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## Remediating Sunset Park. Environmental Injustice, Danger, and Gentrification

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### Abstract

This paper examines narratives from users and designers of a recently opened public park created via brownfield remediation processes on a historically industrial urban waterfront in the Sunset Park neighbourhood of Brooklyn, New York City. Interviews reveal that designers and community members were pivotal contributors to the transformation of a site that was previously associated with danger and toxicity into something of greater ecological and social value. Designers' visions played a key role in subsequent user experiences in the park, but community input and struggle both sparked, and drastically altered, the park's design trajectory in an effort to claim the park as a neighbourhood asset and limit the degree to which it would contribute to displacement of existing residents. This project is unique because it is a publicly funded remediation of a municipally-owned contaminated site, yet initial project designs were geared toward on-site revenue generation to fund operations. Two broad implications of this study are (a) projects of this nature can represent a paradox of activism in that it is unclear how far community activism can go to address the systemic problems associated with environmental gentrification and (b) there is a need for studies of environmental gentrification to take a granulated approach to the positive and negative aspects associated with these spaces rather than look at them as more holistically positive or negative endeavours. The multiple scales of ambiguity and ambivalence that emerged from this study are emblematic of the dynamics associated with brownfield remediation, green space creation in historically underserved communities, and environmental gentrification.

**Keywords:** parks, environmental gentrification, brownfield remediation, waterfront revitalization, environmental justice

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## 1. Introduction

The remediation of urban waterfronts into green spaces provides a valuable opportunity to examine the convergence of many factors, key among which are the provision and function of public spaces, the intersection of human and ecological systems, and the changing demographics of urban centres via processes of environmental gentrification. In New York City, many waterfront spaces have undergone rapid transformation into publicly accessible green spaces in the last two decades, including Brooklyn Bridge Park, Governors Island, and Hudson River Park, among others.

Development efforts along the New York City waterfront are not limited to publicly accessible park space. In fact, waterfront initiatives in the city include building “luxury residential towers, cruise ship terminals, high-end retail, and high-value added production to replace the obsolete industrial infrastructure that defines much of New York City’s 520-mile waterfront” (Hum, 2014). A signifier of a concerted effort to reshape the city’s waterfront was released under Mayor Michael Bloomberg with *Vision 2020: New York City Comprehensive Waterfront Plan*, which included the stated goals of expanding public access, supporting the working waterfront, restoring the natural waterfront, and increasing climate resilience, among others (New York City Department of City Planning, 2011).

But how do these changes relate to the people living in and near these areas?

Remediation of such environments forces reconsideration, and a potential collective re-envisioning, of what the spaces in question should be and who they should serve. Harvey (2008) argues that the “quality of urban life has become a commodity,” and that cities today provide an “aura of freedom of choice, provided you have the money” (p. 31) to patronize the shopping malls, restaurants, and marketplaces provided therein. Harvey describes this process of commodification as manifesting in the built form through *fortified fragments* such as gated communities and privatized public spaces formed via mechanisms of *creative destruction*, whereby it is “the poor, the underprivileged and those marginalized from political power that suffer first and foremost” (Harvey, 2008: 33).

This paper focuses on one brownfield remediation project on the Brooklyn waterfront that involved the transformation of abandoned shipping piers into a waterfront public park, Bush Terminal Park (see Figure 1). Interviews with park designers and park users in the months following its public opening reveal that designers and community members were both pivotal contributors to the transformation of a site previously associated with danger and toxicity into something with greater ecological and social value. The designers’ visions played a key role in subsequent user experiences in the park, but community input and struggle both sparked, and drastically altered, the park’s design trajectory in an effort to claim the park as a neighbourhood asset and limit the degree to which its presence would contribute to gentrification. Findings from this study aid understanding of the complex relationships between brownfield remediation, green space creation in historically underserved communities, and environmental gentrification.

### 1.1. Brownfield Remediation

A myriad of public and private practices in the twentieth century in the United States of America left many neighbourhoods deeply divided along racial and economic boundaries. As Checker (2019) describes, one of the key mechanisms that proliferated such divisions was so-called *redlining* following the Great Depression, wherein federal and private banks systematically segregated neighbourhoods through refusals to insure mortgages to people

of color in white neighbourhoods. Additionally, federal funds for infrastructure were frequently steered toward white suburban areas, which left poor people of color disenfranchised, often in urban areas with high concentrations of industrial facilities. The combination of the structural transition away from a manufacturing-based economy and environmental legislation in the 1960s and 1970s then led to drastic job losses in such communities, yet the noxious remains of previous industrial uses remained. Quantitative analyses of the locations of hazardous sites in the United States indicate they are more common in minority areas today, even if the links between poverty and such hazards are more nuanced (Campbell et al., 2010; Ringquist, 2005).



Figure 1. Bush Terminal Park in relation to the Sunset Park neighborhood, including the Brooklyn Army Terminal, Brooklyn Marine Terminal, Gowanus Expressway, and Sunset Park (The City of New York, 2009, p. 9, modified by the Author). Note: The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations.

In sum, during the last half of the 20th century, people of color in urban areas faced environmental pollution, as well as job instability, ever-diminishing public benefits, rising crime, and a host of other racial barriers to opportunity. (Checker, 2019: 6)

One aspect of the fallout from deindustrialization in the United States is a patchwork of vacant and contaminated industrial sites, or *brownfields*. The US Environmental Protection Agency (EPA) estimates that there are more than 450,000 brownfields in the United States, a result of so many industrial areas that are no longer operational, yet remain unremediated (United States Environmental Protection Agency, 2014). The formal definition of a brownfield is a real property for which “the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant” (*Small Business Liability Relief and Brownfields Revitalization Act, 2002, sec. 211*). Brownfields range in scale and degree of toxicity from former small businesses such as gas stations and dry cleaners to large industrial facilities. Common pollutants at brownfield sites include asbestos, lead,

petroleum, polychlorinated biphenyls (PCBs), and other volatile organic compounds (VOCs) (Eckerd and Heidelberg, 2015). Once abandoned, brownfields are also often associated with further deterioration of environmental quality through illegal dumping (DePass, 2006). Abandoned contaminated sites risk leaching toxic chemicals into the air and groundwater, and they are also associated with depreciations in surrounding land values and increased joblessness (Leyden et al., 2011 in Eckerd and Heidelberg, 2015). In this paper, I use the term brownfield as defined above, with an understanding that there are important distinctions between contaminated site remediation projects that (a) emphasize private sector development incentives, (b) are Superfund sites (those where the federal government is generally involved), and (c) are publicly owned and publicly funded, such as the subject of this study (United States Environmental Protection Agency, 2013).

