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Sick of Zoning in Metropolitan Chicago: Healing Environmental Racism and Investing in a Segregated City

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Abstract

This paper addresses the issue of the historical and present-day built environment in the Chicago metropolitan area, its roots in environmental racism, and impacts on community health. Chapter 1 utilizes mapping of Chicago to analyze U.S. Census and public health data, drawing conclusions based on community area residential patterns and demographics. Chapter 2 explores the origins of zoning practices in the United States and environmental history of Chicago, tracing the immediate impacts of the built environment and today's community impacts. Chapter 3 dives into the political background of the built environment and city zoning in Chicago, with particular attention to political corruption and its impacts on residential segregation and environmental racism. Chapter 4 establishes the environmental health penalties resulting from disinvestment in urban settings and historical neglect of low-income communities and communities of color, analyzing the public health inequities resulting from city zoning and what urban design frameworks for reinvestment other metropolitan regions are integrating. Drawing on the discussions and implications from the previous chapters, Chapter 5 lays out the recommendations to increase health equity for at risk urban communities based on municipal policy changes and preventative measures.

Keywords: health equity, Chicago, environmental history, environmental politics and law, urban environment, city zoning, residential segregation, condensed poverty

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Introduction: A Tale of Two Chicago's

My mother loves telling me stories about how she grew up. She is a through and through Chicagoan and grew up in the same neighborhood we live in now, just a few blocks south of our home. Sometimes, she mentions how the same neighborhood on the Lower West Side of Chicago has changed since raising children there. She has often asked me, "Have I ever told you about when we first moved here," to which I always tell her that she has because she will tell me anyway. My mother always recounts the same story: when we first moved to the neighborhood from the suburbs (I was about four and my brother a baby), she took us to a local doctor that insisted on having both my brother and I tested for lead. She got us tested per the doctor's insistence. As she expected as new residents, my brother and I both turned up negative for lead; she always conveniently left out of the story that they got children tested due to the old industrial facilities that weren't too far from our neighborhood. About two miles away from home and already shut down were the Fisk and Crawford coal-fired power plants, which had plagued the nearby neighborhoods for decades and were the last standing coal-fired power plants in a U.S. city.

My father does not tell stories about how he grew up to the same extent as my mother does, but he will tell a few sometimes. He grew up on the far South side of Chicago, a few blocks from the lake shore and within a few miles of the old steel mills. Like most families in the same neighborhood, the location was a prime place to live for those working in the steel mills, which my late grandfather did. While all the former steel mills in South Shore are no longer there, the impacts have been lasting. Of the discussions we have had on the topic of what was nearby his childhood home, he mentioned that he could count on more than two hands how many

people he grew up with that currently have or have passed on from cancer, likely due to the health of his neighborhood.

Commonly known by Chicagoans, the segregation between the city's North and South sides is little spoken about besides the crosstown rivalries between the Chicago Cubs and the Chicago White Sox's. It is evident there is racial and wealth segregation reaching all seventy-seven neighborhoods in Chicago, even within both halves of the city. Looking at the South side of Chicago, the wealth discrepancies of the almost adjacent neighborhoods of Hyde Park and Englewood tell the tale of two Chicago's well. Hyde Park, famous as the home of the University of Chicago, has a median income of $52,423 with white residents (47.0%) ("Hyde Park: Community Data Snapshot Chicago Community Area Series" 2022). About a mile to the west, the neighborhood of Englewood has a median income of $22,228 (2020) with black residents (92.1%) and only 38.2% of the total neighborhood population in the labor force and employed ("Englewood: Community Data Snapshot Chicago Community Area Series" 2022). The socioeconomic and racial disparities between Hyde Park and Englewood are evident of a larger historical problem in Chicago: the disinvestment in communities of color.

While no city is the perfect place to live, Chicago is a tale of two cities: the Haves and Have Nots. Chicago's history has a pattern rooted in neglect of low-income communities, communities of color, and neighborhoods deemed unsalvageable by political and economic interests. Within the past few years, Chicago has picked up traction in the news from an investigation into Chicago's local government by the United States Department of Housing and Urban Development for environmental racism (U.S. Department of Housing and Urban Development 2022) in a steel plant move to the city's South side. While not the only example of flawed decisions city officials have supported in the past few years, it is one of the larger on-

going situations that highlights the segregation and disproportionate support of different populations in the city. The alleged discrimination is rooted deeply throughout Chicago, widely known as one of the most segregated cities in the United States.

In the present research, Chapter 1 provides data and an overview of the topics discussed in this paper, such as urban ecosystems, environmental racism, and residential segregation. Chapter 2 provides information on zoning in the U.S., Chicago's zoning ordinances, and the current state of zoning. Chapter 3 discusses politics in Chicago, environmental racism, and how these are related. Chapter 4 highlights the other factors contributing to environmental racism and zoning, particularly socioeconomic status and race. Chapter 5 provides solutions for the issues presented in this research. For varied reasons, this paper will evaluate, the pattern of disinvestment in poorer and predominantly-minority neighborhoods is well known and contributes to environmental and individual health disparities, which continue to cycle of disinvestment in these communities. In the present research, this paper evaluates the role of usage and density zoning in environmental racism and the impacts on health disparities between Chicago neighborhoods.

Chapter 1. Chicago's zoning and neighborhood demographics

Citizens of an urban ecosystem depend on what is built and available around them: community resources, green infrastructure, and local biodiversity to name a few. The resources city's residents depend on are ecosystem services, which are the benefits humans receive from the natural environment that are integral for well-being. Ecosystem services are divided into four categories: (1) provisioning services, (2) regulating services, (3) cultural services, and (4) supporting services (de Groot, Wilson, and Boumans 2002; Millenium Ecosystem Assessment 2005). In all environments, provisioning services are the ecosystems that provide direct material

benefits to human beings, such as clean water and produce; in an urban ecosystem, this can look like green infrastructure and water systems. Regulating services are the benefits an ecosystem provides by its natural regulating processes, such as air quality regulation; in an urban environment, this looks like urban forests and parks and other green infrastructure. Regulating services in cities primarily aim to filter and absorb pollutants, reduce the heat island effect, improve water quality, and mitigate the negative impacts of weather. Cultural services are the non-material benefits provided by an ecosystem, such as opportunities for recreation, community support, and aesthetic benefits; cities also commonly have historical landmarks that are considered a cultural service. Lastly, supporting services are ecosystem services that allow for the availability and upkeep of the previous services, which notably includes the restoration of degraded ecosystems. In many ecosystems, supporting services look like nutrient cycling, pollutant filtering, and climate regulation; particularly urban ecosystems commonly require reduction of carbon dioxide, reduction of the heat island effect, water purification, and much other support to maintain a functioning ecosystem.

The urban ecosystem can also be viewed as a human ecosystem, which is an ecosystem created and inhabited by humans that contains the built, human-modified, social, economic, cultural, and political environments also created by humans (Hancock 2002). Considering factors such as rapid population growth, increase in urban density, and other strains on ecosystem services, current evaluations estimate that 60% of ecosystem services are being degraded or used unsustainably and approximately 80% of ecosystem services continuing to increase in usage (Millenium Ecosystem Assessment 2005), which is majorly due to the creation of human ecosystems. The degradation of ecosystem services results in the consistent decrease of an ecosystem's capacity to deliver essential services; this arises in many ways but is typically a

direct result of human activity. One particularly common way human beings degrade services is by increasing access to one service through resource management or technology, but in the process compromising another service due to trade-off costs (Millenium Ecosystem Assessment 2005). In its current state, trade-offs from ecosystem service degradation are not adequately considered in resource management decisions, such as land-use zoning.

Currently, cities occupy less than 5% of the earth's surface, but host up to half of the global population and consume up to three quarters of resources available from ecosystem services (Redman and Jones 2005). A phenomenon paired with human population growth, urbanization is a significant barrier to providing ecosystem services and cause of degradation, as it can lead to land-use changes, biodiversity loss, and limitations on pollutant filtering from the built environment. Urbanization is the process of economic development, population growth, and spatial expansion of an urban system and is often associated with various trade-off costs due to ecosystem service management. Urban development threatens necessities through trade, consumption, and resulting trade-offs that span beyond one community from globalization. Trade-offs may include concentration of poverty, disease, and inequitable access to resources that significantly affect marginalized groups; wealthy and privileged populations are protected from some harmful effects of ecosystem service degradation but are eventually impacted through the economic and social benefits they receive from resources (Millenium Ecosystem Assessment 2005; Vlahov, David et al. 2010). Particularly impacting cities because of population density, a barrier to quality ecosystem services arises from the limited space available and the subsequent competing land usage, which typically results in zoning regulations to divide up land usage and competing interests. While zoning is intended to address negative externalities from urbanization, it often results in prioritizing cities' economic and political interests and shifting

negative externalities onto marginalized communities. Zoning will be further discussed in Chapter 2.

Ecosystem degradation resulting in land use changes can lead to reduced air quality from increased traffic, condensed industrial activity, and reduced recreational opportunities; these impacts from land use degradation can have direct impacts on community health and disproportionately affect marginalized populations, which are condensed due to the inability to afford and access better resources in urban areas. The disproportionate impacts of ecosystem degradation on marginalized populations are an environmental injustice that many different communities aim to correct through resources and betterment of their environment. A present movement and rising field of study, environmental justice is the equal protection from environmental hazards and accessibility for all communities to quality resources that allow for basic well-being and health, regardless of age, gender, ethnicity, health status, race, or socioeconomic status (Maantay 2002; Morello-Frosch and Pastor 2016). Distinguished from environmental justice, environmental justices occur when a specific social group is disproportionately affected by environmental hazards (Brulle and Pellow 2006). Environmental injustices are a complex issue beyond lack of accessibility and exposure to hazards: the lack of political and socioeconomic power often exacerbates the exposures of the affected communities. Many communities are unable to demand environmental justice due to their lack of political power and representation, which is a multi-fold issue rooted in urban politics placing economic interests over community interests. An issue of environmental justice discussed in-depth in Chapter 4, the inequitable distribution of health risks is linked to environmental and social stressors that disproportionately affect vulnerable and marginalized populations, such as people

of color and low-income communities. This disproportionate burden of environmental risks on communities of color is referred to as environmental racism.

Environmental racism refers to any practice or policy that disproportionately affects persons, groups, or communities of color, whether intentionally or accidentally; like other forms of racism, trade-offs resulting from environmental racism provide benefits for white persons and shifts costs to people of color (Bullard 1993; Bullard 1994a; Bullard 1994b). Additionally, racism is reinforced by institutional structures such as governmental organizations, socioeconomic status, and politics. The links between environmental racism and politics will be further discussed in Chapter 3. Focused on in Chapter 2, exclusionary zoning is an example of political and governmental power often linked to environmental racism and discriminatory practices (Bullard 1993). Minority communities and low-income neighborhoods are often located in areas nearer to industrial activity, with higher levels of pollution, and less access to green space, which results in a disproportionate distribution of ecosystem services. Additionally, existing evidence suggests that racial minorities and low-income communities continue today to experience higher rates of morbidity, mortality, and illness burden more so than white populations (Ransom et al. 2011). These health disparities are linked to communities near zones with industrial activity and noxious land uses, along with other barriers for healthy lives because of zoning and the built environment.

The environmental health of ecosystems can be assessed in a variety of measures, such as biodiversity and quality of ecosystem processes; in urban human ecosystems particularly, research commonly assesses population health, the quality of social processes, and quality of natural resources available to these environments (Hancock 2002). These dimensions all tie into the understanding of urban health: urban health is the health of a built environment, its function

as a community, its function as a biological ecosystem, and the health of the human population residing in the ecosystem (Hancock 2002). An urban ecosystem is assessed through its environmental viability, ecological sustainability, livability, community well-being, economic well-being, and social equity. As focused on, the indicators of evaluating an urban ecosystem are complex and overlapping in many cases. A viable environment does not have any harms for human beings and other organisms in the urban setting and requires provisioning ecosystem services; the environment is threatened by pollution in any of its provisioning services, such as air or water pollution. A sustainable urban environment aims to reduce its contributions to climate change, pollution, resource degradation, and habitat & biodiversity loss, all of which are integral to human health. Also contributed to by sustainability and viability of the environment, livability of an urban environment is dependent on the quality of public infrastructure, urban design, housing, and safety in a community. Socially, a healthy urban ecosystem is marked by community well-being, which is influenced by social support, both private and public resources, and economic well-being, which is marked by quality of work & life and economic activity. Analyzed primarily in this research because of environmental injustice, social and economic inequalities are often inherent in existing structures and are measured by unjust access to wealth, power, resources, and determinants of health based on gender, age, and other dividers (Hancock 2002).

