A Tale of Two Rivers

Zoning Policy Conflict and the Production of Public Space on the Chicago River

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Introduction

In April of 1899, a pedestrian dropped a lit cigar into the Chicago River near the Kinzie Street bridge downtown. The water was so polluted that the river burst into flames, inspiring news articles as far east as New York City.[1] Almost ten years later, neighborhood women fought unsuccessfully to have Bubbly Creek, an offshoot of the South Branch of the river in present-day Bridgeport, drained on account of its "foul gases."[2] Nearly one hundred years later, in a 1993 focus group studying how Chicago residents characterize the Chicago River, one participant described the North Branch of the river, less than two miles from the Kinzie Street bridge, as "the most disgusting, dangerous, foul, and dirty body of water

1. "Chicago River on Fire," *New York Times*, Apr. 19, 1899, www.nytimes.com/1899/04/19/archives/chicago-river-on-fire-youngest-college-president-bryans-subject.html.

2. "Hetty Green Blamed," *Cairo Bulletin*, Feb. 10, 1908, chroniclingamerica.loc.gov/lccn/sn93055779/1908-02-10/ed-1/seq-6.

in the Chicago area."[3] Despite this long history of pollution and industrial activity, some areas of the Chicago River are currently undergoing a transformation. On the banks of the North Branch, the Lincoln Yards will soon be a mixed-use development featuring residential and commercial space; it will also be the largest real estate development project in Chicago's history.[4] Transforming this section of river from an industrial zone to a destination for white-collar work, leisure, and upper-class living has been a political project, one that required rezoning, the courting of investors, and $6 billion in capital.[5]

Meanwhile, in areas on the South Branch of the Chicago River, the water continues to smell, and development along the river continues to be oriented towards Chicago's heavy industries, such as concrete and asphalt production. Prior to 2013, areas on both the North and South Branches were designated as industrial corridors or Planned Manufacturing Districts, with development limited to factories, warehouses, and other manufacturing buildings. The *North Branch Framework* (2017), changed this designation for the North Branch, allowing for the

3. Paul H. Gobster and Lynne M. Westphal, eds., *People and the River: Perception and Use of Chicago Waterways for Recreation* (Milwaukee: National Park Service, 1998), www.nrs.fs.usda.gov/pubs/misc/chicagoriver/peopleandtheriver.pdf.

4. Kori Rumore and Ryan Ori, "Lincoln Yards: Timeline of an Ambitious Chicago Development," *Chicago Tribune*, Sept. 30, 2021, www.chicagotribune.com/data/ct-biz-lincoln-yards-timeline-htmlstory.html.

5. Lincoln Yards is one of three public-private developments that began during the Emanuel administration (2011–19); the others are the 78 on the South Branch of the Chicago River ($7 billion) and Bronzeville Lakefront on the site of the former Michael Reese Hospital ($3.8 billion). All three are "languishing" as of 2024. See Lukas Kugler, "Where Do Chicago's Mega Developments Stand?" Urbanize Chicago, Dec. 24, 2024, chicago.urbanize.city/post/where-do-chicagos-mega-developments-stand.

residential and mixed-use development seen today.[6] The City of Chicago has put no similar changes into effect for the industrial corridors on the South Branch, creating a distinction between the uses, appearances, and experiences of the two branches of the river.

This project examines the interactions among the *Chicago River Design Guidelines* and the relevant zoning policies on the North and South Branches of the river and investigates the nature of the public space that is formed by these policy interactions. My research was guided by a central question: How do the citywide *Chicago River Design Guidelines* align or conflict with area-specific zoning plans in producing and ensuring access to public space on the river? I broke this down into three sub-questions: (1) How do the applicable zoning policies mitigate the impact of industrial uses on public space; (2) what is the design and accessibility of the resulting riverfront; and (3) what policies are in place to safeguard against exclusion through gentrification? I analyzed three relevant zoning policies to identify the ways in which these plans align and conflict in their uses and visions of the Chicago River: the *North Branch Framework* (2017), the *Chicago River Design Guidelines* (2019), and the *Little Village Framework*, draft (2019). I argue that through its diverging zoning policies, the City of Chicago has engendered spatial inequality within the city by promoting the intensification of polluting industries on the South Branch in order to facilitate the restoration and redevelopment of the North Branch. In doing this, the city has also created unique barriers to the realization of the Chicago River as a public space within the two areas, including the privatization of space encouraged by the updated zoning policy on the North Branch and the exclusionary nature of the industrial use of land on the South Branch.

6. "MPC Statement to Chicago Plan Commission on 2420 S. Halsted Proposed Zoning Change," Metropolitan Planning Council, Nov. 18, 2020, web.archive.org/web/20230628161053/https://www.metroplanning.org/news/9962/MPC-Statement-to-Chicago-Plan-Commission-on-2420-S-Halsted-Proposed-Zoning-Change.

These diverging development strategies therefore contradict the city's stated goal: "to reclaim the river as an aesthetic and recreational resource to improve the quality of life for all Chicagoans."[7] Ultimately, I shed light on the ways that public policy can act as both a facilitator and a barrier to the creation and use of public space in different areas of the Chicago River, and I offer recommendations for how the city can improve policy to make access to the river easier and more enjoyable in both areas.

Background and Context

The city of Chicago has been dependent on the Chicago River as a site of infrastructure since settlement first began in the region (see fig. 1).[8] The Chicago River in the form that it takes today is the product of extensive engineering. Prior to its settlement as a trading post, Chicago was a swamp on the banks of Lake Michigan. This swamp was drained to make way for the construction of the city in the early nineteenth century by dredging a meandering stream into a canal, which is now known as the Main Stem of the Chicago River. As the city was constructed, streets and buildings were raised to allow for a sewage system, which would otherwise have been impossible given the swampy ground. With this rudimentary system, sewage flowed into the river towards the lake, and thus established the river as an integral part of the city's early infrastructure.[9] Lake Michigan, as part of the world's largest freshwater

7. Department of Planning and Development, *Chicago River Design Guidelines* (Chicago: City of Chicago, Jan. 24, 2019), 4, www.chicago.gov/content/dam/city/depts/zlup/Planning_and_Policy/Publications/Chicago_River_Design_Guide-lines/chicago_river_design_guidelines_2019.pdf.

8. Libby Hill, *The Chicago River: A Natural and Unnatural History* (Carbondale: Southern Illinois University Press, 2000), 5.

9. Dan Egan, "A Battle Between a Great City and a Great Lake," *New York Times*, July 7, 2021, www.nytimes.com/interactive/2021/07/07/climate/chicago-river-lake-michigan.html.

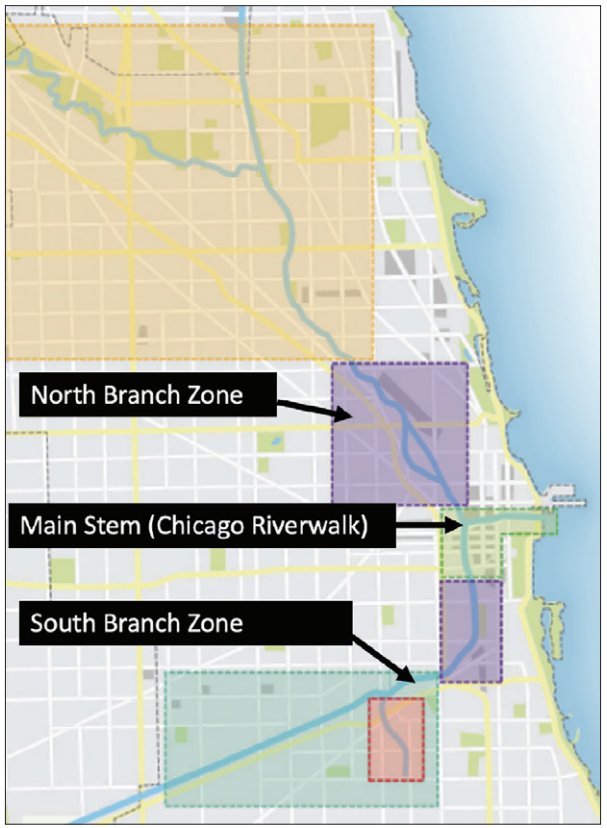

Figure 1: Relevant Character Zones on the Chicago River.
Department of Planning and Development, *Chicago River Design Guidelines* (Chicago: City of Chicago, Jan. 24, 2019), 14.

system, was the source for drinking water in Chicago, and the sewage system—containing human waste and the waste products of the booming meatpacking factories that were located upriver—posed a public health risk to city residents.

In 1900, the city built the twenty-five-miles long Chicago Ship and Sanitary Canal (CSSC) to connect the Chicago River to the Des Plaines

River, which ultimately meets the Mississippi River and flows into the Gulf of Mexico. The combination of the CSSC's lower grade and locks at the points where the Chicago Area Waterway System meets the lake allowed the Chicago River to flow "backward," from the lake, which flushed the city's waste away from the freshwater source and towards the Mississippi River.[10] While this was successful in promoting public health within the city, communities downstream of the Chicago Ship and Sanitary Canal became the recipients of the city's waste. This engineering feat made Chicago the only city along any of the Great Lakes to divert more water from the Great Lakes than it returns, using the flow of water out of Lake Michigan as a tool for the waste disposal of the city in addition to its role as a drinking water source.[11]

The city always undertook infrastructure projects with the goal of increasing the river's efficiency in carrying out specific tasks, from flushing the city's waste to transporting goods. As Chicago grew in the twentieth century along with its major industries of meatpacking and agricultural commodity trade, the river became increasingly important to continued growth by establishing Chicago as a transfer point for goods being shipped by train and by barge. Goods arriving in the city by barge could be repacked onto trains and vice versa, making Chicago a unique hub in national trade routes.[12] It is only in recent history that development of the river has aimed to fulfill nonindustrial needs for the city.

10. Egan, "A Battle Between a Great City."

11. Peter Annin, *The Great Lakes Water Wars*, revised edition (Washington, DC: Island Press, 2018).

12. William Cronon, *Nature's Metropolis: Chicago and the Great West* (New York: W. W. Norton, 1991).

An Exploration of Zoning, Public Space, and Urban Waterways

This project examines the mechanisms through which zoning policies interact in facilitating or creating barriers to the usage of the Chicago River as a public space. The Chicago River has experienced diverging development in the past two decades, with areas on the North Branch shifting from industrial uses to residential mixed-use, while the industrial activities along the South Branch have intensified. Site-specific and city-wide zoning policies claim to prioritize public access to the waterfront for recreation, but the diverging development of both branches of the river has created differing types of access.