An early attempt by the federal government to address brownfields was the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), which was a regulatory law primarily geared toward providing federal assistance to locating and holding accountable the entities responsible for creating brownfield conditions (Eckerd and Heidelberg, 2015). But this approach is often met with limited success because the original entities frequently no longer exist by the time compensation is sought. Many brownfield sites that are ultimately successfully remediated involve a combination of public and private funds on otherwise valuable land.

A 2002 amendment to CERCLA was designed to further encourage private brownfield remediation through a combination of regulatory relief, tax-related incentives, and expedited permitting (Eckerd and Heidelberg, 2015; Haninger et al., 2012). But the fact that so many successful remediation projects involve government incentives and private investors could be an indication that many projects that move forward with remediation activities are already attractive development opportunities, while those that are seen as less lucrative might remain neglected.

The goal of a market approach is to make remediation more attractive to the market by making redevelopment more profitable, but private developers are not inclined to take on a particularly complex remediation project unless the land has high potential value and quality infrastructure. (Eckerd and Heidelberg, 2015: 254)

If this is the case, Eckerd and Heidelberg argue, remediation projects might often prioritize economic development in place of addressing health and equity concerns. Their conclusions align with previous research indicating that relief from liability, market-based incentives, and less contaminated sites are key drivers of developer interest in potential remediation projects (Alberini et al., 2005; McCarthy, 2009). Eckerd and Keeler (2012) also find that while brownfield sites are commonly located in poor and predominantly minority communities, the sites in minority communities are typically cleaned up more slowly. DePass (2006) and Pearsall (2010) argue that brownfield redevelopment projects should address the social issues of surrounding communities in addition to the direct environmental concerns, and that community members who have historically borne the risk of exposure to contamination ought to share in an equitable, or proportional, degree of benefits associated with remediation.

### 1.2. Environmental Sustainability and Environmental Gentrification

Sustainability, or *greening*, initiatives are common and broad classifications of efforts to address environmental issues in urban environments. A frequently cited early formalization of the concept of *sustainable development* originates from the United Nations World Commission on Environment and Development, often referred to as the Brundtland Report, which states that sustainable development is that which “meets the needs of the present without compromising the ability of future generations to meet their own needs” (World Commission on Environment and Development, 1988, ch. 4, para.1). A key consideration in the Brundtland Report and subsequent refinements is that *needs* should be prioritized relative to the world’s impoverished and historically disenfranchised groups (United Nations General Assembly, 1992).

Despite the foundational definitions of sustainability as interwoven with addressing the needs of impoverished and disadvantaged communities, a failure to address equity “pervades most ‘green’ and ‘environmental’ sustainability theory, rhetoric, and practice” (Agyeman, 2013: 4). Ecological benefits may come through the implementation of urban sustainability-oriented initiatives, but the creation of such environmental amenities is often associated with attracting wealth and displacing low-income residents and businesses.

For example, sustainability initiatives and urban environmental amenities were essential elements of New York City Mayor Michael Bloomberg’s effort to develop a cohesive *brand* for the city upon taking office in 2002, utilizing the argument that New York City was worth the high costs of living and doing business. As such, Bloomberg’s administration courted specific industries that “held to be well suited to take advantage of the city’s ‘value proposition’ (e.g., biotechnology, pharmaceuticals, tourism, and media)” (Brash, 2011: 115). One of the primary vehicles for accomplishing this goal was prioritizing the development of amenities to make the city more attractive to those industries and the people who worked within them. Michael Bloomberg has been widely criticized for supporting policies and development patterns in an effort to transform New York City into a *luxury city*, thereby making it a less livable place for those not associated with what Brash describes as the *Transnational Capitalist Class* (TCC) and the *Professional Managerial Class* (PMC) that support them (Brash, 2011).

The formalization of Bloomberg’s strategy for approaching environmental concerns in city came through *PlaNYC: A Greener, Greater New York* (2007), which identified environmental goals across multiple categories and explicitly called for remediating the city’s brownfields and repurposing them for contemporary uses, as well as increasing park access across the city. One initiative that followed PlaNYC was the City’s Brownfield Cleanup Program (BCP), which was intended to serve as a more accessible form of funding and assistance to developers and investors than were typically served by the federally analogous program launched in 1995 (New York City Mayor’s Office of Environmental Remediation, 2010). As Checker (2015) argues, many of the measurable environmental goals outlined in PlaNYC were “ultimately linked to – and frequently served – its real estate agenda” (p. 166). The BCP, in particular, was responsible for several highly controversial redevelopments in New York City, many of which were associated with luxury commercial and residential development (Checker, 2015).

Because so much of New York City's waterfront is comprised of antiquated industrial uses, there is potential for a radical transformation of waterfront infrastructure and buildings into new amenities that address environmental concerns and spur economic growth. However, while the opportunities are abundant for addressing extensive environmental challenges through waterfront revitalization and brownfield remediation, many residential communities that surround and are interspersed within these areas are dominated by historically low-income, working-class people of color.

A tremendous risk to existing communities that accompanies environmental remediation is the loss of affordability that comes with improved aesthetic qualities and rising land values. Such transformations support gentrification, which is a process whereby new residents (typically young, white professionals with higher education and income levels) replace disproportionately low-income, working-class residents from "older and previously deteriorated inner-city housing in a spatially concentrated manner" (Marcuse, 1985: 198–199). Smith (Smith, 2002) describes gentrification as a key aspect of neoliberal urbanism, which is fueled by a "systematic partnership of public planning with public and private capital" (p. 441) organized to fill a void left in the absence of liberal urban policies and oriented toward highest immediate returns instead of regulating the direction of economic growth.