Many of these indicators manifest a poor environment through declining health status of communities and are a result of inequities for many community groups. Focused on in this analysis, environmental injustice often arises in urban environments as inequalities in mortality and morbidity and are linked to a threatened ecosystem service (Hancock 2002). The following section provides data evaluating the social equity and community well-being dimensions of

assessing a case study of Chicago as an urban environment. As a result of unequitable zoning, environmental injustices are evident in Chicago and are a prime example for health disparities linked to the racial and socioeconomic concentrations in neighborhoods zoned for housing near industrial sites. This research analyzes current mortality rates in neighborhoods, historical and current racial and socioeconomic composition in neighborhoods, and their proximity to industrial sites in Chicago zoning.

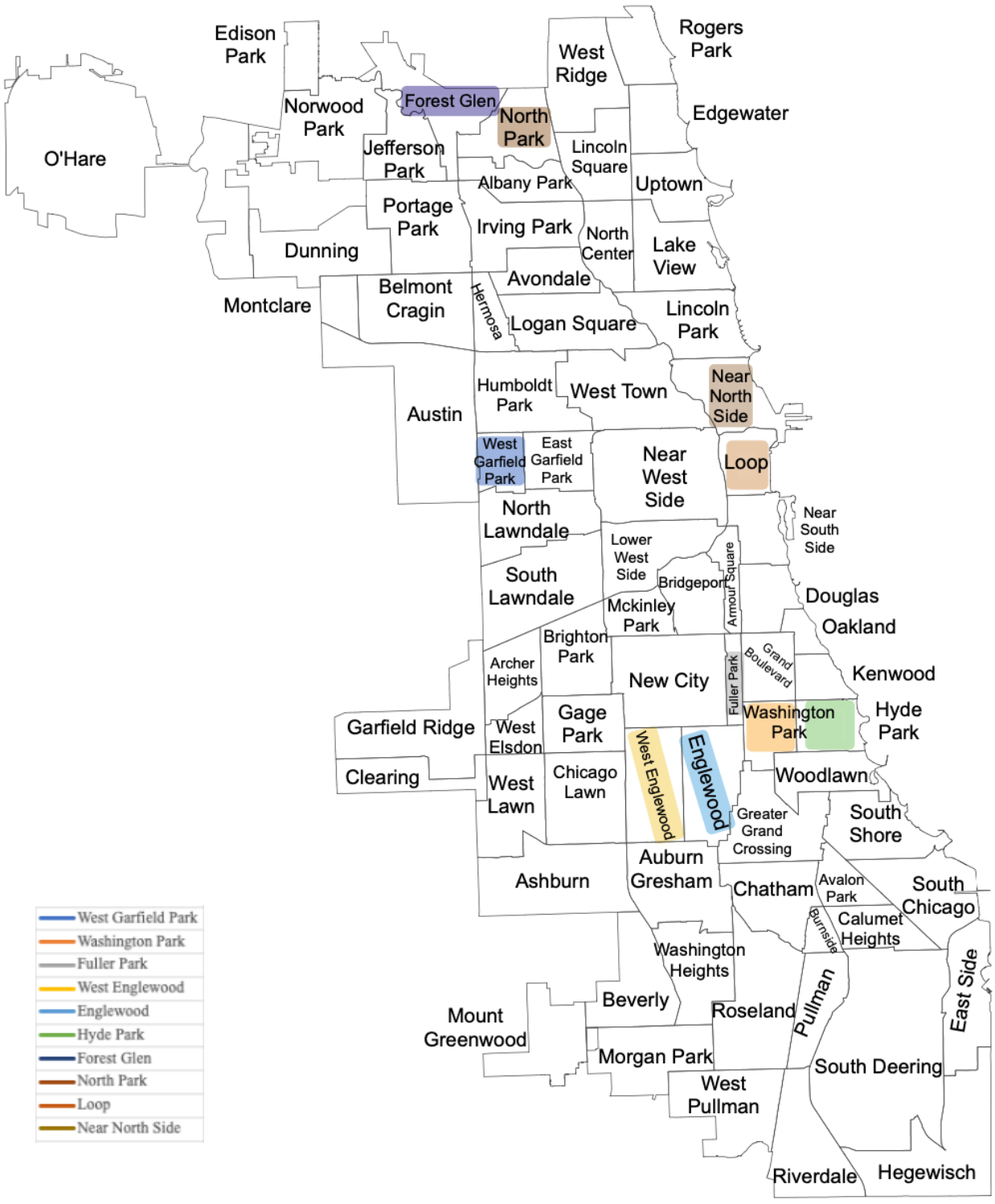
1.2 Data

In the provided data, community area selections include the following: Englewood, Forest Glen, Fuller Park, Hyde Park, Loop, Near North Side, North Park, Washington Park, West Englewood, and West Garfield Park. Out of Chicago's 77 community areas (fig. 1), these 10 communities were highlighted as the top and bottom 5 communities in life expectancy as of 2010 (fig. 2). These selections were based off 2010 life expectancy by community area due to 2020 data accounting for the COVID-19 pandemic. The 5 community areas with the highest life expectancies in 2010 were as follows, from highest to least expectancy: Near North Side, Loop, North Park, Forest Glen, and Hyde Park (fig. 3). The 5 community areas with the lowest life expectancies in 2010 were as follows, from least to higher expectancy: West Garfield Park, Washington Park, Fuller Park, West Englewood, and Englewood (fig. 3). These community areas were also analyzed for percentage of population below the poverty level (fig. 5) and percentage of population in these communities identifying as Black or African American (fig. 6), respectively. All data includes the city of Chicago as a reference point for the community areas.

It is significant to note that all the selected community areas with lowest life expectancies are centralized in the South side of the city, except for West Garfield Park on the West side. These communities on the Southside of the city have historically been in condensed poverty and

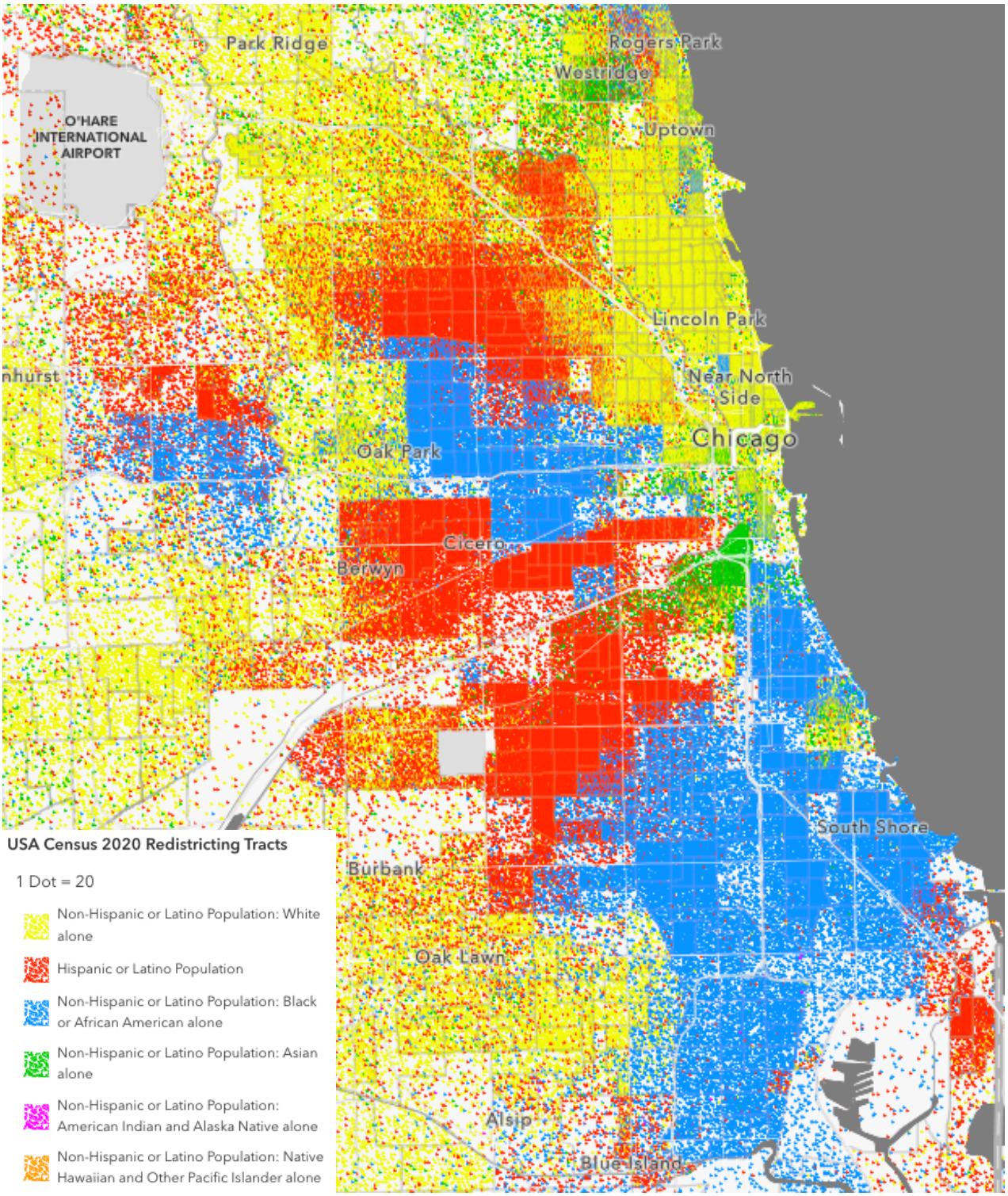
are residentially segregated communities of color, stemming from the strip of housing projects formerly centralized in Armour Square and Fuller Park. These housing projects are further discussed in Chapters 2 and 3. In looking at the 2020 Census Data (fig. 2; fig. 6), it is evident that these low life expectancy communities are entirely black residents who are experiencing poverty at more than twice the rate of Chicago (fig. 5).

The outlier to the poor life expectancy from selected communities and from further data on the South side (fig. 3; fig. 4) is the community area of Hyde Park. As previously mentioned, it is the home of the University of Chicago and the investment from the institution is thought to have contributed to its preservation of the community area; to a similar extent and for the same reasons, the community area of Kenwood's life expectancy also has a buffer from the rest of the area. Hyde Park and Kenwood are the two communities to have remained integrated on the city's south side as the surrounding neighborhoods have historically undergone residential change (Sampson 2012). Apart from Hyde Park, the selected community areas with highest life expectancies are on the outskirts of the city's far north side, nearest wealthy north side suburbs, and in the city center, housing multiple high-income residential towers and high-income single-family homes. In looking at the 2020 Census Data (fig. 2; fig. 6), it is evident that these communities are predominantly white, and its residents are below the average poverty level in Chicago (fig. 5) This will be further discussed in Chapter 3 and 4.



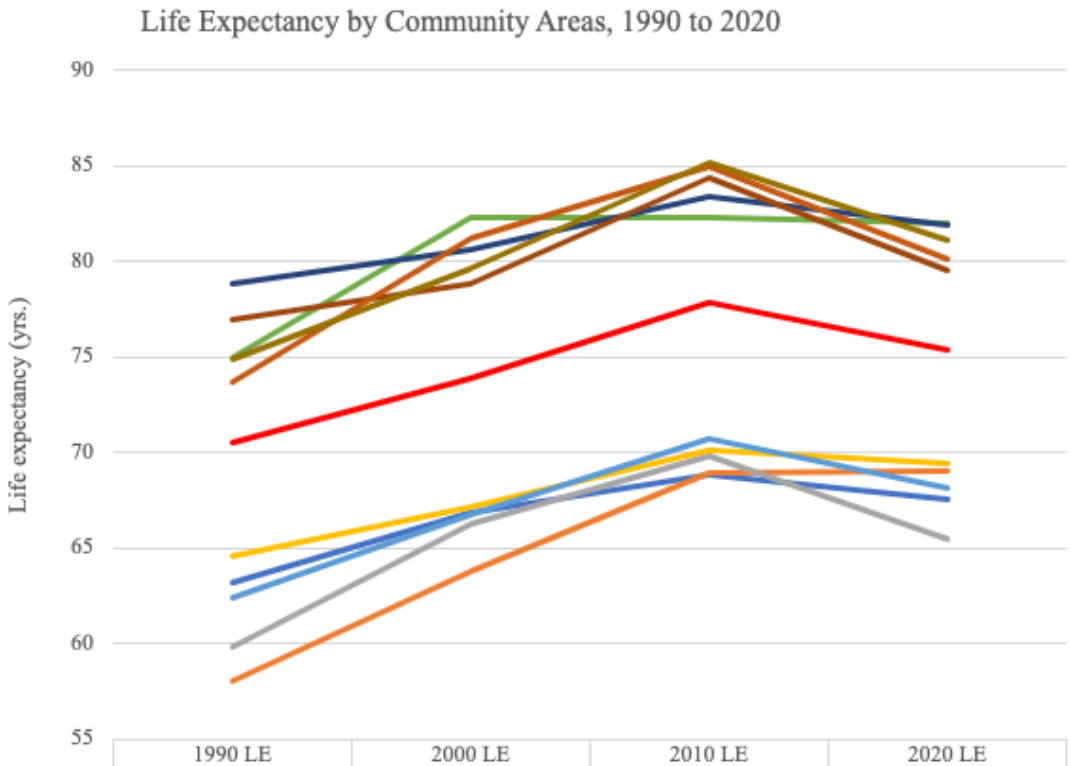
Sources: Rob Paral & Associates.