This section situates zoning policy in relation to public space creation within cities, addresses the benefits of the creation of such spaces, the feasibility of using zoning policy to create public spaces, the complications involved in the privatization of public space, and outlines a case study of public space created on an urban waterway. Drawing from this exploration, I argue that zoning and privatized public space can contribute to the expansion of public space in cities, but without careful implementation and the development of truly public land these planning policy mechanisms can also lead to increasing spatial, economic, and environmental inequality. The diverging development on the North and South Branches of the Chicago River exemplifies the benefits and risks of using zoning policy as a mechanism to create public space in cities.

Importance of "Natural" Public Space

Green space in cities is an important resource, promoting civic culture, ecological well-being, and population health. The health benefits of green spaces emerge for three reasons: improved psychological state, improved

health-related behaviors, and environmental benefits.[13] The psychological toll of urban life is well-documented. Sociologist Georg Simmel theorized that the routine overstimulation of crowded, loud cities leads to population changes and general unrest.[14] Calm, green spaces within cities provide opportunities for mental recuperation, helping make dense living environments more tolerable.[15] Urban geographers have shown that proximity to green spaces, such as parks with areas for exercise, improve neighborhood health by inspiring positive behavioral changes, such as increased physical activity.[16] Finally, green spaces can assist in mitigating the detrimental health effects of urban industrial activity by providing areas of respite from or even counteracting the polluting effects of industry. Children who grow up in close proximity to highways and factories have higher rates of asthma and other pollution-related health conditions, and public green space can be used to separate residential areas from polluting activities while trees reduce the quantity of pollutants in the air.[17]

Natural spaces in urban environments can take many forms, and the organic reclamation of highly anthropogenic spaces can expand definitions of what is considered to be a "natural" space. Historically, ecologists

13. Jon Sadler et al., "Bringing Cities Alive: The Importance of Urban Green Spaces for People and Biodiversity," in *Urban Ecology*, ed. Kevin J. Gaston (Cambridge: Cambridge University Press, 2010), 230–60.

14. Georg Simmel, "The Metropolis and Mental Life" (1903), in *On Individuality and Social Forms*, ed. Donald L. Levine (Chicago: University of Chicago Press, 1971), 324–39.

15. Daniel Aldana Cohen, "Seize the Hamptons," *Jacobin*, Jan. 9, 2021, jacobin.com/2014/10/seize-the-hamptons.

16. Sadler et al., "Bringing Cities Alive."

17. Hanneke Kruize et al., "Urban Green Space: Creating a Triple Win for Environmental Sustainability, Health, and Health Equity through Behavior Change," *International Journal of Environmental Research and Public Health* 16, no. 22 (Nov. 2019): 4403–24, doi.org/10.3390/ijerph16224403.

considered only areas of "pristine" nature to be natural spaces, creating a dichotomy between urban and natural environments.[18] Such a dichotomy is troubling. It implies that nature cannot exist with cities and ignores the ecological processes that occur in urban environments and that benefit urban natural ecosystems, such as bomb sites, unused infrastructure, and brownfield sites overtaken by plants and wildlife in cities such as London, Berlin, and New York.[19] The nature present in these spaces is not as readily acknowledged as nature in less urban environments due to the human-natural divide that has defined nature as areas untouched by human activity. This mentality is ultimately harmful because it allows for the destruction and reconfiguration of preexisting urban ecosystems to "construct" new "natural" spaces, harming ecologies that already exist within them. Park designers could instead support the coexistence of human and nonhuman life already at play in cities by drawing from existing ecosystems and anthropogenic landscapes alike to create protected environments for biodiversity in urban environments.[20]

Green spaces play an important role in urban social and ecological life, and their protection should be made a priority. If planners acknowledged the presence of existing ecosystems, then they could create public spaces that are ecologically sound and require minimal intervention and maintenance. If areas to congregate, be active, and reflect peacefully can be integrated into preexisting urban ecosystems, then they could provide a range of social and health benefits to the city without disrupting the already present, organically formed biodiversity. The Chicago River sustains a diverse ecosystem of flora and fauna that is able to coexist with

18. Matthew Gandy, *Natura Urbana: Ecological Constellations in Urban Space* (Cambridge, MA: MIT Press, 2022).

19. Gandy, *Natura Urbana*.

20. Gandy, *Natura Urbana*, 251.

the industrial uses of the river.[21] Design-related planning and zoning policies can mandate the creation of public green space on the Chicago River that would benefit Chicago residents and ecosystems, but doing so would require acknowledging the ecology that the river already sustains and prioritizing its protection.

Park Development and Community Displacement

The development of highly popular parks and recreational resources often has the effect of reshaping the areas in which they exist, contributing to gentrification and accompanying population shifts. When public space construction is included within larger development goals, it can be viewed as a mechanism to accelerate these community changes. In the twenty-first century, many examples of this phenomenon have been linked to the rise of the so-called "innovation district."

An innovation district is an area where newer industries (e.g., research and development, medical institutions, and technology entrepreneurs) replace manufacturing. Many city governments, including Chicago's, have come to view innovation districts as a necessary developmental tool to diversify city economies and to attract companies and workers. Policymakers have identified certain planning features that encourage innovation, including mixed-use areas, residential and corporate density, and multimodal transit access.[22] These features attract young workers, maximize the interactions and exchange of ideas among residents, and

21. "River Ecology," Friends of the Chicago River, accessed Apr. 7, 2023, www.chicagoriver.org/about-the-river/river-ecology-and-wildlife/river-ecology.

22. Bruce Katz and Julie Wagner, *The Rise of Innovation Districts: A New Geography of Innovation in America* (Washington, DC: Brookings Institute, May 2014), 34, www.brookings.edu/articles/rise-of-innovation-districts.

allow for a competitive market by making it easier for workers to switch jobs. One well-understood model of innovation district formation is the "reimagined urban area": a city redevelops an industrial or a warehouse district with proximity to the downtown, good transportation, and (often) a natural area, which attracts companies and workers to move to the area.[23] Chicago has come to view the Chicago River as an appealing feature to anchor new developments that attract knowledge-economy workers and corporations.[24] But the formation of innovation districts can amplify inequality.

Public spaces oriented towards the creation of innovation districts are often privately owned or operated and have been linked to gentrification and displacement in their surrounding areas. Examples of such parks include New York City's High Line, Chicago's Bloomingdale Trail (otherwise known as the 606), and Houston's Buffalo Bayou. These parks were developed with upper-class, knowledge-economy workers in mind and offer features such as striking architecture and running paths.[25] The High Line, for example, features a path for walking and areas from which to stop and view the city but lacks many places to sit and interact with other park users. Additionally, the park is patrolled by a security team, which police the uses of the park, ensuring that it is used in a prescribed way friendly to the desires of tourists and the park's wealthy neighbors. These ostensibly "public" spaces have reshaped the neighborhoods

23. Katz and Wagner, *The Rise of Innovation Districts*.

24. Department of Planning and Development, *North Branch Framework* (Chicago: City of Chicago, May 8, 2017), 23, www.chicago.gov/content/dam/city/depts/dcd/supp_info/industrial/NBIC_Adopted_Final_For-Web.pdf.

25. Matt Eldridge, Kimberly Burrowes, and Patrick Spauster, *Investing in Equitable Urban Park Systems: Emerging Funding Strategies and Tools* (Washington, DC: Urban Institute, July 2019), 6, cityparksalliance.org/wp-content/uploads/2019/07/Equity_and_Parks_Funding_7.16.19.pdf.

surrounding them, attracting tourists and new residents while displacing longtime working-class residents and small businesses.[26]

It is possible to create public space while minimizing displacement effects, but this requires creating spaces that are adaptable to many uses, require minimal upkeep, and can be operated cheaply. One approach is called "just green enough," where sufficient investment to green infrastructure is made to meet the needs of a community without turning the community into a destination for tourists or outside investors.[27] Critics of this approach argue that it perpetuates historic underinvestment in low-income communities and minimizes the importance of affordable housing policy and other equitable development plans that can protect communities from the negative effects of investment.[28]

Sociologist Kevin Loughran recommends "lett[ing] the rails rot." Radical, expensive architectural interventions of former industrial sites often require intensive landscaping and maintenance, which raises operating costs; a more organic approach to park landscaping keeps existing structures, such as railroad lines and the existing organic ecosystem that grows around abandoned industrial spaces, which can be cheaper to operate, allowing for the elimination of public-private partnerships or nonprofits to fund park operations.[29] Such partnerships or organizations can wield significant power over the uses and resources of a park and can contribute to exclusivity of the public space. Thus, a cheaper operating

26. Kevin Loughran, "Parks for Profit: The High Line, Growth Machines, and the Uneven Development of Urban Public Spaces," *City & Community* 13, no. 1 (Mar. 2014): 49–68, doi.org/10.1111/cico.12050.

27. Eldridge, Burrowes, and Spauster, "Investing in Equitable Urban Park Systems," 6.

28. Eldridge, Burrowes, and Spauster, "Investing in Equitable Urban Park Systems," 6.

29. Kevin Loughran, *Parks for Profit: Selling Nature in the City* (New York: Columbia University Press, 2022), 182.

model could make park spaces more inclusive.[30] This vision of public space creation is aligned with urban geographer Matthew Gandy's concept of urban nature, which acknowledges the value of ecosystems already present in cities and advocates for a less interventionist approach to natural preservation.[31]

Political desires to attract modern, profitable economic activity to a neighborhood can shape the configuration and nature of public space as well as the social dynamics of the area as a whole. When public space is viewed as a tool to attract knowledge-economy workers, its design will feature amenities desirable to wealthy users, potentially excluding current community members or other potential users. Other ideologies, such as "just green enough," offers an opposing critique that expands access to public spaces, such as on the Chicago River, while preserving preexisting communities. They rely on policies that combine affordable housing and social programs with public space designs that serve community needs, minimize operating costs, and avoid "destination" urban attractions.

