

Gowanus Gentrified?

Community Responses to Gentrification and Economic Development in the Shadow of the Superfund

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Abstract

Gowanus is an industrial neighborhood changing into a gentrified area, but it faces such severe pollution that the EPA designated the Gowanus Canal, which bisects the area, a Superfund site in 2010. The industry still in Gowanus includes a mix of traditional industrial businesses, craft industries, and artists, but they might disappear if developers build luxury condos in the neighborhood. This study looks at the clash between activists over how the community has and will change, focusing on the pro-development Gowanus Canal Community Development Corporation and the preservationist and pro-Superfund Friends and Residents of Greater Gowanus. Many local activists embrace the vision of Gowanus as a place for making things and hope to maintain industry. Even though industry left the neighborhood polluted, most do not connect the two. The Superfund seeks to clean up the neighborhood but it may pave the way for environmental gentrification, which is the pollution cleanup causing gentrification. However, fears of the Superfund harming home prices do not appear to be true; GIS analysis shows that land closest to environmental hazards increased the most in value. Residents also hope to avoid the experiences of other New York neighborhoods, which saw gentrification cause displacement. More than residential displacement, though, activists worry about the culture of Gowanus disappearing and hope to save it. Their remedies such as historic preservation and zoning Gowanus for mixed use may not be effective or viable, though. Both major groups seem to accept the idea that attracting the creative class is crucial to economic success, and that they should make efforts to attract creatives to the area. However supporters of industry extend the definition of creative class from white-collar professionals to include blue-collar workers manufacturing custom-made designed

products. Because of a lack of government involvement or a unified community forum, there is no clear path for resolving those differences and planning for the future, but a system of participatory planning could help resolve conflicts and develop plans to permit changes in ways that don't destroy the Gowanus community.

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1. Gowanus and Its Issues

Gowanus is gentrifying despite being bisected by one of “the nation’s most polluted waterways” (Calder 2011). The Brooklyn neighborhood wedged between Park Slope and Carroll Gardens, two wealthier neighborhoods that are already gentrified, is a unique case of gentrification. Unlike most gentrifying neighborhoods, the environmental hazards are not merely incidental but central to its identity today; Gowanus surrounds the Gowanus Canal, a polluted industrial waterway lined with old factories, coal plants, and sewage discharge points. Other neighborhoods face gentrification and some neighborhoods are working to clean up legacies of pollution, Gowanus is nearly unique in trying to do both at the same time. Though most of those factories are now closed and transformed into artists' studios and less polluting industry, the pollution previously created from those factories is still there. As a result, the EPA declared the canal a Superfund site in 2010, meaning that the federal government will fund and control efforts to cleanup the canal and will sue the companies that owned those factories in order to recoup some of the costs. The Superfund designation was expected to both halt real estate development and cause gentrification in the neighborhood, which many residents and stakeholders in the neighborhood feared would destroy the character of the community by displacing artists and industrial businesses that employ thousands of workers. These changes lead Gowanus residents to worry that their community will be destroyed, and their understanding of and response to those changes are the focus of this study. However, their efforts to preserve the neighborhood are likely insufficient due to a lack of proactive community planning, which could result in the disappearance of Gowanus in its current form.

Gentrification as a broad concept might best be defined using Peter Marcuse's explanation (1999) of this process as the movement of upper- and middle-income, white-collar households into formerly poor neighborhoods, displacing the lower-income community that had lived there before. That has happened in other New York City neighborhoods and in communities across the country and world. The newer residents are, in the American context, typically overwhelmingly white, displacing older residents who are typically people of color, though that demographic breakdown is probably less true in the case of Gowanus. Of the roughly 20,000 people living in this Brooklyn neighborhood (see Figure 1) in 2009, almost 60% were white; just 9.3% of the population was black and about a quarter of the population was Latino. 17% of white residents live in poverty, compared to 26% of blacks and 23% of Latinos living in Gowanus. 14% of Gowanus residents are Italian-Americans, the largest single group by ancestry (Social Explorer Tables: ACS 2005-2009). Anecdotal evidence suggests that many of them are older residents. Blacks, Latinos, and older Italian residents concentrate around the edges of the neighborhood, especially in the public housing developments to the north and west, while many of the newcomers are in the southern and eastern parts of the neighborhood. Nevertheless, the general pattern holds true as older residents fear newer residents raising rents and prices and forcing them to leave the neighborhood.

Interestingly though, the residents who have lived the longest in the Gowanus area are not the most vocal opponents of gentrification. Instead, the remnants of the old Italian community are generally affiliated with community leader Buddy Scotto's network of organizations including the Carroll Gardens Association (a neighborhood association), the Independent Neighborhood Democrats (a political club which once

promoted reform but is now closely aligned with the Democratic Party establishment), and the Gowanus Canal Community Development Corporation (which promotes development in the area), all of which Scotto founded. These groups work to attract residential developers and provide political support for what opponents see as gentrification. Indeed, one more recent resident who is a member of the Independent Neighborhood Democrats writes, “These days, there’s not a development project Buddy doesn’t support,” (Gatemouth 2012). Much of the opposition to gentrifying development comes from the Friends and Residents of Greater Gowanus (FROGG), an environmentalist and preservationist organization, which advocated for the Superfund designation and lobbies government officials to preserve the neighborhood, including the industry of Gowanus. In trying to preserve Gowanus’ industry, they work alongside the South Brooklyn Local Development Corporation. FROGG members tend to be residents with long ties to the neighborhood but who are originally from elsewhere. Both FROGG and Buddy Scotto’s groups are based in the western part of the area, in the southern part of Gowanus adjoining Carroll Gardens (see Figure 2). In the eastern and northern parts of the region closest to Park Slope, there is a new, so far less politically organized community of artists and creative professionals in the eastern part of Gowanus, many of whom have some connection to the Annual Gowanus Artists Studio Tour.

This is not to say that every resident fits into one of those three groups, though almost everyone I talked to had some sort of affiliation to at least one of those groups. There is significant overlap between each network, as well as a number of activists who do not fit well into either. However, neighborhood activism seems to concentrate around those three networks and they form the central focus of the study since they dominate

discussions around local issues. If community members determine a future for Gowanus, they will almost certainly be members of those three networks. I interviewed activists affiliated with all three groups, attended community events and meetings, and read their blogs to assess their feelings and proposed solutions. I also used GIS mapping in order to test one assumption about how the Superfund designation affected property values in the neighborhood. The Superfund adds a layer of complexity to the gentrification in Gowanus and means that the neighborhood may not follow the same, somewhat predictable path that other gentrifying neighborhoods have followed.

Past Study of Gentrification

Sociologists like Saskia Sassen (2006) and Neil Smith (1996) explain that recent gentrification is connected to a globalization of capital that allows investors anywhere in the world to put money into development projects in inner-city neighborhoods. According to Smith's theory, inner-city neighborhoods gradually decay because it is less expensive to build new buildings in the suburbs, where land is cheaper, than to buy land in developed areas and either demolish old buildings in order to build new ones or renovate older structures. As a result, real estate interests disinvest from those neighborhoods, putting off maintenance and updating buildings in favor of more profitable opportunities elsewhere. This trend continues until the buildings truly do decay to the point where it is profitable to invest in the neighborhood, either by razing a building and starting from scratch or renovating it. Gowanus appears to have reached this point, judging by the recent interest in the neighborhood.

Smith's studies and their emphasis on the importance of investment in gentrification tie in to Saskia Sassen's work (2006) focusing on the emerging global economy. In her explanation, capital and corporations from all around the world congregate in important global cities like New York and control the flow of capital around the world from those metropolises. This flood of high-income people into New York and places like it over the last couple decades increase demand for gentrified neighborhoods and the businesses in those neighborhoods. A glance at the list of developers who are working or were interested in working in Gowanus prior to the Superfund vitiates this as investors from all over the world, such as a South African-Israeli investment firm (Diegel 2011), look to inject capital into a tiny neighborhood in the process of gentrification.

The same overarching theories about gentrification have not been developed to explain environmental gentrification, gentrification that happens when pollution is cleaned up and higher-income residents move in (Banzhaf and Walsh 2005). That is the situation Gowanus may well face after the Superfund is completed or could even happen once developers can count on the Canal being cleaned up in the near future. Studies about environmental gentrification suggest that patterns typically found in other gentrifying neighborhoods might not apply in neighborhoods like Gowanus. Cameron and Crawford (2004) looked at seven supposedly representative Superfund sites around the country and failed to find distinctive racial patterns for sites, a frequently used proxy for gentrification since whites in the US tend to be wealthier than blacks and Latinos due to a legacy of discrimination. Some sites experienced white flight after being declared a Superfund site, but others saw the proportion of whites increase. This study may be flawed in that it

looks at proportions of population, rather than raw numbers, and does not consider wealth. In addition, population changes may have happened when pollution began, rather than when cleanup began. Exploring that question, Spencer Banzhaf and Randall Walsh (2005) looked at demographic changes around toxic release inventory sites in urban areas of California. The toxic release inventory is a listing maintained by the federal Environmental Protection Agencies of current polluters and how much pollution they emit. They found that pollution tended to correspond to whites moving out and Hispanics moving in. This may demonstrate that pollution itself, not the Superfund designation and subsequent cleanup, leads to population change. Since Gowanus is already polluted, this suggests that there is little risk of the neighborhood being abandoned once it is cleaned up, although there is a paucity of research on the topic. Either way, though, these contradictory views demonstrate the complexity of understanding environmental gentrification.

In the last year, two articles about pollution and gentrification have been published that shed more light on environmental gentrification. Abel and White (2011) examined the toxic release inventory for Seattle, Washington as a way of tracking pollution. Some gentrification did occur in areas with low pollution and few new firms began polluting in those neighborhoods. However, in areas with the most polluters, not only was there little gentrification but new polluters also located there, adding to the pollution of poor, minority communities. This would seem almost the pollution equivalent of the Matthew effect, an observation that, in some cases, those with the least receive even less and those with the most accumulate even more (Gladwell 2008).

Following this idea, communities with less pollution become cleaner as they gentrify, pushing out polluting industries, a future that many in Gowanus might hope to see.