Figure 1. Map of Chicago by community areas, labelled.



Sources: Esri Demographics 2021, adapted in ArcGIS; U.S. Census Bureau.

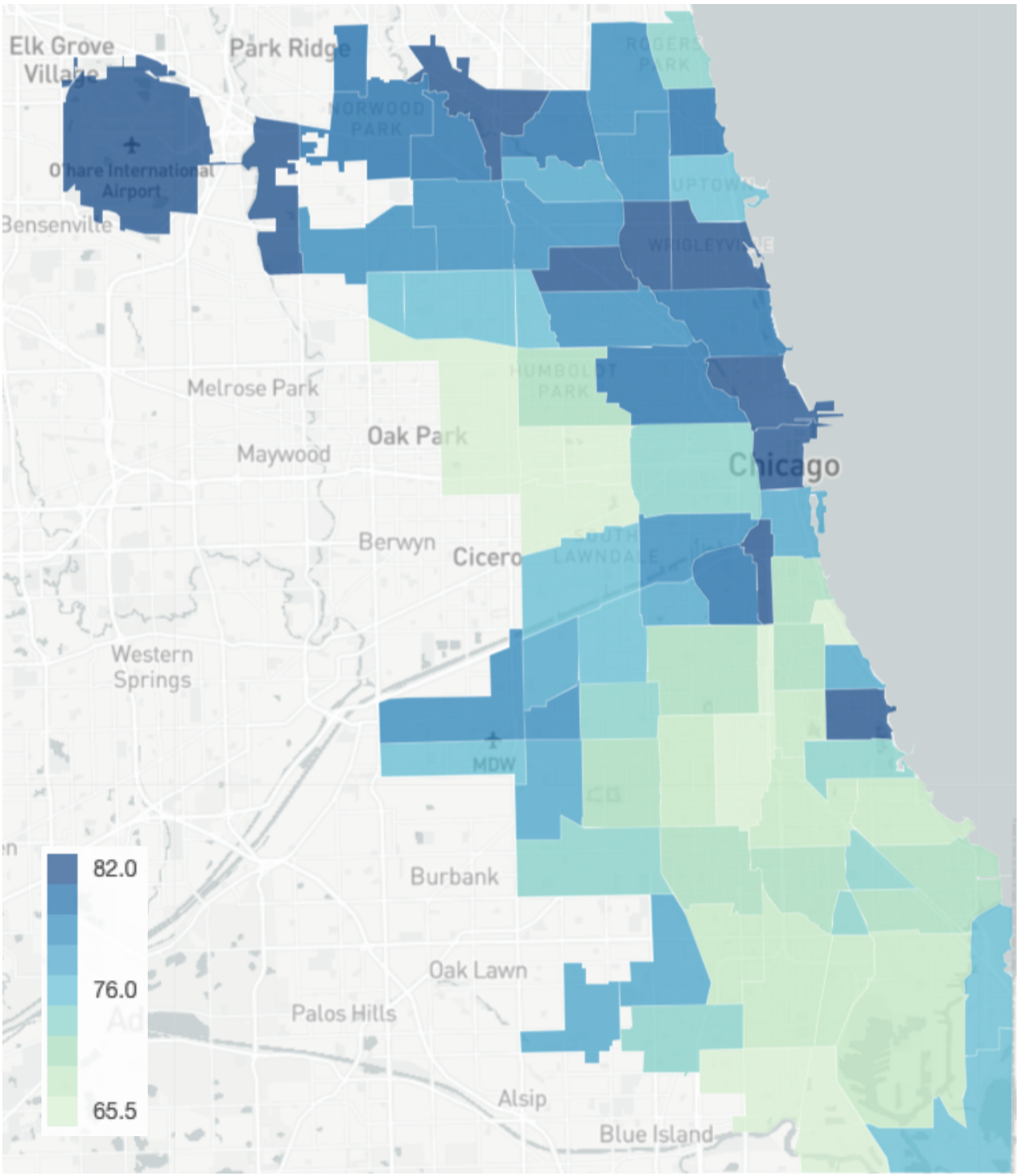
Figure 2. Chicago's Race and Ethnicity by Dot Density, Census 2020.



	1990 LE	2000 LE	2010 LE	2020 LE
West Garfield Park	63.2	66.8	68.8	67.5
Washington Park	58	63.8	68.9	69
Fuller Park	59.8	66.2	69.8	65.5
West Englewood	64.6	67.1	70.1	69.4
Englewood	62.4	66.7	70.7	68.1
Hyde Park	75	82.3	82.3	82
Forest Glen	78.8	80.6	83.4	81.9
North Park	76.9	78.8	84.4	79.5
Loop	73.7	81.2	85	80.1
Near North Side	74.9	79.6	85.2	81.1
Chicago (Avg.)	70.5	73.9	77.8	75.4

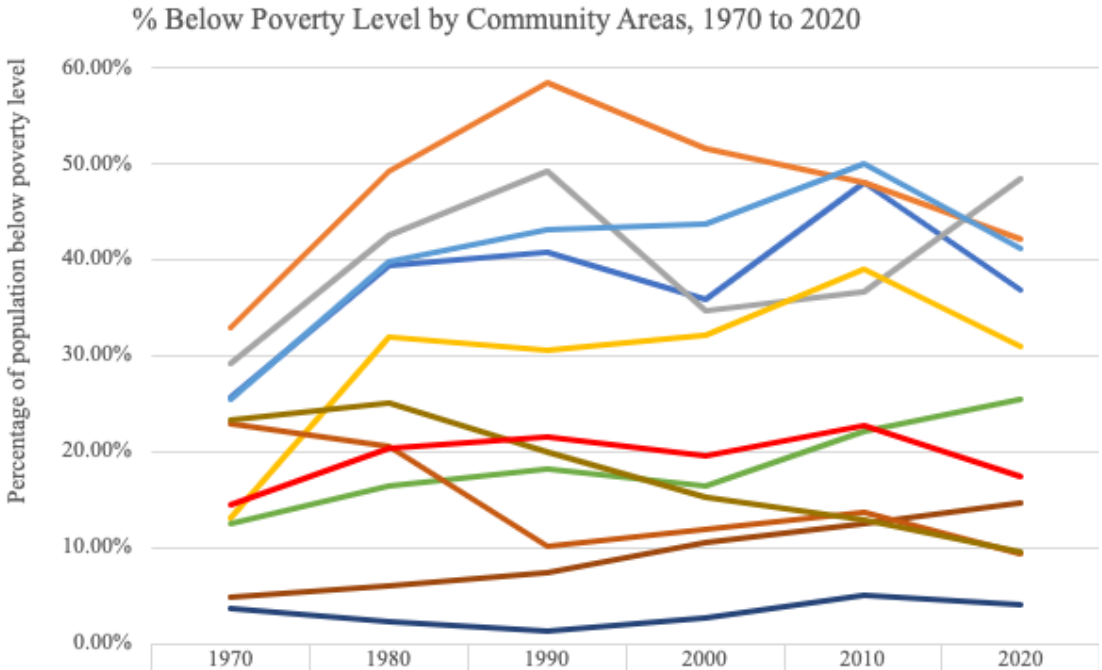
Sources: Data selected from "Chicago Health Atlas" 2022; "City of Chicago Public Health Statistics: Life Expectancy by Community Area, Historical" 2023. Figure and table by author.

Figure 3. Life expectancy in Chicago by selected community areas, 1990-2010.



Sources: Adapted from "Chicago Health Atlas" 2022.

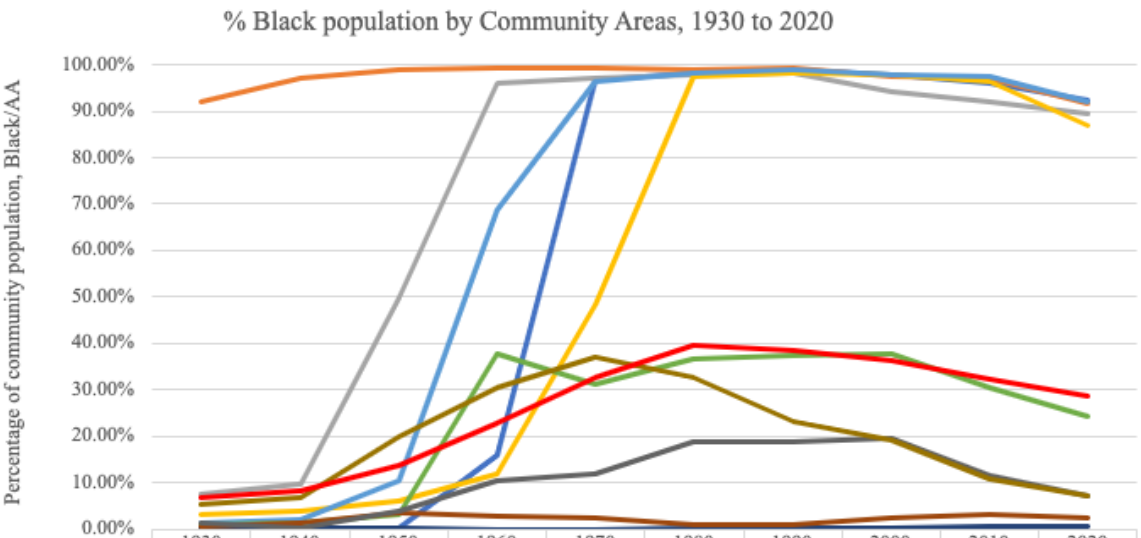
Figure 4. 2020 Life expectancy by community area.



	1970	1980	1990	2000	2010	2020
West Garfield Park	25.60%	39.40%	40.80%	35.90%	48.10%	36.90%
Washington Park	33.00%	49.30%	58.40%	51.60%	48.10%	42.20%
Fuller Park	29.20%	42.60%	49.20%	34.60%	36.60%	48.40%
West Englewood	13.10%	31.90%	30.60%	32.10%	39.00%	31.00%
Englewood	25.40%	39.70%	43.20%	43.80%	50.00%	41.10%
Hyde Park	12.40%	16.40%	18.20%	16.50%	22.10%	25.50%
Forest Glen	3.70%	2.30%	1.30%	2.60%	5.00%	4.10%
North Park	4.80%	6.10%	7.40%	10.50%	12.40%	14.60%
Loop	22.80%	20.50%	10.10%	11.90%	13.70%	9.40%
Near North Side	23.20%	25.00%	20.00%	15.20%	12.80%	9.60%
Chicago	14.50%	20.30%	21.60%	19.60%	22.70%	17.30%

Sources: Adapted from Rob Paral & Associates 2023.

Figure 5. Percentage of population in Chicago below the poverty level by selected community areas, 1970-2020.



	1930	1940	1950	1960	1970	1980	1990	2000	2010	2020
West Garfield Park	0.09%	0.05%	0.05%	15.79%	96.87%	98.28%	98.92%	98.02%	96.19%	92.41%
Washington Park	91.92%	97.24%	98.81%	99.13%	99.19%	98.79%	99.19%	97.54%	97.04%	91.68%
Fuller Park	7.57%	9.53%	49.76%	95.99%	96.93%	97.86%	98.35%	94.30%	92.18%	89.34%
West Englewood	3.08%	3.86%	5.98%	11.69%	48.32%	97.55%	98.06%	97.77%	96.26%	86.91%
Englewood	1.26%	2.16%	10.47%	68.87%	96.42%	98.24%	98.84%	97.84%	97.37%	92.09%
Hyde Park	1.09%	1.13%	3.18%	37.66%	31.07%	36.82%	37.42%	37.73%	30.43%	24.43%
Forest Glen	0.05%	0.20%	0.11%	0.03%	0.02%	0.06%	0.05%	0.39%	0.74%	0.56%
North Park	0.60%	1.21%	3.63%	2.89%	2.58%	0.89%	0.79%	2.44%	3.20%	2.24%
Loop	1.25%	0.23%	3.95%	10.35%	11.89%	18.93%	18.86%	19.65%	11.48%	7.08%
Near North Side	5.32%	6.70%	19.97%	30.61%	37.11%	32.47%	23.13%	19.07%	10.85%	7.17%
Chicago	6.93%	8.18%	13.59%	22.89%	32.75%	39.53%	38.60%	36.39%	32.36%	28.78%

Sources: Adapted from Rob Paral & Associates 2023.

