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From Redlining to Greenlining

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ABSTRACT

For generations, marginalized communities have been impacted by discriminatory land use, zoning, and property valuation policies, from redlining in the 1930s to the siting of undesirable land uses that persists today. Because of these policies, marginalized communities are forced to contend with low property values, substandard infrastructure, and increased health risks. The very same mechanisms that created these injustices, however, may now be key to addressing them. This Article introduces "greenlining" as a land use planning mechanism that seeks to remediate historical housing, siting, and economic disparities while forging a path toward energy and environmental justice. Greenlining, the productive and equitable reimagining of redlining, uses the tripartite structure of sustainability—environment, economy, and equity. Where redlining was a marker for discrimination and injustice, greenlining lies at the crossroads of land use planning and environmentalism, serving the dual purpose of mitigating climate change and prioritizing social justice. Ultimately, greenlining is about investing in marginalized communities that have borne the brunt of regulatory and environmental harms while equitably grappling with the most pressing issue of our time: climate change.

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INTRODUCTION

"Redlining means 45 million Americans are breathing dirtier air, 50 years after it ended[.]*"*

-Washington Post, 2022[1]

Over the course of the twentieth century, discriminatory property laws relegated marginalized people to undervalued areas.[2] This discrimination found expression in zoning ordinances, deed restrictions, and ultimately in denials of home financing for communities "infiltrated" by people of color, foreign-born citizens, and low-income residents[3]—a practice known as redlining.[4]

1. Darryl Fears, *Redlining Means 45 Million Americans Are Breathing Dirtier Air, 50 Years After It Ended*, WASH. POST (Mar. 9, 2022, 8:00 AM), https://www.washingtonpost.com/climate-environment/2022/03/09/redlining-pollution-environmental-justice [https://perma.cc/9X7C-37F4].
2. *See* Richard Thompson Ford, *The Boundaries of Race: Political Geography in Legal Analysis*, 107 HARV. L. REV. 1841, 1844–45 (1994). In this Article, I use the term "marginalized communities" to emphasize the fact that government policies and structures have often forced people of color and low-income persons to the margins of society. These groups have also been termed frontline communities, environmental justice communities, or disadvantaged communities. *See* VT. CLIMATE COUNCIL, ESTABLISHED EXAMPLES OF FRONTLINE COMMUNITIES (2021), https://aoa.vermont.gov/sites/aoa/files/Boards/VCC/Frontline%20%20Impacted%20Communities%205.4.21.pdf [https://perma.cc/2QPY-UD9G]; COLLEEN CALLAHAN, DANIEL COFFEE, J.R. DESHAZO & SILVIA R. GONZÁLEZ, UCLA LUSKIN CTR. FOR INNOVATION, MAKING JUSTICE40 A REALITY FOR FRONTLINE COMMUNITIES (2021), https://innovation.luskin.ucla.edu/wp-content/uploads/2021/10/luskin-justice40-final-web-1.pdf [https://perma.cc/D2C3-FTDX]; *Justice40 Initiative*, U.S. DEP'T OF ENERGY: OFF. OF ENV'T MGMT., https://www.energy.gov/em/justice40-initiative [https://perma.cc/3Y64-4GGT]; Hillary Aidun, Julia Li & Antonia Pereira, COLUM. L. SCH.: SABIN CTR. FOR CLIMATE CHANGE L., THE CLIMATE LEADERSHIP AND COMMUNITY PROTECTION ACT'S ENVIRONMENTAL JUSTICE PROMISE (2021), https://scholarship.law.columbia.edu/cgi/viewcontent.cgi?article=1036&context=sabin_climate_change [https://perma.cc/PXD3-JLFC]. The executive branch is currently working to identify a standard definition that will be used across all agencies. Many of these terms fail to acknowledge the systemic injustices that placed these communities in positions of inferiority. Further, while not the area of focus for this article, scholars have identified certain climate and environmental challenges that are unique to women and girls, which should further be explored within the redlining context. Rowena Maguire & Bridget Lewis, *Women, Human Rights and the Global Climate Regime*, 9 J. HUM. RTS. & ENV'T. 51 (2018).
3. FED. HOUS. ADMIN., UNDERWRITING MANUAL: UNDERWRITING AND VALUATION PROCEDURE UNDER TITLE II OF THE NATIONAL HOUSING ACT para. 1360 (1938).
4. Charles M. Lamb, *Housing Discrimination and Segregation in America: Problematical Dimensions and the Federal Legal Response*, 30 CATH. U. L. REV. 363, 402–04 (1981).

Although the Fair Housing Act of 1968 marked the beginning of the end of redlining as a formal practice,[5] scholars have analyzed the many ways in which its legacy of injustice persists today. For instance, research has shown redlining's impact on education and community development.[6] It has shown the associated lack of public transportation.[7] And it has documented the prevalence of food deserts and other sources of food insecurity.[8]

What has received less attention, however, is the link between historically discriminatory property laws and environmental injustice.[9] These compounded harms have led to increased health risks, decreased property values, and substandard energy infrastructure.[10] Previously redlined communities correlate to the same geographic areas that experience extreme weather events and the urban heat island effect.[11] Social and environmental scientists suggest that these

5. RICHARD ROTHSTEIN, THE COLOR OF LAW 177–83 (2017)
6. *See* Audrey G. McFarlane, *Race, Space, and Place: The Geography of Economic Development*, 36 SAN DIEGO L. REV. 295, 327, 333–34 (1999) (describing the need to understand legal structures from a geographic perspective); Press Release, U.S. Dep't of Just., Justice Department Announces New Initiative to Combat Redlining (Oct. 22, 2021), https://www.justice.gov/opa/pr/justice-department-announces-new-initiative-combat-redlining [https://perma.cc/QHC2-N8BU]; Larry D. Newsome & William R. Hyde, Jr., Case Note, *Title VIII—Building and Loan Association's Redlining of Areas in a Community in Which Minority Groups Are Concentrated Is Prohibited by the Civil Rights Act of 1968*—Laufman v. Oakley Building and Loan, Co., 21 HOW. L.J. 607, 622–24 (1978) (arguing that busing was necessary to desegregate schools in order to remediate a "spillover effect of redlining"); Palma Joy Strand, *The Invisible Hands of Structural Racism in Housing: Our Hands, Our Responsibility*, 96 U. DET. MERCY L. REV. 155, 157, 165 (2019) (discussing the connection between redlining and school segregation).
7. Peter J. Van Alstyne, *Redlining - The Cure Worse Than the Illness*, 3 J. CONTEMP. L. 264, 270–72 (1977) (discussing a growing recognition that redlining contributed to a decline in public facilities including public transportation).
8. Yael Cannon, *Injustice Is an Underlying Condition*, 6 U. PA. J.L. & PUB. AFFS. 201, 223–25 (2020).
9. Scholars have historically assessed environmental and social justice challenges in silos, focusing on greenspace conservation and preservation without significant consideration of environmental justice or social equity. *See* DORCETA E. TAYLOR, USDA, GEN. TECH. REP. PNW-GTR-534, RACE, CLASS, GENDER, AND AMERICAN ENVIRONMENTALISM (2002), https://www.fs.usda.gov/pnw/pubs/pnw_gtr534.pdf [https://perma.cc/4UN3-H57H] (contextualizing the nuances of leadership policymaking, and advocacy during the early years of the environmental movement).
10. *See infra* Part I.
11. *See, e.g.*, Jeremy S. Hoffman, Vivek Shandas & Nicholas Pendleton, *The Effects of Historical Housing Policies on Resident Exposure to Intra-Urban Heat: A Study of 108 US Urban Areas*, CLIMATE, Jan. 13, 2020, at 1, 6 (finding that areas rated D by the Home Owners Loan Corporation (HOLC) are on average 2.6 degrees Celsius warmer than those with an A rating); Dominic J. Bednar & Tony G. Reames, *Recognition of and Response to Energy Poverty in the United States*, 5 NATURE ENERGY 432, 432 (2020) (finding that urban and rural low-income households spend three times as much of their income on energy compared to other families).

are the places where the heat is hotter, pollution is greater, and infrastructure is poorer.[12] These environmental impacts illuminate the interconnections between property regulation, environmental law, and environmental justice, as well as the need for a comprehensive approach to combatting climate change within marginalized communities.

Over time, redlining has turned communities inhabited by marginalized people into marginalized places. These places continue to experience compounded harms resulting from discriminatory land regulation practices[13] and the siting of undesirable land uses.[14] Today, climate change serves as the greatest accelerant of harms, exacerbating the consequences of structural systems of oppression.[15] Yet, land use and comprehensive planning have not often been highlighted as primary vehicles through which robust climate mitigation and

See generally Anthony Nardone, Joan A. Casey, Rachel Morello-Frosch, Mahasin Mujahid, John R. Balmes & Neeta Thakur, *Associations Between Historical Residential Redlining and Current Age-Adjusted Asthma Emergency Department-Visit Rates Across Eight Cities of California: An Ecological Study*, 4 LANCET PLANETARY HEALTH e24 (2020) (determining that HOLC maps propelled disinvestment from perceived high-risk communities); Al Shaw & Lylla Younes, *The Most Detailed Map of Cancer-Causing Industrial Air Pollution in the U.S.*, PROPUBLICA (Aug. 28, 2023), https://projects.propublica.org/toxmap.

12. *See* Hoffman et al., *supra* note 11, at 1, 6; Bednar & Reames, *supra* note 11, at 432. *See generally* Nardone et al., *supra* note 11; Shaw & Younes, *supra* note 11.

13. *See infra* Subpart I.A.

14. *See infra* Subpart I.B. *See also* Robert D. Bullard, *Neighborhoods "Zoned" for Garbage*, *in* THE QUEST FOR ENVIRONMENTAL JUSTICE 43 (Robert D. Bullard ed., 2005) [hereinafter "*Zoned" for Garbage*] (discussing the prevalence of landfills, incinerators, and garbage dumps located in Houston, Texas). *See generally* ROBERT D. BULLARD, DUMPING IN DIXIE (3d ed. 2000) (exploring the economic, health, and environmental disparities between various populations within the United States with a focus on the siting of solid waste disposal facilities); CONFRONTING ENVIRONMENTAL RACISM (Robert D. Bullard ed., 1999) (detailing how historical development patterns contributed to inequities between communities); Alice Kaswan, *Distributive Justice and the Environment*, 81 N.C. L. REV. 1031 (2003) (describing two models of distributive justice and how to conceptualize just siting methods); Vicki Been & Francis Gupta, *Coming to the Nuisance or Going to the Barrios? A Longitudinal Analysis of Environmental Justice Claims*, 24 ECOLOGY L.Q. 1 (1997) (providing a comparative analysis of waste facility host sites); Vicki Been, *Locally Undesirable Land Uses in Minority Neighborhoods: Disproportionate Siting or Market Dynamics?*, 103 YALE L.J. 1383 (1994) (critiquing the methodology of studies suggesting undesirable land uses are disproportionately sited in minority communities); Maxine Burkett, *Behind the Veil: Climate Migration, Regime Shift, and a New Theory of Justice*, 53 HARV. C.R.-C.L. L. REV. 445 (2018) (advancing social justice as a critical framework for climate justice to protect the interests of marginalized communities).

15. *See* Jacob W. Faber, *We Built This: Consequences of New Deal Era Intervention in America's Racial Geography*, 85 AM. SOCIO. REV. 739 (2020); Angel Hsu, Glenn Sheriff, Tirthankar Chakraborty & Diego Manya, *Disproportionate Exposure to Urban Heat Island Intensity Across Major U.S. Cities*, 12 NATURE COMMC'NS, no. 2721, May 25, 2021, at 1; Burkett, *supra* note 14.

adaptation policies can be holistically implemented.[16] Research related to the just energy transition[17] is beginning to analyze climate change through the lens of the three E's of sustainability: environment, economy, and equity.[18] As the climate crisis continues to intensify, marginalized communities must be at the center of policymaking.

It is time for environmental injustice to be acknowledged as a link in the redlining chain. This Article accordingly presents a way to pursue environmental justice that is attentive to both the discriminatory history of land use and the promise of environmental law. I call this new approach "greenlining." The term is not new. It has been used previously in the banking and forestry contexts.[19]

16. Scholars have acknowledged that land use planning and zoning can be effective mechanisms of climate policymaking. But most recommendations have been at the subnational level rather than a collaborative effort across all levels or have not considered equity as a primary component. *Compare* Patricia E. Salkin, *Sustainability and Land Use Planning: Greening State and Local Land Use Plans and Regulations to Address Climate Change Challenges and Preserve Resources for Future Generations*, 34 WM. & MARY ENV'T L. & POL'Y REV. 121 (2009), *with* A. Dan Tarlock, *Land Use Regulation: The Weak Link in Environmental Protection*, 82 WASH. L. REV. 651 (2007) (both articles advancing land use planning as critical to sustainability with Salkin advancing a perspective that encompasses equity within the analysis). *See generally* John R. Nolon, *The Land Use Stabilization Wedge Strategy: Shifting Ground to Mitigate Climate Change*, 34 WM. & MARY ENV'T L. & POL'Y REV. 1 (2009) [hereinafter Nolon, *Land Use Stabilization Wedge*] (suggesting that local governments can facilitate the use of renewable generation facilities though site plan requirements, financial incentives, zoning bonuses, and environmental impact mitigation requirements); JOHN R. NOLON, CHOOSING TO SUCCEED: LAND USE LAW & CLIMATE CONTROL (2021) (providing an overview of land use controls that can be employed to address climate change); Sarah J. Adams-Schoen, *Beyond Localism: Harnessing State Adaptation Lawmaking to Facilitate Local Climate Resilience*, 8 MICH. J. ENV'T & ADMIN. L. 185 (2018) (arguing that climate adaptation must consider local culture and politics as well as local governance structures).

17. *See* Nadia Ahmad, Uma Outka, Danielle Stokes & Hannah Wiseman, *Synthesizing Energy Transitions*, 39 GA. STATE U. L. REV. 1087 (2023).

18. *See* Felix Mormann, *Clean Energy Equity*, 2019 UTAH L. REV. 335, 338 (2019); Troy A. Rule, *Renewable Energy and the Neighbors*, 2010 UTAH L. REV. 1223, 1270–71 (underscoring the equity component by arguing that a green community tax credit is less problematic to environmental justice proponents); James M. Van Nostrand, *Energy and Environmental Justice: How States Can Integrate Environmental Justice Into Energy-Related Proceedings*, 61 CATH. U. L. REV. 701 (2012); Jeanne Marie Zokovitch Paben, *Green Power & Environmental Justice—Does Green Discriminate?*, 46 TEX. TECH L. REV. 1067 (2014); Joseph Lam, *Coupling Environmental Justice With Carbon Trading*, 12 SUSTAINABLE DEV. L. & POL'Y 40 , no. 2, 2011, at 40.

19. This term was utilized by financial institutions in the 1970s and 1980s to promote community revitalization strategies. *See Real Estate: Greenlining of America*, TIME (May 27, 1974), https://content.time.com/time/subscriber/article/0,33009, 911295,00.html [https://perma.cc/VRS5-MUE5]; Mary Szto, *Real Estate Agents as Agents of Social Change: Redlining, Reverse Redlining, and Greenlining*, 12 SEATTLE J. SOC. JUST. 1, 43 (2013). A "greenline" strategy was also encouraged in the late 1980s to maintain forest lands in New York and New England. In this instance, greenlined areas were defined as "living

Further, the Greenlining Institute of California advocates for community-level transformations.[20] The framework set forth in this Article is far wider in scope. Here, greenlining refers to a comprehensive planning mechanism that integrates sustainability principles into land use decisions, using development standards and other incentives to ameliorate longstanding injustices.[21]

The greenlining framework shifts the traditional notion of a marginalized community from the person-centered focus on *who* bears the burden of climate change to the location-centered focus on *where* sustainability policies are the most critical.[22] By drawing on interdisciplinary research to explore the environmental justice[23] and equity implications of sustainability, this Article analyzes the land use and climate nexus from the perspective of environmental law, legal geography, and historical iniquities.[24] Greenlining provides the space for two climate hazard-

landscapes wherein private ownership, existing communities[,] and traditional land uses can be maintained even as their outstanding public values are protected." Robert D. Yaro & Kathy Sferra, *"Greenlining" in the Northern Forest Lands of New England and New York*, *in* CONSERVING THE NORTH WOODS 149, 152 (Clark S. Binkley & Perry R. Hagenstein eds., 1989) (quoting Charles E. Little, *The National Perspective: Greenline Parks*, *in* N.Y. STATE DEP'T ENV'T CONSERVATION, PROCEEDINGS: GREENLINE AND URBANLINE PARKS CONFERENCE 3, 4 (1983), https://livinglandscapeobserver.net/wp-content/uploads/2014/03/Greenline-and-Urbanline-Parks-Conference.pdf [https://perma.cc/MYQ3-BPGQ]). Protection techniques included zoning, fee acquisition, land trusts, tax incentives, and regulatory mechanisms. *Id.*

20. THE GREENLINING INST., https://greenlining.org/about/our-vision-history [https://perma.cc/Q57S-TNEJ].

21. Further, the Greenlining Institute is a nonprofit in California that acknowledges the need for economic advancement, but also for energy and environmental equity. The Institute has been shaping clean energy policy statewide. *Id.*

22. Brigham Daniels, Michalyn Steele & Lisa Grow Sun, *Just Environmentalism*, 37 YALE L. & POL'Y REV. 1, 60 (2018) (finding that "the people who are harmed tend to be organized geographically").

23. The U.S. Department of Health and Human Services defines environmental justice as "the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income in the development, implementation, and enforcement of environmental laws, regulations, and policies." *Environmental Justice*, U.S. DEP'T OF HEALTH & HUM. SERVS. (May 4, 2023), https://www.hhs.gov/civil-rights/for-individuals/special-topics/environmental-justice/index.html#:~:text=What%20is%20Environmental%20Justice%3F,laws%2C%20regulations%2C%20and%20policies [https://perma.cc/D7QU-8QZQ]. This Article primarily focuses on the fair treatment component which "means no group of people should bear a disproportionate share of the negative environmental consequences resulting from industrial, governmental and commercial operations or policies." *Learn About Environmental Justice*, U.S. ENV'T PROT. AGENCY (Aug. 16, 2023), https://www.epa.gov/environmentaljustice/learn-about-environmental-justice [https://perma.cc/T2SK-9BFB].

24. Analyzing climate change through the lens of these literatures provides for a sociopolitical and spatial review of legal regimes. These factors shape our understanding of human interaction with and operation within the physical and natural environment. *See* Nicholas Blomley & Joshua Labove, *Law and Geography*, 13 INT'L ENCYC. SOC. & BEHAV. SCIS. 474, 475 (2015)

inducing regimes—land use and environmental law—to converge, forging a path toward environmental and energy justice across expanded scales of governance.[25]

The time is ripe for this convergence. The Infrastructure Investment and Jobs Act (Infrastructure Act),[26] Inflation Reduction Act of 2022 (IRA),[27] Justice40,[28] and the Climate and Economic Justice Screening Tool (CEJS Tool)[29] are part of the regulatory patchwork of environmental justice policies that provide resources and funding for remediation.[30] But there is no clear indication how resources will be distributed to the places that need them the most.[31] Greenlining offers an equity-centered, place-based land planning tool that can transform marginalized places into sustainable communities.

(defining space as both socially produced and politically constitutive). *See generally* Hari M. Osofsky & Janet Koven Levit, *The Scale of Networks?: Local Climate Change Coalitions*, 8 CHI. J. INT'L L. 409 (2008) (describing the ways in which two localities interact with various networks to develop a bottom-up approach to climate change regulation as well as the relationship between place, space, and policymaking).

25. Scale has been used to divide political matters and regulatory structures spatially—local, regional, national, etc. This Article discusses various scales of governance as a means of connecting regulatory structures to the spaces and places they govern. Accordingly, it calls for expanded scales of governance where there are regulatory mismatches as with land use planning and environmental law. *See generally* Kevin R. Cox, *Spaces of Dependence, Spaces of Engagement and the Politics of Scale, or: Looking for Local Politics*, 17 POL. GEOGRAPHY 1 (1998) (arguing that there is a scale division of politics that is defined spatially); Danielle Stokes, *Renewable Energy Federalism*, 106 MINN. L. REV. 1757 (2022) (arguing that expanded, collaborative governance structures are necessary for renewable energy development); Sarah Krakoff, *Environmental ~~In~~justice and the ~~Limits of~~ Possibilities for Environmental Law*, 49 ENV'T L. 229 (2019); Kirsten Schwarz et al., *Trees Grow on Money: Urban Tree Canopy Cover and Environmental Justice*, 10 PUB. LIBR. OF SCI. ONE, no. 4, Apr. 1, 2015, at 1; Shelley Welton & Joel Eisen, *Clean Energy Justice: Charting an Emerging Agenda*, 43 HARV. ENV'T L. REV. 307 (2019); SHALANDA H. BAKER, REVOLUTIONARY POWER: AN ACTIVIST'S GUIDE TO THE ENERGY TRANSITION (2021); Tony Gerard Reames, *Targeting Energy Justice: Exploring Spatial, Racial/Ethnic and Socioeconomic Disparities in Urban Residential Heating Energy Efficiency*, 97 ENERGY POL'Y 549 (2016).

26. Infrastructure Investment and Jobs Act, Pub. L. No. 117-58, 135 Stat. 429.

27. Inflation Reduction Act of 2022, Pub. L. No. 117-169, 136 Stat. 1818.

28. *Justice40 Initiative*, *supra* note 2.

29. *Methodology*, CLIMATE & ECON. JUST. SCREENING TOOL (Nov. 22, 2022), https://screeningtool.geoplatform.gov/en/methodology#3/33.47/-97.5 [https://perma.cc/6CN8-SM7P].

30. *See generally* Uma Outka, *The Renewable Energy Footprint*, 30 STAN. ENV'T L.J. 241, 255 (2011) (describing land use regulation as "a system of 'regulatory patches' that are located in the United States primarily at the local level of governance and decision making, but operate in the shadows of: a) the super-dominance of private control of land, and b) overlays of federal and state regulations" (quoting Craig Anthony (Tony) Arnold, *The Structure of the Land Use Regulatory System in the United States*, 22 J. LAND USE & ENV'T L. 441, 446–47 (2007))).

31. *See infra* Part II.

To make the case for greenlining and equity in land use planning, this Article proceeds in three Parts. Part I explores the ways in which laws and policies established marginalized geographies where power and privilege predominated. It also offers three case studies to examine the connections between property regulation and environmental injustice. Part II introduces greenlining, explains how it operates, and describes what it seeks to accomplish. This Part also explains the current regulatory structure and the need for expanded scales of governance to maximize greenlining's utility. Finally, Part III details the advantages of greenlining and potential objections that may arise from community members, environmentalists, and regulators.

Redlining established marginalized places. Greenlining can establish equity-centered places as we seek to mitigate and adapt to the most pressing issue of our time: climate change.

I. EXAMINING THE MARGINS AND ENVIRONMENTAL IMPACTS

This Part provides a historical overview of discriminatory zoning, redlining, and hazardous waste siting practices in the United States, showing the ways in which geographies have been shaped by law, resulting in inequitable, marginalized places. It also illustrates the co-constitutive nature of place and power as marginalized geographies took shape.[32] The historical backdrop provides key insights into how detrimental land regulation has been to marginalized community members and why land use and sustainability planning is a meaningful component in domestic climate change policies.

