

Environmental Justice in East Cleveland: Linking Air Quality, Tree Equity, and Urban Blight to Public Health

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Background/ Project Description

The EJAPH project explores how environmental factors: air quality, green space distribution and urban blight shape public health outcomes in East Cleveland. By examining the city's environmental landscape through a justice and equity lens, the project highlights the critical connections between environmental conditions, health disparities and community well-being in East Cleveland.

- 13,792 Population
- \$22,883 Median Household Income
- 44.3% Poverty Rate
- 14.9% Bachelors Degree or higher
- 73.6% Residents receiving SNAP

Redlining and disinvestment fueled East Cleveland's older housing stock, and with deferred maintenance and less resilient infrastructure, there are fewer resources for remediation or renewal. East Cleveland has significantly less urban vegetation (tree canopy and green space) compared to more affluent or less-segregated neighboring communities. Fewer trees/greenspaces mean higher heat island effects, less air purification and fewer opportunities for recreation and community gathering.

Population (Demographics)

Race and ethnicity	Count	Percent
American Indian Alaskan Native alone or in combination	181	1.3%
Asian alone or in combination	209	1.5%
Black African American alone or in combination	12,495	89.7%
Native Hawaiian Pacific Islander alone or in combination	30	<1%
White alone, non-Hispanic	1,029	7.4%
Some other race alone or in combination	125	<1%
Hispanic or Latino of any race	140	1.0%
Black Indigenous People of Color	12,897	92.6%