Figure 6. Percentage of population identifying as Black/African American by selected community areas, 1930-2020.

1.2.3 Discussion

For the provided data, life expectancy was selected as a variable for a community's health status as it is a strong measure of population health and strongly associated with neighborhood social determinants of health, income inequality, and all-cause mortality (Deaton 2003; Galea and Vlahov 2004; Preston and Ho 2009). Variances in life expectancies between neighborhoods suggest that there are innate differences in access to resources that influence health for residents. Higher life expectancies are linked to increased income and socioeconomic status (Deaton 2003; LaVeist and Isaac 2013; Thornton et al. 2015). Research has shown that structural racism can

lead to lower life expectancy (LaVeist and Isaac 2013; Williams, Lawrence, and Davis 2019), supported by lower life expectancy in the selected community areas[1] from 2020 which are 6 to 10 years lower than Chicago's average life expectancy and 10 to 17 years lower than the higher 5 communities' life expectancies (fig. 3). Additionally, the selected community areas have mostly black residents in 2020 ranging from 87 to 92% of the community area make-up (fig. 6), supporting links between low life expectancy and race (LaVeist and Isaac 2013). Particularly researched in Baltimore, zoning policy is linked to a wide disparity in life expectancies up to a 20-year difference between communities because of historical residential segregation and condensed poverty (Thornton et al. 2015). Similar in root problems with zoning policy, Baltimore and Chicago both exhibit residential segregation and condensed poverty through politics and zoning policy, resulting in further inequities between communities. Zoning and politics are further discussed in Chapters 2 and 3.

Chapter 2. Incentives to Build: A History of Municipal Zoning

2.1 Purpose of Zoning

In an ideal world, city development would be naturally efficient and allocate scarce resources optimally; to accommodate this lack of perfect efficiency, governance has developed to manage both public & private interests (Vlahov et al. 2010). Various manners of control have developed to control land use and allocate resources by attempting to balance inefficiency and equity. Zoning and other land-use regulation tools are under the domain of local governments, which set local building and zoning codes, tax codes and incentives, and comprehensive plans for city development (Dannenberg and Capon 2016) that directly impact land use patterns in

[1] West Garfield Park, Washington Park, Fuller Park, West Englewood, and Englewood.

cities (Ellickson 1973), which address the externalities from resource allocation and regulation. Early zoning controls utilized types of zoning and building & lot restrictions to manage structural limitations; the first comprehensive U.S. zoning ordinance in New York City included three types of zoning as later discussed, but later ordinances by other cities frequently (Ellickson 1973). Due to the balance between inefficiency and tradeoffs (Ellickson 1973), zoning is the most accepted land use control method to manage the externalities associated with managing public and private land usage, as it is a legal pathway for municipalities to regulate development and existing usage.

In the context of land use controls, negative externalities are costs experienced by society and are primarily nuisance, prevention. and administrative costs (Ellickson 1973). Zoning is one method of land use control that can address these externalities. Nuisance costs refer to the harmful impacts that land use can have on neighboring properties and interests, typically exhibited in market pricing by the decreasing value of others' properties. Often a result of nuisance costs, administrative costs are the public and private costs of legal and policy interventions targeting nuisances. Prevention costs are the expenses incurred by a nuisance or the affected party to reduce the level or value of nuisance costs. In the case of environmental issues, a factory emitting harmful air pollution would be a nuisance and imposes costs on neighboring homes and land, particularly legal and other preventative costs in the process of curbing the pollution or activity of a factory. By imposing municipal ordinances for managing nuisances, zoning can reduce and prevent nuisance and associated costs. Despite its administrative costs, zoning is the most effective method of minimizing these costs compared to alternatives.

Zoning ordinances are not the only available tool to manage land use but are a widely accepted practice in cities. Alternatives to comprehensive zoning ordinances include covenants

and nuisance laws; however, using either option would increase prevention, administrative, and nuisance costs. Prior to zoning, covenants were widely used and continue to be used for non-commercial developments in Houston (Ellickson 1973; McMillen and McDonald 1999), which is the only major U.S. city without a comprehensive zoning ordinance in 2023. However, failures of zoning covenant usage are evident in Houston: all municipal landfills were historically located in African American neighborhoods until the city outsourced to private waste disposal (Bullard 1994b). The usage of covenants in modern development requires a powerful sense of community and collaboration, which many major cities often fail to foster for major developments in communities. Covenants are commonly used for simple land use regulation when there is single ownership and few administrative costs (Ellickson 1973) as they are typically insufficient for development on a city-wide scale.

An emerging example of a covenant is a community benefit agreement (CBAs) (Lehavi 2018), in which developers of major projects and neighborhood community groups continue with real estate projects under conditions that typically include community development actions and reduction of the physical negative externalities of the project. CBAs are discussed further in Chapter 5. While not using a covenant for development, Chicago's redevelopment of former industrial corridors is a significant example of failed community support in favor of a planned development. The most recently developed area, Lincoln Yards, has faced significant pushback for the luxury commercial and residential development and has mixed community support due to funding from the community's tax increment financing (TIF) (Ahern 2019). Particularly in Chicago prior to its initial zoning ordinance, the use of nuisance laws to encourage structure in free market land usage. While nuisance laws can be a sustainable option for managing land uses

in smaller communities, a city's reliance on these laws becomes unsustainable as development increases and competing uses result in legal disputes.

2.2 U.S. Zoning Developments

While not the first U.S. city to integrate zoning into its municipal code, the impacts of zoning in Chicago seemed more than most American cities to exacerbate racial divides within city limits and make implicit and explicit exclusionary tools easier to utilize in municipal development. Originating in Germany, zoning was initially created as a tool for real estate regulation and to aid city planning (Lehavi 2018); however, it was typically used to benefit private interests with political influence as zoning and politics are thoroughly intertwined. The explicit and implicit purposes for zoning regulation were to control threats to citizens' health and safety, manage quality of city infrastructure, consolidating socioeconomic statuses within a physical space, and improve efficiency of a municipal government (Lehavi 2018); however, many cities instituted zoning ordinances and restrictions without urban planning and therefore did not take into consideration the impacts of how zoning would impact an city's structure beyond the city government's core goals.

As a result of rapid industrialization in American cities, movements such as the City Beautiful movement and 20th century progressivism paved the way for an emphasis on general welfare in urban planning (Perdue, Stone, and Gostin 2003). Particularly influential in Chicago, the City Beautiful movement emerged in the 1890s, following its debut during the 1893 Columbian Exposition in Chicago (Fairfield 2018). The movement intended to beautify cities through comprehensive urban planning and to expand on the idea of a city as more than an economic center. This movement was led by the architect of Chicago's urban plan, Daniel H. Burnham, who published *The Plan of Chicago* in 1909. While not implemented fully, the

Burnham Plan had lasting impacts on infrastructure such as the creation of Grant Park and the beautification of the city's lakefront, these improvements proved to be a priority in the commercial center and Chicago's poorest residents continued to remain centralized in slums on the West and South sides of the city with little to no improvements. The resulting less quality of welfare in communities with condensed poverty was due to compromised access to cultural services, such as green space and access to recreational areas that wealthier communities had access to.

2.2.1 Proto zoning in the nineteenth and twentieth centuries

Prior to comprehensive zoning ordinances, various municipalities exhibited zoning restrictions that were racially biased, intended to protect white residents, and protected the interests of white residential communities. First occurring in California between circa 1890, cities such as San Francisco restricted the development of laundry buildings in communities, which typically served as both a business and residential setting for commonly Chinese owners and isolated them to industrial sectors of these cities or in the surrounding suburbs (Lehavi 2018). While these restrictions were argued on behalf of safety regulations, the almost exclusive ownership of laundry businesses by Chinese immigrants and the primary exclusion of these businesses displays an overt exclusion of minorities from white communities. Similarly, in 1908, Los Angeles passed the first city-wide ordinance restricting industrial locations (Silver 1997), primarily targeting minority-run laundry businesses similarly to its Northern Californian neighbors. These Californian cities exhibited the first instances of proto-zoning laws on a racial basis in the United States, which were never explicitly exclusionary until the twentieth century.

In 1910, Baltimore was the first U.S. city to pass explicit zoning restrictions on non-white residents. These restrictions included no person of color residing on a neighborhood block where

residents were white and new developments must specify what race the housing is developed for (Lehavi 2018; Silver 1997). While uncomprehensive, Baltimore writing racial discrimination into law paved way for other cities to adopt similar zoning restrictions (e.g., Louisville, St. Louis). In 1917, the Supreme Court limited legal zoning restrictions based on explicit racism and allowed minorities to occupy in white communities ("Buchanan v. Warley" 2022). However, ruling racism through zoning unconstitutional only incentivized cities to be more creative with their exclusionary practices.

2.2.2 New York City

New York City was the first major city in the United States to pass a comprehensive zoning code in July 1916 and influenced the integration of urban zoning ordinances across the country. New York City's adopted zoning ordinance intended to control land uses and real estate values by establishing three districts: housing, commerce, and industrial activities. By establishing these districts, NYC's Board of Estimate and Apportionment attempted to respond and cater towards real estate and business interests against "uncontrolled development" (Fischler 1998). These zoning ordinances included regulation for outer boroughs' development (i.e., Brooklyn, Bronx, Queens, Staten Island) to prevent urban congestion in these boroughs but could not control development in the long-term as the city continued to develop new mass transit lines in these neighborhoods (Fischler 1998). In addition, this ordinance condensed garment manufacturing industrial sectors in Manhattan and its minority workers; while not as explicit as previous ordinances, New York did include some control of minority workers and their presence near white and wealthier citizens (Silver 1997) in Manhattan's luxury shopping district along Fifth Avenue.

In its historical impact, New York City's zoning ordinance was ineffective in its goals of mitigating high-density borough development and limiting high rise buildings to lower Manhattan; however, New York City's splash rippled throughout the United States and spread the practice of zoning to other major cities. Building on New York's zoning, much of early American zoning displayed racial and class biases by intending to protect higher-income and white residential neighborhoods through zoning restrictions (Fischler 1998).

2.2.3 Major Developments in U.S. Zoning

By 1925, over five hundred cities had adopted comprehensive land use regulations (Shertzer, Twinam, and Walsh 2016) and were influenced by the ordinances of larger cities such as New York and Chicago. Following the Supreme Court's decision affirming municipalities' rights to practice zoning based on the 14th Amendment[2], the U.S. Department of Commerce adopted the 1926 Standard State Zoning Enabling Act (SZEA) and the 1928 Standard City Planning Enabling Act (SCPEA) (Lehavi 2018), which provided states zoning power and frameworks for developing zoning ordinances in states and cities. From *Village of Euclid (OH) v. Ambler Realty Co.* affirming a city's means to spatially order land uses, the term Euclidian zoning emerged, which refers to the zoning practice of separating different land uses (i.e., residential, commercial, and manufacturing) into different areas to minimize nuisances. Following its inaugural usage in New York City's 1916 zoning, Euclidian zoning rapidly became the most usual form of land use regulation in the United States. Considering the impacts of *Buchanan v. Warley*, zoning ordinances could no longer explicitly designate racially biased residential and, as a result, many cities utilized restrictive covenants to limit the land that black residents could occupy. It was not until 1948 that the Supreme Court ruled these restrictive

[2] *Village of Euclid (OH) v. Ambler Realty Co.* (1926)

covenants unenforceable in *Shelley v. Kramer* (Hirsch 1998). Cities developed separate ways through zoning ordinances to exclude black and immigrant residents from certain neighborhoods, which will be discussed later in the chapter.

2.3 History of Zoning in Chicago

2.3.1 Chicago Before Zoning

Chicago's city center is unique among most American cities; its central business district[3] is circumscribed by Lake Michigan to the east and the Chicago River to the north, south, and west and has continued to develop in the same area since the city's development as a trading post in the early nineteenth century. The turn for Chicago's urban development as it is known today comes from the clean slate from the Great Chicago Fire of 1871, which decimated approximately 18,000 buildings in the central business district and the surrounding neighborhoods (Cooke 2012). Prior to the Great Fire, most buildings were constructed out of inferior building materials (e.g., wood), were typically no more than six stories tall, and did not provide any undeveloped lots in the city center to upgrade infrastructure without full redevelopment. Prior to its first zoning ordinance, the municipal government depended on an 1837 city ordinance that prohibited landowners and tenants from nuisances on their property (Shertzer, Twinam, and Walsh 2016) as a preventative measure to curb nuisance externalities. In 1875, the city developed the Department of Buildings and adopted building codes that allowed new brick and steel-frame developments (Cooke 2012). Chicago's rapid development allowed its pioneering steel-frame buildings, formation of a citywide transit network, and a developed central manufacturing district by the turn of the twentieth century (Cooke 2012). In 1905, the Chicago Junction Railroad and Union Stockyards jointly developed Chicago's central manufacturing district and contributed to

[3] Note: The author uses "central business district" and "commercial center" interchangeably in this thesis.

the 1923 zoning of the nine large-scale industrial districts in Chicago and its surrounding suburbs through market-driven land development (McDonald and McMillen 1998), which were officially zoned for manufacturing usage in 1923.

