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Introduction

THIS BOOK IS FOR ANYONE who has a case of the “climate bubble guts,” the churning anxiety that comes from considering the climate crisis and the threat that it poses to us all. Each day we come across stories about the greenhouse effect, plummeting biodiversity, floods, fires, and extreme heat—it’s no wonder your blood pressure is up and your stomach is grinding! The United States has lived with the knowledge of pollution and a changing climate for generations, but the solutions we’ve been given, especially since the end of the last century, don’t come close to making a dent in what is a true global emergency. Recycle! Cut the plastic rings from your soda cans! Line dry your laundry! While these are all things you should try to do, they tend to feel minor and divorced from the day-to-day reality of rising seas and forest fires. There’s an uncomfortable gap between the enormity of the problem and the perception of what the average person can do about it.

For just as long as we’ve known about the threats to our planet, major polluters have worked overtime to convince the average

person that when it comes to the climate crisis, nothing *can* be done, nothing *should* be done, or all this is *your* fault because you took that road trip last summer and don't thoroughly wash your recyclables. While it's true that individuals have an important role to play in reducing our global carbon footprint, and thus our overall climate risk, that responsibility is even greater for corporations, utility providers, and all levels of government. The reality is that while there is increasing recognition of, and investment from the public and private sectors in, climate mitigation and adaptation, that change is still going to take years—maybe even decades—to be realized, if it happens at all. In the meantime, we're stuck with flooding streets and summer days so hot that they're literally melting transportation infrastructure.

Regulation and legislative change are both necessary, but that work is by its nature slow going, complicated, and without easy entry points for the average person to meaningfully participate. And even if we *were* able to successfully enact sweeping regulation to stop all emissions this very minute, a century of ever-rising greenhouse gas emissions has locked our planet into a certain level of screwed that we must adapt to if we want to save lives and ensure that everyone has the opportunity to live in healthy and safe spaces.

I write this book as someone who is concerned about a livable future. I also write as a longtime resident of environmental justice communities, a former teacher, and a current climate adaptation and land use professional working to improve the resilience of places threatened by the climate crisis. The people I've met in my sixteen years of people-centered community work are ready to adapt their neighborhoods to the realities of a warming planet but feel unprepared or as though they don't have the time or expertise

to make a difference. We've all got rent to make, bills to pay, and laundry to do, and not all of us can or want to make a living battling the climate crisis. We can, though, take a few quick and simple steps toward making a meaningful difference.

In my role, I've helped communities across the states make changes to the built environment, to the way resources are distributed at the municipal level, and to how residents come together to effect change and pursue justice. Throughout this book, you'll see me mention Groundwork, a national network of grassroots, people-centered, environmental justice nonprofits that work on issues of climate adaptation, land reuse, and youth empowerment. My work with Groundwork USA building out the Climate Safe Neighborhoods partnership, as well as organizing I've done in my own communities, has introduced me to a balm for climate anxiety: the equity-focused, people-centered adaptation solutions already underway in communities across the country. From Richmond, California, to Richmond, Virginia, and everywhere in between, wise, lasting, stable change is happening, and I'm excited to bring the methods and lessons learned here to you.

This book offers a new perspective on how to channel the resources you currently have, big and small, to effect meaningful change at the local level that will prepare and strengthen your community against the most common climate-related challenges. The changes that must be made to keep your town's commercial district walkable, your cooling bills manageable, your air breathable, and your basements dry are ones best accomplished at the local level: where you live and by the people who live there. Working to devise and implement solutions with those closest to the effects of the climate crisis leads to smarter and more stable outcomes because they directly respond to lived experience. Local action allows

us to build community and helps us to lean into our human responsibility to one another, share the work, and keep one another safe as things get weird. And things are already pretty weird.

Here in eastern Massachusetts, we spent a recent July under a pink and orange sun, cloaked in stagnant wildfire smoke blown clear across the continent from Oregon and western Canada. After a few days, wind and rainstorms cleared the haze, but, as it had for much of the spring, the rain kept coming ... and coming. While some friends and neighbors complained of puddles in their basements and water-logged gardens, others complained about the unusually high heat. We'd had eleven humid days above 90°F before the first of July, with many more to come—almost unheard of in Boston, which is better known for its blizzards than its blistering heat. That same summer, Hurricane Ida swept up the eastern seaboard, pausing in New England long enough to drop tornadoes along Cape Cod, leaving unprepared residents to shelter in closets and bathtubs. Soon after, a months-long drought settled in, yellowing the grass, withering flowers and trees, and leaving the clay-heavy soil as hard and impermeable as cement—and thus incapable of absorbing rainwater, which then flowed back into basements during the next storm. While none of these individual weather events is a promise of exactly what is to come, they sound the alarm that things are changing and that it is time to prepare for a world much different than what we have known before.

So, what can we do?

First, we can let go of the idea that there's a single 100 percent—or even 10 percent—solution that is going to fix things. That solution doesn't exist. There's no panacea, no action that's going to solve centuries of environmental, economic, and racial injustice or keep everyone from Bangor, Maine, to San Diego, California, safe from the climate crisis. Instead, what we can do is bring together

enough manageable, hyperlocal solutions to tip the scales in our favor before many of these extreme weather events hit the ground.

