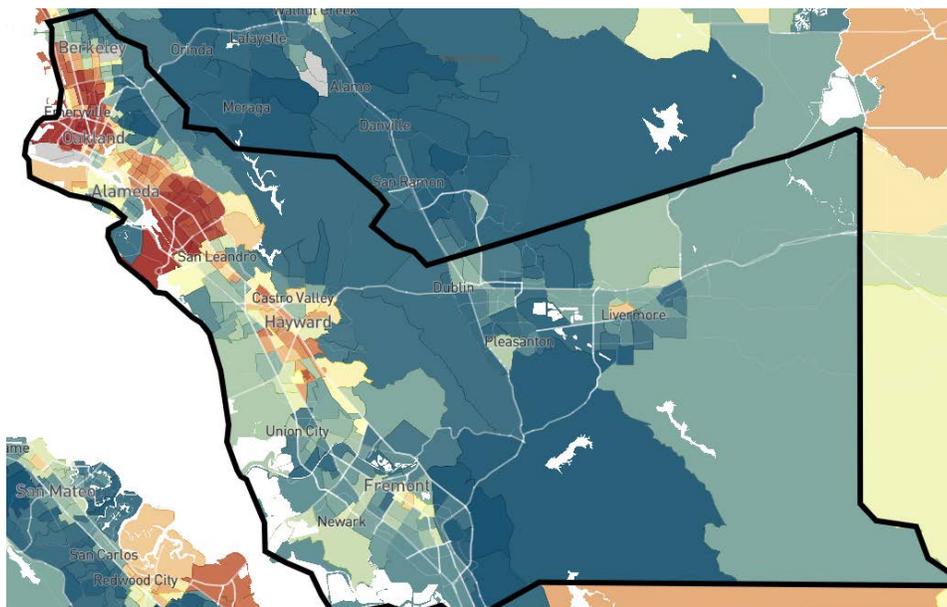
The United States Census has published an Opportunity Atlas that tracks the outcomes of 20 million Americans from childhood (born between 1978-1983) to age 35. The results demonstrate that, where you are born, your race, and your parent's income have an outsized impact on your life outcomes—**“the roots of a person’s affluence or poverty today can be traced back to the neighborhood where they grew up.”**

The maps below depict ‘Household Income at Age 35,’ for children born to parents of all income levels between 1978-1983. At 35, children born in census tracts coded dark red had household incomes below \$29,000, while children born in census tracts coded dark blue had household incomes above \$61,000. In **Oakland**, the red areas on the map track the redlined areas on the 1937 HOLC map above. They also correspond to the census tracts that are majority Latinx and majority Black.



Maps G & H. ‘Household Income at Age 35’ in Oakland and Alameda County, U.S. Census [Opportunity Atlas](#).

Taken as a whole, no other location in **Alameda County** had income outcomes as poor as Oakland.



The census tracts with the lowest Household Income outcomes for Whites, turned out to have the lowest household incomes overall. This demonstrates a **need to explicitly target low-income Whites in these census tracts.**

Table 13. Oakland: Lowest Household Income at age 35

Race	All Parent Incomes	Census Tracts	Low Parent Income	Census Tracts
White	\$15,000	4102 (Las Palmas)	\$9,600	4064 (Reservoir Hill / Manzanita)
Latinx	\$18,000	4013 (Pill Hill) 4035.01 (Oakland/Harrison1)	\$13,000 - \$14,000	4035.01 (Oakland/Harrison 1) 4013 (Pill Hill)
Black	\$18,000	4089 (Fitchburg / Hegenberger) 4054.01 (Eastlake Clinton 1)	\$15,000	4054.02 (Eastlake Clinton 2)
Asian	\$28,000	4073 (Lockwood/Coliseum)	\$31,000	4073 (Lockwood / Coliseum)

Table 14. Alameda County: Lowest Household Income at age 35

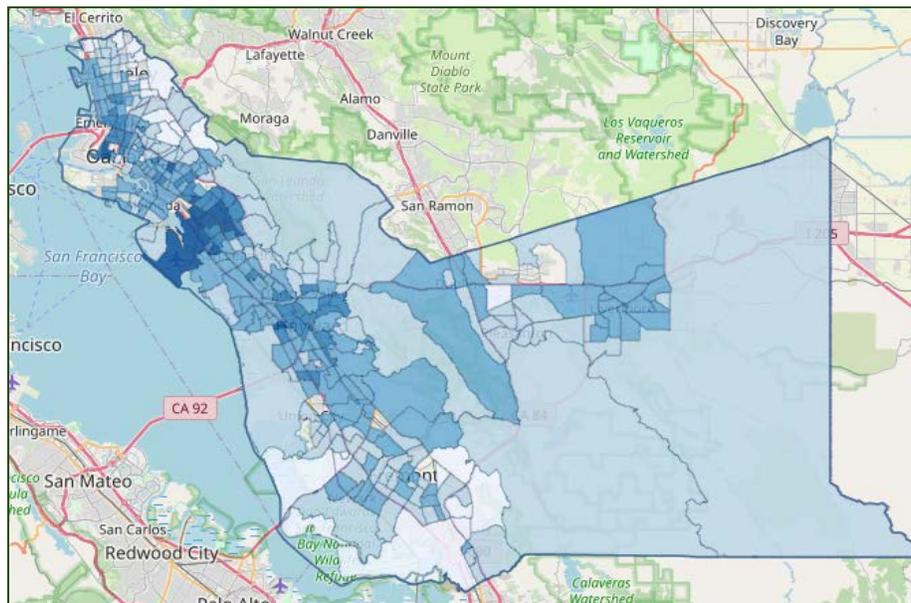
Race	All Parent Incomes	Census Tracts	Low Parent Income	Census Tracts
White	\$31,000	4377.02 (Tennyson, Hayward)	\$8,300	4379 (Garin, Hayward)
Latinx	\$25,000	4235 (South Berkeley)	\$14,000	4507.42 (Pleasanton)
Black	\$17,000	4442 (Newark) 4280 (Alameda)	\$2,200 \$11,000 \$13,000 \$14,000 \$16,000	4384 (Glen Eden Hayward) 4361 (San Lorenzo) 4331.02 (San Leandro) 4312 (Castro Valley) 4403.06 (Union City) 4412 (Niles, Fremont) 4429 (Blackow, Fremont) 4507.43 (Pleasanton)
Asian	\$44,000	4366.01 (Jackson Triangle, Hayward)	\$14,000	4304 (Castro Valley)

Differences in life expectancy by race. Life expectancy, the average number of years a person can expect to live, serves as an indicator of overall community health. The low-income communities and Latinx, Black, immigrant, and refugee communities in Oakland’s flatlands face significantly worse life

outcomes than other communities in Alameda County, with life expectancies that are nearly 17-28 years lower than the census tracts with the highest life expectancy.

Table 15. Lowest and Highest Life Expectancy in Alameda County

Census Tract	Life Expectancy (Years)	Neighborhood	City	Predominant Racial/Ethnic Group
4025	67.7	Acorn	Oakland	Black
4084	71.2	Eastmont	Oakland	Black
4092	71.5	Sobrante Park	Oakland	Latinx
4075	72.2	Seminary	Oakland	Latinx
4085	72.5	Arroyo Viejo	Oakland	Latinx
4090	73	Oakland Airport	Oakland	Latinx
4105	73	Defremery / Oak Center	Oakland	Black
4089	73.1	Fitchburg / Hegenberger	Oakland	Latinx
4095	73.3	Woodland / Tassafaronga	Oakland	Latinx
4064	73.4	Reservoir Hill / Manzanita	Oakland	White
4415.24	90		Fremont	Asian
4415.23	90.1		Fremont	Asian
4031	90.6	Downtown / Old Oakland	Oakland	Asian
4415.03	92.4		Newark	Asian
4225	94.6		Berkeley	White
4228	95.6		Berkeley	Asian



Map I. Life Expectancy by Census Tract, Alameda County Public Health Department

2.2. Equity Gaps in Lead Poisoning Prevention Programs

The City of Oakland, County of Alameda, and State of California all need to increase primary prevention efforts aimed at **preventing future cases of lead poisoning**, especially in the geographic areas where children are at greatest risk.⁴² California currently relies primarily on *secondary prevention* requiring health, educational and environmental interventions for children only after they are lead poisoned. (For a brief background on key federal, state, and local programs, see Appendix B.) We need to promote methods that control lead hazards before they result in poisoning and protect the families that can't reach out for support. Furthermore, the finite amounts of funding available are best spent serving the most vulnerable populations and areas. The following equity gaps in present-day approaches to lead poisoning prevention cause unintended negative consequences for people of color and low-income communities who bear a disproportionate burden of lead exposure, exacerbating existing racial inequities, such as the school-to-prison pipeline.

1. **Lack of proactive policies and programs to locate and abate lead paint hazards in at-risk housing.** The State of California requires health departments to take action to address residential lead paint hazards only **after a blood test shows that a child has an elevated blood lead level**, "literally using the blood of children to identify the houses that poison them."⁴³ Lead policy experts have called this approach misguided, especially as it is ineffective in significantly reducing the number of children who continue to be lead-poisoned and falls short of locating all of the residential properties with lead hazards because far fewer children are tested than required by law. Moreover, there are no laws requiring universal lead testing, so the need for testing likely exceeds the amount of testing required by law.

Alameda County's Public Health Department has pioneered a health equity framework, publishing the groundbreaking "*Life and Death from Unnatural Causes: Health and Social Inequity in Alameda County*" in 2008, which takes an in-depth look at health inequities and underlying social inequities in Alameda County based on local data. The "Community Assessment, Planning and Education (CAPE) unit of the Alameda County Public Health Department has also developed a predictive model using statistical methods to incorporate multiple known risk factors for elevated BLL in children at the census tract level throughout the County."⁴⁴ It is not clear how this tool has been used to ensure services are delivered proactively within Alameda County.

2. **Insufficient outreach, education, and blood lead testing in at-risk communities.** Outreach to low-income homeowners, landlords, and tenants must directly support increased blood lead testing, e.g., through establishment of new testing sites in at-risk communities. Many people are unaware of the hazards of lead paint and how to avoid or prevent them, and would benefit from

⁴² California State Auditor, [Childhood Lead Levels: Millions of Children Have Not Received Required Testing for Lead Poisoning](#), January 2020, p. 2.

⁴³ [The Weight of Lead — Part I: How Contaminated Houses Are Poisoning the Poor](#).

⁴⁴ [Housing Habitability and Health: Oakland's Hidden Crisis](#) at p. 10.

an accessible and engaging popular education curriculum or materials helping them to understand the dangers of lead poisoning.

3. **Scattershot and racially inequitable implementation.** The County and City must do more to prioritize lead poisoning prevention efforts in the communities that experience elevated risk of childhood lead exposure and are more socially vulnerable, such as the census tracts where high rates of children tested have elevated blood lead levels, weaker infrastructure to support good health, and greater exposure to additional health risks.
4. **Lack of coordination between overlapping jurisdictions.** “The current system suffers from misalignment and lack of coordination with different public agencies in different jurisdictions ... all addressing pieces of the problem” and no single agency has been able to efficiently respond to the problem at hand.⁴⁵ This “patchwork of laws, regulations, and financing frameworks, along with a siloed programmatic approach, leads to piecemeal strategies and a climate of competition across sources of lead and the settings in which it can be found (e.g., water and paint, schools and homes), communities, and advocates. The fragmentation reduces the effectiveness of programs, dissipates resources, and continues to place communities at risk.”⁴⁶
5. **Disjointed and outdated data.** “The disjointedness of data collection and analysis for the system also limits our ability to understand the problem and to more effectively work together to design and implement solutions to address the problem. No single source of data exists to assess the habitability conditions and related health impacts of all rental housing units at the local level. Instead, it is necessary to approximate these using various geographic levels of data from the US census, American Housing Survey, City code enforcement cases and data from multiple public agencies.”⁴⁷
6. **Insufficient program capacity.** For several decades, the Alameda County Healthy Homes Department has conducted outreach, remediated homes, and secured treatment for lead poisoned children and slow progress is being made. The County rehabilitated 189 units at 93 locations between January 2015 - April 2020, which were placed on its Lead-Safe Housing Registry. The data appears to indicate that around 30-60% of the lead unsafe housing discovered in Oakland and Alameda County between January 2015 – April 2020 was fully remediated.⁴⁸ The City of Oakland needs to provide significant assistance by taking concerted citywide action to find and rehabilitate lead paint hazards. Funding has also been extremely limited for the City’s Lead Safe Housing Program, which applies only to owner-occupied dwellings. The program has remediated 824 dwellings since 1999, six- seven units each year in 2015-2016, but only 1-2 dwellings per year since 2018.⁴⁹

⁴⁵ *Id.* at p. 6.

⁴⁶ [Achieving Equity in Lead Poisoning Prevention Policy Making: Proceedings from a Consensus Conference](#) at p. 5.

⁴⁷ [Housing Habitability and Health: Oakland’s Hidden Crisis](#) at p. 10.

⁴⁸ Data provided by Alameda County Healthy Homes Department: Number of Reported Lead Hazards and Number of Units certified Lead-Safe.

⁴⁹ Data provided by the City of Oakland’s Lead Safe Housing Program: Lead-based Paint Project Completions from 1999 to 2020.

7. **Misplaced blame due to the myth of “personal responsibility.”** Low income families and families of color are often either implicitly or explicitly blamed for exposing their children to lead hazards as a result of “assumptions about their housekeeping, parenting, or choices about where they live.”
8. **Mistrust resulting from poor community engagement.** There has been little public inclusion in lead hazard prevention policy making, which can leave community members feeling “undervalued, tokenized, misrepresented, and expendable.”⁵⁰
9. **Inadequate enforcement of tenant protections for low-income tenants.** Oakland’s Just Cause for Eviction Ordinance prohibits arbitrary discrimination by landlords and prevents termination of a tenancy without just cause for eviction. Yet, many low-income tenants still do not report habitability concerns. Unreported hazards can create “repeat offender” units that expose current and future tenants to lead. Conversely, expenditures for costly repairs and upgrades can lead to displacement when small property owners are pressured to recover the costs by raising the rent.
10. **Barriers to remediation for low-income homeowners and landlords.** Low-income homeowners and mom-and-pop landlords may have financial difficulty complying with independent environmental testing and rehabilitation requirements. They may also experience barriers in accessing government funding or be unable to qualify for additional loans. “Communities that are already struggling financially are further impacted when they are required to bear the cost of implementing lead prevention policies. If they are financially unable to remediate exposure, people continue to experience health impacts.”⁵¹ There may be a vital need to supplement HUD’s Lead-based Paint Hazard Control and Lead Hazard Reduction Demonstration grants to make sufficient funding available.
11. **Missed opportunity to boost local economy through development of a robust pipeline of RRP-certified local businesses and contractors.** More needs to be done to lift up the need for environmental lead testing and rehabilitation of lead paint hazards. Right now, the market for lead rehabilitation contractors is not as significant as it should be. As such, even if training is offered for free, existing small contractors may not be able to develop additional services or spare their personnel for sufficient time to procure additional training.

The homes in vulnerable communities have multiple severe habitability issues, including asbestos and mold. Project managers and landowners *need and are likely to seek out* contractors that are certified to handle multiple issues that will improve habitability, indoor air quality and energy affordability, from asbestos and mold to energy efficiency, energy conservation, electrification and rooftop solar installation. Local, small, disadvantaged business enterprises and workforce development need to have the opportunity to gain the skills and certifications to perform all of these types of jobs, with a unique focus on their own neighborhoods.

⁵⁰ [Achieving Equity in Lead Poisoning Prevention Policy Making: Proceedings from a Consensus Conference](#) at p. 5.

⁵¹ *Ibid.*

2.3. Lead Paint Hazard Equity Indicators

To prioritize the populations with the greatest need for resources, lead policy experts point to the need to focus on **“screening homes rather than children as a more preventative approach.”**⁵² The City and County can use available data to identify the neighborhoods and even blocks or streets that are vulnerable to lead hazards and stage local interventions that channel resources to under-resourced areas. Researchers have found that targeting lead paint hazard control interventions **“only to more at-risk populations”**—older housing occupied by low-income residents—**offers the greatest per-dollar benefits**, including a greater return and higher net benefits.⁵³ The Health Impact Project found that eradicating lead paint hazards from older homes of children from low-income families nationwide would provide \$3.5 billion in future benefits, or approximately \$1.39 per dollar invested, and protect more than 311,000 children nationwide.⁵⁴

This section identifies neighborhood-scale, racially disaggregated indicators related to vulnerability to lead hazards in order to pinpoint areas and demographic groups experiencing high degrees of burden across multiple indicators. Many of these indicators were identified in a report by the Urban Strategies Council, commissioned by the Alameda County Healthy Homes Alliance. The indicators reflect demographic, socio-economic, and health characteristics that determine a person or community's exposure and sensitivity to lead hazards as well as their capacity to protect themselves from the hazards in their environment. **The equity indicators selected are not intended to be definitive or exhaustive, but rather exemplary of the cumulative burdens** that increase vulnerability to lead hazards. Indicators such as those highlighted here are a snapshot of the different factors that cause people of color to be over-represented in the population that is most vulnerable to lead poisoning.

→ **Heightened risk of exposure to lead hazards.** These populations are more likely to live or work in high-risk dwellings/buildings, primarily low-income residents of dwellings built before 1978. Lead exposure patterns perpetuate the disparities that low-income households and Latinx, Black, immigrant, and refugee communities face.

- ◆ The older the building, the higher the likelihood of finding lead paint.
- ◆ Young children have the most risk of exposure, due to the likelihood that they will play on the floor or in the dirt and either breathe in or ingest contaminated dust.
- ◆ Children from BIPOC families, refugees, and children who were adopted from outside the U.S. are at higher risk of exposure.
- ◆ People who work with lead or even in lead abatement, may expose their families to lead from the workplace.
- ◆ Low-income households have a higher prevalence of lead hazards (29%) than

⁵² [Achieving Equity in Lead Poisoning Prevention Policy Making: Proceedings from a Consensus Conference](#), at p. 30-31

(“[P]articipants recommended creating a new metric for identifying priority communities that combines elevated blood lead levels (BLLs), social vulnerability index, and other variables, such as age of housing stock.”).

⁵³ [10 Policies to Prevent and Respond to Childhood Lead Exposure: An assessment of the risks communities face and key federal, state, and local solutions](#) at p. 44-45.

⁵⁴ *Id.* at p. 2.

higher-income households (18%).

- ◆ Black households had higher prevalence (28%) than White households (20%).
- ◆ Households receiving government housing assistance had half as many hazards (12%) compared to unassisted housing (22%).

→ **Heightened sensitivity to lead hazards**. These populations have biological factors that make them more sensitive to the negative impacts of lead exposure. This includes children, pregnant women, low birthweight babies, and people with pre-existing conditions (comorbidities) including heart disease and asthma.

→ **Reduced capacity for remediation/abatement (protective action)**. Socio-economic factors inhibit people's ability to take action to protect themselves from harms presented by lead paint. This includes lack of awareness of lead exposure, lack of financial resources to rehabilitate known harms, and inability to receive proper and timely medical care, including for pre-existing conditions.

2.3.1. Increased Exposure to Lead Hazards

2.3.1.1. **High Numbers of Lead Poisoned Children and/or Low Lead Testing Rates**

Why it Matters. Census tracts where high numbers of lead poisoned children have been observed or where a low percentage of children have been tested are likely to have high rates of lead exposure.

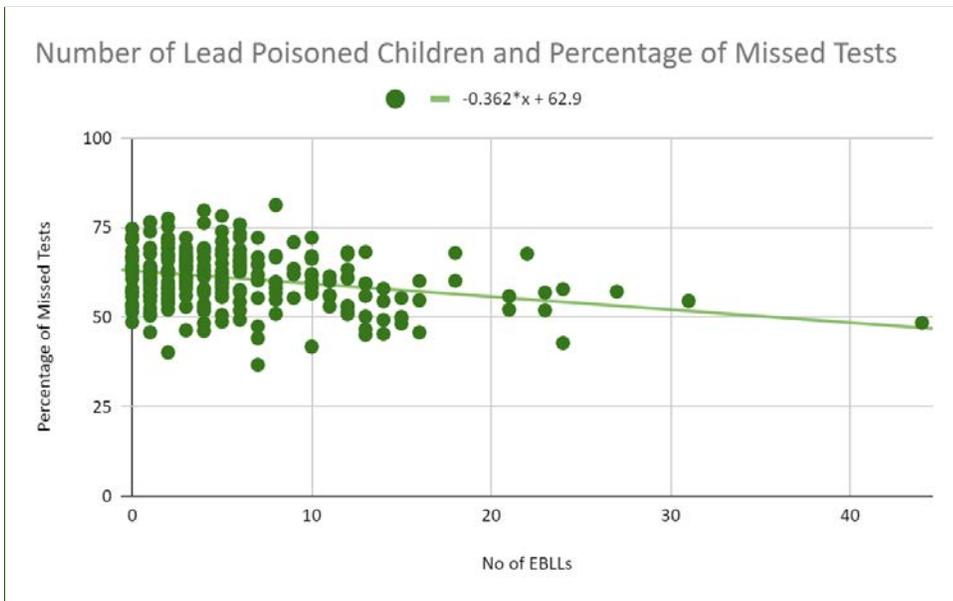
State and federal mandates require all children enrolled in Medi-Cal to receive mandatory lead testing, enabling the state to provide data on the number of enrolled children who have missed their required tests. As Medi-Cal provides health coverage for those with limited means, it is a good proxy for identification of children living in poverty. Children enrolled in Medi-Cal should receive their first test at age one (12 month) and a second test at age two (24 months). Sadly, large percentages of children are missing their tests and furthermore not all children living in poverty are enrolled in Medi-Cal.