A. Marginalization via Property Regulation

Three primary mechanisms lie at the heart of turning communities inhabited by marginalized people into marginalized places: zoning ordinances, restrictive covenants, and inadequate home financing.[33] The discussion below analyzes each

32. Julie A. Nice, *The Emerging Third Strand in Equal Protection Jurisprudence: Recognizing the Co-Constitutive Nature of Rights and Classes*, 1999 U. ILL. L. REV. 1209, 1222–25 (explaining that law and society are mutually constitutive with law constructing society and society constructing law).

33. While not the focus of this Article, it should be acknowledged that the Native American population was denied property rights long before formal regulation processes were implemented. *See* Johnson v. M'Intosh, 21 U.S. (8 Wheat.) 543 (1823). Further, scholars have also acknowledged the unique challenges that land use and zoning practices have posed to persons with disabilities. *See* ROBIN PAUL MALLOY, DISABILITY LAW FOR PROPERTY, LAND USE, AND ZONING LAWYERS (2020).

of these policy tools and considers how access to desirable property generates wealth and secures status, while unequal access often results in inequity.

1. Zoning Ordinances

In 1910, Baltimore became the first jurisdiction to impose zoning restrictions based on race.[34] These zoning ordinances sought to "compel by law the separation of the white and black races in their places of residence."[35] These ordinances served as a model that many other localities—including Atlanta, Birmingham, Charleston, Dallas, Louisville, New Orleans, and Richmond—would follow.[36]

Within the decade, race-based zoning restrictions were challenged in court. The leading case was *Buchanan v. Warley*.[37] Here, the U.S. Supreme Court deemed Louisville's racially restrictive zoning ordinance unconstitutional as a violation of the Fourteenth Amendment's Due Process Clause rather than the Equal Protection Clause. The Court underscored that the Due Process Clause prohibits state interference with property rights and affords one the right to dispose of property to a qualified purchaser.[38] Many scholars have argued that the underpinning of the *Buchanan* case was rooted in the due process protections within one's freedom of contract rather than a true assessment of the Fourteenth Amendment's equal protection doctrine,[39] which remained volatile for decades until *Brown v. Board of Education*.[40] No matter the premise, *Buchanan* invalidated the use of explicitly racist land use and zoning regulations,[41] which—at least in the

34. ROTHSTEIN, *supra* note 5, at 44; *see also id.* at 39–45 (providing historical context for the enactment of race-based zoning regulations, which was an exclusionary tactic that formalized existing practices such as race-based curfews).
35. *Baltimore Tries Drastic Plan of Race Segregation*, N.Y. TIMES, Dec. 25, 1910, at 2.
36. ROTHSTEIN, *supra* note 5, at 45.
37. 245 U.S. 60 (1917).
38. *Id.* at 82.
39. *See* Richard A. Epstein, *Lest We Forget:* Buchanan v. Warley *and Constitutional Jurisprudence of the "Progressive Era,"* 51 VAND. L. REV. 787, 789 (1998); Anne Olson et al., *Segregation by Law and the Racial Inequity Pandemic*, PACE ENV'T L. REV.: GREENLAW BLOG (July 12, 2021), https://greenlaw.blogs.pace.edu/2021/07/12/segregation-by-law-and-the-racial-inequity-pandemic [https://perma.cc/7AY6-RF4H]; Michael Kim, *Exclusionary Economic Zoning: How the United States Government Circumvented Prohibitions on Racial Zoning Through the Standard State Zoning Enabling Act*, 48 J. LEGIS. 124, 125 (2021).
40. 347 U.S. 483 (1954).
41. In its opinion, the *Buchanan* Court cited to *Plessy v. Ferguson* to acknowledge a city's police powers, but reprimanded zoning prohibitions with the purpose of "promot[ing] . . . public peace by preventing race conflicts" particularly where a white man saw fit to dispose of his property to an African American. *Buchanan*, 245 U.S. at 81. The Court argued that such

places where this ruling was not entirely disregarded[42]—shifted racial discrimination into private land use controls.

On the heels of *Buchanan*, the U.S. Department of Commerce, under the leadership of Herbert Hoover, began promoting the benefits of zoning within modern cities.[43] In addition to complementing city planning efforts and streamlining development standards, zoning also afforded government officials the opportunity to covertly design discriminatory places.[44] In 1921, Hoover established an advisory committee on zoning composed of real estate professionals, including the president of the National Association of Real Estate Boards.[45] This same year during the Association's convention, an attendee inquired whether it was possible to "eliminate colored people in [a] zoning plan."[46] The Director of City Planning for New York City replied:

> I wish we could. But every decision of the courts has been invariably unfavorable to the use of the police power of the state to designate districts in which the colored people could be put, and for that reason we have found that it would be extremely dangerous to suggest anything about race or color in a zoning ordinance. We find, however, in certain cases that the fact we have created certain kinds of residence districts eliminates most of the colored people, due to the fact that they cannot afford to pay the prices necessary to come into a highly restricted district.[47]

Contextual circumstances suggest that this perspective was commonplace within Hoover's Zoning Advisory Committee (ZAC).[48]

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policies "destroy the right of the individual to acquire, enjoy, and dispose of [their] property," which is a fundamental constitutional right. *Id.* at 80.

42. Following *Buchanan*, various jurisdictions attempted to rely on other laws and policies, such as the doctrine of separate but equal and providing for health, safety, and general welfare, to maintain exclusionary zoning. *See* Andrew H. Whittemore, *The Experience of Racial and Ethnic Minorities With Zoning in the United States*, 32 J. PLAN. LITERATURE 16, 18 (2017) (describing zoning plans for localities in Alabama, Florida, Indiana, and North Carolina between the 1920s and 1940s).

43. *Better Living Through Home Ownership*, NAT'L ARCHIVES: HOOVER HEADS (June 24, 2020), https://hoover.blogs.archives.gov/2020/06/24/better-living-through-home-ownership [https://perma.cc/3WNX-G5K9].

44. *See* ROTHSTEIN, *supra* note 5, at 51–52.

45. *Better Living Through Home Ownership*, *supra* note 43; Richard Rothstein, *Suppressed History: The Intentional Segregation of America's Cities*, 45 AM. EDUCATOR, no. 1, Spring 2021, at 32, 34.

46. George B. Ford, *Zoning Is So Logical and Reasonable That It Must Come Sooner or Later—It Is Inevitable*, 22 NAT'L REAL EST. J., no. 20, Sept. 26, 1921, at 41, 44.

47. *Id.*

48. *See* Rothstein, *supra* note 45, at 34 (quoting the National Association of Real Estate Board's 1924 Code of Ethics recommendation that "[a] realtor should never be instrumental in

Consequently, increased lot size requirements became the newest method by which many jurisdictions would maintain racially segregated communities and circumvent the *Buchanan* decision.[49] Still, both race and socioeconomic status would become criteria in determining *who* lives *where.* The ZAC was tasked with investigating the most appropriate development management process and subsequently championed zoning as a best practice.[50] The group published several guidance documents, including A Standard State Zoning Enabling Act (SSZEA), which was adopted in at least nineteen states within three years.[51]

The SSZEA included a model zoning ordinance that appeared to be nondiscriminatory on its face. The model language specified that the statute was enacted for purposes of "promoting health, safety, morals, or the general welfare of the community" by regulating lot size, population density, and the location of prescribed uses.[52] While the ZAC did not explicitly suggest eliminating specific populations from particular areas, there was a keen awareness of judicial decisions like *Buchanan* and the effect of increased lot size requirements in residential districts.[53] The ZAC asserted that the model statute had been thoroughly reviewed to ensure that judicial invalidation was unlikely. The committee's first report, *A Zoning Primer*,[54] set out two primary benefits of zoning: (1) protecting property

introducing into a neighborhood . . . members of any race or nationality . . . whose presence will clearly be detrimental to property values in that neighborhood").

49. During the 1920s, the national real estate organizations designed zoning ordinances with large front, rear, and side yards requirements which increased the value of these properties. *See* Ford, *supra* note 46. Not only did the increased lot size requirements price out many people of color, but they also eliminated low-income persons from certain neighborhoods given the increased costs of development. Still, certain southern jurisdictions such as Atlanta would continue to utilize "race zoning" by explicitly indicating the zones within which white, "colored," and "undetermined" races could reside. The city also designated lot size requirements and determined that a 5000 square foot lot was most appropriate for single family homes. ROBERT H. WHITTEN, CITY OF ATLANTA PLAN. COMM'N, THE ATLANTA ZONE PLAN 10–13 (1922).

50. Herbert Hoover, Sec'y of Com., *Foreword* to ADVISORY COMM. ON ZONING, DEP'T OF COM., A STANDARD STATE ZONING ENABLING ACT III, III n.1 (rev. ed. 1926) [hereinafter MODEL ZONING ACT], https://www.govinfo.gov/content/pkg/GOVPUB-C13-18b3b6e632119b6d94779f558b9d3873/pdf/GOVPUB-C13-18b3b6e632119b6d94779f558b9d3873.pdf [https://perma.cc/JS9A-PNHY].

51. *Id.* at III–IV.

52. *Id.* at 4–5 (footnotes omitted). Specific recommendations were also made regarding language such as the use of the word "or" in the grant of power to permit any purpose, such as solely promoting morals, rather than the restrictive inclusion of "and". *Id.* at 4 n.2. Additionally, the committee recommended exclusively using the terms "regulate and restrict" rather than "exclude" and "segregate." *Id.* at 4 n.6.

53. *Id.* at 4 n.1, 5 n.8, 13 n.47

54. ADVISORY COMM. ON ZONING, DEP'T OF COM., A ZONING PRIMER (1922), https://www.govinfo.gov/content/pkg/GOVPUB-C13-cf208d8ed0dda43ed677acd6cad8be81/pdf/GOVPUB-C13-cf208d8ed0dda43ed677acd6cad8be81.pdf [https://perma.cc/

and health; and (2) reducing the cost of living by eliminating blighted districts.[55] The Supreme Court reinforced the protection of a public welfare rationale in *Village of Euclid v. Ambler Realty Co.*[56] It held that zoning regulations would generally be upheld provided that there is some connection to public welfare,[57] which in this era included the preservation of morals and racial harmony—in other words, segregation.

When zoning ordinances and land use plans were drafted, policymakers were men of their time. Not only did they recognize the challenges that a community might face in the absence of regulation, but they also understood that intentional planning and zoning would create what they considered to be ideal communities. Specifically, such planning and zoning would maintain a system of "morality" and "general welfare"[58] free of an infiltration of blight and undesirable community members. These early decisions—rooted in discrimination and ignorance alike—laid the foundation for the marginalized geographies that exist today.

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55. *Id.* at 2. Blight was thought to be caused by "the improper location of an industry, business, or other use" which led to economic waste, impaired health, and depreciated property values. ADVISORY COMM. ON CITY PLAN. & ZONING, DEP'T OF COM., THE PREPARATION OF ZONING ORDINANCES 3 (1931), https://www.govinfo.gov/content/pkg/GOVPUB-C13-9c587bf052f6b4aa22cb29d0299d029a/pdf/GOVPUB-C13-9c587bf052f6b4aa22cb29d0299d029a.pdf [https://perma.cc/SLT8-A7ZD]. Historically, scholars acknowledged the difficulty in defining blight and identifying statistical data that indicated its prevalence. There was an understanding, however, that "[t]he problem is most acute in the great industrial cities of the East and Midwest and in southern cities with large Negro populations." Quintin Johnstone, *The Federal Urban Renewal Program*, 25 U. CHI. L. REV. 301, 302 (1958). Today, scholars note that rural areas also experience blight particularly with the prevalence of "vacant, abandoned, and dilapidated buildings." Ann M. Eisenberg, *Rural Blight*, 13 HARV. L. & POL'Y REV. 187, 188 (2018).

56. 272 U.S. 365 (1926).

57. *Id.* at 387.

58. MODEL ZONING ACT, *supra* note 50, at 4 n.3 (stating that these are two of the four pillars of the police power and therefore permissive for localities to regulate). The term "morality" has been used to indicate preferred social characteristics of a neighborhood, along with the educational and cultural background of neighborhood residents. *See* FED. HOUS. ADMIN., UNDERWRITING MANUAL: UNDERWRITING AND VALUATION PROCEDURE UNDER TITLE II OF THE NATIONAL HOUSING ACT para. 929 (1938), https://www.huduser.gov/portal/sites/default/files/pdf/Federal-Housing-Administration-Underwriting-Manual.pdf [https://perma.cc/YS2Q-SBT7]. It has also been used as a method of regulating businesses and industries thought to be obscene and harmful to others. *See generally* George P. Smith II & Gregory P. Bailey, *Regulating Morality Through the Common Law and Exclusionary Zoning*, 60 CATH. U. L. REV. 403 (2011).

2. Deed Restrictions

The next wave of expressly marginalizing policies took shape as restrictive covenants. As determined by the *Buchanan* Court, property owners had considerable latitude when it came to conveying their property.[59] Yet, racially restrictive zoning ordinances developed by local governments restricted alienation[60] in a manner that was deemed contrary to one's fundamental property rights and violated the Constitution.[61] While state actors were prohibited from enacting discriminatory zoning regulations, this did not preclude individuals from imposing similar restrictions on their own properties.

The use of deed restrictions was underscored by *Corrigan v. Buckley*,[62] which held that the Court did not have jurisdiction to assess a race-based restrictive covenant on private property because there was no state action.[63] During the marginalization era, industry guidance encouraged affluent, white homeowners not to sell to families of a specific race, socioeconomic status, or religion in order to preserve their property values.[64] All the while, property valuation assessments were subjective measures developed by industry leaders to preserve community harmony, with a particular goal of prioritizing the status quo.[65]

Thereafter, deeds in most jurisdictions included restrictive covenants as a boilerplate term.[66] Communities were praised by popular culture for their ability

59. *See* Buchanan v. Warley, 245 U.S. 60, 81–82 (1917).
60. Alienation is a "conveyance or transfer of property to another." *Alienation*, BLACK'S LAW DICTIONARY (11th ed. 2019).
61. *Buchanan*, 245 U.S. at 82. Restraints on alienation limit one's right to transfer their property to a purchaser of their choosing in whatever method they prefer. Richard E. Manning, *The Development of Restraints on Alienation Since Gray*, 48 HARV. L. REV. 373, 373 (1935).
62. 271 U.S. 323 (1926).
63. *Id.* at 330–31.
64. *See* Amy E. Hillier, *Residential Security Maps and Neighborhood Appraisals*, 29 SOC. SCI. HIST. 207, 213 (2005) (discussing theories set forth by real estate experts who served as central figures of the Federal Housing Administration, that "[p]eople with the necessary means push outward toward the edges and suburbs of cities, filtering down the older and less desirable housing to African Americans and other racial and ethnic minorities in the final stage of neighborhood decline").
65. *See* Richard G. Lambrecht, *Appraisal Can Be as Convincing as the Opinion of a Court*, 22 NAT'L REAL EST. J, no. 21, Oct. 10, 1921, at. 23, 23 (emphasis omitted) (outlining the "four cardinal factors of value in Real Estate": location, utility, size, and shape as the key elements of "a fine sense of discrimination" which is necessary to preserve property values).
66. In its historical analysis of fair housing, the U.S. Commission on Civil Rights referenced an estimate that 80 percent of properties in Chicago and Los Angeles included restrictive covenants barring Black families. It further noted that at least nineteen states upheld the use of restrictive covenants for at least thirty years following *Buchanan*. U.S. COMM'N ON C.R., UNDERSTANDING FAIR HOUSING 4 (1973), https://www2.law.umaryland.edu/

to keep out "the wrong kind of people."[67] In 1948, the Supreme Court directly addressed state enforcement of racially restrictive covenants in *Shelley v. Kraemer*.[68] While the Court found that such covenants violated the Fourteenth Amendment's Equal Protection Clause, they continued to be a homogeneity preservation tactic, even if the terms were unenforceable by state actors.[69]

3. Home Financing

In the event that a marginalized community member was able to secure property within a desired residential zone, free of restrictive covenants (or found a willing seller despite a deed restriction), there was still potentially one final hurdle to clear: home financing. The Home Owners' Loan Act (Loan Act)[70] and the Federal Housing Administration (FHA)[71] were outgrowths of the New Deal that sought to stabilize the housing market and increase American homeownership.[72] The Home Owners' Loan Corporation (HOLC) was established to implement the Loan Act.[73] To facilitate its refinancing and lending process, the Loan Act outlined minimal lending requirements and afforded HOLC a generous bond issuance limit to purchase existing mortgages pending foreclosure.[74] HOLC subsequently

marshall/usccr/documents/cr11042.pdf [https://perma.cc/K4JW-4LS4].

67. *Id.* (describing ten communities that received a "shield of honor" from a national magazine).
68. 334 U.S. 1 (1948).
69. *Id.* at 23. Racially restrictive covenants continued to be included in private contracts until the Fair Housing Act of 1968 outlawed racial discrimination in housing. A. Mechele Dickerson, *Systemic Racism and Housing*, 70 EMORY L.J. 1535, 1548 n.67 (2021).
70. Home Owners' Loan Act of 1933, Pub. L. No. 73-43, 48 Stat. 128 (codified as amended at 12 U.S.C. §§ 1461–1468).
71. The FHA was created under the National Housing Act of 1934, Pub. L. No. 73-479, 48 Stat. 1246 (codified as amended in scattered sections of 12 U.S.C.).
72. *See* Steven A. Ramirez, *The Law and Macroeconomics of the New Deal at 70*, 62 MD. L. REV. 515, 559–61 (2003) (describing the federal government's purchase of distressed mortgages and the creation of the self-amortizing loan, which provides for periodic payments of both principal and interest, rather than interest-only mortgages that frontload interest payments). Following the Great Depression, mortgage loans were limited to 50 percent of the home's market value and only one in ten households owned their home. *The Federal Housing Administration (FHA): About Us*, U.S. DEP'T HOUS. & URB. DEV., https://www.hud.gov/program_offices/housing/fhahistory [https://perma.cc/5P2B-J6MZ].
73. Home Owners' Loan Act of 1933, Pub. L. No. 73-43, 48 Stat. 128.
74. Home Owners' Loan Act § 4. The Loan Act authorized the Home Owners' Loan Corporation (HOLC) to issue $2 billion in bonds for purposes of acquiring mortgages and providing cash advances for taxes and assessments for qualifying real estate. *Id.* § 4(c). Eligible real estate was limited to fee simples or leaseholds of not less than ninety-nine years, dwellings of less than five families, and a $20,000 maximum home value. *Id.* § 4(d).

developed an underwriting and appraisal process that determined who would receive financial assistance.[75]

Appraisers were aware that their assessments required present and future risk predictions.[76] The appraisal process included location ratings, which were developed to establish the degree of mortgage risk involved at a particular site.[77] The ratings were based on eight factors that varied in value on a 100-point scale. "Relative [e]conomic [s]tability" (worth 40 points) and "[p]rotection from [a]dverse [i]nfluences" (worth 20 points) had the most severe disparate impact on low-income persons and racial minorities.[78] The economic stability factor sought to determine the sufficiency of industrial, commercial, and other economic attributes of the area, as well as typical family incomes.[79] Further, "protection from adverse influences" was concerned with preventing an "infiltration of business and industrial uses, lower class occupancy, and inharmonious racial groups."[80] Homes located near public parks and other natural elements were specifically thought to be well protected from such infiltration.[81]

To further aid in its valuation and loan eligibility process, HOLC developed "residential security maps" of all jurisdictions with a population of 40,000 or more.[82] The study assessed desirability of the area by ascribing a grade between A and D, as well as a corresponding color.[83] Grade A neighborhoods were depicted in green and described as new, homogenous areas with low mortgage risk.[84] Conversely, grade D neighborhoods were depicted in red and were described as

75. *See* Fred Wright, *The Effect of New Deal Real Estate Residential Finance and Foreclosure Policies Made in Response to the Real Estate Conditions of the Great Depression*, 57 ALA. L. REV. 231, 244–46 (2005); U.S. COMM'N ON C.R., *supra* note 66, at 4.
76. FED. HOUS. ADMIN., *supra* note 58, para. 906.
77. *Id.*
78. *Id.* paras. 902, 932. The remaining factors were lesser in value and included: "[f]reedom from [s]pecial [h]azards" (5 points), "[a]dequacy of [c]ivic, [s]ocial, and [c]ommercial [c]enters" (5 points), "[a]dequacy of [t]ransportation" (10 points), "[s]ufficiency of [u]tilities and [c]onveniences" (5 points), "[l]evel of [t]axes and [s]pecial [a]ssessments" (5 points), and "[a]ppeal" (10 points). *Id.* para. 902.
79. *Id.* paras. 913, 914. Points were ascribed based on one's profession, with laborers and mechanics receiving lower scores than clerks and executives. *Id.* para. 925.
80. *Id.* para. 935.
81. *Id.*; *cf.* Schwarz et al., *supra* note 25, at 11 (finding that areas with low urban tree cover have low property values and suggesting that "residents may have less access to resources or incentive to increase property values").
82. *See* Faber, *supra* note 15, at 740.
83. *See* Rothstein, *supra* note 45, at 35.
84. HOME OWNERS LOAN CORP., RESIDENTIAL SECURITY "REDLINING" MAP: AREA DESCRIPTIONS FOR DAYTON, OHIO § I (1937), https://library.osu.edu/documents/redlining-maps-ohio/area-descriptions/Dayton_Area_Description.pdf [https://perma.cc/N34D-KV4P].

having detrimental influences, an undesirable population, and unstable incomes.[85] The term redlining emerged from this process. Scholars have debated the ramifications of redlining at length—some arguing that limited public accessibility to HOLC maps minimized their impact,[86] while others argue that redlining was the foundation of structural housing inequality.[87] In any event, current assessments indicate that redlining resulted in "the deprivation of investment in and access to mortgage lending services for communities of color [and] contributed to families of color persistently lagging behind in homeownership rates and net worth compared to white families."[88]

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In the one hundred years since zoning and land use were introduced in the United States, some communities have undoubtedly benefitted.[89] But the less amplified story is of the communities that were intentionally zoned into the least desirable geographic areas, resulting in financial disinvestment, substandard amenities, and depreciating property values.[90] Private action, coupled with local, state, and federal regulations, pushed undesirable groups to the fringes of society—establishing the margins along which many communities now reside. These margins continue to be demarcated by historically redlined, densely zoned boundaries. As we see in the next Subpart, the established margins, created and reinforced by property regulations, resulted in environmentally unjust places.