Zoning as a Tool for Public Space Creation

Chicago zoning laws require the integration of a public riverwalk on privately owned land, which "provide[s] the space for river access, a continuous, multi-use path, and biodiversity."[32] Other cities have pursued similar public-access planning schemes with mixed success. Since 1961, New York City has used zoning as a tool to incentivize the creation of privately owned public space (POPS). The 1961 zoning resolution allowed

30. Eldridge, Burrowes, and Spauster, "Investing in Equitable Urban Park Systems," 25.

31. Gandy, *Natura Urbana*, 247.

32. Department of Planning and Development, *Chicago River Design Guidelines*, 15.

developers to add additional floors in exchange for incorporating publicly accessible space on their lot.[33] This ordinance inspired the construction of well over five hundred POPS.[34]

The first iteration of the law simply called for the construction of public space on a lot, and other laws specifically banned the incorporation of important public amenities, like seating, within these spaces. Many of the resulting spaces were therefore unintentionally uninviting, with some architects believing that "the construction of a barren plaza devoid of amenities fronting their building actually increased the market value of their building, as powerful corporations seeking to project an image of affluence 'indulged in the luxury of empty space.'"[35] The minimal oversight of POPS during the sixties and early seventies led to ostensibly public spaces being used for loading or vehicle circulation. Overall, New York's early experimentation with POPS yielded spaces with relatively little value to the public.

The city overhauled the POPS ordinance in 1975 to require approval of the public space by the planning department to receive higher floor bonuses. This led to the creation of more usable POPS, which now featured seating, planters, and other amenities. There was no oversight on the maintenance of POPS, however, so developers were free to renovate the spaces as they saw fit, at times adding exclusionary design features

33. Stephan Schmidt, Jeremy Nemeth, and Erik Botsford, "The Evolution of Privately Owned Public Spaces in New York City," *Urban Design International* 16, no. 4 (Sept. 2011): 270–84, doi.org/10.1057/udi.2011.12.

34. "New York City's Privately Owned Public Spaces," NYC Department of City Planning, accessed Mar. 24, 2025, www.nyc.gov/site/planning/plans/pops/pops.page.

35. Jeremy Németh, "Defining a Public: The Management of Privately Owned Public Space," *Urban Studies* 46, no. 11 (Oct. 2009): 2463–90, doi.org/10.1177/0042098009342903.

like gates or spikes on planters to prevent seating.[36] While technically open to the public, these newer POPS contain a variety of features that "filter" the type of user and the nature of the use of the space. For example, many POPS today contain outdoor food stands or kiosks with seating areas. It is unclear, however, if one must purchase food to sit down, and some establishments have added gates or barricades, giving the impression that seating is for paying customers only.[37] Surveillance, whether by employees, such as doormen, or by cameras, coupled with the design of dining areas restricts the use of these spaces, though they ostensibly are accessible to the public.

Urban public space offers benefits to the civic and ecological health of cities. When designed thoughtfully and with an expansive perspective on the definition of natural ecosystems, preexisting spaces can be adapted and protected as habitats for urban wildlife and spaces for recreation for city dwellers. Privately owned public space allows for a dramatic increase in the quantity of public space when a city requires its integration into areas that otherwise may be off-limits to the public. The private nature of these spaces, however, offer an increased potential for filtration and exclusivity as compared to publicly owned public spaces. When applied to the Chicago River, the literature suggests that the privately owned public space emerging from present zoning guidelines can serve to increase the river's accessibility to the public, but alone will not succeed in making access to the river possible and enjoyable for all city residents.

36. Schmidt, Nemeth, and Botsford, "The Evolution of Privately Owned Public Spaces in New York City," 279.

37. Németh, "Defining a Public," 2476–77.

Urban Rivers as Public Space: Copenhagen Harbour Baths

Cities around the world have historically used rivers for infrastructure and commerce, which led to polluted waters. The Chicago River is no exception, and one of the primary obstacles to its transformation to a public recreational space is pollution. Successful transformations of urban waterfront spaces in other cities show that such a reimagining is possible

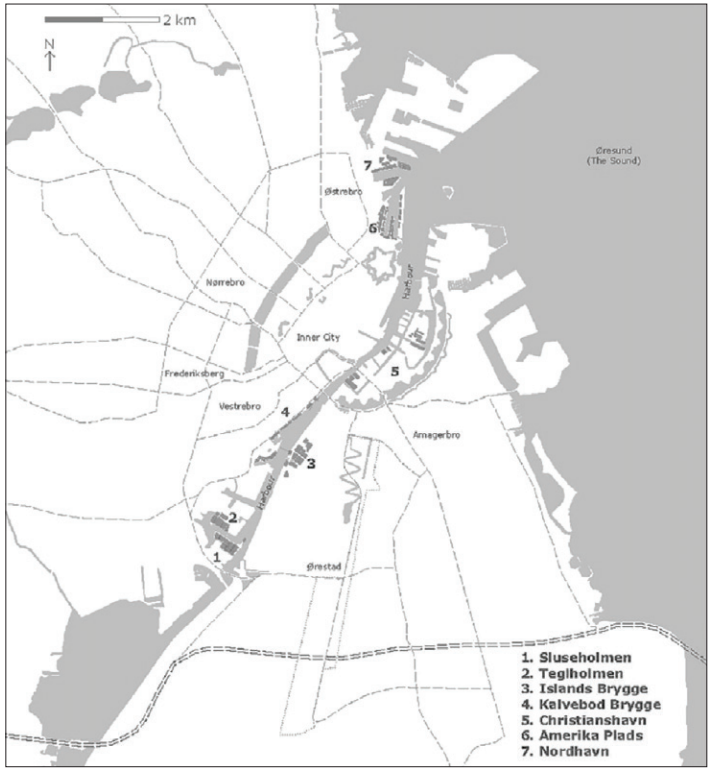

Figure 2: Map of Copenhagen with Postindustrial Redevelopments Numbered. Florian Urban, "Copenhagen's 'Return to the Inner City' 1990–2010," *Journal of Urban History* 47, no. 3 (Feb. 2019): 653.

given the right policy, design, and social contexts. One example is the famous Copenhagen Harbour Baths, built in 2002.

Although not a river, Copenhagen's harbor is a narrow ten-kilometer-long bay that slices through the center of the city, geographically functioning as a river (see fig. 2). The harbor was once the center of Copenhagen industry, used for transporting goods produced in the polluting factories along its banks. Districts in the inner city, immediately adjacent to the banks of the harbor, largely consisted of working-class housing.

Beginning in the 1990s, a series of urban renewal projects transformed the worker housing and industrial buildings of the inner city into modernized neighborhoods that reflected the architectural and social history of the area. An early example of these initiatives took place in the neighborhood of Nørrebro in the late 1970s. Nørrebro was the center of the Danish squatter movement early in the decade, but eventually "slum clearance" initiatives led to the demolition of most of the neighborhood's old buildings. Instead of replacing them with the modernist towers popular in Europe at the time, the city responded to squatter protests by constructing low-rise buildings that resembled the style of housing that had previously existed. A 1983 law prevented future "tabula-rasa" urban renewal by banning total demolition of a neighborhood and requiring that subsequent initiatives incorporate existing structures that retained a neighborhood's character. In these steps, the Danish government affirmed a commitment to pedestrian-scale design and inner-city living.[38]

Architect Bjarke Ingels designed the Copenhagen Harbour Baths, part of the Islands Brygge neighborhood, in 2002. Islands Brygge, a waterfront neighborhood, was ideally positioned for an urban renewal project, and neighborhood residents organized in the 1990s to fight against real estate speculation in the area. In contrast to Kalvebod

38. Florian Urban, "Copenhagen's 'Return to the Inner City' 1990–2010," *Journal of Urban History* 47, no. 3 (Feb. 2019): 651–73, doi.org/10.1177/0096-144218824303.

Brygge, the neighborhood directly across the harbor, in which private developers constructed imposing corporate buildings, the Islands Brygge redevelopment retained a pedestrian-scale, recreationally oriented neighborhood. Taking advantage of the success of wastewater infrastructure improvements of the 1990s, which made the harbor's once polluted waters safe for swimming, the Harbour Baths created an enclosed swimming area within the harbor adjacent to a public park. Nodding to the site's industrial history, the project used docks, boat ramps, and other maritime structures to create the enclosure as well as areas for lounging, playing, and (popularly) jumping into the water.[39] The site is now one of Copenhagen's most popular destinations for residents and tourists alike.[40] This popularity indicates the potential for urban waterfront, such as the Chicago River, to be transformed into sites for radically different activities than their historically industrial uses, given proper infrastructural, planning, and design interventions.

Urban renewal initiatives in Copenhagen's postindustrial inner-city neighborhoods attracted new residents and gentrification, but this has not become a crisis in Copenhagen as it has in American cities. In Copenhagen, condominium-style building ownership is relatively uncommon and publicly owned housing projects are far more common than in the United States and are open to everyone. The majority of housing in Copenhagen is rental apartments, and foreigners cannot own real estate, which prevents foreign real estate investors from driving up prices and profiting off of renters. On one hand, the redeveloped inner-city neighborhoods have less publicly owned housing than the city does on average and higher rates of private rentals and condominiums, which does indicate a degree of inequality as compared to the rest of the city. On the other hand, the high rates of families residing in these neighborhoods, as well as the socioeconomic

39. "Copenhagen Harbor Bath," BIG: Bjarke Ingels Group, accessed Mar. 9, 2023, big.dk/projects/copenhagen-harbor-bath-1525.

40. Urban, "Copenhagen's 'Return to the Inner City,'" 651.

diversity present as compared to similarly desirable waterfront neighborhoods in other international cities, show that Copenhagen's housing policy partially mitigated some of the gentrifications that emerged from the inner-city urban renewal projects.[41]

The achievements of the Copenhagen Harbour Baths show that public space along urban waterfronts can be realized while minimizing gentrification. One significant difference between the Copenhagen Harbour Baths, however, and the public space mandated by the *Chicago River Design Guidelines* is that Copenhagen constructed the Harbour Baths on public parkland in tandem with a national housing policy that preserved some affordable housing in the neighborhood. This example suggests that for amenity-filled public parks to serve the whole public while minimizing their consequences, they must be free to access and be implemented along with thoughtful policy to preserve the strength of communities in the area.