Another article, by Adam Eckerd (2011), looking at environmental gentrification in Portland, comes the closest to a theoretical explanation of the topic. He suggests two scenarios for understanding environmental gentrification. In the first, the supply explanation is that after pollution is cleaned up, nearby land is undervalued, because prices do not yet reflect the improved environmental conditions, and so that land is appealing for real estate development. This development would be seen as capitalizing on already existing, if unexpressed demand for housing in areas that would be desirable if not for the pollution. Alternatively, the demand scenario holds that the neighborhoods become more attractive as environmental concerns are rectified. In practice, the two obviously work together concurrently, as they almost certainly do in Gowanus where developers see large plots of undervalued land and potential residents no longer avoid living near the Gowanus Canal because the canal is clean.

Research on Pollution Cleanup and Its Effects on Nearby Communities

One of the chief questions is how much pollution cleanup actually matters for neighborhood change. Is it the actual cleanup that matters or simply the perception of improved conditions? Residents of Gowanus differ strongly in their assessment of the importance of remediation and the Superfund program, in particular, with supporters of the Superfund saying the actual cleanup matters and opponents saying that perception and the stigma of Superfund matters more. Wester-Herber (2004) claims that conflicts over land use and pollution risk are not about the science but revolve around feelings of self-

esteem and maintaining a community's self-image, self-efficacy and a feeling of control over surroundings, continuity of a place as home, and stigma replacing the positive associations of a place. Other studies have also shown that there may be some validity to focusing on perceptions. A 1996 study of perceptions of beach pollution in coastal English towns (Bonaiuto, Breakwell, and Cano) found place identity trumped everything else in determining perceptions of environmental degradation. The more attached to their town, the more likely they were to see it as less polluted, regardless of any other considerations that might be at play. This question of perception of pollution compared to more science- and health-based worries is a key dividing line in the Gowanus community and I will explore what residents see as the impact of the Superfund decision on perceptions of pollution and the neighborhood.

Another issue of concern for environmental gentrification in Gowanus is the effect on property values, whether the Superfund will cause property values to fall, hurting homeowners. One examination of properties near three Superfund sites (Messer, Schulze, Hackett, et al. 2006) found that almost all news about a Superfund cleanup hurt property values and it took 5-10 years after the completion of cleanups for homes to recover their original home value. This was the fear of some Gowanus homeowners opposed to the Superfund, especially those who feared a long cleanup. By contrast, many who expected the remediation process to be quick supported the Superfund because, as the same study showed, the more quickly the cleanup took place, the more property values would maintain their value and the more quickly they would recover.

Other studies also shed some light about the importance of perception of pollution. A study of neighborhoods near a Dallas smelter (Dale, Murdoch, Thayer, and

Waddell 1999) for example, showed that the release of more information about the smelter and problems with the cleanup effort did not have an impact on the recovery. This suggests that while property values may be impacted by the stigma around pollution, which some in Gowanus fear, that stigma is ultimately limited and temporary. Another study (Reichert 1997), however, looked at a Superfund in Uniontown, Ohio and found what appeared to be a permanent stigma, as the houses closest to the Superfund site lost 14.6% of their property value ten years after the Superfund designation. This suggests that the Superfund acts as a red flag, deterring potential property owners, even after the cleanup. It is possible, though, that given a longer time frame, the results might have been different.

The research on the effects of Superfunds is very contradictory, perhaps because the cleanups are not all the same. A broad study of Superfund sites (Kiel and Williams 2007) did not find a consistently negative effect from Superfund designations. They pointed to size of the Superfund site as a key factor. The larger the site, the more likely it was to negatively impact home prices, which would likely worry residents of Gowanus since the canal is a large body of water bisecting the neighborhood. Unfortunately, there do not appear to be any studies looking at these trends in gentrifying neighborhoods, perhaps because Gowanus is an unusual, if not unique, case. Whether the cleanup and the neighborhood's potentially lower property values will reduce displacement or the arrival of newcomers is not clear. This uncertainty is sure to lead to concern about the effect on property values, both during and after remediation, and in turn to concern about the effects of the Superfund.

I look into the effects of the Superfund designation and pollution in general on Gowanus to see how the Superfund impacted the neighborhood, and especially the impacts compared to fears expressed during the designation process. Has the Superfund stopped gentrification and real estate development, merely delayed it, or has it had no impact at all? In turn, will the halt on development allow artists and some industry to remain in the neighborhood? In the course of the study, I will also look at the public policy implications of environmental degradation on gentrification and the effectiveness of policies designed to create mixed-use zones that allow gentrification while preserving space for artists and industry. If Gowanus is able to gentrify without displacing industry, will it be a model for other neighborhoods or simply a result of its unusual conditions?

Economic Development to Attract the Creative Class

Although connected to the Superfund and gentrifying processes, economic development in the community is another issue and that development is deeply contested by participants echoing aspects of the creative class theory. A recent key school of urbanists led by Richard Florida (2002a) argue that a broad slice of the population, what Florida terms the “creative class” are crucial to the success or failure of a city or region. This does not just include people in the arts industry but Florida expands it to include a much wider selection of people who work with their brains including software developers and engineers but also doctors and lawyers. Florida writes:

“The distinguishing characteristic of the creative class is that its members engage in work whose function is to “create meaningful new forms.” The super-creative core of this new class includes scientists and engineers, university professors, poets and novelists, artists, entertainers, actors, designers, and architects, as well as the “thought leadership” of modern society: nonfiction writers, editors, cultural figures, think-tank researchers, analysts, and other opinion-makers.... Beyond this

core group, the creative class also includes "creative professionals" who work in a wide range of knowledge-intensive industries such as high-tech sectors, financial services, the legal and healthcare professions, and business management. These people engage in creative problem-solving, drawing on complex bodies of knowledge to solve specific problems." (2002b).

Nichols Clark (2004) adds on to this body of work by arguing that different amenities attract different subsets of the creative class. College graduates prefer what he terms "constructed amenities" such as cultural attractions, high-end coffee shops and juice bars. By contrast, people filing high-tech patents tend to live in areas with more "natural amenities" like lakes and parks. Cleaning up the Gowanus Canal and creating parkland along its banks would likely lead to more engineers and inventors, if the connection is correct. While Gowanus leaders may not have read this research, many seem to believe the gist of this argument, that natural amenities attract young, innovative, upwardly mobile professionals, and some are working to improve the environment of Gowanus in the hopes of attracting creative class professionals to live in or at least visit the area.

Criticisms of this school of thought come from two directions, one arguing against the elitist definition of the creative class and the other concurring with Florida in the importance of creatives but arguing for greater inclusivity in the definition of the class. Wilson and Keil (2008) claim that, despite Florida's definition of creativity, the truly creative are the poor who must come up with innovative ways to survive, especially considering the neoliberal goals of creative class advocates, who often implicitly minimize the importance of focusing community development on the poor. While Florida calls for helping the poor through education to integrate them into the creative class (Baris 2005), many of his policy prescriptions focus government resources instead on

attracting the already-wealthy creative class, neglecting those outside that group. Some of the Gowanus community leaders most tied to the Gowanus Canal Community Development Corporation seem to be directing attention to luring upper-income people to live in the neighborhood, rather than assisting struggling blue-collar businesses. The other critique calls for a broader definition of the class. Pratt (2008) argues that the entire chain of production from the artist or designer to a manufacturer must be included in the creative class. Florida and others offer a large list of creative occupations, many of whom do not contribute much to the culture of a place: doctors, managers, and lawyers, for example. Instead, the manufacturers of cultural goods such as the carpenters who build the sets of theatrical productions are also part of the creative process, and manufacturing includes designers and engineers at all levels (Brandes Gratz 2010). Florida neglects their involvement or pays only lip service to their presence (Florida 2002b). While not a common argument in academic literature, this is a theme frequently heard from residents of Gowanus critical of current economic development practices who see artists and industry, not white-collar professionals, as making New York great. People involved in Gowanus tend to accept the basic premise of the “creative class” but with starkly different definitions, and my research will look at how community leaders understand the creative class and the policy prescriptions they advocate arising from those differing definitions.

Beyond the immediate strategy for remediating pollution in Gowanus and redeveloping the area, there are also broader philosophical disputes about how government and, to a lesser extent, large corporations should plan neighborhood change. Opponents of gentrification tend to draw on a legacy derived from Jane Jacobs (1961

[1992]) and her opposition to Robert Moses' plan to push Fifth Avenue through Washington Square Park. She advocated for diverse neighborhoods with a mix of residences, parks, workplaces and shops. These neighborhoods should change gradually over time and she stridently opposed the "large plans" which placed control in planners and developers, even if they claimed to create the sort of mixed communities she advocated (Brandes Gratz 2011). In an urban planning conference Brandes Gratz describes, Jacobs' adversary, noted developer James Rouse, claimed that extensive planning prevented problems from piecemeal and inconsistent development. Echoing Jacobs, Brandes Gratz responds that this more organic growth leads to healthier, more successful neighborhoods, and the activists of FROGG would agree with this.

While Rouse's communities would look very different than the elaborate planned cities of Le Corbusier, James C. Scott (1998) argues they derive an intellectual heritage from the same movement of High Modernism. Scott focuses on elaborate government planning, including of cities, to argue that planners believe they know enough to be able to correctly plan the course of a place and how to best guide that growth. In fact, however, they are tragically mistaken and those plans go awry because human life is too complicated for anyone to fully understand. In a sense, Gowanus might be considered a test case of the alternate view that cities can and should grow organically, based on local knowledge and understanding rather than supposedly scientific precepts. After the EPA declared the Gowanus Canal a Superfund site, New York City shelved a zoning proposal for the neighborhood. However, Scott and Jacobs do not argue against planning in general but instead argue that it should be local, democratic, and inclusive, but rather than having some form of planning that includes community members, there has been little

planning for the future of the neighborhood. I argue that this could lead to greater gentrification because there is no visible alternative for Gowanus.

Gowanus presents an extraordinary opportunity to engage in a large number of deep discussions and the opportunity to evaluate the accuracy of different claims about how environmental gentrification works, how people understand pollution and the role of government in remediating pollution. In addition, it also represents an opportunity to examine potential “creative class” economic development strategies and consider how Gowanus should plan its growth and development. These different theoretical questions promise the potential for numerous insights for developers, government officials, planners, and community leaders involved in environmental gentrification.