B. Marginalization via Siting of Undesirable Land Uses

Environmental law and property are interrelated in that they both encompass an exercise of rights over land. The siting of locally undesirable land uses (LULUs), such as hazardous waste facilities, shows the disparate treatment of marginalized communities' use and enjoyment of land.[91] Fully appreciating the nuances of how siting impacts communities requires analyzing property

85. *Id.*
86. *See* Wright, *supra* note 75, at 246.
87. *See* Bruce Mitchell & Juan Franco, *HOLC "Redlining" Maps: The Persistent Structure of Segregation and Economic Inequality*, NAT'L CMTY. REINVESTMENT COAL. (Mar. 20, 2018), https://ncrc.org/holc [https://perma.cc/5DCG-DMVA]; Hillier, *supra* note 64, at 207.
88. Press Release, U.S. Dep't of Just., *supra* note 6.
89. *See* Erin Ryan, *Zoning, Taking, and Dealing: The Problems and Promise of Bargaining in Land Use Planning Conflicts*, 7 HARV. NEGOT. L. REV. 337, 344–45 (2002) (describing the zoning process as beneficial to the public interest and its incorporation of environmental protections and development standards).
90. *See* Mitchell & Franco, *supra* note 87.
91. *See* Kaswan, *supra* note 14, at 1031.

regulation, environmental regulation, and the relationship to environmental justice.

Whether causal or correlated,[92] previously redlined communities are now riddled with contaminated drinking water, inadequate infrastructure, and air pollution due to the siting of hazardous facilities.[93] This Subpart introduces the environmental challenges that emerged from the zoning and planning policies outlined above, leaving marginalized communities to navigate the duality of discriminatory property regulation and environmental injustice. It also offers a review of three previously redlined cities: Richmond and the exposure to extreme heat, Los Angeles and the challenges of air pollution, and Houston's proximity to hazardous facilities.

1. Intersections of Land Use and Environmental Law

Social movements and regulatory changes of the late 1960s revealed the intersections between land use and environmental law. Federal legislation addressed some injustices in the housing sector[94] and established national environmental policies, including the National Environmental Policy Act (NEPA).[95] With NEPA's enactment, the federal government finally began reviewing permits for projects that significantly impacted the environment by virtue of federal agency action.[96] Such environmental assessments were

92. *See id.* at 1048–53 (arguing that the critical focus of distributive justice is a matter of concern, regardless of whether outcomes are "the product of outright discrimination or utterly neutral factors").

93. *See* Hoffman et al., *supra* note 11, at 12; Nardone et al., *supra* note 11, at 24.

94. The Fair Housing Act prohibited discrimination in the sale, rental, or advertisement of housing to any person because of their race, color, religion, or national origin. *See* Fair Housing Act, Pub. L. No. 90-284, §§ 801–819, 82 Stat. 73, 81–89 (1968) (codified as amended at 42 U.S.C. §§ 3601–3619). Further, the Community Reinvestment Act (CRA) encouraged financial institutions to serve the communities in which they are chartered and required federal agencies to assess how each institution fulfills its obligations. *See* Community Reinvestment Act, Pub. L. No. 95-128, §§ 801–806, 91 Stat. 1111, 1147–48 (1977) (codified as amended at 12 U.S.C. §§ 2901–2905)); *see also* Allen J. Fishbein, *The Community Reinvestment Act After Fifteen Years: It Works, but Strengthened Federal Enforcement Is Needed*, 20 FORDHAM URB. L.J. 293, 308 (1993) (pointing to regulator indifference and limited enforcement as prohibitive to the CRA's success).

95. National Environmental Policy Act of 1969, Pub. L. No. 91-190, 83 Stat. 852 (codified at 42 U.S.C. §§ 4321–4347). *See* Bradley C. Karkkainen, *Whither NEPA?*, 12 N.Y.U. ENV'T L.J. 333, 333–34 (2004); Brigham Daniels, Andrew P. Follett & James Salzman, *Reconsidering NEPA*, 96 IND. L.J. 865, 866 (2021).

96. The preliminary environmental assessment is often a critical component of site selection. *See* ARTHUR TOTTEN ET AL., U.S. ENV'T PROT. AGENCY, GUIDANCE FOR ENVIRONMENTAL JUSTICE CONCERNS IN EPA'S NEPA COMPLIANCE ANALYSES 12 (1998),

subsequently integrated into state regulations to assess the impact of projects such as amending zoning ordinances.[97] These regulatory actions are not specific to housing development, but they are tangentially related because the permitting process also considers the surrounding geographic area. Further, federal legislation did not adjust the margins that had been created locally by marginalizing property regulations. New regulatory processes were simply overlayed onto marginalized places.

The environmental movement failed to consider how the developing policies would impact marginalized communities and their residents. It typically prioritized conservationist and preservationist interests, while most marginalized community members were virtually absent from the decisionmaking table.[98] Ten years into the modern environmental movement, after all the major pollution control statutes had been enacted,[99] marginalized communities continued to be overburdened by harmful development, suffering because of the government's lack of regard for their health and safety.[100]

For example, the 1970s was fraught with challenges related to the siting of an array of LULUs,[101] including chemical waste landfills in Warren County, North Carolina and petrochemical production plants along the eastern border of Louisiana, both of which gained national attention.[102] Studies produced by the United States Government Accountability Office as well as the United Church of

https://www.epa.gov/sites/default/files/2015-04/documents/ej-guidance-nepa-compliance-analyses.pdf [https://perma.cc/6MDP-JRKG].

97. *See, e.g.*, CAL. PUB. RES. CODE § 21065 (West 1994); CAL. CODE REGULS. tit. 14, § 15378 (West 2005).

98. Dorceta Taylor describes the various eras of the environmental movement, arguing that there have been four waves of environmental activism primarily interested in protecting the interests of middle class, white males. *See* TAYLOR, *supra* note 9, at 1–3. The toxic contamination of Love Canal, however, led to significant environmental damage involving low-income persons that gained national attention. Working class involvement in the movement shifted to center stage thereafter because of the magnitude of these harms. *Id.* at 19.

99. Richard J. Lazarus & Sara Zdeb, *Environmental Law & Politics*, 19 INSIGHTS ON L. & SOC'Y, no. 1, Fall 2018, at 3.1 (describing the rise of environmental law beginning in 1969).

100. *See* CONFRONTING ENVIRONMENTAL RACISM, *supra* note 14 (describing the increased exposure to lead and other toxic substances by marginalized communities).

101. *See, e.g.*, Boomer v. Atl. Cement Co., 257 N.E.2d 870 (N.Y. 1970) (finding that federal air pollutant regulations were insufficient and determining that monetary damages were appropriate recourse for adjacent property owners for property damage and other harms caused by the cement plant's production process).

102. *See* Robert D. Bullard, *Environmental Justice in the Twenty-First Century*, *in* THE QUEST FOR ENVIRONMENTAL JUSTICE 43 (Robert D. Bullard ed., 2005), at 19, 38–39.

Christ found correlations between race, socioeconomic status, and the siting of LULUs, with race being the most potent variable.[103]

At first glance, there may seem to be no connection between LULUs and discriminatory land use policies, or at least, the causal direction of this relationship may be ambiguous. Many scholars have contended that LULUs are not purposefully sited in marginalized communities, but rather such community members choose to reside near LULUs or do so by happenstance.[104] This perspective was also a factor in the Texas District Court's decision in *Bean v. Southwestern Waste Management Corp.*[105] The plaintiffs were residents of a predominately African American neighborhood who sought an injunction against siting a solid waste facility.[106] They argued that the decision to locate in their community was partially motivated by racial discrimination in violation of 42 U.S.C. § 1983.[107] The injunction was denied because the plaintiffs were unable to establish a likelihood of success on the merits.[108] The Assistant Attorney General for Texas compellingly argued that the facilities were "located in the eastern half of the city because that is where Houston's industry is, not because that is where Houston's minority population is."[109]

In the absence of historical context, this argument is plausible.[110] Yet, when considering where and how industrial zones were established, this argument

103. U.S. GEN. ACCT. OFF., GAO/RCED-83-168, SITING OF HAZARDOUS WASTE LANDFILLS AND THEIR CORRELATION WITH RACIAL AND ECONOMIC STATUS OF SURROUNDING COMMUNITIES (1983); COMM'N FOR RACIAL JUST., UNITED CHURCH OF CHRIST, TOXIC WASTES AND RACE IN THE UNITED STATES (1987).

104. *See* Vicki Been, *What's Fairness Got to Do With It? Environmental Justice and the Siting of Locally Undesirable Land Uses*, 78 CORNELL L. REV. 1001, 1014 (1993) (finding that siting evidence is flawed and not conclusive that siting processes cause disparity or that marginalized communities are intentionally discriminated against); Been & Gupta, *supra* note 14, at 6.

105. 482 F. Supp. 673 (S.D. Tex. 1979), *aff'd* 782 F.2d 1038 (5th Cir. 1986).

106. *See* Robert D. Bullard, *Environmental Justice in the 21st Century: Race Still Matters*, 49 PHYLON, no. 3, Autumn–Winter 2001, at 151, 151.

107. *Bean*, 482 F. Supp. at 675. The siting process required the waste management company to obtain a permit under Texas's Solid Waste Disposal Act, but the plaintiffs did not challenge the permit authorization. Under the Act, a permit could only be revoked for "reasons pertaining to public health, air or water pollution, land use, or violation of [the] Act or of any other applicable laws." *Id.* Because the plaintiffs' claim was based on racial discrimination in site selection, the Texas Department of Health would not hear the matter even if it was petitioned. *Id.*

108. *Id.* at 677. The court identified discrepancies in the plaintiffs' data ranging from varied spatial areas of assessment to statistical inaccuracies. *See id.* at 677–79.

109. *Id.* at 679.

110. Houston does not have comprehensive zoning and only has minimal land use planning requirements. *See "Zoned" for Garbage*, *supra* note 14, at 45–47. This fact does not negate the

reveals that data assessment narratives are often misguided and fail to acknowledge underlying discriminatory practices that influenced development patterns and land valuation. Specifically, when considering siting, the justification for why minority community members live in such close proximity to industry falls short under closer scrutiny. When *Bean* was decided in 1979, the United States was only a couple of decades removed from facially discriminatory policies that disregarded people of color and low-income persons and sought to drive them to the least desirable segments of the community—near businesses and industry and away from greenspace.[111] Further, the United States was only one decade removed from the pervasiveness of Jim Crow laws, which established de facto rules and regulations that were the building blocks of property ownership, social mobility, and wealth generation.[112]

Property regulation set the stage for LULU siting and environmental injustice. It established an environment whereby the least expensive, least desirable properties—occupied by marginalized community members—would be prone to industrial development.[113] Further, it ensured that marginalized community members would be inextricably linked to their industrial neighbors. Grassroots organizations focusing on environmental law, public health, and education emerged to address environmental discrimination following *Bean* and the Warren County protests against siting chemical waste landfills.[114] After

need for a comprehensive analysis of development practices but calls for greater care in contextualizing permitting and siting practices within a historical context.

111. *See* FED. HOUS. ADMIN., *supra* note 58, paras. 930–940 (identifying homogeneity, restrictive covenants, and natural physical protection as positive neighborhood attributes that would deter adverse influences).

112. Following the Civil War, Jim Crow laws emerged in the South and throughout the country, mandating segregation in virtually all areas of public life, including education, employment, and housing. Limited political power and disenfranchisement also restricted the social mobility of marginalized community members, particularly racial minorities. *See* J. DOUGLAS SMITH, MANAGING WHITE SUPREMACY: RACE, POLITICS, AND CITIZENSHIP IN JIM CROW VIRGINIA (2002).

113. *See supra* Subpart I.B; Charles Lord & Keaton Norquist, *Cities as Emergent Systems: Race as a Rule in Organized Complexity*, 40 ENV'T L. 551, 559 (2010); Darryl Fears, *Black, Latino Communities Have a Higher Level of Oil Drilling and Pollution*, WASH. POST (Apr. 15, 2022, 6:06 PM), https://www.washingtonpost.com/nation/2022/04/15/redlined-oil-drilling-pollution-study [https://perma.cc/7UMU-T4FS]; David J.X. Gonzalez, Anthony Nardone, Andrew V. Nguyen, Rachel Morello-Frosch & Joan A. Casey, *Historic Redlining and the Siting of Oil and Gas Wells in the United States*, 33 J. EXPOSURE SCI. & ENV'T EPIDEMIOLOGY 76 (2023).

114. *See* Maxine Burkett, *Climate Disobedience*, 27 DUKE ENV'T L. & POL'Y F. 1, 37–41 (2016) (describing the use of a grassroots strategy for activism as an alternative to mainstream environmentalism).

decades of organizing, the interests of marginalized communities were prioritized nationally.[115]

Whether imposed at the local, state, or national level, discriminatory laws and policies established the marginalized geographies of today. To date, governments have failed to comprehensively address the cumulative impacts of land use and environmental harms in any community. This failure is most dangerous in marginalized communities.[116] Goals of reducing greenhouse gases are frivolous without also considering emissions linked to land use and development as well as the discriminatory past of property regulation.[117] Land use is directly related to national greenhouse gas emissions, yet there are extreme regulatory disconnects, given federal and state oversight of environmental laws and local review of land use.[118] At present, local governance alone is insufficient and federal engagement in land use is minimal.

A review of the following three jurisdictions sheds light on redlining's connection to the pervasive harms that exist in each area. Scholars have started exploring the connections between redlining, air quality, and extreme heat.[119] An air quality study found that "redlining is strongly associated with [nitrogen dioxide] and more weakly but detectably associated with [particulate matter,]"[120] with areas graded D during the HOLC era experiencing greater levels of pollutant exposure.[121] Further, there is a stronger correlation between levels of pollutant exposure and prior HOLC grades with a higher differential between grades A and D as compared to race and ethnicity.[122] This would suggest that the geographic elements are equally if not more significant than any other indicator when considering redlining. The relationship between place and environmental harm is acutely observed in the following case studies.

115. *See id.*
116. *See infra* Subpart II.B.
117. *See* Exec. Order No. 14,057, 86 Fed. Reg. 70935 (Dec. 13, 2021).
118. *See* Danielle Stokes, *Climate-Conscious Land Use Planning*, *in* A RESEARCH AGENDA FOR US LAND USE AND PLANNING LAW 187 (John Infranca & Sarah Schindler eds., 2023).
119. Exposure to extreme heat can result in heart and lung diseases, respiratory irritation, and premature death. *See* Hoffman et al., *supra* note 11, at 1; Haley M. Lane, Rachel Morello-Frosch, Julian D. Marshall & Joshua S. Apte, *Historical Redlining Is Associated With Present-Day Air Pollution Disparities in U.S. Cities*, 9 ENV'T SCI. & TECH. LETTERS 345, 347 (2022).
120. Lane et al., *supra* note 119, at 347. Nitrogen dioxide (NO_2) and particulate matter 2.5 (PM2.5) are both criteria pollutants that are regulated under the Clean Air Act. *See* 42 U.S.C. §§ 7401–7671 (1970).
121. *See* Lane et al., *supra* note 119, at 347–48.
122. *See id.*

2. Richmond, Virginia – Urban Heat Islands

In Richmond, as in all jurisdictions, several regulatory structures developed the margins. In 1911, the city adopted its first zoning ordinance, which established boundaries on the basis of race.[123] These boundaries were further solidified by a 1924 ordinance that sought to circumvent the *Buchanan* ruling by relying on Virginia's Act to Preserve Racial Integrity[124] rather than explicitly referencing race as a criterion for residency.[125] By 1930, the ordinances had been invalidated,[126] but the divisive racial lines had been drawn.

In the Home Owners' Loan Corporation (HOLC) grading era of the late 1930s, both race and socioeconomic status dictated where one could reside and the environmental benefits one could enjoy. The HOLC Underwriting Manual provided the guidance necessary for assessors to make funding determinations. This process detailed terrain type, inhabitant demographics, favorable and undesirable community influences, property history, home values, and development projections.[127] Forty-eight segments of the Richmond community were graded resulting in seven areas graded A, fifteen graded B, fourteen graded C, and twelve graded D.[128] A review of the grading outcomes indicates that race, socioeconomic status, and ideal geographic conditions were interwoven with bias and subjectivity as primary grading indicators.[129]

Areas graded A were described as having pristine, awe-inspiring views with rolling hills well-suited for water drainage.[130] Businessmen or those simply known

123. The ordinance prohibited white residents from establishing a residence on a street between two adjacent streets with a greater number of Black residents and vice versa. *See* Hopkins v. City of Richmond, 86 S.E. 139, 140–41 (Va. 1915).
124. S.B. 219, 113th Va. Gen. Assembly (1924).
125. *See* City of Richmond v. Deans, 37 F.2d 712 (4th Cir. 1930) (prohibiting the city from relying on the Act to Preserve Racial Integrity—which forbade intermarriage between races—as a basis for residential segregation).
126. *Id.*
127. *See* FED. HOUS. ADMIN., *supra* note 58.
128. *See* Robert K. Nelson et al., *Richmond, VA*, *Mapping Inequality: Redlining in New Deal America*, UNIV. RICH. DIGIT. SCHOLARSHIP LAB [hereinafter *Mapping Inequality: Richmond*], https://dsl.richmond.edu/panorama/redlining/#loc=12/37.534/-77.463&city=richmond-va&adview=full (last visited May 18, 2024) (navigate the dynamic map by selecting the neighborhood, of varying grade, then select "Population" or "Area Descriptions" in the left-hand menu to see more detail).
129. The comparison in this Subpart is limited to areas graded A and D, given the stark differences between the two. This would support the notion that previously redlined or Grade D areas should be prioritized for resource allocation.
130. *Mapping Inequality: Richmond*, *supra* note 128.

as "the best people" resided in these areas and were the highest earners.[131] These areas were praised as having suitable transportation, good schools, and rigid zoning restrictions.[132] Notably, no racial minorities or those from a lower socioeconomic status resided in these areas.[133] Further, these communities primarily consisted of residences because industry and other commercial uses were generally prohibited.

For example, the subdivision identified as A-5 in the HOLC data was subject to certain restrictive covenants which indicated the type of residents and uses permitted within the community.[134] Uses were limited to private dwellings by only white families, with the exception of live-in servants of any race.[135] Commercial, industrial, and agricultural uses were prohibited outside of one designated block.[136] Such development was often considered a nuisance and would lead to depreciating land values.[137] Residential-only zoning also meant that residents in these areas would not be subject to the environmental impacts resulting from such development.

Conversely, areas graded D did not include a description of favorable influences or clarifying remarks.[138] "Negroes" and "Laboring Whites" resided in

131. The income estimates in the A-graded areas ranged from $3500 to $7500 annually with home values between $10,000 and $80,000. *Id.* As to areas graded B, the terrain was described as wooded and rolling with significant greenspace. *Id.* The resident income estimates were between $2000 and $6000 with home values between $4000 and $20,000 except for a few homes valued around $75,000. The community members were described as "responsible tradespeople," "high-salaried men," and retired railroad employees. *Id.* No racial minorities or those of a significantly lower socioeconomic status resided within these areas. *Id.* In the C-grade areas, resident income estimates were between $1500 and $4000 with home values between $1000 and $9,000. *Id.* The community members were described as "working people," "mechanics and mill hands," and "respectable middle class." *Id.* Race was often the predominate factor in an area receiving a lower grade as evidenced by notes such as, "[t]his area is yellow, largely because the school for white children is in the negro area" or "respectable people, but homes are too near the negro area D-2." *Id.* (select the "Area Descriptions" tab on the left menu to find these comments). The neighborhoods were also characterized as having relief families or being on the decline because of an influx of railroad employees. *Id.*
132. *Id.*
133. *Id.*
134. *See* Thomas Overton Moss, Windsor Farms Conditions and Restrictions, *in* PAPERS OF THOMAS OVERTON MOSS, 1891–1939, at 93 (1927).
135. *Id.*
136. *Id.*
137. *See* FED. HOUS. ADMIN., *supra* note 58, para. 935.
138. This was generally the case for areas graded B and C as well. B- and C-grade areas included some clarifying remarks, but minimal favorable influences were articulated. *See Mapping Inequality: Richmond*, *supra* note 128.

these areas and were the lowest earners.[139] These areas were less ideal, either described as wooded with limited homes or crowded neighborhoods. There was no indication that there were any particular use restrictions within D areas.[140] The absence of homogenous residency requirements and use restrictions in underdeveloped neighborhoods justified low rankings.[141]

While the HOLC assessments do not paint a complete picture of the land use challenges and environmental impacts present during the early- and mid-1900s, they do provide insights into the neighborhood features that presented the least financial risks from HOLC's perspective. HOLC underwriters were tasked with valuing three fundamental components: the property, the location, and the borrower.[142] Geography or place was a critical component within the location assessment. It was a specific factor in determining one's score within the "protection from adverse influences,"[143] "freedom from special hazards,"[144] and "appeal"[145] categories. As early as 1938,[146] the government acknowledged that the physical environment—topography, frequency of natural disasters, and air quality—had a significant bearing on health and creditworthiness. In essence, the three E's of sustainability—environment, economy, and equity—were outcome-determinative even before they were recognized as sustainability metrics.

In addition to determining who would live where, the regulatory structures that defined the margins demarcated the areas that would enjoy economic benefits and those that would bear the costs of environmental harms. From an economic standpoint, the highly restricted Grade A-5 area continues to be one of the wealthiest, most homogenous communities in Richmond. Today, the median

139. The income estimates in the D-grade areas generally ranged from $350–$750 annually with home values between $750 and $2000. *Id.* Interestingly, the income and home values were higher—$1500 to $1800 and $2200 and $6000, respectively—in the D-11 area where the main residents were "Laboring Whites." *Id.*

140. *See id.*

141. *See* FED. HOUS. ADMIN., *supra* note 58, paras. 980(1)–(7).

142. *See supra* Subpart I.A.3.

143. This factor considered zoning, restrictive covenants, natural physical protection, surrounding homogenous neighborhood, quality of surrounding neighborhood, and presence of nuisances. *See* FED. HOUS. ADMIN., *supra* note 58, paras. 932–940.

144. This factor considered topography, danger of subsidence, likelihood of natural disaster, and hazards including flooding, traffic, and fire. *Id.* paras. 941–948.

145. This factor considered natural physical charm, beauty, geographical position, neighborhood layout, architectural attractiveness, social attractiveness, and presence of nuisances. *Id.* paras. 968–974.

146. *See id.* para. 932–940.

household income is $250,000[147] and home values range from approximately $500,000 to $7 million.[148] In contrast, the median household income for the Grade D-6 area ranges between $42,722 to $88,750[149] and home values range from approximately $130,000 to $425,000.[150] The demographics for the previous A-5 area far exceed the income and home values seen in Richmond generally, while the previous D-grade area is comparable with the city averages.[151]

As to environmental impacts, scholars have acknowledged a correlation between HOLC grade and heat exposure, or thermal inequity.[152] Specifically, land surface temperature differences across cities suggest that historical redlining policies are reflected in present-day intraurban temperature differentials.[153] In a

147. *Census Tract 506; Richmond City; Virginia*, U.S. CENSUS BUREAU, https://data.census.gov/profile/Census_Tract_506,_Richmond_city,_Virginia?g=1400000US51760050600 [https://perma.cc/YUA8-T6WD] (showing an approximation based on 2020 census data and 2022 American Community Survey 5-Year Estimates). The A-5 graded area, now an area known as Windsor Farms, is subsumed within census tract 506. *See id.*; *Mapping Inequality: Richmond*, *supra* note 128.