My paper builds upon the work of these authors cited in this section by applying their arguments to assess the mechanisms and consequences of zoning policies relevant to the Chicago River. I draw on their conclusions to inform improvements to Chicago's approach to public space creation on the river that can improve community and civic health while minimizing the growth of inequality.

41. Urban, "Copenhagen's 'Return to the Inner City.'"

Relevant Zoning Policies and Approaches

I focused my project on two zones on the Chicago River, the North Branch and the South Branch south of Cermak Road. I chose to compare the evolution of these zones because they are the most indicative of the conflicting desires and ideologies informing today's transformation of the river. Both zones have a history of industrial activity that has defined their built environments for the past century. Both zones are also highly urban and surrounded by residential areas. Finally, both zones were once designated as industrial corridors with Primary Manufacturing Districts, which limited nonindustrial development in these areas. Contemporary zoning policies have caused development of these districts to diverge. The rezoning of the North Branch Corridor has allowed for new mixed-use projects, such as Lincoln Yards, that incorporate the Chicago River as an aesthetic and recreational feature, while the policy discussions surrounding the Little Village Industrial Corridor have served to maintain its current industrial state. Each pathway can potentially limit access to the river as a public good—either by creating physically hostile environments or by privatizing and excluding the public from using the river via neoliberal, wealth-driven development. For this reason, they could both be considered "hard" case studies, where the successful transformation of these zones would indicate the potential of such transformations along other sections of the river.[42]

I analyzed three zoning documents published by the Chicago Department of Planning and Development that pertain to these areas: the *North Branch Framework* (2017), the *Little Village Framework*, draft (2019), and the *Chicago River Design Guidelines* (2019). My analysis of these documents

42. Hard cases "set a high threshold. If your argument applies here, it is convincing (though still unproven). It needs to be tested further to make sure it applies widely." Charles Lipson, *How to Write a BA Thesis: A Practical Guide from Your First Ideas to Your Finished Paper* (Chicago: University of Chicago Press, 2005), 103–9.

depended upon a conceptual understanding of effective public space on the Chicago River in the 1998 study, *People and the River: Perception and Use of Chicago Waterways for Recreation*. This study laid out barriers that the public identified to using the Chicago River for recreation and a series of physical transformations that could overcome these barriers. A primary concern was the river's water quality, including waste dumping, odor, and pollution. Aesthetics and nature formed another barrier: residents expressed a desire for the natural sense of the river, ideally, one that was friendly to wildlife. Significantly, residents expressed that organic ecological reclamation of postindustrial space created a desirable aesthetic as well as interesting spaces for play. Finally, city residents expressed a desire for public features that would enable a variety of uses of riverfront public space, including benches, bathrooms, tables, tennis courts, and other park amenities.[43] I also drew upon author Naomi Klein's concept of a sacrifice zone, a place sacrificed to the toxic pollution of fossil fuel use in order to allow for the continuation of carbon-intensive capitalist activities elsewhere. Sacrifice zones require the sacrifice of both places and "people whose lungs and bodies can be sacrificed to work in the coal mines, people whose lands and water can be sacrificed to open-pit mining and oil spills."[44] The relationships between sacrifice zones and the zones that benefit from them are complex, and exposing them can shed light on the many interconnected systems of inequality whose existence undergirds the ultimately sacrificial nature of carbon-intensive capitalism.[45] Klein's concept provided me with a framework with which to analyze the differing quality of public space along the river and the ability of these spaces to fill the needs of residents.

43. Al and Westphal, *People and the River*.

44. Naomi Klein, "Let Them Drown: The Violence of Othering in a Warming World," *London Review of Books*, June 1, 2016, www.lrb.co.uk/the-paper/v38/n11/naomi-klein/let-them-drown.

45. Klein, "Let Them Drown."

Chicago River Design Guidelines

The development of the Chicago River as a public asset for the city was an important component of Rahm Emanuel's tenure as mayor (2011–19). Emanuel's administration prioritized development that would elevate Chicago's global standing, incentivizing corporations to relocate to the city and tourists to visit. This agenda resulted in the completion of the 606 on the North Side, the transformation of the West Loop from a warehouse district to a high-end mixed-use neighborhood, and other development-oriented projects.[46]

Part of this agenda involved updating the *Chicago River Design Guidelines*, which outline the overall philosophy guiding the city's approach to river-centered planning: defining the river as a public amenity and setting minimum requirements for public space, while still allowing for industrial uses. The updated version of the guidelines, passed in 2019, built upon the 1999 *Chicago River Corridor Development Plan*, which was the first policy document to characterize the river as a public amenity and to lay out plans for revitalization.[47] The Corridor Development Plan enabled the construction of the Chicago Riverwalk, whose success in drawing people to the river allowed for a revisioning of the potential of the entire Chicago River as a recreational amenity. The updated *Chicago River Design Guidelines* established a more detailed plan for the use of the Chicago River as a public space.[48]

46. Patrick Sisson, "Mayor Rahm Emanuel's Legacy: How He Changed the Fabric of Chicago," Curbed Chicago, May 17, 2019, chicago.curbed.com/2019/5/17/18623391/chicago-mayor-rahm-emanuel-legacy-development.

47. Department of Planning and Development, *Chicago River Corridor Development Plan* (Chicago: City of Chicago, 1999), www.chicago.gov/content/dam/city/depts/zlup/Sustainable_Development/Publications/Chicago_River_Corridor_Development_Plan/ChicagoRiverDevelopmentPlan.pdf.

48. Department of Planning and Development, *Chicago River Design Guidelines*, 4.

The central requirements of the updated guidelines establish rules surrounding the design of the river and its banks.[49] They mandate that new developments must be set back a minimum of thirty feet from the banks of the river, and, within that setback, they must include a publicly accessible multiuse path to be maintained by the property owner. This mandate aims to create continuous riverfront access for the public for recreational activities. The guidelines provide exceptions to the minimum setback requirement for developments that depend on access to the waterway, such as companies that ship goods by barge and must operate docks and loading zones. In the cases of these exceptions, the development must still include a publicly accessible multiuse path, whose route should be placed on the land side of the development (away from the river), thus avoiding conflict between recreational users of the path and the commercial activity adjacent to the river.[50]

North Branch Framework

The North Branch Zone, between Kinzie Street and Fullerton Avenue, has been at the center of much of the land redevelopment along the river since Emanuel's term in office. Previously known as the North Branch Industrial Zone and designated as a Planned Manufacturing District, development along the North Branch is now governed by the 2017 *North Branch Framework* (see fig. 3). This plan rezoned the North Branch Industrial Zone to allow for mixed-use development, including housing, commercial spaces, nightlife, restaurants, and other features.[51] The primary goal of the framework was to "modernize existing land use

49. Department of Planning and Development, *Chicago River Design Guidelines*, 8.

50. Department of Planning and Development, *Chicago River Design Guidelines*, 18.

51. Department of Planning and Development, *North Branch Framework*, 60.

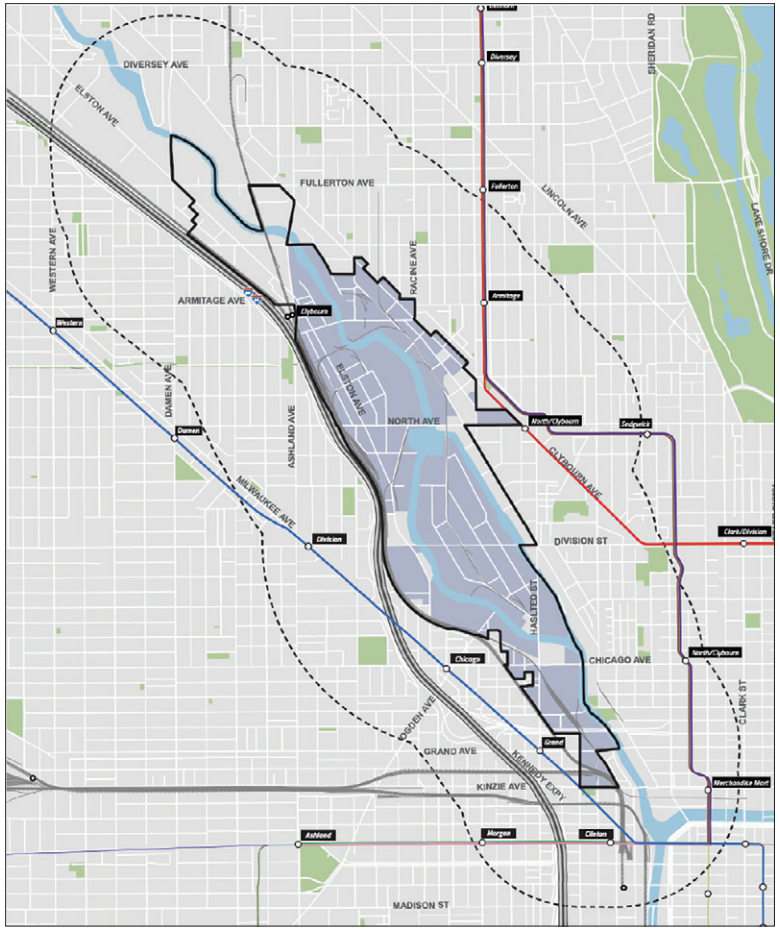

Figure 3: North Branch Industrial Area Outlined with Solid Black Line. Department of Planning and Development, *North Branch Framework* (Chicago: City of Chicago, May 8, 2017), 7.

regulations in the corridor to more effectively promote economic growth and job creation through the expansion of existing businesses and the attraction of new businesses, corporate headquarters, and companies that drive Chicago's knowledge-based economy."[52] This business-oriented approach is important to note, because the approval of the updated plan was necessary to the beginning of the Lincoln Yards development and the overall transformation of the area away from its industrial roots.