Methodology

I will answer these complicated questions of how community members view gentrification and hope to avoid it as well as how stakeholders seek to employ economic development strategies in the neighborhood through ethnographic interviews, participant observation, residents’ blog posts and other online communications, and analysis of real estate data. Interviews with 18 members of the community from each of the three groups and participant observation with a broad cross-section of stakeholders in Gowanus elucidated residents’ views on the process of neighborhood change. I also observed four community meetings and events, in order to hear more concerns and how residents, community groups, and government agencies respond to those worries. These events, as well as the blog posts, offered an opportunity to hear how local activists expressed themselves unprompted, outside the interview format, and so sometimes offered

revealing information that I would not have thought to ask. Finally, similar to how Smith (1996) mapped gentrification in Manhattan by looking at property tax payment, I used ArcGIS 10 to analyze the relationship between pollution and property values in the area to show how pollution and the Superfund have impacted land values. New York City releases tax assessments for every property as a GIS file, and so I looked at the change in land value (property value minus building value) since the Superfund declaration.

Though an imperfect measure, property assessments are comprehensive for the entire neighborhood and can show one aspect of how the Superfund is changing the neighborhood. As a result, they are used in studies of both gentrification (Smith 1996) and pollution effects (Noonan, Krupka, and Baden 2007). This is better than other sources of quantitative estimates of the effects of pollution and the Superfund. Data on economic activity in the area is not likely to clearly reflect the relatively recent Superfund designation, since businesses may have chosen to locate in Gowanus without considering the Superfund. Other data has too wide a scale to accurately show the effects of the canal alone. This is the case with public health data, which reflects trends for areas much larger than a single neighborhood. The combination of qualitative interview and observations as well quantitative property assessment data together demonstrate the effects of the Superfund on the community, environmental gentrification, and the future for Gowanus and show how the neighborhood is changing.

Past Experience in Gowanus

I first discovered Gowanus while working in Evan Thies' City Council campaign in 2009. I was responsible for organizing the southern third of the district, an area that

included part of Downtown Brooklyn, Boerum Hill, Park Slope, and the northern part of Gowanus. I did not become an expert on the area, but was introduced to the remnants of the older Italian-American community, the public housing projects at the northern end of the neighborhood, and some of the newer residents, though much of the most recent development either had not happened yet or was outside the district. Evan supported the Superfund designation of the Gowanus Canal, believing that the number one priority should be to clean up the Canal. He also supported gentrification and new development. We never mentioned any of the downsides to that in Gowanus, although Evan supported housing in East Williamsburg to alleviate some of the problems of gentrification, and I wholly embraced Evan's positions on those and most other issues. Evan was unable to build much of a coalition beyond young Democrats in North Brooklyn and lost the election by a wide margin, coming in third (out of seven).

At the time, I was not a big fan of Gowanus; it was relatively desolate without the street life of Park Slope and had many fewer amenities than nearby areas. It was one of the only parts of the district with boarded up or vacant buildings, including what I thought were abandoned factories and warehouses, and seemed blighted by disinvestment. Often, the area, especially east of the Canal, was just something to walk through on the way to more promising turf, and the rest of the campaign treated it the same way. I recall one of my coworkers and I discussed gentrification and we agreed that the plight of people displaced by gentrification was problematic, although we did not think it outweighed the benefits of new development. This likely reflected our backgrounds as young, well-off, white people; if anything, we were likely to be the gentrifiers. My coworker even lived in a new building in Manhattan's meatpacking

district, a newly gentrified neighborhood. However, we were young and had grown up very sheltered; over the last few years, I have seen how gentrification and new development can shape a neighborhood in ways that make longtime residents feel powerless and strangers in their own homes. At the same time, New York is successful today because of how it has changed over the last few decades. Considering the benefits and costs of gentrification thus demands weighing a careful balance.

About a year passed without me spending much time in Gowanus, although I did spend some time with a couple relatively recent residents. Then, during the summer of 2010, I began home brewing beer. One of the only homebrew shops in New York City had just opened in the heart of Gowanus. Brooklyn Homebrew on 3rd Avenue and 8th Street became a store I patronized, a haven of beer brewing amid an unfriendly landscape. Except for going to Brooklyn Homebrew, I really did not spend much time around there, though this further connected me to a certain group of newcomers in Gowanus, the more artisanal, craft-oriented new residents. They see Gowanus as a special place for mixed industrial, commercial, and residential uses and want to preserve the “old Gowanus.” This aspect of the neighborhood, especially as it is tied to a growing arts scene in the neighborhood fascinates me; I tend to share their views that street life and a diversity of buildings and uses make a community trendy and interesting. It almost seems like a Williamsburg or SoHo before they became fashionable. Since the Superfund designation, there has been a virtual moratorium on development, and so it may be an opportunity to watch what development does happen and if it can coexist with the neighborhood’s character, which is something akin to a hole in the wall restaurant—a

hidden gem which looks unassuming but is actually incredible—or will instead destroy that unique attitude.

I come into this research having studied neighborhood change and gentrification in the past in other neighborhoods for other classes. My general outlook has been that gentrification usually improves neighborhoods and makes it more attractive to live in the center city. In turn, that greater population concentration leads to more vibrant city life, which I appreciate on both a personal and an academic level. Gentrification, tied in with the neoliberal globalization that Saskia Sassen (2006) and Neil Smith (1996) write about, seems to often lead to displacement of the poor and the industrial economy. That is regrettable and should be avoided, but may be inevitable in some cases. If it is not inevitable, I came in to the project thinking that it does not normally outweigh the benefits of development, especially the sort of small-scale development that has characterized successful gentrification in Gowanus and nearby neighborhoods like Park Slope, where I have long considered living after graduation. In addition, I saw the pollution of the Gowanus Canal as anomalous and very threatening to an at least partially residential neighborhood in the heart of New York City with the potential for health risks.

However, over the course of my research, I have begun to question those assumptions. More and more, it seems like industry, especially the small industrial businesses of Gowanus, is worth preserving and that New York needs to do more to protect not only those businesses but also the working-class, blue collar people who might work there and live in Gowanus. With the decline of the industrial economy since World War II, there are fewer and fewer blue-collar jobs left for people without a college degree and this has been exacerbated by the current economic recession. Our current

economic development paradigm seems to leave them and most Americans behind in favor of the richest segment of the population, the people who can afford to purchase luxury condos. The current trend of development in Gowanus seems to be reproducing that pattern in a new neighborhood. Alternatively, there is a chance to reverse that trend, democratizing development by engaging more people in a discussion about the future of Gowanus and also structuring neighborhood development to benefit all members of the community in a way that combines housing and jobs for people of all income levels. The potential is immense and the opportunity to see what happens is irresistible.

Subsequent Chapters

In the next chapter, I will look at the history of Gowanus and New York City. This will include how Gowanus came to be polluted and then neglected before slowly beginning to become gentrified and cleaned up. I will also explore Gowanus' context in New York City and the city's past experience with gentrification, a history that community leaders draw from in understanding the future of the neighborhood and hope to avoid repeating.

In the third chapter, I will relate community members' feelings about the Superfund cleanup of the Gowanus Canal. According to local residents, this Superfund received more public comments than any other ever, and community groups are active in advocating for a thorough cleanup. While I am not qualified to evaluate the EPA's plan, I will look at what community members think of the Superfund cleanup and the effects of the cleanup on the neighborhood. In this chapter, I will also include a GIS analysis to

evaluate how the polluted sites the Superfund aims to cleanup affect property values in order to assess whether residents' fears of declining property values are valid.

The fourth chapter will look at community members' feelings about gentrification and neighborhood. Some are adamantly opposed to gentrification fearing it will destroy the character of the neighborhood and displace artists and industry. Others are hopeful that new residential development will bring new amenities and revitalize the neighborhood. This will explore those feelings and how community activists are looking to shape gentrification.

Differing views on economic development, another crucial point in the discussion about the future of Gowanus, will be the focus on my fifth chapter. Some in the community advocate attracting young, well-educated professionals to the neighborhood while others would like government policy to focus on preserving blue-collar jobs in manufacturing and industry. Nevertheless, both groups see their work as fighting for creative people and industry, and this chapter will explore the tension in defining what that means.

All of this fits into a broader discussion about planning for neighborhood change, the subject of the sixth and final chapter. New York City halted its rezoning plan for Gowanus after the Superfund designation. However, this lack of planning has meant that community efforts are not always strategic, often aimed at cross-purposes, and do not acknowledge the tensions between different goals. An inclusive, democratic planning process, such as participatory planning, might help guide political action and help resolve or at least confront conflicts within groups.

Gowanus may be a special case in terms of its environmental conditions, which are at least slowing gentrification and the development of new buildings, especially luxury apartment and condo development. However, I believe this is only a temporary lull, rather than a halt. So far there are few substantial efforts to preserve industrial zones and studio spaces for artists and more aggressive policies to protect industry are likely necessary. Gowanus offers an opportunity to do that while piloting new and innovative ways to develop mixed-use areas. Those areas would combine both residential housing and industry.

Gowanus is not the only neighborhood to encounter gentrification and environmental hazards but academic study has generally neglected the interplay of those two factors. There are numerous other neighborhoods like Gowanus. Just in New York City, Newtown Creek between Long Island City and Greenpoint is another heavily polluted waterway which might be cleaned up and host development along its banks. (PlaNYC 2007) Unlike the Newtown Creek and most other gentrifying neighborhoods with environmental issues though, the Gowanus Canal is not a peripheral to the area and so cannot be avoided. Instead, the Gowanus Canal goes right through the middle of the neighborhood. This might make it more important to clean up the Gowanus Canal if the neighborhood is to become completely gentrified, since it is hard to imagine luxury condos looking out over a Canal filled with fecal matter, which happens whenever rain causes the sewers to overflow. Gowanus is also not unique for having artists and industry. Numerous other New York neighborhoods had both: SoHo, DUMBO, and Williamsburg are just some of the most obvious examples (Hackworth 2002, Curran 2007). Yet, in most of those neighborhoods, the struggling artists and industry have been displaced.

Only in Williamsburg do they remain, and Williamsburg did not have the polluting industries that Gowanus had.

Other neighborhoods in New York City like Bushwick, Sunset Park, and parts of Harlem might look to Gowanus for lessons in redeveloping a community. All three of those neighborhoods are undergoing some gentrification and Gowanus might demonstrate a way to preserve industry and artists alongside new housing and commercial establishments. And if they can do that while cleaning up the infamously polluted Gowanus Canal, Gowanus could serve as an example for Greenpoint and other neighborhoods facing pollution. But beyond New York City, Gowanus has the potential to become both a great neighborhood and a model for other cities of how gentrification can be effectively managed, too.