Second, we can look to success at the local level. While the next decade will bring state and federal resources for climate adaptation, there are limits as to how much a policy maker in Washington, DC, knows about the day-to-day experience of heat for a family in Miami, Florida, or how to make flooding more manageable in Milwaukee, Wisconsin. However, from coast to coast, individuals, small organizations, and community groups are taking the reins and driving their neighborhoods toward a more livable future by making changes to their built environment, their social connections, and the distribution of municipal resources.

Third, we can take stock of the resources we *do* have—time, money, relationships, knowledge, curiosity—and apply them to influencing the decisions that are made in our cities and towns. The threats to our communities are real, and feelings of fear often come linked to a perception of scarcity. Pushing back against the climate crisis will require recognizing that we have an abundance of resources at our disposal that can be used to make real, lasting change—we just need to know where to look for them and how to leverage them. With a relentless flow of stories about record heat waves, deadly landslides, and powerful hurricanes, it can feel as though there is no point in acting—that we’re just a decade or two away from a *Mad Max*-style climate dystopia. Take a few deep breaths and calm your limbic system because we already have plenty of examples of neighborhoods in the United States that are well prepared for the climate crisis: neighborhoods with dense tree canopies, natural water capture systems, thoughtfully planned greenspaces, and clever community cooling infrastructure. Our current challenge is that these adaptation measures are disproportionately clustered in a few very wealthy areas. That

same infrastructure that clears and cools the air in the wealthy part of town needs to be available to everyone. From “adopt-a-storm-drain” programs to depaving parties, microforests to solar benches, rain gardens to rain barrels, there are dozens of relatively easy ways your community can reduce the risk it faces from the climate crisis. Some adaptation measures can get off the ground in just a Saturday afternoon alone or with the help of a handful of neighbors; others will require long-term consensus building and commitments from your municipal government.

The interventions in this book are aimed at people living and working in communities directly impacted by climate change—those whose neighborhoods do not have adequate tree coverage or whose homes flood regularly or become dangerously hot. It is also for folks who want to help make *all* parts of their city safer, not just where they live. Regardless of your experience or expertise, it is possible to achieve tangible, meaningful changes with just a handful of hours stolen from nights and weekends. And I promise that it’s worth the investment.

As you move through this book, it’s important to keep a few things in mind. When you’re working on issues that directly impact you, you’re the expert. As you seek to help others, though, be sure to connect with those who are most impacted and prioritize their voices and expertise. A large part of climate justice work is fixing the harm caused by the environmental and structural racism and classism that have shaped our built environments. You can help. You can lead in *your* community, and you can lend your attention, your time, your knowledge, and your resources to *others*. Effecting change at the systems level requires you to build a coalition of the right people, an understanding of the change that’s required to repair the existing harm and prevent that harm from happening again, and a clear-eyed view of the barriers to that change.

I'm not going to tell you to write to your congressperson or pressure you to buy an electric car. I'm not going to admonish you for flying to see your family or getting an iced coffee in a plastic cup. What I will do is help you understand exactly why you and your neighbors are experiencing risks from the climate crisis and walk you through the small steps you can take, right now, to make change where you live. Throughout this book, I share my professional experiences in community-based and climate-focused action and organizing, as well as my personal experience effecting change in the communities I've lived in. Many of the ideas presented here are drawn from successful real-life examples that have helped communities make their neighborhoods climate resilient and are also transferable to communities that are dealing with other challenges around issues like transportation, housing, and education.

This book is roughly divided into three parts. The first section helps us understand why our communities look the way they do (spoiler: it's not by accident!) and digs into the most pressing climate risks facing cities and towns. The second section digs into what you can do right now, today, this very minute, alone or with a small group of friends, to keep your community or one you care about safer from the climate crisis. The third section focuses on how to build effective coalitions to change how decisions are made and resources are distributed at the local level.

We've known about the threats of the climate crisis for over a century, and although the federal and state levels of government have failed to pass and enforce the statutes and regulations necessary to secure a safe and equitable future, all is not lost. One of the biggest threats we face is within our control: it's the threat of losing hope, of thinking that no change is possible under the current system. This moment of crisis calls on us to push past that despair in the name of ourselves, our ancestors, and future generations.

We are all capable of effecting some type of change, of leveraging existing ideas and resources into meaningful local transformations. So, if you're ready to kick off your first small, local solution, turn the page and let's get started!

CHAPTER 1

It's No Accident

THE NEIGHBORHOOD I GREW UP IN WAS A JOY. In the summer, the boys settled onto the front stoop to get their hair buzzed, while the girls' beaded braids clicked and clacked away through endless rounds of Double Dutch. Like the other kids, I loved to sit in the shade of the only tree on our sidewalk—a small but sturdy maple planted by the city in the early 1980s. And like the other kids, I spent a lot of time in and out of the hospital for asthma triggered by the exhaust coming from the nearby expressway and the mildewing walls of our frequently flooded basements. On the other side of the road, set a few blocks back from the zipping cars and diesel trucks, was a much different neighborhood. There, the yards were blanketed with grass and flowers, and mature trees stretched past the row house roof lines, casting a refreshing shade that cut through the heat. Unpaved yards with bushes and trees soaked up rainwater before it had a chance to seep through basement walls.