Although there seems to be a downward trend in elevated BLLs overall, there is significant variability between counties in the rates of elevated BLLs. Because not all young children receive blood lead tests, it is not clear whether the overall decline or geographic variability is due to actual variability in the prevalence of elevated BLLs, or to variability in the extent to which the highest at-risk children in the county are being identified and tested.⁵⁵

Because of the dire shortage of testing, BLL data cannot be the sole criterion for identifying areas with high-risk of lead exposure. Another reason not to rely solely on Observed EBLL data is that it has the capacity to be limited or even misleading. Lead equity experts state that —“the half-life of lead in the blood is 28 days. **If blood samples are not taken within this window after exposure, elevated BLLs may be missed.**”⁵⁶ Without BLL testing becoming more liberally available, right now the timing of the lead test needs to be fortuitously precise. Nonetheless, identifying the census tracts with high rates of children with EBLLs provides a useful focus on areas where lead paint issues are likely widespread.

⁵⁵ California Department of Public Health, *California's Progress in Preventing and Managing Childhood Lead Exposure* (June 2020).

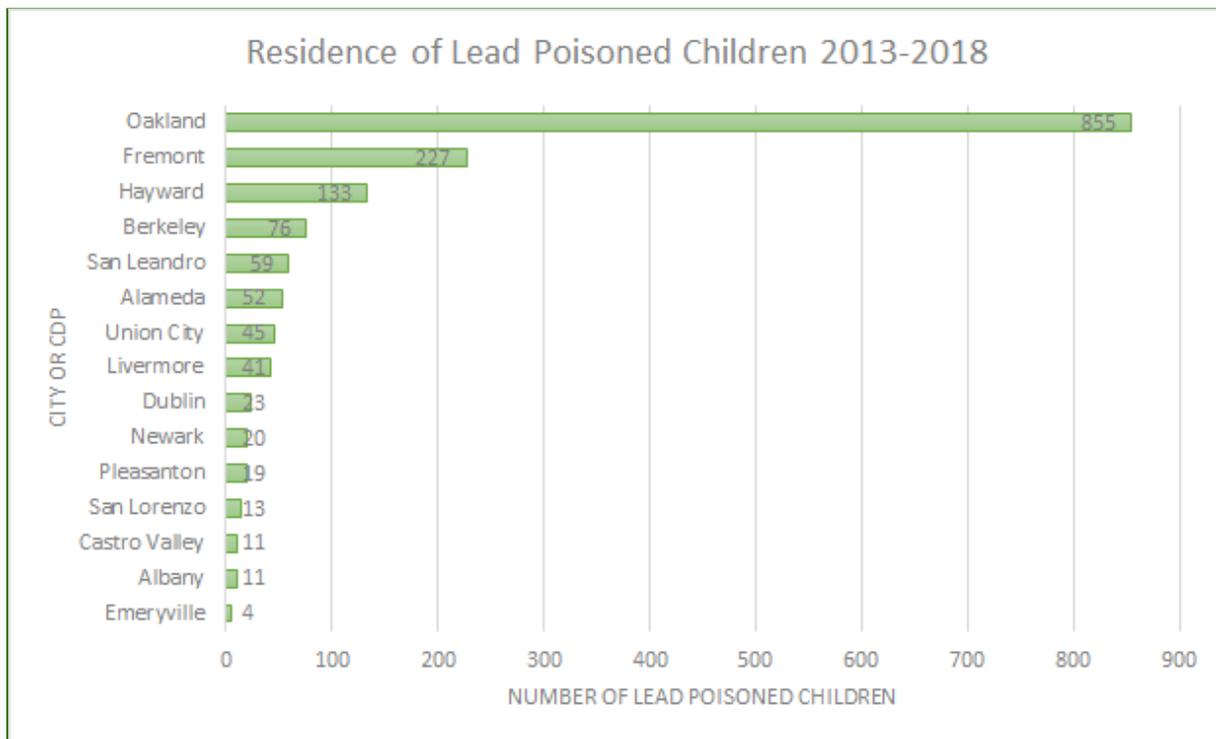
⁵⁶ [Achieving Lead Equity in Policymaking: Proceedings from a Consensus Conference](#) p. 31 (November 2018).



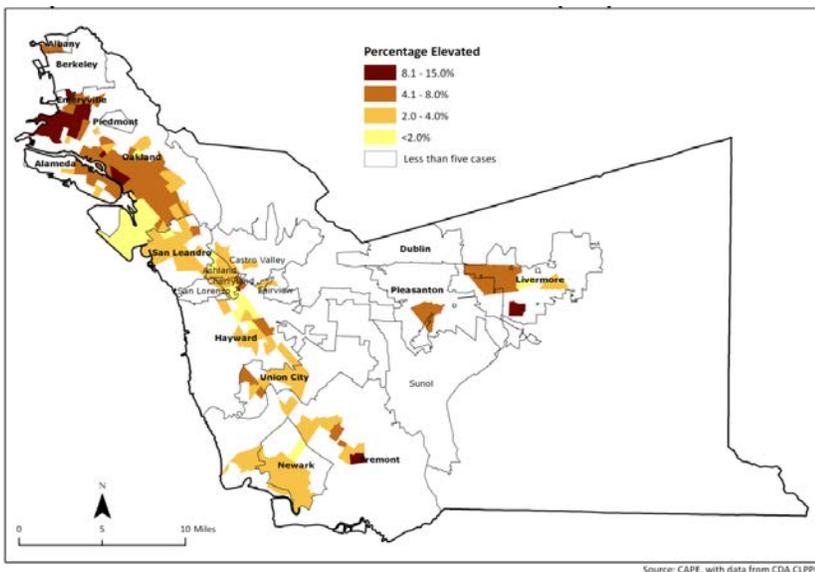
Conversely, the areas with low rates of blood testing should also be focused on. Where large numbers of low-income children have not been tested, the true extent of the existing problem is not known. Furthermore, the data show a *slightly negative correlation* between the areas with high numbers of children of children with EBLLs and the rate of missed

tests. That is to say, testing rates were slightly higher in the census tracts where more lead-poisoned children were found and slightly lower in the census tracts where fewer lead-poisoned children were found.

Equity Findings. Sixty-two percent of the 1,751 lead poisoned children in Alameda County recorded between 2000 and 2010, lived in the City of Oakland.⁵⁷ The most recent CDPH data from 2013-2018 shows 1,589 lead poisoned children in Alameda County, of which 53% were found in Oakland.



⁵⁷ Data provided by County of Alameda, CA Dept. of Public Health, RASSCLE database, 2011.



Map J. Alameda County CAPE, percentage of Lead Poisoned Children by zip code (2012 data).

High Numbers of Children with Observed Lead Poisoning. In roughly one-third of Alameda County census tracts, one or fewer tested children had lead poisoning. By contrast, in each of the top ten census tracts in Alameda County, over 20 tested children were lead poisoned.

- African Americans and Latinos are overrepresented statistically in lead poisonings.⁵⁸
- The 15 census tracts where the most lead poisoned children were found are primarily in San Antonio, Fruitvale, and East Oakland, which are predominantly Latinx, Black and Asian, and have a confluence of low household incomes, older rental properties, substandard housing conditions, concentrations of older housing, and a high percentage of low-income families with children under the age of six.^{59, 60}
- The next most impacted city is Fremont, then Hayward.

Table 16. Census Tracts with Highest Number of Lead Poisoned Children & Percentage of Tests Missed by Children in Medi-Cal

Top 25 Census Tracts in Alameda County	# of Lead Poisoned children under 6	ZIP	City	# of Required Tests	# of Missed Tests	% of Tests Missed
1 4062.01	44	94601	Oakland	595	288	48%
2 4088	31	94621	Oakland	969	528	54%
3 4076	27	94601	Oakland	562	321	57%
4 4072	24	94601	Oakland	877	375	43%
5 4087	24	94605	Oakland	914	528	58%

⁵⁸ [Housing Habitability and Health: Oakland's Hidden Crisis](#) at p. 9 ("These numbers reflect the national landscape: 28% of African American households and 29% of poorer households face housing related lead exposure risks compared with 20% of Whites and 18% of wealthier households.")

⁵⁹ City of Oakland Office of Planning, Building & Neighborhood Preservation, *Proposed Program Design for Proactive Code Enforcement Operations*, see n.19.

⁶⁰ Neighborhood Knowledge for Change: West Oakland Environmental Indicators Project, Pacific Institute for Studies in Development, Environment and Security, p. 54 (2002).

6	4075	23	94621	Oakland	738	383	52%
7	4096	23	94621	Oakland	841	478	57%
8	4419.27	22	94538	Fremont	99	67	68%
9	4070	21	94619	Oakland	591	330	56%
10	4071.02	21	94601	Oakland	480	250	52%
11	4086	18	94605	Oakland	1439	977	68%
12	4419.23	18	94538	Fremont	361	217	60%
13	4014	16	94608	Oakland	368	221	60%
14	4054.01	16	94606	Oakland	420	192	46%
15	4103	16	94603	Oakland	567	310	55%

Source: California State Auditor, CDPH [data FY 2013-14 through 2017-18](#)

Table 17. Demographics of the Census Tracts with the Most Lead Poisoned Children

CT	Neighborhood/City	# of Lead Poisoned children	# of Lead Poisoned						
			White	Black	Asian	Latinx	PI	Other	
1	4062.01	Reservoir Hill / Meadow Brook / D5 Oakland	44	7%	16%	23%	44%	3%	7%
2	4088	Havenscourt/Coliseum	31	5.1%	34%	3.4%	52.8%	4.1%	0.5%
3	4076	Fairfax/Lower Maxwell Park	27	10%	41%	11%	31%	0%	7%
4	4072	Fruitvale D5/D4	24	7%	8%	15%	68%	0%	2%
5	4087	Bancroft/Havenscourt 1	24	5%	41%	2%	49%	0%	3%
6	4075	Seminary	23	6%	32%	5%	52%	0%	5%
7	4096	Webster	23	2%	27%	4%	64%	1%	2%
8	4419.27	Fremont	22	12.5%	2.6%	68.2%	11.8%	0%	4.8%
9	4070	Lower Laurel/Allendale	21	11%	16%	36%	33%	0%	5%
10	4071.02	Jefferson/Fruitvale	21	15%	16%	16%	46%	3%	4%
11	4086	Bancroft/Havenscourt 2	18	4%	32%	2%	58%	0%	5%
12	4419.23	Fremont	18	21.5%	0%	66.4%	8.4%	0%	3.1%
13	4014	Hoover/Foster	16	23.9%	32.9%	12.7%	19.9%	0%	8.5%
14	4054.01	Eastlake Clinton 1	16	17.4%	23.2%	36.5%	17.4%	0%	5.6%
15	4103	Cox/Elmhurst	16	2.1%	22.2%	1.9%	69.1%	2.4%	1.8%

Source: American Community Survey 2017 5-year estimate

Low Lead Testing Rates. The data shows high numbers of children who should have been tested but were not. Across Alameda County, the percentage of children enrolled in Medi-Cal who missed their

mandatory testing ranges between 37% - 81% per census tract. Because census tracts with high percentages of missed tests can have lower overall numbers of children on Medi-Cal, the table below is organized according to the raw number of missed tests to identify the areas with the largest number of children on Medi-Cal as well as the percentage of missed tests. Census tracts with higher rates of missed tests but lower numbers of required tests experience less burden overall and include **4502 Dublin**, where 8 lead poisoned children were found, **4419.25 Fremont**, which had 10 cases, **4281 Alameda**, 6 cases; and **4004 Oakland (Upper Telegraph/Fairview Park)**, 7 cases.

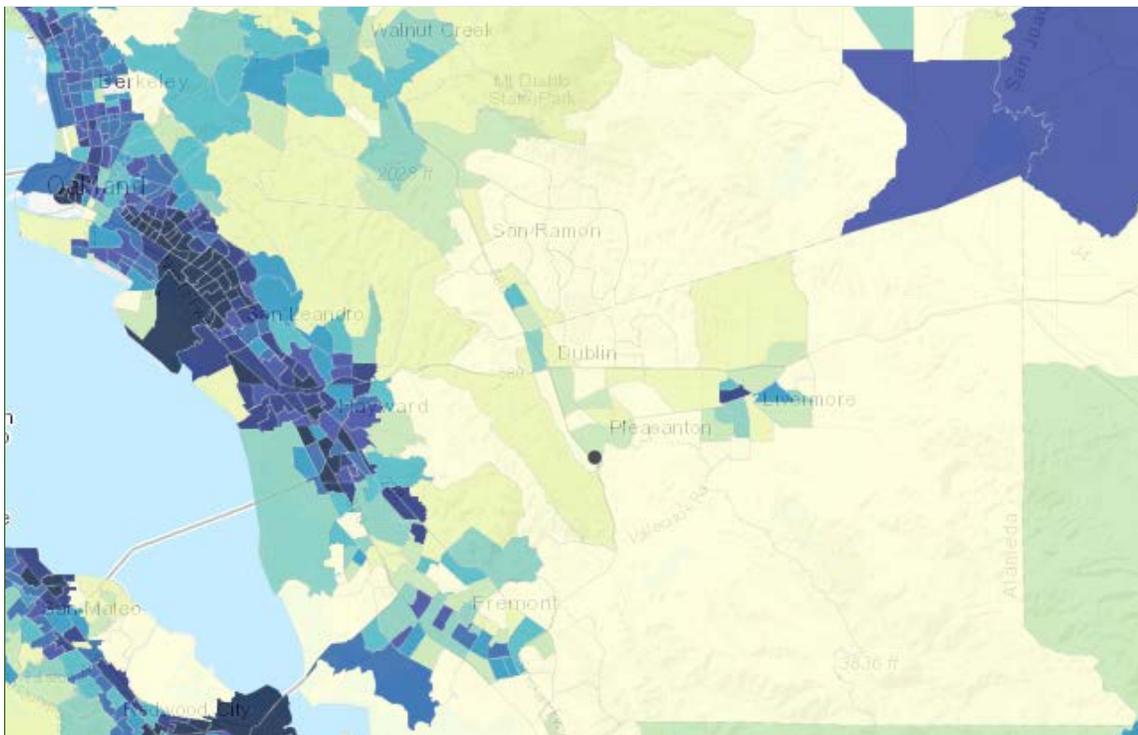
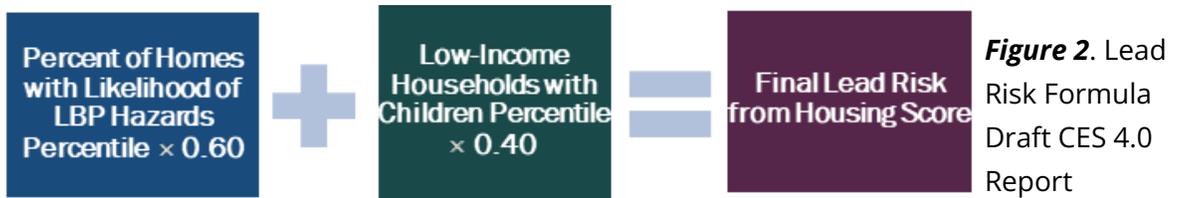
Table 18. Census Tracts with the Highest Number of Missed Lead Tests for Children in Medi-Cal

CT	City	Oakland Neighborhood	# EBLL	# Required Tests	# Tests Missed	% Tests Missed
4086		Bancroft/Havenscourt 2	18	1,439	977	68%
4087		Bancroft/Havenscourt 1	24	914	528	54%
4088		Havenscourt/Coliseum	31	969	528	58%
4085		Arroyo Viejo	15	942	521	55%
4368	Hayward		5	763	516	68%
4339	Ashland		8	909	498	55%
4097		Castlemont	13	838	497	59%
4096		Webster	23	841	478	57%
4369	Hayward		4	815	462	57%
4366.01	Hayward		11	765	427	56%
4093		North Stonehurst	12	786	415	53%
4028		Uptown/Downtown	3	563	406	72%
4094		Elmhurst Park	13	768	385	50%
4514.04	Livermore		7	623	385	62%
4075		Seminary	23	738	383	52%
4072		Fruitvale	24	877	375	43%
4332	San Leandro		3	573	366	64%
4095		Woodland/Tassafaronga	11	647	363	56%
4363	Hayward		12	671	346	52%
4338	San Leandro		8	607	344	57%
4062.02		Fruitvale/Hawthorne	10	812	339	42%
4326	San Leandro		7	560	337	60%
4070		Lower Laurel/Allendale	21	591	330	56%
4402	Union City		6	658	324	49%
4076		Fairfax/Lower Maxwell Park	27	562	321	48%
4377.02	Hayward		4	665	321	57%
4364.01	Hayward		10	480	318	66%
4103		Cox/Elmhurst	16	567	310	54%
4365	Hayward		6	483	308	64%
4340	Ashland		9	494	307	62%

Source: California State Auditor

2.3.1.2. Lead Risk

Why it Matters. CalEPA's Draft CalEnviroScreen 4.0 includes an indicator that assesses the percentage of homes with higher likelihood of lead hazards along with the percentage of households that are **both low-income and have children**. Children younger than 6 years of age, with rapidly developing brains, are most at risk of lead poisoning. Oakland has one of the highest concentrations of young children, with approximately 30,659 children under 6 years of age. OEHHA calculates the percentage of homes with likelihood of lead hazards using the construction period for each housing unit in the census tract.



Map K. Lead Risk in Alameda County, [Draft CES 4.0](#)

Findings. There are 116 census tracts in Alameda County that have lead risks above the 75th percentile statewide.

- The 22 most burdened tracts are all located in Oakland, with the following two (#23 and 24) are located in Hayward. The 25th census tract is also in Oakland.
- All of the 22 census tracts with the greatest lead risk are in the **top 5%** of census tracts statewide. 14 of the 22 tracts also have cumulative burdens above the 75th percentile statewide.
- All 22 of the census tracts with the most lead risk have more than 5 children with observed elevated BLLs.
- Important to note that census tracts **4419.23** and **4419.27** in Fremont, which both have high

numbers of observed EBLLs, did not rise to the top of CalEPA's lead risk indicator. This result underscores the need to: (a) use more than one indicator to identify at-risk areas and (b) investigate all areas that score high on key indicators, rather than relying on a composite score, which can mask the impact of the individual indicators that drive the score.

Table 19. Census Tracts with Greatest Lead Risk to Low-Income Families with Children
(Draft CES 4.0)

Census Tract	ZIP Code	Neighborhood	City	Lead Risk Percentile	Observed EBLLs	Draft CES 4.0 Percentile
4086	94605	Bancroft/Havenscourt 2	Oakland	99.85	18	65.16
4074	94601	Fremont	Oakland	99.53	14	77.52
4091	94603	Brockfield Village	Oakland	99.43	5	95.83
4075	94621	Seminary	Oakland	99.37	23	82.37
4088	94621	Havenscourt/Coliseum	Oakland	98.99	31	97.48
4084	94605	Eastmont	Oakland	98.55	13	57.12
4087	94605	Bancroft/Havenscourt 1	Oakland	98.49	24	65.80
4095	94621	Woodland/Tassafaronga	Oakland	98.33	11	90.98
4090	94621	Oakland Airport	Oakland	97.88	11	97.26
4093	94603	North Stonehurst	Oakland	97.71	12	69.50
4094	94603	Elmhurst Park	Oakland	97.58	13	89.63
4096	94621	Webster	Oakland	97.28	23	63.75
4059.01	94606	Lower San Antonio 1	Oakland	97.25	15	77.73
4062.01	94601	Reservoir Hill/Meadow Brook	Oakland	97.24	44	83.24
4105	94607	Defremery/Oak Center	Oakland	97.2	6	90.33
4072	94601	Fruitvale	Oakland	97.02	24	83.54
4085	94621	Arroyo Viejo	Oakland	96.76	15	63.76
4062.02	94601	Fruitvale/Hawthorne	Oakland	96.13	10	79.18
4073	94601	Lockwood/Coliseum	Oakland	95.43	12	97.96
4071.02	94601	Jefferson/Fruitvale	Oakland	95.34	21	64.07
4018	94607	Prescott	Oakland	95.08	6	84.84
4103	94603	Cox/Elmhurst	Oakland	94.86	16	57.82

2.3.1.3. Density of Older Homes Dwelling Built before 1940

Lead paint may be found in any property built before 1978. The likelihood that lead paint hazards are present, however, **increases dramatically the older the dwelling unit**. Nationally, more than half of homes built prior to 1978, roughly 76% of homes built before 1960, and **87% of homes built before 1940 are estimated to still contain lead paint**. Lead paint was most heavily used in pre-1940s housing and the paint used during that period contained the highest percentages of lead content, as

much as 50 percent of a substance called “white lead carbonate” that is highly absorbable.⁶¹ The **density of pre-1940s** housing stock plays a significant role in boosting **total lead levels**; higher densities of older, deteriorating housing contribute to greater levels of soil contamination.⁶² The percentage of housing units constructed in 1940 or earlier is a useful indicator for targeting the areas that are likely to have the greatest concentrations of lead-based paint hazards.