Starting in 2015, real estate developers, including Sterling Bay, began purchasing large tracts of formerly industrial land in the North Branch in anticipation of a change in the area's zoning policy.[53] Redevelopment was accelerated by the 2013 closing of the A. Finkl & Sons Steel plant, which sat on a twenty-two-acre riverfront property on Cortland Street. This property was purchased by Sterling Bay in 2016. In 2017, the current *North Branch Framework* repealed the designation of the North Branch as a Planned Manufacturing District.[54] Before the updated *North Branch Framework* was approved, Sterling Bay entered a buying spree, purchasing over twenty additional acres of formerly industrial property adjacent to the Finkl Steel property. In July 2017, two months after the plan was passed, the city sold a Department of Fleet and Facility Management site on the North Branch to Sterling Bay for over $104 million.[55]

In 2017, months after the updated framework was approved, Sterling Bay announced plans to develop it accumulated riverfront land into Lincoln Yards. That year, the project was included as one of the proposed

52. Department of Planning and Development, *North Branch Framework*, 32.

53. Rumore and Ori, "Lincoln Yards."

54. Department of Planning and Development, *North Branch Framework*, 60.

55. Ryan Ori, "City Selling 18 Acres along River to Sterling Bay for $105 Million," *Chicago Tribune*, July 31, 2017, www.chicagotribune.com/business/ct-fleet-facility-sterling-bay-ryan-ori-0801-biz-20170731-column.html.

Figure 4: North Branch of the Chicago River, Sept. 2022. Photograph by author.

locations for Amazon's new headquarters in Chicago's HQ2 bid. In an effort to further entice Amazon, Sterling Bay announced that they would include a soccer stadium and up to five music venues operated by Live Nation in the development. The Amazon headquarters bid, the stadium, and the Live Nation partnership failed, but the attempts successfully positioned Lincoln Yards as the development that could reshape the neighborhood character of the North Branch Industrial Corridor.[56] The updated *North Branch Framework* emerged after a year of public deliberation, including input from community groups, but its proposal and passing were unsurprising given the redevelopment momentum already at work through the rapid accumulation of real estate.[57]

Today, in addition to Lincoln Yards, the North Branch Corridor is the site of the Wild Mile, a floating eco-park, located on the North

56. Rumore and Ori, "Lincoln Yards."

57. Jay Koziarz, "Chicago City Council Approves Sweeping North Branch Zoning Ordinance," Curbed Chicago, July 27, 2017, chicago.curbed.com/2017/7/27/16050734/chicago-development-north-branch-zoning-ordinance-approved.

Branch Canal, across from the eastern edge of Goose Island; it aims to restore the natural ecology of that portion of the river, creating a safe habitat for wildlife and a location for Chicago residents to commune with the river's natural environment (see fig. 4). The Wild Mile is endorsed by the city and is written into the most updated versions of the *North Branch Framework* as a means to transform development on the North Branch into a community asset.[58] Other stakeholders in the project include Whole Foods Market and REI, whose locations on the banks of what will be the Wild Mile will allow them to orient business around visitors to the space.[59] Although the *North Branch Framework* includes plans for public amenities such as the Wild Mile, I will argue that the developer-led momentum of the area's redevelopment, the updated plan's focus on white-collar economic growth, the private nature of nearly all riverfront land on the North Branch, and the concentration of industry on the South Bank contribute to barriers to the public access of the river on both the North and South Branches.

South Branch Zoning Context

In the past decade, as the North Branch has experienced deindustrialization and redevelopment, the South Branch, especially south of Cermak Road, has seen industrial activity intensify. Many of Chicago's industrial corporations have historically located their activities on the South Branch, and the *North Branch Framework* includes provisions for the city to provide financial assistance to companies currently located on the North Branch that seek to move to other areas of the city in response to the

58. Department of Planning and Development, *Wild Mile: Framework Vision* (Chicago: City of Chicago, June 2019), www.chicago.gov/content/dam/city/depts/zlup/Planning_and_Policy/Publications/20190913_Wild%20Mile%20Framework_Final_Low%20Res_Spreads.pdf.

59. Department of Planning and Development, *Wild Mile*, 23.

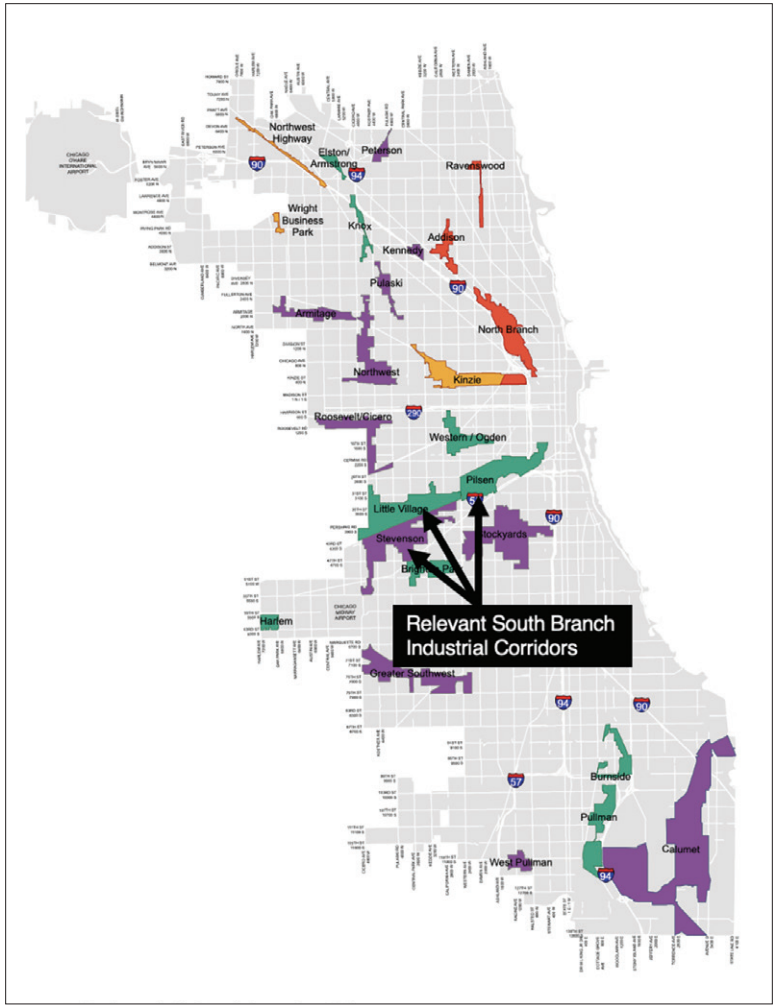

Figure 5: Industrial Corridors in Chicago.
Department of Planning and Development, *Little Village Framework,* draft (Chicago: City of Chicago, Apr. 1, 2019), 17.

redevelopment of their current site.[60] The South Branch is home to three designated industrial corridors: the Pilsen Industrial Corridor, the Little Village Industrial Corridor, and the Stevenson Industrial Corridor (see fig. 5).[61] Within these industrial corridors, zoning is limited to industrial activities, and any proposed zoning changes must be approved by the Chicago Plan Commission, which can reject changes that weaken the industrial integrity of the area.[62] The Pilsen Industrial Corridor is zoned as a Planned Manufacturing District, which goes beyond the zoning designation of industrial corridors to ban explicitly residential and retail development.[63] Despite these corridors on the South Branch featuring similar circumstances to the North Branch Corridor prior to rezoning, planning and development efforts along the South Branch have doubled down on industrial development at the expense of proposals that could create similar transformations of relationships with the riverfront as those taking place on the North Branch.[64] These policies have intensify industrial activity on the South Branch despite public disapproval of such decisions.

Three examples of South Branch industrial development efforts are a proposed MAT Asphalt production facility, a riverfront Amazon

60. Department of Planning and Development, *North Branch Framework*, 34.

61. Department of Planning and Development, *North Branch Framework*, 14.

62. Department of Planning and Development, "Industrial Corridor Modernization Initiative," updated Apr. 11, 2022, www.chicago.gov/content/city/en/depts/dcd/supp_info/repositioning-chicago-s-industrial-corridors-for-today-s-economy.html.

63. Department of Planning and Development, "Industrial Corridor Modernization Initiative."

64. Department of Planning and Development, *Little Village Framework*, draft (Chicago: City of Chicago, Apr. 1, 2019), www.chicago.gov/content/dam/city/depts/zlup/Planning_and_Policy/Publications/draft-little-village-framework.pdf.

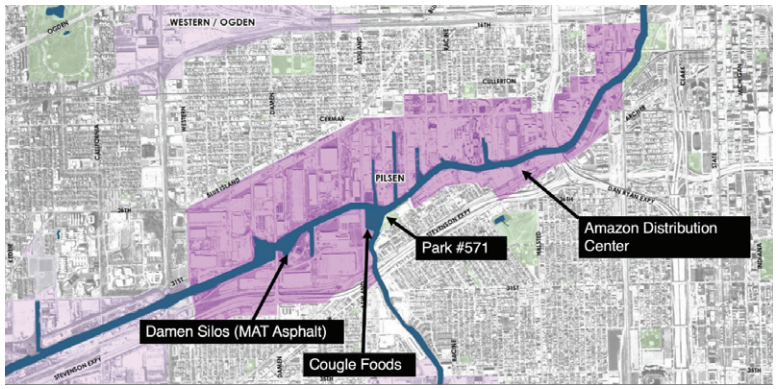

Figure 6: Recent Developments within the Pilsen Industrial Corridor. "Data Snapshot," Department of Planning and Development, Feb. 10, 2020, www.chicago.gov/content/dam/city/depts/dcd/supp_info/industrial/jobs_data/ic_Pilsen_Update_2-10-2020.pdf.

Figure 7: Damen Silos, Feb. 2021. Photograph by author.

warehouse built in 2022, and a Cougle Foods chicken processing facility built on riverfront land with tremendous potential for park development (see fig. 6). The proposed MAT Asphalt production facility would be constructed on the current site of the Damen Silos, a 23.4-acre lot where Damen Avenue crosses the South Branch, which features abandoned grain silos that were made famous when they were featured in the 2014 Transformers film. The Damen Silos (see fig. 7) have long been popular among Chicago urban explorers and are considered endangered.[65] The State of Illinois, the site's owner, auctioned it in the summer of 2022, and MAT Asphalt offered $6.52 million with a plan to tear down the silos and build a second asphalt production facility in the neighborhood.[66] Although this development would be subject to the *Chicago River Design Guidelines* and therefore would be required to incorporate a publicly accessible riverwalk, residents of the neighborhood have been advocating for halting the sale due to concerns that pollution from the plant will harm community health and will prevent the creation of a publicly appealing riverfront.[67]

The Cougle Foods chicken processing facility and Amazon warehouse are similarly unpopular with residents but were not subject to extensive community meetings because their uses fall within the zoning regulations of the Pilsen Industrial Corridor, where they are located. The Cougle

65. "Damen Silos: 2023 Most Endangered Historic Places in Illinois," Landmarks Illinois, May 4, 2023, www.landmarks.org/preservation-programs/most-endangered-historic-places-in-illinois/damen-silos-2023-most-endangered-historic-places-in-illinois.