We know that the climate crisis is making our weather hotter, wetter, and more unpredictable, but because of the way resources are distributed in the United States, people don't experience the consequences of a warming planet equally from state to state, from city to city within the same state, or even from neighborhood to neighborhood—or block to block—within the same city. And that's not by accident. The differences between my childhood neighborhood and the one across the expressway are repeated almost identically across the country, and those differences all have an origin story.

Figure 1-1 shows a Google Earth image of the Lower Price Hill neighborhood in Cincinnati, Ohio. On a hot and sunny day, you, like me, would probably want to hang out on the left side of the black dashed line. There, a dense and lush tree canopy cover casts shade over the sidewalks and apartments of a residential neighborhood, making a hot July day a bit more bearable. The majority of the roofs are white or light gray, reflecting back the sun's light and lowering the buildings' cooling costs. Grassy yards and the root systems of mature trees absorb rainwater, keeping it out of basements and from overwhelming the city's sewer system and streets. On the right side, which, I can't emphasize enough, is *on the same block* as the left side of this image, the picture is much different. Dead and desiccated tree trunks punctuate a sparse and scrawny canopy. Scraggly shrubs fail to cast shade or keep up with the heat radiating off of the ocean of concrete, asphalt, and black rubber roofs. With fewer plants or patches of soil to soak up the rain, the right side is more likely to flood than the left side.

If you zoom out from this image and look at the maps of Cincinnati shown in figures 1-2 and 1-3, specifically the Lower Price Hill neighborhood outlined in black, what you see up close in the photograph is amplified across the entire city. In figure 1-2, the

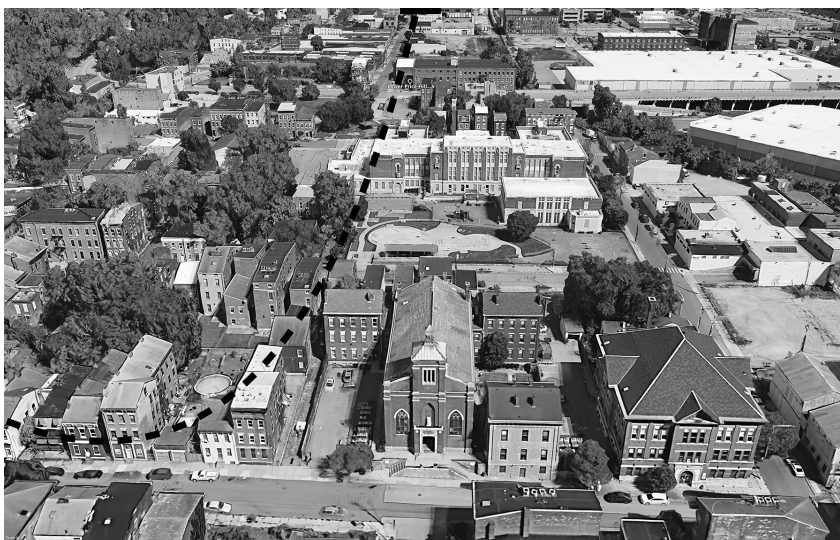


Figure 1-1: Aerial view of the Lower Price Hill neighborhood in Cincinnati, Ohio, looking north. The right side of the gray line has more impermeable pavement and fewer trees, adding to the urban heat island effect. (Map data: Google Earth © 2023 Landsat/Copernicus.)

dark shading shows where a dense tree canopy covers the north and northwest sections of the city, whereas in the southeast corner of the city there is sparse shade; there you're more likely to find a large parking lot than a park. That patchy tree cover east of Lower Price Hill has a significant impact on the way residents experience heat. Figure 1-3 shows the air temperature in Cincinnati, which considers both the heat and humidity. Areas with a tree canopy are significantly cooler throughout the day and night than areas without.

Although the maps shown are from Cincinnati, Ohio, this juxtaposition can easily be found in cities and towns from Delaware to California. Areas that are shaded, cool, and dry sit just blocks away from their hot, wet, smoggy neighbors. It's easy to look at the