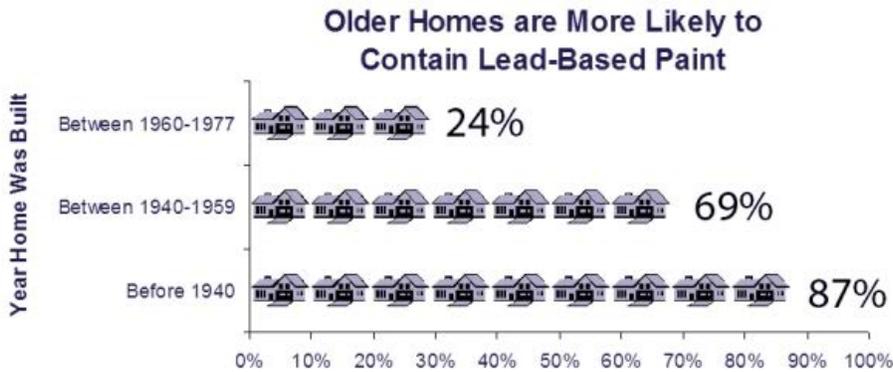


Figure 3. U.S. EPA, [“Protect Your Family from Sources of Lead.”](#)

OEHHA developed California-specific ratios for the Draft CalEnviroScreen 4.0 Lead score, based on its review of County parcel records on the age, condition, and assessed value of residential structures and lead paint hazard studies of West Coast housing. Homes built after 1998 definitively do not contain lead paint. Whereas, roughly four percent of homes built between 1978 and 1998, 22% of homes built between 1960-1977, 69% of homes built between 1940-59, and 71% of homes built before 1940 are likely to contain lead paint.

The American Community Survey 2015-2019 five-year estimate identifies roughly **608,000 housing units in Alameda County** (margin of error 481). Of these, about **170,000 housing units are located in Oakland**. The same data estimates roughly 65,057 housing units built before 1940 in Oakland with a margin of error of 11,775. As the number of pre-1940 units has not increased since before 1940 outside of the County Assessor’s data, the most accurate tally ahead of the 2020 Census is from the 2010 Census, which places the number of housing units in Oakland built **before 1940 at 55,339**. Of Oakland’s pre-1978 housing stock, **nearly 40% were built in 1939 or earlier**. Between 71-87% of these housing units are likely contaminated by lead, although low-income families and renters face the greatest hazards. **Berkeley** follows Oakland with 22,853 pre-1940 housing units, and the **City of Alameda** is next with 10,566 units. West Oakland is the oldest part of the City and the historical nexus of industry, warehousing, and transportation. The Lower Bottoms and South Prescott neighborhoods are among the oldest neighborhoods. Around “37% of the housing stock in West Oakland was built before 1940,” with many of the houses in this area dating from the 1870s to 1910s.⁶³ Other

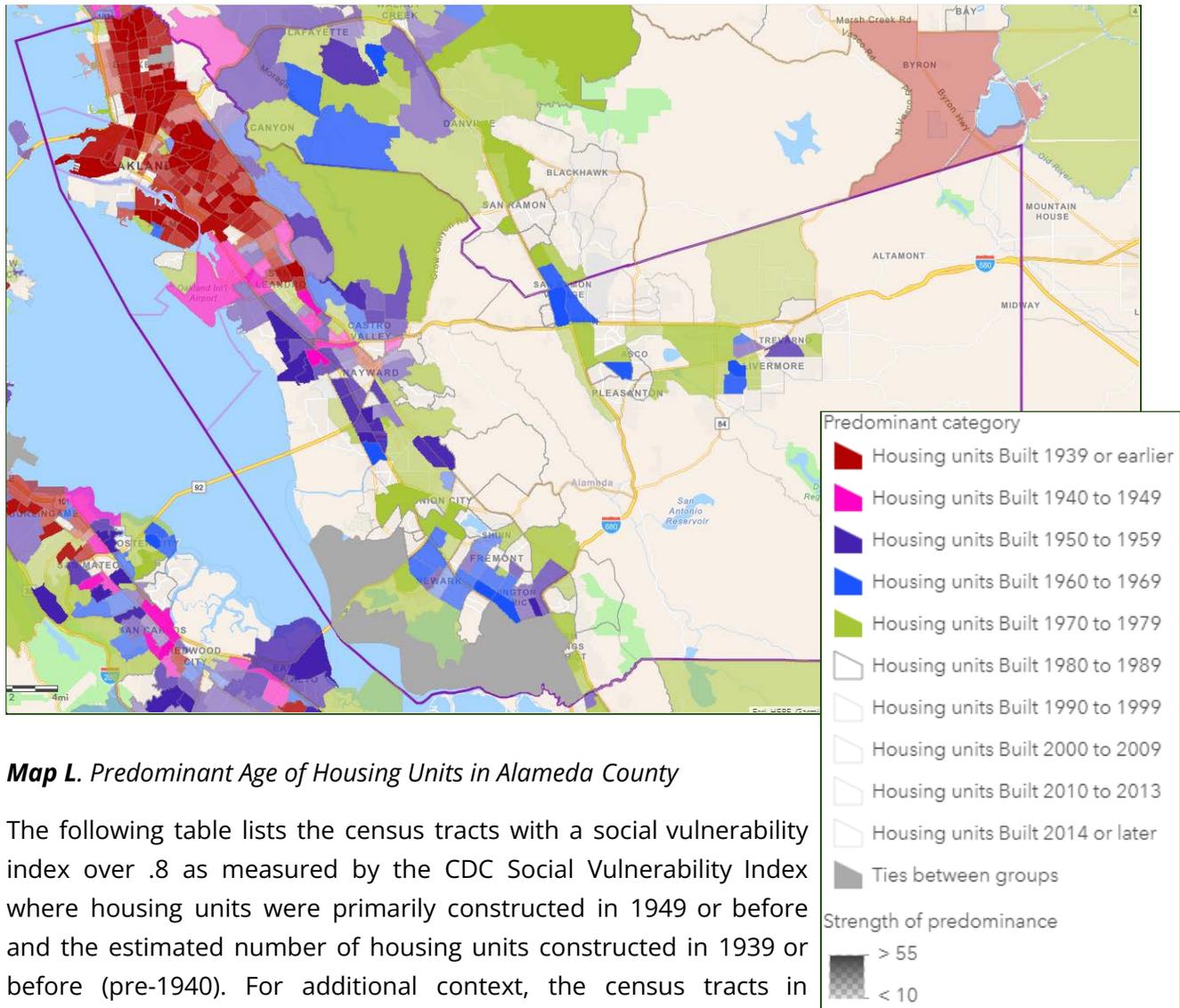
⁶¹ See *People v. Conagra Grocery Products Company*, (2017) 17 Cal.App.5th 51.

⁶² Nathan McClintock, *Assessing Soil Lead Contamination at Multiple Scales in Oakland, California: Implications for Urban Agriculture and Environmental Justice*, Urban Studies and Planning Faculty Publications and Presentations (November 2012, p. 15

⁶³ Nathan McClintock, *Assessing Soil Lead Contamination at Multiple Scales in Oakland, California: Implications for Urban Agriculture and Environmental Justice*, Urban Studies and Planning Faculty Publications and Presentations, p. 15

neighborhoods in Oakland with high concentrations of older housing include: East Oakland, Oakport, and Harbor Bay Parkway.

The map below is color coded to identify the predominant age of housing units in each census tract in Alameda County. Census tracts where the largest plurality of housing units were constructed after 1979 did not receive a color. The census tracts with the darkest red coloring have the highest percentage of pre-1939 housing units.



Map L. Predominant Age of Housing Units in Alameda County

The following table lists the census tracts with a social vulnerability index over .8 as measured by the CDC Social Vulnerability Index where housing units were primarily constructed in 1949 or before and the estimated number of housing units constructed in 1939 or before (pre-1940). For additional context, the census tracts in Oakland with the most pre-1940s housing units— **4010 (Longfellow)** and **4003 (Shafter/Rockridge)**— have over 1650 pre-1940s housing units. These census tracts also had 13 and 9 lead poisoned children, respectively.

(November 2012) (With respect to soil lead contamination, there is a “hot spot” in the southwest corner of West Oakland and a “cold spot” along Union and 10th Streets where Acorn public housing built in 1996 replaced the soil.)

Table 20. Predominant Age of Housing, Number of Pre-1940 Housing Units, Predominant Race/Ethnicity, Number of Lead Poisoned Children & Social Vulnerability Index

CT	Year Built	# pre-1940	Oakland Neighborhood / City / CDP	# EBLL	Race/Ethnicity	SVI
4059.01	pre-1940	608	Lower San Antonio 1	15	Latinx	1
4075	pre-1940	640	Seminary	23	Latinx	1
4062.02	pre-1940	1235	Fruitvale/Hawthorne	10	Latinx	0.99
4072	pre-1940	408	Fruitvale	24	Latinx	0.99
4089	pre-1940	299	Fitchburg/Hegenberger	11	Latinx	0.99
4030	pre-1940	479	Chinatown	7	Asian	0.98
4063	pre-1940	691	San Antonio/Sausal Creek	13	Latinx	0.96
4065	pre-1940	840	Peralta/Hacienda	12	Latinx	0.96
4074	pre-1940	695	Fremont	14	Latinx	0.94
4071.02	pre-1940	773	Jefferson/Fruitvale	21	Latinx	0.93
4087	pre-1940	1236	Bancroft/Havenscourt 1	24	Latinx	0.91
4097	pre-1940	444	Castlemont	13	Latinx	0.91
4340	1940-49	166	<i>Ashland CDP</i>	9	Latinx	0.89
4105	pre-1940	344	Defremery/Oak Center	6	Black	0.89
4070	pre-1940	1168	Lower Laurel/Allendale	21	Latinx	0.88
4090	1940-49	124	Oakland Airport	11	Latinx	0.87
4059.02	pre-1940	462	Lower San Antonio 2	7	Asian	0.86
4060	pre-1940	642	Oakland Estuary	3	Asian	0.86
4061	pre-1940	548	Jingletown/Kennedy Tract	15	Latinx	0.84
4073	pre-1940	427	Lockwood/Coliseum	12	Latinx	0.84
4096	pre-1940	412	Webster	23	Latinx	0.84
4054.01	pre-1940	627	Eastlake Clinton 1	16	Asian	0.81
4029	pre-1940	469	Downtown	0	Asian	0.79
4054.02	pre-1940	529	Eastlake Clinton 2	15	Asian	0.79

2.3.1.4. Most Disadvantaged / Socially Vulnerable Communities

CalEnviroScreen 3.0 (2018)

The California Environmental Protection Agency's Office of Environmental Health Hazard Assessment developed the California Communities Environmental Health Screening Tool or *CalEnviroScreen* to "help identify communities disproportionately burdened by multiple sources of pollution and with population characteristics that make them more sensitive to pollution."⁶⁴ CalEnviroScreen 3.0 ("CES 3.0") generates a numerical score for each census tract based on **20 indicators** and each census tract is then ranked

⁶⁴ California Office of Environmental Health Hazard Assessment, [CalEnviroScreen 3.0](#). For an in-depth discussion of this tool and its use in policymaking, see [CalEnviroScreen: A Critical Tool for Achieving Environmental Justice in California](#).

against every other census tract in the state. Census tracts scores are generally referenced by their statewide percentile rank (0-100), e.g., all census tracts in the top 25% or above the 75th percentile. CES 3.0 will likely be phased out soon as CalEPA has released Draft CES 4.0 earlier this year (see section immediately below for CES 4.0), but provides an excellent reference for comparisons and to view trends.

Why it Matters. The **CalEnviroScreen tool combines pollution data and data on socioeconomic indicators** to understand the **combined impact of multiple stressors on one community**. The impacts of environmental hazards, such as poor air or water quality, combine with socioeconomic limitations, such as lack of access to health care or linguistic isolation, resulting in greater levels of devastation. The cumulative impact of high burdens across multiple indicators is social debilitation; the areas and communities facing the worst impacts are the areas with the greatest overall need for assistance in combating exposure to lead hazards and lead poisoning.

Racial Equity Findings. As identified by CES 3.0:

- Within Alameda County, disadvantaged communities above the 75th percentile statewide are disproportionately located in the City of Oakland.
- Latinx communities in East Oakland are disproportionately represented in the **most disadvantaged** census tracts in Alameda County.
- **African Americans** are the next largest plurality in the most disadvantaged census tracts in Oakland, representing more than their per capita share of the general population. Together, **Latinx and African American residents are around 90% of the population in the four most burdened census tracts in Alameda County/Oakland.**

CES 3.0 identifies 38 “disadvantaged” census tracts in Alameda County according to their statewide ranking. Oakland contains the **top 15** most cumulatively burdened census tracts in Alameda County. Of the remaining 23 tracts, 13 are in Oakland. The 16th most burdened census tract is located in San Leandro. A full list of the census tracts with cumulative burdens among the top 25% in California is included in the CES 4.0 section below.

CES 3.0 DACs in Alameda County		Percentage
Oakland	28	74%
San Leandro	3	8%
Hayward	2	5%
Union City	2	5%
Berkeley	1	3%
Newark	1	3%
Emeryville	1	3%

Table 21. Fifteen Most Cumulatively Burdened Census Tracts in Alameda County (2018)

Census #	Tract No.	Neighborhood	ZIP Code	City	CES 3.0 Percentile	CES 3.0 Percentile Range
1	4090	Oakland Airport	94621	Oakland	96.91	Top 5%
2	4091	Brockfield Village	94603	Oakland	96.38	Top 5%
3	4088	Havenscourt/Coliseum	94621	Oakland	96.22	Top 5%
4	4092	Sobranite Park	94603	Oakland	93.48	Top 10%
5	4073	Lockwood/Coliseum	94601	Oakland	91.16	Top 10%
6	4095	Woodland/Tassafaronga	94621	Oakland	90.3	Top 10%
7	4060	Oakland Estuary	94606	Oakland	89.13	Top 15%
8	4022	Prescott/Mandela Peralta	94607	Oakland	88.32	Top 15%
9	4094	Elmhurst Park	94603	Oakland	88.02	Top 15%
10	4089	Fitchburg/Hegenberger	94621	Oakland	86.68	Top 15%
11	4018	Prescott	94607	Oakland	86.25	Top 15%
12	4061	Jingletown/Kennedy Tract	94601	Oakland	85.81	Top 15%
13	4014	Hoover/Foster	94608	Oakland	85.40	Top 15%
14	4030	Chinatown	94607	Oakland	84.99	Top 20%
15	4017	Port of Oakland	94607	Oakland	84.56	Top 20%

Source: CalEnviroScreen 3.0

Demographics. The race/ethnicities of residents of the 15 most cumulatively burdened census tracts are below. The majority demographic group is bolded and shaded in the darker color and the lighter color marks the second largest racial/ethnic group. The demographic data in CES 3.0 is based on the 2010 census, making it the most accurate snapshot available of that time, and is provided below to illuminate any demographic shifts between 2010 and 2019 data (the most recent 5 year estimates available).

Table 22. Race/Ethnicity of 15 Most Burdened Census Tracts in Alameda County

CT No.	Oakland District	CES 3.0 Percentile	White	Black	Asian	Latinx	Native	Other
4090	7	96.91	1.7	43.3	4.3	48.8	.1	1.8
4091	7	96.38	1.6	41	3.7	51.8	.1	1.8
4088	6/7	96.22	2.1	41.4	7.8	45.9	.2	2.7

4092	7	93.48	1.7	40.1	6.4	49.5	.4	1.9
4073	5/6	91.16	13.2	12.7	9.2	63.1	.1	1.8
4095	7	90.3	2.3	24.4	3.6	67.8	.4	1.6
4060	2	89.13	16.7	12.1	46.8	21.3	.3	2.8
4022	3	88.32	16.3	36.4	11.4	30.2	.3	5.4
4094	7	88.02	2.3	23.4	5.7	67.1	.1	1.4
4089	7	86.68	2	31.9	4.2	59.4	.4	2.1
4018	3	86.25	15	57.4	3.3	19.3	.3	4.6
4061	5	85.81	16.3	10.5	12.6	57.7	.7	2.2
4014	3	85.40	15.2	48.4	10	21.1	.6	4.6
4030	2	84.99	4.2	4.4	88.3	1.3	.1	1.6
4017	3	84.56	25.9	33.1	10.3	25.6	.4	4.6

Source: CalEnviroScreen 3.0

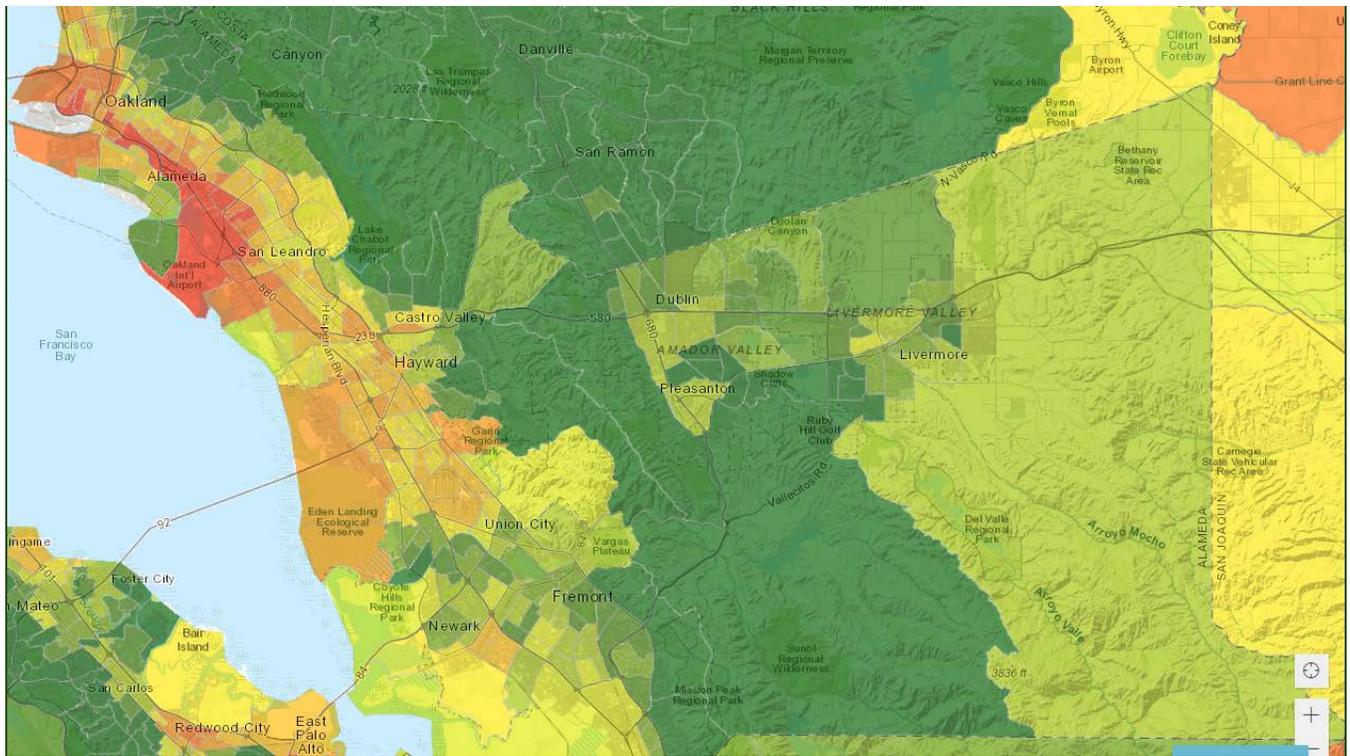
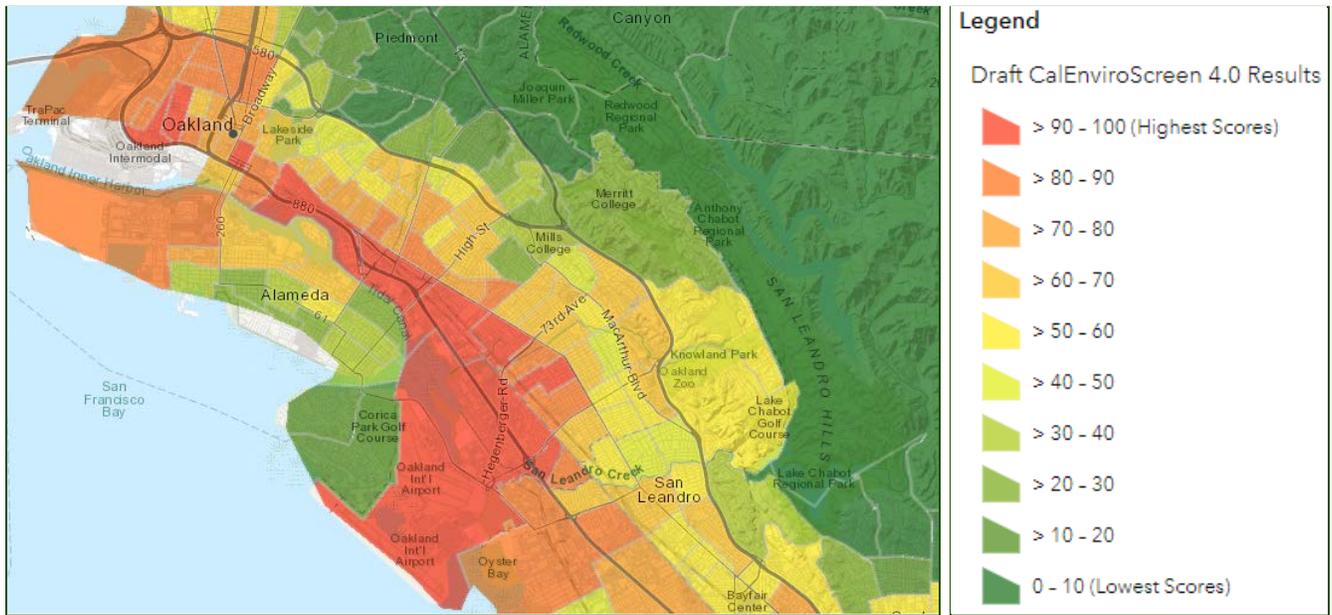
Draft CalEnviroScreen 4.0 (2021)

OEHHA released a Draft CalEnviroScreen 4.0 in February 2021. The update allowed a comparison of the previous dataset with the latest data.