Gowanus may seem somewhat unique at first glance but in truth the issues it has confronted and will confront afflict neighborhoods and cities across America, if not the world. This study will help show how Superfund impacts development in Gowanus, how the community is reacting to gentrification and efforts to preserve industry and artists in the area. If Gowanus is able to resist the tides of global capital and chart its own course, it could serve as an inspiration and model to cities across the country.

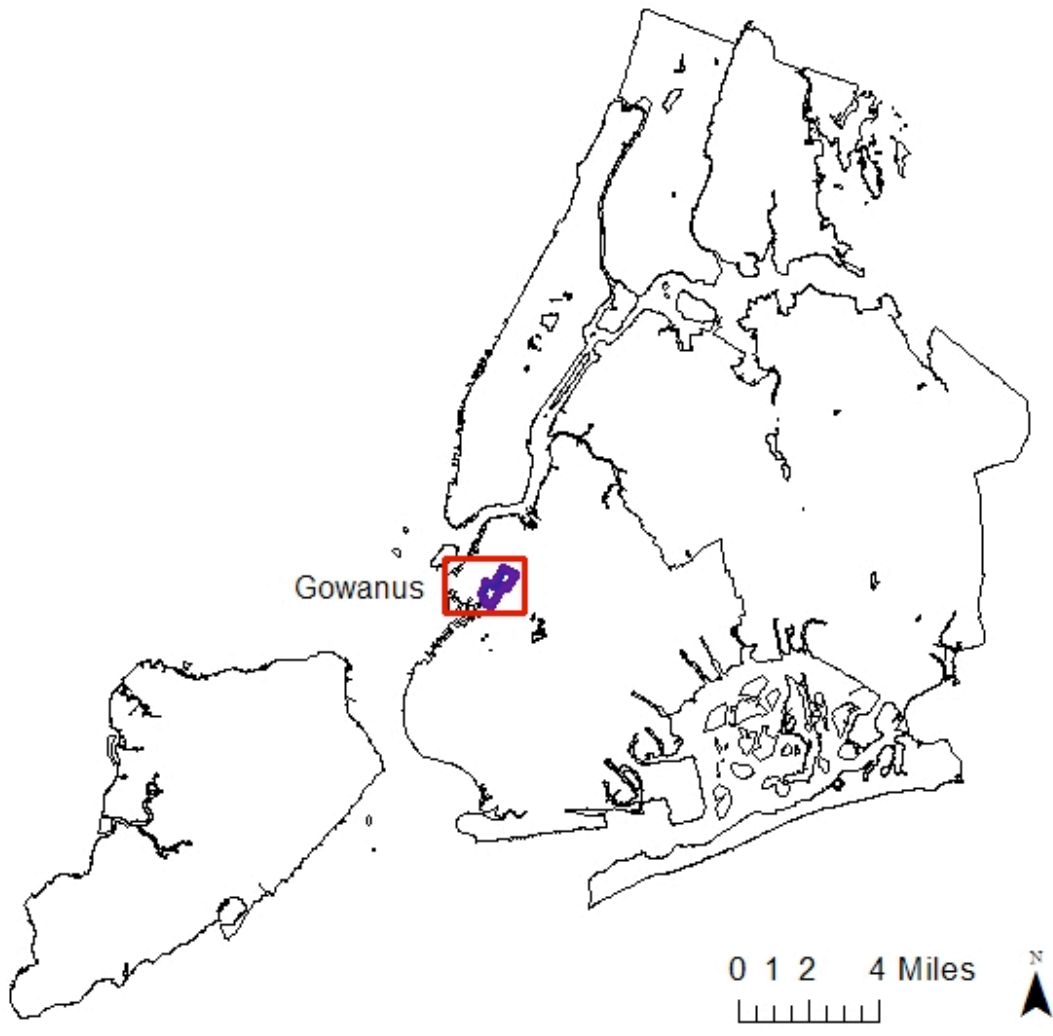


Figure 1. Gowanus in New York City.

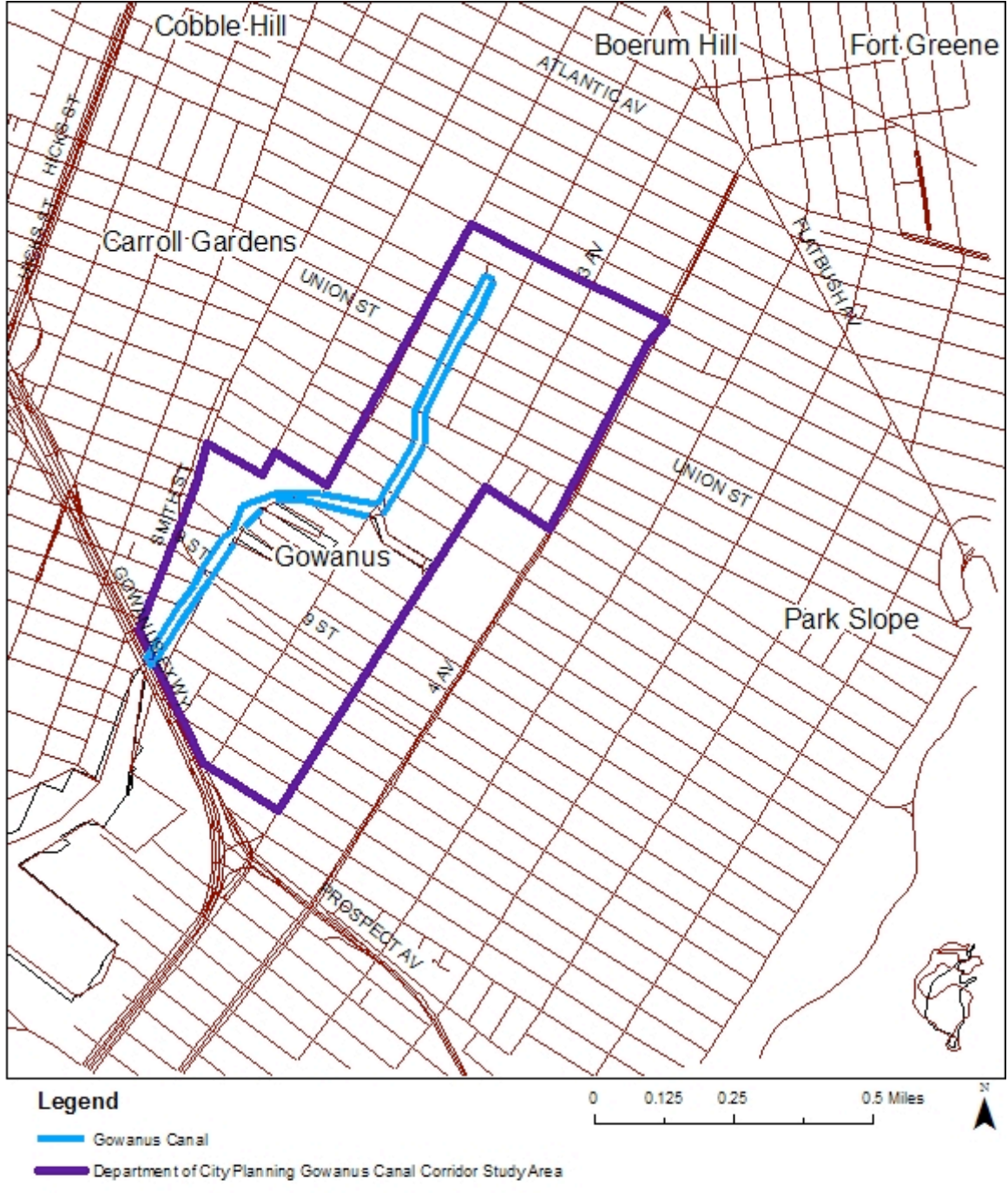


Figure 2. Gowanus and nearby neighborhoods.

2. Gowanus Residents and Their Perception of History

In considering the future of Gowanus, the community leaders I spoke with do not think about the neighborhood in a vacuum. Instead, they look both to Gowanus' past as well as the fates of other gentrifying neighborhoods. Many residents and leaders in Gowanus look to a past of industry and are either nostalgic for that or wish to recreate Gowanus as an industrial hub. Although they are actively involved in cleaning up industrial pollution through the Superfund, few connect that industry to the blue-collar jobs they wish the area had and seek to attract. At the same time, many of their ideas for how the neighborhood should change are based on their own analyses of other formerly industrial areas, places like SoHo, DUMBO, or Williamsburg, and Gowanus' neighbors in Brownstone Brooklyn¹. From these other neighborhoods, community leaders draw cautionary but sometimes also hopeful lessons about how Gowanus can change for the 21st century, even if these ideas aren't necessarily fleshed out. Their understanding of what Gowanus used to be and what other areas have come to guide their opinions about how their neighborhood should change and is changing.

Even though virtually no one alive today saw Gowanus during its heyday before the Great Depression, the neighborhood's history still shapes community members' hopes. Only a small group of the current residents I spoke with have even family ties to the neighborhood dating back more than 40 years. Nevertheless, many current residents

¹ Brownstone Brooklyn refers to a section of Brooklyn with many brownstone row houses that became gentrified beginning in the 1960s and 1970s. This section is generally defined as Northwest Brooklyn from Brooklyn Heights to Park Slope (east of Gowanus) including Boerum Hill (north of Gowanus), Cobble Hill and Carroll Gardens (both west of Gowanus). Fort Greene and Prospect Heights are sometimes included, as well. Despite referencing a type of building, it refers much more to the culture of the artsy white professional gentrifiers; Bedford-Stuyvesant has numerous brownstone houses but is not included because it is poorer and mostly black.

idolize the Gowanus of the early 20th century as a place where blue-collar people could live and work, and community leaders who disagree on almost every other issue embrace this vision. However, their stories of Gowanus do not always correspond with the reality of the industry, which lined the Gowanus Canal. That industry was polluting, messy, and smelly according to witnesses at the time (Breitzke 1908). Although the industry left more than half a century ago and government agencies have worked on and off for decades to clean it up, the canal is still horribly polluted today.