In 1920, the Chicago Zoning Commission was created to survey the city and explore zoning options to address stakeholder concerns; this commission was made up of eight alderpersons and fourteen community representatives, one of which was African American architect Charles S. Duke (Shertzer, Twinam, and Walsh 2016). Due to the geographical constraints of Chicago's commercial center and rapid influx in skyscraper construction, there were barriers that were addressed by the creation of Chicago's 1923 Zoning ordinance, which included but were not limited to protection of property value, long-term market stability, and developer confidence for investing in commercial buildings. Highlighting New York City's 1916 Zoning ordinance as a successful example (Cooke 2012), the Chicago Zoning Commission marketed to local real estate interests for their support (McDonald and McMillen 1998) and cited the previous examples of barriers that were addressed by a comprehensive zoning ordinance and created an advocacy block with voting influence in Chicago politics prior to the passing of the 1923 Zoning ordinance. Political influences in Chicago will be discussed in chapter three. Further described in the next section, zoning advocates utilized the Burnham Plan to cite improvements that Chicago's zoning can include to develop a stable and flourishing commercial center.

2.3.2 The Burnham Plan

After the rapid industrialization and development following the Great Chicago Fire, the city made its foremost effort in urban planning by adopting the Burnham Plan, developed by architect Daniel H. Burnham of the City Beautiful movement and urban planner Edward H.

Bennett. Following “The White City” developed for the 1893 Columbian Exposition, Burnham & Bennett highlight the potential development of Chicago due to its significant role in Midwest commerce and outlines a plan to improve commercial facilities & the central business district, methods of transportation for persons and goods, streamlined intracity transport of goods, and increasing convenience for stakeholders (Burnham and Bennett 1908). The authors never directly identify stakeholders in their plan as the City Beautiful movement ideally intended to beautify cities for all citizens. Considering this, it is important to consider that accessible transport, a key factor in residential investments and intracity employment, catered towards white residents in North side neighborhoods and wealthy North shore suburban residents rather than planning to improve poorer West and South side residents. For example, the Burnham Plan’s highway system and adjacent commuter rail system proposes a route along the North lakeshore from the city center through all major suburbs (e.g., Evanston, Winnetka, Lake Forest) to Waukegan, in which the authors highlight that suburban residents prioritize “passing through pleasant scenes on [their] way to and from Chicago” (Burnham and Bennett 1908). Burnham & Bennett do not propose a similar highway along the southern lakeshore from the city center, despite an industrial need and potential employment opportunities available for Chicago-area citizens. Due to political and economic stakeholders on the wealthier North side of Chicago, it is likely that they catered to the Burnham plan to benefit the wealthy and white North shore.

The Burnham Plan had many infrastructure improvements completed before disinvestment in the project during the Great Depression. Examples include Grant Park, Chicago’s transit system (the ‘L’), plans for a North shore highway (Lake Shore Dr.), and the central business district’s lower industrial highway (Lower Wacker Dr.). The primary influence of the Burnham Plan led to various other cities launching urban planning movements through

Chicago's blueprint. Secondly, its other major influence is as a forecast for future urban zoning following rapid industrialization and provides a window to the future land-based interests that later developed in Chicago's 1923 zoning (Cooke 2006).

2.3.3 1923 Zoning

After the Chicago Zoning Commission's 1922 Land Use Survey noting existing uses (Shertzer, Twinam, and Walsh 2016), Chicago's 1923 Zoning ordinance was created to address the following issues: commercial developers' concerns of long-term investment value, city stakeholders' concerns of health & safety, voting citizens' concerns of residential property values with commercial & industrial development, and an influx of new residents from European immigrants and African-Americans from the South. The Chicago Zoning Commission addressed stakeholders' issues through hierarchical Euclidian zoning[4] with zoning districts as described.

The 1923 Zoning ordinance assigned one of four zoning distinctions to whole city blocks, arranged from most to least restrictive: residential, apartment, commercial, and manufacturing (ranging from light "class A" use to heavy "class C/D/S" use) [OBJ]. Of these, residential zoning was the most restrictive and only allowed development of single-family homes. The broadest category, manufacturing, allowed development of all more restrictive uses. Of the manufacturing distinctions, classes A and B constituted light manufacturing usage, classes C and D indicated heavy manufacturing usage (i.e., fire risk, environmental externalities, potential explosives), and class S indicated large industrial yards (Shertzer, Twinam, and Walsh 2016). Class C, D, and S manufacturing distinctions were typically zoned based on pre-existing usages in the 1923 Zoning ordinance and were likely to be zoned near major roadways, railroads, and waterways.

Furthermore, the 1923 Zoning ordinance designated density zones to impose height

[4] See section 2.2.4 for Euclidian zoning.

restrictions, ranging from least dense ("volume 1") to most dense ("volume 5") in concentric rings from the central business district[5].

While existing usages were considered for 1923 zoning, geographic predictors also influenced newer commercial and manufacturing zones, such as distance to the central business district and transportation. In 1923, commercial zoning was twice as likely as manufacturing, with 92% of neighborhoods experiencing at least some one block of commercial zoning[6]. As previously mentioned, single-family residential designation was the rarest; Out of 1146 blocks zoned, thirty blocks were designated for residential use (McMillen and McDonald 1999; Shertzer, Twinam, and Walsh 2016), constituting 3% of total city land use in 1923. Continued in the next section, further research into the background behind zoning distinctions suggests race, ethnicity, and socioeconomic status had an influential role in both usage and density zoning.

2.3.4 Zoning Revisions

Chicago's first major revision to its 1923 Zoning ordinance was not until 1942 (Shertzer, Twinam, and Walsh 2016) after evaluating the impact of usage zoning and to accommodate additional low-income housing as existing Chicago Housing Authority projects could not meet the influx of residential overcrowding, workers during World War II, and veterans. By 1945, the Chicago Housing Authority operated over 7,600 low-income housing units, of which about 4,000 units were in only three projects (i.e., Ida B. Wells, Robert H. Brooks, and Altgeld Gardens) (Hirsch 1998). Following the 1942 revision, expanded commercial distinctions on the West and

[5] Height restrictions were allowed at five volume densities as follows: three stories for volume 1, ten stories for volume 2, eleven stories for volume 3, sixteen stories for volume 4, twenty-two stories for volume 5 (Shertzer, Twinam, and Walsh 2016).

[6] Shertzer, Allison, Tate Twinam, and Randall P. Walsh, "Race, Ethnicity, and Discriminatory Zoning.", p. 238

South sides of Chicago did not meet housing demands post-World War II. Chicago's local government continued to use zoning to its advantage well into the twentieth century: in 1947, Mayor Martin H. Kennelly passed the Redevelopment and Relocation Acts, which removed housing projects on zoning grounds in the Near West side to accommodate more commercial development near the central business district (Hirsch 1998). Chicago's second major revision to its zoning ordinance did not occur until 2000 under Mayor Richard M. Daley, which continues rezoning and redevelopment plans until 2030. The political and economic interests of Chicago's zoning revisions will be discussed in chapter three.

Chapter 3: Urban Politics and Environmental Racism

Chicago's emergence as the Midwestern powerhouse that it is known today resulted from redevelopment possible after the Great Chicago Fire, allowing infrastructure, industry, and innovation. The growing population required standardization and management, resulting in the establishment of a comprehensive zoning ordinance. Zoning is a widely used tool and political power for local governments and is justified in the name of public health, safety, and general welfare (Perdue, Stone, and Gostin 2003; Taylor 2014). However, it can create inequitable outcomes by determining which land-uses can exist in a community, which can steer more residential or commercial uses towards a neighborhood. While zoning and similar policies are justified to protect citizens, local government actions are a victim of human interests rather than equitable land use planning. Chicago's notable machine politics are a result of government corruption and political interests, creating social and political inequities in city-wide policy decisions; these impacts are evident in selectively beneficial zoning and negative externalities on poorer communities within the city.

3.1 Chicago Politics

Chicago is a city renowned for its cultural and historical attributes but is notorious for its political corruption; this includes the practice of alderpersons granting favors to their constituents, unequal distribution of municipal jobs, and involvement of economic and political interests in instituting building permits and zoning changes (Schwieterman and Caspall 2016; Squires et al. 1987). Prior to implementing zoning regulations in Chicago, development decisions were deferred to ward alderpersons, who have been integrated in city department decisions since the late nineteenth century. After initial zoning in 1923, the Chicago Zoning Commission had no legal power to administer city planning and was comprised exclusively of political and property elites most impacted by zoning changes (Lewis 2012); therefore, the resulting comprehensive zoning ordinance reflected these interests at its inception and any additional interests linked to ward alderpersons or financial influence. Following a shift of zoning decisions to the Department of City Planning under Richard J. Daley's administration (Schwieterman and Caspall 2016), alderpersons retained significant control over zoning decisions through strong influence over Chicago's city council and the Zoning Board of Appeals (ZBA) (Schwieterman and Caspall 2016).

3.1.1 Role of race and socioeconomic status in 1923 zoning

In developing the 1923 Zoning ordinance, the Chicago Zoning Commission utilized 1920 census data in addition to their own findings in the 1922 Land Use Survey. 1920 census distinctions for residents divided the standard categorizations of white and black citizens based on the individual's birthplace or their father's birthplace: white residents were categorized into first-generation, second-generation, and third-generation immigrants and black residents were categorized into Northern and Southern blacks[7]. These subcategorizations described the general

[7] Census sub-categories described as per Shertzer, Twinam, and Walsh, "Race, Ethnicity, and Discriminatory Zoning."

region white residents had emigrated from, a rough estimate of their socioeconomic status, and any possibility for political or voting influence at the time. First-generation immigrants were foreign-born residents or any second-generation residents under the age of 18; in 1920, these immigrants were Polish, Italian, Russian, or from a similar European country and were typically among the poorest of white citizens. Second-generation immigrants were U.S. citizens over the age of eighteen with foreign-born fathers; these immigrants were typically Irish or German American, were wealthier than their first-generation counterparts, and had significant political influence through land ownership and alderperson positions. Third-generation immigrants were all U.S. citizens and accounted for the rest of the white census population.

In 1920, 85% of Chicago's black population of 110,000 resided within the "Black Belt" of the South side, an approximately three-mile stretch between 22nd and 55th Streets with Wentworth Avenue to the west and Cottage Grove Avenue to the east (Hirsch 1998). Black residents were subcategorized into Northern-born and Southern-born, of which the latter did not live in Chicago until the twentieth century. Northern blacks constituted black or mixed-race residents born outside of the South or to non-Southern fathers; these residents were typically wealthier and lived in white neighborhoods. On the other hand, Southern blacks entirely lived in neighborhoods where 20-80% of their neighborhood population was of the same census subcategorization (Shertzer, Twinam, and Walsh 2016) and had little political influence due to lack of land ownership. The role of political influence for zoning will be further discussed in chapter three.

Pre-existing usages were taken into consideration for the 1923 Zoning ordinance; however, only 3% of city blocks were zoned with a residential distinction. As further described, zoning is not a standalone occurrence in racial discrepancies in land designation; prior to zoning

in 1913, average land values for third-generation white-owned lots at approximately $126 were worth $35 more than average black-owned lot values at approximately $91 (Shertzer, Twinam, and Walsh 2016). 1920 census data reveals that blacks[8] accounted for approximately 3.5% of Chicago's population (Shertzer, Twinam, and Walsh 2016), but these populations were more likely to live in newly zoned areas that were a higher density volumed and were zoned for apartment, commercial, or manufacturing usages rather than residential. Despite the smaller population of both northern and southern blacks at the genesis of Chicago's 1923 zoning ordinance, statistical analysis of 1920 census data and 1923 zoned volume highlights the heightened manufacturing usage in census tracts with a higher concentration of black citizens by twice as much that census tracts with third- and second-generation whites (Shertzer, Twinam, and Walsh 2016). More so than Northern black residents, Southern black residents were most likely to live in a higher density and manufacturing zone after the 1923 Zoning ordinance (Shertzer, Twinam, and Walsh 2016). While not to the same extent as Southern black residents, first-generation immigrants were also zoned in high density areas as they were typically in census tracts with more density prior to zoning (Shertzer, Twinam, and Walsh 2016).