148. *Assessor of Real Estate: Data Request*, CITY OF RICHMOND, VA. (Sept. 6, 2023), https://www.rva.gov/assessor-real-estate/data-request (click "Public Data Set," then select the "Master" link under the "Data File" to open a spreadsheet where one can find the values for A-5 graded areas designated as "area 136" under column M) (last visited Dec. 1, 2023).

149. *Census Tracts 203, 205, 205.01, 205.02, 206, 207, 208 & 209, Richmond City; Virginia*, U.S. CENSUS BUREAU, https://data.census.gov/map?g=1400000US51760020300,51760020500,51760020501,51760020502,51760020600,51760020700,51760020800,51760020900&layer=VT_2021_140_00_PY_D1&mode=selection&loc=37.5353,-77.4111,z13.0584 [https://perma.cc/7QJ6-HKG6] (showing the previous D-6 area which comprises several census tracts including 203 and 205–209). The census tracts located in the former D-6 area range in household income are as follows: Census Tract 203: $51,594; Census Tract 206: $88,750; and Census Tract 209: $42,722. *See Census Tract 203; Richmond City; Virginia*, U.S. CENSUS BUREAU, https://data.census.gov/profile/Census_Tract_203;_Richmond_city;_Virginia?g=1400000US51760020300 [https://perma.cc/TEY7-U7Q4]; *Census Tract 209; Richmond City; Virginia*, U.S. CENSUS BUREAU, https://data.census.gov/profile/Census_Tract_209,_Richmond_city,_Virginia?g=1400000US51760020900 [https://perma.cc/YX4Y-XPSA]; *Census Tract 206; Richmond City; Virginia*, U.S. CENSUS BUREAU, https://data.census.gov/profile/Census_Tract_206,_Richmond_city,_Virginia?g=1400000US51760020600 [https://perma.cc/6GVK-ZV7S].

150. *Data Request*, *supra* note 148 (showing areas graded D-6 as assessment areas in the Assessor's spreadsheet listed as areas 328, 338, and 342).

151. *See Quick Facts: Richmond City, Virginia*, U.S. CENSUS BUREAU (July 1, 2023), https://www.census.gov/quickfacts/richmondcityvirginia [https://perma.cc/CAH9-4UAP] (showing that as of July 2022, the median household income is $54,795 and the median home value is $263,000).

152. *See* Kelly C. Saverino, Emily Routman, Todd R. Lookingbill, Andre M. Eanes, Jeremy S. Hoffman & Rong Bao, *Thermal Inequity in Richmond, VA: The Effect of an Unjust Evolution of the Urban Landscape on Urban Heat Islands*, 13 SUSTAINABILITY, no. 1511, Feb. 1, 2021, at 1.

153. *See* Hoffman et al., *supra* note 11.

study of 108 cities, researchers found that zones that were historically rated D are on average 2.6 degrees warmer than A-rated areas.[154] In Richmond, the A-5 and D-6 areas discussed above also experience temperature differentials. A 2021 study revealed that the average summer afternoon temperature for the A-5 area was 89.6°F, while the temperature for the D-6 area was 92.3°F.[155] (See Figure 1). Many of the C- and D-grade areas in Richmond were in proximity to "nuisances" such as railroads and manufacturing plants.[156] As a result, these areas also had greater impervious land surfaces[157] and limited tree cover, which contribute to radiant heat.[158] The HOLC manual cautioned that areas riddled with special hazards such as poor topography "may be subjected to intense summer heat, poor circulation of air, periodic fogs, and . . . floods."[159]

154. *Id.* at 1.

155. *See Richmond Heat Watch Instant App*, VA. HEAT WATCH PROJECT, https://urichmond.maps.arcgis.com/apps/instant/interactivelegend/index.html?appid=d01985d4d2a641fcb1d48925fbfdcf33 (showing a heat study that measured temperatures by neighborhood) (last visited May 18, 2024). Overlaid on HOLC map data, the D-6 zoned area includes portions of two communities with slight temperature differentials.

156. *Mapping Inequality: Richmond*, *supra* note 128 (select the "Area Description" tab).

157. Impervious land surfaces are areas where little to no water penetrates the soil. Urban areas have increasingly felt the effects of heat exposure and thermal inequity because structures like buildings and roads both absorb and emit more of the sun's heat than natural landscapes. *See* David Abel, *Boston's 'Heat Islands' Turn Lower-Income Neighborhoods From Hot to Insufferable*, BOS. GLOBE (June 22, 2021, 7:01 AM), https://www.bostonglobe.com/2021/06/22/metro/climate-warms-up-bostons-heat-islands-turn-hot-into-insufferable-with-hardest-hit-neighborhoods-often-those-with-lowest-incomes.

158. *See, e.g.*, Lino Sanchez & Tony G. Reames, *Cooling Detroit: A Socio-Spatial Analysis of Equity in Green Roofs as an Urban Heat Island Mitigation Strategy*, 44 URB. FORESTRY & URB. GREENING, no. 126331, Aug. 21, 2019, at 1.

159. FED. HOUS. ADMIN., *supra* note 58, para. 942. The HOLC acknowledged that exposure to conditions including smoke, fog, chemical fumes, exhaust gas, poor surface drainage, excessive heat, and dampness affected the "personal safety and health of neighborhood occupants" and therefore amounted to health hazards. *Id.* paras. 942–948.

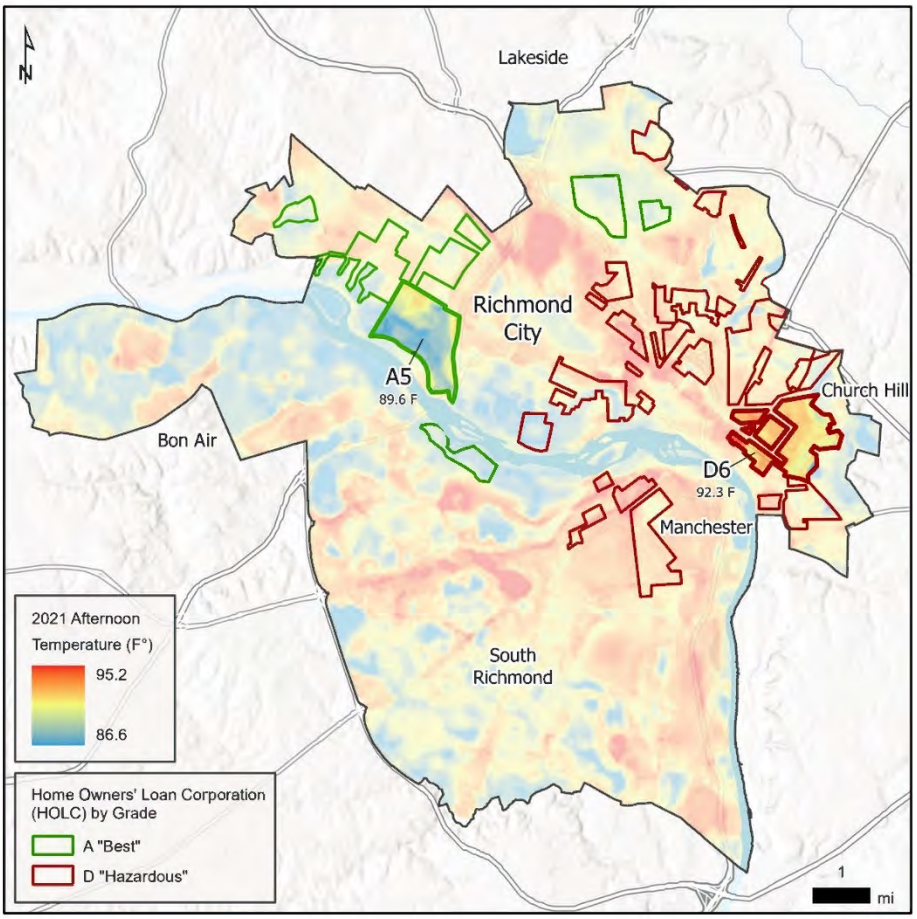

Figure 1 depicts the 2021 temperature disparity between the previous grade A areas as compared to Grade D areas with emphasis added to indicate sections A-5 and D-6 as described above.[160]

160. All figures for this Article were created in conjunction with GIS experts and geographers in the University of Richmond Spatial lab.

Surface temperatures continue to increase as a result of climate change, yielding urban heat islands[161] across the United States.[162] As seen in Richmond, zoning, land use designations, and access to home financing determine whether a place is appealing and protected from adverse influences. In previously redlined areas, adverse influences take shape as economic disinvestment, increased health risks,[163] and increased spending on energy needs.[164] Each of these influences is exacerbated by climate change. The heat island effect is but one consequence of inequitable development, and Richmond, Virginia is not at all unique.

3. Los Angeles, California – Air Pollution

Consider Los Angeles, a HOLC-graded city far larger in scale than Richmond, where formerly redlined areas also experience environmental impacts more severely. During the HOLC era, 420 areas were graded, resulting in 60 areas graded A, 122 graded B, 167 graded C, and 71 graded D.[165] Similar discrepancies are noted between these areas as related to income, home value, and racial demographics.[166] For example, assessors described the A-16 area as:

> Terrain rolling to hillside and hilltop covered with large oak trees. No steep grades. Land improved 75%. Deed restrictions of highest quality are enforced. Zoning single family residential. Conveniences are all readily available . . . . It is one of the most exclusive districts in the country and merely to be a resident here presupposes a secure place in

161. Heat islands are defined as zones of elevated temperature, resulting from structures such as buildings and roads that absorb and emit the sun's heat more than natural landscapes. *Learn About Heat Islands*, U.S. ENV'T PROT. AGENCY (Aug. 28, 2023), https://www.epa.gov/heatislands/learn-about-heat-islands [https://perma.cc/E23H-ZCFN].

162. *Climate Change Indicators: U.S. and Global Temperature*, U.S. ENV'T PROT. AGENCY (July 21, 2023), https://www.epa.gov/climate-indicators/climate-change-indicators-us-and-global-temperature [https://perma.cc/B57C-B5J9]; *see also Climate Change and Heat Islands*, U.S. ENV'T PROT. AGENCY (Feb. 15, 2023), https://www.epa.gov/heatislands/climate-change-and-heat-islands [https://perma.cc/QM32-8N42].

163. *Cf.* Dayna Bowen Matthew, *On Charlottesville*, 105 VA. L. REV. 269, 323 (2019) (likening these factors to ecosocial theory, which explains that "populations biologically embody adverse exposures from ecological and societal influences").

164. Bednar & Reames, *supra* note 11 (discussing the prevalence of households unable to meet energy needs in the United States).

165. Robert K. Nelson et al., *Los Angeles, CA*, *Mapping Inequality: Redlining in New Deal America*, UNIV. RICH. DIGIT. SCHOLARSHIP LAB [hereinafter *Mapping Inequality: Los Angeles*], https://dsl.richmond.edu/panorama/redlining/map/CA/LosAngeles/areas#loc=10/34.0053/-118.1566 (last visited May 18, 2024) (navigate the dynamic map by selecting the neighborhood, of varying grade, then select "Population" or "Area Descriptions" in the left-hand menu to see more detail).

166. *Id.*

> the social register. Being one of the highest grade districts and so widely known, a detailed description is unnecessary. All improvements occupy acreage estates. Many of them, in addition to the main residence, have guest houses and servants' cottages. This [area] is entitled to the highest rating.[167]

This description is indicative of most A areas, as they generally included residential-only zoning, perpetual race-based restrictive covenants, accessibility to amenities, and lush terrain.[168] Only three A-grade areas included "adverse influences" of fire or flood hazard and proximity to oil wells.[169] In these instances, wealth and racial demographics overshadowed the locational risks for purposes of funding eligibility.

Unsurprisingly, most of the D-grade areas were categorized as blighted neighborhoods with substandard construction and an "infiltration of subversive races."[170] The assessment of the D-32 area serves as a representative description of most D-grade areas:

> Terrain: Flat, low lying (river bottom). No construction hazards. Land improved 40%. There are no deed restrictions and zoning permits multiple family dwellings. Conveniences: Bus transportation on Riverside Drive. Grade schools, churches and shopping centers are all available. High School is some distance away. This area was subdivided some 30 years ago and was developed as a workingman's neighbor hood [sic]. Construction and maintenance are of ordinary quality and quite spotted, giving the area a heterogeneous aspect. Population is of the low-income laboring group. Formerly the area was subject to flood, but recent flood control work is said to have overcome this difficulty. While zoned to permit multiple dwellings, there are but few of such structures, and these are mostly cheap rental units. The economic unstability [sic] indicated by the low-family income and the large amount of foreclosures which have taken place over the past few years, coupled with the presence of a limited amount of subversive racial elements and a possible flood hazard, does not warrant higher than the "high red" grade assigned.[171]

167. *Id.* (select A-16 on the map and click the Area Description tab on the lefthand menu).
168. *Id.*
169. *Id.* (select the Area Descriptions for zones A-6, A-29, and A-36 to see descriptions of various adverse influences).
170. *Id.*
171. *Id.* (click the D-32 area of the map and access the Area Description tab).

In these areas, assessors specifically noted that zoning was either nonexistent, unenforced, or permitted mixed-use development, which often included industrial uses.[172] Several areas were prone to flooding and were considered undesirable given their proximity to oil wells, railyards, cemeteries, and a proposed highway.[173]

Today, Los Angeles experiences significant air quality challenges. A 2021 study determined that the city has the most polluted air out of 2400 United States cities analyzed,[174] and those who live in previously redlined areas are bearing the greatest burden.[175] Figure 2 displays the stark contrast in exposure to the air pollutant PM2.5 between the former A- and D-grade areas along the eastern boundary of Los Angeles.[176] Notably the D-32 area is within the 90th percentile of PM2.5 concentration whereas the A-16 area is within the 50th percentile.[177] This is not to say that there are no exceptions when assessing previously redlined areas or that California's unique geographic design and population growth do not contribute to its challenges. But the intensity of harms is most severe in marginalized places.[178]

172. *Id.* (based upon a review of Grade D Area Descriptions).
173. *Id.*
174. City News Service, *Report Says LA Has Most Polluted Air in United States*, NBC L.A. (Mar. 22, 2022, 1:02 PM), https://www.nbclosangeles.com/local-2/report-says-la-has-most-polluted-air-in-united-states/2853463 [https://perma.cc/ALR3-Z8Y4].
175. In 2018, Crosstown, an interdisciplinary project within the University of Southern California, found that Chinatown, Downtown L.A., Lincoln Heights, and Echo Park had the unhealthiest air of neighborhoods within Los Angeles County. *See* Ron Mackovich-Rodriguez, *Is It Hard to Breathe in Your Corner of Los Angeles County?*, USC NEWS (June 13, 2018), https://news.usc.edu/144493/air-pollution-in-los-angeles-county-neighborhoods [https://perma.cc/42SS-AJ5G]. These areas were either adjacent to or ranked as grade D. *Mapping Inequality: Los Angeles*, *supra* note 165.
176. *See* LAURA AUGUST, KOMAL BANGIA, LAUREL PLUMMER, SHANKAR PRASAD, KELSEY RANJBAR, ANDREW SLOCOMBE & WALKER WIELAND, OFF. OF ENV'T HEALTH HAZARD ASSESSMENT, CAL. ENV'T PROT. AGENCY, CALENVIROSCREEN 4.0 37–42 (Vince Cogliano et al. eds., 2021), https://oehha.ca.gov/media/downloads/calenviroscreen/report/calenviroscreen40reportf2021.pdf#page=37 [https://perma.cc/4LF6-YWEU].
177. These figures are based upon the PM2.5 concentrations as set forth in the CalEnviroScreen 4.0 Indicator as overlayed onto the HOLC grading districts. *See* AUGUST ET AL., *supra* note 176; *see also Maps & Data: Indicator Maps*, OFF. OF ENV'T HEALTH HAZARD ASSESSMENT, https://oehha.ca.gov/calenviroscreen/maps-data (last visited May 18, 2024) (scroll down the page to the "Indicator Maps," to compare the respective neighborhoods from the *Mapping Inequality: Los Angeles* maps).
178. *See* Fred E. Littman & P. L. Magill, *Some Unique Aspects of Air Pollution in Los Angeles*, 3 AIR REPAIR 29 (1953).

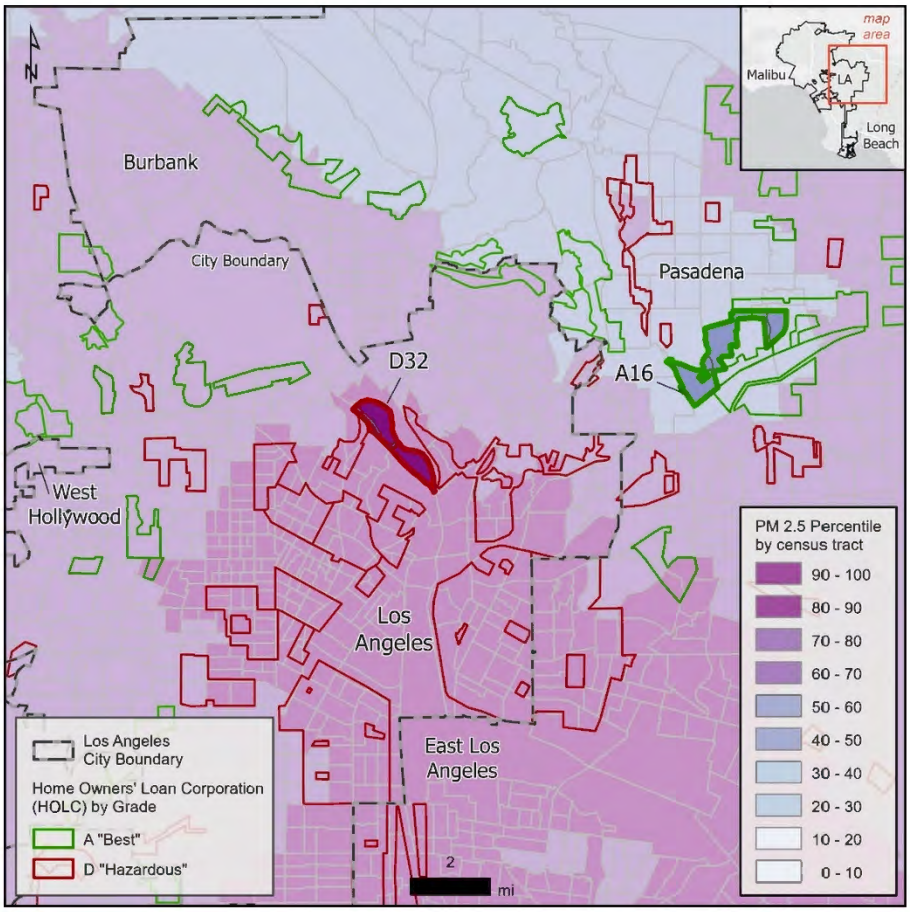

Figure 2 integrates the CalEnviroScreen 4.0 data for PM 2.5, which assessed the annual man concentration of the pollutant between 2015 and 2017 and overlays this data on the prior HOLC grades.

Both Richmond and Los Angeles have robust zoning and land use plans that determine where and how development can occur.[179] Each jurisdiction is also in the process of implementing a climate action plan that considers land use change,

179. *See Richmond 300: A Guide for Growth*, CITY OF RICHMOND, VA., https://www.rva.gov/planning-development-review/master-plan [https://perma.cc/HNC6-HNQS]; *see also* L.A. CNTY. BD. OF SUPERVISORS ET AL., LOS ANGELES COUNTY GENERAL PLAN 2035 (2022), https://planning.lacounty.gov/wp-content/uploads/2023/03/gp_final-general-plan.pdf [https://perma.cc/BA2D-F88N].

green infrastructure, existing infrastructure conditions, and geography.[180] Yet, neither jurisdiction has proposed synthesizing its land use and climate assessments despite the fact that sustainable land management is a major factor in reducing the negative impacts of climate change on ecosystems and societies.[181]

4. Houston, Texas – Hazardous Waste Sites

Unlike Richmond and Los Angeles, there are previously redlined jurisdictions such as Houston without zoning and land use regulations in place. Even in the absence of formal zoning structures, marginalized communities were established nevertheless.[182] A review of Houston's D-grade neighborhoods reveals that such areas are located in close proximity to environmental hazards.[183] For example, the Fifth Ward, which encompasses the largest D-grade area as shown in Figure 3, abuts two Superfund[184] sites and a poorly managed rail yard.[185] In July 2022, dioxin, a highly toxic compound associated with cancer, was found in the Fifth Ward during soil and groundwater testing.[186] In 2021, the Texas Department

180. *See, e.g.*, *Equitable Climate Action for a Healthy and Resilient Richmond*, CITY OF RICHMOND: RVAGREEN 2050, https://www.rvagreen2050.com [https://perma.cc/LKH3-82H5]; *see also Climate Action Plan*, L.A. CNTY. DEP'T REG'L PLAN., https://planning.lacounty.gov/site/climate/los-angeles-county-cap [https://perma.cc/D33G-PFJE].

181. *See* INTERGOV'TAL PANEL ON CLIMATE CHANGE, SPECIAL REPORT ON CLIMATE CHANGE AND LAND: SUMMARY FOR POLICYMAKERS 23 (P.R. Shukla et al. eds, 2019), https://www.ipcc.ch/site/assets/uploads/sites/4/2022/11/SRCCL_SPM.pdf [https://perma.cc/L9KQ-9C3C].

182. *See* Richard C. Schragger, *The Perils of Land Use Deregulation*, 170 U. PA. L. REV. 125, 159 (2021); *see also* Leah Binkovitz, *Redlining's Enduring Legacy*, RICE UNIV. KINDER INST. FOR URB. RSCH. (Aug. 9, 2017), https://kinder.rice.edu/urbanedge/redlinings-enduring-legacy [https://perma.cc/CV8J-N8K6].

183. The Houston data set provided by the *Mapping Inequality* project does not include a descriptive narrative for each graded area. *See* Robert K. Nelson et al., *Houston, TX*, *Mapping Inequality: Redlining in New Deal America*, U. RICH. DIGIT. SCHOLARSHIP LAB [hereinafter *Mapping Inequality: Houston*], https://dsl.richmond.edu/panorama/redlining/data/TX-Houston (last visited May 18, 2024) (navigate the dynamic map by selecting the neighborhood, of varying grade, then select "Population" or "Area Descriptions" in the left-hand menu to see more detail). The project team notes that the area descriptions have not been located and may not exist. Accordingly, the description uses the HOLC map data for purposes of the analysis. *Id.*

184. The Superfund or Comprehensive Environmental Response, Compensation, and Liability Act regulates uncontrolled or abandoned hazardous waste sites. *See* Comprehensive Environmental Response, Compensation, and Liability Act of 1980, 42 U.S.C. §§ 9601–9628.

185. Erin Douglas, *Top U.S. Environmental Regulator to Visit Houston Neighborhoods Where Black and Latino Residents Bear Brunt of Pollution*, TEX. TRIB. (Nov. 15, 2021, 5:00 PM), https://www.texastribune.org/2021/11/15/EPA-Regan-Houston-pollution-visit [https://perma.cc/NV7V-XJ85].