66. Katie Finlon, "Damen Silos, Beloved by Urban Explorers, to Be Sold to MAT Asphalt Owner," Block Club Chicago, Nov. 7, 2022, blockclubchicago.org/2022/11/07/damen-silos-beloved-by-urban-explorers-to-be-sold-to-mat-asphalt-owner.

67. Katie Finlon, "Sale of Damen Silos to MAT Asphalt Owner Protested by McKinley Park Environmental Group," Block Club Chicago, Nov. 8, 2022, blockclubchicago.org/2022/11/08/sale-of-damen-silos-to-mat-asphalt-owner-protested-by-mckinley-park-environmental-group.

Foods site is across from the city's Park No. 571 boathouse and adjacent to Canal Origins Park on the banks of Bubbly Creek, the area of the river that is subject to the most stringent design guidelines because it holds high potential for ecological restoration. The site is also adjacent to the Ashland Orange Line public transit stop, making it highly accessible.[68] The zoning regulation of the industrial corridor, however, made it impossible for the site's unique potential as a public space to be realized. A similar struggle surrounded the construction of the Amazon warehouse on the southern bank of the river at Halsted Street. While the former owner of the site had hoped the property could be developed as a mixed-use project, the zoning of the corridor prohibited this. Instead, Amazon purchased the tract and built a warehouse, despite criticisms from neighborhood residents. A significant concern was that semitruck traffic would make access to the river dangerous for pedestrians and cyclists, therefore limiting the effectiveness of incorporating a riverwalk into the plan.[69] Current zoning, which prioritizes industry on the South Branch, limits the success of protests and feedback by members of the surrounding communities, who want the creation of a riverfront that fulfills neighborhood needs and desires.

68. Jordan Bailly, "Yesterday's Zoning: Chicken Processing Facility Flies under the Radar," *Metropolitan Planning Council* (blog), Nov. 8, 2021, metro-planning.org/yesterdays-zoning-chicken-processing-facility-flies-under-the-radar.

69. Jordan Bailly, "Yesterday's Zoning: Prologis and Amazon Open a Warehouse on the South Branch in Bridgeport," *Metropolitan Planning Council* (blog), Jan. 13, 2022, metroplanning.org/yesterdays-zoning-prologis-and-amazon-open-a-warehouse-on-the-south-branch-in-bridgeport; Amy Qin, "Warehouse in Bridgeport is the Latest Site in the Fight Against Industrial Development on the South and Southwest Sides," *South Side Weekly*, Feb. 12, 2021, southsideweekly.com/a-planned-amazon-warehouse-in-bridgeport-is-the-latest-site-in-the-fight-against-an-inequitable-distribution-of-warehouses-on-the-citys-south-and-southwest-sides.

In my analysis of zoning policy on the South Branch, I chose to focus specifically on a draft of the *Little Village Framework* that was released for public comment in 2019 but never adopted. I focused on this draft because it emerged from the same industrial corridor modernization initiative under Mayor Emanuel that led to the updating of the *North Branch Framework*, therefore indicating the ways that planning officials view the evolution of the South Branch in relation to the broader reenvisioning of the Chicago River. The *Little Village Framework* draft affirms and continues the use of the Little Village Industrial Corridor for industry and manufacturing.[70] Community response to the draft was overwhelmingly negative, with community members expressing concern over the public health effects of industrial activity in the neighborhood and frustration over the limited career prospects that those industries bring to the area.[71] In early 2019, the release of the draft was delayed when two aldermen of the four wards contained in the zoning area were enmeshed in legal trouble: one was charged with domestic violence and subsequently entered rehabilitation; the other was the subject of a federal investigation and was later found to have been secretly recording another alderman for years and acting as an informant to the FBI.[72] For reasons that are unclear, the draft was never revisited after 2019, so any proposed zoning updates have yet to be passed. Despite the stagnation of this draft, I argue that

70. Department of Planning and Development, *Little Village Framework*, 2.

71. Mauricio Peña, "As City Rolls Out Plan to 'Modernize' Little Village, Frustrated Residents Say They're Tired of Warehouses and Pollution," Block Club Chicago, Jan. 28, 2019, blockclubchicago.org/2019/01/28/as-city-rolls-out-plan-to-modernize-little-village-frustrated-residents-say-theyre-tired-of-warehouses-and-pollution.

72. Mauricio Peña, "With Ald. Danny Solis and Ricardo Muñoz Missing in Action at City Hall, Little Village Industrial Plan Stalls," Block Club Chicago, Feb. 8, 2019, blockclubchicago.org/2019/02/08/with-ald-danny-solis-and-ricardo-munoz-missing-in-action-at-city-hall-little-village-industrial-plan-stalls.

the retention and intensification of industrial uses that it calls for conflict with the goals of the *Chicago River Design Guidelines*, resulting in the creation of unwelcoming, unsafe, and ultimately ineffective public space on the South Branch.

Analysis

I found that the *Chicago River Design Guidelines*, the *North Branch Framework*, and the *Little Village Framework* draft interact with each other in ways that collectively produce different barriers to the usage of the river as a public space in the North Branch and the South Branch. These interactions have the effect of treating the South Branch as a sacrifice zone, where industrial activity is consolidated, which deters or prevents access to the river by the public in order to facilitate the redevelopment of the North Branch with minimal impact to the city's industrial economy. Meanwhile, the massive privatization of land on the North Branch filters public access to the river and allows for the gentrification of the surrounding areas. These two processes limit the utility and effectiveness of the resulting public space and contribute to increased inequality between the North and South Branches of the river (see table 1).

The zoning and design of the South Branch area directly contradicts the *Chicago River Design Guidelines*, resulting in the production of public space that is ineffective and oftentimes unsafe to access and use. The guidelines calls for the riverfront to be naturalized with trees and plants when possible and for developments to be set back at least thirty feet from the river, suggestions that serve to better align the aesthetics of the river with those desired of a public park.[73] The intensified industry of the South Branch, however, contains more developments that are exempt from these requirements due to their need to conduct industrial activity,

73. Department of Planning and Development, *Chicago River Design Guidelines*, 30.

Table 1: Facilitators and Barriers to Public Space Access

	Facilitators	Barriers
North Branch	• Natural and aesthetic features • Programming and architecture drawing users to the river • Pedestrianization of streets • Friendly environment for social amenities	• Continued transportation inaccessibility • Emphasis on knowledge-economy workers could limit programming inviting others to the river
South Branch	• Natural and aesthetic features • Programming and architecture drawing users to the river • Pedestrianization of streets • Friendly environment for social amenities	• Heavy industry adjacent to the river • Emphasis on trucks and commercial traffic • Expansion of industrial activity, especially *relocation* of industrial businesses to South Branch from other areas of the city

such as shipping, on the river.[74] Publicly accessible spaces on the South Branch are therefore further from the river and in closer proximity to disruptive commercial activity than corresponding spaces on the North Branch.

The guidelines encourage the development of amenity businesses, such as coffee shops on the ground floor of riverfront developments, to provide sustenance and bathrooms to users of the new riverwalk, as well as to create an experience welcoming to pedestrians.[75] The location of these amenities in private businesses already create a filter (attracting those who

74. Department of Planning and Development, *Industrial Usage of Chicago Area Waterway System* (Chicago: City of Chicago, Mar. 31, 2015), 8–10, www.chicago.gov/content/dam/city/depts/zlup/Planning_and_Policy/Publications/Chicago%20Industrial%20Corridors/Barge_Study_2015.pdf.

75. Department of Planning and Development, *Chicago River Design Guidelines*, 56.

can use them and dissuading others from the area), but the presence of a Planned Manufacturing District in the South Branch explicitly prevents any type of public commercial activity. This contradiction means that users of the riverfront path on the South Branch have extremely limited access to amenities, such as restrooms, making the use of the South Branch for recreation more challenging.

Commercial transportation near the South Branch makes accessing the river for recreation challenging as well. Truck traffic passes through residential streets in the Little Village Industrial Corridor, and community members have expressed concern about pedestrian safety.[76] The *Little Village Framework* draft proposes the creation of an east/west industrial road, which would consolidate truck traffic, as well as bike and pedestrian infrastructure improvements, such as repaired sidewalks and improved bike lanes.[77] Narrow viaducts near warehouses and shipping centers makes reconfiguring roads difficult and prevents the reduction of truck traffic. This occurred in 2021 when the Chicago Department of Transportation removed a bike lane on Halsted Street under the Orange Line viaduct in order to accommodate truck traffic accessing the new Amazon fulfillment center.[78] Existing features of the built environment place commercial traffic in conflict with pedestrian and cyclist access to the river, making the recreational access to the river challenging and dangerous in a way that is insufficiently addressed in zoning policy on the South Branch.

Certain city initiatives, both planned and already in place, seek to make the South Branch friendlier for recreational uses. These include the

76. Department of Planning and Development, *Little Village Framework*, 36.

77. Department of Planning and Development, *Little Village Framework*. 36.

78. Courtney Cobbs, "Dozens of Advocates Protested Halsted Bike Lane Removal for Amazon Warehouse Turn Lane," Streetsblog Chicago, Dec. 30, 2021, chi.streetsblog.org/2021/12/30/dozens-of-advocates-rallied-against-halsted-bike-lane-removal-for-amazon-warehouse-turn-lane.

development of Park No. 571, a city-owned boathouse on the South Branch, which is one of five community rowing clubs that conduct programming. El Paseo, a proposal for a linear park along an abandoned riverfront rail line, has been the subject of community discussion for a number of years, along with the proposed remediation of the Collateral Channel, an offshoot of the South Branch, into parkland. In 2022, however, the city put both of these proposals on hold over concerns of concentrating pedestrians and cyclists in an area with so much truck traffic and air pollution.[79] Pilsen alderman, Byron Sigcho-Lopez, stated: "We want to have an industrial corridor that is in harmony with the residential area," implying that the park proposals are at odds with the current state of the industrial corridor.[80] Current zoning laws and political dialogue establish that the industrial corridors around the South Branch prevent the creation of parkland. Without a significant reenvisioning of the role of industry on the South Branch. the *Chicago River Design Guidelines*, whose goal is to produce privately owned public space, will not be achieved and the area will not be safe, enjoyable, and effective for recreation.