Overall, newly formed manufacturing districts were most likely to be in Southern black and first-generation immigrant census tracts, with all black and first-generation residents likely to reside in a commercial district. Researchers also suggest that there may be two other explanations for these developments circa 1923: cheaper land values and the economic benefits of business (Shertzer, Twinam, and Walsh 2016). Industrial and commercial developers may have sought out land near black and immigrant neighborhoods due to lower land values and were

[8] 1920 census data groups together Northern & Southern blacks in the population (Shertzer, Twinam, and Walsh 2016).

further enabled by advantageous zoning in the 1923 Zoning ordinance. Furthermore, commercial developments may have been seen to benefit lower income neighborhoods in providing employment, investment in the neighborhood, and increased accessibility to shops, like arguments advocating for modern gentrification. The over zoning of commercial and manufacturing uses may also had been utilized to encourage businesses to develop land in Chicago (McDonald and McMillen 1998) to grow its role as a Midwestern commercial hub. The role of joint political and economic interests in zoning distinctions continues to be a theme, evident after the initial 1923 zoning ordinance.

3.1.2 Notable Zoning Policy Changes

Evident in many cities, historical policies for redlining, reinvestment, density changes, and other community shifts have created and maintained segregated urban populations (Noonan 2005). Following World War II, federal subsidies were allocated towards suburban and interstate highway development, which spurred two major results: suburbanization and three highways developed, of which large industrial complexes were zoned near (Noonan 2005; Squires et al. 1987). Suburbanization created a three-fold result in the decline of inner-city neighborhoods: redlining, disinvestment, and white flight. Redlining is a discriminatory practice in which lending institutions refused to invest in minority and low-income neighborhoods, due to perceived high-risk, and did not lend for financing homes in suburbs to people of color. As suburbanization increased, the financial resources from taxes and other income were not reinvested in urban neighborhoods, leading to a lack of investment and funding for public resources. To avoid living in communities of color falling into disrepair, white residents and few wealthy black residents moved to the suburbs and left poorer individuals, often people of color, concentrated in neighborhoods and initiating a cycle of disinvestment and poverty that remains

today. As a result of this cycle, city policies as described left a need for investment often met by industrial and commercial uses.

Chicago's first notable zoning changes were not until World War II, with preparations for mass relocation after the war and the Redevelopment and Relocation Acts of 1947 that began to move public housing away from the Central Business District in the Near West Side to construct federal highways (Hirsch 1998; Schwieterman and Caspall 2016). Federal highway construction in the 1940s and 1950s displaced more than 6,000 families and condensed low-income housing in communities of color ("We Will Chicago: A Framework Plan for the City's Future" 2023). Urbanization in the 1950s and 1960s was marked by local commercial interests and supported a rezoning in 1957, which notably allocated a significant amount of land for high-rises on the city's Northside and large mixed-use developments in downtown Chicago, of which the downtown residential developments displaced low-income families (Schwieterman and Caspall 2016; "We Will Chicago: A Framework Plan for the City's Future" 2023). The land rezoned for high-rises was historically single-family residential housing with white and higher-income residents in Lakeview, Lincoln Park, and other nearby lakeshore neighborhoods. Following the development of dozens of high-rises by the 1970s, community organizations successfully campaigned to downzone the remainder of high-density zones into smaller residential plots; arguments for this downzoning highlighted potential deterioration of housing stock, citing examples of neighborhoods nearby housing projects (Schwieterman and Caspall 2016).

Chicago's machine politics create an influential leadership network described as an elite world: a term for elite social influence within a community network and its external connections, which dictates a community's greater influence in a larger agenda (Sampson 2012). In analysis of major Chicago communities' leadership connections, political connections held significant

bridges with community, religious, and legal institutions (Sampson 2012). Historically evident, elite political influence and the resulting decisions for zoning industrial uses in low-income communities of color has led to environmental injustices and disproportionate burdens on these communities. A pattern evident in other cities, racial minorities and low-income populations are often under-represented in land-use planning processes, as they are not regular participants in public hearings and often have no influence on planning commissions (Taylor 2014). Low-income communities of color are often isolated in terms of community connections or are resource dependent on other communities, therefore struggling to assert their influence in decisions at the higher political level (Sampson 2012). Due to the lack of political power and resources, white and wealthier neighborhoods can often advocate themselves or through political power against locally undesirable land uses (LULUs), which is the Not in My Backyard (NIMBY) phenomenon. NIMBY refers to community actions against placement of LULUs near their neighborhoods; low-income and communities of colors lack the resources to push against LULUs (Isaacs 2020) and face the disproportionate burden of these uses.

The neglect of black residents' input in the 1957 rezone and subsequent development was most evident in the condensing of housing projects, of which notably created the "Second Ghetto" in Chicago. In the creation of this Second Ghetto, twenty-five out of thirty-three housing projects approved between the 1950s and 1960s were in census tracts with majority black populations, with 98% of all CHA units having black residents (Hirsch 1998) and concentrated in low-income neighborhoods on the west and south sides of the city (Squires et al. 1987). The developed Second Ghetto is evidence of the influence of white interests intending to segregate from black residents through redevelopment and renewal of CHA projects (Hirsch 1998), with similar methods dating back to the 1923 zoning ordinance because of city policies. Strong

control over the CHA was a result of ward politician influence and intentions to maintain the racial status quo in established white neighborhoods, particularly evident as Richard M. Daley's own neighborhood of Bridgeport's housing project as the only housing project in the city with no black residents (Squires et al. 1987). Resulting from connections between political and community institutions, partnerships between neighborhood groups and ward politicians during the Daley administration's 1957 rezone supported the concentrations of West & Southside CHA housing and maintaining the racial status quo in neighborhoods. Community connections to politics are typically more evident in wealthier white neighborhoods and are rooted in initiatives to prevent racial turnover and preservation of historical character, which allows for maintenance of single-family homes (Squires et al. 1987). While political influence is not exclusively related to white wealthy neighborhoods in Chicago, zoning policies often spare these neighborhoods from LULUs.

3.2 Environmental Racism, Residential Segregation, and Poverty in Chicago

As introduced in Chapter 1, environmental racism is any practice or policy that disproportionately affect people of color, intentionally or unintentionally; the costs of environmental racism significantly impact people of color and benefits are received by white people (Bullard 1993; Bullard 1994a; Bullard 1994b). Systemic and institutional structures and their products reinforce racism, such as socioeconomic status and exclusionary zoning (Bullard 1993). Policy decisions made by government and institutions create or reinforce environmental inequities, in addition to the disproportionate political power white or affluent communities hold over communities of color. As previously discussed, Chicago's political powers are centralized in white neighborhoods or in the hands of alderpersons deeply entangled within city departments; this political influence has historically been used to shift LULUs towards

communities with less political power. In Chicago's case, governments allow industrial facilities to be located near communities of color and low-income neighborhoods, which results in increased exposure to pollution and health risks for these communities.

As Bullard famously puts residential racial segregation, residential apartheid is evident in most U.S. metropolitan areas because of racial discrimination and contributed to environmental justice issues (Bullard 1994b). Residential segregation[9] is also a result of social elites through politics and business interests, often a result of institutional racism. Institutional racism influences land use policies, industrial facility siting, and environmental regulations and relates to the proximity of communities of color to industrial & commercial zoning (Bullard 1994b). Residential segregation can be understood in multiple dimensions: evenness, exposure, concentration, centralization, and clustering (Massey and Denton 1988). Evenness refers to distribution of groups across neighborhoods in an area. Exposure refers to the extent to which individuals of diverse groups interact with one another. Concentration refers to the extent to which individuals of a group are found in a certain neighborhood. Centralization refers to the location of racial minority neighborhoods in proximity to the city's center. Clustering refers to the extent of which different racial groups live in separate neighborhoods within the same metropolitan area. Residential segregation is marked by a lack of evenness of racial groups, a lack of exposure between groups, and a high concentration and clustering of racial groups; communities of color

[9] Residential segregation is not exclusively a result of zoning policies, but this thesis focuses on zoning specifically. Residential segregation is a result of decades of housing discrimination, redlining, predatory housing contracts, race-based market dynamics, disinvestment in communities of color, white flight, shifting wealth from suburbanization, discriminatory lending practices, input of physical neighborhood barriers, and zoning policies (Bullard 1994b; Sampson 2012).

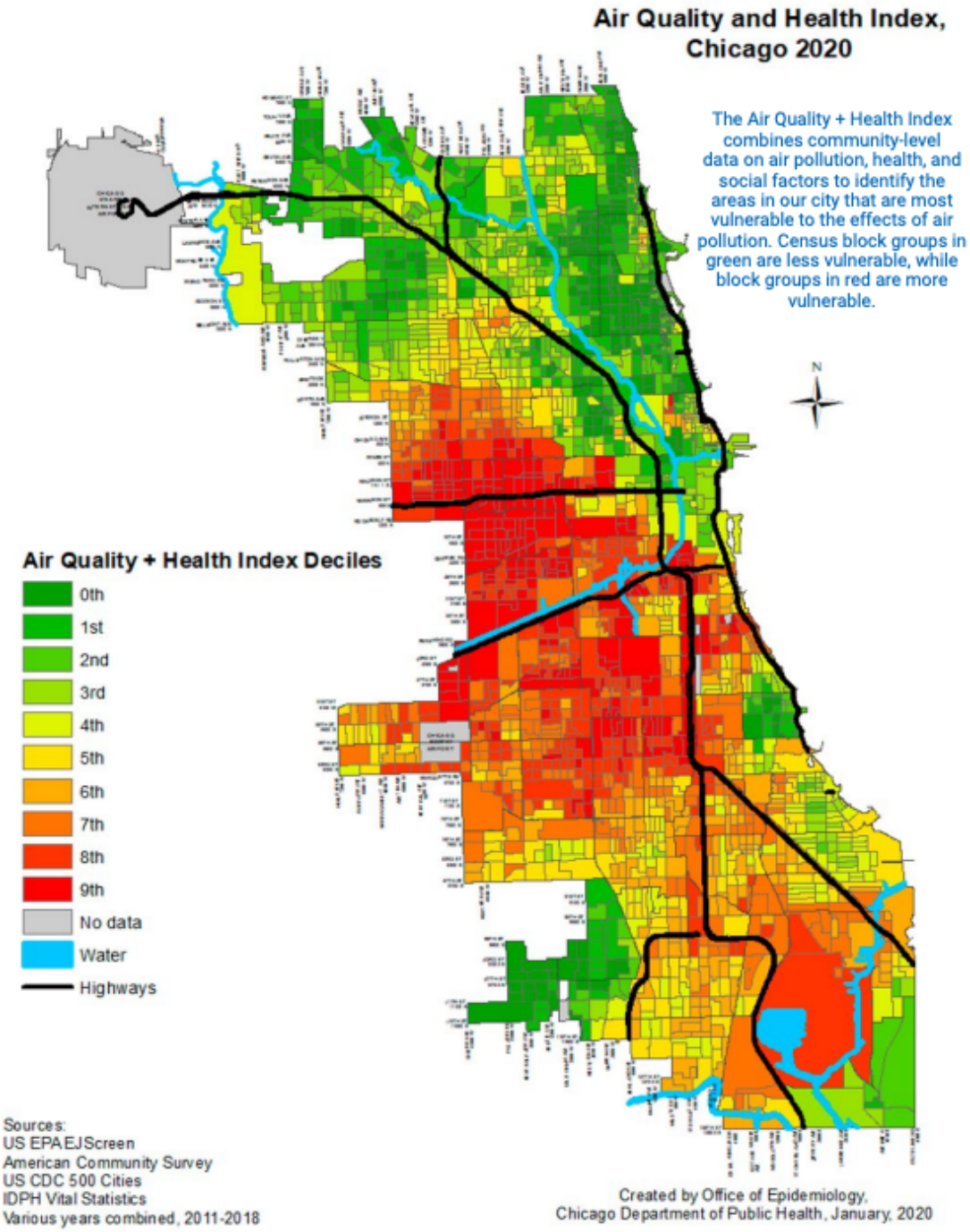
are often located nearer to city centers (Massey and Denton 1988). These dimensions of residential can be reinforced by zoning, physical barriers in a city, and other structural & institutional disparities.

Zoning has historically been used as a NIMBY tool and can be used to uphold environmental racism as a public policy that provides benefits for white communities and shifts costs towards communities of color. A widespread NIMBY usage of zoning is the policy decisions more likely locating industrial and commercial land uses near low-income communities of color. Zoning and politics take advantage of existing residential segregation and places LULUs nearby these communities, which also lack the political and economic powers to shift these uses away from their communities. In addition, governments and corporations often seek out the path of least resistance when locating industrial usages and LULUs (Brulle and Pellow 2006), in which they succeed due to lack of political power as previously discussed this chapter. Zoning also concentrates uses within a certain area, in turn concentrating the minority groups typically forced to live near industrial and noxious uses due to socioeconomic status; some researchers argue that residential segregation is the primary cause of the urban poverty cycle due to concentrated poverty (Massey 1990; Massey and Denton 1998; Massey and Denton 2001).