186. *Fifth Ward/Kashmere Gardens Union Pacific Railroad Site Contamination and Area Cancer Cluster*, HOUS. HEALTH DEP'T (Aug. 31, 2023), https://www.houstonhealth.org/

of State Health Services assessed the occurrence of various cancers within twenty-one census tracts, several of which are within Houston's Fifth Ward and are depicted in yellow in Figure 3.[187] The Department worked with scientists and community members to assess cancer data "to determine whether the observed number of cancer cases is statistically significantly different than expected based on cancer rates in Texas."[188] Of the twenty-one tracts assessed, they each received a grade of C or D in the HOLC era.[189] The number of childhood cancer cases in these tracts was found to be significantly higher than expected given the rate for Texas generally.[190] The study acknowledges that its findings do not suggest a cause for the observed cancers or risk factors,[191] yet the persistent exposure to environmental harms cannot be ignored.[192]

services/pollution-control/fifth-ward-kashmere-gardens-union-pacific-railroad-site-contamination-area-cancer-cluster [https://perma.cc/2JJ4-3VHP].

187. *See generally* TEX. DEP'T OF STATE HEALTH SERVS., ASSESSMENT OF THE OCCURRENCE OF CANCER SUPPLEMENTAL ASSESSMENT (2021), https://www.dshs.texas.gov/sites/default/files/epitox/CancerClusters/Supplemental-Assessment-of-the-Occurrence-of-Cancer-Houston-Texas-2000-2016.pdf [https://perma.cc/5HVM-5RM7].
188. *Id.* at 2.
189. *Mapping Inequality: Houston supra* note 183 (select the housing tracts labeled "C" or "D").
190. TEX. DEP'T OF STATE HEALTH SERVS. *supra* note 187, at 10.
191. *Id.* at 2.
192. Houston and two neighboring jurisdictions to the north have been described as the Golden Triangle given the wealth produced upon discovering oil in the early 1900s. This area now has the highest concentration of petrochemical plants, and consequently, higher pollutant emissions. *See* Thomas O. McGarity, *Hazardous Air Pollutants, Migrating Hot Spots, and the Prospect of Data-Driven Regulation of Complex Industrial Complexes*, 86 TEX. L. REV. 1445 (2008); *see also* Brie Sherwin, *After the Storm: The Importance of Acknowledging Environmental Justice in Sustainable Development and Disaster Preparedness*, 29 DUKE ENV'T L. & POL'Y F. 273 (2019).

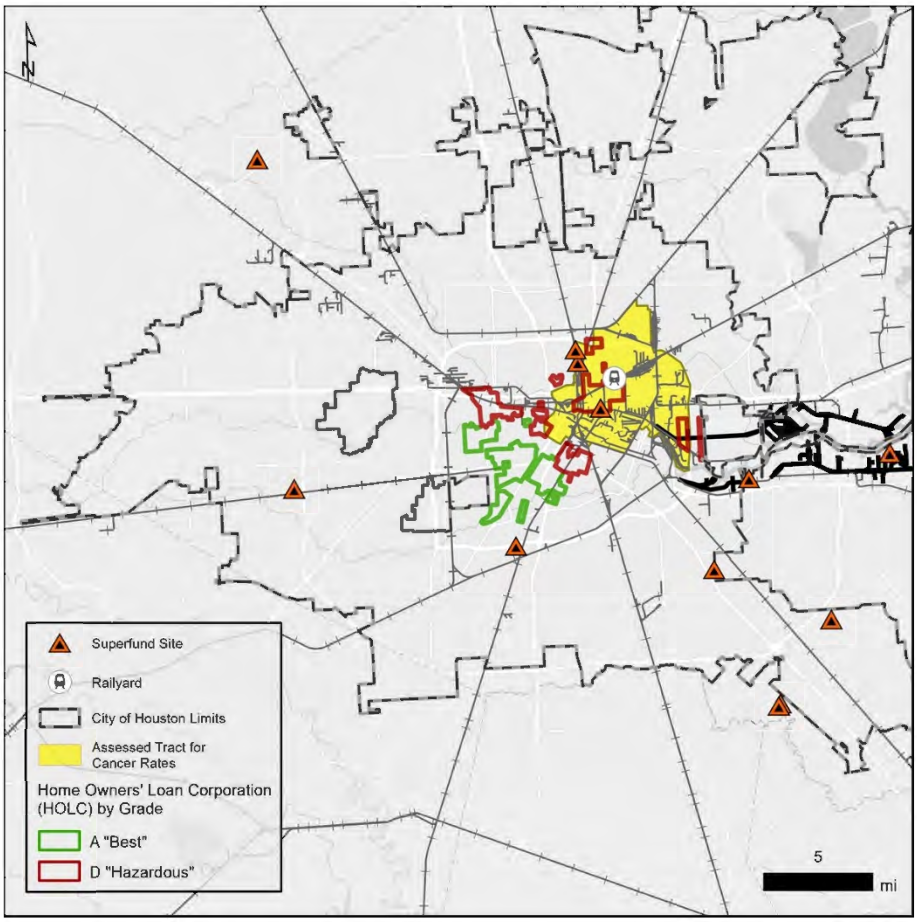

Figure 3 depicts three Superfund sites within the city center and shows their proximity to the previous D-grade areas. These sites have been designated by the EPA and are in various stages of cleanup and monitoring.

The lack of zoning and land use planning poses some logistical challenges to advancing sustainable development. Houston has, however, developed a Climate Action Plan that acknowledges the need for sustainable land use planning to reduce greenhouse gas emissions.[193]

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Discriminatory practices are at the core of the cumulative impacts experienced in virtually every community today. Zoning, land use designations, and access to home financing collectively define the margins within which

193. CITY OF HOUS., HOUSTON CLIMATE ACTION PLAN 30 (2020), http://greenhoustontx.gov/climateactionplan/CAP-April2020.pdf [https://perma.cc/LD7Q-9NY5].

economic and environmental harms are most severe. Within these regulatory structures, race and socioeconomic status historically served as a proxy to determine whether one would qualify for a mortgage, breathe clean air, or live near favorable natural resources. While these regulatory structures are no longer explicitly discriminatory, the ramifications of such discriminatory regulations persist.[194] Whether increased temperatures, exposure to pollutants, or proximity to mishandled hazardous waste, environmental harms are more prevalent in previously redlined areas. These harms may manifest differently depending on the jurisdiction but can be addressed through greenlining: a proactive, place-based land use and development policy that attends both to land use and environmental harms.

II. INTRODUCING GREENLINING

To make the case for greenlining, this Article offers a different approach by using a geography-centric, place-based focus that prioritizes *where* injustices have occurred. Accordingly, this Part describes what greenlining is, how it operates, and what it seeks to accomplish. In answering these questions, it also provides insights into the current regulatory regime and how the goals of greenlining would best be achieved via a collaborative governance structure.

A. What Is Greenlining?

Scholars have argued that social justice policies are often ineffective within legal regimes rooted in discrimination and inequity. Consequently, existing structures are not conducive to the dismantling of deeply entrenched inequality.[195] This Article, however, argues that social justice policies and sustainability

194. *See infra* Part III.

195. Many scholars have incorporated Audre Lorde's argument that "the master's tools will never dismantle the master's house" to offer new perspectives and policies that underscore social justice and equity as fundamental principles. *See* Audre Lord, *The Master's Tools Will Never Dismantle the Master's House*, *in* THIS BRIDGE CALLED MY BACK 106 (Cherríe L. Moraga & Gloria E. Anzaldúa eds., 3d ed. 2002) (discussing the underrepresentation of Black, lesbian, and low-income women within the feminism discourse); Etienne C. Toussaint, *Dismantling the Master's House: Toward a Justice-Based Theory of Community Economic Development*, 53 U. MICH. J.L. REFORM 337 (2019) (reframing community economic development on the principles of New Regionalism and foundational pillars of social solidarity, economic democracy, and solidarity economy); Zanita E. Fenton, *The Paradox of Hierarchy—or Why We Always Choose the Tools of the Master's House*, 31 N.Y.U. REV. L. & SOC. CHANGE 627 (2007) (describing legal education as existing within the paradox of hierarchy that perpetuates established power structures).

principles can offer scaffolding for establishing equitable communities while utilizing existing frameworks. To that end, greenlining is a comprehensive planning mechanism that integrates sustainability principles into land use decisions, using development standards and other incentives to ameliorate longstanding injustices. It employs current regulatory structures to remediate the cumulative impacts of discriminatory policymaking. In fact, the areas that warrant the most support in combatting climate hazards today are the very areas that were historically redlined.[196] Further, the greenlining framework shifts the traditional notion of a marginalized community from a person-centered focus on *who* bears the burden of climate change to a location-centered focus on *where* sustainability policies are the most critical.

As mentioned previously, the term greenlining is not new, but it has never been employed comprehensively in the land use and environmental context. The prototype sought to tackle one discrete area of the marginalization problem: access to home financing.[197] It was originally promoted in the banking industry as a means of spurring reinvestment within marginalized communities in an effort to counteract redlining.[198] Prior greenlining initiatives were thought to have failed because of the lack of uniform standards for financial institutions and the renewed partiality in lending practices.[199] Notably, this form of greenlining also did not require any governmental action or accountability despite the government's complicity in the marginalization process.

Community marginalization is a multifaceted problem that calls for solutions of equal magnitude. The Greenlining Institute of California is the closest analog to the term greenlining as described in this framework. The Institute incorporates principles of equity in planning and development at the grassroots level by prioritizing local community revitalization rather than calling for federal and state engagement.[200] The scale and scope of greenlining that I propose here differs in that it takes a holistic approach to remediating injustices within the land use planning and climate change mitigation context, with national interests in

196. *See supra* Part I.

197. *See Real Estate: Greenlining of America*, *supra* note 19.

198. *See id.*; Fishbein, *supra* note 94, at 303; *see also* Daniel T. Friedson, *Greenlining Toward a Community of Local Entrepreneurship, Home Ownership, and Quality of Life*, 9 J. AFFORDABLE HOUS. & CMTY. DEV. L. 183 (2000).

199. Community members sought out banking institutions with a demonstrated commitment to lending within the communities where they were located. This greenlining also sought to deter redlining's impact by "experiment[ing] with the placement of public funds based upon social criteria." Fishbein, *supra* note 94, at 303. Though well-intentioned, these policies generally provided support for the wealthiest community members. *See* Szto, *supra* note 19, at 52.

200. *See* THE GREENLINING INSTITUTE, *supra* note 20.

mind. Specifically, greenlining is a multidimensional, interdisciplinary method of integrating sustainability principles into development standards and prioritizing areas for purposes of resource allocation.

To make the shift from *who* to *where* in the policymaking context, the targeted communities must first be defined to include as many marginalized areas as possible. The focus of this Article is previously redlined areas, but greenlining may also include rural and suburban areas that have similarly experienced environmental injustices.[201] Greenlining calls for a three-part structural framework that considers the "what," the "why," and the "where," with a primary focus on the "where." First, the "what" is grounded in the regulatory landscape that established the margins. Accordingly, greenlining is a proactive land use planning tool that demarcates areas where sustainable development and economic investment should be incentivized. Second, the "why" acknowledges the fact that certain geographic areas are disproportionately harmed by inadequate housing, undesirable land uses, and the hazards of climate change. Finally, the "where" may vary from place to place depending on past harms and the resulting cumulative impacts. The "where" should include geographic areas that are or were once in proximity to high pollution emission facilities, improperly managed hazardous waste sites and landfills, or any area that was previously redlined.[202] Thus, the objective of greenlining is to develop clean energy infrastructure, spur sustainable development, address adverse health effects, and stimulate the targeted economy.

Climate change compounds the environmental harms created by discriminatory land use regulations, resulting in communities that are less resilient in the face of climate hazards such as extreme heat. Greenlining functions as a vehicle through which equity can be prioritized in the places where such harms are most pervasive. It also establishes a structure whereby appropriate resources can be distributed within communities that are experiencing compounded harms. This can take the shape of funding distributions to support climate mitigation and

201. *See* Daniels et al., *supra* note 22 (exploring the ways in which environmentalism and environmental justice may present differently depending upon the context). Arguably, this process could also be conceptualized within a global framework whereby developing countries are greenlined.

202. Unlike the CEJS Tool, greenlining does not require residents within the area to have a certain minimum income. In fact, the emphasis on "where" is to alleviate the demographic distinctions regarding residents in an effort to cultivate sustainable communities for all community members. *See infra* Subpart II.C.

adaptation as well as green development standards.[203] Resource allocation and infrastructure investment cannot be made behind the proverbial "veil of ignorance,"[204] but rather must intentionally address the stratification among various groups within the United States, particularly in marginalized areas. An assessment of the current land use planning regime and the limitations of the planning process indicates that greenlining can fill part of the gap between land use and climate change policy. Greenlining is malleable enough to provide a structure within which two regulatory regimes—land use and environmental regulation—can finally be meaningfully coordinated.

B. How Does Greenlining Work?

Understanding the nuances of land regulation is necessary if greenlining is to be incorporated within land use planning or as a comprehensive planning measure. This Subpart provides an overview of the current land use planning and environmental law regimes and describes how greenlining could be incorporated within existing regulatory structures. It then turns to the regulatory possibilities where the scales of governance are expanded to incorporate federal, state, and local insights and multidisciplinary expertise into sustainability planning.[205]

1. The Current Regulatory Landscape

Describing how greenlining works requires an exploration of two regulatory regimes: land use planning (regulated locally)[206] and environmental law (regulated by the states and federal government).[207] Contextualizing these legal regimes highlights the ways in which greenlining integrates independent policy areas that must work in conjunction. Each is discussed in turn.

203. *See* Stokes, *supra* note 118 (describing methods by which local governments might incentivize sustainable development practices such as energy efficient equipment and cool roofs).

204. *Compare* Burkett, *supra* note 14, at 480–90 (discussing the need to develop climate policy from behind the veil, where people lack knowledge of their particular place in society, assets, abilities, or strengths, by incorporating indigenous and ecological principles which allows for more equitable decisionmaking).

205. Expanding the scale of governance in this manner exemplifies the dynamic governance structures described in Subpart II.B.2.

206. *See, e.g.*, *Richmond 300: A Guide for Growth*, *supra* note 179; *Plan Houston*, CITY OF HOUS., https://www.houstontx.gov/planhouston (last visited May 18, 2024).

207. *See, e.g.*, 33 U.S.C. § 1330; 42 U.S.C. § 7401.

a. Land Use and Property Regulation

Under the current land planning regime, many states recommend or require that local jurisdictions of a particular size create and implement a land use or comprehensive plan.[208] The local planning commission is at the crux of this process. Planning commissioners set forth the community's vision by incorporating its values related to various types of development, including transportation, housing, hazard mitigation, infrastructure, and sustainability.[209]

Scholars and practitioners alike broadly define sustainability as "measures taken to protect and enhance the environment, the economy, and equity for current residents and future generations."[210] These principles are the basis for sustainable development, which also seeks to meet intergenerational needs.[211] As communities begin to engage in sustainability planning and sustainable development, they must engage deeply with the three E's.[212] Most often, environmental and economic measures take precedence within planning and development processes, forcing marginalized community members to carry an unequal share of the development burden.[213] Inequitable policies and social exclusion undermine viability and perpetuate unsustainability.[214] Conversely, prioritization of social equity proactively considers how burdens and benefits are

208. *See* FLA. STAT. § 163.3167 (West 2023); KAN. STAT. ANN. § 12-747 (West 1997); NEV. REV. STAT. § 278.150 (West 2017); OKLA. STAT. tit. 19, § 863.1 (West 1955); HAW. REV. STAT. ANN. § 46-4 (West 2017); TEX. LOC. GOV'T CODE ANN. § 211.004 (West 1997).

209. Cynthia Bowen, *What is Planning?*, AM. PLAN. ASS'N, https://www.planning.org/educators/whatisplanning [https://perma.cc/C5WB-8DNU].

210. JAMES H. SVARA, TANYA WATT & KATHERINE TAKAI, INT'L CITY/CNTY. MGMT. ASS'N, LOCAL GOVERNMENTS, SOCIAL EQUITY, AND SUSTAINABLE COMMUNITIES 1 (2014) [hereinafter SUSTAINABLE COMMUNITIES], https://icma.org/sites/default/files/306328_FINAL%20REPORT%20Advancing%20Social%20Equity.pdf [https://perma.cc/QB3F-Z5CF]; *see also* Daniels et al., *supra* note 22, at 17.

211. WAYNE M. FEIDEN & ELISABETH HAMIN, AM. PLAN. ASS'N, ASSESSING SUSTAINABILITY: A GUIDE FOR LOCAL GOVERNMENTS 3 (2011), https://planning-org-uploaded-media.s3.Amazonaws.com/publication/online/PAS-Report-565.pdf [https://perma.cc/EJ2T-SMM3] (defining sustainable development as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (quoting Rep. of the World Comm'n on Env't and Dev., para. 27, U.N. Doc. A/42/427 (1987))).

212. The American Planning Association refers to the triple bottom line of sustainability which includes the "three P's": people (equity), profit (economy), and planet (environment). FEIDEN & HAMIN, *supra* note 211, at 3–4.

213. SUSTAINABLE COMMUNITIES, *supra* note 210, at 20. In 2010, ICMA conducted a survey of local governments with populations over 2500 and found that 94 percent of respondents believed the economy was a high priority, 62 percent believed the environment was a high priority, and 38 percent considered social justice a priority. *Id.*

214. *Id.* at 1.

distributed, incorporating procedural and distributive justice elements within the sustainability plan.[215]

Balancing the three E's can be a tedious task whereby one element supersedes the others. This can be particularly challenging in communities with natural resource-based economies that do not integrate social equity principles into their planning and development schemes. For instance, where fossil fuel conversion is the basis of an economy, as in Houston, there may be significant financial benefits to the community at the expense of environmental degradation, such as groundwater contamination and increased risks of cancer.[216] Incorporating principles of social equity into the planning and development analysis facilitates a process where cumulative impacts and historically marginalizing policies are contemplated at the outset. If the three E's are not balanced, there may be sustainable economic gains at the cost of social equity and the environment.

There is no one-size-fits-all approach to sustainability planning, and policymakers should be empowered to do what is best for their communities. With this in mind, jurisdictions should implement plans that incorporate certain best practices that advance the goal of creating equitable communities while curtailing the effects of climate change. Planning is a critical component of land use and property regulation that would also be beneficial to environmental regulation. The next Subpart interweaves land use's connection to environmental law.

b. Land Use and Environmental Regulation

Land use regulation is at the heart of environmental law and environmental justice. Although not explicitly assessed within most federal or state statutes, land use planning and development is directly linked to environmental impact. Local land use choices have a significant impact on greenhouse gas emissions and the environmental effects of climate change.[217] Climate change has become the inflection point for establishing a broader conception of environmental law and environmental justice. In the 1960s, Rachel Carson's call to prohibit the use of DDT, a carcinogenic pesticide, was an inflection point for national environmental

215. *See* FEIDEN & HAMIN, *supra* note 211, at 4; Bullard, *supra* note 102, at 30–31; Kaswan, *supra* note 14, at 1067.

216. *See supra* Subpart I.B.4.

217. Adie Tomer, Joseph W. Kane, Jenny Schuetz & Caroline George, *We Can't Beat the Climate Crisis Without Rethinking Land Use*, BROOKINGS INST. (May 12, 2021), https://www.brookings.edu/articles/we-cant-beat-the-climate-crisis-without-rethinking-land-use [https://perma.cc/GL5E-WYF7].

regulation,[218] while grassroots efforts protesting exposure to environmental hazards served as the inflection point for environmental justice.[219] Each initiative underscored land use and development as a critical component of environmental degradation, but from vastly different perspectives.

As a general matter, federal environmental law regulates human interaction with the natural environment with an eye toward protecting human health and reducing environmental risks. The Environmental Protection Agency serves as the primary regulator that sets standards and doles out responsibilities to states, facilitating a cooperative regulatory model.[220] Yet, there is generally a disconnect between federal regulation of natural resources and the local land use decisions that implicate the environment writ large.

But there are some tangential federal connections to land use within the National Environmental Policy Act (NEPA), which requires federal agencies to assess the environmental impacts of "major Federal actions significantly affecting the . . . environment."[221] Major federal actions include the issuance of permits for projects such as hazardous waste disposal sites and power plants.[222] While scholars disagree on its efficacy today, NEPA was initially revered as a victory because environmental impacts had to be considered before development.[223] For instance, NEPA offers a structural framework for procedural justice by requiring an interdisciplinary approach to decisionmaking when seeking to balance economic and environmental considerations. Executive Order 12898 (EJ Order) uses similar language in requiring federal agencies to ensure that all programs that substantially affect human health and the environment be inclusive of all populations for decisionmaking purposes.[224] The environmental justice

218. *See The Origins of EPA*, U.S. ENV'T PROT. AGENCY (June 5, 2023), https://www.epa.gov/history/origins-epa [https://perma.cc/7YE4-QBAS].
219. *See supra* Part I.B.1.
220. *See, e.g.*, 42 U.S.C. § 7401–7671 (Clean Air Act); 33 U.S.C. § 1251–1387 (Clean Water Act); 42 U.S.C. § 6901–6987 (Resource Conservation and Recovery Act).
221. National Environmental Policy Act of 1969 § 102, Pub. L. No. 91-190, 83 Stat. 852, 853 (1970) (prior to 1975 amendment) (codified at 42 U.S.C. § 4332).
222. *Id.*
223. *See* Karkkainen, *supra* note 95; Daniels et al., *supra* note 95, at 866.
224. The Executive Order 12898 (EJ Order) requires agencies to develop environmental justice strategies, conduct targeted research, and allow for public participation in development processes. *See* Exec. Order No. 12,898, 59 Fed. Reg. 7629 (Feb. 16, 1994). The Council on Environmental Quality (CEQ) developed six principles for agency consideration, including: area composition; relevant public health and industry data; and recognition of the cultural, social, occupational, historical, or economic factors that amplify environmental effects. COUNCIL ON ENV'T QUALITY, ENVIRONMENTAL JUSTICE: GUIDANCE UNDER THE NATIONAL ENVIRONMENTAL POLICY ACT 8–9 (1997), https://www.epa.gov/sites/

framework considers "impacts on the natural and physical environment, such as human health or ecological impacts on minority populations, low-income populations, and Indian tribes, or from related social or economic impacts."[225]

Though the EJ Order attempted to address the historical harms onset by discriminatory property regulations, it provided limited enforcement mechanisms and minimal avenues for accountability.[226] Decades later, the enactment of Executive Order 14008 (Climate EJ Order) offered new context for consideration. The Climate EJ Order revised the EJ Order by stipulating that the members of the interagency federal environmental justice working group now must be the most senior agency officials rather than a designee.[227] To further the Climate EJ Order's goals, the EPA launched a new national office in 2022 tasked with advancing environmental justice and civil rights.[228] The enactment of the executive orders, coupled with the emphasis on strong leadership, suggests that both bottom-up (grassroots activism) and top-down (federal agency) mobilization are key components of equity-centered policymaking.[229]

As with every executive order, the EJ Order and the Climate EJ Order are limited to federal agency actions. Neither executive order can substantively operationalize environmental justice under key legislation such as NEPA which addresses procedural requirements. Further, where environmental impact is concerned, the "identification of a disproportionately high and adverse human health or environmental effect" on marginalized communities has not historically "preclude[d] a proposed agency action from going forward, nor does it necessarily

default/files/2015-02/documents/ej_guidance_nepa_ceq1297.pdf [https://perma.cc/P3J7-FM73].