Importantly, the number of industrial developments on the South Branch is growing because the city has offered to help companies move their industrial activity from the North to the South Branch as part of both the *North Branch Framework* and the draft *Little Village Framework* plans.[81] This interaction between the two frameworks has consolidated industry on the South Branch in order to allow for the redevelopment of the North Branch. This has occurred despite community feedback that Southwest Side industrial pollution and truck traffic are endangering

79. Madison Savedra, "Proposed El Paseo Trail on Hold, Southwest Side Aldermen Say," Block Club Chicago, May 3, 2022, blockclubchicago.org/2022/05/03/proposed-el-paseo-trail-on-hold-southwest-side-aldermen-say.

80. Savedra, "Proposed El Paseo Trail on Hold."

81. Department of Planning and Development, *North Branch Framework*, 34.

public health and safety.[82] As a result, one can view the South Branch as a sacrifice zone, where polluting and unattractive activity is concentrated to allow for the redevelopment and restoration of the North Branch. This sacrifice is treated as an environmental victory because it allows for habitat creation on the North Branch, but this portrayal ignores the intensified pollution that the South Branch will experience as a result.[83] Ultimately, the relocation of industrial activity from the North to the South Branch has the effect of widening the gap between the two areas, increasing spatial and environmental inequality within the city.

On the North Branch, the Lincoln Yards development and other nearby projects are slowly transforming the aesthetic of the riverfront, creating a more publicly accessible and park-like environment. This is made easier by the cessation of industrial activity in the area, which means that few developments are exempted from the required shoreline restoration and riverwalk requirements outlined in the *Chicago River Design Guidelines*. Additionally, businesses along the North Branch (Whole Foods, REI, and the Salt Shed) have come to view the river as an asset and financially support area development, such as the Wild Mile.[84] The removal of industry, the relandscaping and naturalizing of riverbanks, and the subsequent cleaner water mean that the appearance and features of the North Branch are increasingly in alignment with public desires for a naturalized riverfront filled with amenities.

The publicly accessible space on the North Branch, however, consists nearly entirely of POPS, which can filter users of the space. Resources popular among knowledge-economy workers, such as coffee shops, outdoor recreation amenities, and concert venues, have emerged on the

82. Department of Planning and Development, *Little Village Framework*, 26; Peña, "As City Rolls Out Plan."

83. Department of Planning and Development, *Wild Mile*, 34.

84. Department of Planning and Development, *Wild Mile*.

riverfront, but the private and consumptive nature of these developments can limit use of the spaces and their amenities.[85] The *North Branch Framework* also requires developers to implement open space in their projects for organized sports and recreation.[86] These areas, which fill a need for spaces to engage in team sports and recreation, would need to be coupled with free programming in order to maximize value to the public. Overall, the North Branch is more accessible to the public than the South Branch and is safer and more enjoyable as a space of leisure. However, the publicly accessible spaces on the North Branch create a high possibility for filtering users by requiring payment to access amenities and programming, which may prohibit access to city residents with limited incomes.

The development of the North Branch has already had an impact on the character and demographics of surrounding neighborhoods.[87] Concerns about displacement and gentrification around areas of redevelopment are well established: in nearby Logan Square and Humboldt Park following the opening of the 606 linear park in 2015, rents increased and residents were displaced.[88] Equally important is the character of the North Branch developments themselves. The North Branch redevelopment was envisioned as an "innovation district," which seeks to incorporate features and amenities that draw highly educated, knowledge-economy workers

85. Department of Planning and Development, *Chicago River Design Guidelines*, 56.

86. Department of Planning and Development, *North Branch Framework*, 52.

87. John Byrne, "Gentrification along Chicago River Worries Longtime Industrial Businesses," *Chicago Tribune*, May 15, 2019, www.chicagotribune.com/2016/09/23/gentrification-along-chicago-river-worries-longtime-industrial-businesses.

88. John Byrne, "Mayor Emanuel's 606 Affordable-Housing Plan Draws Doubts," *Chicago Tribune*, Aug. 12, 2015, www.chicagotribune.com/politics/ct-emanuel-606-housing-met-20150811-story.html.

who will increase white-collar industries in the area.[89] Development on the North Branch regulates demographics by intentionally designing features, such as smaller living areas and larger coworking spaces, that attract knowledge-economy workers. These features and the spillover effects of economic activities within the area displace older people and large families.[90] Development on the North Branch plays a role in regulating the demographics of surrounding areas and the North Branch itself through the selection of amenities and living configurations and the spillover effects of economic activity within the area. As current residents surrounding the North Branch are displaced, they will have to find housing elsewhere, generating economic inequality between the North Branch and the rest of the city.

Ultimately, the *Chicago River Design Guidelines* contradict with the zoning of the South Branch, creating barriers to the use of the river as public space for neighborhoods on the Southwest Side. The redevelopment of the North Branch offers the potential for a publicly accessible, though still private riverfront, but this vision is dependent on intensifying industrial activity on the South Branch, sacrificing environmental and public health outcomes on the South Branch. These relationships show that the Chicago River operates as one system, requiring policymakers to weigh the benefits of an intervention in one area against the impacts on the system as a whole. The zoning contexts on the North and South Branches of the Chicago River have enabled different types of development in each area and have exacerbated spatial, environmental, and economic inequality.

89. Department of Planning and Development, *North Branch Framework*, 3.

90. Katz and Wagner, *The Rise of Innovation Districts*, 12.

Policy Recommendations

With intentionally applied policy, it is possible to successfully transform the Chicago riverfront into popular, accessible public space. Doing so would require transforming the riverfront to be publicly accessible, environmentally safe, and pleasant for users.

Recommendation 1: Create City-Owned Riverfront Parks

The *Chicago River Design Guidelines* for the redevelopment of the North Branch require the creation of publicly accessible space in the form of POPS. While generally providing a benefit, the privatized nature of POPS allows for the implementation of "filtering" mechanisms, such as fencing, the enclosure of amenities, or limiting public restrooms to paying customers of riverfront businesses.[91] The redevelopment of the North Branch has been made possible by the sales of huge city-owned land parcels to private developers. In 2018, Sterling Bay purchased an eighteen-acre city-owned site for $104.7 million that had previously been used by the Department of Fleet and Vehicle Management. The site is now included in the Lincoln Yards development.[92] In order to make access to the North Branch riverfront affordable and enjoyable for the overall population, the City of Chicago should continue to encourage the development of POPS while also prioritizing the creation of public land with such amenities as restrooms, water fountains, and seating that are explicitly available to the public.

In order to achieve this, the city should halt the practice of selling publicly owned riverfront land to private developers and instead transfer ownership of riverfront public land to the Chicago Park District, who

91. Németh, "Defining a Public."

92. Rumore and Ori, "Lincoln Yards."

can administer the land as public space. Figure 8 shows land parcels currently owned by various city departments; two of these parcels, 1220 N. North Branch Street and 1134 N. Branch Street, are on the waterfront. With the addition of restrooms, seating, and signing, these parcels could supplement the presence of POPS on other riverfront properties by providing necessary amenities to the public for no charge. Because these land parcels are already publicly owned, there would be no need to purchase land to create these public spaces, significantly reducing the cost of the project. Should the city continue the practice of selling public land in

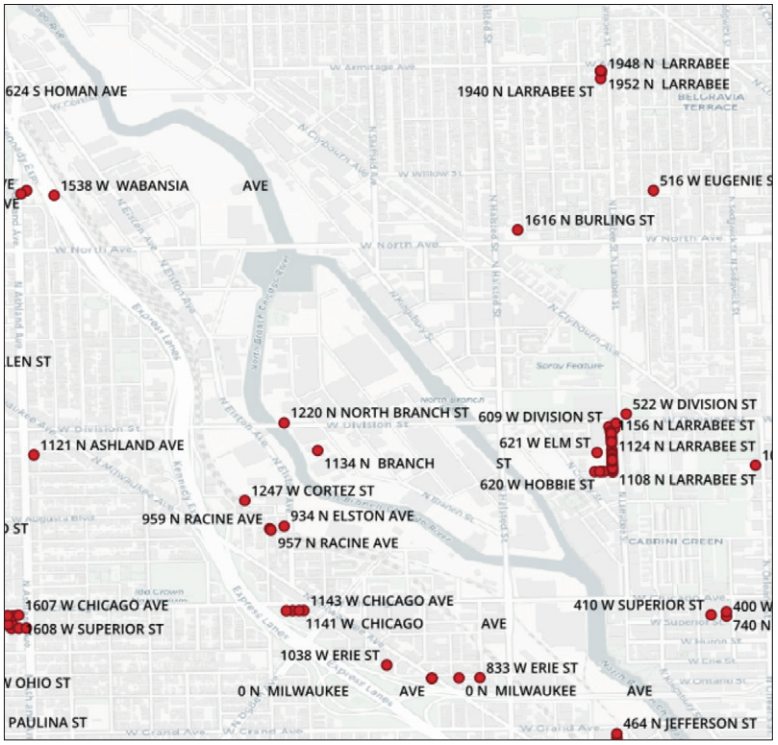

Figure 8: City-Owned Parcels Near the North Branch.
"City-Owned Land Inventory," Chicago Data Portal, accessed Mar. 31, 2023.

the area to private developers, it will lose the opportunity to develop public low-cost space near the river, because it would be forced to purchase the land at a premium caused by the rising value of land as a result of the current development.