The development of green amenities, particularly those associated with brownfield remediation sites, could support *environmental gentrification*, which Checker (2015) defines as a relationship between upscaling low-income neighborhoods and reducing environmental burdens therein with "green initiatives that appeal to elite ideas about 'livability'" (p. 159), such as parks, bike lanes, and farmer's markets. Checker argues that many urban sustainability redevelopment initiatives risk supporting environmental gentrification, wherein efforts to improve neighborhood quality are co-opted to attract more affluent residents, the reduction of environmental burdens in one neighborhood lead to their concentration in another, and environmental concerns become framed as technical concerns solvable largely through private investment.

Brownfield redevelopment projects, in particular, are linked with gentrification and displacement of people of color (Essoka, 2010). Gould and Lewis (2017) describe how *greening* initiatives in neighborhoods are one of the first steps toward gentrification often undertaken by what they describe as the *green growth coalition*, a network of elite politicians and real estate developers that advocate for greening and subsequently reap the rewards.

*There is no doubt that urban greening and sustainability initiatives are necessary to address environmental issues, especially climate change. However, without policies that are attentive to the social justice aspects of sustainability, greening leads to great inequality, and adds credence to claims of environmentalism and environmentalists being elitist. (Gould and Lewis, 2017: 4)*

The case under study in this paper is particularly interesting because it is a remediation project that did not rely on the more common private development incentives to spur remediation and redevelopment, but it was nonetheless initially planned as reliant upon public and private funding in construction and operations, respectively.

## 2. Method

### 2.1. Study Area

#### 2.1.1. Sunset Park

The Sunset Park neighborhood of Brooklyn, located near the western edge of the borough and south of Greenwood Cemetery, is named after a 24-acre park that was constructed in the 1890s atop a hill at the center of the neighborhood. From its apex, the park offers views of much of the city and serves as a heavily trafficked center for recreation. The neighborhood around the park has transformed through a series of waves of immigration throughout the history of New York City. Dutch settlers first came to the area in the 1600s and employed African slave labor to establish farmlands along the waterfront. Beginning in the early 1800s, subsequent waves of immigrants from Ireland, Norway, Finland, Poland, and Italy arrived in search of employment opportunities along the industrializing waterfront (Hum, 2014). Many of the large population of Norwegians in Sunset Park were engaged in maritime-related jobs such as shipbuilding and sailing even as late as the 1940s.

Neighborhood demographics shifted again in the 1950s and 1960s with new Puerto Rican residents, and Sunset Park has been a majority Latino neighborhood since the 1970s. However, each decade since has seen a substantial growth in Asian residents, which increased from 21.8% to 33.8% from 2000 to 2015, while the Hispanic population decreased from 47.9% to 38%. The percentage of white residents has remained relatively stable during this period, between 23% and 24.3% (NYU Furman Center, 2017).

One key moment in the industrialization of the Sunset Park waterfront was the construction of the Bush Terminal complex, spearheaded by Irving T. Bush in the 1890s. Once fully developed, the then highly innovative manufacturing, warehouse, and port facility consisted of 118 warehouses with 25 million cubic feet of storage space, eight piers, an internal railway system, and other industrial facilities (Hum, 2014). Bush Terminal employed tens of thousands of residents and was the busiest, and largest, facility of its type in New York City (Ment, 1980 in Hum, 2014).

Bush Terminal facilities were designed prior to the advent of containerized shipping methods, and thus the campus was largely unable to compete when modern shipping facilities were constructed in New Jersey. These changes, along with drastic shifts in the broader industrial composition of the United States, led to substantial economic declines along the Sunset Park waterfront and in surrounding neighborhoods. By 1969, both the Brooklyn Army Terminal and Bush Terminal piers had closed.

Another key component in the depression of the Sunset Park neighborhood was the 1941 construction along Third Avenue of the Gowanus Expressway, and its elevation and widening in the late 1950s. While the expressway has been credited with supporting industrial activity on the waterfront, it created a stark physical separation between much of the residential neighborhood and the waterfront, and deeply disrupted an established business and cultural district along Third Avenue. Sunset Park was designated a federal poverty area in 1964, the same year that the Verrazano-Narrows Bridge to Staten Island opened, which further facilitated white flight from the area (Gould and Lewis, 2017).

In the following decades, low housing costs attracted new immigrants, many of whom came from Latin America and Southeast Asia. Today, the neighborhood has a population

of 149,773 and a poverty rate of 31.6%, with median household income in 2015 of \$45,710 (in 2016 dollars), which decreased from \$48,870 in 2000. Changes in real estate values, however, are reflective of the broader changes in New York City, as median single family home prices increased from \$346,340 to \$1,197,500 from 2000 to 2015 (NYU Furman Center, 2017).

### 2.1.2. Bush Terminal Park.

The focus of this study is Bush Terminal Park, a waterfront park situated on the site of the former Bush Terminal complex. After years of community-driven advocacy, and subsequent remediation and construction, the park opened to the public in November 2014.

Following the closure of the Bush Terminal complex in the 1960s, the City of New York Department of Ports and Terminals contracted with a private company in the 1970s to fill the areas between the piers for the eventual purpose of constructing storage and parking facilities. However, this activity stopped after several years due to concerns about the nature of the fill material. It was later determined that illegal disposal of liquid wastes such as oils, sludges, and waste waters occurred on the site during the fill period, leading the City to secure the property and begin a series of contamination investigations from the 1980s into the early 2000s (New York State Department of Environmental Conservation, 2004). Along with other community residents, a local Latino community-based environmental justice organization, UPROSE, began advocating for the construction of a park on the site in the 1990s (Gould and Lewis, 2017).

Following years of community activism and planning, the Bloomberg administration announced in 2006 \$36 million in funding from a combination of federal, state, and city sources for the remediation of the site and construction of a recreational park (Fried, 2006; New York City Office of the Mayor, 2006). As constructed, the park is located within a commercial complex that is owned by New York City and under the jurisdiction of the New York City Department of Small Business Services (DSBS) (New York City Department of Parks and Recreation et al., 2014). Moreover, the Bush Terminal complex is administered by the New York City Economic Development Corporation (NYCEDC), so NYCEDC coordinated the park design and construction process, but the New York City Department of Parks and Recreation (DPR) took over operations following its opening to the public (New York City Department of Parks and Recreation, 2014).

In October 2014, as Bush Terminal Park neared opening to the public, representatives of DSBS, NYCEDC, and DPR signed a memorandum of understanding with an initial term of 20 years that established DPR as responsible for park maintenance and operations.