One of the community leaders most in favor of new development is Buddy Scotto, a long-time local activist known as the “Mayor of Carroll Gardens” thanks to his long service in the community. He founded the Carroll Gardens Association and began many of the efforts to clean up the Gowanus Canal. Scotto, one of the few residents left who can trace their roots in the neighborhood more than a couple decades, grew up in the 1930s, at the tail end of Gowanus’ peak. He recalls the neighborhood as full of poor Italian-Americans persecuted until they became “real Americans,” imitating the tough white “Anglo-Saxons” of the Establishment. While Scotto’s parents owned a funeral parlor, which he later inherited, many of their neighbors worked in the shipyards of Red Hook. Though Scotto complains that his personal enemies in the Mafia controlled the shipyards, he nevertheless still fumes at his belief that Brooklyn was “screwed” when the port moved to New Jersey. Interesting, though, he now demonstrates little concern for saving the remaining industry in Gowanus and instead focuses on attracting new residents. Scotto says that industry left the neighborhood a slum-like, polluted area and believes that Brooklyn needs to clean up and move beyond its industrial heritage, though he still complains that the shipping industry left Brooklyn for New Jersey. Coming from

the exact other side of local politics, Linda Mariano leads the preservationist and environmentalist Friends and Residents of Greater Gowanus (FROGG) which opposes much of the new development. She moved to the neighborhood in 1976, which makes her one of the oldest current residents, though she never saw the shipping or manufacturing industries when they were in full force. Perhaps as a result, she romanticizes the industry of Gowanus as something worthy of trying to preserve and recreate. In reality, though, the history of Gowanus reveals a much more complicated story of industries, especially the gas companies, which gave Gowanus an interesting mix of industry and housing, but also destroyed the neighborhood's environment.

The History of Gowanus

At the beginning of the 17th century, the land now known as Gowanus was a tidal marshland inhabited by the Canarsee tribe of Native Americans. They would seasonally trek to the shore to harvest the plentiful shellfish such as clams and oysters and used the shells to create wampum, polished shell beads used for jewelry and currency. In 1636, Gowanee (or Gowane), a leader of the Canarsee, whose name is believed to be the origin for the neighborhood, sold marshland around a creek (later called the Gowanus Creek) to the Dutch, and it was farmland for most of the Colonial period (Hunter Research 2004). During the Revolutionary War, Gowanus was the scene of the Battle of Brooklyn and key points are under the present-day course of the Gowanus Canal or on no-longer-extant bridges. As a result of that Colonial history, neighborhood historians seek to get more attention and perhaps tourists for the battlefield. There is currently just one small memorial to American soldiers massacred by the British, but it is currently tucked away

behind a fence and mostly ignored. Boosters hope for more recognition of this history someday (Chavchavadze personal communication 2011).

Brooklyn rapidly expanded during the 19th century, and in 1846, the Brooklyn city government developed a plan to fill the marshland, so that it could become developed land. The creek would be excavated to hold the water that had been in the marshland and it would also be used as a sewer. The original proposal included a channel from Gowanus Bay to Wallabout Bay (the body of water between the Manhattan and Williamsburg bridges) although, in a fateful decision, this was dropped due to the cost. Instead, the Canal ended south of Atlantic Avenue when construction finished in the 1870s (Hunter Research 2004).

At the same time, the rapidly growing gaslight industry saw Gowanus as a convenient location to build gas plants. On the border between Park Slope and South Brooklyn (now the neighborhoods of Cobble Hill, Carroll Gardens and Red Hook), the canal eased transportation difficulties, enabling massive quantities of coal to be shipped to the plants. The gas plants burned the coal and then combined steam and oil to create gas. This gas would be piped into homes to light lamps and later power ovens and heat homes. By 1895, there were three gas plants along the Gowanus Canal, all owned by a new monopoly, the Brooklyn Union Gas Company. In addition, the Brooklyn Rapid Transit company took advantage of the same transportation advantage to site their Central Power Station along the canal (Spitzer-Rubenstein 2011).

The thirty years or so from 1900 to the Great Depression were the height of the Gowanus Canal's prominence. More than fifty firms shipped goods using the canal, and the manufactured gas plants and power plant demanded a constant supply of coal in large

quantities. In the early 1900s, as many as 26,680 boats used the canal in a year, close to one hundred ships a day. All the property abutting the canal was worth \$3,315,000 (Breitzke 1908), or \$85,453,333 in 2012 dollars (Consumer Price Index (Estimate) 2012). The canal was packed with tugboats, barges, and canal boats, and residents complained that the congestion on the canal closed the retractable bridges over the canal, preventing pedestrians from crossing the canal over those bridges. The Brooklyn Dodgers also inhabited the neighborhood until 1913, playing at Washington Park on the east bank of the Gowanus Canal, which is another site local historians would like to memorialize (Martin 1997). However, the Great Depression cut shipments on the canal roughly in half. Then after World War II, the switch from burning coal in order to manufacture gas to more efficient, cleaner-burning natural gas destroyed the industry along the Gowanus Canal.

Even when the neighborhood prospered, the canal became more and more disgusting. In 1908, the *New York Tribune* described the Gowanus Canal as “a standing horror...From its slimy surface gases, formed by the disintegration of sewage [that is, human waste], have gone forth to make its neighborhood foul and unhealthy for nearly a generation.” (“A Change for Gowanus” 1908). According to probably apocryphal stories, neighborhood youth would flush their toilets and run down to the canal to see the sewage emerge out of the pipes (Waldman 1999). Charles Frederick Breitzke, a professor at MIT, investigated the Canal and its sanitary conditions in 1908. Factories and city sewers deposited waste directly into the canal, creating a foul stench. The sewers flowed directly into the canal and sewage floated in the canal, since the water from the canal did not flow into the ocean as water from the East and Hudson Rivers does. The gas plants also

contributed to the pollution. The gas plants allowed coal tar and other chemicals to just flow into the canal, lending the water a “yellow-brown” color (Breitzke 1908).

The original expectation held that the canal, without its connection to Wallabout Bay, would rely on tides to flush out waste, much as the tides had come into and out of the marshlands of Gowanus prior to the canal. However, the currents were too weak to reach much into the canal, and the pollutants and sewage just sunk to the bottom. The City of Brooklyn initially responded by building a giant sewer at the head of the canal collecting water from as far away as Prospect Heights, thinking that the extra water the sewer would collect could push waste down the canal. Instead, the rains were only heavy enough a few times a year and they brought enough runoff from Brooklyn’s streets to counterbalance any beneficial impact they might have had (Hunter Research 2004).

Finally, after Brooklyn was subsumed into New York City in 1898, a new plan emerged for an underground flushing tunnel from the East River at the Buttermilk Channel, between Governors Island and Brooklyn, to the Gowanus Canal along Degraw Street. A pumping station would pump water from the harbor into the canal, with the water then flowing down the canal and into Gowanus Bay. It opened in 1911 and at least mitigated the pollution (Hunter Research 2004). However, according to Buddy Scotto: “The businessmen along the Gowanus Canal, and it was one of the busiest commercial waterways in the city, if not the country, were annoyed because the tunnel created currents that made it more difficult to load barges.” (Scotto personal communication 2011). In 1960, a manhole cover fell into the tunnel and broke the pump; Scotto alleges that businessmen using the canal conspired to do so in order to stop the current. While this contributes to the mythology of a neighborhood persecuted by outsiders that many in

Gowanus appear to believe, this story does not seem believable. By 1960, much of the industry in Gowanus was already gone, victim to improved technology. The more common story is that the dropped manhole cover was an accident and the city expected a new sewage treatment plant in Red Hook would negate the need for the Flushing Tunnel (Waldman 1999). This version seems more likely.

However, New York's financial problems in the 1960s and 1970s led to a long hold-up for the Red Hook sewage treatment plant. Buddy Scotto, a delegate to the 1976 Republican National Convention, demanded federal funding for the plant as a condition of endorsing President Ford for re-election. Although Ford ended up losing, federal funding paid for the new sewage treatment plant and this improved the condition of the canal. Another break for the canal came a few years later when then-Congressman Fred Richmond got caught soliciting pageboys for sex, among other misdeeds. In exchange for Scotto's Democratic club not using the pageboy scandal in a campaign, Richmond agreed to earmark \$12 million to repair the flushing tunnel. While Scotto told the author in an interview that he would not have used the scandal against Richmond even without the payoff, he undoubtedly secured a significant benefit for the neighborhood. A subsequent upgrade of the sewer further improved the canal. According to Scotto, this made much of the difference, even before the Superfund designation and the canal is "now 85%-90% cleaner than it was [in 1965]," although Scotto provided no sources for the claim. Others, though, claim that the sewers are still polluting the canal because it is less expensive for New York City to pay fines for violating the Clean Water Act than to fix the sewer systems. As a result, "the sewers flood whenever it rains, dumping sewage into the canal." (Foote personal communication 2011).

Going along with the cleanup of the canal, the economy on the banks of the Gowanus Canal has improved markedly over the last few decades. When Linda Mariano bought her house in 1976, she paid \$10,000--even at the time, a suspiciously low price. The building was little more than a shell but since the neighborhood was redlined, Mariano was only able to get a mortgage from a small bank in Queens and could not borrow money for renovations. At the time, the area was filled with chop shops. While unsafe then, it gradually improved to the point where crime is rarely a fear for her. Sasha Chavchavadze began renting an art studio in Gowanus in 1982, and at the time, there was almost no one on the streets. Owen Foote moved to Gowanus in 1991 and has seen artists, music venues and bars gradually creep into the neighborhood over the past few decades. The trucking business, probably the single biggest industrial sector in the area, came in about the same time, using vast swatches of the neighborhood for parking lots, maintenance and staging locations. These businesses began reviving the neighborhood economy long after the coal gas industry finally closed up shop in the 1950s and the current concern about gentrification might be traced to these early pioneers.

Many residents claim to wish this industry still existed and the jobs it provided were still there, although there is little discussion connecting industrial businesses to the pollution in the Gowanus Canal. Marlene Donnelly insists that the past FROGG wants to preserve is not the polluting manufactured gas plants but warehouses and historical buildings; she has a point if only because only one of the coal plants still stands (the Brooklyn Rapid Transit power plant). However, the Gowanus neighborhood was built around polluters and those historic buildings would not have existed without the coal economy. FROGG does not acknowledge that. There is even less talk about how more

industry might change the neighborhood and whether residents really want to live in an industrial neighborhood. Industry would likely mean more truck traffic to transport materials and finished goods, might mean more pollution, and would likely attract restaurants catering towards inexpensive, blue-collar tastes. Perhaps because they do not talk about those issues, community members still hold onto this idea that the “old days” when there was industry were great for the neighborhood.