225. COUNCIL ON ENV'T QUALITY, *supra* note 224, at 8.

226. *See id.* at 9–10 (explaining that the environmental justice considerations do not preclude agency action but should heighten attention when developing alternatives).

227. Under the EJ Order, there was an option for the agency head or department director to participate in the working group. Executive Order 14,008 (Climate EJ Order) now specifies the Secretary of the specific agency to be the participant. Exec. Order No. 14,008, 86 Fed. Reg. 7619, 7628 (Feb. 1, 2021).

228. The Office of Environmental Justice and External Civil Rights has higher authority than its individual predecessors—Environmental Justice, Civil Rights, and Conflict Prevention—and will include two hundred staff members across ten regions. *See About the Office of Environmental Justice and External Civil Rights*, U.S. ENV'T PROT. AGENCY (June 30, 2023), https://www.epa.gov/aboutepa/about-office-environmental-justice-and-external-civil-rights [https://perma.cc/JG2F-B92H]. Further, in April 2023, President Biden passed Executive Order 14,096, which required each executive agency to incorporate an environmental justice strategic plan within eighteen months. Exec. Order No. 14,096, 88 Fed. Reg. 25251, 25256 (Apr. 26, 2023).

229. *See infra* Subpart II.B.2.

compel a conclusion that a proposed action is environmentally unsatisfactory."[230] Thus, it is imperative that all interested stakeholders recognize the unique challenges of marginalized communities in the development planning process. If these challenges are not contemplated ex ante, they are of minimal consequence once a project is proposed. Because the EJ Order failed to consider these challenges upfront, scholars and activists alike question the EJ Order's impact on federal regulatory decision making.[231]

Within the environmental context, equity has been discussed from both a procedural and distributive perspective, with the procedural component often being most prevalent.[232] This is the backdrop within which greenlining could operate. Though there are various regulatory structures that would be involved in greenlining's implementation, the current regulatory regime would not necessarily require a complete overhaul for greenlining to become operational.

Unlike the failed reinvestment mechanism,[233] greenlining in land use planning seeks to expand the concept to meet today's challenges. It considers the intricacies at the intersection of property regulation and environmentalism while taking inventory of past injustices and requiring investment in sustainability planning. With these historical concepts in mind, greenlining seeks to incorporate relevant aspects of various disciplines to develop effective, place-based sustainability plans. Each factor—what, why, and where—can be incorporated into jurisdictions' comprehensive land use or climate plans to the extent the two are not already integrated.

Many local jurisdictions that experience compounded harms are currently engaged in sustainability planning.[234] But such efforts must be expanded to fully address the ways in which climate change disproportionately affects places subject to discriminatory property regulation and environmental injustice.

230. COUNCIL ON ENV'T QUALITY, *supra* note 224, at 10.

231. Elizabeth Glass Geltman, Gunwant Gill & Miriam Jovanovic, *Beyond Baby Steps: An Empirical Study of the Impact of Environmental Justice Executive Order 12898*, 39 FAM. & CMTY. HEALTH 143, 147 (2016) (finding a lack of consistency in agency discussion and implementation of environmental justice policies).

232. Procedural justice is generally thought to encompass fairness in the process by which burdens are distributed, the right to an equal voice and representation in decisionmaking processes, and equitable practices in developing governing rules, regulations, and project evaluation criteria. *See* Been, *supra* note 104, at 1047–49; Welton & Eisen, *supra* note 25, at 315; Bullard, *Environmental Justice*, *supra* note 102, at 31. From an environmental perspective, distributive justice is "the equitable distribution of the burdens resulting from environmentally threatening activities or of the environmental benefits of government and private-sector programs." Robert R. Kuehn, *A Taxonomy of Environmental Justice*, 30 ENV'T L. REP. 10681 (2000).

233. *See supra* Part II.A.

234. *See e.g.*, CITY OF HOUS., *supra* note 193, at 30.

Localities should continue to lead the planning charge while also allowing for support from the state and federal governments.[235] The following Subpart calls for a collaborative governance structure that includes localities, states, and the federal government.

2. Greenlining in a Collaborative Governance Structure

Localities traditionally have the ultimate authority when regulating land use planning and zoning, while states and the federal government oversee environmental regulation. The lack of collaboration between these distinct regulatory structures can pose challenges to facilitating equitable outcomes. During the 1930s, HOLC, a federal entity, assessed and graded approximately two hundred cities,[236] the most highly populated jurisdictions.[237] Its assessment provided a snapshot of the social, economic, and environmental conditions present at that time. Today, there are about 39,000 general purpose local governments in the United States,[238] and populations have significantly increased. Each of these places is inherently different geographically and economically. By virtue of these different characteristics, land use planning as described above is

235. Many scholars would argue that the market will provide for adequate protection and development measures such that little to no government involvement is warranted. *See* Michael A. Livermore & Richard L. Revesz, *Environmental Law and Economics*, *in* THE OXFORD HANDBOOK OF LAW AND ECONOMICS VOLUME 2: PRIVATE AND COMMERCIAL LAW (Francesco Parisi ed., 2019) (describing market-mechanisms as compared to command-and-control regulation). In many sectors where the government does not provide goals or standards, however, private industries continue to subscribe to the status quo. For example, in the absence of the Securities and Exchange Commission's new climate risk disclosure requirements, many companies would not consider how their operations impact the environment. *See* Arzu Ozoguz, *Tighter Regulatory Oversight of ESG Is Coming, and It's a Good Thing*, KENAN INST. OF PRIV. ENTER. (Jan. 9, 2023), https://kenaninstitute.unc.edu/commentary/tighter-regulatory-oversight-of-esg-is-coming-and-its-a-good-thing [https://perma.cc/TRC5-AYU2].

236. *See* Hannah De los Santos, Karen Jiang, Julianna Bernardi & Cassandra Okechukwu, *From Redlining to Gentrification: The Policy of the Past That Affects Health Outcomes Today*, HARV. MED. SCH. CTR. FOR PRIMARY CARE (May 26, 2021), https://info.primarycare.hms.harvard.edu/review/redlining-gentrification-health-outcomes [https://perma.cc/CP4D-SB33].

237. Faber, *supra* note 15, at 745 (explaining that HOLC maps were created for cities with a population of at least 40,000 residents).

238. *See* Michael B. Gerrard, *Who Decides Where the Renewables Should Go?: A Response to Danielle Stokes'* Renewable Energy Federalism, 100 MINN. L. REV. HEADNOTES 400, 410 (2022), (discussing the number of local jurisdictions in the United States and the feasibility of them updating land use plans for renewable energy).

typically thought to be best suited for local government agencies.[239] Further, the sheer number of jurisdictions across the United States makes comprehensive planning quite complex, particularly if planning is not conducted at the appropriate scale or occurs without stakeholder collaboration.

As we contend with the fact that we live in a global society, it becomes clearer that even local governance can have global climate impacts.[240] Robust local land use and sustainability planning is only the tip of the policymaking iceberg where climate change is concerned. Land use planning—and its connection to the appropriate arrangement of uses, spatial compatibilities, and utility—is directly related to how marginalized communities experience climate change.[241]

Within the United States, one mechanism for improving sustainability outcomes is increasing the scale of governance and facilitating dynamic policymaking.[242] These dynamic governance structures would allow regulators to identify greenlining-eligible communities at the subnational or federal level with input from localities. As with other programs, one might allocate power-sharing authority in a variety of ways—development of minimum criteria, issuance of

239. *See* Sarah Fox, *Localizing Environmental Federalism*, 54 U.C. DAVIS L. REV. 133, 137 (2020); Jesse J. Richardson, Jr. & Amanda C. Bernard, *Zoning for Conservation Easements*, 74 LAW & CONTEMP. PROBS., no. 4, Fall 2011, at 83, 85–86.

240. Stokes, *supra* note 118 (discussing the aggregate effect of local development).

241. *See* Nicholas Blomley, *Land Use, Planning, and the "Difficult Character of Property,"* 18 PLAN. THEORY & PRAC. 351, 353 (2016) (explaining that "use" leads to questions of "utility" and should be focused on the appropriate arrangement of uses, avoiding spatial incompatibilities and underutilization).

242. Scholars have identified numerous systems of federalism and governance structures whereby policymaking and implementation roles are divided between different levels of government, and even between the public and private sectors. *See, e.g.*, Erin Ryan, *Environmental Federalism's Tug of War Within*, *in* THE LAW AND POLICY OF ENVIRONMENTAL FEDERALISM: A COMPARATIVE ANALYSIS 355, 366 (Kalyani Robins ed., 2015) (describing Balanced Federalism as "emphasiz[ing] dynamic interaction among the various levels of government and shared interpretive responsibility among the three branches of government, with the overall goal of achieving a balance among the competing federalism values that is both dynamic and adaptive over time"); Garrick B. Pursley & Hannah J. Wiseman, *Local Energy*, 60 EMORY L.J. 877, 918–20 (2011) (arguing that a polycentric governance regime involving more than a single level of government will be more effective than unilateral action); Hari M. Osofsky, Jessica Shadian & Sara L. Fechtelkotter, *Arctic Energy Cooperation*, 49 U.C. DAVIS L. REV. 1431, 1504–08 (2016) (discussing the benefits of hybrid cooperation and the value-add of networking to create institutions and develop regulations). Dynamic governance is used within the greenlining framework as it seeks to fill regulatory gaps and provide for multi-level or multi-institutional regulatory authority. *See generally* Hari M. Osofsky & Hannah J. Wiseman, *Dynamic Energy Federalism*, 72 MD. L. REV. 773 (2013) (proposing dynamic federalism principles for designing innovative energy governance systems).

guidance documents, technical assistance, etc.[243]—depending on policymaking infrastructure within jurisdictions. Climate change requires each level of government to be more intentional about sustainability, and greenlining provides a structure for such intention.

Federally, with the support of the U.S. Congress, the Biden-Harris Administration has managed to incorporate key components of the Build Back Better plan, particularly where environmentalism and climate consciousness are concerned.[244] The Infrastructure Act,[245] the Inflation Reduction Act of 2022 (IRA)[246] and the Justice40 initiative[247] each include economic incentives that could undergird the greenlining framework. From allocating billions of dollars to support clean drinking water to extending clean energy tax credits, these policies have poised the federal government to invest significantly in state and local government planning.

These investments can take shape in many large, metropolitan jurisdictions. For example, local governments could develop their own greenlining criteria,

243. For example, federal agencies provide grants to assist localities in reviewing highly technical projects and offer trainings or guidance documents detailing best practices. *See* Benjamin K. Sovacool, *The Best of Both Worlds: Environmental Federalism and the Need for Federal Action on Renewable Energy and Climate Change*, 27 STAN. ENV'T L.J. 397, 472 (2008); Osofsky & Wiseman, *supra* note 242, at 825–26; *Environmental Justice Grants, Funding and Technical Assistance*, U.S. ENV'T PROT. AGENCY (Sept. 6, 2023), https://www.epa.gov/environmentaljustice/environmental-justice-grants-funding-and-technical-assistance [https://perma.cc/6XLQ-FF83].

244. This plan is premised upon meeting climate goals, job creation, and economic growth. *See The Biden Plan for a Clean Energy Revolution and Environmental Justice*, BIDEN-HARRIS, https://joebiden.com/climate-plan [https://perma.cc/DP22-Z25F] (describing the climate goals).

245. The Infrastructure Act allocated $50 billion to the EPA to improve drinking water, wastewater, and stormwater infrastructure, $3.5 billion for hazardous waste site clean-up, and $100 million for the Pollution Prevention (P2) Program. *Fact Sheet: EPA & the Bipartisan Infrastructure Law*, U.S. ENV'T PROT. AGENCY (Nov. 6, 2021), https://www.epa.gov/infrastructure/fact-sheet-epa-bipartisan-infrastructure-law [https://perma.cc/K2PC-JTJL]. Additionally, the Department of Energy has been allocated $3.5 billion to support the Weatherization Assistance Program and $14 billion for energy resiliency and efficiency related grants. *DOE Fact Sheet: The Bipartisan Infrastructure Deal Will Deliver for American Workers, Families and Usher in the Clean Energy Future*, U.S. DEP'T OF ENERGY (Nov. 9, 2021), https://www.energy.gov/articles/doe-fact-sheet-bipartisan-infrastructure-deal-will-deliver-american-workers-families-and-0 [https://perma.cc/S3T3-QJTZ].

246. The Inflation Reduction Act extends tax credits for investment in renewable energy facilities for businesses and individuals. It also provides funding to the Department of Energy for energy efficiency rebates for low- and moderate-income households. Inflation Reduction Act of 2022 §§ 13201–13701, Pub. L. No. 117-169, 136 Stat. 1818, 1931–82.

247. *See infra* Part III.

import data responsive to those criteria into a Geographic Information Systems database,[248] and wholly administer a comprehensive, equity-based sustainability plan.[249] Conversely, in jurisdictions with under-resourced or defunct planning departments, plan development and implementation would be extremely unlikely because they lack the necessary funding and regulatory structures.[250] These are the instances in which dynamic governance would be most advantageous. Yet, these are the very places that respond with stark resistance out of fear that local autonomy will be stripped away.[251]

Through dynamism and collaboration, intergovernmental land use planning processes can shift norms and values toward sustainability.[252] Coordination across geographic and governmental scales can shift perspectives by mandating, encouraging, and informing policymaking.[253] Scholars have argued that bottom-up networking (for example, local community project coordination),[254] in conjunction with developing "spaces of engagement,"[255] can transform siloed

248. *See infra* Subpart II.C.

249. *See, e.g.*, N.Y. STATE OFF. PLAN., DEV. & CMTY. INFRASTRUCTURE, DEP'T OF STATE, BASIC LAND USE TOOLS FOR RESILIENCY (2019), https://dos.ny.gov/system/files/documents/2020/06/1_basic-land-use-tools-for-resiliency_all.pdf [https://perma.cc/PKS5-9X49].

250. This is often the case in rural areas and can be detrimental to many marginalized communities. *See* Ann M. Eisenberg, *Power and Powerlessness in Local Government: A Response to Professor Swan*, 135 HARV. L. REV. F. 173 (2022). Additionally, land use in rural areas is often governed by informal institutions such as chambers of commerce. *See* Adams-Schoen, *supra* note 16, at 212.

251. See Richard C. Schragger, *The Attack on American Cities*, 96 TEX. L. REV. 1163, 1184 (2018) (discussing the political and policy hostility against city governance).

252. Collaborative federalism has been described as "joint decisionmaking [that] occurs among multiple governing units, in contrast to divided and distributed decisionmaking. Matthew McKinney, *Whither Public Participation in Federal Land Management? Replicating Homegrown Innovations in Shared Problem Solving*, 48 ENV'T. L. REP. 10015, 10028 (2018).

253. *See* Adams-Schoen, *supra* note 16, at 195–96. *See generally* Michael C. Dorf & Charles F. Sabel, *A Constitution of Democratic Experimentalism*, 98 COLUM. L. REV. 267 (1998) (describing democratic experimentalism as incorporating place-specific knowledge, while state and federal integration allows for knowledge sharing and problem solving).

254. *See* Osofsky & Levit, *supra* note 24, at 412–13 (describing the ways in which Tulsa and Portland participate in networks to develop bottom-up approaches to climate change regulation, as well as the relationship between place, space, and policymaking); *see also* Janet Koven Levit, *A Bottom-Up Approach to International Lawmaking: The Tale of Three Trade Finance Instruments*, 30 YALE J. INT'L L. 125, 180–88 (2005) (discussing bottom-up international lawmaking as a regulatory process involving public and private practitioners and governing practices and behaviors).

255. Cox, *supra* note 25, *passim*. Political geographer Kevin Cox defines spaces of dependence and spaces of engagement to explain the scaled division of politics. Spaces of dependence are "localized social relations upon which we depend for the realization of essential interests . . . they define place-specific conditions for our material well being and our sense of

planning processes into multifaceted governance structures equipped to address the complexities of climate change.[256]

As a multi-part structural framework, greenlining serves as the planning tool through which marginalized communities are identified, as well as the conduit for collaborative governance. Greenlining assists with the funding distribution process because many of the intended beneficiaries are defined within a clear geographic area. Such areas are not the only eligible locations for federal support, but would take priority given their historical harms. For example, current initiatives such as the Weatherization Assistance Program[257] could be expanded to incorporate a public outreach component. Outreach could be facilitated by local governments or community organizations within greenlined areas, such that eligibility could be ascertained in marginalized communities. From a data management and compliance perspective, under-resourced jurisdictions could rely on federal mapping tools and guidance documents to identify the areas where greenlining would be most beneficial. These are but a few ways that greenlining can be operationalized. Specific programs and resources can be implemented to accommodate the unique character of each place.

States also play a critical role in establishing sustainable communities. From setting out land use plan criteria[258] to establishing renewable portfolio standards,[259] states can facilitate local implementation. New York's Community Risk and Resiliency Act[260] and Climate Leadership and Community Protection Act[261] provide examples of state leadership within the sustainability sphere. These laws require an analysis of climate impacts related to planning, permitting, and funding within each county, and established model local resiliency

significance." *Id.* at 2. Spaces of engagement are the places where "the politics of securing a space of dependence unfolds." *Id.*

256. Harriet Bulkeley & Michele M. Betsill, *Rethinking Sustainable Cities: Multilevel Governance and the 'Urban' Politics of Climate Change*, 14 ENV'T POL. 42, 47 (2005) (finding that local issues can become a black box disconnected from the global, international, and national contexts when policy solutions are locally bounded).

257. This program seeks to improve energy efficiency of homes owned or occupied by low-income residents. Income thresholds vary by state. *See* 42 U.S.C. § 6861.

258. *See infra* Subpart II.B.

259. The U.S. Energy Information Administration reports that thirty-one states and the District of Columbia have adopted renewable portfolio standards. Richard Bowers, *Five States Updated or Adopted New Clean Energy Standards in 2021*, U.S. ENERGY INFO. ADMIN. (Feb. 1, 2022), https://www.eia.gov/todayinenergy/detail.php?id=51118 [https://perma.cc/5RG4-PKJV].

260. Community Risk and Resiliency Act, 2014 N.Y. Laws 1115–19.

261. Climate Leadership and Community Protection Act, 2019 N.Y. Laws 857.

ordinances.[262] Within the greenlining context, state expertise would assist localities with developing sustainability plans and designating marginalized communities. Additionally, states can distribute federal or state funds to greenlined communities.

Most significantly, local land use planners and other officials would have the task of designating marginalized communities, implementing sustainability plans, and developing policies, programs, and incentives within greenlined areas. With their place-based expertise, local officials can assess marginalized communities' vulnerability limitations to incorporate exactions,[263] building code standards, capital improvement plans, and other regulations within their area.[264]

The descriptions above illustrate a scenario where collaboration exists across each level of government. Yet climate governance is particularly susceptible to partisanship, especially when examined through an equity lens.[265] In the absence of strong networks of engagement, policy objectives are often misaligned and fail to address the needs of marginalized communities. A variety of relational structures, either tripartite (federal, state, local) or bipartite (federal to local), could ameliorate these deficiencies.[266] No matter the dynamic governance structure, both sustainability planning and greenlining would be advanced by collaboration across scales.

C. What Does Greenlining Entail?

So why greenlining exactly? In the pragmatic sense, "green" elicits thoughts of forward progress, money, and innovative technology. From a theoretical perspective, it encapsulates the three E's of sustainability—environment, economy, and equity. Within land use, drawing geographic lines can demarcate areas of exclusion, and it can also identify areas ripe for investment. Thus, greenlining is offered as one way to reckon with historical injustices and developing places that are less susceptible to environmental harms.

262. N.Y. STATE OFF. PLAN., DEV. & CMTY. INFRASTRUCTURE, *supra* note 249.
263. An exaction is "[a] requirement imposed by a local government that a developer dedicate real property for a public facility or pay a fee to mitigate the impacts of the project, as a condition of receiving a discretionary land-use approval." *Exaction*, BLACK'S LAW DICTIONARY (11th ed. 2019).
264. *See* Adams-Schoen, *supra* note 16, at 202.
265. *See* Hari M. Osofsky & Jacqueline Peel, *Energy Partisanship*, 65 EMORY L.J. 695, 703–18 (2016) (discussing the extremely partisan nature of climate change dialogue and policymaking).
266. Nestor M. Davidson, *Cooperative Localism: Federal-Local Collaboration in an Era of State Sovereignty*, 93 VA. L. REV. 959, 962–63 (2007).

Greenlining is not all-encompassing in addressing every climate impact, but rather offers a structural framework for governing bodies to (1) identify the geographic areas that are eligible for funding and (2) incorporate green initiatives when approving new development.[267] This can be implemented via mandatory services or payments,[268] building regulations, and inspection requirements, among other things. For example, in greenlined zones where extreme heat is pervasive, localities may opt to implement "green" building codes[269] that mandate greenspace development in conjunction with a construction project or offer tax incentives for rooftop solar or cool roof installations.[270] Moreover, if a project includes a housing component, a percentage of rent controlled units could be mandated. Green development codes link equity with environmentalism and economic development under a single multidisciplinary framework that can be implemented across different scales of government. Policymakers can adjust program criteria to accommodate the challenges most applicable to their jurisdiction. Like other development overlay districts,[271] states or localities can assess areas within their jurisdiction that meet the baseline criteria and identify them as greenlined zones.[272] Further, they can define internal terms such as "proximity" with greater specificity to meet their place-based needs.

267. From an enforcement perspective, greenlining would operate similar to existing development requirements within most land use plans and zoning ordinances, by requiring climate-related development criteria or aid to community members, or both.

268. Exactions and proffers are commonplace within development negotiations. *See* VA. CODE ANN. § 15.2-2303.2 (West 2014); Timothy M. Mulvaney, *Legislative Exactions and Progressive Property*, 40 HARV. ENV'T L. REV. 137 (2016).

269. *Green Building Standards*, U.S. ENV'T PROT. AGENCY (Jan. 18, 2023), https://www.epa.gov/smartgrowth/green-building-standards [https://perma.cc/QT9G-SLZZ].

270. Cool roofs are "designed to reflect more sunlight that a conventional roof, absorbing less solar energy [and] lowers the temperature of the building." *Cool Roofs*, U.S. DEP'T OF ENERGY, https://www.energy.gov/energysaver/cool-roofs#:~:text=A%20cool%20roof%20is%20designed,cool%20on%20a%20sunny%20day[https://perma.cc/2MNR-WGUY].

271. These are districts that are "superimposed over one or more zoning districts or parts of districts and that impose[] specified requirements . . . in addition to those otherwise applicable for the underlying zone." GROWING SMART, AM. PLANNING ASS'N, GROWING SMART LEGISLATIVE GUIDEBOOK: MODEL STATUTES FOR PLANNING AND THE MANAGEMENT OF CHANGE 8–23 (Stuart Meck ed., 2002), https://planning-org-uploaded-media.s3.amazonaws.com/publication/download_pdf/Growing-Smart-Legislative-Guidebook.pdf [https://perma.cc/NS7B-JBT2].