However, the agreement also states that, in addition to other responsibilities, NYCEDC would provide an annual maintenance payment to DPR that could only be used for the park itself (New York City Department of Parks and Recreation et al., 2014).

Bush Terminal Park participated in New York State's Environmental Restoration Program (ERP), wherein the state provides grants to municipalities for the purpose of site investigation and remediation of eligible brownfield sites. For a site to be eligible to participate in the ERP, it must be owned by a municipality or at least jointly owned between a municipality and a not-for-profit corporation, among other requirements. The ERP is distinct from other programs administered by the state, including the State



Superfund Program (SSF) which functions as an enforcement program, and the Brownfield Cleanup Program (BCP), which is designed to enhance private-sector remediation of brownfields largely through brownfield investment incentives to private developers in the form of tax credits for remediation and development (New York State Department of Environmental Conservation, 2006).

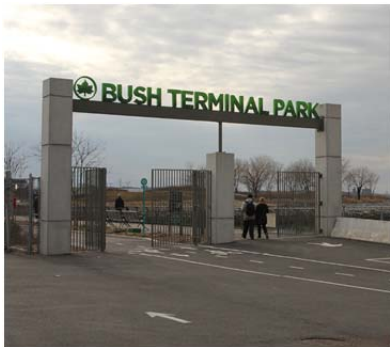
Remedial construction began at the site in August 2009 and the Certificate of Completion is dated May 28, 2015 (New York State Department of Environmental Conservation, 2018). According to the Site Management Plan developed by the environmental engineering firm that conducted the testing and remediation of the site, soils and fill materials, as well as groundwater and sediments, were impacted by the presence of polycyclic aromatic hydrocarbons (PAHs) and metals. Methane was also present in soil gases on the site. “As a whole, the petroleum-related compounds, solvents, PAHs, and metals detected in the environmental media at the site are consistent with the alleged dumping of plating wastes and oil sludges at the site during the 1970s” (TRC Environmental Corporation, 2014: 1-7).



Figure 2. Composite aerial photograph of Bush Terminal Park (Bluesky et al., 2016, modified by the Author). The image illustrates the single point of entry to the waterfront park through the Bush Terminal industrial campus following the park's initial opening to the public. Major features of the park include two athletic fields, a comfort station, the protected natural area, and tidal pools.

## Remediating Sunset Park

The site remediation process first included *deep dynamic compaction* (ibid: 1-5) in 2006 wherein a 6-foot diameter, 15-ton concrete tamper weight was dropped repeatedly from 50-foot heights to reduce site grades and future settling potential. The key remediation strategies employed thereafter included: (a) a one- to two-foot cover system of soil, concrete, and turf across the site; (b) a riprap stone cover system to stabilize the shoreline; and (c) a passive landfill gas management system. No soil or contaminated landfill materials were removed from the site as a part of the remediation, as the remediation strategies were designed instead to reduce the possibility of human exposure via containment of existing contaminants (with the exception of methane) (TRC Environmental Corporation, 2014).



A. Park entry gate



B. Entry pathway



C. Tidal pool and hill



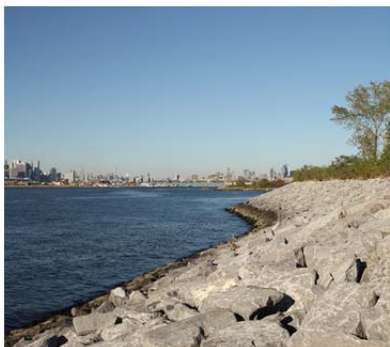
D. Athletic field entry



E. Tidal pool, jetty, and city view



F. Athletic field



G. Western edge of the park



H. Comfort station



I. Protected natural area

Figure 3. Photographs of Bush Terminal Park (all pictures by the Author).

Design features of Bush Terminal Park as of its opening included two large synthetic turf playing fields, tidal pools, a *protected natural area*, a rip-rap stabilized jetty, a comfort station (with bathrooms, storage, and staff offices) constructed from repurposed shipping containers, open green space, and walking and bicycle paths (see Figures 2 and 3).

Notably, the park opened with only one point of entry, which required users to enter the Bush Terminal commercial campus at 43rd Street and First Avenue and navigate through the campus toward the Brooklyn waterfront before entering the park.

Bush Terminal Park is an ideal site for this study because it is a newly opened waterfront park made possible through the remediation of an existing waterfront brownfield site. The Sunset Park industrial waterfront is also unique because zoning designations protect the commercial character of much of the waterfront area and the NYCEDC, which manages much of the land in the area, has a commitment to shaping a so-called *sustainable urban industrial district* on the waterfront in the years to come (Hum, 2014; The City of New York, 2009). Bush Terminal Park stands in stark contrast to another recently constructed Brooklyn waterfront park to the north, Brooklyn Bridge Park, which controversially relies upon commercial and high-end residential development to fund its construction and operations, and in doing so serves as one manifestation of public park financial self-sufficiency increasingly common in New York City following the city's fiscal crisis in the 1970s (Benediktsson, in press).

## 2.2. Field and Analytical Methods

I conducted field work on the site beginning in late spring 2015 into spring 2016. In addition to participant observation at the park and review of historical documents, the primary data for this study are semi-structured interviews with park users ( $n = 16$ ) and landscape architects ( $n = 4$ ), including one representative of NYCEDC who worked on the design of the park at various stages from the project's inception through construction (Low et al., 2005). Adult park users were selected to represent a variety of user types in terms of group size, activities, and demographics. Landscape architects were selected from a small pool of individuals who worked directly on the project, and included both senior leadership and project managers.

Interviews with park users ranged from five to 20 minutes and included open-ended questions about how users feel about the park, how they use it, and their impressions of the neighborhood as a whole. Interviews with landscape architects were at least one hour long, conducted at their respective offices, and structured around design choices, processes, and constraints, as well as their perspectives on the role the park serves in the neighborhood. I used a narrative analysis framework to analyze the interview data (Daiute, 2014).

There are notable differences between the respective natures of my interviews with park designers and users. The designers I spoke with all had years of experience working on the project at various stages throughout its design and construction, so my interviews with them were geared toward eliciting narratives that would communicate historical accounts of the park creation and the values and perspectives they took to the process. In contrast, park users I interviewed varied considerably in terms of their historical involvement with, and even knowledge of, the park. In many cases, users I interviewed had only recently learned about the newly opened park at the time of interviews.