HOUSING COMPOSITION

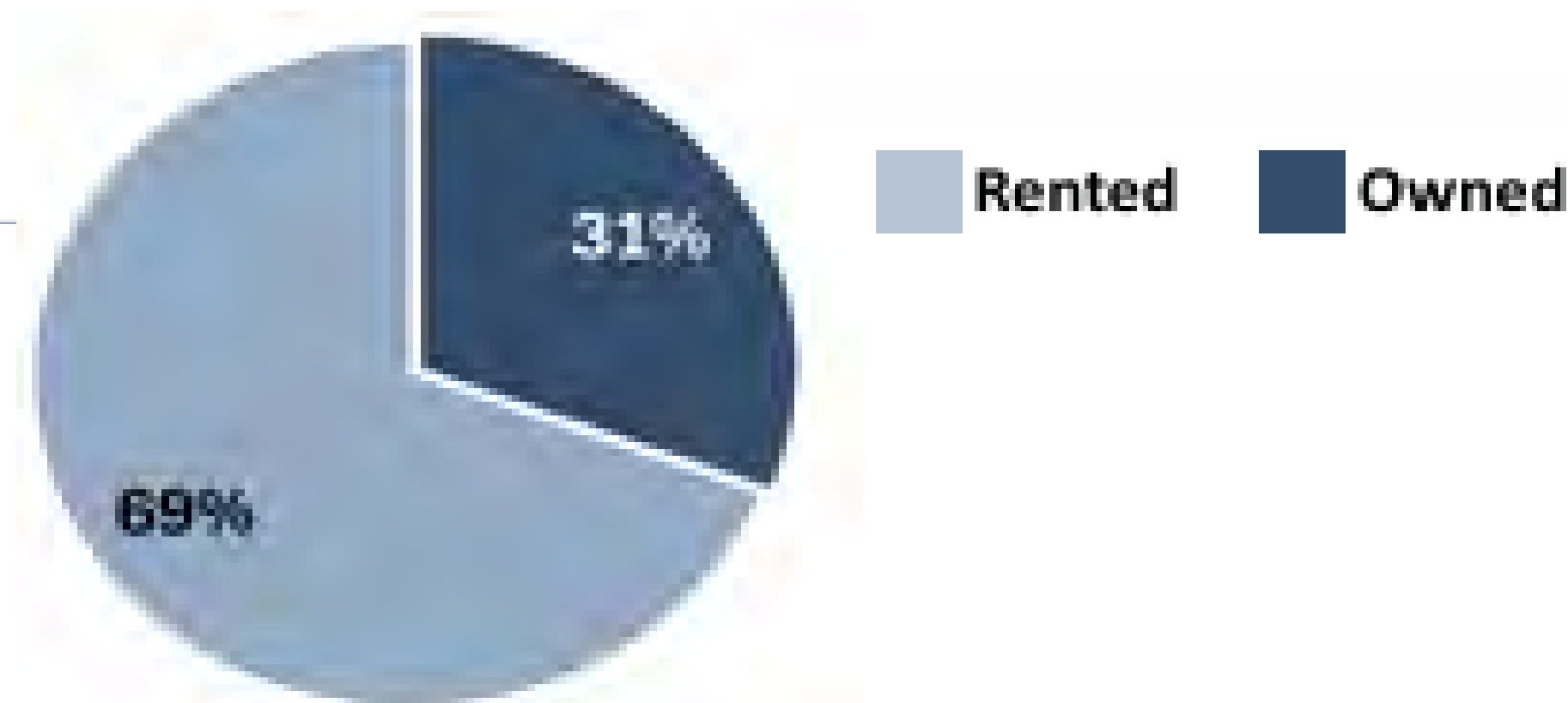


Figure 1: East Cleveland Population

Introduction (Environmental Landscape)

East Cleveland is a marginalized community bearing a disproportionate share of environmental burdens (pollution, hazardous illegal dump sites, poor infrastructure) while having fewer resources or political power to respond. This historically redlined community now has the lowest median income in Ohio, and a 50.3-percent child-poverty rate. The socio-economic conditions exacerbate multi layered environmental burdens (older housing, less green space, blighted land). Efforts to confront removal of waste exists alongside environmental justice factors that persists. Abandoned homes and businesses pose multiple hazards: physical danger (debris, unstable structures), possible soil contamination, attraction of crime, reduction in property value and community well-being. Continued concerns (2025) exist about sites of former industrial/ waste-dump activities. In 2025 a report was filed to the Ohio Environmental Protection Agency (Ohio EPA) to investigate a former construction & demolition debris dump site near Noble Road (ARCO) because of symptoms among residents (asthma, cancer, coughing, facial irritation).

Environmental Justice Issues in East Cleveland

- Historically chronic problem with illegal dumping of waste (construction debris, tires, furniture) in vacant lots and abandoned properties.
- Significantly less urban vegetation (low tree canopy and green space) compared to more affluent or less-segregated neighboring communities
- Deferred infrastructure: aging water, sewer, storm-water systems
- Moderate> air quality rates
- Vacancy Rate ~31.46%
- Disproportionate distribution of asthma burden in Cuyahoga County