Chicago's residential segregation is evident from the demographics of the city: there are concentrated populations of Hispanic, African American, Asian, and white populations centralized to few areas of the city (fig. 2). Due to various institutional policies, residential segregation is the result of disinvestment and concentrated poverty in low-income communities and communities of color. These same communities are exposed to environmental hazards, such as proximity to the city's industrial corridors and expressways. Industrial corridors, expressways,

and other physical barriers limit mixed-income communities and movement between neighborhoods (Massey and Denton 2001); notably in Chicago, federal highways provide a barrier between communities on the west side of the city[10]. Other community boundaries reinforcing residential segregation include the Chicago River and rail lines. Due to pollution and unwanted land uses nearby, communities nearby industrial complexes, transit, and federal highways have decreased land values and almost guarantee that the community will remain low-income. While federal highway construction and condensing low-income housing contributed to residential segregation, it is important to note that while many communities shifted from white or mixed populations to black populations on their way to disinvestment, no communities transitioned from black to white populations between 1960 to 2000 (Sampson 2012). Two communities, Hyde Park and Kenwood, have historically remained integrated, mostly due to their proximity to the University of Chicago (Sampson 2012).

[10] See figure x.



Sources: "City of Chicago Air Quality and Health Report, 2020" 2020.

Figure 7. Air quality indexed by census blocks most ("9th") to least ("1st") vulnerable.

Efforts to address environmental justice issues in Chicago historically are driven by community-based groups. Early environmental organization in Chicago was rooted in fighting

pollution, with the Campaign Against Pollution (CAP)[11] group between 1969 and 1975 that fought against air pollution, hazardous crosstown expressway construction, and nuclear power plant expansion (Squires et al. 1987). Since the beginning of the environmental justice movement, various grassroots groups have sprouted in Chicago to fight various injustices. The most recent successful fight included the closure of the Fisk and Crawford coal-fired power plants in 2012, which were the last coal-fired power plants located within a metropolitan city and were in the Hispanic communities of Pilsen & Little Village ("Coal Plant Shutdown" 2023). This success was driven by grassroots environmental activist organizations, Little Village Environmental Justice Organization (LVEJO) and the Chicago Clean Power Coalition, and significant community organization; the closure of these power plants are a part of the Little Village and Sanitary Canal industrial corridor modernization initiatives. While targeting prominent issues, more work is needed to address the root causes of residential segregation & zoning and the resulting environmental injustices in Chicago.

The city of Chicago is aiming to address decades of neglect on communities with concentrated poverty with various active planning initiatives, including but not limited to transit extension to previously neglected communities, reinvestment in industrial corridors[12], and investments in

[11] Environmental organization group later changed name to Citizens Action Program (CAP) (Squires et al. 1987).

[12] The Industrial Corridor Modernization Initiative includes investments from tax increment funding (TIF) in these communities in the North Branch corridor (now Lincoln Yards), Ravenswood corridor, Little Village & Pilsen corridors, and Kinzie corridor (now Fulton Market). The corridors currently in progress are the North Branch/Lincoln Yard areas and Little Village/Pilsen areas. The Ravenswood and Kinzie/Fulton Market areas are complete.

communities with condensed poverty and low private investment[13]. A widely publicized investment by local government is the community area of Englewood, of which the city allocated $10.7 million[14] into Englewood Connect in the community center aiming to address job training, fresh food, and other community needs. An integral part of the original marketing of the development was the Whole Foods[15] located on 63rd and Halsted streets; Englewood's Whole Foods closed in November 2022, leaving Hyde Park's Whole Foods the only grocery store from the brand on the Southside of Chicago (Reed 2022). While Chicago aims to invest in historically neglected communities, there is significant room for improvement, starting with addressing residential segregation and other inequities resulting from zoning.

Chapter 4. The Enduring Structures Behind Health Inequities

Urban health is determined by the surrounding physical environment, the social environment, and availability and access to health & social services. The standard city provides a variety of health and social services, of which different communities have different availability and access based on income and other social determinants of health (Galea and Vlahov 2005). Social determinants of health range from conditions established by society to individual

[13] INVEST South/West focuses on investing in 10 community areas with condensed poverty and are historically neglected. These community areas are Auburn Gresham, Austin, Bronzeville, Englewood/West Englewood, New City (formerly Back of the Yards), North Lawndale, Humboldt Park, Greater Roseland, South Chicago, and South Shore. As of 2023, all the targeted community areas have started or completed development for their proposed community hubs.

[14] $10.7 million allocated from the community's TIF.

[15] Whole Foods Market is notably an upscale grocery chain, known for fresh produce and more expensive than average groceries. It is suggested that grocery prices were lowered to meet the target income demographic in Englewood (Reed 2022).

decisions, all impacting individual health outcomes. Widely influenced by racism as discussed in Chapter 3, social and institutional inequities continue to play a key role in determining the health status of communities, the resources they are afforded, and the resulting living conditions available to communities (Hancock 2002; “We Will Chicago: A Framework Plan for the City’s Future” 2023). As described in Chapter 1 and Chapter 3, environmental injustices also create significant impacts on marginalized communities, of which are often disproportionate health inequities impacting individual and community wellbeing. Community resources and the greater inequities impacting them heavily influence individuals’ risk behaviors, exposure to disease, likelihood of injury, and mortality.

Health inequities are differentials in social determinants of health, including but not limited to class, gender, race & ethnicity, ability, and age (Galea, Ettman, and Vlahov 2019); inequities are systemic, socially produced, and are typically avoidable. While there are many factors influencing urban health inequities, municipal structures, policies, and politics have the largest influences on how urban health inequities impact different populations. Health problems stemming from these inequities vary by community and are influenced by the socioeconomic characteristics of certain communities, as socioeconomic status typically influences the available resources and protective factors for individuals. As discussed, health inequities are linked to communities near LULUs and other social barriers, such as low-income or minority communities. Disadvantaged communities are classified as so based on physical and social characteristics that may result in negative health outcomes, commonly associated with an increased risk for mortality, mental illness, and disease morbidity (Wilson, Hutson, and Mujahid 2008), and will be further discusses by common factorial breakdowns. Health inequities between

communities are a result of various social determinants of health and impact life expectancy, morbidity, and mortality.

4.1 Social Determinants of Health

4.1.1 Socioeconomic Status

Socioeconomic status (SES) is a multi-faceted social construct determined based on several factors such as employment, income, occupation, education, and generational wealth (Bartley 2016; Winkleby et al. 1992). These factors influence income and wealth disparities across racial, ethnic, and community groups. The impact of SES on morbidity and mortality is extensively researched (Winkleby et al. 1992), suggesting social inequities contributing to SES as a predictor. In SES disparities research, the relative income hypothesis posits that health outcomes depend on income relative to other reference groups and relative income predicts access to material goods, housing, and occupational status (Deaton 2003). Due to lower relative income, individuals experiencing poverty are at greater risk of poor health outcomes, higher rates of morbidity, and mortality because of less access to material goods, resources, and less quality of environments (Flaskerud and DeLilly 2012). Therefore, SES and the factors influencing SES are predictive factors of less morbidity, lower mortality, and having access to preventative health and protective resources; high SES individuals are better equipped to avoid risky behaviors such as smoking, poor diet, and lack of exercise. Smoking, poor diet, and lack of exercise are linked to low SES individuals (Flaskerud and DeLilly 2012); however, these risk factors are further linked to the environments in which low-income communities and communities of color live, in addition to environmental stress and lower well-being

Since the 1970s and 1980s, American society is experiencing an increasing economic inequality gap, resulting in increased suburbanization and movement of wealthy families,

concentrated poverty within cities, and increasing health disparities because of shifting wealth which (LaVeist and Isaac 2013). In application to urban environments, larger cities are characterized by socioeconomic heterogeneity and often communities with concentrated wealth or poverty. This phenomenon of poverty concentration, particularly in minority neighborhoods, is driven by the selective migration of middle-class minorities to wealthier neighborhoods, movement of poorer minorities into black neighborhoods with lower land prices, and little upward social movement for many communities, contributing to segregation of both wealth and minority communities (LaVeist and Isaac 2013). Living in these low-income neighborhoods of poverty concentration includes the likelihood of exposure to environmental stressors and greater environmental burdens, such as higher levels of indoor and outdoor air pollution. Additionally, neighborhoods with condensed poverty are more likely to be located near or in industrial zones with noxious uses (Maantay 2001), also contributing to poorer health outcomes (Marmot 2005). The concentration of poverty is integral in a cycle of urban disinvestment and negative health outcomes, linked with lower socioeconomic status. In part from the role of concentrated poverty, there is a strong positive association between SES and health outcomes and an inverse relationship between SES and mortality, which can also be viewed in the lens of race and ethnicity as race can be used as an indicator of SES (LaVeist and Isaac 2013). Extensive research indicates that residents in communities with residential segregation and low SES are likely to have higher infant and adult mortality, with other cardiovascular and respiratory disease risks (Brulle and Pellow 2006).

4.1.2 Race and Ethnicity

Race and ethnicity are social constructs used to sort individuals in society and can be an influential basis in interactions and factors over the life course, such as racism and self-concept.

Racism is a system that assigns value and opportunities based on the physical appearance of race, with whiteness universally viewed as an advantage in social status (LaVeist and Isaac 2013). Racism operates within multiple levels, such as structural or institutionalized racism (LaVeist and Isaac 2013). Focused on in-depth previously, environmental racism is a form of racism resulting from a practice or policy disproportionately affecting persons or communities of color, resulting through environmental decisions having costs shifted to people of color (Bullard 1993; Bullard 1994a; Bullard 1994b). Also playing into environmental racism, institutionalized racism is the differential access to goods, services, and societal opportunities based on race, which is typically normative and can be codified through practice and legal avenues; this level of racism also manifests from inherited disadvantage such as generational wealth and differential access to power and material wealth. Prejudice and discrimination are differential assumptions of abilities, motives, and intentions and actions towards others based on race, seen through intentional and unintentional acts. Working within communities, internalized racism is the acceptance by stigmatized group members of societal messages about their own humanity, capabilities, and intrinsic worth and can be manifested through embracing white culture, internal devaluation, and resignation. Racial and ethnic health disparities are evident in the analysis of various health indicators and life conditions and result from unfair disadvantage from stigmatization of racial and ethnic groups, including a strong correlation with socioeconomic status (LaVeist and Isaac 2013).

By the incorporation of racist ideologies of white superiority, negative attitudes, and beliefs towards racial and ethnic outgroups, these biases manifest societally through differential treatment of members of racial or ethnic outgroups by individuals and institutions. Differential treatments are integrated in society though structural stress-inducing conditions (i.e., poverty,

poor housing, crime), poor environmental conditions based on low socioeconomic status, and unhealth behaviors (LaVeist and Isaac 2013); experiencing structural racism is linked to negative physical and mental health status and increases the likelihood of mortality, disability, and chronic health conditions, with earlier onset and greater severity that non-Hispanic or Latino white populations (LaVeist and Isaac 2013). In consideration of the strong correlation of race and socioeconomic status, patterns of racial discrimination, wealth disparities, and negative health outcomes are further exacerbated by lesser quality access to cultural services, such as opportunities for recreation (de Groot, Wilson, and Boumans 2002; LaVeist and Isaac 2013).

4.1.3 Urbanization

As previously discussed in Chapter 1, urbanization is the process of economic development, population growth, and spatial expansion of an urban system and has key implications for health equity. As a result of being in an urban ecosystem, people are more likely to encounter health risks such as pollution and disease due to population density but can also be impacted by concentrated poverty and residential segregation[16]. Concentrated poverty and residential segregation results in health inequalities and differential access to healthy food, safe living, and other resources necessary for a livable environment. Health inequalities in cities are a result of a combination of factors (i.e., class, race, gender, ability, age) and are perpetuated by municipal structures integrated into a city's community structure, such as urban planning and zoning, private sector markets, and community services. Known as an urban social environment, a city's social and economic processes, institutions, and services are not equally accessible by all communities and are limited resources.

[16] For more information on concentrated poverty and residential segregation, refer to Chapter 3.

Urban areas are also characterized by high levels of socioeconomic inequality, often in tandem with concentrated poverty and residential segregation. Residential segregation has historically shaped urban landscapes by locating low-income communities and communities of color nearby undesirable land uses or community areas with a lack of investment. Communities suffering from either undesirable land uses or a lack of investment may experience food insecurity, less welfare resources, or environmental hazards. These consequences and further disinvestment continue the cycle of poverty in these communities, isolating individuals and families of low socioeconomic status. As previously discussed and indicated by the disparities in life expectancies between Chicago neighborhoods (fig. 3), residentially segregated and low SES communities are highly linked to higher mortality and poorer health outcomes; additionally, wealth and a higher SES protects those populations from some degradation of ecosystem services, particularly in urban environments (Millenium Ecosystem Assessment 2005; Vlahov et al. 2010).