With this difference in mind, I do not intend to present designer narratives as unquestioned historical fact in contrast with users' expressed experiences. I do consider the histories described by park designers, but with the knowledge that they are constructed narratives. The selection of these groups as primary units of analysis for this study is worthwhile because they reflect common dynamics in urban design, and I analyze the narratives with the intent of exploring alignments and tensions in their perspectives about the Sunset Park neighborhood, visions of what the park could be, and how it was implemented. All research associated with this study was conducted following review and approval of the research protocol by The City University of New York's University Integrated Institutional Review Board (IRB File #2015-0527).

### 3. Results

#### 3.1. Remediation Visions: Fears and Desires

##### 3.1.1. Recent history of fear and toxicity

The creation of an entirely new publicly accessible green waterfront park provides residents a unique opportunity to engage in new activities and imagine new futures. It was common for park users to describe the new park as a space that contrasted starkly with their memories of the neighborhood in decades past, particularly in relation to fear and toxicity. For example, some users spoke of a general sense of danger that previously permeated the neighborhood, and how it was common to cluster into groups in and around their homes to form a kind of bubble of security in an otherwise unsafe place and time.

*But when I grew up, I grew up, I was born in this area and, uh, there were a lot of gangs in this area. In the 50s and the 40s, and there was a certain area you knew not to go here, you knew not go to there because if you went there by yourself, you were in trouble. But where I grew up ... there was a bunch of guys that we all hung out together and it was like our little safe zone. You didn't go past that.*  
(User #8)

The narratives of fear were often described in relation to space – areas outside of the home or beyond a certain number of blocks were often imbued with danger. But these boundaries were not entirely rigid or impermeable, and fear was also described in both narrow and broad temporal terms, as though it was simply a time of fear that people were living through.

*But in the sixties? You were petrified. When I came home when I was a kid from school. It was six o'clock. We were terrified until I got home. Checking the door and the windows. I mean, we had in where I grew up in my, in our house, we had maybe a ten times burglaries. My sister once opened the closet and somebody was there. So it was different, in the sixties it was terrible. Terrible. Today it's, I tell my kids all the time, "You don't even ... you have no idea what we went through." We were living in fear.*  
(User #7)



The deindustrialized waterfront of Sunset Park was remembered as particularly dangerous, due to the combination of abandoned facilities and remnant toxic chemicals. One park user recalled what is today the site of Bush Terminal Park, after it had been closed to the public but prior to redevelopment:

*I used to break bottles and throw things in here when I was a kid ... Oh, this was basically a dump. This was a dump, an industrial area. It had a lot of toxic waste back here ... They used to port, and there's a lot of oil, propane tanks, so there was a lot of toxic, a lot of toxic waste ... When I was a kid, yeah, if I hopped over the fence, but I got chased by the security guards. (User #15)*

### 3.1.2. Designer remediation visions: Environmental and social remediation

The combination of historic crime, toxicity, and limited park space and waterfront access in Sunset Park made clear the potential benefits of remediating the space and creating a new waterfront park. Community-driven advocacy is largely credited for launching the process for creating the park and keeping pressure on the city to keep the project moving forward, but the perspective of landscape architects active in the park's design inevitably effect the ultimate user experience. When asked to describe what they felt were important features of the park, several themes emerged from the designers. The most common themes were desires to create a *natural* feeling place that would allow users to escape the city and foster a sense of connection to *the environment* by being in the park.

The community outreach process led to the inclusion of large athletic fields on the site, but one designer expressed that they would have preferred not to dedicate any space to active recreation:

*Well, yeah, what I wish it could have done is that it didn't have sports on the waterfront to take up a very valuable waterfront space. Um, and that it was a much more environmentally-oriented place. [Interviewer: And what does that mean to you?] Well, that it was much more about how an urban park can reflect the original environment of New York City, that it became, there were other activities besides soccer and baseball for kids to do, um. [Interviewer: Like what?] Boating, uh, restoring – restoration of the environment, um, non-active, I mean non – a different kind of recreation than that. (Designer #3)*

Some designers also attempted to position park features relative to iconic elements of New York City. For example, a small hillside was formed to create views of Manhattan and highlight the park's position on the waterfront.

*So these lines are very deliberate, the trees were planted in lines in deliberate places as well as our platforms ... we're all gearing it out toward the Statue of Liberty and the, and the harbor ... And then our benches, instead of being random through here, we really focused them out toward the water's edge so the view is right where you want to be. You want to be at the water's edge. (Designer #1)*

I also asked the park designers about who they felt the park was designed to serve. In contrast to other waterfront parks in New York City, such as Battery Park and

Brooklyn Bridge Park, for whom attraction of tourists and functioning as a destination park was a key consideration, the designers described Bush Terminal Park as intended primarily as a neighborhood park.

... The scale of it, I think both and the facilities, the way they were envisioned were really, um, designed to be a community amenity so that kids in the neighborhood with their parents and school groups and what-not would be able to come to the park and use it ... if they have a picnic, a company picnic or a class picnic or a ball field, uh, ball game, or different leagues. (Designer #1)

### 3.1.3. Amenities and operations plan

Interviews with landscape architects for the project revealed that initial plans for the park project included a long list of elements not eventually constructed, such as a miniature golf course, a banquet hall, and an ice skating rink. There was also a plan to operate the park under NYCEDC as opposed to DPR. Many park amenities would have been revenue-generating entities whose operations were designed to cover the cost of park operations, which would be necessary under NYCEDC management.

*Well, that was one of the changes, is that originally, the idea of this master plan was that there would be an alternative maintenance methodology set up that would be more of a public-private partnership so that whatever sort of entity was set up to work on the park that it would remain in EDC's hands, but would be funded through various, five, various facilities that were built on the site. (Designer #3)*

However, the designers said plans to construct amenities that would charge admission fees or generate revenue for the park through other means were met with resistance in the community outreach process.

*"They didn't want to feel like their park was being, that they would have to, they'd have to get a permit and pay to play in their own neighbourhood park" (Designer #4).*

According to the designers, following this the park was slated for operation by DPR as opposed to NYCEDC, as DPR could draw from its city-wide operations budget to maintain the park without requiring on-site revenue generation. However, according to one designer, while NYCEDC management would have brought with it the need for on-site revenue generation, it also would have had the capacity to provide additional amenities because the revenue from their operations could be directly applied to the operations and maintenance of the park. Under DPR management, in contrast, revenue generation was not required for operations, but there would be much less financial support of the park on an ongoing basis, necessitating a drastic scaling back of design plans.