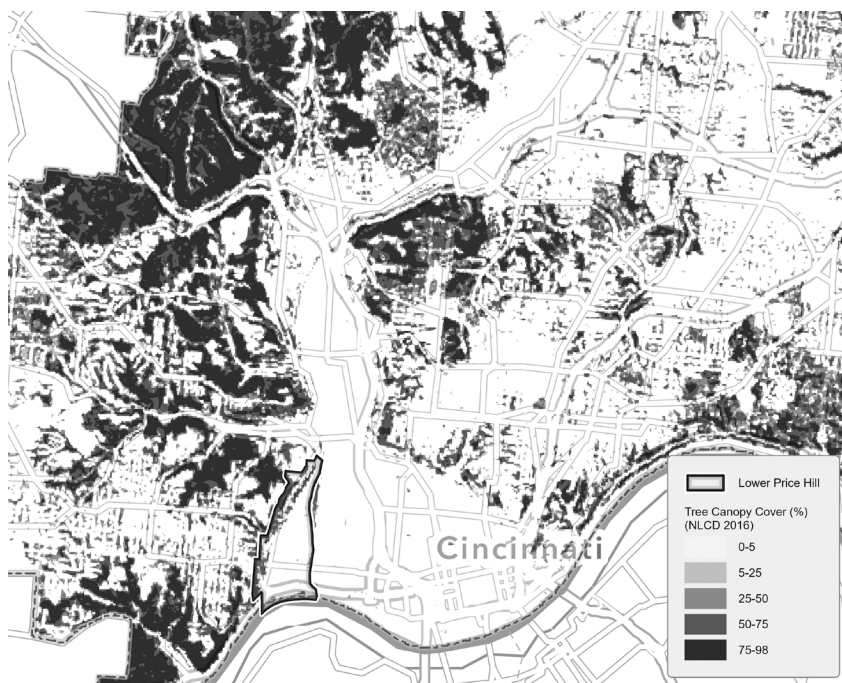


Figure 1-2: Map of the tree canopy cover in Cincinnati, Ohio. The tree canopy cover in the northwestern part of the city is much denser than in the south-eastern portion of the city. (Data source: National Land Cover Database 2016. Map by Lawrence Hoffman.)

layout of a municipality and conclude that what you're seeing—the types of buildings, the placement of asphalt, the route of a rail line—were all placed organically over time. It might seem that as one plot of land was filled, developers just moved on to the next. It's easy to think the same about where people live. When we talk about historically ethnic neighborhoods, such as Little Italy, Chinatown, or Little Haiti, the dominant narrative goes that as people migrated to the United States, they settled where their friends and family members settled. It's true that people live near others who are like them in terms of class, cultural identity, or values, but

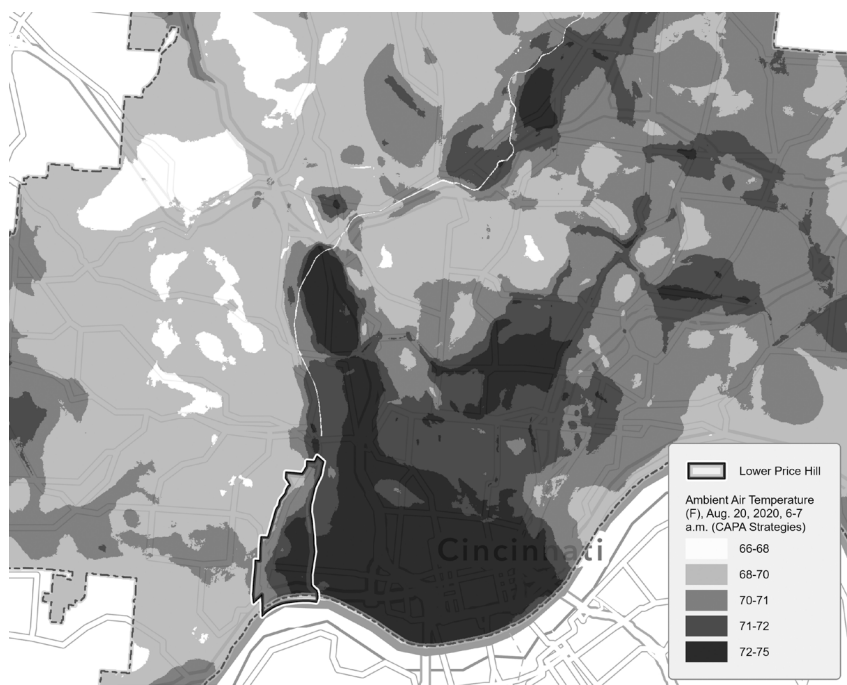


Figure 1-3: Map of early morning ambient air temperature in Cincinnati, Ohio. The areas with fewer trees stay much hotter throughout the night and into the early morning than areas with more trees. (Data source: CAPA Strategies Heat Watch—Cincinnati, Ohio, 2020. Map by Lawrence Hoffman.)

why did groups settle on the specific land they settled on? And why for so long? The details may look different from community to community, but everything from the size of a building to its inhabitants has a history vital to understanding the threat posed by climate change.

There is a direct connection between how local and federal city planning and housing policies shaped both the built environment and the modern climate crisis in the United States. From the 1930s through the 1970s, race-based housing segregation, urban renewal, the development of the federal highway system,

and many other programs intended to improve the lives of certain Americans had disastrous effects on low-income communities and communities of color who, at the time, lacked the social capital and political representation to effectively push back.¹ For example, let's look at the process known as "redlining." Most homeowners today have a twenty- or thirty-year federally backed mortgage that allows them to spread a large amount of debt over a long period of time at a stable interest rate. Homeownership would be a lot more challenging without this tool if, instead of spreading out the cost of a \$400,000 home over twenty or thirty years, you were expected to come up with the money in just five years or be forced to remortgage at what could be a much higher interest rate. In the early twentieth century, the mortgages Americans enjoy today didn't exist. Instead, banks offered home loans in five-year increments. At the end of the five years, if the mortgage wasn't paid off, the balance would have to be remortgaged at whatever rates were prevalent at the time.