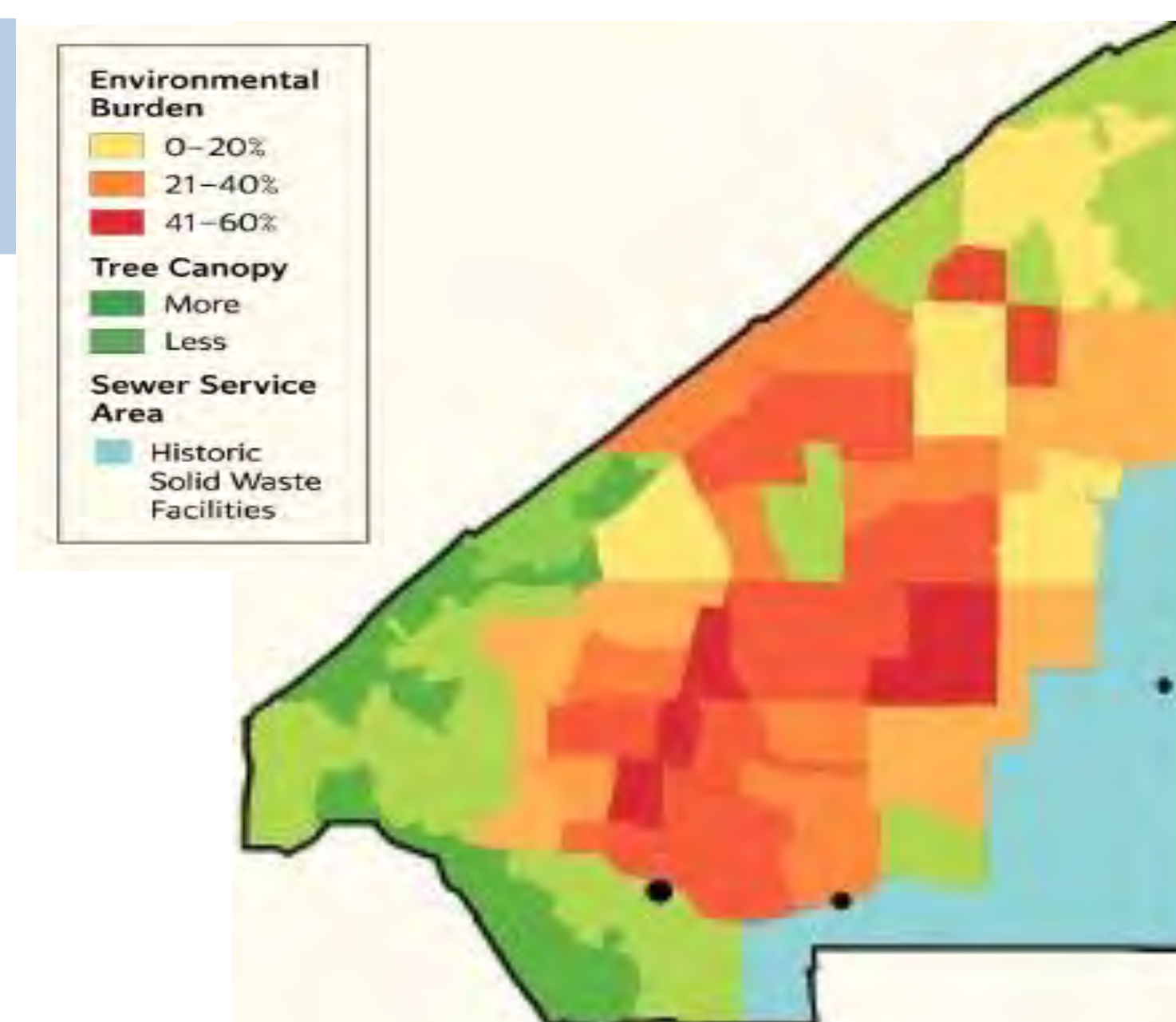


Figure 3: EC Environmental Burden Map

Environmental Burdens

Illegal Dumping Spaces
Blighted Parcels
Flood Risk/ Sewer Overflow
Massive Abandoned Tire fields
Air Pollution Risk
Traffic Exposure
Lack of Tree Canopy
Dump Site Contamination Risk
Older Housing Stock (Lead Exposure Risk)

Overlapping

Social Vulnerabilities

High Poverty Rate
Unemployment Rate
High Percentage of Renters (7 out of 10 homes)
Dilapidated and Abandoned Properties
Educational Attainment
High Crime Rate
Financial Emergency (City Infrastructure Divestment)
Schools in Academic Failure