*I don't know if the community realized or cared that the quality of what was happening on the site was going to change because the Parks Department doesn't have a funding stream to maintain things. They just don't have a funding stream. (Designer #3)*

### 3.2. Remediation Realities: An In-Between Park

The designs that emerged following plans for DPR operations took on the general characteristics of the park as eventually constructed. Even so, many planned elements were not constructed at the time of the park's opening, including an environmental education center, an overlook, variation in the hardscaping, additional seating, parking, and extensive access points. The landscape architects described various reasons for the reduction in scope, which included higher than expected construction estimates and reduced funding availability primarily as a result of cost overruns associated with the remediation process. The end result was a park with very basic design elements, to such a degree that many park users described it as feeling incomplete or constructed cheaply. Notable negative attributes of Bush Terminal Park users described include limited seating, insufficient shade and access, a failure to provide playground space for young people, and a general sense that the park construction was incomplete or inadequate.

#### 3.2.1. Limited access

If Bush Terminal Park feels to some users as though it is only partially implemented, then its strained connection to the surrounding neighborhood further emphasizes the park's unorthodox nature. Bush Terminal Park is located inside a commercial campus within a largely commercial neighborhood that is separated from the bulk of nearby residences via the Gowanus Expressway. Moreover, at the time of its opening, the park had a single entry path through the Bush Terminal campus, with limited signage and parking. As such, park users commonly referred to challenges accessing the park.

*Well, the first time I walked here, I walked actually from my place. I walked down south, I found the piers over there and then I started walking this way on Second Avenue knowing that there was a park here, and I like, tried to go through. I saw the fields and I was like, "Oh, wow, what is that?" I actually went on that like, depot over there. So I had to walk all the way around until I found the entrance. (User #14)*

Designers of the project generally echoed these concerns, but said they felt pressured by budgetary constraints as well as logistical issues related to safety and security associated with the surrounding Bush Terminal campus and its active rail lines.

*So, you know, it was a great place, in that it provided land. But there was no real political forward thinking, resolution, to any idea of how it was going to function. Because, basically, the entire Bush Terminal is not public, yet you've got to somehow get the public into this place so they can use it. And it was kind of like saying, "Here's this park, but good luck getting there." (Designer #2)*

#### 3.2.2. Protected natural area

Another oddity that exemplifies the physical manifestation of challenges associated with remediating an industrial brownfield into a public park is the *protected natural area* along its western edge. Prior to remediation, much of the site was densely covered with trees and plants that had grown during its period of inactivity.

*Before anybody did anything with this site, it was amazing looking. It looked like, I mean, if you were in a boat, you would go by this area that looked like it was primeval forest. I mean, it was probably kudzu vine, but it was, it had been closed for umpteen years and it just naturally grew up with all sorts of viable plants as well as garbage, but it was a huge – I mean there was so many birds here, it was just amazing. And so we were really trying to keep some of that. (Designer #3)*

There was an idea among designers that the trees growing on this otherwise contaminated site were symbols that “nature was taking it back” (Designer #1). The designers also indicated that DPR wanted to avoid cutting down trees on the site, and furthermore, desire among community members to maintain the trees in this area is recorded in the remediation Record of Decision (New York State Department of Environmental Conservation, 2004). However, one of the primary methods of brownfield remediation employed on the site, covering the area with clean fill, created a condition that would likely suffocate the trees in the heavily wooded area if left in place.

*In the end, they decided to leave the trees up, bury them in soil, let them slowly die over time, but also plant other trees between them. So that was their way of preserving ecosystem services of the trees as the older ones died from strangulation from lack of oxygen. The challenge that created, then, was that you could have a potential for a tree that’s dying falling on somebody and injuring them. So the park created this artificial line right here where they couldn’t let people go into it. Because they’ve created a hazardous condition by their unwillingness to grapple with the environmental remediation. (Designer #2)*



Figure 4. The range fence that separates a pathway in the park from the protected natural area, with physical traces of users crossing the barrier and ad hoc repair to the fence with bailing wire (by the Author).

According to these narratives, a convergence of intentions to preserve trees yet also mitigate risk of human contact with contaminated materials created a new risk condition of falling trees. The end result was to prohibit people from entering the



wooded area with a fence and signs that state: “PROTECTED NATURAL AREA NO ACCESS.” But even so, the fence that demarcates the protected area is a low range fence that is not contiguous across the site, and there is ample evidence of the fence being climbed over, as well as physical traces from people traversing the wooded area (see Figure 4).

### 3.2.3. A neighbourhood in transition and a *hidden oasis*

As constructed, Bush Terminal Park is a fascinating conglomeration of the site’s recent history as an industrial dumping ground, point of community contestation, and public works project caught between drastically different forms of funding. Despite its significant shortfalls, and possibly in part due to them, many park users described the park as a very special place. Two of the park’s greater limitations – its limited access and provision of amenities – were also associated with positive qualities: that it feels like a *hidden oasis* and a natural, peaceful space.

*I kind of like it that it’s hidden. I kind of like how not so many people know about it, so like if you have a special occasion, or you don’t want so many crowded people, garbage everywhere, you know, it’s kind of nice to have some kind of like hidden little sanctuary type of thing going on. (User #16)*

Park users frequently described Bush Terminal Park as a relaxing and peaceful place, where if not playing sports on one of the large fields, there is little to do other than sit quietly and enjoy the views of the water and greenery, which is a notable contrast to many other parts of the city.

*It’s, eh, human nature, to look for this especially in the summer to see some open space to enjoy the God’s present. Fresh air, you see water, you see nature, you see grass, you see obviously buildings, ships and boats, and it relaxes you. It refreshes you, it reboots you. (User #7)*

### 3.2.4. Environmental gentrification

The creation of Bush Terminal Park is one of many signifiers of change in Sunset Park. It is one small step toward correcting injustices that have plagued the neighborhood’s residents for decades and meeting their needs for open space. As such, the park is also a part of the changing narrative that park users have about their neighborhood as a whole.