This system chugged along until the Great Depression hit and the United States was staring down a serious foreclosure crisis. By 1933, nearly 50 percent of mortgages were in default, thousands of small and large banks and lending institutions had shut their doors, and over a quarter of Americans were out of work. To keep families in their homes and loosen lending from private banks, the Franklin D. Roosevelt administration launched the federally backed mortgage as part of a New Deal package of economic and social programs. The federally backed mortgage, which is still available today, pledges to private lenders that the government will vouch for certain borrowers and cover the full cost of their loan defaults using taxpayer funding.

To figure out which loans were eligible to be insured by the government, the federal Home Owners' Loan Corporation (HOLC)

contracted with surveyors across the country to develop “risk assessment maps.”² These maps separated neighborhoods into four categories or “grades.” Those outlined in green or “greenlined” were the most favorable and were graded “A” to signal that homes in that area were considered a relatively safe bet for investment. Green areas boasted high-quality housing stock, pleasant environmental conditions, and White residents. Remember that who is considered White in American culture changes over time. If you’re of Italian, Eastern European, or Irish descent, you might be considered White today, but you would have been the “wrong kind” of White person according to the HOLC and been prohibited from getting federally backed home loans or would have had to pay unfavorable interest rates. On the other end of the spectrum, neighborhoods outlined in red or “redlined” were graded “D” to signal that they were considered a highly risky investment. In between these extreme grades were “bluelined” neighborhoods graded “B” for still desirable and “yellowlined” neighborhoods graded “C” for declining. Residents in yellow and redlined communities were denied federally backed mortgages or received private lending at unfavorable rates. Their homes were of lower-quality housing stock and in closer proximity to pollutants.³ Another deciding factor for a C or D grade was the presence of non-White residents, specifically Black and Brown residents (D-graded areas), but also “undesirable” ethnicities such as immigrants and Jewish people (C- and some D-graded areas). One of the most telling and unsettling parts of the HOLC’s risk assessment maps can be found in the maps’ “clarifying remarks” sections, which detail the surveyors’ rationale for grading neighborhoods as they did. These notes illustrate how focused surveyors were on explicitly disadvantaging non-White communities. Published in 1933, an area description regarding a C-graded or yellowlined neighborhood in Richmond, Virginia

Figure 1-4: Clarifying Remarks from a “C”-graded neighborhood in Richmond, Virginia. Remarks read: “Respectable people, but homes are too near negro area D2.” (Redlining map of Richmond, Virginia, and Environs; April 3, 1937. National Archives at College Park, College Park, MD.)

It's important to note that the HOLC did not cause segregation in the United States, but it did federally codify segregation

that had long been legislated at the municipal level. If you owned a home in a redlined neighborhood, your home's value was depressed because prospective buyers were unable to get a federally backed mortgage to spread their debt out over twenty or thirty years using a stable interest rate. This kept residents of redlined areas from selling their homes for much of a profit or from taking out equity to make much-needed repairs and improvements. Additionally, the lower home values for residents of redlined areas meant lower contributions to the city's coffers through property taxes. These communities fell to the bottom of the list when it came time for cities to choose where to invest in parks, plant trees, and upgrade sewage infrastructure because residents lacked both sociopolitical power and the markers of wealth due to their race or ethnicity. If you were a family of color who had the money and desire to live in a bluelined or greenlined area, you were kept out by lenders, real estate brokers, and property owners fearing that the presence of "subversive racial elements" would cause their neighborhood to be downgraded.

This history still impacts communities, even though the 1968 Fair Housing Act outlawed race-based housing discrimination and the use of redlining maps to make decisions about home mortgage lending.⁵ Today, about 74 percent of formerly redlined neighborhoods are still majority low to moderate income, and 64 percent are majority minority.⁶ As James Baldwin once said, "History is not the past. It is the present."⁷

But this book is about the climate crisis. Why spend all this time talking about who gets to live where in our cities and towns if what we're trying to do is understand events like extreme heat or storms? The maps shown in figures 1-5 through 1-8 are of Elizabeth in New Jersey's Union County, which is just west of New York City. Figure 1-5 shows a digitization of the 1936 redlining map for



Figure 1-5: HOLC neighborhood grades for Elizabeth, New Jersey. “Greenlined” areas were eligible for federally backed mortgages; “redlined” areas were ineligible for federally backed mortgages. (Map by Lawrence Hoffman.)



Figure 1-6: HOLC neighborhood grades for Elizabeth, New Jersey, overlaid with 2016 tree canopy cover data. Formerly redlined areas have far fewer trees than formerly greenlined areas. (Map by Lawrence Hoffman.)