Gentrification in Other New York City Neighborhoods

At the same time as residents of Gowanus look back to the neighborhood’s roots, they also look to other New York neighborhoods as models of what Gowanus could be. This is not always an optimistic perspective; many see nightmare scenarios that they hope to avoid. Activists involved in local issues generally focus on the fate of just a few neighborhoods: SoHo and DUMBO, where artists, industry, and low-income people were displaced, Williamsburg, which is seen as having some sort of balance, and the Brownstone Brooklyn neighborhoods of Carroll Gardens, Boerum Hill, and Park Slope, which are seen as more upscale and gentrified but still artistic. Those Brownstone Brooklyn neighborhoods surround Gowanus and some expect they will eventually grow to include Gowanus. These views of other neighborhoods guide people’s expectations of what Gowanus will become.

The Lower Manhattan neighborhood of SoHo was once a decrepit neighborhood filled with buildings that had been used for manufacturing. When Robert Moses proposed the Lower Manhattan Expressway, which would have cut through SoHo, industry left, and the buildings became vacant. In order to attract residents, the city government

relaxed fire codes and adjusted zoning laws to allow artists to reside there in the 1970s. Artists did move, first just a handful, and then more and more. As artists moved in, they made SoHo safe for wealthier newcomers. Their presence increased rents and prices, gradually displacing artists in favor of people who could afford the higher prices. Now, SoHo has few artists left (Brandes Gratz 2010). A similar pattern happened in DUMBO, as artists began to move in to the neighborhood north of Downtown Brooklyn on the East River during the 1980s, gradually improving the neighborhood. Two Trees Development Corporation, a local development company owned and run by David Walentas and his son Jed, purchased most of DUMBO's old buildings during this time and evicted most of the artists in favor of wealthier residents and created amenities for new waves of high-income gentrifiers. While there are some art galleries in both DUMBO and SoHo, most of the working artists are gone (Hackworth 2002). These neighborhoods are now primarily residential and commercial, a fate most in Gowanus would like to avoid.

Since a number of newer residents of Gowanus are artists, they are acutely aware of the fate of those neighborhoods; some artists even found Gowanus after being displaced from DUMBO. Sasha Chavchavadze, one of the earlier artist-gentrifiers, wants to make it easy for artists to buy their studio space, as a response to what happened in DUMBO. There, artists did not own their buildings and so were priced out. Another artist who rented studio space in an old industrial building turned over to artists told me that he found DUMBO more “aesthetically pleasing” but couldn't afford the neighborhood. These artists especially fear Gowanus becoming too gentrified for them to afford it. Toby Snyder, an architect and former resident, echoed those fears, remarking that it was

inevitable that the artists would be displaced: “The writing is on the wall and the only question is how long it’ll take.”

Starting in the 1970s, Williamsburg began to attract artists and they have slowly taken over, living and working in both residential and formerly industrial areas. However, Williamsburg has retained an incredible amount of diversity with several distinct communities coexisting together, including Latinos, Hasidic Jews, artists, wealthier white-collar newcomers, and some industry (Curran 2007). A recent rezoning created a new mixed-use area that supporters hope will allow industry to stay in Williamsburg alongside new residential housing development. However, critics see this as just a fig leaf while the remaining industry is gradually displaced (Wolf-Powers 2005). Nevertheless, because of the zoning as well as the fact that parts of the neighborhood still resemble its industrial past, artists are well established in the neighborhood. Williamsburg also has significant amounts of public housing as well as rent-controlled and subsidized housing, which make it easier for some older residents to stay in the neighborhood.

Some residents, especially artists, see hope in the story of Williamsburg, since artists are thriving and some industry does remain. Sasha Chavchavadze looks favorably at a special rule allowing artists in Williamsburg to live in their studio space. This reduces artists’ expenses since they then do not need to pay for both studio space and an apartment. Chavchavadze wants a similar regulation for Gowanus but has so far been unsuccessful convincing policymakers due to concerns about artists living in close proximity to dangerous chemicals. Toby Snyder would like Gowanus to be similar to Williamsburg with a mix of renovated industrial warehouses for business and new condos for new inhabitants of the area. However, not all are so favorably inclined. Owyn Ruck,

the manager of the Textile Arts Center, which offers classes and space for artists, remarked that Williamsburg, while known for arts, has a specific scene and vibe that rubs some people the wrong way. In addition, Benjamin Aufill, a local blogger who writes GowanusYourFaceOff.com, observed that Williamsburg was no longer so inexpensive and feared Gowanus would follow that path. As he put it: “There's nothing wrong with Williamsburg, but I can't afford it.”

While DUMBO and Williamsburg are in the same borough as Gowanus, they are not as relevant and close at hand as Gowanus’ neighbors. Park Slope, Boerum Hill, and Carroll Gardens are part of an arc known as Brownstone Brooklyn for the brownstone and brick row houses that dominate in the area. Boerum Hill, in fact, was carved out of Gowanus in the mid-20th century, as a way for the gentrifiers there to cement their claim to Brownstone Brooklyn, rather than linking the area to the industrial areas and lower-income residents of Gowanus. This desire for separation is especially pronounced with regards to Boerum Hill’s neighbors in public housing who are surrounded by homeowners in the Boerum Hill Association on three sides. These moves started in the 1960s, led by the Boerum Hill Association and other similar civic organizations, small groups composed of middle-class white homeowners who called themselves Brownstoners. While they clashed with and began to displace older inhabitants, internal divisions among black, Latino, Italian and Irish long-term residents prevented much resistance. The Brownstoners overcame redlining and saved the neighborhoods from slum clearance proposals and now, they are some of the toniest communities in New York City (Kasinitz 1988).

Part of the changes in Brownstone Brooklyn come from expanding definitions of what the neighborhoods encompass, as many described in interviews. Owyn Ruck recalled growing up in Park Slope; she would not go north of 3rd Street or west of 5th Avenue. Now, the borders of that neighborhood are generally defined as 4th Avenue and Flatbush, a sizable expansion as the area gentrified, and many residents think that eventually Park Slope will mean everything between the Gowanus Canal and Prospect Park. Some promoters already refer to the area as the “Gowanus section...of Park Slope” (Alström Bros). However, as Park Slope has expanded, the newer western areas have not retained the charm of Brownstone Brooklyn. 4th Avenue saw one of the most recent rezonings and now has several new low-rise buildings that are roundly panned. Mical Moser, organizer of the Annual Gowanus Artists Studio Tour, declaimed that the new buildings were incredibly ugly boxes, without character, built cheaply to be cheap and affordable. Leslie Boyce, a local historian, claims that realtors are marketing 4th Avenue as the “Park Avenue of Brooklyn” and, as a result, “communities are being destroyed” by newcomers who don’t appreciate the character of the neighborhood. Bill Appel, head of the Gowanus Canal Community Development Corporation, had a similar reaction, describing the new development as “more like LA” than New York. As Brownstone Brooklyn expands into Gowanus, if it loses its distinct character, it may negatively transform the neighborhood.

The examples of gentrification in other neighborhoods are frequently cited in conversations among community members but they are not likely to agree on exactly what those stories demonstrate. In addition, many Gowanus residents came to the neighborhood from other gentrifying neighborhoods because Gowanus is more

affordable, and so are likely to praise their new home for that without considering whether they are causing their new neighborhood to follow the same trend. Because of a lack of a real community forum to bring stakeholders together to evaluate their neighborhood and its course, these different ideas exist in a vacuum, often unchallenged and it is not at all apparent that these ideas have any influence on policy. Some sort of participatory planning structure could get people to share and better formulate their views and help shape policies that will affect the community.

In looking to the future of the community, activists in Gowanus look both to the history of the neighborhood and the fate of other gentrifying neighborhoods. When Gowanus residents talk about the past of their neighborhood, they cite its history of industry as something desirable that they wish to bring back. In doing so, they ignore how industry polluted the Gowanus Canal to the point that even decades later, the canal still requires an intensive cleanup. At the same time, residents also look to other gentrifying neighborhoods as examples of potential fates for Gowanus and hope to maintain artists, industry, and low-income housing. That mixed-use, mixed-income future is something only Williamsburg has arguably achieved and Gowanus leaders have no serious plan of making that happen nor any clear procedure to arrive at such a plan. However, unlike all those other neighborhoods, Gowanus is horribly polluted and with the Superfund is only now really confronting the legacy of its industrial past, albeit without acknowledging the connection.

3. The Superfund Cleanup will Reshape Gowanus

The fate of Gowanus is intimately tied to the Superfund cleanup, a federally funded effort run by the EPA because that agency declared the pollution is so bad, cleaning it up is a national priority. The Superfund designation in 2010 momentarily halted new development in the area but the cleanup may set processes in motion to fundamentally alter the neighborhood by making it more attractive to wealthier newcomers. However, that depends on the EPA's cleanup succeeding, and since it is still in the early stages, no one can predict with certainty how long it will take or what the results will be. At the same time, the effects the Superfund will have on the local community are unclear. Superfund opponents worried that the designation would lower property values or otherwise harm long-time residents. However, a GIS analysis seems to indicate that being near environmental hazards actually resulted in a larger increase in land value from 2003 to 2010 compared to the Gowanus average. Those results may be incomplete or it may be too soon to see the full impact of the Superfund though anecdotal evidence from one local environmental planner seems to support this interpretation. Although the Superfund may not be the ultimate cause for gentrification, the lack of planning for what will follow the cleanup could result in environmental gentrification as the neighborhood becomes gentrifying due to the new lack of pollution.

How Bad is the Pollution?

The Gowanus Canal's contamination is understandably worrisome to many residents. In an interview, Mical Moser related that many of the artists she works with are understandably concerned about health risks from being near the canal, and this likely

inhibits some from living or working in Gowanus. This was also a topic of conversation at the Annual Gowanus Artists Studio Tour, which Moser runs. At the exhibition of art created in Gowanus along with the spaces where it is made, I overheard two artists discussed how the Canal is disgusting, with “floating oil slicks” and “gonorrhea” in the water. One claimed that the oil and other chemicals in the Gowanus Canal seeped into the ground and were so strong as to dissolve pipes. Another resident, a local blogger, informed me that the canal was filled with gasoline and the EPA warns people to stay more than 5 feet from the canal because of gasoline vapors. He estimated that the bridges over the canal were only about 5 feet high and even that might, unfortunately, not be enough because of wind, especially during the summer when the heat caused chemicals to evaporate. He also reported disgusting smells coming out of drains in his apartment (Auffill 2011). At least some residents certainly worry about the pollution in the canal. However, this concern is surprisingly not widespread and is mostly expressed by artists and other creative professionals.