Why it matters. In addition to updates based on new data, CalEnviroScreen includes one new indicator, which has great significance to this report: Lead. The indicator measures the **risk of exposure to lead-based paint hazards for children in poverty**. With this addition, the total number of indicators included in the cumulative score moves to 21. This enables a comparison between the highly burdened census tracts in CES 3.0 and Draft CES 4.0, where changes in ranking can likely be attributed to the level of lead paint burdens.

Findings. Remarkably, after the addition of the newest indicator on lead risk to low-income families with children, the total number of census tracts in Alameda County that rank in the top 25% statewide remains **38**. However, **Alameda County's 15 most burdened census tracts are more burdened overall**. An additional census tract moves into the top five percent most burdened statewide. The number of tracts among the 10% most burdened statewide doubled from three to six. In addition, all of the top 15 are now ranked above the 85th percentile (top 15%) statewide. Conditions have worsened in Oakland and San Leandro, compared to Alameda County overall. Before, the top 15 census tracts were located in Oakland, now a census tract from San Leandro moves into the top 15.

DRAFT CES 4.0 DACs in Alameda County		Percentage
Oakland	32	84%
San Leandro	3	8%
Union City	1	2.6%
Berkeley	1	2.6%
Alameda	1	2.6%



Maps O & P. Draft CES 4.0 results for Oakland and Alameda County. Source: [OEHA](https://www.oehha.ca.gov/).

Table 23. Fifteen Most Cumulatively Burdened Census Tracts in Alameda County (Draft CES 4.0)

#	Census Tract		City	Neighborhood	Draft CES 4.0	
	No.	Zip Code			CES 4.0 Percentile	Percentile Range
1	4073	94601	Oakland	Lockwood/Coliseum	97.96	Top 5%
2	4088	94621	Oakland	Havenscourt/Coliseum	97.48	Top 5%
3	4090	94621	Oakland	Oakland Airport	97.26	Top 5%
4	4091	94603	Oakland	Brockfield Village	95.83	Top 5%
5	4030	94607	Oakland	Chinatown	92.75	Top 10%
6	4022	94607	Oakland	Prescott/Mandela Peralta	92.72	Top 10%
7	4061	94601	Oakland	Jingletown/Kennedy Tract	92.60	Top 10%
8	4095	94621	Oakland	Woodland/Tassafaronga	90.98	Top 10%
9	4060	94606	Oakland	Oakland Estuary	90.39	Top 10%
10	4105	94607	Oakland	Defremery/Oak Center	90.33	Top 10%
11	4324	94577	San Leandro		89.82	Top 15%
12	4025	94607	Oakland	Acorn	89.80	Top 15%
13	4094	94603	Oakland	Elmhurst Park	89.63	Top 15%
14	4089	94621	Oakland	Fitchburg/Hegenberger	89.24	Top 15%
15	4033	94607	Oakland	Chinatown/Laney	87.35	Top 15%

Source: DRAFT CalEnviroScreen 4.0

Demographics. The **Latinx population comprises well over 50% of the top four census tracts - the only census tracts in Alameda County that have cumulative burdens among the top 5% statewide.** The Asian population in census tract 4030 is the most concentrated of any demographic group in Oakland.

Table 24. Race/Ethnicity of 15 Most Burdened Census Tracts in Alameda County⁶⁵

CT No.	City	CES 4.0					Pacific			
		Percentile	White	Black	Asian	Latinx	Native	Islander	Other	
4073	Oakland	97.96	15.8	7.9	13.9	58.4	0.1	0.4	3.5	
4088	Oakland	97.48	5.1	34.0	3.4	52.8	0.1	4.1	0.5	
4090	Oakland	97.26	1.9	32.3	4.0	52.7	0.0	2.5	6.5	
4091	Oakland	95.83	1.5	33.9	3.4	55.1	0.3	0.0	5.8	

⁶⁵ DRAFT CalEnviroScreen 4.0; 2018 American Community Survey.

4030	Oakland	92.75	5.7	3.9	81.6	3	1.1	3.2	1.5
4022	Oakland	92.72	26.6	27.9	19.1	21.7	0.9	0.0	3.7
4061	Oakland	92.60	13.6	10.0	16.2	57.9	0.0	0.5	1.8
4095	Oakland	90.98	4.6	27.5	0.7	63.3	0.1	1.9	1.9
4060	Oakland	90.39	18.2	14.9	44.2	19.6	0.0	0.2	2.9
4105	Oakland	90.33	8.3	63.3	14.7	10.4	0.3	0.7	2.2
4324	San Leandro	89.82	19.1	5.6	32.3	39.6	0.0	1.1	2.3
4025	Oakland	89.80	8.8	64.2	10.5	10.7	0.0	0.0	5.8
4094	Oakland	89.63	4.3	17.1	8.2	68.8	0.0	0.3	1.3
4089	Oakland	89.24	3.6	28.7	4.4	59.3	0.0	1.1	3.0
4033	Oakland	87.35	23.3	7.6	50.8	9.3	2.5	0.0	6.4

Table 25. Race/Ethnicity of 15 Least Burdened Census Tracts in Alameda County

CT No.	City	CES 4.0					Pacific		
		Percentile	White	Black	Asian	Latinx	Native	Islander	Other
4261	Oakland	0.25	75.4	1.3	17.6	1.2	0.2	0.0	4.3
4216	Berkeley	0.29	72.9	3.2	14.0	4.7	0.0	0.6	4.7
4301.02	Castro Valley	0.35	56.7	3.5	18.4	11.0	0.0	0.7	9.7
4211	Berkeley	0.88	76.5	1.4	11.6	6.5	0.0	0.3	3.7
4206	Albany	1.21	67.2	0.3	15.2	11.1	0.0	0.5	5.7
4213	Berkeley	1.26	80.6	1.3	8.8	1.8	0.0	0.2	7.3
4215	Berkeley	1.40	77.2	3.5	11.2	4.9	0.0	0.3	2.9
4364.02	Hayward	1.45	51.0	20.1	9.7	14.3	0.0	0.0	5.0
4043	Oakland	1.64	63.8	2.8	13.4	12.1	0.0	0.0	7.9
4212	Berkeley	1.82	73.9	1.2	11.9	4.5	0.1	0.0	8.4
4511.02	Livermore	2.11	77.5	0.3	9.4	8.5	0.4	0.0	3.9
4046	Oakland	2.16	68.7	4.7	14.6	3.9	0.1	2.2	5.7
4047	Oakland	2.17	72.9	6.4	9.6	8.4	0.0	0.3	2.4
4432	Fremont	2.33	18.5	0.0	73.6	1.3	0.3	1.2	5.0
4506.04	Pleasanton	2.35	59.9	0.5	25.3	10.0	0.4	0.0	4.0

Table 26 lists the census tracts ranked above the 75th percentile statewide according to both CES 3.0 and CES 4.0, in order of their rank on CES 4.0. The neighborhood names of census tracts that appear in the top 25% on both maps are listed in red.

Table 26. Comparison of Disadvantaged Communities in CES 3.0 and Draft CES 4.0 (Ordered by Rank on Draft CES 4.0)

Census Tract	Zip Code	City	Neighborhood	CES 3.0 Percentile	Draft CES 4.0 Percentile
4073	94601	Oakland	Lockwood/Coliseum	91.16	97.96
4088	94621	Oakland	Havenscourt/Coliseum	96.22	97.48
4090	94621	Oakland	Oakland Airport	96.91	97.26
4091	94603	Oakland	Brockfield Village	96.38	95.83
4030	94607	Oakland	Chinatown	84.99	92.75
4022	94607	Oakland	Prescott/Mandela Peralta	88.32	92.72

4061	94601	Oakland	Jingletown/Kennedy Tract	85.81	92.60
4095	94621	Oakland	Woodland/Tassafaronga	90.30	90.98
4060	94606	Oakland	Oakland Estuary	89.13	90.39
4105	94607	Oakland	Defremery/Oak Center	81.17	90.33
4324	94577	San Leandro		83.60	89.82
4025	94607	Oakland	Acorn	81.55	89.80
4094	94603	Oakland	Elmhurst Park	88.02	89.63
4089	94621	Oakland	Fitchburg/Hegenberger	86.68	89.24
4033	94607	Oakland	Chinatown/Laney	82.13	87.35
4092	94603	Oakland	Sobranite Park	93.48	86.71
4325.01	94577	San Leandro		81.16	85.91
4017	94607	Oakland	Port of Oakland	84.56	85.75
4018	94607	Oakland	Prescott	86.25	84.84
4014	94608	Oakland	Hoover/Foster	85.40	84.15
4016	94607	Oakland	McClymonds	77.84	83.78
4072	94601	Oakland	Fruitvale	78.46	83.54
4062.01	94601	Oakland	Reservoir Hill/Meadow Brook	75.48	83.24
4013	94609	Oakland	Pill Hill	71.28	83.00
4075	94621	Oakland	Seminary	72.62	82.37
4287	94501	Alameda		74.85	81.98
4015	94608	Oakland	Clawson/Dogtown	82.39	80.98
4232	94710	Berkeley		70.21	80.00
4010	94608	Oakland	Longfellow	78.52	79.53
4028	94612	Oakland	Uptown/Downtown	73.45	79.36
4062.02	94601	Oakland	Fruitvale/Hawthorne	70.98	79.18
4026	94607	Oakland	Jack London Gateway	68.50	79.02
4009	94608	Oakland	Gaskill	66.74	78.84
4371.01	94587	Union City		78.82	78.66
4059.02	94606	Oakland	Lower San Antonio 2	67.46	78.11
4059.01	94606	Oakland	Lower San Antonio 1	68.28	77.73
4332	94578	San Leandro		82.67	77.62
4074	94601	Oakland	Fremont	76.93	77.52
4027	94612	Oakland	Bunche/MLK Jr	76.39	73.87
4031	94607	Oakland	Downtown/Old Oakland	66.89	73.29
4008	94608	Oakland	Paradise Park/Golden Gate	67.05	72.57
4220	94710	Berkeley		75.94	71.61
4362	94541	Hayward		71.03	71.22
4381	94544	Hayward		73.51	69.84
4093	94603	Oakland	North Stonehurst	82.60	69.50
4054.01	94606	Oakland	Eastlake Clinton 1	75.56	69.43
4024	94607	Oakland	Bunche/Oak Center	79.87	68.13
4007	94608	Oakland	Santa Fe/N. Oakland	69.81	67.98
4372	94545	Hayward		75.02	67.81
4369	94541	Hayward		70.08	66.70

4382.03	94544	Hayward		80.45	66.41
4326	94577	San Leandro		70.64	64.33
4053.02	94606	Oakland	Eastlake	65.78	64.20
4403.01	94587	Union City		75.55	62.48
4446.01	94560	Newark		78.74	62.47
4251.04	94608	Emeryville		77.39	59.17

Social Vulnerability Index

The Center for Disease Control's *Social Vulnerability Index* looks at the relative vulnerability of every U.S. census tract with a measurement of **15 social factors**, including poverty, lack of vehicle access, and limited English proficiency, grouped into four major themes: socioeconomic; housing composition and disability; minority status and language, housing and transportation. The range of scores is from 0 (lowest vulnerability) to 1 (highest vulnerability). Census tracts are scored but not ranked -- multiple tracts receive the same score.

Why it Matters. This score *does not take pollution burden into account*, but focuses on socio-economic factors including **additional important vulnerability indicators not included in CalEnviroScreen**, such as access to a vehicle, single-parent households, and people with disabilities. There is a strong correlation between this *Social Vulnerability Index* and Draft CalEnviroScreen 4.0's *Lead Risk* indicator, meaning that of all the indicators studied, these two were most likely to rank census tracts in Alameda County similarly. Again, this highlights the need to overcome multiple factors that contribute to social vulnerability and meet priority needs holistically, in order to achieve equitable outcomes.

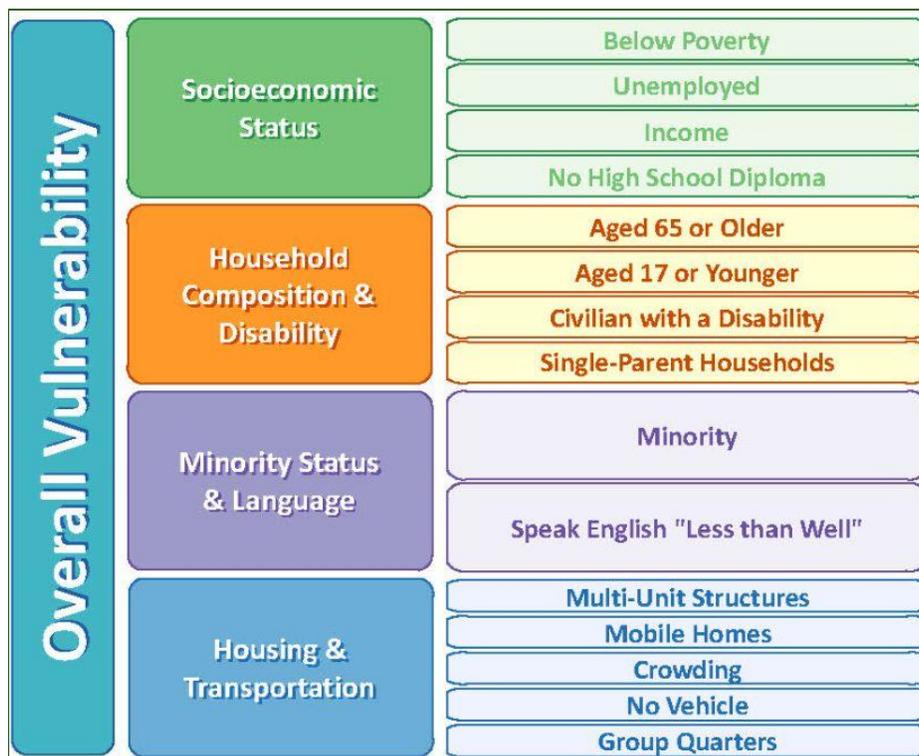
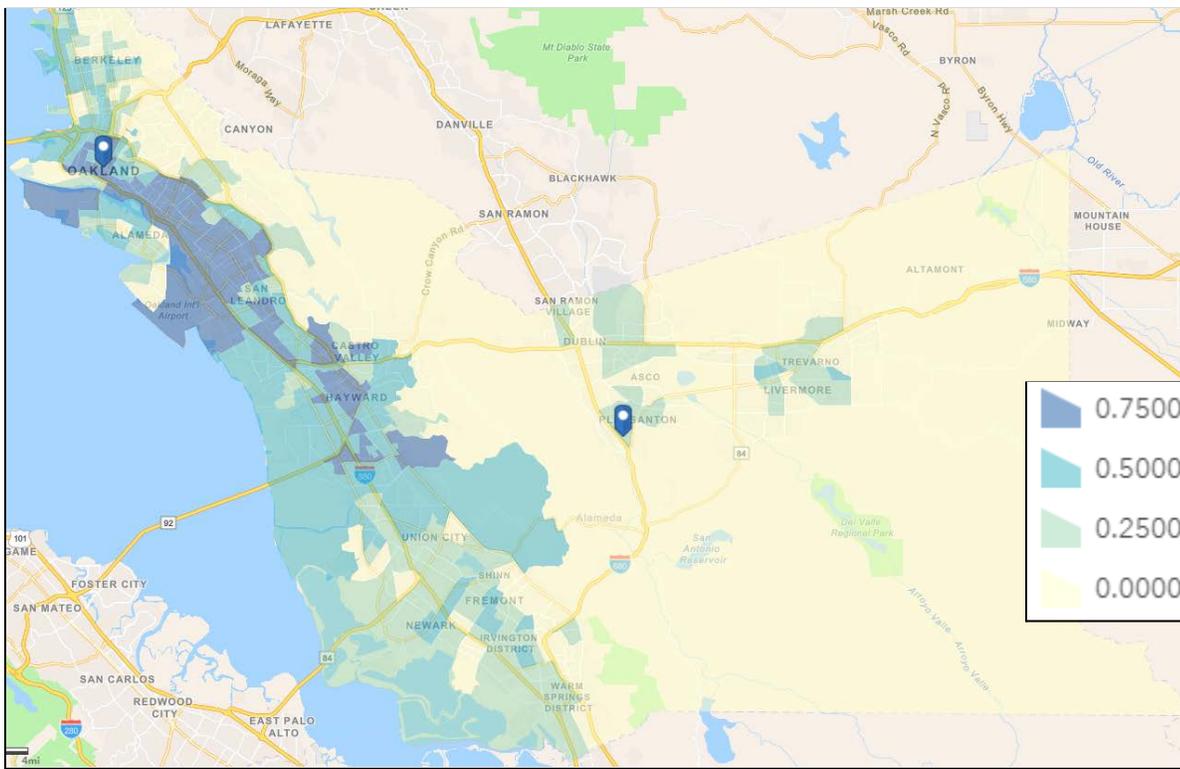


Figure 4. Center for Disease Control [Social Vulnerability Index Documentation](#)



Map Q.
GIS map
of CDC SVI
scores for
Alameda
County

Listed below are the scores for the 25 most socially vulnerable census tracts in Oakland and Alameda County that scored above .75 (the darker shade of blue on the map above. Within Oakland, there are 14 *highly vulnerable* census tracts with scores at 0.9 or above.

Racial Equity Finding. Latinx communities in East Oakland are disproportionately represented in the highly **vulnerable census tracts**.

Table 27. Most Socially Vulnerable Census Tracts

#	Census Tract No.	Neighborhood	ZIP Code	City	SVI Score	Lead Percentile
1	4059.01	Lower San Antonio 1	94606	Oakland	1	97.25
2	4075	Seminary	94621	Oakland	1	99.37
3	4062.02	Fruitvale/Hawthorne	94601	Oakland	0.99	96.13
4	4072	Fruitvale	94601	Oakland	0.99	97.02
5	4089	Fitchburg/Hegenberger	94621	Oakland	0.99	93.49
6	4030	Chinatown	94607	Oakland	0.98	35.51
7	4339		94578	Ashland	0.97	80.02
8	4063	San Antonio/Sausal Creek	94601	Oakland	0.96	93.83
9	4065	Peralta/Hacienda	94601	Oakland	0.96	93.88
10	4086	Bancroft/Havenscourt 2	94605	Oakland	0.96	99.85

11	4093	North Stonehurst	94603	Oakland	0.96	97.71
12	4095	Woodland/Tassafaronga	94621	Oakland	0.96	98.33
13	4088	Havenscourt/Coliseum	94621	Oakland	0.95	98.99
14	4062.01	Reservoir Hill/Meadow Brook	94601	Oakland	0.94	97.24
15	4074	Fremont	94601	Oakland	0.94	99.53
16	4071.02	Jefferson/Fruitvale	94601	Oakland	0.93	95.34
17	4087	Bancroft/Havenscourt 1	94605	Oakland	0.91	98.49
18	4097	Castlemont	94605	Oakland	0.91	92.68
19	4105	Defremery/Oak Center	94607	Oakland	0.89	97.2
20	4340		94578	Ashland	0.89	91.56
21	4070	Lower Laurel/Allendale	94619	Oakland	0.88	89.26
22	4090	Oakland Airport	94621	Oakland	0.87	97.88
23	4059.02	Lower San Antonio 2	94606	Oakland	0.86	92.83
24	4060	Oakland Estuary	94606	Oakland	0.86	68.78
25	4362		94541	Hayward	0.86	78.4

Table 28. Predominant Race/Ethnicity of Most Socially Vulnerable Census Tracts

Census Tract						
#	No.	SVI Score	Oakland Neighborhood	City	Race/Ethnicity	
1	4059.01	1	Lower San Antonio 1		Latinx	
2	4075	1	Seminary		Latinx	
3	4062.02	0.99	Fruitvale/Hawthorne		Latinx	
4	4072	0.99	Fruitvale		Latinx	
5	4089	0.99	Fitchburg/Hegenberger		Latinx	
6	4030	0.98	Chinatown		Asian	
7	4339	0.97		Ashland	Latinx	
8	4063	0.96	San Antonio/Sausal Creek		Latinx	
9	4065	0.96	Peralta/Hacienda		Latinx	
10	4086	0.96	Bancroft/Havenscourt 2		Latinx	
11	4093	0.96	North Stonehurst		Latinx	
12	4095	0.96	Woodland/Tassafaronga		Latinx	
13	4088	0.95	Havenscourt/Coliseum		Latinx	
14	4062.01	0.94	Reservoir Hill/Meadow Brook		Latinx	
15	4074	0.94	Fremont District		Latinx	