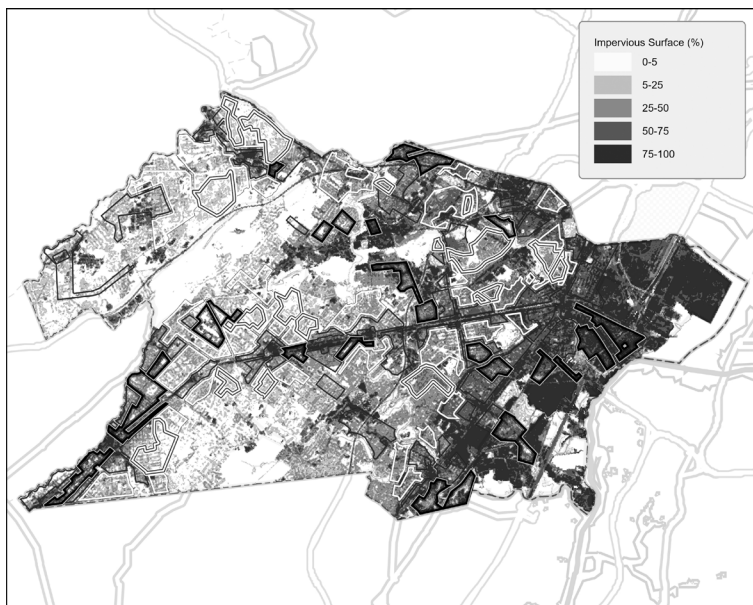


Figure 1-7: HOLC neighborhood grades for Elizabeth, New Jersey, overlaid with 2016 impervious surface data. Formerly redlined areas have more pavement than formerly greenlined areas. (Map by Lawrence Hoffman.)

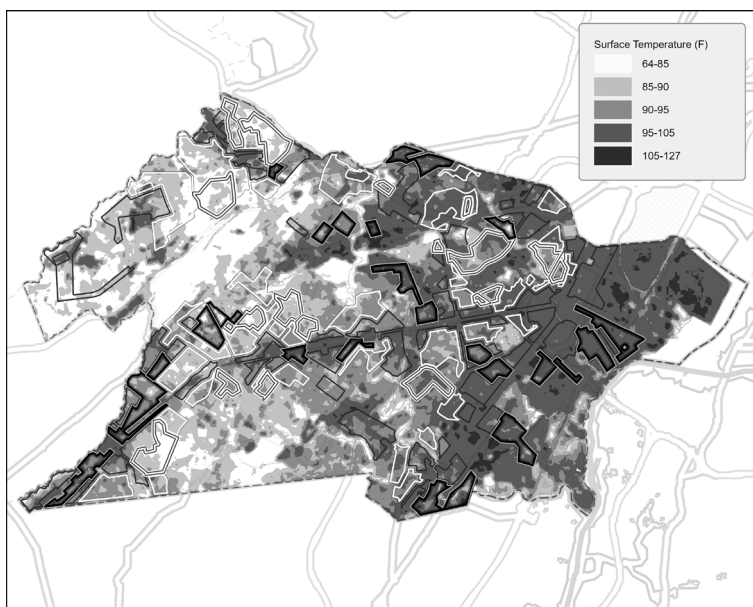


Figure 1-8: HOLC neighborhood grades for Elizabeth, New Jersey, overlaid with 2016 land surface temperature data. Formerly redlined areas are hotter than formerly greenlined areas. (Map by Lawrence Hoffman.)

Union County, New Jersey. Find any greenlined area. Remember that those areas had good housing stock, had the “right” kind of White person, and were eligible for federally backed mortgages. Find that same area in figure 1-6, which shows tree canopy cover across Union County as of 2016, and then in figure 1-7, which shows impermeable pavement such as driveways, parking lots, and roads as of 2016. Finally, find that area in figure 1-8, which shows relative heat as of 2016; the darkest areas are the hottest. Then go back to figure 1-5, find any redlined area, and track that area again through figures 1-6, 1-7, and 1-8.

What do you notice?

What you’re likely observing is that formerly redlined areas have fewer trees, have more pavement, and are hotter than formerly greenlined neighborhoods. That said, it can be hard to extrapolate what this looks like at the city level just by looking at the map alone. The bar chart shown in figure 1-9 translates the data you see visualized in the maps of Elizabeth, New Jersey, into a powerful picture of the distribution of climate risk. As you go from formerly greenlined (A) to formerly redlined (D), the tree canopy cover (light gray) decreases. The impervious surfaces (dark gray), which we can use as a proxy for increased urban heat island and flood risk, increase, and the land surface temperature (black) increases. Nationwide, neighborhoods that were redlined have on average half as many trees as formerly greenlined neighborhoods, and what few trees exist are significantly smaller and lower to the ground than typical, limiting their ability to cool the surrounding environment or retain stormwater.

But wait, it gets worse. Research conducted by Jeremy Hoffman and Vivek Shandas in 2020 found that formerly redlined neighborhoods are approximately 4.5°F hotter on average than their formerly greenlined counterparts, but that difference can be as

extreme as 25°F at the same time on the same summer's day.⁸ The impact of that difference is substantial. It is the difference between turning your air conditioner on and not. The difference between a cooling bill you can pay at the end of July and one that you absolutely cannot afford. The difference between letting your kids play outside with their friends on a summer afternoon or keeping them indoors to prevent a heat-induced asthma attack. There are social, economic, and health consequences to how we experience the built environment. From COVID-19 deaths to kidney disease and maternal mortality to heart attacks, residents of formerly redlined neighborhoods currently experience higher risks of most diseases and chronic health conditions. The one exception to this is cancer, which is a disease one usually ages into. With life expectancy that can be up to fifteen years lower for residents of formerly redlined neighborhoods than those of formerly greenlined neighborhoods, too many die before they can reach the age where others develop cancer.⁹