Figure 2: EC Dumping- Photo Credit: Honey Bell-Bey, 2025

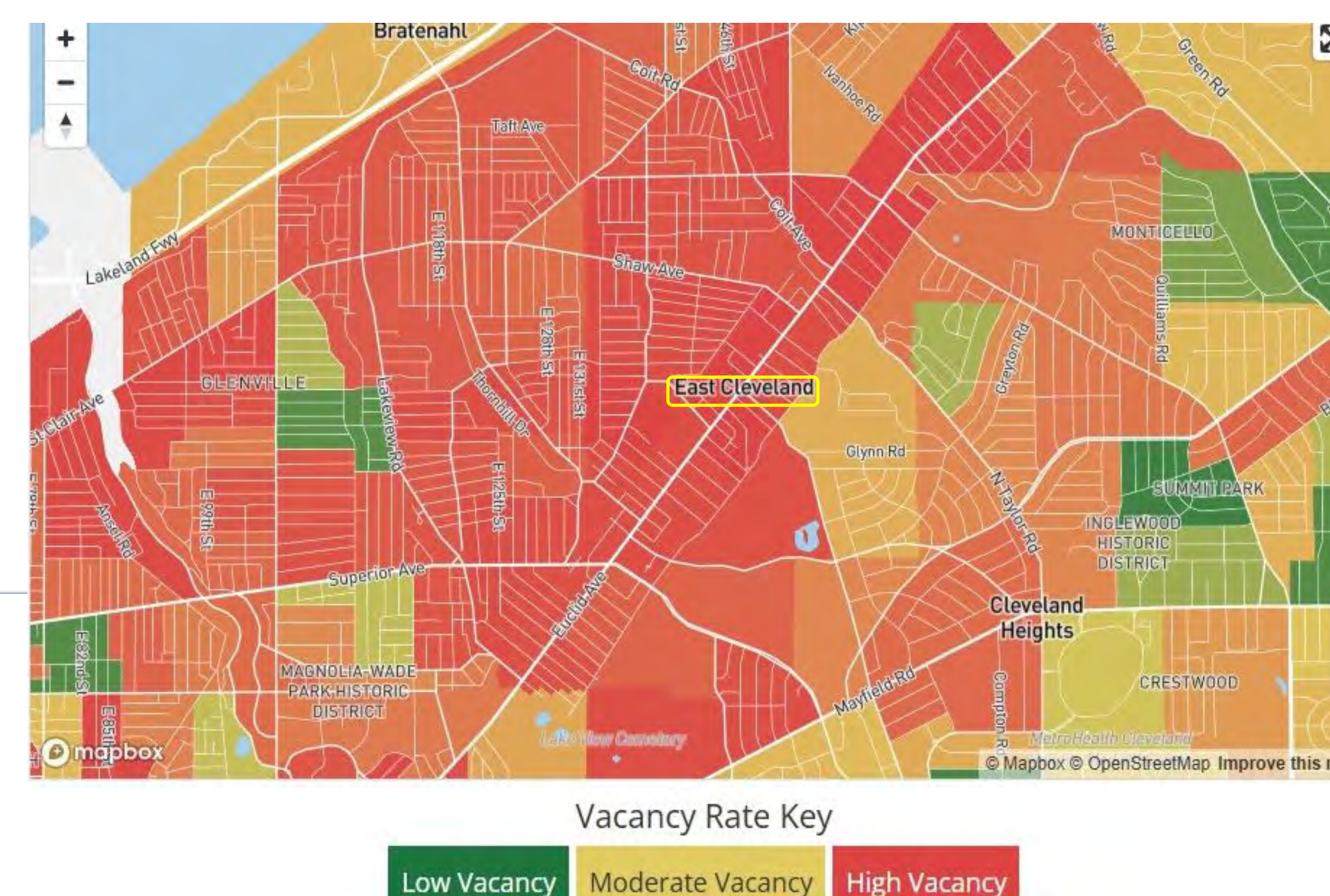


Figure 4: East Cleveland Vacancy Rate

Activities/ Interventions

(with NEOBHC)

1. Distribution of home air purifiers(125)
2. Air Quality Monitors (8) mounted on homes/ businesses (monitored by the US Environmental Protection Agency)
3. Air quality community Meetings (4). Community members incentivized with \$100 for participation in discussions around air quality, flooding and waste.
4. Conducted community Scans (photographing illegal discarded tire yards-12)

East Cleveland Health Measures

Measure	Data Type	United States Census 2022	East Cleveland, OH Census 2020
Chronic obstructive pulmonary disease among adults	Crude prevalence % (95% CI)	6.8 (6.6 – 6.9)	14.8 (13.6 – 16.1)
Arthritis among adults - 2022	Crude prevalence % (95% CI)	26.6 (26.4 – 26.9)	38.2 (35.7 – 40.8)
	Age-adjusted prevalence % (95% CI)	23.3 (23.0 – 23.5)	29.4 (29.1 – 29.7)
Current asthma among adults - 2022	Crude prevalence % (95% CI)	9.9 (9.7 – 10.1)	14.9 (13.5 – 16.4)
	Age-adjusted prevalence % (95% CI)	9.9 (9.7 – 10.1)	15.2 (13.8 – 16.7)
High blood pressure among adults - 2021	Crude prevalence % (95% CI)	32.7 (32.4 – 33.0)	54.9 (52.0 – 57.9)
	Age-adjusted prevalence % (95% CI)	29.6 (29.3 – 29.8)	47.7 (44.7 – 50.7)
Food insecurity in the past 12 months among adults - 2022	Crude prevalence % (95% CI)	13.9 (13.6 – 14.3)	36.8 (34.0 – 3

Public Health Implications

Environmental inequalities in East Cleveland are strikingly disproportionate in comparison to adjacent more affluent neighboring communities. In 2024/25, *The Northeast Ohio Black Health Coalition* distributed 125 home air purifiers and 24 air quality monitors (8 in East Cleveland), recording in real time, pollutants such as: CO; Lead; Nitrogen Dioxide; Ozone; Particulate Pollution and Sulfur Dioxide. Additionally, Efforts by other community groups have included removal of over 250 tons of toxic waste. While the EPA shut down the Noble Rd. dumpsite in 2017, neighbors continue to complain, long after the 2018 abatement. Additionally, the EJAPH project (HBB) conducted community scans (2025) locating 12 existing tire dump yards that pose environmental concerns. Future interventions that complement the distribution of air purifiers must continue to include environmental monitoring as well as tangible community wide strategies (i.e: transforming vacant lots into viable green space/ produce gardens), impacting food apartheid; heat islands and providing healthier outdoor environments.

REFERENCES

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