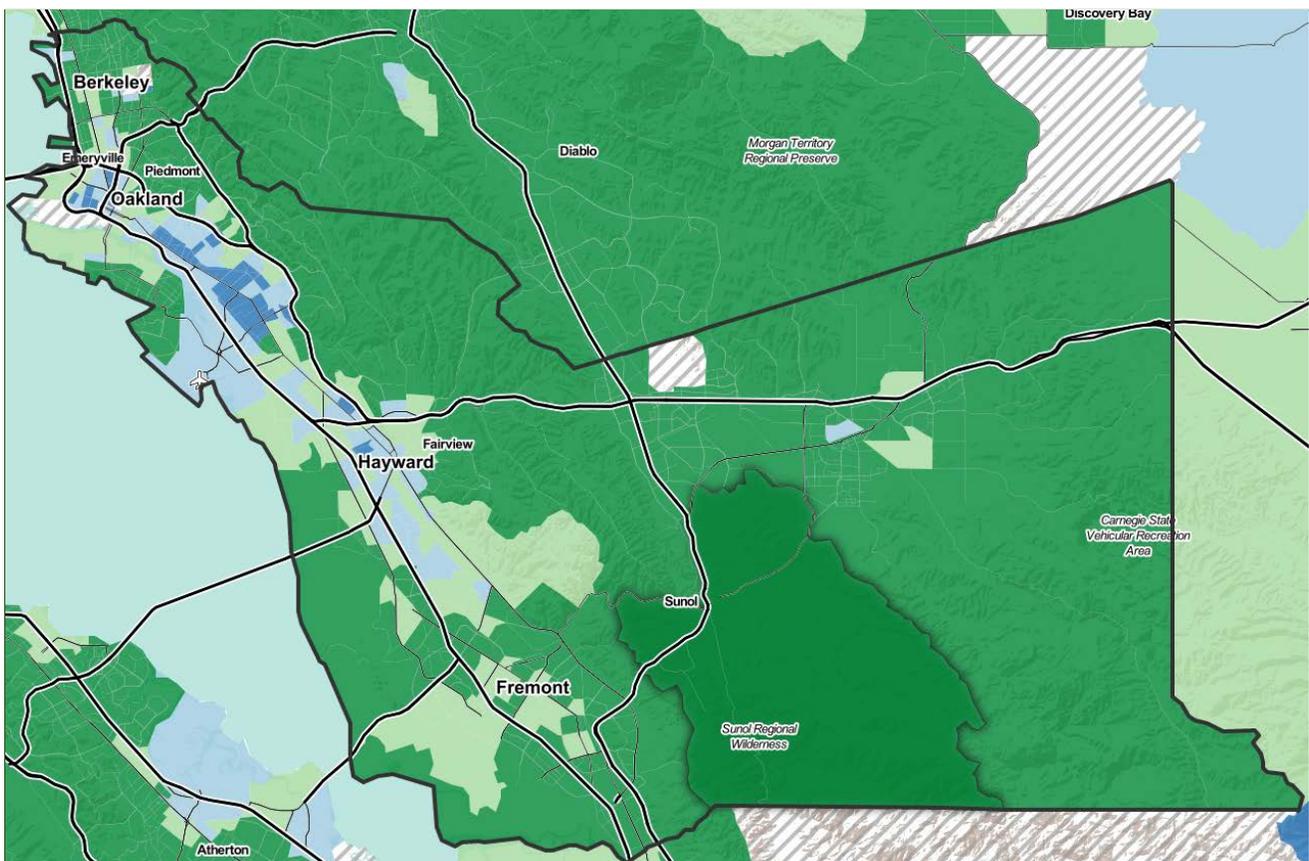
Source: American Community Survey 2019 5-year estimate

California Healthy Places Index

The California Healthy Places Index (HPI) was developed by the Public Health Alliance of Southern California and provides overall scores along with more detailed data on specific policy action areas that shape public health. Census tracts are given a percentile rank based on the percentage of census tracts that have less healthy conditions. (A tract with a percentile score of 20.3 has healthier conditions than 20.3% of other California census tracts.)

Why it Matters. This tool combines a unique set of topics and indicators. The topics span economic outcomes, education, transportation, social, neighborhood, environment, housing and healthcare access. Indicators include homeownership, housing habitability, access to healthcare, park access, supermarket access, tree canopy, voting, and preschool enrollment.

Racial Equity Finding. Latinx and Black communities in East Oakland are disproportionately represented in the **unhealthiest census tracts**.



Map R. [Healthy Places Index](#), Alameda County

On the map above, the census tracts that are shaded in dark blue have the least healthy conditions (percentile score 0-25) and the census tracts in dark green have the healthiest conditions (percentile score 75-100). The table below provides a list of all of the census tracts in Alameda County that received a percentile rank of 25 or below.

Table 29. Unhealthiest Places in Alameda County

#	Census Tract	Oakland Neighborhood or City	ZIP Code	HPI Score	Predominant Race/Ethnicity
1	4070	Lower Laurel/Allendale	94619	24.8	Latinx
2	4101	Foothill Square/Toler Heights	94605	24.7	Black
3	4071	Fruitvale	94601	23.1	Latinx
4	4074	Fremont District	94601	22.5	Latinx
5	4072	Fruitvale	94601	22.1	Latinx
6	4339	<i>Ashland</i>	94578	22.1	Latinx
7	4087	Bancroft/Havenscourt 1	94605	21.5	Latinx
8	4093	North Stonehurst	94603	20.3	Latinx
9	4096	Webster	94621	19.2	Latinx
10	4356.01	<i>Cherryland</i>	94541	18.1	Latinx
11	4094	Elmhurst Park	94603	16.6	Latinx
12	4103	Cox/Elmhurst	94603	15.3	Latinx
13	4227	Berkeley	94704	14.7	Latinx
14	4028	Uptown/Downtown	94612	13	White
15	4059.01	Lower San Antonio 1	94606	13.8	Latinx
16	4059.02	Lower San Antonio 2	94606	13.7	Asian
17	4014	Hoover/Foster	94608	13.6	Black
18	4028	Uptown/Downtown	94612	13	Black
19	4075	Seminary	94621	11.1	Latinx
20	4062.02	Fruitvale/Hawthorne	94601	10.6	Black
21	4018	Prescott	94607	10.6	Latinx
22	4105	Defremery/Oak Center	94607	8.9	Black
23	4062.01	Reservoir Hill/Meadow Brook	94601	7.8	Latinx
24	4025	Acorn	94607	6.4	Black

25	4086	Bancroft/Havenscourt 2	94605	6.3	Latinx
26	4088	Havenscourt/Coliseum	94621	5.6	Latinx

2.3.1.5. Housing Habitability / Substandard Housing Conditions

Why it matters. Disparities in lead poisoning outcomes are directly connected to the disproportionate amount of substandard housing in low-income communities. Older, lower-value residential properties are most at risk of harboring lead paint hazards.⁶⁶ Poor quality housing, and lack of repair increases the likelihood of degraded lead paint and rental properties with unresolved lead hazards have the potential to harm multiple families. A substantial amount of Oakland's housing stock needs some level of repair, from deferred maintenance to substantial rehabilitation.⁶⁷

Although Oakland's municipal code upholds "the right to occupancy of safe decent housing," the public health and welfare of Oakland residents largely depends on each property owner's **willingness or ability** to invest in their property. Some landlords take advantage of residents they know won't be able to fight back, a practice called "predatory habitability."⁶⁸

Moreover, habitability complaints received by the City more than likely reflect only a fraction of the true housing issues faced by vulnerable tenants or homeowners — seniors, low- and moderate-income households, persons on fixed incomes, undocumented tenants, and tenants of color. Many residents are unaware of the available City services, do not know how to access them, or simply avoid contact with the City. Vulnerable tenants face additional risks and are more likely *not* to report hazardous conditions in order to keep their rents from rising, avoid eviction, and prevent retaliation of any kind. Undocumented tenants face the additional fear of detention or deportation causing them to avoid interaction with government programs.

Oakland Baseline Equity Indicators **Housing Habitability Complaints**

The Housing Habitability Complaints Equity Indicator tracks housing habitability complaints as a percent of total housing units by zip code. To understand existing racial disparities, the percentage of housing units that have filed habitability complaints in predominantly non-White zip codes is compared to rates in predominantly White and racially and ethnically mixed zip codes. Housing units in predominantly non-White zip codes were 2.03 times more likely to report housing habitability complaints than housing units in predominantly White zip codes.

Findings. Oakland's oldest, poorest neighborhoods with the highest proportion of renters are likely to

⁶⁶ [The Weight of Lead — Part I: How Contaminated Houses Are Poisoning the Poor.](#)

⁶⁷ City of Oakland Office of Planning Building & Neighborhood Preservation, [Proposed Program Design for Proactive Code Enforcement Operations](#), ("The National Center for Healthy Housing's 2009 study of health-related housing problems in the nation's largest Metropolitan Statistical Areas, rated the City of Oakland the 39th least healthy central city out of forty-four (44) jurisdictions surveyed, with nearly 60% of housing units showing one or more health-related problems. Oakland's housing stock also ranks among the oldest and most heavily rental of the cities surveyed.")

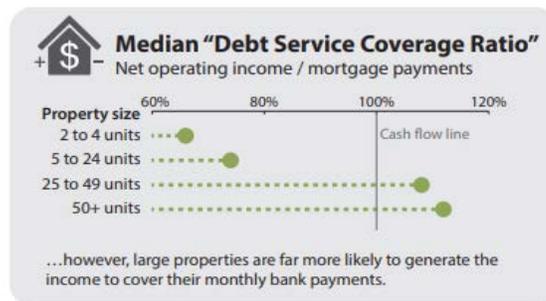
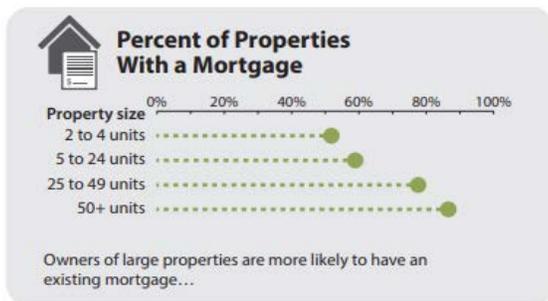
⁶⁸ Angela Johnston & Melissa Ortega-Welch, [Lead and the Bay Area Housing Crisis](#), KALW, December 13, 2018.

suffer the most from substandard housing conditions. These include Latinx, Black, immigrant, and refugee communities, families with children, low-income renters, undocumented residents, residents receiving public assistance and elderly renters.

- Oakland City Council found that “code violations such as inadequate plumbing and heating, leaky roofs, mold, vermin infestations and improper disposal of garbage among many other violations . . . are disproportionately found in neighborhoods in the flatlands of East and West Oakland,”⁶⁹ including **Longfellow (4010); Hoover/Foster (4014); San Antonio (4057, 4058 4059.01, 4059.02, 4063); Fruitvale (4062.02, 4071.01, 4071.02, 4072); Lower Maxwell Park (4076); and Havenscourt (4086, 4087, 4088).**⁷⁰
- Neighborhoods in East Oakland tend to have the highest total number of habitability complaints, whereas Downtown and Chinatown have higher rates of complaints per 100 properties. The difference between the highest total number of complaints and the highest rates of complaints indicates a high likelihood that there are additional habitability issues in East Oakland that go unreported.

2.3.1.6. Small Rental Properties and High Housing Cost Burden

Why it Matters. Oakland’s Code Enforcement data indicates that the highest rates of habitability issues in Oakland are found in low-income rental housing properties with five (5) or fewer units. Buildings with 2-5 units were more likely to report the presence of *numerous* habitability issues, increasing the likelihood of deteriorating lead paint. Smaller multi-unit buildings are more likely to be owned by mom-and-pop proprietors who may not have deep pockets. Data from the 2012 U.S. Rental Housing Finance Survey shows that owners of smaller properties are less likely to generate sufficient operating income to cover their mortgage payments and their properties have much longer expected pay-off timeframes.



The extremely high housing cost burden increases rates of houselessness among the

working poor and increases the likelihood that housing affordable to the lowest income tenants will be overcrowded or substandard. Using data from the Alameda County Assessor’s Office, in 2013 Urban Strategies Council identified the distribution of housing types across Oakland, providing numbers for the top 25 neighborhoods by residential type.⁷¹

⁶⁹ Oakland City Council Resolution, *Establishing a Proactive Rental Inspection (PRI) Program to Address Housing Habitability Violations Without Displacing Vulnerable Tenants and Directing the City Administrator to Return to Council with a Plan and Appropriate Legislation to Begin Implementing a PRI Program*, June 16, 2016.

⁷⁰ [Building an Indicator Base for Healthy Housing Issues in Oakland](#).

⁷¹ [Building an Indicator Base for Healthy Housing Issues in Oakland](#) at p. 27.

2019 ACS data shows approximately 95,402 rental units in Oakland, of which, single family dwellings account for 27% (23,564), duplexes 9% (8,682), and 3-4 units buildings 16% (15,741). ACS data lumps properties with 5-9 units together, making it difficult to estimate how many additional 5-units there are. Nationally and in Oakland, two-four unit properties are the most common type of multi-family property. For example, Longfellow has 348 two-four unit dwellings, and 388 multi-family properties of any size.

Table 30. 2-4 Unit Dwellings, Percentage Children & Housing Cost Burden Percentile (Draft CES 4.0)

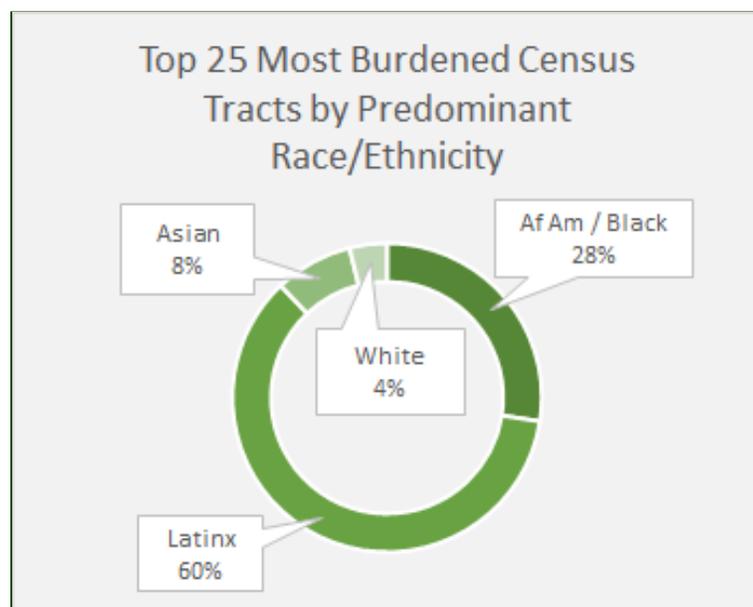
	Neighborhood	Census Tract	# 2-4 unit Dwellings	% Children under 10	Race/Ethnicity	Housing Burden
1	Longfellow	4010	348	8.8	White 36% Asian 34%	91.59
2	Hoover/Foster	4014	309	3.9	Black 33% White 24%	97.89
3	Santa Fe/North Oakland	4007	299	7.2	White 40% Black 28%	80.09
4	Temescal	4011	262	7.2	White 53% Asian 21%	56.13
5	Shafter/Rockridge	4003	234	11.6	White 69% Asian 11%	7.73
6	Fairfax/Lower Maxwell Park	4076	232	18.2	Black 42% Latinx 31%	56.13
7	North Stonehurst	4093	227	16.3	Latinx 63% Black 27%	83.75
8	Lower Laurel/Allendale	4070	226	11.4	Latinx 32% Asian 27%	92.82
9	Peralta/Hacienda	4065	224	12.3	Latinx 49% Asian 20%	87.84
10	San Antonio/Highland Terrace	4058	216	10.2	Asian 44% Latinx 21%	89.29

2.3.1.7. Additional Housing Related Indicators

- Low-income Owner-Occupied Housing
- [Density of Single-Family Homes Per Square Mile (by Census Tract)
- Density of Multi-Family Housing Properties Per Square Mile (by Census Tract)
- Percent Owner-Occupancy by Census Tract, 2010
- Percent Renter-Occupancy by Census Tract, 2010
- Tracts with at Least Two-Thirds Owner or Renter Occupancy
- Percent of Renter Households with Children Under Age 18
- Code Enforcement Complaints for Work Without a Permit

2.3.1.8. Race/Ethnicity

Why it Matters. Minority and low-income populations are concentrated in areas identified as high-risk for lead poisoning. Any child can be affected by lead, but exposure is unequal across populations and race and ethnicity are particularly strongly associated with children’s risk.⁷² The demographic data on lead risk by predominant race/ethnicity of each census tract is included above (Section 2.1.2.). The results show that Latinx populations in Oakland are most predominant in the highest risk areas in Alameda County, followed by African American/Black and Asian populations. In fact, four of the five census tracts where the most lead poisoned children were found are predominantly Latinx, and the other is predominantly African American/Black (Section 2.4.1.1.).



E/J Solutions gathered data on 357 census tracts in Alameda County from various sources. We converted the results for each indicator into a scale of 0-10, then simply added up each indicator to create an **Overall Burden Score** for each census tract. To zero in on the most burdened communities, we isolated the top 25 most burdened census tracts overall and for each indicator. We identified the share by race/ethnicity and compared Oakland to the remainder of Alameda County.

According to Alameda County, “28% of the African American population and 25% of the Latinx population are represented among children found to have elevated blood lead levels, rates which reflect the national landscape where “28% of African American households and 29% of poorer households face housing related lead exposure risks compared with 20% of Whites and 18% of wealthier households.”⁷³

2.3.1.9. Poverty (Low Income & Low Wealth)

Poverty increases both exposure and sensitivity to health hazards. As the Opportunity Atlas shows, the flatlands of Oakland have the highest concentration of poverty in Alameda County: median household income is \$52,962 and unemployment is nearly 11%. In Alameda County, there are 37 census tracts above the 75th percentile statewide for unemployment, 25 of which are in Oakland. Sixty-one percent of all children in Oakland are on Medi Cal and 40% receive Cal-Fresh. The census tract or block where children enrolled in Medi-Cal and other public assistance programs reside can be a useful indicator.

⁷² [10 Policies to Prevent and Respond to Childhood Lead Exposure: An assessment of the risks communities face and key federal, state, and local solutions](#) at p. 9.

⁷³ [Housing Habitability and Health: Oakland’s Hidden Crisis](#) at p. 9.

2.3.1.10. Youth Educational Success & Overall Level of Educational Attainment

Why it Matters. Many of the health impacts of lead poisoning primarily manifest as attitudinal and behavioral impacts that severely hinder academic achievement. “Lead-poisoned children are more likely to struggle in school, drop out, get into trouble with the law, underperform in the workplace, and earn less throughout their lives, independent of other social and economic factors.”⁷⁴ Even at very low levels, lead exposure affects the brain’s ability to control impulses and process information, with studies showing that lead poisoning has an adverse impact on IQ. Furthermore, **low levels of lead exposure may have the worst impact on IQ:** “An increase in blood lead from less than 1 to 10 µg/dL is associated with a loss of 6 IQ points, compared with only 2 points lost from a rise from 10 µg/dL to 20.36.”

Proactive lead inspections in census tracts that demonstrate low educational outcomes may reach communities with low blood lead level testing rates and/or widespread lead poisoning.

Database: Oakland Equity Indicators. While the report does not include census tract-level data on education outcome indicators, it identifies the differing issues each population struggles with.

- Enrollment in OUSD
- Drop-out rate
- Graduation Rate
- Expulsions/Suspensions
- Preparedness to attend UC/CSU
- Education percentile

2.3.2. Increased Sensitivity to Lead Hazards

Sensitive populations are more susceptible to the harmful impacts of pollution in their environments. This includes individuals with impaired physiological or psychological conditions, or lower protective biological mechanisms due to genetic factors. “The **fetus, children, pregnant and elderly** are particularly susceptible to some of the toxic effects of lead;” lead exposure in infancy results in higher levels of impairment than exposures of the same duration at equivalent doses during adolescence.⁷⁵ While children aged zero to six are the most susceptible to the harmful impacts of lead paint hazards, **children over six and non-pregnant adults may also experience heightened sensitivity, due to illness or other factors.**

2.3.2.1. Poverty

Why it Matters. Poverty is the most important non-biological factor that increases sensitivity to harmful impacts of exposure. A recent study published in the journal *Nature Medicine* found stronger that **children in lower-income families had greater negative impacts from living in high-lead-risk**

⁷⁴ [10 Policies to Prevent and Respond to Childhood Lead Exposure: An assessment of the risks communities face and key federal, state, and local solutions.](#)

⁷⁵ Norm Healey, [Lead toxicity, vulnerable subpopulations and emergency preparedness](#) 2009 Jun; 134(3-4):143-51. doi: 10.1093/rpd/ncp068. Epub 2009 Apr 26.

census tracts than children from higher-income families. Children of lower-income families who live in neighborhoods with a high-risk of lead exposure scored significantly lower on cognitive tests and had smaller brains.⁷⁶ Children living in poverty tend to live in older, substandard rental housing, with less access to healthy nutritious food. For young children with diets low in iron and calcium there is an increase in the uptake and absorption of lead. In neighborhoods like Fruitvale, which also has a dearth of grocery stores, “many of the low-income children who live there have diets that are deficient in iron and calcium, increasing their risk of lead absorption.”⁷⁷

As lead reduces executive function and behavioral control, the constraints and discomforts of poverty compound these impacts, often resulting in outbursts that are then criminalized.

Case Study: Brandon

Excerpt from [The thousands of U.S. locales where lead poisoning is worse than in Flint](#)⁷⁸

Across the street is the old rental house where, as a baby, Brandon was exposed to peeling lead paint. Health records show that **before age 2, his levels reached nearly 10 times the current CDC threshold.** He was hospitalized and received chelation treatment. The drugs remove heavy metals from the body and help prevent further damage, but once a child is exposed, the impact can be irreversible.