Redlining is one example of how discriminatory policies and practices reverberate through the generations, but it is by no means the only one. In the post–World War II period, federally and state-funded urban renewal initiatives razed the homes, businesses, and community institutions of low-income, immigrant, and non-White communities to make way for modernized public infrastructure. The vision of new and forward-looking urban environments was constructed by overwhelmingly White middle- and upper-class engineers who never lived in such neighborhoods and summarily ignored the displacement and harm caused by urban renewal. Their vision reframed America's cities as something for the “right kind” of White people to pass through in their cars on the way to work, commercial districts, and cultural institutions. They poured mountains of state and federal resources into wealth

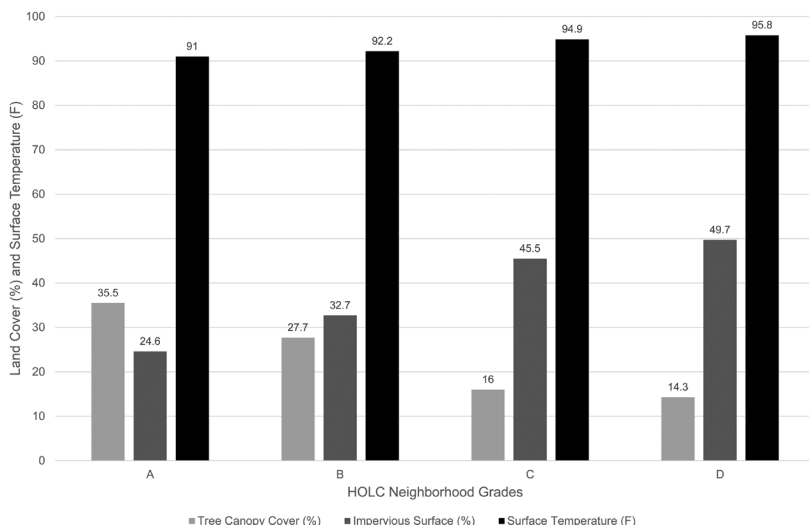


Figure 1-9: Bar chart illustrating the relationship between HOLC neighborhood grade and tree canopy cover (light gray), impervious surface (dark gray), and heat (black) in Elizabeth, New Jersey, as measured in 2016. As you move from greenlined areas (A) to redlined areas (D), communities have fewer trees, more pavement, and greater land surface temperatures. (Chart by Lawrence Hoffman.)

building for some, while the poor, immigrants, and people of color were forced to leave their homes and communities with little to no recompense. Federally sponsored White flight out of cities and into suburban communities; restrictive covenants baked into the deeds and neighborhood culture, preventing the sale or rental of property to certain individuals based on race, gender, or sexual orientation; aging infrastructure that the city can't afford to repair—there's a history to why our communities look the way they do. This isn't an accident.

In the New Orleans neighborhood of Tremé, Claiborne Avenue was once a walkable, bustling, commercial and residential district for its upper-middle-class and predominantly Black community.

Throughout the nineteenth and early twentieth centuries, a linear park ran along the middle of the avenue, and soaring hundred-year-old live oaks, dripping with Spanish moss, provided shade under which residents would play music, promenade, and socialize outdoors despite the summer heat and afternoon downpours. But by the late 1950s, Claiborne Avenue was in the crosshairs of urban renewal advocates. As part of a development plan for the federal highway system, the greenway and a significant stretch of homes were replaced by the Claiborne Avenue Expressway. Today, alongside the smog from cars and trucks, the impermeable pavement retains the sun's heat during the day and releases it through the night, contributing to New Orleans's position as the worst heat island in the United States.¹⁰ The endless stretch of blacktop and lack of sewer drains cause stormwater to collect in the streets and flood nearby homes.

From federally backed mortgage lending to urban renewal to the siting of industry, the infrastructure decisions of local and federal governments have shaped our built environment in ways that saddle some communities with blacktop and endless smog. Meanwhile, others enjoy greenspaces and high ground.

One of the most common explanations I hear for why communities still look the way they do is that those who face racism or struggle to make ends meet are too busy and distracted to care about environmental justice issues. While it's true that those who face structural oppression are concerned with and fatigued by those barriers, the idea that they don't care about protecting their community from pollution or the climate crisis couldn't be further from the truth. In the Black neighborhood where I was raised, parents paid close attention to temperature reports and smog indices, keeping children indoors and inhalers close at hand as soon as asthma risk warnings were issued. The problems of the built



Figure 1-10 and Figure 1-11: Aerial photograph of St. Bernard Circle in New Orleans, Louisiana, in 1942 compared to a Google Earth image of the same location in October 2022. (Figure 1-10: Courtesy of The City Archives & Special Collections, New Orleans Public Library. Photo by A. E. Stewart. Figure 1-11: Google Earth © 2023 Landsat/Copernicus.)



and natural environment had real-world, tangible consequences for their children's lives. To tens of millions of others nationwide, issues of flooding, heat, ice storms, and fires are similarly tangible. Hotter summers mean higher cooling bills, which put a strain on household budgets. If a creek overflows into the basement, the resulting mold is a health hazard to the whole family. Factories, transfer stations, and bus depots have to go somewhere, but they are frequently crammed into neighborhoods of color that lack the political capital to reject them and clear their air. Black, Brown, immigrant, and low- and moderate-income communities all care deeply about the consequences of the climate crisis and environmental injustice where they live, but they often lack respect from the political and social systems that were built to intentionally exclude them from decision-making.