The city owns comparatively more land on the South Branch, and the transition away from industrial activity has not accelerated in the same way as it has on the North Branch (see figs. 8 and 9). For this reason, on the South Branch there is greater opportunity for the creation of expansive public river parkways, which could link with POPS to provide more opportunities for river-specific recreation. Because these spaces would be owned primarily by the city, it would have control over their use and could ensure the presence of amenities necessary to recreation without subjecting users to cost-prohibitive private amenities or interactions with industrial activity within the site. The city therefore should commit to the retention and redevelopment of public land on the South Branch, with an eye towards building recreation-oriented spaces.

Recommendation 2: Build Affordable Housing Near Redevelopments

Chicago should take inspiration from Copenhagen and strengthen its affordability schemes and paths to homeownership for housing near the river. The increased cost of housing surrounding the North Branch redevelopment is driving displacement, effects that can be mitigated by affordability schemes preserving access and ownership within the neighborhood for current and future community members. This should be coupled by outreach and free events that will draw diverse groups of community members to the recreational spaces on the riverfront, making the space valuable and accessible to everyone. With a diverse and affordable array of programming coupled with strengthened accessibility schemes, the redevelopment of the North Branch could offer more community benefits while reducing its potential for displacement.

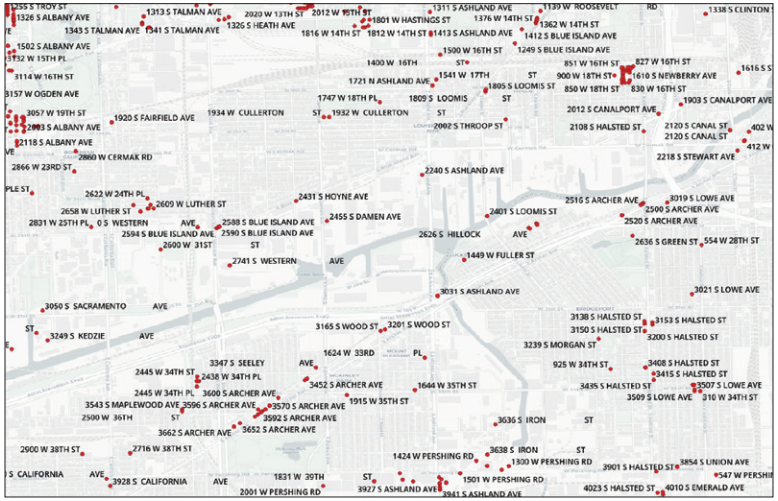

Figure 9: City-Owned Parcels Near South Branch.
"City-Owned Land Inventory," Chicago Data Portal, accessed Mar. 31, 2023.

Recommendation 3:
Separate Commercial Traffic from Public Traffic

One barrier to the creation of parks on the South Branch that has been noted in public discussion is the proximity of the river to industrial activity that would make parkland unpleasant or even unsafe to access and use.[93] This barrier could be addressed by and constructing separate bridges and pathways for pedestrians and cyclists. Currently, accessing the South Branch on foot or through micromobility (e.g., scooters, bicycles) is difficult and dangerous when using roads that are highly trafficked by semitrucks and construction vehicles. Warehouses, logistics centers, and distribution centers occupy much of the riverfront land; the highly securitized and commercial vehicle-oriented nature of these businesses makes finding safe, legal routes to the riverfront difficult. Through

93. Savedra, "Proposed El Paseo Trail on Hold."

the construction of pedestrian and bicycle bridges and pathways, the city could create routes to the river that would enable recreational users of the area to access public space without having to interact with hostile and exclusionary commercial vehicular traffic.

Recommendation 4:
Shift to Green and Electrified Industries

The quality of recreational space on the South Branch could be dramatically improved by reshaping the nature of industrial activity along the river. Today, the South Branch is home to a scrap metal–processing facility, a chicken packaging plant, and other polluting industries. With the current sale of the Damen Silos to MAT Asphalt, the State of Illinois is condoning the intensification of polluting industrial activity on the river. The city and state should work in tandem to implement new environmental policy by requiring industries to be powered by electricity, forbidding the usage and disposal of hazardous material, and restricting noise and emissions levels. The South Branch zone could be transformed by clean industry for a just transition to a more environmentally friendly future that retains the industrial strength of the area. Pairing clean industries with labor organizing would keep jobs for the neighborhood while increasing worker power and would set Chicago up to succeed in an economy shaped by climate change and evolving technologies.

A proposal for such an industrial transformation is laid out by the architecture firm UrbanLab in its design proposal, *Free Water District*. Their proposal takes advantage of Chicago's unique position in relation to the Great Lakes, which together contain 16 percent of the world's fresh water.[94] Chicago's industries have always relied on proximity to the Great Lakes, and diminishing access to fresh water in other areas of the country

94. Sarah Dunn and Martin Felsen, *Bowling: Water, Architecture, Urbanism* (San Francisco: Applied Research & Design, 2017), 50.

could incentivize the relocation of water-intensive industries to Chicago in a way that could minimize consumption and environmental impact if paired with the proper infrastructure.[95] UrbanLab proposes the construction of a large landscaped basin which could collect rainwater and slowly dissipate it into the water system, under which undesirable activities, such as wastewater treatment plants, could be built. When dry, the surface of the basin could also serve as a public space for city residents. In its proposal, factories would be constructed in proximity to the basin and could draw water for free from Lake Michigan, with the stipulation that each factory treat and return their wastewater to the basin (see fig. 10).[96] The basin would be connected to nearby factories, the lake, and the rest of the city with eco-boulevards, streets that facilitate multimodal transportation while also including landscaping that can filter water as it flows from the basin to the lake.[97] Such a project could revitalize the industrial sector in Chicago by attracting businesses that currently operate elsewhere, could ensure that industrial activity in Chicago conforms to environmental regulations, and would allow for the safe use of the Chicago River for leisure.

Some might argue that the transformation of industry near the South Branch could hurt the community by removing an important work sector for area residents. While such a change would likely shift job opportunities, community members have already long advocated for change and have criticized existing industries for failing to provide sufficient wages to area workers.[98] With strong labor organizing and training programs, greener and more electrified industries could employ local residents at higher wages while improving public health outcomes. Were such policies

95. Dunn and Felsen, *Bowling*, 50.

96. Dunn and Felsen, *Bowling*, 50.

97. Dunn and Felsen, *Bowling*, 59.

98. Peña, "As City Rolls Out Plan."

to be implemented in tandem with strategic infrastructure investments (such as those laid out in the Free Water District), they could even be paid for by the business that they could attract to Chicago.

Many components of such a policy approach could be politically appealing from a variety of perspectives, but it would require a comprehensive planning approach that views the Chicago River's distinct regions as operating in complementary relationships with each other and with the city as a whole. In order for this to be achieved, voters must come to see the value of such an approach and vote for legislators accordingly. Projects such as the Wild Mile on the North Branch prove to voters that with proper infrastructure and planning, the Chicago River can feature unique, enriching public spaces. The privatized nature of riverfront land, however, coupled with hostile environments created by fossil fuel-intensive industries, prevent the realization of this vision. By legislating to make more public land on the riverfront and changing the types of industrial activity that take place within the city, the Chicago River could be transformed into a welcoming environment for leisure and community use, while positioning Chicago to thrive in an economy based on greener technologies.

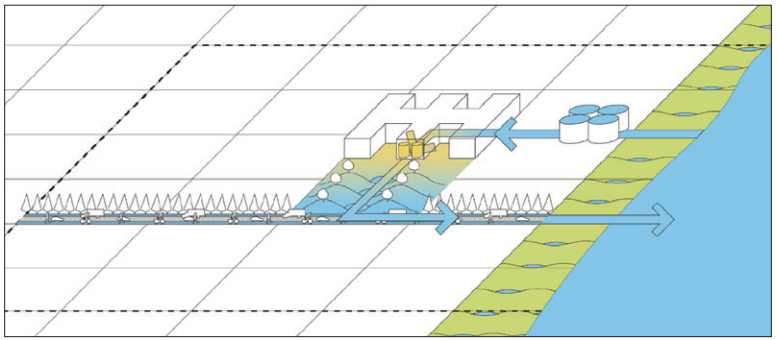

Figure 10: UrbanLab's Free Water District.
"Free Water District," UrbanLab, accessed Apr. 17, 2023, www.urbanlab.com/free-water-district.

Conclusion

This project studied the interactions between the *Chicago River Design Guidelines* and relevant zoning policies on the North and South Branches of the Chicago River to establish how these policies conflict in different ways to create unique pathways and barriers to the formation of public space in different areas of the river. I found that the interaction between the *Chicago River Design Guidelines* and the *North Branch Framework*, combined with the intensification of industrial activity enabled by South Branch zoning designations, has led to the characterization of the South Branch as a sacrifice zone: industrial activity has migrated from the North to the South Branch (a move subsidized by the city government) in order to allow for the redevelopment of the North Branch as a space of knowledge-based work and leisure. As a result, the potential recreational use of the South Branch has been put into conflict with the area's commercial activity, leading to the creation of unpopular and ineffective public spaces and the continuation of unpopular and polluting zoning and commercial policies. These findings are relevant to local planning policy in Chicago and have implications in the broader repurposing of postindustrial spaces in cities worldwide.

Based on these findings, it is clear that the effects of intensive fossil-fuel industries on urban waterfronts conflicts with waterfront recreation. As seen on the South Branch of the Chicago River, the presence of both types of developments can lead to unhealthy or unsafe leisure areas and ultimately ineffective public space creation. The North Branch shows, however, that ceasing industrial activity is not the only step that must be taken to create enriching public spaces on urban waterways. Care must be taken to ensure that the resulting spaces are accessible and enjoyable to the public without the "filtration" that can occur in privately owned spaces. The example of Copenhagen shows that, when coupled with social policy that protects housing affordability, the creation of new public spaces can offer civic benefits without widespread displacement of residents.

Cities are entering a new technological era, dominated by more environmentally friendly technologies, such as electric vehicles and renewable energy sources. These technologies offer the potential to recharacterize industrial spaces that are currently harmful to people and wildlife as ecological havens, allowing cities to be greener and more biodiverse. The Chicago River, especially on the South Branch, has the potential to serve as an example for a new paradigm of urban rivers, one that combines social and legal protections for workers and housing, new technologies, and urban and landscape design to make a river that is welcoming to all Chicagoans for a wide range of recreational, ecological, commercial, and transportation-related uses. ❍

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