Though many residents do not profess concern about the pollution in the canal, a few did worry about the pollution elsewhere in the neighborhood. Toby Snyder, an architect and former resident had a young daughter, and she prompted him to move from the neighborhood. As she began to walk, he told me that he worried about where she might play and what she might put in her mouth. Since the land around the canal was as polluted as the canal itself and is not covered by the Superfund (although New York State programs cover specific plots), he feared the health risks she might face. Similarly, Owyn Ruck, manager of the Textile Arts Center, grew natural dyes in a community garden to use in their textiles. She did not worry about the ground being polluted since they were

relatively far from the canal and none of the plants she grew were edible. However, she expressed fright relating that some people grew food in the garden, even though the plants grew in planters, rather than directly in the ground. Like Toby Snyder, Eymund Diegel worried about his children, though it did not prompt him to move altogether. Concerned about air pollution from truck yards in Gowanus, Diegel chose to transfer his daughter to a school in Carroll Gardens after she began to have a persistent cough. He also distinguished between visible pollution like the sewage overflow, which affects property values and people actively work to clean up, and brownfield pollution, which people cannot see though it still causes health problems. In his view, the invisible contamination might be harmful but would not ultimately delay development. Indeed, it is noticeable that although many of people I spoke to complained about noxious smells and unsightly water, it was a distinct minority of people who worried about health risks. This might suggest that, although the canal and neighborhood as a whole are horribly polluted, other issues like gentrification and economic development, and how the pollution and Superfund affect those issues, are more pressing to the everyday lives of residents.

In fact, many community members seemingly brush off the pollution that surrounds them. Even some of the people who expressed concern about environmental hazards lived their lives nearby, without altering their daily routines to avoid pollution. A number of people seemed to accept that the area might be polluted but insisted that it was no worse than other areas. While this assertion is almost impossible to prove, Gowanus certainly has more pollutants concentrated in a single location, as evidenced by the Superfund designation. Ben Aufill, despite saying that no one should be near the

Gowanus Canal, remarked that all cities are polluted because of cars and trains, and so Gowanus probably wasn't any worse than anywhere else. Mical Moser expressed a similar sentiment. In her consideration of environmental risks, her ability to walk to her studio meant she avoided most of the car fumes that she would have inhaled by having to drive. She claimed those fumes at least as bad as the risk of being near the Gowanus Canal. Aufill also pointed out that old Italians lived by the Gowanus Canal all their lives and did not seem any worse off for it, highlighting an interesting facet of the Superfund discussions. For all the talk about the pollution and hazards, no resident pointed to any studies showing health disparities; the health arguments in favor of the cleanup seem purely hypothetical and based on the expected effect of various chemicals, in part because even the most local data from the New York City Department of Health includes numerous residents living outside the Gowanus neighborhood. Perhaps that lack of scientific evidence explains why Moser thought most people in the neighborhood weren't concerned about the potential risks.

Other informants were more blasé when asked about pollution. Owyn Ruck said she mostly thought about pollution while walking over the Gowanus Canal. Linda Mariano said she was too involved in the community to worry about the pollution any more. Similarly, Sasha Chavchavadze said she was too focused on other aspects of the neighborhood such as its affordability, to pay much attention to pollution. It is interesting that people who are so engaged with cleaning up pollution do not worry about it themselves. However, as some people mentioned, they are too busy to think about it and people who were really concerned about health risks would not live in Gowanus. Although even many people who were unconcerned about pollution supported the

Superfund designation, this disconnect could hinder cooperation to decide the future of the Gowanus Canal after the Superfund is complete. The EPA, the City, and local community groups have not taken a proactive role in resolving or directing conflicts over the future of the neighborhood. This may paralyze decision-making later or result in less influence with outside policy-makers.

How Will the Cleanup Affect Gowanus?

Many Gowanus community activists expect the EPA to effectively remediate the pollution in the Gowanus Canal although that feeling is not universal. The EPA is seen as professional and effective, even if some worry that the cleanup will take too long. Some also feel that the Superfund process might cost them more than it should; although the EPA and the polluters will pay for the cleanup of the Canal, more stringent environmental standards could result in new expenses for businesses and potentially even homeowners. Nevertheless, as revealed in interviews, different members of the community have starkly contrasting levels of concern about area pollution, what types of pollution are the most dangerous, and how easy they will be to clean up. In addition, many community members worry about the future cleanliness of the Gowanus Canal with climate change leading to rising sea levels and more hurricanes. Many also fear that the combined sewer overflow caused by rainwater flooding into and causing sewers containing human waste to spill into the canal will continue.

The Gowanus Superfund is not the area's first brush with efforts to cleanup the pollution. The first efforts to remediate the canal's pollution began in the 1970s, and included a new sewage treatment plant and the reactivation of the Gowanus Flushing

Tunnel. The Army Corps of Engineers even dredged the canal, removing the contaminated sediment at the bottom (Scotto 2011). While Buddy Scotto claimed that little more effort was necessary to restore the canal, the vast majority of the community, the Environmental Protection Agency and New York City government all disagreed and insisted that the canal was still not clean enough. Other previous efforts in the area to remediate brownfields, land that was polluted by previous occupants, also failed. An abandoned plot of land meant for housing in the eastern part of the neighborhood could not be developed because the developer could not remove lead and other chemicals from the ground (Moser 2011). These past unsuccessful cleanups lead to significant worries about the Superfund's effectiveness.

On the whole, Gowanus residents expressed confidence with the EPA's cleanup, although there are some issues residents worry about. Ray Howell expects the canal to be much cleaner, but not perfect: "You're never going to swim in it or drink from the Gowanus Canal and it's salt water so it's not potable. But [the EPA] will do the best of their ability.... [The water quality] is going to be the level of the harbor." Members of FROGG worried about that in one meeting, where they considered how they might be able to get the EPA to clean the water to the highest standard, where it might be safe to swim in, rather than just clean enough to be around. However, Leslie Boyce was confident that the EPA would do a good job and that nature's processes would take time to restore the canal once the EPA got the ball rolling. Their efforts to begin natural systems that would break the pollution down worried Ben Afill, though. The EPA sent bubbles into the water to cultivate organisms that could eat the chemicals. However, that process also created more vapors which could carry pollution out of the canal. Owen

Foote also thought the EPA had been inept in not clearly specifying the Superfund zone, raising concerns far from the canal without alerting some of the people near the canal who were in the heart of the Superfund zone. He worried that the EPA's more extensive cleanup would be more costly and take more time than New York City government running the cleanup, although this is questionable since the EPA uses federal dollars and money collected from polluters while New York's plan would have involved New York City taxpayers footing the entire bill. Even if the New York City plan had cost less money total, New Yorkers would have had to pay more. David von Spreckelsen, the Vice President of Toll Brothers responsible for their aborted Gowanus development echoed similar views. He also saw the cleanup efforts themselves, with "men in white coats walking around, dredging, and all that" (2011) as hindering development. For both von Spreckelsen and Foote, they would have preferred the smaller-scale city-proposed cleanup plan. However, only a few people held these views. Most apparently trust the EPA to do a good job of cleaning the canal now that they are set on doing so.

Although there is faith in the EPA, many still worry about what the canal will be like once the Superfund work is over. These concerns boil down to two critical issues, the combined sewer overflow (CSO) and climate change. Storms and rising sea levels caused by climate change are a problem for many low-lying areas and Gowanus is no exception. Hurricane Irene in 2011 caused the canal to flood (Moser 2011); luckily at least some residents evacuated and the hurricane was much weaker than expected (Gatmouth 2011). However, future hurricanes could wreak havoc on the area, and this is a concern for the future of Gowanus. In addition, sewage is a problem on a much more regular basis. New York City operates a combined sewer system where storm water and sewage

go into the same system. Generally this is not much of a problem, especially now that modern sewage plants process much of the water. However, when it rains, the sewers can overflow with too much water for sewage treatment plants to handle. The water, both rain water and sewage, overflows into the Gowanus Canal. When the sewers were built, this was accepted but since then, federal water quality laws have become stricter. Rather than pay to improve the CSOs, the city prefers to pay federal fines. Although the Superfund may clean up the sewage that has already flown into the canal, the EPA will not force the city to fix the CSOs, and neighborhood pressure has not been sufficient to get the city government to invest in repairing the CSOs. They may therefore re-contaminate the canal once the EPA leaves (Foote 2011).

Eymund Diegel emphasized that part of the problem is just the geography of the area; Gowanus was marshland surrounded by higher ground. While the City Department of Environmental Preservation is developing a plan to slow the flow of water, it is difficult to reverse the course of nature. Others like Brian Merlis, a Brooklyn historian, see the water running down the Slope from Prospect Park as just inevitably bringing runoff into the canal, even after the Superfund removes most of the chemicals from the canal itself. Some are resigned to this, but others, such as the leaders of FROGG, advocate for more substantial efforts to fix the CSOs. Marlene Donnelly, one leader of the group, pointed to the failure of the water to circulate; since other CSOs were on rivers, the sewage washed away but since the canal water did not circulate, the sewage just sat there. Presumably, though, the flushing tunnel might fix that problem. New ideas such as marsh gardens to absorb rainwater (Howell 2011) or reconfiguring storm runoff drains (Diegel 2011) may have an impact. However, one source very involved in the

cleanup told me that the city and state simply didn't care to or have the resources to enforce regulations and keep the canal clean. Even at the local level, the environmental committee of the Community Board was too focused on development at the new Atlantic Yards arena to spend much time on the Gowanus Canal (Stoltz 2011). Linda Mariano also blames the city, though she focuses her ire on an unwillingness to improve the sewers or sewage treatment plants. Residents almost universally see this as the biggest threat to the full cleanup and rehabilitation of the canal and further development in Gowanus. Even though it may lead to greater gentrification, eliminating the stench of sewage floating in the canal is far more pressing for many local leaders.