That's not to say that if you live in a formerly greenlined neighborhood, or one that wasn't subjected to urban renewal, your community isn't suffering or struggling from the climate crisis or doesn't require improvements. Throughout the country, almost every neighborhood is going to require interventions to address extreme weather conditions. But, just like the residents who live on that shady portion of the block in western Lower Price Hill, we're all closer and more deeply connected to an area of risk than we think.

At this point, if you're familiar with US history, you're likely deeply disappointed but not terribly surprised by any of this conversation. However, you might feel betrayed. The back cover and introduction to this book both clearly promise hope that change is possible, and now I've just laid out a depressing, systems-level, multigenerational explanation for environmental injustice, one that you had nothing to do with and one that you have very little



Figure 1-12: Vision to Reality Park in New Orleans, Louisiana. This park was built by Groundwork New Orleans as a flood and heat mitigation measure, a native plant and wildlife habitat, and a recreation space for those living and walking along Claiborne Avenue. (Photo by author.)

individual control over. I'm sorry. That was all objectively a bummer to read, but I promise I had a good reason for bringing it all up.

The history, policy, and leadership behind land use decisions matter. We're not just looking to stop the harm caused by historical and contemporary decisions; we're looking to keep that harm from happening again. We have to know where to look for risk and where to intervene. Part of doing this work is understanding that our neighborhoods don't look the way they do by accident and,

importantly, that they won't change by accident. It's going to take a deliberate, thoughtful approach to identify the small 1 percent solutions that can make a difference and to keep an eye out for the policies and decisions that, like the highways built during urban renewal, may promise progress but instead bring harm. Know that you're not alone in wrestling with this knowledge and in doing this work. Individuals and groups are already out there, making these changes to policy and the built environment.

Along a section of the Claiborne Ave expressway, Groundwork New Orleans, a local environmental justice and workforce development nonprofit, has built Vision to Reality Park (figure 1-12), a greenspace equipped with benches to rest upon, shade structures to protect visitors from the heat, and a stunning bioswale packed with native pollinators that captures, cleans, and diverts stormwater from the surrounding residential neighborhood. Although the park does not eliminate or repair the long-standing harm from the social and cultural impacts of the past, it reduces a very real harm that is happening right now by cooling and cleaning the air and reducing flooding. This park was designed and built by local New Orleanians living in neighborhoods impacted by the climate crisis—residents who are intimately familiar with the land, water, and its challenges, and who have a vision for the future of their community. Small projects like Vision to Reality Park show us that the built environment can be changed in ways that give us time and space to figure out what's next.

CHAPTER 2

Hot, Wet, and Smoky

BEFORE I MOVED INTO THE CLIMATE ADAPTATION SPACE, I taught middle school science. Ask any teacher: the first few weeks of school are equally exciting and exhausting for both kids and adults as everyone learns new names and routines. In my classroom, the beginning of the school year was marked by sweat. Our hundred-year-old building was located in the densest concentration of public housing in the United States, set a few blocks from a metal scrap yard and just off a major cross-borough parkway. Due to the age of the building, there was no centralized cooling system, and due to tight budgets, not all classrooms had functioning window air-conditioning units. As the mercury rose, I relied on one large workhorse of an industrial fan parked in the corner to cool myself and more than thirty tweens. At the end of class, I'd collect my students' assignments and find the packets wet and rippled where sweat had dripped from the children's faces to the paper below.

Outdoor recess offered almost no relief from the heat, especially as the afternoon crept on. With no shade structures or trees in or around the play yard, the blacktop soaked up the September sun, giving the space the feeling of a convection oven. A handful of kids would push through the heat, intent on a basketball rematch or to show off their new dance moves, but for the most part, students and teachers would crowd together, sluggish and dripping with sweat, under the narrow band of shadow cast by the building itself. On hot days, more inhalers came out to ease the breathing of the many children with asthma, and those who didn't get a chance to burn off their energy through a game of tag or a dance battle because of the heat struggled to focus in class.

These challenges are only becoming more intense and widespread as climate change exacerbates risks like heat, flooding, and fire. Across the country, school districts have had to shorten school days or weeks because of dangerous heat waves. During my first summer in eastern Massachusetts, a heat wave canceled the first week of school for more than twenty districts.¹ Without air conditioning, school administrators felt unable to provide a safe learning environment for children as outdoor temps crept toward 100°F. Years—and multiple heat waves—later, summer weather seems to have permanently extended into the beginning and end of the school year, and some communities are adapting to keep kids safe and learning. School districts in Los Angeles are exploring ways to build greenspaces on campuses to add shade and relief from scorching pavement, and schools in Ohio are exploring options for adding cooling systems to old buildings.² The climate issues that school districts are facing are the same ones impacting neighborhoods across the United States more broadly. Recognizing major climate risks to your community can help you identify how and where to intervene.

(continued...)