*You know, Sunset Park is, well it was once, you know, I would always tell people, “I live in Sunset Park,” and I would get a blank stare. But I would tell them I live between Park Slope and Bay Ridge. So maybe now when I say, I can say with a little more pride that I live in Sunset Park. (User #18)*

Unfortunately, common elements of gentrification in general, and environmental gentrification in particular, are already evident to park users.

*I think it’s awesome, however, it is getting expensive. You can’t find a bedroom apartment for no less than fifteen hundred. You know, and before it was cheaper to live*

*here, but the area wasn't so great as it is now. Like you couldn't go out to a park like this and hang out, because you'd have to go to Prospect or you'd have to go further out. But it's getting nicer, it's just getting expensive. (User #16)*

When asked about for whom the park is designed, and its relationship to the neighborhood and gentrification broadly, the designers described an intention to design the park as a neighborhood park, but they also expressed knowledge of tensions associated with remediation and displacement.

*I think there's a fear of that in neighborhoods that, you know, you're going to put this really nice park, or you're going to build a fancy building, it's going to attract people and then you're going to push out the people that are there. So I think there's a real sense of that, you know, here as well, that it's a neighborhood park, not more than that. (Designer #4)*

But it is unclear if it is possible to create a neighborhood park in these conditions that would not play a role in shifting demographics.

*In our department, they just say, "Here's a design, here's a project, here's a pot of money," you know, "Let's get it built." I think the big questions about that are, you know, left for the PhDs to debate in the years to come. I think it remains to be seen what will – how that will affect the overall growth of the neighborhood, what will happen in the neighborhood over time. (Designer #4)*

Elizabeth Yeampierre, the executive director of UPROSE, who was described by designers as being highly involved in the community outreach process for the park, has spoken publicly about Bush Terminal Park as a double-edged sword: a much needed amenity for local residents that is simultaneously a part of a larger process that will ultimately push lower-income people of color out of the neighbourhood.

*Just yesterday I went to a park that our organization was responsible for making happen together with a bunch of other people ... and I sat there in that park, that we fought for fifteen years to get for our community in Sunset Park, and watched as the gentrifiers strolled through, got into my office and saw how developers in our community are using our successes, our ability to reclaim these spaces, our ability to do things to serve those communities that have been the reluctant hosts to all of the environmental burdens in our community that suffer from public health disparities – asthma, upper respiratory disease, the whole nine yards – and deserve to have open space and deserve to have environmental amenities, that at the moment that we succeed, and at the moment that we put our limited resources to make those things happen, they get taken away from us, as if we don't deserve to have those things. And we get pushed out. (Yeampierre, 2014)*

#### **4. Discussion**

Bush Terminal Park arose from a history of environmental injustices borne upon low-income people of color, and it came into being largely due to advocacy to address

brownfield conditions and create much-needed park space for residents of the surrounding neighborhood. Interviews with designers and users of Bush Terminal Park associated with this study, however, reveal that the park stands as the physical manifestation of sometimes aligned, and sometimes conflicting, constituencies. For example, the designers' interests in creating a peaceful and ecologically-oriented space seems to resonate with many park users' desires and experiences. But tensions with the initial plans for the park's funding structure and even a design emphasis toward passive as opposed to active recreation appears to have pushed the eventual design in directions that conflicted with designers' early conceptions. These sometimes conflicting constituencies nonetheless ultimately took part in transforming a dangerous, toxic, and unused portion of the New York City waterfront into something of greater ecological and social value. Yet despite the improvements it represents, Bush Terminal Park has a complicated relationship with the neighborhood it is supposedly designed to serve. Themes that emerged from this analysis indicate that it might best be characterized as an ambiguous space, on both spatial and temporal dimensions.

#### 4.1. Spatial Ambiguity

Design plans for Bush Terminal Park vacillated wildly from its conception through construction due to many factors including designer goals, community activism, remediation requirements, risk management, and fiscal constraints. As described by users, the park seems in some ways incomplete or cheap due to its finish materials, limited amenities, and even the poorly executed *protected natural area*. But my observations revealed that these limitations are also associated with park users finding creative solutions to navigate its ambiguous design.

For example, it is common during sporting events for people to bring their own folding chairs, umbrellas, and even pop-up tents to block the sun. At one point, I noticed a plastic chair brought out to the waterfront edge of the park at the end of the *protected natural area*, and fallen logs arranged in a semi-circle, apparently for seating. Watching people engage with the jetty also demonstrates navigation of this spatial ambiguity. The jetty consists solely of a rip-rap stabilized perimeter that slopes into the water and an asphalt strip that runs down its center. Park users frequently walk or ride bicycles to the end of the jetty and sit on the rocks to enjoy the views. They do so despite white painted stenciling on the asphalt that reads "KEEP OFF ROCKS NO DIVING NO SWIMMING" and occasional calls from park staff via loudspeakers to stay off the rocks. Given there is nowhere to sit on the jetty, or any other design features upon it, what else should park users do? They are left to navigate the ambiguous messages communicated by the partially executed design and define the spaces for themselves. Bush Terminal Park's ambiguous nature is also evident in its location, as it is situated deep inside a commercial campus within a largely commercial district separated from many nearby residents' homes. Fittingly, many park users expressed surprise at finding out about the park, as well as confusion about how to get there. On one of my first visits, I saw a family in a minivan slowly drive up to the entrance of the campus at 43rd Street and First Avenue, and after a moment of consideration, begin drive away until a private security guard who happened to be nearby called to them and waved them into the complex, telling them the park was inside.

However challenging and emblematic of funding and design limitations, the negative attributes of the park's design and location are also associated with some of its most valued characteristics. The limited design features seem to contribute to users' frequent descriptions of the park with terms like *secret* and *hidden oasis*. The athletic fields are hugely popular, but the *protected natural area* also adds a sense of roughness, privacy, and flexibility partially due to its loosely defined boundaries. As such, park users simultaneously confront the limitations of the park design and use its spatial ambiguity to set their own terms of engagement and make it their own.

#### 4.2. Temporal Ambiguity

It would be a grave error to conclude that Bush Terminal Park is a completed project and that its relationship to the surrounding neighborhood stable. In fact, Bush Terminal Park might be conceptualized as a localized manifestation of contestation and transformation currently in process. Narratives about what the park is, and who it serves, will undoubtedly change in the years to come as the nature of the surrounding buildings and neighborhood transform.