272. *See* Salkin, *supra* note 16, at 122–23 (discussing the need for action across all levels of government to address the climate change problem, and how comprehensive planning is a useful tool in furthering sustainability goals); Nolon, *Land Use Stabilization Wedge*, *supra* note 16, at 1 (arguing that local governments can utilize land use techniques to mitigate climate change).

In addition to providing development standards, greenlining establishes a process by which place-based spatial analysis can be leveraged to create comprehensive plans that address land use, sustainability, and climate change. By including a mapping component, greenlining facilitates a place-based community investment approach similar to transit-oriented development[273] and tax investment overlay districts.[274] The ability to visualize data related to cumulative harms ascribes substantive value to the equity prong of sustainability, which is often lacking.[275] By drawing on best practices across disciplines, greenlining's structural framework elevates equitable policy considerations that have been vastly underappreciated.

Establishing clear metrics and depicting development patterns are two practices that are useful in promoting equity. First, the American Planning Association (APA) promotes the use of various indicators to measure success of sustainability standards.[276] Quantitative assessment methods can provide scientific, technical, political, and economic insights that assist in determining community goals.[277] The APA also subscribes to the adage "what gets measured gets done." A first step for many jurisdictions is developing metrics by which sustainability, and particularly equity, is evaluated.[278] If plans do not explicitly include equity as a metric for sustainability or describe how it will be achieved, the plan cannot be implemented, nor can progress be evaluated.

Second, utilizing mapping tools is critical in establishing boundaries and assessing where development should occur. Geographic Information System (GIS) mapping has proved to be an effective mechanism by which governments, community members, and developers alike can assess land patterns and relationships via interactive data sets.[279] There are several existing mapping

273. Richard Briffault, *The Most Popular Tool: Tax Increment Financing and the Political Economy of Local Government*, 77 U. CHI. L. REV. 65, 84–86 (2010).

274. *See* Christine A. Fazio & Judith Wallace, *Legal and Policy Issues Related to Community Benefits Agreements*, 21 FORDHAM ENV'T L. REV. 543, 547 (2010); and OHIO REV. CODE ANN. § 5709.78 (West 2023).

275. *See* Isabelle Anguelovski et al., *Equity Impacts of Urban Land Use Planning for Climate Adaptation: Critical Perspectives From the Global North and South*, 36 J. PLAN. EDUC. & RSCH. 333, 334–35 (2016).

276. FEIDEN & HAMIN, *supra* note 211, at 9–13.

277. *Id.* 10–14.

278. *Id.* at 18.

279. *See* Keith Cooke, *A Monumental Shift for Planners Starts With GIS*, AM. PLAN. ASS'N (Mar. 17, 2021), https://www.planning.org/blog/9213174/a-monumental-shift-forplanners-starts-with-gis [https://perma.cc/FC3U-B8EU] ("GIS stopped being a luxury and started becoming a necessity for planning professionals years ago. Now, with the ability to design, analyze, and collaborate over a secure web platform, planners can quickly find the best, most sustainable

resources at the local, state, and federal level, as well as the academic, nonprofit, and private sectors, that depict various land use and environmental impacts. For example, local land planners often make zoning and comprehensive plan data available to community members via GIS, which allows interested parties to visualize existing development, locations where specific development is permissible, and development patterns.[280] Advising communities about their access to and providing education about GIS tools can increase social equity by providing community members with resources that depict distributive justice concerns.

At the federal level, the CEJS Tool was developed as a result of the Climate EJ Order.[281] The tool is indicates whether communities are eligible for the Justice40 initiative, which specifically earmarks 40 percent of funding from climate and clean infrastructure investments for disadvantaged communities.[282] Additionally, at the state level, California has developed the CalEnviroScreen, which was designed to "help identify California communities that are disproportionately burdened by multiple sources of pollution."[283] Academic institutions such as the

development path forward in both the short and long term for their community."); Y.J. Zhang, A.J. Li & T. Fung, *Using GIS and Multi-Criteria Decision Analysis for Conflict Resolution in Land Use Planning*, 13 PROCEDIA ENV'T SCIS. 2264, 2265 (2012) (finding that GIS technology's ability to produce, store, analyze, and visualize spatial data is critical to the processes used in land use planning because such processes are inherently spatial).

280. *See, e.g.*, CNTY. OF L.A. OPEN DATA, https://data.lacounty.gov [https://perma.cc/2HJ7-W98E]; *COHGIS Data Hub*, CITY OF HOUS. N, https://cohgis-mycity.opendata.arcgis.com [https://perma.cc/MCL2-RHFF]; CITY OF RICHMOND - GIS, https://gis-home-page-cor.hub.arcgis.com/pages/7f323554ce3344b4ac910adc6bff9329 (last visited May 18, 2024).

281. Exec. Order No. 14,008, 86 Fed. Reg. 7619, 7628 (Feb. 1, 2021).

282. Disadvantaged communities have been categorized as such based on environmental factors, including proximity to hazardous waste facilities and energy burden, but must also fall within a minimum income threshold. Agencies have been tasked with identifying such communities for purposes of investment in programs related to climate change, energy transition, clean transportation, and sustainable housing. *See, e.g.*, *Climate and Economic Justice Screening Tool*, COUNCIL ON ENV'T QUALITY, https://screeningtool.geoplatform.gov/en/methodology#3/33.47/-97.5 [https://perma.cc/6CN8-SM7P]; *see also* JUSTICE40, https://www.thejustice40.com [https://perma.cc/6MVE-SDE9].

283. *CalEnviroScreen 4.0*, CAL. OFF. ENV'T HEALTH HAZARD ASSESSMENT, https://oehha.ca.gov/calenviroscreen/report/calenviroscreen-40 [https://perma.cc/RET6-SMT8]. The federal government utilizes mapping strategies including the EJ Screen and Climate and Economic Justice Screening Tool. *Id.*

University of Richmond[284] and the University of California, Berkeley[285] have also grappled with redlining and environmental justice in robust mapping projects.

These data sets are of extreme significance to land use planners and those with a direct interest in equitable development. Yet, lawyers, policymakers, and legal academics who are charged with analyzing data, providing recommendations, and contributing to public discourse can also find value in spatial analysis tools, particularly where land use and environmental impacts are concerned. Legal scholars have already embraced economics and philosophy as valuable interdisciplinary methodologies,[286] and are beginning to further incorporate science and humanities into their scholarship to allow for more holistic understandings of legal issues.[287] In the climate change arena, biology, geography, and environmental studies inform aspects related to the physical environment, while public health, political science, psychology, and sociology illuminate the ways in which humans interact with, experience, and govern their environment. Utilizing interdisciplinary data in mapping depicts cumulative benefits and burdens, which can inform development standards and reduce the likelihood that marginalized communities continue to be overburdened by economic and environmental harms.

The APA can also inform the greenlining model through its "Sustainability Policy Framework."[288] The six principles of this framework are livable built environment, harmony with nature, resilient economy, interwoven equity,

284. *See Mapping Inequality: Redlining in New Deal America*, U. RICH. DIGIT. SCHOLARSHIP LAB, https://dsl.richmond.edu/panorama/redlining/#loc=5/39.1/-94.58 [https://perma.cc/688P-BUE4].

285. *See* MAPPING FOR ENV'T JUST., https://mappingforej.berkeley.edu [https://perma.cc/8BX4-QE7C].

286. In reflecting on the centennial celebration of the Harvard Law Review, Richard Posner acknowledged that law has moved beyond being an "autonomous discipline" entrusted to those trained in law and nothing else. *See* Richard A. Posner, *The Decline of Law as an Autonomous Discipline: 1962–1987*, 100 HARV. L. REV. 761, 761 (1987). He detailed the reliance on economics and philosophy as vital components in legal analysis beginning in the 1950s. *Id.* at 767–69. Posner also described interdisciplinary legal analysis as a good thing that should continue to expand. *Id.* at 777.

287. *See* Shai Lavi, *Turning the Tables on "Law and . . .": A Jurisprudential Inquiry Into Contemporary Legal Theory*, 96 CORNELL L. REV. 811 (2011) (challenging interdisciplinary scholars to bring the logic of other disciplines under the umbrella of jurisprudence); Wendy E. Parmet, *Population-Based Legal Analysis: Bridging the Interdisciplinary Chasm Through Public Health in Law*, 66 J. LEGAL EDUC. 100 (2016) (utilizing public health methodologies to understand population-based legal analysis while conducting a general analysis of interdisciplinary legal scholarship).

288. AM. PLAN. ASS'N, THE SUSTAINABILITY POLICY FRAMEWORK 7 (2016), https://www.planning.org/media/document/9117770 [https://perma.cc/8JVQ-9RZK].

healthy community, and responsible regionalism.[289] This framework seeks to expand the lens through which planners evaluate the global community. It contemplates "the structures, spaces, and infrastructure that compose [the] built environment."[290] These characteristics directly relate to greenlining's resource allocation proposition.[291] By embracing methodologies across disciplines, greenlining via GIS could provide for comprehensive sustainability insights directly tied to the three E's.[292]

As referenced above, greenlining invokes certain imagery that cannot often be captured within the confines of traditional legal analysis and is best depicted visually. Mapping is a critical component of land planning, the establishment of property rights, and environmental protection. Harms are often compounded in marginalized communities, but these harms can go unseen if they are not visible. Visually plotting land use, siting, and climate change information allows academics and practitioners in various disciplines to have more meaningful engagement with the data and to articulate their analysis and findings to wider audiences. Seeing the harms and their effects is often a catalyst in effectuating change. For instance, Figure 4 exemplifies how GIS could be employed in Richmond, Virginia to identify areas most in need of greenlining's interventions. In this case, the map pinpoints such areas based on three criteria: prior HOLC grade of D, within 0.1 miles from an EPA permitted facility,[293] or temperature that is at least two standard deviations above the average. Approximately 33 percent of parcels in the city would be eligible for greenlining if these criteria were used.

289. *Id.*
290. *Id.* at 1.
291. For example, in communities with significant air pollution, the greenlining model and sustainability plan could identify requisite criteria for development or conservation measures that would satisfy the "harmony with nature" and "healthy community" factors.
292. *See* Kaswan, *supra* note 14, at 1076 (acknowledging that methodological differences can yield different outcomes, but do not negate inequities in siting undesirable land uses).
293. This map identifies all media programs of the EPA, which includes sources regulated by the Clean Air Act, Clean Water Act, Resource Conservation and Recovery Act, and Safe Drinking Water Act. *See ECHO Facility Search - Media Programs*, U.S. ENV'T PROT. AGENCY (Sept. 7, 2023), https://echo.epa.gov/help/facility-search/facility-search-help/facility-search-types [https://perma.cc/C4WW-HUJH].

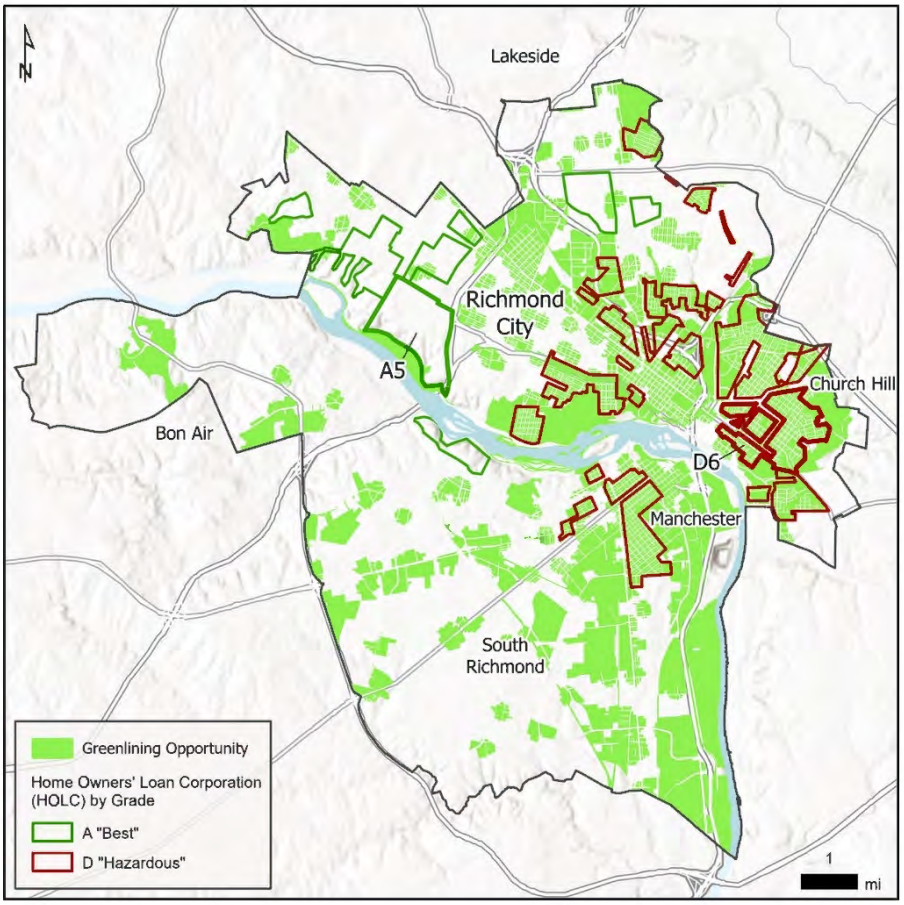

Figure 4 shows the greenlining opportunities in Richmond, Virginia if the city sought to redress redlining, extreme heat, and proximity to EPA-regulated facilities.

In conducting studies related to participatory GIS,[294] geographers and other social scientists acknowledge that there are both benefits and limitations to GIS. It is useful in assessing community needs, determining spatial relationships, facilitating community-driven solutions, and allocating resources.[295] Conversely "collaborative visioning," or incorporating multiple stakeholders in the policymaking process, can pose challenges where there are miscommunications,

294. *See* Helen K. Liu, Mei Jen Hung, Lik Hang Tse & Daniel Saggau, *Strengthening Urban Community Governance Through Geographic Information Systems and Participation: An Evaluation of My Google Map and Service Coordination*, 55 AUSTL. J. SOC. ISSUES 182 (2020).
295. *Id.* at 183–86.

conflicting goals, and limited resources.[296] But these limitations do not negate the advantages of GIS; instead, they underscore the need for resourced, equity-driven policies across governmental scales.

While greenlining may not be able to address all facets of sustainability in every community, it can serve as a means of prioritizing equity within the sustainability calculus and assisting in resource allocation. Learning from prior policy challenges, the framework can be incorporated across various governmental scales.[297] Social, economic, and environmental regulations have each contributed to the ways that geographies experience climate change.[298] With the increasing intensity of climate events, traditional governance is insufficient and fails to consider aggregated harms.[299] Dynamic governance and comprehensive planning will not eliminate climate hazards, but they can provide protective measures in the most vulnerable places.

III. GREENLINING SUSTAINABLE COMMUNITIES

Greenlining is the convergence of land use and environmental law. It addresses historic policies with lingering economic and environmental impacts while also acknowledging the effects of climate change more formally. Within the land use and environmental law context, climate change must be at the center of the regulatory scheme in order to promote sustainable development. This Part describes the advantages of greenlining, as well as its potential objections.

296. L.J. Carton & W.A.H. Thissen, *Emerging Conflict in Collaborative Mapping: Towards a Deeper Understanding?*, 90 J. ENV'T MGMT. 1991, 1992–94 (2009) (arguing that challenges with collaborative policymaking in the Netherlands can potentially be improved by acknowledging the values that underlie various "frames" within map making, including three archetypes: analysis, design, and negotiation).

297. For example, the Demonstration Cities and Metropolitan Development Act of 1966's Model Cities Program sought to improve urban life by providing federal assistance to enable cities to plan, develop, and conduct programs to improve their physical environment as well as general health and welfare. *See* Pub. L. No. 89-754, 80 Stat. 1255 (1966). Though the Act was repealed due to issues related to funding and changing policy preferences across different presidential administrations, it exemplifies prior federal engagement with local development issues. *Id.*; *see also* Bret A. Weber & Amanda Wallace, *Revealing the Empowerment Revolution: A Literature Review of the Model Cities Program*, 38 J. URB. HIST. 173, 175 (2012).

298. *See supra* Part I.

299. *See supra* Part II.B.1.

A. Advantages of Greenlining

Climate change, sustainability, and land use guidance are extremely diffuse under the existing regulatory landscape.[300] But greenlining offers one mechanism to expand the scale of governance and consolidate data sets and policy recommendations within one framework. Each level of government has a distinct objective in supporting sustainable communities within this structure. The federal government's role can be contemplated in a variety of ways—funding, compliance, or data management—allowing for individual jurisdictions to decide the parameters of the collaboration.[301] As to funding, significant resources have been allocated through various legislative efforts and policy initiatives[302]. The distribution often takes shape as grants to states, local governments, or community members.[303] Where communities are greenlined and funding for sustainable initiatives is allocated, this designation can serve as notice that the community is eligible for particular funds. Scholars have criticized the bureaucratic red tape that must be navigated for resources to reach the intended beneficiaries.[304]

If implemented across the United States, greenlining has the potential to transform how communities and industries engage with and assess development broadly. Existing data in previously redlined communities provides insight into where climate change indicators are most severe and what policies are most applicable in the identified geographic area.[305] From a community perspective, the

300. *See supra* Part II.B.1.

301. For example, the agencies and task forces identified in the Climate EJ Order are well suited to serve as resources for states and localities seeking to incorporate innovative climate mitigation and adaptation policies within greenlined areas.

302. *See, e.g.*, Definition of Energy Property and Rules Applicable to the Energy Credit, 88 Fed. Reg. 82188 (Nov. 22, 2023).

303. *See, e.g.*, Environmental Justice Grants, *supra* note 243.

304. *See* Tom C.W. Lin, *Americans, Almost and Forgotten*, 107 CALIF. L. REV. 1249, 1300 (2019) (arguing that U.S. Congress should temporarily designate territories as special economic empowerment zones for various reasons, including to mitigate the aftermath of climate hazards); U.S. GOV'T ACCOUNTABILITY OFF., GAO-18-676T, GRANTS MANAGEMENT: OBSERVATIONS ON CHALLENGES AND OPPORTUNITIES FOR REFORM (2018), https://www.gao.gov/products/gao-18-676t [https://perma.cc/28UW-BCD6] (finding that streamlining grants is an area of opportunity within GAO's purview); *see also* Eloise Pasachoff, *Executive Branch Control of Federal Grants: Policy, Pork, and Punishment*, 83 OHIO ST. L.J. 1113, 1122–24 (2022) (describing the role of the executive branch in awarding and enforcing grants).

305. An assessment of climate indicators is useful for policymaking related to emissions reduction, clean energy generation, and greenspace designations, among other things. *See Climate Change Indicators: U.S. Greenhouse Gas Emissions*, U.S. ENV'T PROT. AGENCY (July 28, 2023), https://www.epa.gov/climate-indicators/climate-change-indicators-us-greenhouse-gas-emissions [https://perma.cc/PZR6-V6EA].

knowledge that a particular geographic area is clearly designated as experiencing climate harms more severely than others could empower community members to fully participate in public processes and make informed decisions related to future development. The designation process also provides an opportunity for localities to engage with community members about the most beneficial mitigation and adaptation measures, including their perspective as to necessary incentives, such as tax abatement, greenspace development, or affordable housing. The explicit identification of harmed areas and reformed development processes support the aspirational forms of equity advanced by environmental justice scholar Robert Bullard: procedural, geographic, and social equity.[306]

When considering community engagement, an area's designation as a greenlined zone should prompt local governments and civic organizations to disseminate information about what designation entails and how new standards will impact development decisions. Further, when developing sustainability standards within the zone, community members should be active participants in the process.[307] In places such as Richmond that experience extreme heat differentials, residents should be able to help identify the requisite community incentives.[308] In this instance, residents may seek to implement a standard whereby all new development must mitigate heat exposure, which may take shape through greenspaces[309] or other climate-conscious requirements. With the awareness of greenlined zone development standards, community members will be equipped to inquire about how projects will satisfy the heat mitigation requirement during public meetings.

306. Bullard, *supra* note 102, at 30–31. Bullard advances a holistic perspective of equity that integrates the triad of procedure, geography, and society by focusing on fairness in process, appropriate spatial configurations, and sociological and cultural influences. *Id.*

307. *See, e.g.*, ULI CHARLOTTE, COMMUNITY ENGAGEMENT IN THE DEVELOPMENT PROCESS: TECHNICAL ASSISTANCE PANEL (TAP) REPORT (2021), https://ulidigitalmarketing.blob.core.windows.net/ulidcnc/sites/21/2021/10/ULI-TAP-CommunityEngagementv104.2021FNL.pdf [https://perma.cc/8B9J-2UQ2] (describing the benefits of and recommendations for greater community engagement).

308. For example, the U.S. Department of Energy is now requiring a Community Benefits Plan (CBP) as a part of all Infrastructure Act and IRA funding opportunity announcements. *About Community Benefits Plans*, U.S. DEP'T OF ENERGY, https://www.energy.gov/clean-energy-infrastructure/community-benefits-plan-frequently-asked-questions-faqs [https://perma.cc/CQ3P-DRD8].

309. Green spaces can take a variety of forms. One example is green streets which utilize natural infrastructure such as trees and shrubs to manage stormwater. https://www.epa.gov/G3/learn-about-green-streets

Scholars have consistently grappled with procedural injustices and the lack of fairness within land use designations, siting processes, and public decisionmaking generally.[310] Often the onus is on community members to obtain substantive and logistical information underpinning development procedures. To mitigate the informational burden, greenlining seeks to incorporate procedural and distributive justice—the foundational tenets of the environmental justice movement.[311] To actualize justice, principles of fairness must also be foundational to the policymaking and implementation process.[312] Limited resources often preclude marginalized community members from participating in policymaking.[313] Because greenlining seeks to prioritize equity, such procedures should spark a symbiotic relationship with greater outreach to residents from both government and developers.

Depending on the climate change indicators that communities seek to address, the imposition of new development standards could also infiltrate industry processes, prioritizing climate change within the real estate and energy sectors.[314] When considering real estate, tax assessors, appraisers, and developers each rely on industry valuation standards related to design, aesthetics, efficiency, and desirability.[315] To effectuate industry change, government regulation must help shape market forces by incorporating climate-related design and efficiency standards and sustainability principles into industry practices.[316] This

310. *See* Been, *supra* note 104, at 1060–68 (discussing the limitations in theories of procedural fairness, which call for a lack of intentional discrimination and treatment as equals); Welton & Eisen, *supra* note 25, at 342–46 (analyzing the challenges of community engagement within the highly technical energy sector); Kuehn, *supra* note 232, at 10689–90 (2000) (describing the underrepresentation of marginalized people on technical and scientific boards, as well as a lack of representation in government studies related to health impacts of exposure to environmental harms).

311. Bullard, *supra* note 102, at 30–31 (describing three types of equity that should be implemented in policymaking: procedural, geographic, and social equity); Welton & Eisen, *supra* note 25 at 315–16 (discussing justice in the clean energy transition and the need to consider the distribution of wealth and which communities bear the greatest costs of climate change).

312. *See generally* Simon Caney, *Cosmopolitan Justice, Responsibility, and Global Climate Change*, 18 LEIDEN J. INT'L L. 747 (2005); Been, *supra* note 104.