Brandon, who is easily excited, was at turns cheerful and mournful during an interview. He never finished high school and hasn't held a job. He has cognitive impairment, Attention Deficit Hyperactivity Disorder and outbursts of anger. He was recently arrested after a dispute with a convenience store clerk over soda pop, and is now on probation.

“Ever since I caught the lead, I've been messed up in the head. I can't control my anger or feelings,” Brandon said. “I could have been better than I am.”

2.3.2.2. Extremely Elevated Blood Lead Levels

Why it Matters. Reducing disparities requires an intentional focus on the communities that have been the most harmed. To the extent that location data is available, the City and County should prioritize comprehensive lead hazard screening in the census tracts where blood lead testing has revealed abnormally high blood lead levels. 2018 data from the California Department of Public Health shows that **362 children** in Alameda County had EBLLs greater than or equal to 4.5 µg/dL, whereas 97.78% of children have BLLs below 4.5 µg/dL.⁷⁹ **Sixty two children** had EBLLs greater than or equal to 9.5, which amounted to 0.38% of children screened.

⁷⁶ Environmental Working Group, [Bill Requires California to Test Millions of Children for Lead Exposure](#), (“Association of lead-exposure risk and family income with childhood brain outcomes”)

⁷⁷ Rachel Swan, [Parents in Oakland's Fruitvale area confront lead-paint plague](#), SF Chronicle, January 25, 2017.

⁷⁸ M.B. Pell and Joshua Schneyer, [The thousands of U.S. locales where lead poisoning is worse than in Flint](#), Reuters, Dec. 19, 2016.

⁷⁹ California Department of Public Health, [Blood Lead Level Maps and Data](#), Table 1 and 2 (2018).

Table 31. Percentage of Lead Poisoned Children with EBLL Above and Below 4.5 µg/dL

	#	%	#	%	#	% BLL ≥	#	#	#
	BLL <	BLL	BLL ≥	BLL ≥	BLL ≥ 9.5	9.5 µg/dL	Children	Children	Children
	4.5	< 4.5	4.5	4.5	µg/dL		< 6	< 6 in	< 6
	µg/dL	µg/dL	µg/dL	µg/dL			screened	Medi-Cal	
Alameda County	15,945	97.78%	362	2.22%	62	0.38%	16,307	32,969	107,004

2.3.2.3. Pregnant Women, Low Birthweight Infants & Density of Children in Poverty

Why it Matters. Pregnant mothers and children with pre-existing conditions (comorbidities) are among the populations most susceptible to harmful impacts of lead paint. Low birthweight babies born **weighing less than 5 pounds, 8 ounces** are among the most sensitive. Low birthweight babies face increased risk of infant mortality and a host of short- and long-term complications such as trouble breathing, bleeding in the brain, heart problems, intestinal disorders and retinopathy. These factors can result in extreme sensitivity to the harmful impacts of lead based paint.

In addition, **low-level maternal blood lead levels can cause low birthweight.** Lead contamination begins in the second trimester of pregnancy, increases during the third trimester “when the baby is growing rapidly and incorporates nutrients and toxins from its mother,” and continues to accumulate after birth during the baby’s first year.⁸⁰ The decrease in birth weight per each microgram increase in maternal PbB is significant, including at lower concentrations, and action is necessary to address the high prevalence of low-level PbB among pregnant women.⁸¹ Lead may also leach into breastmilk, further exposing newborns to lead poisoning even before they are able to crawl about and ingest any hazards in their environment. Yet, experts point to the lack of standards concerning lead exposure for pregnant women and their unborn babies, despite proof of the risks to a developing fetus.

Nationally, African Americans face the greatest risk of low birth weight; Black mothers have a prevalence of low birth weight that is two times higher than White mothers.

- ◆ 1 in 7 African American babies (about 13 percent)
- ◆ 1 in 12 Asian babies (about 8 percent)
- ◆ 1 in 13 American Indian/Alaska Native babies (about 7 percent)
- ◆ 1 in 14 Hispanic babies (about 7 percent)
- ◆ 1 in 14 White babies (about 7 percent)

Racial Equity Findings. Need to target census tracts with high rates of low birthweight infants, high poverty and high cumulative disadvantage. The table below shows census tracts with: (a) high rates of low birth weight babies (Draft CES 4.0 top 5% statewide) (b) high numbers of children under 10; and (c)

⁸⁰ [Lead contamination found in baby teeth of children living near Exide battery plant.](#)

⁸¹ [Maternal low-level lead exposure and fetal growth.](#)

high levels of cumulative disadvantage/social vulnerability (CES 3.0, Draft CES 4.0 & SVI). Census tracts with greater than 13-14% children under 10 (bolded) are above average.

Table 32. Prevalence of Low Birth Weight Infants & Children Under 10 in Burdened Communities

CT	Zip Code	Neighborhood or City	LBW Pctl	DAC Pctl	SVI	%Children under 10	Largest Racial/Ethnic Group	Next Largest Group
4027	94612	Bunche/MLK Jr	99.86	76.39 CES 3.0 73.87 CES 4.0	.56	14% 2010 6% 2018	Black 56% 2010 42% 2018	Latinx 16% 2010-2018
4025	94607	Acorn	99.55	81.55 CES 3.0 89.80 CES 4.0	.85	20% 2010 22% 2018	Black 64% 2010 67% 2018	Latinx 11% 2010 4.5% 2018
4015	94608	Clawson/Dogtown	99.31	82.39 CES 3.0 80.98 CES 4.0	.51	9% 2010 4% 2018	Black 53% 2010 37% 2018	White 20% 2010 40% 2018
4088	94621	Havenscourt /Coliseum	98.65	96.22 CES 3.0 97.48 CES 4.0	.95	19% 2010 21% 2018	Latinx 46% 2010 53% 2018	Black 41% 2010 34% 2018
4090	94621	Oakland Airport	97.55	96.91 CES 3.0 97.26 CES 4.0	.87	17% 2010 16% 2018	Latinx 49% 2010 53% 2018	Black 43% 2010 32% 2018
4092	94603	Sobrante Park	96.91	93.48 CES 3.0 86.71 CES 4.0	.68	17% 2010 12% 2018	Latinx 50% 2010 55% 2018	Black 40% 2010 32% 2018
4382.03	94544	Hayward	96.39	80.45 CES 3.0 66.41 CES 4.0	.63	10% 2010 6.9% 2018	Asian 45% 2010 54% 2018	Latinx 25% 2010 22% 2018
4009	94608	Gaskill	96.02	66.74 CES 3.0 78.84 CES 4.0	.29	11% 2010 11% 2018	Black 44% 2010 30% 2018	White 31% 2010 42% 2018
4105	94607	Defremery/Oak Center	95.88	81.17 CES 3.0 90.33 CES 4.0	.89	16% 2010 18% 2018	Black 62% 2010 63% 2018	Asian 17% 2010 15% 2018

4018	94607	Prescott	95.62	86.25	CES 3.0	.51	15% 2010	Black	Latinx
			84.84		CES 4.0		14% 2018	57% 2010	19% 2010
								37% 2018	20% 2018
									White
									15% 2010
									33% 2018

2.3.2.4. Pre-existing conditions

Pre-existing conditions, including cardiovascular disease and asthma, exacerbate the impacts of lead poisoning. Census tract-level data about these pre-existing Cardiovascular disease and asthma can be found in CalEnviroScreen and has been included in the assessment of each census tract's overall degree of burden/vulnerability.

Exposure to lead can also contribute to the development of these health conditions, which then increase sensitivity to other factors, such as COVID-19. “The Institute for Health Metrics and Evaluation (“IHME”) estimated that in 2017, lead exposure accounted for 1.06 million deaths and 24.4 million years of healthy life lost ... worldwide due to long-term effects on health. The highest burden was in low- and middle-income countries. IHME also estimated that in 2016, lead exposure accounted for **63.2% of the global burden of idiopathic developmental intellectual disability**, 10.3% of the global burden of hypertensive heart disease, 5.6% of the global burden of the ischaemic heart disease and 6.2% of the global burden of stroke.”⁸²

2.3.3. Reduced Capacity for Protective Action

Lack of **public awareness** and **poverty** can increase exposure to lead, poverty can increase sensitivity to lead, and both incapacitate the ability to take protective actions. Unsafe renovations of older housing are a significant source of exposures to lead paint hazards. As many members of the public are unaware of the dangers posed by lead paint, middle and higher-income owners of older housing can unwittingly expose themselves and their children. This may be particularly relevant for the census tracts in West Oakland that have seen an influx of White residents. Other barriers include lack of health care, limited English proficiency and immigration status.

⁸² World Health Organization Fact Sheets, [Lead Poisoning and health](#), August 23, 2019.

3. **Desired Future Outcomes:** Recommendations for Racially Equitable Lead Abatement in Oakland & Alameda County

Strategies for meeting the gold standard —*primary prevention*— aim to remove lead hazards before a child’s blood lead levels become elevated. The CDC states, “the most important step ... is to prevent lead exposure before it occurs.”⁸³ Yet, as far too many children are already being exposed, the next best step is to curtail and eliminate lead exposure in the most impacted and vulnerable places as quickly as possible. Accomplishing these goals equitably demands a **diligent and proactive approach** that ensures lead hazards are comprehensively abated in the communities facing the greatest risks and vulnerabilities.

The recommendations detailed below prioritize strategies for proactively and efficiently eliminating lead hazards from communities facing high levels of cumulative burden, reducing racial disparities in lead poisoning, meeting priority community needs in order to increase community resilience, and increasing access to resources. The recommendations are based on best practices shown to successfully drive down rates of lead poisoning. Successful strategies include proactive rental inspection programs and funding for rehabilitation. Across the country, the communities with the best outcomes with respect to lead paint threats have approached the “lead poisoning issue holistically, looking at primary prevention policies, financing, transparency, enforcement, outreach, testing, remediation/abatement, early intervention support for lead-poisoned children, cultural competency, community buy-in, workforce development and tenant protections together.”⁸⁴

Communities with the best outcomes approach the lead poisoning issue holistically, looking at primary prevention policies, financing, transparency, enforcement, outreach, testing, remediation, early intervention support for lead-poisoned children, cultural competency, community buy-in, workforce development and tenant protections together.

Stop Lead Poisoning from Harming Your Community

3.1. **Establish a Robust Joint Lead Hazard Abatement Program**

The City and County must work collaboratively to increase their capacity to find lead paint hazards in the City of Oakland and eliminate lead in homes, schools, and childcare facilities, with adequate implementation funding, full transparency, and accountability. The City of Oakland will need to play a much larger role in addressing the lead paint hazards in its housing stock, but it need not do so in a vacuum. Working cooperatively will support both jurisdictions in capitalizing on the City’s unique ability to deploy proactive approaches to detect lead hazards without utilizing lead settlement funding.

⁸³ Center for Disease Control, [Blood Lead Levels in Children](#).

⁸⁴ [Stop Lead Poisoning from Harming Your Community](#) at p. 5

Likewise, the Alameda County Public Health Department and the Healthy Homes Department have much expertise and useful data to share. A joint program will ensure joint knowledge of and response to buildings where lead is found and homes where children with EBLs have been found. The City and County should no longer keep their efforts siloed, which hampers the ability to keep real-time records and monitor program impacts. A joint and comprehensive program that addresses the lead hazard disparities in Oakland would make the most efficient use of the City and County's overlapping jurisdiction in the City of Oakland without duplicating efforts.

For sake of reference, this REIA refers to the proposed partnership between the City of Oakland and the County of Alameda as the **Equitable Lead Hazard Abatement Program ("ELHAP")**.

3.2. Increase Community Governance and Oversight

A key attribute of lead poisoning prevention programs is that they affect many stakeholders, "putting burdens on them, providing benefits to them, or changing how they do their jobs."⁸⁵ As such, lead policies need broad community education and buy-in, alongside meaningful stakeholder input and oversight. Direct input from impacted community members is absolutely necessary. Unless policy makers consistently gather qualitative data and value lived experience on equal footing with other forms of data, blind spots can lead to harmful unintended consequences.

Community leadership is essential to ensuring equitable outcomes, as evidenced by the fact that PUEBLO (People United for a Better Life in Oakland), a member-driven, base-building community non-profit organization dedicated to leadership development and advocating for the needs of low-income Oaklanders, advocated for the creation of and helped found the Alameda County Lead Poisoning Prevention Program in 1990.

Alameda County's Lead Poisoning Prevention Program is governed by a Joint Exercise of Powers Agreement forming a Joint Powers Authority ("JPA"). The JPA's Board of Directors is composed of a representative from each city in the County Service Area, a member of the Alameda County Board of Supervisors, and a Community Representative. Gwen Hardy, a co-founder of PUEBLO, is the current Community Representative. The JPA could provide even more robust community oversight by **expanding the number of Community Representatives**. Ideally, there would be no less than one Community Representative from each city and the unincorporated areas in the County Service Area (five or more community representatives). Additional community representatives could include: (a) parents of lead-poisoned children; (b) single-parent families; (c) low-income tenants, tenant advocates and base-building organizations; (d) low-income landlords and low-income homeowners; (e) medical professionals and care providers; (f) teachers and school administrators.

The ELHAP should continually be informed by input from hyperlocal community stakeholders in impacted communities. This can be achieved through focus groups, online or paper surveys, and door-to-door canvassing and ground-truthing conducted in partnership with local community-based organizations.

⁸⁵ [Stop Lead Poisoning from Harming Your Community](#).

3.3. Exceed Primary Prevention Standards & Meet Priority Community Needs

3.3.1. Raise funding to enable significant investment in lead abatement and maintain a robust system for monitoring lead abatement efforts, including staffing and technological support. The Equitable Lead Hazard Abatement Program should implement the highest policy standard for lead hazard remediation/abatement and lead poisoning prevention. The overarching program structure need not be too extensive as it is intended primarily to monitor and coordinate the City and County's efforts. A nimble system will enable most of the funds to flow to the neediest Oakland residents. As envisioned, the program would require at least one dedicated Program Specialist, administrative support, and IT support to maintain a state of the art system for collecting and monitoring program data. Lead paint settlement funds now available to the City and County should be leveraged to generate additional program funding sources. This can include use of a fee that is cost recovering but not passed through to tenants nor an undue burden on landlords or homeowners. In addition to money from the city's budget, public-private partnerships and bringing in money from the philanthropic community and other sources are both important to fund a robust lead program.

Table 33. Proposed Staffing for Joint Lead Hazard Abatement

Position	FTE	Role and Area of Focus
Lead Hazard Abatement Program Specialist	1.0	Monitor all program efforts, oversee funding for relocation/rehabilitation grants or loans, and periodically evaluate progress toward reducing disparities.
Administrative Assistant	1.0	Program support and database maintenance.
IT Support	.5	Develop and deploy technological solutions, including in-field tablets for contemporaneous data entry.

3.3.2. Increase the City and County's capacity to proactively inspect for (and eliminate) lead hazards across all types of housing stock, including rental property, owner-occupied dwellings, and multi-family units. The City and County will need to directly address and neutralize the myriad factors that contribute to racially disparate outcomes in lead poisoning/exposure to lead hazards. One of the key elements of the current system that leads to disparate outcomes is its overreliance on tenants or homeowners taking action to alert authorities to the presence of lead in their environment, either through a habitability complaint, rent adjustment petition, unsafe renovation, or an elevated blood lead test.

One of the things that troubles me about this issue is, why are we using the children in our community to be ... lead poisoning detectives? Why aren't we getting ahead of the ... curve?

Larry Brooks, Director - Alameda County Healthy Homes Department

Oakland is poised to implement a **proactive rental inspection program** (PRIP) that will proactively send Code Enforcement inspectors to rental properties without need for a tenant complaint. City inspectors can inspect properties for lead while performing inspections for housing habitability and code compliance, creating an additional economic efficiency because Oakland will not be using settlement funds to staff its PRIP program. **Lead settlement funds should primarily flow to tenants and landlords to ensure hazards are eliminated as quickly as possible.**

An alternative approach would be for the City to either directly hire *or* ask landlords/homeowners to hire cost-effective third-party contractors to inspect for and rehabilitate lead only. A proactive model of this approach is currently being implemented by the cities of Rochester, New York and **Toledo, Ohio** (see case study below). While both methods have pros and cons, it appears ideal for the City to inspect for, document, and ensure rehabilitation of all housing habitability issues at once.

Case Study: City of Toledo, Ohio

The Toledo City Council unanimously passed a new *Residential Rental Properties and Lead Safety Compliance Ordinance* (the Toledo Lead Ordinance) on October 20, 2020. The Ordinance is based on an analysis of risk assessments conducted in Toledo by the Health Department, which showed that the majority of childhood lead poisoning in Toledo occurs in rental properties with four units or less.

The Toledo Lead Ordinance requires owners of 1-4 unit properties built before 1978 to:

- Register with the County Auditor;
- Have their units inspected and remediated by a *Local Lead Inspector*; and
- Obtain a Lead-Safe Certificate from the Toledo-Lucas County Health Department *before* they can rent out their property.

Lead-safe certificates are available for 5 years, or 20 years in the case of full abatement. Family child-care homes (e.g. in-home daycares) also need a lead-safe certificate, but are not required to register with the Auditor.⁸⁶

Compliance with the requirements is being **phased in**, with rental properties located in census tracts that “pose the greatest danger of lead exposure to children” required to register first. The ordinance includes ten phases, in descending order of risk, in a five year compliance period. Each phase contains eleven census tracts.



The advertisement features a woman with dark hair looking at a laptop. The text 'ENROLLING NOW' is overlaid on the image. To the right is the 'Lead Safe TOLEDO' logo. Below the image, the text reads: 'BECOME A LOCAL LEAD INSPECTOR', 'CLASSES START FEBRUARY 2021', 'Start your own small business or upscale your current skills.', 'Become a Clearance Technician, Lead Abatement Worker, or EPA-certified Renovation, Repair, and Painting renovator.', and 'Training schedule, registration info, and additional support for new/established businesses available at: TOLEDOLEADSAFE.COM'. The 'TOL City of Toledo' logo is in the bottom right corner.

⁸⁶ City of Toledo, [Lead Ordinance, Section 1760.14](#).

Toledo also promotes the use of licensed **Local Lead Inspectors, Clearance Technicians, and Lead Risk Assessors** who have registered with the Toledo-Lucas County Health Department, maintaining an updated list of actively registered Local Lead Inspectors who wish to market their services to owners.⁸⁷

The Toledo-Lucas County Health Department will issue the lead-safe certificates. The City of Toledo's Department of Neighborhoods will coordinate the program and wraparound services with the Lead Safe Coordinator. Toledo's Code Enforcement Department will begin enforcing the lead law in the most at-risk census tracts once the first compliance date for phase one elapses.

3.3.3. Prioritize vulnerable communities for early action. To address the highest needs first, utilize a straightforward prioritization methodology that leads to early and comprehensive lead abatement, outreach, and testing activities in vulnerable census tracts. For example, the City of Toledo's *Residential Rental Properties and Lead Safety Compliance Ordinance* (known as the Toledo Lead Ordinance) used an analysis of all reported cases of lead poisoned children over the past five years in combination with additional census tract and residential parcel information, to develop a five year compliance phase-in schedule for compliance which begins with rental properties located in census tracts that "have been determined to pose the greatest danger of lead exposure to children."⁸⁸

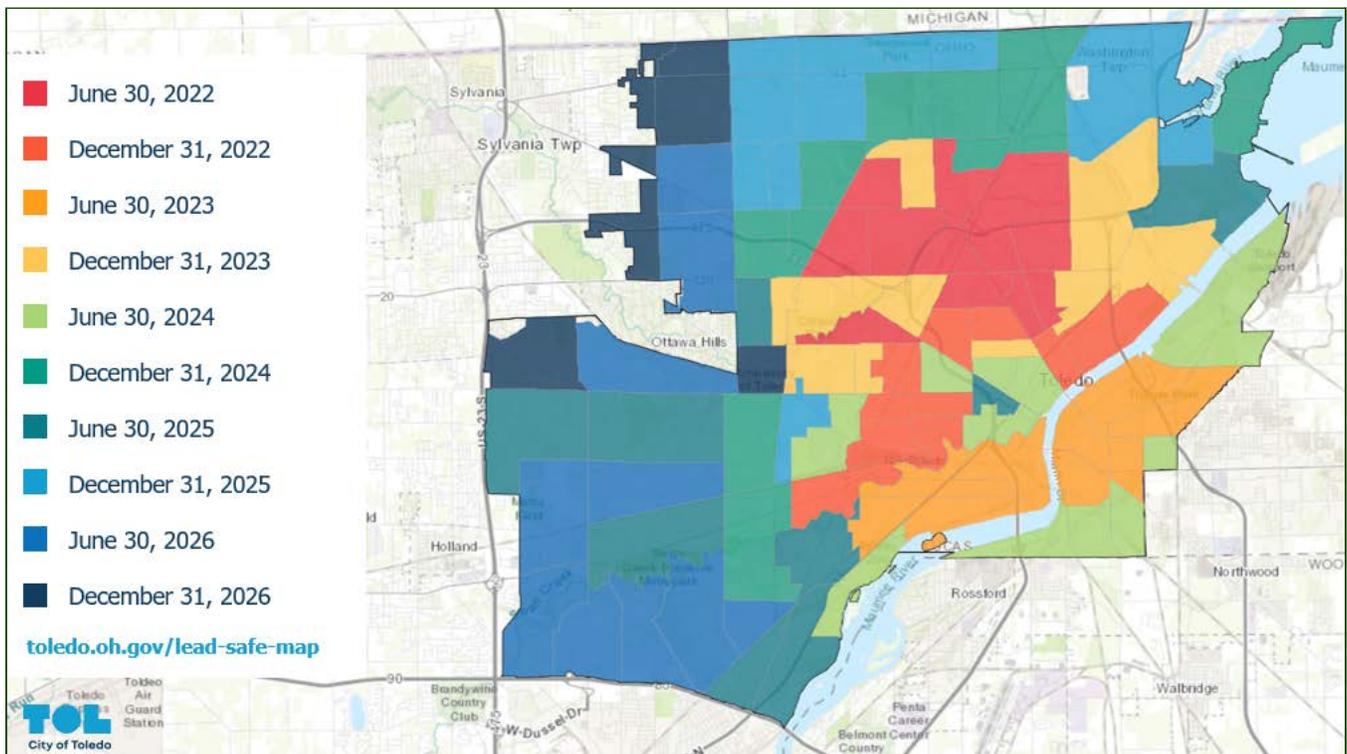


Figure 5. City of Toledo, Ohio Lead Ordinance Compliance dates by groups of census tracts.