Many user narratives about the park are set against a backdrop of what the neighborhood *used to be* and how it is currently changing. The historical aspects of such narratives frequently feature fear of crime. As Pain (2000) states, fear of crime is associated with a broad and complex "range of emotional and practical responses" (p. 367) to threats and an expression of perceived danger among individuals and communities. The nature of fear and cities, in particular, has been explored from a multitude of perspectives (Bannister and Fyfe, 2001). While this analysis cannot fully unpack the complicated nature of fear-laden historical narratives among park users, there appears to be a relationship worth investigating between the diminishing historical crime-related fear narratives and increasing contemporary fears of displacement via gentrification.

Park users' narratives about the history of the Sunset Park, and the degree to which fear was woven into their daily experiences and even the physical landscape are key aspects of neighborhood gentrification. As much as gentrifying forces can signal a loss of identity and spur displacement, its early stages can bring benefits to historically disenfranchised residents – even if those amenities may not ultimately be *for* them (e.g., better government services, more affordable pharmacies, better grocery stores, and in this case, a new park). Park user narratives often demonstrated a direct contrast between the old but dangerous neighborhood that was theirs and the transforming new neighborhood that is better and yet simultaneously slipping away.

Residents and activists in Sunset Park had ample justification to be alarmed about the potential for Bush Terminal Park itself to function as a mechanism to raise land values and usher in new residents and commerce at the expense of housing and job security for existing residents. In consideration of the park's relationship to gentrification, designers described their intentions to reflect the needs and interests of community members in the design of the park, but they were also cognizant of the systemic underfunding of DPR parks. As such, the potential for NYCEDC management of Bush Terminal Park, and the inclusion of on-site revenue generation that could support the park directly, could have provided a reliable pathway to much more extensive on-site amenities and maintenance programs. Under the NYCEDC operations model, one landscape architect even described what Brash (2011) might refer to as a planned

reliance upon economic activity in the park by the *Transnational Capitalist Class* to fund its ongoing operations, a group that bears little resemblance to the historically working class, immigrant residents of Sunset Park.

*The really lucrative part of that [ice rink] business is renting them to leagues who are, you know, like a Wall Street brokerage firm, or whoever, you know, kind of like the people who do the corporate challenge in Central Park, that they could pay – they would pay to play at two o'clock in the morning. That, during the day, when the kids are around, that the people who would be paying huge prices would not be around. So that they could offer to the community, for free or at low cost. (Designer #3)*

Smith (2002) argues that neoliberal urbanism expresses capital production rather than social reproduction and implements gentrification as a generalized urban strategy. While landscape architects described the park's early plans as capable of meeting the needs of highly divergent socioeconomic groups through stratified fee structures, there would still be a significant risk of exclusion via economic barriers to access and participation for neighbourhood residents. More specifically, the potential of revenue-generating space at Bush Terminal Park could have signalled to residents that the park would not be *for* them, and as such, those uses could have represented a cultural, as well as economic, imposition (Low et al., 2005). The pushback from community members against a funding mechanism that would have coupled greater amenities with fee-for-service public space can thus be interpreted as a mobilization against the forces of neoliberalism and environmental gentrification; an act of resistance to Bloomberg's *luxury city*.

Despite efforts to claim the park as a neighbourhood asset, the broader forces of gentrification are actively at work along the Brooklyn waterfront, further emphasizing the park's liminal relationship to its surroundings (Gonzalez, 2016). Notable recent transformations include a 12-year, \$1 billion plan underway at the Industry City complex which is already home to the Brooklyn Nets training facility and myriad of *innovation ecosystem* technology and food companies, the purchase of Sunset Industrial Park for \$91.5 million in 2013, and the opening of Sunset Park Materials Recycling Facility in 2013, among others (Industry City, n.d.; Kensinger, 2016).

Infrastructure projects associated with the Bush Terminal campus that surrounds the park also continue, including the addition of a second entrance to the park that opened in 2017. A crucial element of ongoing, and drastic, changes to the Bush Terminal campus are planned as a part of Mayor Bill de Blasio's 2017 commitment of \$136 million in funding to create a "Made in New York" campus. The project is intended to transform the Bush Terminal campus into a "a hub for garment manufacturing and film and television production, and support more than 1,500 permanent jobs" (New York City Office of the Mayor, 2017, para. 1). The plan represents a stark departure in tone from the Bloomberg administration via a commitment to supporting upward career mobility for New Yorkers and prioritizing Sunset Park residents when applying for jobs at the modernized facilities. However, the degree to which the campus will support existing residents and businesses is unclear, and existing tenants have reported rent increases and pressure to vacate (Kensinger, 2017).

Bush Terminal Park is a unique example of environmental gentrification and contaminated site remediation because its position as a publicly funded project may

have allowed for a greater impact of community advocacy. The project did not rely on private developers to drive its progress and, moreover, community advocates resisted initial plans for privatization of its operations. Nonetheless, these findings demonstrate that despite best intentions, results are mixed and the park occupies an ambiguous space both spatially and temporally. Bush Terminal Park is not only emblematic of this liminal state, but a part of its unfolding. Yet while users are aware of these fluid dynamics, they also find value in what the park provides. The result is a park whose design combined community and designer perspectives to transform a site that represented economic decline and environmental injustices into new and valuable green space for the community it serves, whichever community that ends up being.

## 5. Conclusion

This study of Bush Terminal Park demonstrates that even with community input and activism, results can still be ambivalent. Close investigation reveals that this project had political, economic, and social forces at many scales driving it in one direction met by counter forces pushing it back in another. There are two broad implications that can be drawn from this study. First, the park represents a paradox of activism in that it is unclear how far community activism can go to address the systemic problems associated with environmental gentrification. Activists and community members attempted to shift the trajectory and ownership of the park to retain it as a neighbourhood amenity, and even though they were successful in that effort, the park cannot ultimately be separated from broader forces. Second, this study demonstrates the need for studies of environmental gentrification to take a granulated approach to the positive and negative aspects of these spaces rather than look at them as holistically positive or negative endeavours. The multiple scales of ambiguity and ambivalence that emerged from this study are emblematic of the dynamics associated with green space and gentrification broadly.

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