313. *See* Welton & Eisen, *supra* note 25, at 361–62.

314. *Green Building Standards*, *supra* note 269.

315. *See, e.g.*, CAL. STATE BD. EQUALIZATION, ASSESSORS' HANDBOOK SECTION 501: BASIC APPRAISAL (2002), https://www.boe.ca.gov/proptaxes/pdf/ah501.pdf [https://perma.cc/W6EJ-SED8]; *Cost Approach to Value for Single-Family Property*, HARRIS CENT. APPRAISAL DIST., https://hcad.org/hcad-resources/hcad-residential-property/cost-approach-to-value-for-single-family-property [https://perma.cc/LL6X-D4MT].

316. In real estate, such standards could include the use of particular building materials and shifts in how energy sources are valued. Governments could also look to Leadership in Energy and Environmental Design (LEED) and Energy Star standards for guidance. *See LEED Rating*

intervention will ultimately influence how sustainable development is valued and could incentivize such aspects within new development. As to existing development, property owners could similarly be incentivized within the assessment and valuation context. Current laws provide rebates and tax credits to owners who shift toward electrification and renewable energy.[317] These benefits could also be passed on to renters, provided that landlords are sufficiently incentivized to retrofit their existing units with energy-efficient equipment.

Greenlining has the most potential to impact the energy sector by way of real estate development and upgrades. For example, marginalized communities, many of which were redlined, experience an increased energy burden which causes significant economic and environmental harms.[318] In 2020, the United States Energy Information Administration determined that approximately 34 percent of American households experience energy insecurity.[319] This is in large part due to substandard infrastructure,[320] which both the Infrastructure Act and Justice40 seek to address.[321] In addition to encouraging targeted energy efficiency, greenlining could identify the spatial areas where renewable energy should be incentivized.

System, U.S. GREEN BLDG. COUNCIL, https://www.usgbc.org/leed [https://perma.cc/2ZTC-23VJ]; *ENERGY STAR Certification for Buildings*, ENERGY STAR, https://www.energystar.gov/buildings/building_recognition/building_certification [https://perma.cc/39YY-X8W6].

317. For example, homeowners who install new electric heat pumps that may be eligible for a tax credit of up to 30 percent of total costs and specified electric car models will receive up to $7500 in tax credits. *See supra* Subpart II.B; Inflation Reduction Act of 2022, Pub. L. No. 117-169, 136 Stat. 1818.

318. Energy burden is defined as "energy costs relative to other household expenditures and income." Shalanda H. Baker & Andrew Kinde, *The Pathway to a Green New Deal: Synthesizing Transdisciplinary Literatures and Activist Frameworks to Achieve a Just Energy Transition*, 44 ENVIRONS: ENV'T L. & POL'Y J. 1, 10 (2020). Energy insecurity is the inability to meet one's energy needs. *See* Sharonda Williams-Tack, *From Redlining To Restorative Justice: Anti-Black Racism and Energy Insecurity Go Hand in Hand in America*, SIERRA (Feb. 21, 2021), https://www.sierraclub.org/sierra/redlining-restorative-justice [https://perma.cc/432K-LP2H].

319. Approximately 73 percent of households that experience energy insecurity also indicated that they reduce or forgo food or medicine to pay energy costs. U.S. ENERGY INFO. ADMIN., 2020 RESIDENTIAL ENERGY CONSUMPTION SURVEY: FORM EIA-457A (2023), www.eia.gov/consumption/residential/data/2020/hc/pdf/HC%2011.1.pdf [https://perma.cc/D6RP-VSRY].

320. *See generally* Jamal Lewis, Diana Hernández & Arline T. Geronimus, *Energy Efficiency as Energy Justice: Addressing Racial Inequities Through Investments in People and Places*, 13 ENERGY EFFICIENCY 419 (2019).

321. *See supra* Subpart II.B.2.

Not only are small-scale renewable energy sources beneficial to the environment, but they can also be sound economic investments.[322] The federal government provides tax credits for renewable energy facilities, which could be uniformly incorporated on the state and local levels where both income and property taxes are concerned.[323] Within the greenlining framework, jurisdictions would have significant latitude to implement existing programs such as Weatherization Assistance[324] and cool roof initiatives.[325] Localities can even establish new place-based programs to meet their particular land use, economic, and climate change needs.

Geography, development, and energy consumption each have a unique relationship with climate change. Yet, they are each regulated independently and often without consideration of their interconnected relationship. By assessing areas of greatest need, greenlining provides an opportunity to regulate more holistically by considering cumulative impacts, with the goal of limiting environmental harms and providing economic benefits. Targeting benefits within marginalized communities is an equitable practice because it remediates past harms, but also equips these communities with the resources to withstand current climate impacts.[326] But equity-centered sustainable development is not foolproof. Without appropriate safeguards, there is a possibility that greenlining could perpetuate the typical winners-and-losers scenario where minority and low-income community members bear the greatest burden of economic and environmental injustice. These challenges are addressed in the next Subpart.

B. Potential Objections to Greenlining

Emissions reduction, tax incentives, wealth generation, and sustainable development are aspirational goals for all communities. Yet, there will likely be

322. *Local Renewable Energy Benefits and Resources*, U.S. ENV'T. PROT. AGENCY (Mar. 30, 2023), https://www.epa.gov/statelocalenergy/local-renewable-energy-benefits-and-resources [https://perma.cc/8DJ5-4LUF].

323. The Database of State Incentives for Renewables and Efficiency (DSIRE) reports that forty-two states have a renewable energy property tax incentive. These vary across states, with some states limiting the exemption to a particular sector (residential or commercial) while others only extend the exemption to wind or solar facilities. *See Programs*, DSIRE, https://programs.dsireusa.org/system/program?type=78&category=1& [https://perma.cc/N9U7-RPEE].

324. *See supra* Subpart II.B.

325. *NYC CoolRoofs*, NYC BUS., https://www.nyc.gov/nycbusiness/article/nyc-coolroofs [https://perma.cc/T2DL-BT4A].

326. *See* Anguelovski et al., *supra* note 275, at 342.

critiques of greenlining, given that economic development and sustainability policies have historically disfavored marginalized community members.[327] These risks should not deter action. Researchers across disciplines have acknowledged the extreme risks that marginalized groups face because of climate change.[328] This Subpart describes the potential concerns related to the impact of greenlining on community members and regulatory structures.

1. Will Communities Be Disrupted?

The purpose of greenlining is to prioritize equity within land use planning. But this may result in certain unintended consequences—namely, overinclusion of unharmed people as beneficiaries, unjust procedures in determining incentives, and gentrification. Because greenlining takes a place-based approach to allocating resources and assigning development standards, some may argue that the effects will not help the people who are most in need.

While persuasive, this critique does not negate the fact that specific places experience harms more severely than others. As described in Part I, there is a correlation between the historic and present-day demographics of previously redlined areas.[329] The risk that greenlining will also incorporate certain persons who were not subjected to harms historically does not negate its utility.

Since equity is at the core of the greenlining framework, utilizing place-based criteria allows for greater objectivity when identifying the targeted beneficiaries. There would also be policy challenges if resources were allocated on the basis of one's race or socioeconomic status.[330] Yes, there will be some mismatch. The challenge of unintended beneficiaries is inherent in a place-based or even person-centered framework. Where one resides, or "place" more broadly, represents the

327. *See* Robin Morris Collin & Robert Collin, *Environmental Reparations*, *in* THE QUEST FOR ENVIRONMENTAL JUSTICE, *supra* note 14, at 209, 211. *See generally* Kaswan, *supra* note 14.

328. *See supra* Part II.

329. *See supra* Part I; *see also* Andre M. Perry & David Harshbarger, *America's Formerly Redlined Neighborhoods Have Changed, and So Must Solutions to Rectify Them*, BROOKINGS INST. (Oct. 14, 2019), https://www.brookings.edu/research/americas-formerly-redlines-areas-changed-so-must-solutions [https://perma.cc/HPY7-9F33] (asserting that significant demographic shifts have occurred so much so that Black people who experienced the greatest harms would receive the least benefits under proposed policies).

330. *See* Ashley V. Reichelmann & Matthew O. Hunt, *How We Repair It: White Americans' Attitudes Toward Reparations*, BROOKINGS INST. (Dec. 8, 2021), https://www.brookings.edu/blog/how-we-rise/2021/12/08/how-we-repair-it-white-americans-attitudes-toward-reparations [https://perma.cc/6ANP-AUV4] (describing the limited support for race-based reparative policies "despite a growing awareness of contemporary racial inequality").

crux of many challenges marginalized community members face.[331] The overlap of place and harms allows for the most equitable structure for distributing benefits. A person-centered approach may also discourage greenlining's implementation in the current political environment that rejects policies that afford particular people preferential treatment.[332] A place-based approach is not without limitations, but it is arguably the best method by which environmental impacts rooted in discriminatory land regulation can be attenuated.

There may be some overinclusion of historically unharmed groups, but local governments and community organizations can take special care to provide outreach to the most severely impacted or underrepresented community members within a greenlined zone. The scope of outreach would be determined by the community's greenlining criteria. States and localities should incorporate mechanisms, such as varied public meeting times, places, and platforms, that consider procedural justice aspects as well.

In addition to being under-resourced to combat the challenges of climate change, many marginalized community members opt out of participating in decisionmaking processes because of resource limitations. A wide body of scholarship suggests that participants in decisionmaking processes are of a higher socioeconomic status and are typically property owners.[333] Further, those who are present and have familiarity with the particular development issue often receive preferential treatment from regulators.[334] Because greenlining seeks to incentivize both economic and environmentally sustainable development, there has to be an educational aspect to inform community members of the costs and benefits of development, such that they are equipped to participate in decisionmaking processes. The various policy tools discussed throughout this Article suggest that there are certain best practices that would align with sustainability principles and are cognizant of climate impacts.[335]

331. *See supra* Part I.
332. *See e.g.*, Nick Anderson, *Political Polarization is Sorting Colleges Into Red and lue Schools*, Wash. Post (Apr. 3, 2023, 6:00 AM), https://www.washingtonpost.com/education/2023/04/03/red-blue-college-culture-war (last visited May 18, 2024) (discussing the political divide related to racial privilege and bias).
333. *See* Katherine Levine Einstein, Maxwell Palmer & David M. Glick, *Who Participates in Local Government? Evidence From Meeting Minutes*, 17 PERSPS. ON POL. 28, 30 (2018); Anika Singh Lemar, *Overparticipation: Designing Effective Land Use Public Processes*, 90 FORDHAM L. REV. 1083, 1130 (2021) (describing the need for public participation processes to address power differentials).
334. *See* Einstein et al., *supra* note 333, at 39.
335. *See supra* Part II.

But what if these are not the policy tools that the community seeks to employ, either because they have different priorities or are unfamiliar with the interconnected relationship between land, development, environmental impacts, and climate change?[336] With the knowledge that certain community members participate at a lower rate or are less equipped to participate in the decisionmaking process, local regulators could strategize how to remove impediments or require participation from a specified percentage of persons across demographics, or both.[337] These are ways to build trust with community members who are skeptical of development because they have historically borne its burdens.[338] It also shifts from a potentially paternalistic assessment[339] of what is best for community members, to a process that encourages and incorporates feedback while analyzing feasibility and sustainability impacts.[340]

With an influx of benefits, there will likely be significant community revitalization.[341] This is a positive attribute in most circumstances, but it has also

336. Depending on the extent of harms experienced in a particular marginalized community, climate change adaptation and mitigation may not be a first-order challenge to address. Offering additional educational and technical assistance grants are two ways that federal funding can support marginalized communities and encourage climate-conscious development, which may be a first-order challenge to address. *See, e.g.*, *Environmental Justice Grants*, *supra* note 243. These communities may then be able to tackle issues related to climate change adaptation and mitigation.

337. *See, e.g.*, KATHERINE LEVINE EINSTEIN & MAXWELL PALMER, REPRESENTATION IN THE HOUSING PROCESS: BEST PRACTICES FOR IMPROVING RACIAL EQUITY (2022), https://www.tbf.org/-/media/tbf/reports-and-covers/2022/june/final-representation-in-the-housing-process-report-20220615.pdf [https://perma.cc/Q37Q-7AR3] (underscoring the need for inclusive engagement and outreach to improve procedural equity).

338. *See* Daniels et al., *supra* note 22, at 47–48.

339. In the legal context, some scholars have differentiated between hard paternalism, or "advocates making some actions impossible," and soft paternalism which "recommends incentivizing certain preferable options." Anthony V. Alfieri, *Paternalistic Interventions in Civil Rights and Poverty Law: A Case Study of Environmental Justice*, 112 MICH. L. REV. 1157, 1165 (2014) (quoting SARAH CONLY, AGAINST AUTONOMY: JUSTIFYING COERCIVE PATERNALISM 5 (2013)). This description of soft paternalism describes the way that greenlining incentive determinations may need to occur in some communities, particularly where sustainability has not been a focal point. *See id.*

340. *See generally id.* (assessing the various forms of paternalism and acknowledging the moral-ethical complexities of lawyering in low-income communities); Barbara L. Bezdek, *Citizen Engagement in the Shrinking City: Toward Development Justice in an Era of Growing Inequality*, 33 ST. LOUIS U. PUB. L. REV. 3 (2013) (describing deliberative democracy, the questioning of and participation in government, as well as the ladder of citizen participation in the context of public decisionmaking); Lemar, *supra* note 333 (arguing that public participation often results in the perspective of particular groups and interests being amplified, rather than effective community engagement processes being implemented).

341. Shelia Hu, *What Is Climate Gentrification?*, NRDC (Aug. 27, 2020), https://www.nrdc.org/stories/what-climate-gentrification [https://perma.cc/3JHV-RG2U]

led to gentrification. In addition to the traditional notion whereby existing residents are displaced by those of a higher socioeconomic status,[342] scholars and practitioners have asserted that there has been a rise in climate gentrification.[343] This has been categorized as displacement brought on by investments in climate resilient development (for example, building structures that can withstand greater storm intensity, flooding, and erosion) and increased costs by virtue of higher income community members relocating from coastal properties to higher-elevation cities.[344]

At first glance, demographic shifts within marginalized geographies can appear to be displacement.[345] Community investment in greenlined zones, however, may actually lead to new economic advantages that afford community members greater opportunities outside of the area. If newly implemented sustainability standards result in increased property values and a community member opts to sell their property to make a profit, they should be empowered to do so. Economic freedom and autonomy are American ideals that should especially be fostered in marginalized communities.

Survey data and other community assessments portray demographic shifts that are associated with investment and development, but often do not explain why a community member has moved.[346] This is not to suggest that community investment does not lead to displacement, but rather recognizes that additional inquiries may be required to not assume that development will necessarily have a prejudicial effect. Acknowledging this risk also presents an opportunity for state or local governments to proactively implement conscientious policies, such as tax stabilization policies for particular community members.[347]

Realizing the goal of prioritizing equity in greenlined communities will likely require explicit discussions acknowledging past harms and their lasting impacts.

342. *See A Timeline for Understanding the Upper Hand Terminal Development in Historical Context*, CREATE INITIATIVE (2019), https://create.umn.edu/wp-content/uploads/2019/09/UHT-Timeline3.pdf [https://perma.cc/6MD6-VPC5].
343. Hu *supra* note 341.
344. *Id.*
345. *See* Sarah Fox, *Environmental Gentrification*, 90 U. COLO. L. REV. 803, 806–10 (2019).
346. For example, the Mapping for Environmental Justice initiative also includes community narratives to incorporate a more comprehensive assessment of the environmental and socioeconomic challenges that community members face. *See* MAPPING FOR ENV'T JUST., *supra* note 285.
347. *See, e.g.*, *Property Tax Stabilization Program*, ME. REVENUE SERV., https://www.maine.gov/revenue/taxes/tax-relief-credits-programs/property-tax-relief-programs/stabilization-program [https://perma.cc/5QC7-7DCV]; *Frequently Asked Questions - Low and Moderate Income Homeowners Property Tax Relief*, N.H. DEP'T OF REVENUE ADMIN., https://www.revenue.nh.gov/faq/low-moderate.htm [https://perma.cc/E2KD-2ME3].

Although community demographics have changed over time, trust in institutions will need to be rebuilt—particularly for those community members who have experienced government-sanctioned harm.[348] Further, utilizing a place-based approach allows those who now live in proximity to these harms to be included in the development process.

In fleshing out the appropriate sustainability calculus, jurisdictions will need to balance what is best for people alongside what is best for places. This will likely require a bit of tug of war to tease out how each of the three E's should be incorporated. Even where a policy like installing rooftop solar panels positively impacts a place, there will inevitably be certain externalities that leave people dissatisfied. In this scenario, there are potential equity, economic, and environmental benefits to the community at large, while certain factions may prefer the status quo.[349] Engaging with various stakeholders while proactively acknowledging and addressing their concerns is one way to ensure that equity is given similar weight as the economic and environmental considerations.

2. Does Greenlining Provide Adequate Protections?

In recent years, the phrase "environmental justice" has been at the forefront of policymaking and is beginning to receive substantive consideration.[350] Simultaneously, scholars, policymakers, and practitioners are advocating for swift action to combat the climate crisis.[351] Yet speed, efficiency, effectiveness, and justice rarely go hand in hand. Greenlining is not proposed as a magic wand that will immediately make communities sustainable, but it does attempt to shift communities toward incremental changes that can have large-scale, global impacts. Some may argue that it is inefficient or ineffective to link climate policy

348. *See* Daniels et al., *supra* note 22, at 47–48.

349. *See generally* Danielle Stokes, *Bridging a Rural-Urban Divide*, 39 ENV'T F., Sept./Oct. 2022, at 25 (describing NIMBY concerns and geographic trade-offs); Sara C. Bronin & Leslie R. Irwin, *Regulating History*, 108 MINN. L. REV. 241 (2023) (detailing the nuances of historic preservation and its cultural implications).

350. In 2022, the Environmental Protection Agency established the Office of Environmental Justice and External Civil Rights to elevate the assessment of justice and equity at the federal level. *EPA Launches New National Office Dedicated to Advancing Environmental Justice and Civil Rights*, U.S. ENV'T PROT. AGENCY (Sept. 24, 2022), https://www.epa.gov/newsreleases/epa-launches-new-national-office-dedicated-advancing-environmental-justice-and-civil [https://perma.cc/F8BA-HF8H].

351. *See e.g.*, *Goal 13: Take Urgent Action to Combat Climate Change and Its Impacts*, U.N. SUSTAINABLE DEV. GOALS, https://www.un.org/sustainabledevelopment/climate-change [https://perma.cc/5R87-Z3YH] (describing urgent climate action as one of seventeen sustainability goals).

to social justice, but this argument fails to acknowledge the legitimacy of environmental justice as a critical component of development.

Greenlining is but one policy lever, and others with a central focus on climate change that also incorporate sustainability principles are encouraged. Focusing on climate impact from a land use perspective integrates an aspect of climate consciousness into a regulatory regime directly linked to greenhouse gas emissions.[352] Climate change mitigation and adaptation measures are needed in all communities, but special care should be taken to ensure that the benefits and burdens of requisite development are distributed equitably.

3. Will There Be Regulatory Resistance to Greenlining?

The most obvious answer to this question is yes, and there is little optimism that this fact will change. With the state of politics at the federal level, it is difficult to imagine consensus within one governing body, yet alone between the national and subnational levels.[353] Further, the greenlining structure raises questions related to constitutional authority, state sovereignty, and preemption, to name a few.[354] Scholars assert that climate discussions should focus on less contentious or polarizing aspects of policies, such that there can be reasonable dialogue and negotiation between those who share different perspectives.[355] Specifically, they encourage framing climate issues as directly linked to economic development and disaster relief.[356]

Climate change adaptation and mitigation policies are becoming more acceptable on both sides of the political aisle, as seen by the climate-related aspects of the Infrastructure Act and IRA.[357] Further, the environmental or green

352. Adie Tomer, Joseph W. Kane, Jenny Schuetz & Caroline George, *We Can't Beat the Climate Crisis Without Rethinking Land Use*, BROOKINGS INST. (May 12, 2021), https://www.brookings.edu/articles/we-cant-beat-the-climate-crisis-without-rethinking-land-use/ [https://perma.cc/3EFL-N9KQ].

353. Krysten Crawford, *The Roots of Legislative Polarization: How State Elections Are Producing a More Extreme Pipeline of Political Candidates*, STAN. INST. FOR ECON. POL'Y RSCH. (Feb. 28, 2022), https://siepr.stanford.edu/news/roots-legislative-polarization-how-state-elections-are-producing-more-extreme-pipeline [https://perma.cc/Q9CG-7NJH] (describing the increased polarization in state-level politics).

354. In integrating two regulatory regimes, the greenlining framework could be challenged. *See supra* Part II (discussing the local regulation of land use and the cooperative federalism model of environmental laws).

355. *See* Osofsky & Peel, *supra* note 265, at 719.

356. *Id.*

357. *See e.g.*, Adie Tomer, *At Its Two-Year Anniversary, the Bipartisan Infrastructure Law Continues to Rebuild All of America*, BROOKINGS INST. (Nov. 17, 2023),

conservatism[358] movement has integrated new concepts related to environmental stewardship, scientific developments, religion, and economics into conservative political ideologies.[359] Such policy considerations across political parties at least suggests that somewhere between the Green New Deal and conservative principles, there is space for greenlining.[360]

CONCLUSION

We often define margins in the abstract. Edge. Border. The amount by which a thing falls short.[361] Redlining defined margins in reality. It turned marginalized people into marginalized places. Greenlining is the convergence of land use and environmental law that seeks to center equity within twenty-first century policymaking. Structural harms are only compounded as the impacts of climate change intensify. This Article challenges stakeholders across governmental sectors to be more intentional in acknowledging how different places experience harm. Greenlining will not solve every climate or development issue, but it can incorporate new perspectives into decisionmaking processes that have lasting consequences. Greenlining provides an opportunity to remedy historical injustices, moving us toward a more equitable future by identifying places where harms can be remediated. It is time to deconstruct the margins. It is time to move from redlining to greenlining.

https://www.brookings.edu/articles/at-its-two-year-anniversary-the-bipartisan-infrastructure-law-continues-to-rebuild-all-of-america [https://perma.cc/TUR6-96X3] (discussing the bipartisanship and comprehensiveness of the Infrastructure Act).

358. Environmental ideology grounded in free enterprise and market-based solutions. *See* REPUBLICEN, https://republicen.org/ [https://perma.cc/AEE9-AJ5P].

359. *See generally* David J. Hess & Kate Pride Brown, *Green Tea: Clean-Energy Conservatism as a Countermovement*, 3 ENV'T SOCIO. 64 (2017) (describing the perspectives at the center of conservative advocacy for clean energy).

360. The Green New Deal had stated goals of: (1) achieving net-zero greenhouse emissions; (2) ensuring economic security; (3) investing in infrastructure and industry; (4) securing a sustainable environment; and (5) promoting justice and equity. Green New Deal, H.R. Res. 109, 116th Cong. (2019).

361. *See Margin*, OXFORD ENG. DICTIONARY ONLINE, https://www.oed.com/search/dictionary/?scope=Entries&q=margin [https://perma.cc/3389-PMZ5].