The Oakland Department of Transportation used a similar prioritization scheme for its 2019 paving plan. Funding for road repairs was allocated by taking into account both the condition of the road and

⁸⁷ City of Toledo, [Lead Safe Toledo](#).

⁸⁸ City of Toledo, [Lead Safety Ordinance](#).

the proportion of residents in the neighborhood who are in underserved communities. Relevant to transportation access issues, “communities were identified by including people of color, low-income households, people with disabilities, households with a severe rent burden, people with limited English proficiency, and youth/seniors.”⁸⁹

Prioritization Methodology

1. Select a holistic set of indicators that demonstrate cumulative burdens and community vulnerability to lead paint hazards. Using an indicator that represents each vulnerability category (*exposure, sensitivity, protective capacity*) is a useful guideline.
2. Choose an appropriate threshold for initial focus, such as the 25 most burdened census tracts for each indicator, or census tracts above a certain percentile. The number of census tracts chosen should be based on programmatic ability to prioritize and reach the first tier of census tracts within the first phase of program efforts. Divide the remaining tracts into tiers of roughly 20-30 census tracts, or as corresponds to programmatic capacity/need.
3. Isolate the census tracts that demonstrate high cumulative burdens across multiple indicators by ranking census tracts according to the number of indicators where they have high degrees of burden or according to the level of burden experienced in each of the indicators, e.g., above the 90th percentile when ranked against all census tracts in Alameda County.

It is important to **investigate community needs in the census tracts with high burdens in any of the vulnerability indicators**, rather than only relying on a composite score to direct focus. The degree of overall burden, however, is still a relevant indicator.

4. Comprehensively deploy holistic and proactive program efforts in priority neighborhoods. Work from block to block to address lead hazards on a community-wide basis rather than only in the homes where complaints have been received. Increase outreach for lead testing and recruitment for workforce development and lead certification through partnerships with community-based organizations that hire community residents, such as the East Oakland Black Cultural Zone's Neighborhood Ambassadors.

Findings. The previous section of this REIA includes data from several lead hazard vulnerability indicators to identify highly burdened census tracts. To conduct an equity assessment and highlight the areas with high cumulative burdens across multiple indicators, E/J Solutions calculated an overall burden for each census tract. We converted all of the gathered data into a scale of 0-10, then added the value of all of the negative indicators and subtracted the sum of the positive indicators. (For positive indicators, higher numbers represent positive outcomes, such as for life expectancy, whereas for negative indicators, higher ranking scores indicate negative outcomes.) Although we highlight only

⁸⁹ City of Oakland Department of Transportation, [OakDOT Kicks Off Three-Year, \\$100 Million, Equity-Focused Paving Plan](#), August 22, 2019.

the top 10-25 census tracts in the body of this report, all of the data we collected has been shared with the City and County.

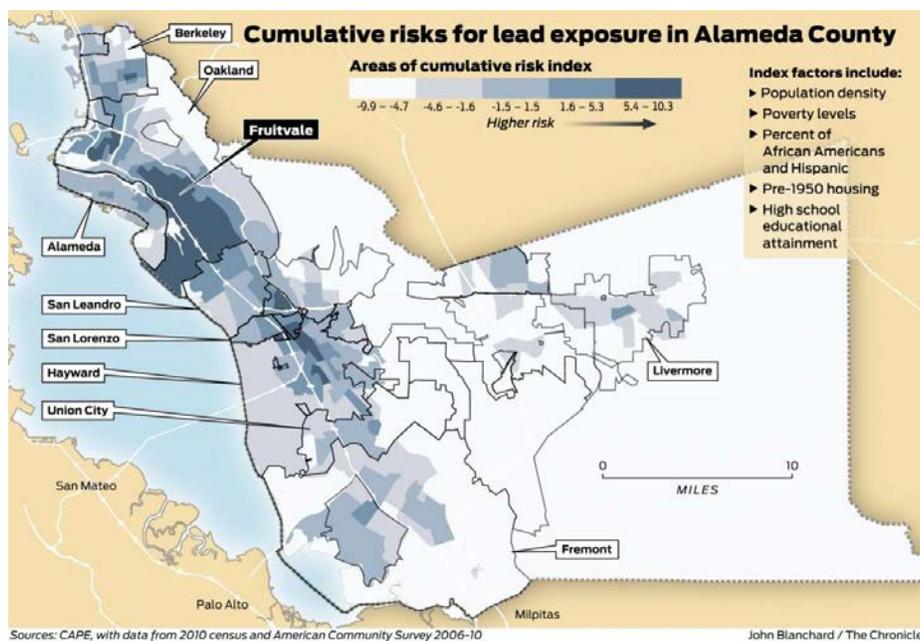
Table 34. 25 Census Tracts with Greatest Vulnerability

Census Tract	Nearby City	Predominant Race/Ethnicity	Overall Burden Score	Census Tract	Nearby City	Predominant Race/Ethnicity	Overall Burden Score
4073	Oakland	Latinx	215.4	4324	San Leandro	Latinx	176.0
4090	Oakland	Latinx	201.2	4092	Oakland	Latinx	175.7
4088	Oakland	Latinx	200.8	4075	Oakland	Latinx	174.7
4030	Oakland	Asian	193.1	4016	Oakland	Black	173.4
4061	Oakland	Latinx	191.7	4025	Oakland	Black	172.9
4022	Oakland	Black	189.2	4014	Oakland	Black	172.0
4089	Oakland	Latinx	188.3	4094	Oakland	Latinx	171.5
4091	Oakland	Latinx	184.3	4062.01	Oakland	Latinx	170.3
4105	Oakland	Black	182.0	4072	Oakland	Latinx	169.8
4095	Oakland	Latinx	181.2	4015	Oakland	Black	169.3
4060	Oakland	Asian	179.7	4287	Alameda	Asian	167.3
4017	Oakland	White	178.7	4059.01	Oakland	Latinx	165.2
4018	Oakland	Black	177.3				

Table 35. 25 Census Tracts with Least Vulnerability

Census Tract	Nearby City	Predominant Race/Ethnicity	Overall Burden Score	Census Tract	Nearby City	Predominant Race/Ethnicity	Overall Burden Score
4301.02	Castro Valley	White	24.4	4517.01	Livermore	White	38.5
4511.02	Livermore	White	25.1	4043	Oakland	White	39.0
4044	Oakland	White	27.5	4515.05	Livermore	White	39.9
4506.04	Pleasanton	White	29.7	4047	Oakland	White	40.1
4517.03	Livermore	White	30.4	4506.05	Pleasanton	White	40.5
4364.02	Hayward	White	31.0	4212	Berkeley	White	40.9
4045.02	Oakland	White	31.3	4420	Fremont	Asian	41.5
4080	Oakland	White	32.3	4211	Berkeley	White	43.4
4046	Oakland	White	32.5	4304	Castro Valley	White	43.6
4506.06	Pleasanton	White	32.6	4517.04	Livermore	White	43.9
4045.01	Oakland	White	33.0	4238	Berkeley	White	44.1
4215	Berkeley	White	34.1	4505.02	Castro Valley	White	44.7
4432	Fremont	Asian	34.3				

Map Q. Alameda County map of cumulative risk by zip code using: (a) Density; (b) Poverty; (c) % African American; (d) % Hispanic; (e) Pre-1950 Housing; (f) Population <21 Years; and (g) High School Educational Attainment indicators.



A simple comparison of indicators is also an effective methodology. Census tracts in East Oakland rise to the top of the three vulnerability indicators in Table 24 below: Draft CES 4.0 Lead Percentile, Number of Children with EBLLs and Draft CES 4.0 Percentile. Two of the three indicators include metrics for poverty, pre-existing conditions, and age of housing units.

Using both methodologies, census tract **4088 (Havenscourt/Coliseum)** rises to the top. It is ranked in the top 5% of CES 4.0 and Lead; 31 children were found to have lead poisoning between 2014-2017; in addition, life expectancy is 73 years, and it scores 0.96 (out of 1) on the CDC Vulnerability index. Given its showing across multiple indicators, this census tract should be targeted within the first phase of proactive inspections, outreach, and testing efforts. A census tract with high lead risk and high cumulative burdens but low Observed EBLL, such as **4091 (Brookfield Village)** should similarly be included in early phases of proactive inspections and should receive targeted lead testing efforts in coordination with community members and community based groups.

Table 36. Top 5 Census tracts by Lead Pctl, with Observed EBLL, and Cumulative Impact Pctl

Census Tract	ZIP	Neighborhood	City	Lead Pctl	Observed EBLL	Draft CES 4.0 Percentile
4086	94605	Bancroft/Havenscourt 2	Oakland	99.85	18	65.16
4074	94601	Fremont	Oakland	99.53	14	77.52
4091	94603	Brookfield Village	Oakland	99.43	5	95.83
4075	94621	Seminary	Oakland	99.37	23	82.37
4088	94621	Havenscourt/Coliseum	Oakland	98.99	31	97.48

3.3.4. Build and maintain a central database to monitor lead abatement efforts and use active case monitoring to ensure identified hazards are remediated in a timely fashion. Systematize methods for collecting comprehensive data about lead hazard abatement in Oakland, regardless of

whether the property was identified by the City or County. All lead hazards found in Oakland by either the City or County should result in a case opened and closed by the Equitable Lead Hazard Abatement Program. The ELHAP, in addition to maintaining up-to-date records on where lead hazards are found, should meticulously track rehabilitation and remediation efforts. **A case should be closed only once lead hazards *and* other habitability issues have been removed.**

Oakland currently maintains records for Property Maintenance, Building Maintenance, and Zoning activity, which include inspectors' reports or reports provided by private companies or residents with the Notice of Violation. It also contains some data which tracks the lead cases referred to the County. However, no City database captures the details of habitability complaints in a standardized way that enables sorting by the specific contaminants or habitability issues associated with each complaint. To determine whether a case contains lead hazards and whether or not they have been resolved requires a review of the database on a case-by-case basis. The City is in the process of determining how to update/adapt its Accela database to generate detailed, standardized reports about lead complaints.

3.3.5. Facilitate remediation of *all* habitability issues and improve climate resilience. If City staff perform the inspections for the presence of lead paint hazards in vulnerable communities, inspectors will undoubtedly discover multiple habitability issues, such as asbestos, mold, or lack of smoke or carbon monoxide detectors. Efforts should be made to rehabilitate all the issues identified at the same time, particularly because many are typically found on the same surfaces as lead hazards, such as windows. The City also has capacity to assist homeowners and tenants by repairing minor issues, such as providing screens for windows free of cost. The lead program specialist should maintain accurate records of any additional habitability issues present at a site where lead hazards are found, and should not mark a case as fully complete (e.g., issue a Certificate of Clearance) until all habitability issues are remediated. The process of inspection, environmental investigation, and remediation/abatement can be invasive and burdensome to families, and may not seem worthwhile if additional indoor environmental hazards remain.

Another synergistic element to consider is the way this rehabilitation work intersects with climate change mitigation and adaptation efforts that are currently needed. For instance, energy efficiency retrofits like weatherization, and electrification that can require major construction, can take place at the same time that lead and other habitability issues are addressed. As high heat days and the number and intensity of wildfire smoke pollution compounded by ozone continues to increase with worsening climate disruption, weatherization and passive air filtration to improve indoor air quality and health will be increasingly important. The City of Oakland's 2030 Equitable Climate Action Plan (ECAP) has set forth ambitious goals of weatherizing and ultimately electrifying 100% of Oakland's existing building stock by 2040, without displacement or adverse impacts on low-income communities of color. Pairing targeted and preventative lead hazard abatement with these additional retrofits is a means of stacking functions and prioritizing the most-impacted communities to benefit from improved indoor air quality, thermal comfort, and habitability as well as energy affordability and climate resilience.

The Cypress Mandela Training Center in Oakland has developed programs where trainees can receive training for multiple certifications during either a 16-week or 8-week program. The 16-week program

covers carpentry, electrical, plumbing, cement masonry, ironwork, energy efficiency, and solar. The 8-week Environmental program includes certifications for asbestos, waste sites, mold, lead, and infectious disease. Their vision is for contractors and businesses from overburdened communities to service the neighborhoods where they live. Cypress Mandela's partner, Revalue.io has built a GIS map platform that connects local contractors with projects requiring lead, mold, and asbestos abatement or remediation, energy efficiency and rooftop solar installation and that identifies the cost savings from day one of utilizing a Green Lease or Pay As You Save on-bill financing method to pay for holistic and comprehensive renovations using the anticipated energy bill savings from energy efficiency improvements.

3.3.6. Prioritize full abatement of lead hazards, whenever feasible. Home inspections that discover lead paint hazards, especially in homes where sensitive populations reside, should result in the total abatement (complete elimination) of the lead paint hazards whenever possible. The cities of Rochester, NY and Toledo, OH allow use of interim controls and do not require dwellings to be lead-free before being certified lead-safe.⁹⁰ While interim controls may require lower up-front costs, they will need to be actively maintained, especially on high friction areas, and require periodic repetition and follow-up inspections. Shifting lead elimination efforts to permanent solutions is important to protect low-income communities that may lack the resources to maintain interim controls, which can expose them to recurring and new environmental hazards.

Ideally, the City and County will also need to embrace systemic solutions that address "multiple lead exposure pathways [such as lead solder and lead service lines] through simultaneous infrastructure upgrades" and avoid "piecemeal remediation" of lead hazards.⁹¹ This is important to equity because "addressing one hazard and not others may leave residents with a false sense of safety, as risk for lead exposure could remain due to unaddressed sources of lead. Permanent removal of housing components painted with lead-based paint, such as trim, windows, and doors, as well as replacement of lead service lines and renovation of plumbing systems, reduces the need for ongoing maintenance or management of lead, which is often less likely to be performed in low-income homes and communities."⁹² Strategies like window replacement have important co-benefits that go beyond removal of the lead hazard, including improved energy efficiency, comfort and health, and reduced energy costs.

Lead poisoning of children in OUSD schools with older plumbing systems is one key priority issue that should be addressed expeditiously.

3.3.7. Monitor and ensure timely follow-up inspections. Where total abatement is not feasible, use of temporary containment measures, such as an XRF gun or prior encapsulation, will require a follow-up inspection. Ensure that the follow-up inspections are tied to the length of time that the remediation will last and carefully educate landlords, tenants and homeowners about the maintenance

⁹⁰ City of Rochester, [Lead Paint: Get Prepared](#); City of Toledo, [Lead Safe Toledo: For Owners](#).

⁹¹ [Achieving Equity in Lead Poisoning Prevention Policy Making: Proceedings from a Consensus Conference](#) at p. 28.

⁹² *Id.* at p. 16, 29.

requirements. The Equitable Lead Hazard Abatement Program Specialist will need to retain an open case with a flag to indicate that no further action is needed at this time, but inspectors will need to return periodically. "If the fix lasts two years, inspect every two years."

3.3.8. Strive for comprehensive reduction of lead hazards in priority areas. Work toward inspecting and rehabilitating as many buildings as possible **and** testing as many children as possible within priority communities.

3.3.9. Enhance enforcement of tenant protections and provide funding to low-income landlords and homeowners to ensure effective and timely remediation of lead hazards without permanent displacement. Some renters experience conflicts with landlords over lead paint hazards. The need to pay temporary relocation assistance may cause some mom-and-pop landlords to resist needed renovations. Low-income owner-occupiers may also need assistance to afford the cost of alternative temporary lodging arrangements.

In some cases, temporary displacement caused by residential remediation can lead to permanent displacement when a landlord fails to allow a tenant to move back in once repairs are completed as required by the City's tenant protection laws. The *Housing Equity Roadmap* adopted by Oakland City Council on September 30, 2015, directs the city to couple its proactive rental inspection program with tenant protections to "anticipate, avoid and, at least, mitigate the unintended consequence of displacing tenants," due to building condemnation or a requirement for large scale construction to cure code violations. Tenant protections should include:

1. Providing **temporary relocation assistance** to low-income landlords to offset the cost of complying with Oakland's temporary relocation ordinance.
2. Increasing enforcement of the **Residential Rent Adjustment Program, Just Cause for Eviction Ordinance, Tenant Protection Ordinance and other tenant protection laws** to prevent unlawful evictions or rent increases. Under City Ordinance 8.22.080, when a tenant returns to a unit after vacating for repairs, the owner must petition the Rent Adjustment Board to impose any rent increases, aside from allowable CPI (consumer price index, a measure of inflation) and Banking adjustments, above the lawful rent on the date the tenant vacated the unit for repairs.
3. Additional ELHAP-based protections could provide helpful support. These could include: developing a fast-tracked way for displaced tenants to petition for relief; restricting Landlords from petitioning the Rent Adjustment Board to increase the rent for at least one calendar year after repairs are completed; extending the amount of time a tenant has to file a petition contesting a rent increase from 90-120 days to one year; and/or exempting tenants from paying rent to noncompliant landlords.
4. Identify strategies to prevent repeat-offender units such as requiring landlords to acquire a lead-free or lead-safe certification before re-renting a unit.

Small property owners carry the significant financial burden of lead removal, which can prevent rehabilitation and repair from happening in a timely manner. Remedying substandard conditions can be costly. Some historic properties may restrict certain modifications or require significant structural changes, making such remediations even costlier. Furthermore, the previous reliance on a complaint-based system for identifying housing habitability issues, means that many substandard properties with significant issues have gone under the radar, becoming costlier to remedy over time. Some lead advocates have argued *against* “full abatement and removal of all lead hazards in a community with low housing values because landlords could not afford those fixes.”⁹³

Yet, communities with low housing values are most in need of full abatement. Funding for abatement will mitigate some of these unintended harms. ELHAP should **provide assistance to low-income landlords/homeowners to ensure all needed rehabilitation and repair takes place expeditiously**. Incentives, such as matching grants can be used to encourage early compliance to improve the health and well-being of tenants.⁹⁴ Both low-income “mom-and-pop” landlords providing affordable housing and low-income homeowners should receive adequate financial support to make the repairs as expeditiously as possible, such as through a zero-interest loan or grant fund, e.g., supplementing HUD’s *Lead Hazard Repair Grant and Match* used by the Healthy Homes Department.

3.3.10. Increase training, certification, and wraparound services to increase opportunities for small local businesses. There is opportunity to utilize third party contractors for either lead inspections or lead repair and rehabilitation in order to boost the local economy and build community resilience. The County of Alameda is an EPA-approved RRP training provider, but the need for certified contractors vastly outweighs the current system’s capacity to provide them.

The City will need to build a robust pipeline of local certified and cost-effective Oakland-based contractors. Creating pathways to connect local contractors with projects, funding, and clients enables the City to lift up contractors who are based in the census tracts with the highest need. The current list of rehabilitation contractors on the City’s website contains relatively few Oakland-based lead certified or EPA lead-certified contractors and would benefit from a reorganization that better highlights lead risk and rehabilitation contractors.⁹⁵ The City and County can support Alameda County’s local economy and community resilience by actively referring landlords/homeowners to local contractors on lead abatement and other rehabilitation projects. The City may also consider removing or limiting existing exemptions for local hire requirements. As mentioned earlier, Revalue.io is working with Cypress Mandela to become an important resource for connecting emerging small, local and disadvantaged contractors to energy efficiency and other renovation and repair projects.

Through its business registry, Oakland can conduct outreach to existing small, local, and disadvantaged renovation and construction contractors to get them RRP certified through enrollment in **free trainings**, e.g., EPA’s RRP 1-day safety certification provided by the County, and other certification programs, such as those offered by the Cypress Mandela Training Center. The City will also need to

⁹³ Earthjustice, [Better Lead Policy: Proactive Rental Inspection](#).

⁹⁴ City of Toledo, [Lead Safe Toledo: Early Bird Matching Grant](#).