4.2 SDOH and Life Expectancy in Chicago

Social determinants of health can have a substantial impact on a person's access to resources, exposure to health hazards, and life expectancy since they are closely related to a number of outcomes. Life expectancy discrepancies are influenced by several social determinants of health, such as socioeconomic position, neighborhood and environment quality, housing quality, racism, community support, and discrimination. As was already said, the current life expectancy, people living in poverty, and residential segregation in Chicago are all related to the concentrated poverty brought on by zoning. According to research, there would be no racial pay inequalities, higher community education rates, and a reduction in socioeconomic disparities in communities

if there was no residential segregation (LaVeist and Isaac 2013); however, concentrated poverty itself is an integral SDOH in evaluating the current state of Chicago.

Concentrated poverty influences people's socioeconomic status and their access to resources, services, and opportunities, making it an important SDOH in Chicago. Residents of communities where poverty is concentrated poverty areas have less life expectancy due to poorer living conditions, more exposure to environmental contaminants from LULUs, and are at higher risk of negative health outcomes (LaVeist and Isaac 2013). Minority communities in Chicago are disproportionately affected by concentrated poverty, which also causes them to have higher unemployment rates, less access to high-quality education, and subpar healthcare (LaVeist and Isaac 2013). Due to these characteristics, there are notable differences in life expectancy between various Chicago neighborhoods, with people of concentrated poverty having much shorter life expectancies than those of more affluent communities

The relationship between concentrated poverty, racially based health disparities, and community differences in life expectancies are complex, with several factors on life expectancy variance alone previously discussed. Black and Latino communities in Chicago are disproportionately affected by concentrated poverty, which results in greater rates of poverty and higher unemployment rates; this cycle is exhibited over time with Chicago’s poverty in low life expectancy neighborhoods (fig. 5). With Black and Latino residents having significantly shorter life expectancies than White ones, these factors help explain the stark differences in life expectancy between different racial groups. Experiences of racism and discrimination, in addition to socioeconomic considerations, can significantly affect life expectancy and health consequences. According to studies, encounters with racism and discrimination can increase chronic stress, anxiety, and depressive symptoms, which can increase the chance of developing

chronic illnesses and other health problems (LaVeist and Isaac 2013). Similarly, to poorer socioeconomic status, LULUs are more likely to be exposed to Black and Latino populations in Chicago, increasing their risk of disease, illness, and other health issues.

Neighborhoods with high rates of poverty and little access to resources and services are frequently found in urban areas, such as Chicago, and residents of these neighborhoods frequently have significantly shorter life expectancies than those who live in more affluent areas. According to studies, living in an urban area with prominent levels of poverty increases the chance of developing chronic conditions including heart disease, diabetes, and asthma because of exposure to environmental harms, a lack of access to wholesome foods, and insufficient healthcare facilities (LaVeist and Isaac 2013; Marmot 2005). There are several interconnected factors that affect health inequalities, including living in an urban area, concentrated poverty, and life expectancy differences. Experiences of discrimination and racism can significantly affect health outcomes and life expectancy, in addition to factors such as socioeconomic status, exposure to environmental pollutants, structural inequalities, and lack of access to resources. In urban regions with high concentrations of poverty, Black and Latino inhabitants are more likely to encounter racism and prejudice, which can increase chronic stress, anxiety, and depression and increase the risk of chronic diseases and other health problems.

Condensed poverty and life expectancy in Chicago can be significantly influenced by zoning regulations. The allocation of residential, commercial, and industrial zones within a city is frequently governed by zoning laws. Historical zoning practices and ordinances in Chicago have caused a concentration of poverty in some areas, especially in communities of color. Access to high-quality housing, healthcare options, grocery stores, and recreational sites is typically limited in these areas (Maantay 2001; Maantay 2002). As a result, residents in these areas have difficulty

accessing the resources and services they need to maintain their health, which can lead to worse health outcomes and shorter life expectancies. Zoning shapes the cycle of poverty in communities, indicated by the historical neglect of low-income communities and communities of color in Chicago. These regions frequently have greater unemployment rates, less access to high-quality education, and more environmental hazards for residents. Shorter life expectancies and higher rates of chronic diseases are caused by these variables, in addition to a lack of access to healthcare and decent living conditions.

A multi-disciplinary strategy, including community-based interventions, investments in job creation, and access to social services, among other things, is needed to address concentrated poverty and structural inequities in Chicago. While the city continues to improve existing infrastructure and invest money into historically neglected low-income communities and communities of color[17], it is evident that more action is needed. Chicago can improve life expectancy in neglected communities, start to heal its communities, and improve health outcomes by eliminating concentrated poverty and residential segregation. Solutions to these issues are addressed in Chapter 5.

Chapter 5. Designing Chicago's Future: Recommendations

At the time of the present research and as previously discussed in Chapter 3, the city of Chicago is the process of zoning changes and reinvestment in some industrial corridors, which is on track for all industrial corridors to be completed by 2030 ("Industrial Corridor Modernization Initiative" 2022). While Chicago officials have tried equitable development between white and minority neighborhoods and considered community leader opinions, some reinvested sites in minority communities have not been developed in line with community interests. For example,

[17] See Chapter 3 for a brief discussion on investments in the Englewood neighborhood.

an expansion of over forty acres to a Hellman's Mayonnaise plant in the Little Village neighborhood has raised extreme concerns from LVEJO and other community organizations on the health impacts to the neighborhoods and its proximity to schools. The parent company of Hellman's Mayonnaise, Unilever, aimed to quell concerns by highlighting job additions and offering to donate three acres of land to an existing school, which did not address the primary concerns of the added air pollution the expanded plant would draw to the neighborhood ("EJ and Little Village Industrial Corridor Map" 2022); community representatives have declined signing a community benefits agreement due to the neglect of their interests.

5.1 Methods for Community Interests and Positive Development

5.1.1 Community Benefits Agreements (CBAs) and Success Stories

Creating voluntary, equitable agreements for reinvestment and neighborhood development through community benefit agreements is a new strategy being used by developers and community interests. By addressing the power disparity between developers and the areas they want to develop, typically in lower income communities, CBAs are used as a social justice method. Developers of large real estate projects frequently implement CBAs with the help of the neighborhood community groups that correspond to them, emphasizing the negative externalities of a development project and committing to community development obligations (Lehavi 2018). These community development obligations may include providing jobs to the community, working on the development within certain hours of the day to minimize noise pollution, or developers committing to clean up processes to minimize any physical externalities. While not necessary for new developments, CBAs are beneficial to communities and developers, particularly developers looking for community support for their development, any potential zoning changes, or potential financing of the project. The construction of the Los Angeles

Lakers' Staples Center in 2001 is a notable CBA success story. The Staples Center's developer and a coalition of community organizations reached agreements that resulted in housing for displaced families, a $2.5 billion affordable housing project close to the Staples Center, living wage jobs for local hires, and green space in the neighborhood (Saito 2007). Examples on this scale suggest how CBAs can have long-term beneficial effects and promote a positive and open dialogue for urban development and community improvements.

5.1.2 Zoning Reform: Minneapolis and Baltimore

As zoning reform is becoming more prevalent across major cities throughout the United States including Chicago, cities are afforded the opportunity to promote sustainable development and reinvestment in neglected communities. Recent zoning reform in Minneapolis, one of the most income segregated cities in the United States, is an example that single-family residential zoning is not necessary; in 2019, Minneapolis City Council eliminated single-family zoning to address its extreme housing gap. In its plan's target goals for 2040, the landmark move additionally included provisions to include more housing density near transit, eliminating parking minimums for off-street locations, and inclusionary zoning by requiring new developments to have minimum 10% of built units for low-income households (Kalenberg 2019). Prior to its zoning reform, the city had 70% of its total residential land zoned for single-family homes. By addressing the city's residential affordability, Minneapolis is a case also addressing racial and economic segregation in lessening the exclusivity of single-family homes and reducing unit prices by allowing new developments.

Considering existing zoning and its exclusions based on social and economic development, sustainable development involves sustainable objectives for the management of materials and energy usage, land use, and human development (Friis 2019); to attain this, zoning

is the most valuable tool that can be used to promote sustainable development. As evident by the present research, health inequities must be addressed in racially and economically segregated cities like Chicago to promote a healthier city from the roots. Baltimore, a city also known for its racial and economic segregation, started an overhaul of their existing zoning in 2010, named TransForm Baltimore. Its primary goals included standardization, historical preservation, addressing changing land needs, transit-oriented development, sustainability, and walkability (Johnson Thornton et al. 2013). To evaluate how the proposed zoning plan impacted residential health and well-being, a team analyzed its health impacts through a Health Impact Assessment (HIA), which analyzes the health impacts of a proposed non-health policy or project to inform policy makers and provide data to make changes for health promotion. The proposed changes for greater health promotion in rezoning were as follows: increasing mixed use rezoning, expanding efforts for transit-oriented development, and greater emphasis on pedestrian-oriented design (Johnson Thornton et al. 2013). These recommendations align with the idea of smart growth, which is a planning framework that focuses on development of walkable communities, conservation of open and green spaces, emphasis on mixed-land use, and housing diversity (Wilson, Hutson, and Mujahid 2008). While TransForm Baltimore has not been fully implemented today, the HIA highlights a need for policy makers to seek input from and integrate the decisions of health experts, especially as an increasing number of cities are in the process of or exploring rezoning. Particularly with smart growth, the emphasis on walkable communities may even draw suburban residents to live in cities and encourage reinvestment in neighborhoods.

5.1.3 Revising Existing Initiatives

Under Mayors Rahm Emanuel and Lori Lightfoot, the city of Chicago instituted an investment initiative of 10 community areas entitled INVEST South/West. Previously discussed in Chapter

3, this initiative aims to invest in historically neglected low-income communities and communities of color ("INVEST South/West" n.d.). Similarly, to the Industrial Corridor Initiative, these solutions are not successful with just a developer willing to invest in these communities; they require a welcome from the community as well. As previously discussed in Chapter 3, the implementation of the INVEST South/West project in Englewood with its hallmark shopping center may be considered a failed investment, as its Whole Foods closed in 2022 after a few short years open (Reed 2022). However, city officials did not seem to connect with community needs on this project; while a fresh food option was needed in the community, Whole Foods, even with subsidized prices, is too out of the price point for this low-income community. Initiatives such as the INVEST South/West project make it evident that the city requires more communication with community leaders and groups to make these investments successful and integrated parts of the community. Additionally, the changing political narratives of different politicians in Chicago, as in most cities, makes it difficult to achieve action items successfully.

5.2 Application of Methods to Chicago

In the most recent iteration of proposed zoning reform in Chicago, the Emmanuel administration emphasized reinvestment in older industrial corridors to include mixed-use development and encouraged transit-oriented development. However, these industrial corridors and their corresponding reinvestment are not located in the poorest of neighborhoods in Chicago; expansions zoning reform should encourage investment in the poor and black neighborhoods in the South side of Chicago, which have been victims of neglect dating back to the birth of the "Black Belt" in the city's first comprehensive zoning ordinance. The condensed poverty and

resulting negative health outcomes require government intervention and investment to break the cycle of poverty in these poor and minority neighborhoods.

The city of Chicago has attempted to reinvest in these poorer neighborhoods, such as Englewood and Garfield Park, but seems to have found little support from community members. Launched in 2017, the Chicago Neighborhood Rebuild Pilot Program provided a multi-million-dollar fund for local developers to rehab vacant homes in disinvested neighborhoods, which also aims to provide jobs for at-risk young adults and increase property values in these neighborhoods (Novara and Khare 2017). Despite the expansion of the program's goals since its inception, the city's aims for expansion indicates that there are few developers investing in these opportunities, due to the few employment opportunities and perceived success rates in these communities. Further expansion of this program may entice developers to include tax incentives and relief for participating developers or more investment in promising infrastructure in these neighborhoods.

5.3 Conclusion

In my research, it is evident that Chicago and cities plagued by residential segregation (fig. 6) from zoning ordinances have started to try and amend for the historical neglect of these communities, particularly low-income communities and communities of color. Decades of zoning favoring wealthier white communities and economic interests has resulted in condensed poverty (fig. 5) and health inequities (fig. 3; fig. 7), creating unjust urban environments for the communities that do not have other livable options. Measured in life expectancy in Chicago neighborhoods, the cycle of condensed poverty and health is deeply intertwined, more so than can be solved by simply economic development. While reinvestment in these communities now is a first step, extensive community input is necessary to implement any successful interventions and root interventions, similarly to current rezoning in Baltimore. It is evident that it may take

decades to begin to reconcile with these historically neglected communities, particularly in cities as segregated as Chicago.

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