

Brownfields and Environmental Justice Statement

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The U.S. Environmental Protection Agency (USEPA) defines a brownfield as “a property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant.” Brownfield sites include abandoned industrial facilities, warehouses, and other commercial properties such as former gas stations and dry-cleaning establishments. The USEPA estimates that more than 450,000 brownfields exist in communities across the US. While most brownfields are located in depressed rural and urban neighborhoods, some studies have documented the presence of brownfields in suburban areas as well.

Litt and Burke (2002) categorized brownfields into three zones, based off of hazard potential, and examined population health within each zone in Southwest Baltimore. They found that communities living in the most hazardous brownfields zone, when compared with communities living in the least hazardous brownfields zones, experienced statistically higher mortality rates due to cancer (27% excess), lung cancer (33% excess), respiratory disease (39% excess), and the major causes (index of liver, diabetes, stroke, COPD, heart diseases, cancer, injury, and influenza and pneumonia; 20% excess).

Few studies have examined racial and socioeconomic disparities near brownfield sites. For example, McCarthy found that brownfield sites in Milwaukee, Wisconsin are generally concentrated in census tracts with higher percentages of African-American, Hispanic, and low-income populations, than compared to the city average. Another study assessed racial and socioeconomic disparities at brownfield locations in the Detroit region and found that brownfields were disproportionately located in poor neighborhoods and communities of color. Adam and Keeler (2012) found that brownfields were much more likely to be located in people of color communities and especially poor communities than in higher SES locations. Adam and Keeler also found that sites located in communities with larger proportions of people of color move through the initial assessment and planning phases of the cleanup process more slowly than their counterparts in other neighborhoods, even while sites located in comparatively poorer areas progressed more quickly. Thus, while the collocation of environmental disamenities and lower socioeconomic status populations seems to be a factor of both race and poverty, the inequitable remediation of these disamenities appears to be based on race, not on poverty. There appear to be environmental justice and equity issues in both burden and remediation—communities are not going green together. This differential cleanup and greening could lead to gentrification, the displacement of residents who live near facilities, particularly vulnerable residents.

Before remediation efforts, brownfields may damage their host communities by polluting the local environment, making the host area appear dangerous, and hosting illegal activities such as dumping and drug sales. Several studies, for example, have shown the presence of heavy metals in brownfield sites. Health threats associated with urban pollution are exacerbated for people living near contaminated parcels, such as brownfields, but there are various health consequences

to urban residents exposed to contaminants found at brownfields. These health complications include cardiovascular risk, low-level lead exposure, pulmonary risk, perinatal and infant mortality, low birth weight, and noise pollution. The remediation of brownfields can address public health threats posed by hazardous and toxic contamination. These threats can be circulated through various exposure to and from drinking water, ingestion (soil issues), inhalation (air quality issues), dermal (absorption issues), breast milk (prenatal and postnatal issues), and human activity (produce use and residential issues). The cleanup and redevelopment of brownfields are issues that will affect the poor, working-class individuals, and communities of color. The prospects of cleanup and redevelopment may have economic benefits. However, expedited cleanup and redevelopment may come at the community's expense – environmental, social, economic, and public health harm – given the environmental unknowns of brownfields and the sensitive populations living in affected areas.

1.2. Action Steps

Maantay and Maroko (2018) provide recommendations for preventing or at least minimizing the impacts of environmental gentrification. Above all, greening efforts and urban sustainability initiatives need to incorporate social equity goals as a major component of any project.

Government needs to significantly contribute to the effort towards social equity by instituting and implementing policies that stabilize communities and prevent rapid gentrification, by means of affordability protections for residents and businesses; anti-gentrification rental controls; accommodations within zoning ordinances to prevent new development inappropriate to the existing context of the neighborhood and encourage conscious restorations and rehabilitating of existing older housing stock, and financial incentives for homeowners and landlords to do so, with built-in protections for existing residents; mixed use zoning and human-scaled buildings; smaller development projects at scattered sites rather than large mega-projects; new housing types geared toward existing populations of families (larger dwelling units, fewer studios and one bedrooms); limited equity “co-operative” housing; incorporating “nature” more seriously into all urban planning.

Recommendations from Wilson, Mujahid, and Hutson (2008):

- Public health, urban planning, and environmental law must work together to understand how zoning reform can be used to decrease inequitable development, metropolitan fragmentation, and health disparities in urban environments.
- Following the model of economic development zones, communities that are overburdened by unhealthy land uses should have the opportunity to create healthy community zones that place limits on the number of noxious land uses and pathogenic, health-restricting facilities.
- Region-wide focused organizations such as metropolitan transportation organizations (MTOs) or association of governments (e.g., Association of Bay Area Governments) should focus on better regional governance and coordination of social services, development, infrastructure, transportation, housing, and protection of open space.
- Pass land bank legislation similar to that passed in the State of Michigan in 1999 that led to the establishment of the Genesee County Land Bank (GCLB) to stabilize neighborhoods and revitalize the City of Flint and surrounding areas.
- Development of Environmental Preservation Districts (EPDs) that would be modeled on historic districts created through the Federal Historic Preservation Act. These districts will help

empower communities to have more control of land use, zoning and planning initiatives in the Environmental Preservation Districts.

- Green planning and zoning should be implemented in underserved urban neighborhoods. There are many examples of green zoning and planning initiatives in places like Boulder, Chicago, Portland, and Seattle to name a few. The greening process should go beyond buildings and include open space, public transit, and support of urban agriculture and farmers' markets, and green jobs.
- Smart growth and new urbanism for all, not just advantaged populations. Social justice and equity have to be at the core of all "smart growth" and "new urbanism" projects.
- Cities should expand the use of conditional use permits (CUPs) as the foundation for local "healthy zoning" initiatives (e.g., Los Angeles' use of CUPs to control alcohol outlets).

Resources

[supporting-ej-through-brownfields-10-13-21-508-compliant.pdf \(epa.gov\)](#)

[Uncovering the historic environmental hazards of urban brownfields | SpringerLink](#)

[How Planning and Zoning Contribute to Inequitable Development, Neighborhood Health, and Environmental Injustice \(liebertpub.com\)](#)

[Superfund Remediation and Redevelopment for Environmental Justice Communities May 2021 Report \(epa.gov\)](#)

[IJERPH | Free Full-Text | Brownfields to Greenfields: Environmental Justice Versus Environmental Gentrification \(mdpi.com\)](#)

[Proximity of Urban Farms to Hazards With and Without Heavy Metal Contamination in Baltimore, Maryland | Environmental Justice \(liebertpub.com\)](#)

[Proximity of Urban Farms to Contaminated Sites in Baltimore, Maryland \(uwpress.org\)](#)

[Combating Environmental Injustice: Environmental Benefit Districts \(EBDs\) as a Solution to Create Just, Equitable, and Sustainable Communities | by CEEJH Center | Medium](#)

[Going green together? Brownfield remediation and environmental justice | SpringerLink](#)

[luskin-justice40-final-web-1.pdf \(ucla.edu\)](#)