⁹⁵ City of Oakland, [List of Rehabilitation Contractors](#).

address the fact that, even if free, some small disadvantaged business enterprises may need funding support to cover potential revenue losses incurred by removing personnel from their job functions. Oakland can also work to provide **full-circle training and wraparound support**. A good model for some of the wraparound support needed is Alameda County's Contractor Technical Assistance Program (CTAP) in partnership with Merriwether & Williams Insurance Systems, which works to increase equitable access to contracting opportunities by "assisting local small, minority, women and veteran contractors to meet County requirements and qualify for bonding or increase their bonding capacity for Alameda County construction and other projects requiring bonding."⁹⁶

3.3.11. Support targeted workforce development to increase opportunities for members of at-risk communities. The City and County can increase focused outreach to disadvantaged individuals for training and workforce development. The Oakland Workforce Development Board (OWDB) has proposed a Lead Abatement Workforce Training Program, which would "provide oversight of the training and development of a skilled workforce to provide lead abatement services." The program will: (a) outreach and recruitment to provide career services for jobseekers to receive paid lead abatement training, supportive services and job placement. (b) partner with Career Technical Education (CTE) programs to provide jobseekers with industry-recognized training certifications and (c) partner with construction contractors and labor unions for job placement.

The OWDB will lead the coordination of efforts, help develop training programs, and gather workforce development partners. In addition, the Cypress Mandela Training Center offers two training programs, one comprehensive 16-week training that includes soft skills, and an 8-week environmental training that includes lead abatement. The Equitable Lead Hazard Abatement Program should increase awareness of and funding for these programs with targeted outreach in priority census tracts, such as areas with high unemployment, poverty, and low educational attainment. The Alameda County Healthy Homes Department provides the RRP training that is part of the Cypress Mandela training. Additional funding could help scale up Cypress Mandela's programs; no one funding source covers all of the multiple certification trainings they provide.

3.3.12. Make public education about lead hazards, remediation/abatement and lead testing more widespread and accessible, especially in at-risk areas through targeted outreach and education. The County, with City support, should conduct proactive outreach in priority neighborhoods where proactive inspections will occur. Deploy strategies that ensure hard-to-reach tenants and other residents understand: (a) the dangers of lead; (b) the urgent need for remediation/abatement and temporary relocations, e.g., Rehabilitate your dwelling so that you and your children can be healthy and thrive; (c) the dangers posed by **unsafe renovations**; (d) available funding and other affordable options for rehabilitation; and locations where they can receive blood lead testing. Key strategies to improve outreach to African American, Black, Latinx, Indigenous, immigrant, refugee and other "hard-to-reach" communities include door-to-door canvassing, coordinating with OUSD, a community-trusted source, to share information with parents; and partnering with local CBOs that have deep relationships with local communities, e.g., American Indian

⁹⁶ Merriwether & Williams Insurance Services, [Alameda County Technical Assistance Program](#).

Child Resource Center and membership organizations like East Bay Housing Organization. The community should also have access to the data about where lead hazards are found and how the City and County are spending lead program funds.

3.3.13. Combat unfair blame and stigma placed on low-income families of color. Increase messaging around how lead poisoning is not due to any family's actions, but the result of systemic practices.

3.3.14. Monitor, evaluate on a quarterly basis whether the program is meeting equity goals, and make programmatic changes as needed. Review program data to understand who is receiving program benefits. Key equity components include, tracking the number of inspections and rehabilitations in priority census tracts. Priority demographics and areas should be targeted *first* and early reports should demonstrate that the majority of outreach, rehabilitation and blood lead testing was performed in these areas and for these demographics. At program outset, key goals should also include increasing immigrant and refugee access to services (risk of higher levels of exposure and reduced capacity for protective action). The ELHAP should produce annual reports tracking these results, particularly highlighting the number of households and children that are better off. If annual reports do not demonstrate equitable outcomes, the City and County should course-correct by working with stakeholders in priority demographic groups to review program policies and procedures and identify the barriers that disservice that group.

3.4. Adopt Proactive Secondary Prevention Policies

The City and County should coordinate to target priority populations and augment outreach efforts to include (a) verified pathways to testing; (b) certification or remediation assistance to ensure engagements lead to abatement of lead hazards; and (c) early-intervention to protect children from lead poisoning.

3.4.1. Proactive Lead Testing. Aim for early and universal blood lead testing to enable early intervention. The County must develop new programs and tools to increase screening to ensure every child is tested as early as possible. Possible strategies include:

- Ensure that all children in Priority Census Tracts receive blood lead tests at ages 1 and 2. Children aged 3-6 should be tested if they have not previously been tested.
 - ◆ The City and County can partner with schools and daycare centers to require and provide lead testing before children enter preschool and kindergarten.
 - ◆ Mandatory testing can also be triggered for school children of any age by risk factors that might be able to catch lead problems before BLLs get too high.
 - ◆ Set up temporary and/or permanent locations where parents in at-risk neighborhoods can get lead testing for their children. Testing sites could be set up at area **schools** using criteria for prioritizing the establishment of new testing sites, for instance a testing site could be triggered by reaching a certain volume of education/behavioral reports, **such as suspensions or expulsions**. Due to the likelihood that behavioral or learning issues

may be the only external indicator of possible lead poisoning, our public health system should be involved in investigating whether children exhibiting behavior problems have potentially been exposed to lead and should make blood lead level testing liberally available.

- Ensuring that children of any age living in homes where the City finds lead receives lead testing.
- Providing **lead testing for pregnant women, or even earlier**, as they enter child-bearing age, may be needed to decrease lead exposure to their future offspring.
- For identified sensitive populations, such as low birthweight infants, inspect their homes for lead hazards and administer lead tests as proactive measures.

3.4.2. Bolster Public Education and Targeted Outreach. Target priority census tracts, including (a) census tracts with high numbers of lead-poisoned children or (b) where high percentages of children on Medi-Cal have not received testing. Periodically collect quantitative and qualitative data to track public awareness of lead issues.

3.4.3. Create Strong Community Partnerships. To the greatest extent feasible, partner with local community based organizations, especially those who work directly with community members and/or have a base of community membership, to continually engage the community. Informed residents can help spread information in “hard to reach” communities.

3.4.4. Academic Interventions. Consider ways to provide “targeted evidence-based academic and behavioral interventions” to children with a history of lead exposure.⁹⁷ The County can work to elevate “practices and pedagogies that can help children with elevated blood lead levels avoid or overcome cognitive and behavioral challenges.”⁹⁸ Offering support to lead poisoned children could increase their lifetime family income and likelihood of graduating from high school and college and decrease their potential to enter the school-to-prison pipeline. Evidence shows that interventions during both early and middle childhood are most effective at increasing mean family income at age 40.⁹⁹

⁹⁷ [10 Policies to Prevent and Respond to Childhood Lead Exposure: An assessment of the risks communities face and key federal, state, and local solutions](#) at p. 2.

⁹⁸ *Id.* at p. 68.

⁹⁹ *Id.* at p. 77.

4. CONCLUSION

In addition to improving quality of life and the quality of the housing stock, Oakland and Alameda County can realize multiple cascading public health, safety, environmental, social, and economic benefits by creating and fully funding an equitable lead hazard abatement program. Researchers have found that eradicating lead paint hazards from older homes where children from low-income families reside would provide a return of approximately \$1.39 in future benefits per dollar invested.

Dedicated funding for an equitable lead hazard abatement program would protect young children from accruing high levels of untreated lead poisoning, which can cause brain damage, anti-social, erratic, or violent behavior, and limit their future economic livelihood. Lowering exposure to lead paint hazards will increase students' academic performance, supporting higher attendance, graduation rates, and success later in life. Furthermore, Oakland can bolster economic and community resilience by ensuring more Oakland residents are gainfully employed in rehabilitating Oakland's housing stock and adapting to climate change, addressing lead paint hazards, alongside mold, asbestos, weatherization for energy efficiency, and solar and electrification projects. As lead poisoning, unemployment, housing insecurity, and homelessness decrease, so too will criminalized behavior, addressing multiple root causes of insecurity and significantly increasing public safety for *all* Oakland residents.

APPENDIX A: Key Resources

Datasets

1. Office of Environmental Health Hazard Assessment, California Environmental Protection Agency: [CalEnviroScreen 3.0 Report & Map](#), 2018
2. Office of Environmental Health Hazard Assessment, California Environmental Protection Agency: [Draft CalEnviroScreen 4.0 Report & Map](#), 2021
3. Public Health Alliance of Southern California: [California Healthy Places Index](#)
4. Center for Disease Control: [Social Vulnerability Index](#), 2018
5. California Department of Public Health, California State Auditor, [Lead poisoned children in Alameda County - EBLL data FY 2013-14 through 2017-18](#)
6. Alameda County Public Health Indicators - [Life Expectancy](#)

Reports

Lead

1. Tram Nguyen et al., [Housing Habitability and Health: Oakland's Hidden Crisis](#), Alameda County Public Health & Alameda County Healthy Homes Department, April 2018.
2. Health Impact Project, [10 Policies to Prevent and Respond to Childhood Lead Exposure: An assessment of the risks communities face and key federal, state, and local solutions](#), Pew Charitable Trust, 2018.
3. Human Impact Partners, [Achieving Lead Equity in Policymaking: Proceedings from a Consensus Conference](#), November 2018.
4. California State Auditor, [Childhood Lead Levels: Millions of Children in Medi-Cal Have Not Received Required Testing for Lead Poisoning](#), January 2020.
5. California Department of Public Health, [California's Progress in Preventing and Managing Childhood Lead Exposure](#), 2020.
6. Nathan McClintock, [Assessing Soil Lead Contamination at Multiple Scales in Oakland, California: Implications for Urban Agriculture and Environmental Justice](#), 2012.

Equity

7. Othering & Belonging Institute, [Racial Segregation in the San Francisco Bay Area, Part 2](#), 2019
8. UC Berkeley & California Housing Partnership, Urban Displacement Project, [Rising Housing Costs & Resegregation in the Bay Area](#), 2015
9. Oakland-Berkeley-Alameda County Continuum of Care, [Centering Racial Equity in Homeless System Design](#), January 2021.
10. Urban Strategies Council, [Building an Indicator Base for Oakland](#), February 2014.

APPENDIX B: Background on Lead Poisoning Programs

Federal Government

The primary federal law concerning lead paint hazards in housing is the Residential Lead-Based Paint Hazard Reduction Act, also called Title X, to reflect the section of the Housing and Community Development Act of 1992 in which it was enacted. Key features of the act include:

- Authorizing the HUD lead hazard control grant program, which is the federal government's primary means of assisting homeowners with control efforts. The program makes up less than 0.3 percent of the department's budget.
- Creating a certification system for individuals and businesses performing lead control activities.
- Requiring either interim controls or lead abatement for federally owned and assisted housing, such as public and military housing.
- Establishing the federal lead disclosure rule, which requires property owners to reveal any known lead paint hazards to prospective buyers or tenants before a property is sold or rented.
- Defining existing lead-based paint in housing as containing 5,000 ppm of lead or 1 mg/cm².
- Requiring EPA to publish standards for lead in dust and bare soil at residential properties.

State of California

California's Health and Human Services Agency includes the Departments of **Public Health (CDPH)** and **Health Care Services (DHCS)**. In the late 1980s, California enacted a series of legislative mandates to reduce lead exposure. Together CDPH and DHCS are tasked with carrying out various preventative approaches to addressing lead hazards in children. DHCS oversees the provision of lead tests to children in Medi-Cal and CDPH runs the Childhood Lead Poisoning Prevention (CLPP) Program. The purpose of CLPP is to both; (a) identify and care for children with elevated blood lead levels (EBLLs) and (b) reduce exposure to lead hazards in the environments where children "live, learn, and play."¹⁰⁰ (CDPH also has an Occupational Lead Poisoning Prevention Program.)

In practice, when lead tests identify children with lead poisoning, CDPH ensures the delivery of appropriate case management services to those children and requires local lead poisoning prevention programs to monitor abatement efforts in their homes.¹⁰¹ CDPH provides funding to local agencies, such as the Alameda County Healthy Homes Department, to enable: (1) increased testing of at-risk children; (2) follow-up services —nursing case management— for lead poisoned children; and (3) elimination of lead hazards in the environment.

In January 2020, the California State Auditor found that, despite the mandates of state law, CDPH's "current efforts do not appear to align with preventing future instances of lead poisoning in those

¹⁰⁰ California Department of Public Health, *California's Progress in Preventing and Managing Childhood Lead Exposure*, p. 3 ("In order to protect California's children, we must not only identify and treat children with elevated BLLs but also remove lead from the environments in which they live, learn, and play.")

¹⁰¹ [Childhood Lead Levels: Millions of Children Have Not Received Required Testing for Lead Poisoning](#) at p. 11.

geographic areas in which children are at the greatest risk¹⁰² because the programs can only remove lead hazards from the homes of lead poisoned children. This approach only “prevents future poisoning in those specific homes” and is only triggered once harm has already occurred. The Auditor also found that:

- CDPH has not met legislative requirements to update the factors health care providers use to determine if children are at risk of lead exposure.
- CDPH’s efforts for reducing lead exposure in high-risk areas rely on *outreach alone*, **even though it cannot demonstrate the effectiveness of the outreach.**¹⁰³ Although CDPH claims that the local prevention programs are reducing lead exposure through education and outreach, it could not demonstrate the effectiveness of this outreach. The Auditor finds that **using limited funds for proactive abatement is likely much more cost effective at reducing lead hazards and increasing lead testing** than simply increasing education and outreach efforts.

In response, CDPH states that it is prioritizing increased testing for at-risk populations and increasing its partnerships with schools and other stakeholders to promote awareness of the issue. DHCS response to the California State Auditor’s report states, “DHCS agrees with the recommendations and has prepared corrective action plans to implement them.”¹⁰⁴

Alameda County Public Health Department- Healthy Homes Department

People United For A Better Life In Oakland (P.U.E.B.L.O.) advocated for the establishment of a comprehensive county-wide lead poisoning prevention program with housing, health and environmental staff all under one roof. In response, the Alameda County Board of Supervisors established the **County Service Area Lead Abatement District**, composed of the Cities of Oakland, Berkeley, Alameda, and Emeryville, in 1991. The Lead Abatement District is governed by a **Joint Powers Authority Board**, which includes one community representative alongside elected officials from each city, and the County of Alameda. In 1992, Alameda County established a multi-disciplinary agency to take focus on “the health and housing needs of children at risk of lead poisoning.” The Alameda County Lead Abatement Program became the Lead Poisoning Prevention Program the following year, finally becoming the Alameda County Healthy Homes Department (HHD) in 2013.

¹⁰² [Childhood Lead Levels: Millions of Children Have Not Received Required Testing for Lead Poisoning](#) at p. 2 .

¹⁰³ Ibid.

¹⁰⁴ California Health and Human Services Agency, Letter dated November 25, 2019 from Mark A Ghaly, MD, MPH, Secretary to Elaine M. Howle, California State Auditor. (In response to the Auditor’s finding that DHCS’ failure to ensure timely lead testing of Children in Medi-Cal places them at risk for permanent health problems, the agency agreed that it should develop a new “performance standard for lead testing of one- and two- year olds” and “impose sanctions or provide incentive payments as appropriate to improve performance.” For the recommendation addressing the need for families to know about the lead testing services their children are entitled to receive. DHCS will send an annual notification to parents and include a reminder to any parents “who have not used preventive services over the course of a year.” The final recommendation concerned the need for DHCS to increase lead testing rates by amending its contracts with Medi-Cal managed care plans to require monthly identification of all children who have not received a required test and reminders sent to the responsible health care providers of the requirement to test those children. DHCS plans to do so and impose corrective action plans for non-compliance.)

HHD provides services to prevent lead poisoning and to promote health and safety in the home. It does this primarily through (1) **Public Outreach & Training** and (2) **Healthy Housing Assessments and Interventions**. Since inception, HHD has received funding from the State of California's Childhood Lead Poisoning Prevention Branch, which funds nursing case management services for lead poisoned children. Based on the mandate provided by state funding, the County conducts environmental investigations into possible lead hazards in the homes of children who have tested with EBLLs.

HHD also receives grants from the U.S. Department of Housing and Urban Development's Office of Lead Hazard Control and Healthy Homes, which distributes federal funds for lead abatement through two grant programs: the Lead-based Paint Hazard Control and the Lead Hazard Reduction Demonstration grant programs. Alameda County has received 11 Lead Hazard Control Grants, which were used to treat over 3,000 units, with approximately 65% of the treated units located in Oakland.

In 2011, Alameda County used funding from a Lead Paint Settlement to fund the Healthy Child Initiative, a 30-month initiative to increase lead screening through targeted outreach to medical providers and the broader community Alameda County-wide. Since 2014, the Healthy Homes Department has been able to provide full lead hazard home repair and rehabilitation services.

Program Limitations. "36% of the applications for HUD lead hazard control grants operated by ACPHD drop out of the process. Typical reasons for dropping out include lack of interest, or ineligibility due to: income limits, no children under age 6, post 1978 building, or living outside the program area."¹⁰⁵

City of Oakland

Oakland has relied on *code violation complaints* and *Rent Adjustment Program petitions*, which can include health and safety violations, to force landlords to repair run-down homes. However, between 1996 and 2018, fewer than 600 health and safety RAP petitions were filed, according to city data, representing little more than half a percent of all rental properties in the past two decades. In 2010, an Alameda County Grand Jury found widespread fault with Oakland's Building Services Division, prompting an overhaul of the City's inspection processes.¹⁰⁶ Specifically, the Grand Jury recommended that City inspectors give clear, consistent, and easy-to-understand messages to property owners about code violations, with clear communication and a fair appeals process--in contrast to their assessment of what had been happening to that point.¹⁰⁷

These recommendations spurred advocacy groups to help define the City's reform program. In 2012, the City, County, and several non-profit groups began to meet as the Place Matters Working Group.¹⁰⁸ The group worked to support a health housing pilot program and a Proactive Rental Inspection (PRI) program. The following year, the City accepted a \$75,000 grant from the Kresge Foundation (via the

¹⁰⁵ Claudia Cappio, Assistant City Administrator, *Informational Report on a Proactive Rental Inspection Pilot Program*, March 23, 2017, p. 10.

¹⁰⁶ [Alameda County Grand Jury Final Report](#), 2010-11, p. 63.

¹⁰⁷ *Id.* at 80.

¹⁰⁸ See for example, the [Place Matters Policy Platform](#).

County) to support the Healthy Housing Pilot Program.¹⁰⁹ The ongoing foreclosure crisis had exacerbated already severe public health issues in many rental units, as maintenance issues were often deferred or ignored as ownership of properties changed hands. The Pilot Program was a collaboration between the City of Oakland, the Alameda County Healthy Homes Department, the Alameda County Public Health Department, and other partners.

In October 2015, Oakland announced the Safe Housing Inspection Program (SHIP), a collaboration between the Oakland Fire Department and the Oakland Department of Planning and Building.¹¹⁰ This program empowered the City to initiate inspections of suspected unhealthy conditions, taking the onus from tenants to report violations and potentially risk losing their housing. The Fire Department could also refer houses for inspection based on information they gathered during routine fire inspections. The Program began with inspections in Oakland's San Antonio/East Lake neighborhood.

Other possible programs that could oversee the lead rehabilitation work, under Housing and Community Development: (this existing program is for taking grants for lead)

- Home Maintenance and Improvement Program (HMIP)
- Emergency Home Repair Program
- Access Improvement Program (grants for access improvements on rental and owner occupied properties)
- Minor Home Repair Program
- Lead Safe Homes Programs
- West Oakland Homeownership rehab program to correct Health and Safety violations
- Neighborhood housing Rehabilitation program to correct
- Affordable Housing Health and Safety Rehabilitation Program (This program provides loans to owners of existing multifamily affordable rental housing to prevent or address health and safety conditions.

In 2016, the City Council furthered these goals by formally adopting a Proactive Rental Inspection (PRI) program to address housing habitability violations without displacing tenants.¹¹¹ The details of the program were hammered out over the following year. In those deliberations, the Healthy Homes Department found that Oakland had an aging housing stock which put vulnerable families at risk, that 30% of Oakland's housing needed repair, and that 61% of Oakland's housing was built prior to 1978, when the use of lead paint was prominent.¹¹² The City allocated \$500,000 in FY 2017-18, and \$100,000 the following year towards the new PRI program. The City's FY 2019-21 budget allocated over \$500,000

¹⁰⁹ City of Oakland Agenda Report, [Foreclosure Prevention/Mitigation Grants From: Department Of Housing And Community Development](#), October 17, 2013.

¹¹⁰ City of Oakland, [Mayor Libby Schaaf Announces Safe Housing Inspection Program to Combat Housing Crisis](#), October 20, 2015.

¹¹¹ City of Oakland Agenda Report, [Establish PRI Program to Improve Unhealthy Housing Without Displacement](#), June 30, 2016

¹¹² Larry Brooks, [Healthy Housing and Reducing Lead Poisoning in Oakland](#), Presentation, Alameda County Healthy Homes Department.

to the PRI program . The details and requirements of the PRI program, in terms of inspections, health treatment protocols, and the requirements of building contractors, continue to be refined by the City.

City of Oakland - Lead-Safe Homes Program (LSHP)

The Lead-Safe Homes Program provides free risk assessment for lead hazards, painting services to qualified **owner-occupied low- and moderate-income households**. This program has not been well-funded in recent years, resulting in the program averaging one to two project completions in recent years. To be eligible:

- The property must be (a) residential, (b) with 1 to 4 units, and (c) located within one of seven Community Development Districts;
- At least one property owner must live in the unit to be painted and all owners on record must apply;
- Household income cannot exceed 50% of the area median income, unless the residence is home to children under age 6, then household income may not exceed 80% of the area median income; AND
- The household must meet ONE of the following (prioritization) criteria:
 - The head of household is at least 62 years of age OR
 - The resident has a physical disability that prevents him/her from doing the painting OR
 - A child under 6 resides or visits frequently OR
 - An expectant mother resides at the property.