While the CSOs are an issue every time it rains, climate change does not rear its head so obviously. Nevertheless, rising sea levels combined with more serious storms could threaten Gowanus. Hurricane Irene resulted in some flooding and it was a relatively weak storm. The horror scenario would be something like Hurricane Katrina for New Orleans: not only was there flooding but chemicals spilled, contaminating swatches of the city. Gowanus could face a similar threat, since the potentially overflowing water is already seriously contaminated. Nearby are brownfields further contaminated from coal, as well as numerous industrial sites with dangerous chemicals. In the event of a serious flood, that could combine together to form a toxic cocktail poured out across the neighborhood (Moser 2011). Further adding to the worry of some residents, insurance companies are not issuing flood insurance to buildings in urban areas (Diegel 2011). People might not frequently think about hurricanes and flooding in Gowanus at present. However, climate change could make that a much greater concern for residents or could even wipe out the neighborhood.

Despite these worries about the cleanup and its likelihood of success, there is one clear potential bright spot: innovative ways of dealing with pollution. A certain segment of Gowanus residents look forward to the potential for new ways of cleaning up and preventing pollution and are working to hurry that process along. Eymund Diegel is trying to develop a system for dealing with rainwater that is off the municipal infrastructure network (2011). Ray Howell eagerly related a proposal for marsh gardens to absorb rainwater so it would not flow into the CSO, and the Parks Department is introducing four of what they call bioswales, small patches of rocks, grass, and specialized trees. They expect these first four bioswales to absorb 7,200 gallons of rain that would otherwise enter the sewer system and then the canal (Rosenblum 2012). Sasha Chavchavadze's gallery/museum held a showcase of new ways to deal with pollution and the issues of the Gowanus Canal (Chavchavadze 2011).

Some even try to develop new techniques on a much larger scale. One new organization, Living City Block, is working to develop and implement new systems for dealing with electricity, heat, and storm water, and other groups around the world are already working to imitate their ideas (Grace 2012). Bette Stoltz sees the potential for a generation of new blue-collar jobs working on sustainability and cleaning up pollution that could revitalize the area, and Marlene Donnelly sees this as a way to safeguard industry in Gowanus (2011). This combination makes the Superfund even more alluring and exciting to proponents of industry in Gowanus. It's impossible to say which ideas will take off and which will stagnate, but any one of them could make Gowanus a global center for environmental innovation that would not only clean up the area but also create jobs and economic activity, killing two birds with one stone.

The people of Gowanus are of several minds about the Superfund. Some are enthusiastic and glad the EPA is cleaning up the canal. Others are more cautious, faulting the cleanup for being too expensive or taking too long. There are also substantial worries about whether the canal will actually remain clean due to sewage and storm water that will still end up in the canal as long as New York City does not fix its sewers. Climate change could also result in more severe hurricanes and flooding, which could also doom the neighborhood or submerge the part of it closest to the canal. However, there is also a wave of innovation that could make Gowanus a center for green jobs. The ultimate effect is unclear since innovative jobs have not yet arrived and the canal is still polluted. Although most expect those changes to come, no one can accurately predict the future. It is certain that the Superfund designation shifted the neighborhood's course by delaying immediate development. Nevertheless, that may not matter if Gowanus does not develop a plan to balance housing and new residents with existing residents and businesses.

The Superfund and Property Values in Gowanus

While much of the public discourse in Gowanus focused on the mechanics of the Superfund cleanup and the effect of pollution on the neighborhood, residents also worry about its economic impact on their neighborhood. Some opponents viewed the Superfund designation as suppressing property values and new development in the area. However, a GIS analysis of land values in the neighborhood demonstrates that properties actually increased the most in value closest to the manufactured gas plants and CSOs, which are the sources of most of the pollution. In addition, some people associated with developers

say that the lack of large-scale development may be more closely linked to a bad economy rather than concerns about the Superfund.

The scholarly evidence of how people react to Superfund designations is contradictory, and this may add to the concern about what the designation means for the neighborhood. The best way of evaluating reactions is based on property values because, as Farber (1998) explains, unlike simply asking people their opinion of the impact of pollution, the real estate market does not depend on potentially distorted perspectives or a single agreement, as in government decisions. Moreover, unlike rental data, property values are collected by a government agency in order to levy taxes. However, the impact can be difficult to measure because property values depend on a long list of factors, of which proximity to pollution is just one consideration. Some scholars have attempted to select a control group in order to evaluate just the impact of pollution (Farber 1998). However, Gowanus is something of a unique case since the Gowanus Canal is so central and integral to the neighborhood's identity. Moreover, what may be a negative quality to one person can be positive to others. Farber (1998) discusses how a polluted site may provide other benefits to its neighbors, balancing out the health risks, as with polluting industries that may provide jobs to residents of a neighborhood. In the case of Gowanus, a canoe club regularly goes out onto the Gowanus Canal (Donnelly 2011), for example, and despite the health risks, some members may prefer to be close to the canal in order to have easier access to canoeing.

The studies Farber (1998) reviews all found that Superfund sites had negative impacts on the property values nearest to the site, with that effect becoming stronger after the EPA added the site to the Superfund program. However, the effects were larger for

rural areas and smaller suburban communities than for urban areas. Similarly, one examination of properties near Superfund sites (Messer, Schulze, Hackett, et al. 2006) found that almost every event in a Superfund cleanup hurt property values and it took 5-10 years after the completion of cleanups for homes to recover their original home value. Another study (Reichert 1997) looked at a specific Superfund of a landfill in Uniontown, Ohio and found a significant permanent property value loss, with the houses closest to the Superfund site losing 14.6% of their value. This was the fear of some Gowanus homeowners opposed to the Superfund, especially those who feared a long cleanup. By contrast, many who expected the remediation process to be quick supported the Superfund because, as the Messer, Schulze, Hackett, et al.'s study showed, the more quickly the cleanup took place, the more property values would maintain their value and the more quickly they would recover. However, it is possible that given a longer time frame, the negative results might have been mitigated as property values increased.

Other research weighs in on the other side, arguing that the Superfund has a positive impact on property values. Noonan, Krupka, and Baden (2007) estimate that a cleanup results in a 3.7 percent increase in property values, though they caution that the increase in property value may not have been caused by the cleanup. Greenstone and Gallagher (2005) compared sites included in the Superfund program with others that were considered and not included because they were thought to be less polluted; they found that being near a site designated a Superfund did not cause a decline in rental rates or housing prices in nearby neighborhoods. The neighborhoods did start out with significantly lower property values, much like Gowanus, but designating a site as a Superfund actually increased housing prices in neighboring census tracts. Another study

looked at neighborhoods near a Dallas smelter to assess the impact of the Superfund cleanup (Dale, Murdoch, Thayer, and Waddell 1999). They showed that wealthier neighborhoods and those farther away from the smelter recovered property values more quickly after the cleanup was completed. Even more, the release of more information about the smelter and problems with the cleanup effort did not have an impact on the recovery. This suggests that while property values may be impacted by the stigma of pollution, which some in Gowanus fear, that stigma is ultimately limited and temporary.

Kiel and Williams (2007) found that the effects were mixed, a conclusion that the contrasting arguments of other academics seem to support. Taking a broader look at Superfund sites than studies of individual locations, they did not find a consistently negative effect from Superfund designations. They pointed to size of the Superfund site as a key factor. The larger the site, the more likely it was to negatively impact home prices, which would likely worry residents of Gowanus since the canal is a large body of water bisecting the neighborhood. However, this demonstrates that the Superfund designation cannot simply be assumed to either decrease or increase property values. This study of Gowanus can help elucidate how the Superfund designation actually impacts property values. Since the Gowanus Superfund is just beginning and the EPA has not yet even begun the actual cleanup, this can only examine the initial impact of the designation rather than the trend of property values over the course of the entire remediation process.

Some residents of Gowanus certainly feared the Superfund designation. Owen Foote expects the costs of the cleanup to force out all the older residents, wiping out the core of the neighborhood, though he did not explain the causal mechanism that would do

so. Sasha Chavchavadze had worried that her building might be designated as a responsible party since it had hosted a factory prior to being converted into artists' studios. This would mean that the EPA would try to make them pay for the costs of cleaning up their pollution. However, the responsible parties the EPA tries to collect money from are based on corporate succession, rather than who owns the property. As a result, companies like National Grid (Brooklyn Union Gas after a series of mergers) are responsible for the cost of the cleanup, rather than the current property owners. It is unclear how homeowners would be forced to pay some of the costs, as Owen Foote fears, though it is possible they could be inconvenienced by cleanup activities.

Other stakeholders support Foote's expectation that new real estate development would wait for the Superfund to finish or at least progress further. Living City Block's Chris Grace observed that developers she had talked to were unwilling to invest in the area with the Superfund ongoing. Bill Appel related the story of an investment banker who evaluated a proposed development. In Appel's story, he exclaimed that it would be "crazy" to invest in the area before the full extent of cleanup activities was at least more spelled out; the worst case scenario would be that they start construction, discover pollution, and are then forced to pull the building down in order to remove contaminants below it (2011). David Von Spreckelsen, the Senior Vice President at Toll Brothers in charge of their Gowanus development, also explained that it would be difficult to sell condos with scientists combing the area for chemicals. Even without the cleanup itself, Toby Snyder believed that most families would be unwilling to live in a polluted area, thus restricting the profitability of developments.

Although Superfund opponents feared declines in property values as a result of the designation, surprisingly in fact, the opposite has so far happened. Assessed land values close to environmental hazards have increased more than average (on a per-foot basis). This is most true for properties within 500 feet of combined-sewer overflow (CSO) points, which have increased by \$2.17 per square foot, compared to a \$1.44 increase for the greater Gowanus region from 2003 to 2010. Properties within 500 feet of a former coal plant have increased by \$2.04 per foot. By contrast, within the Department of City Planning's Gowanus Canal Corridor Study Area, the average increase was \$1.72 per foot. Land is likely becoming more expensive there due to an expectation that the Gowanus Canal and the pollutants in it will be cleaned up. Since the land was previously priced below comparable, unpolluted land, the pollution remediation has the effect of raising the value of the land to what it might otherwise be, although there is no way to accurately assess what the "natural" value of the land would be if not for the pollution. In addition, Gowanus may be on the verge of gentrification and redevelopment, especially along the Canal, where boosters associated with the Gowanus Canal Community Development Corporation want to create a "Riverwalk" of parkland. As a result, despite being currently polluted, the land close to the Canal may have the potential to rapidly increase in value after over the next several years. It is possible, though, that property values could decline in the future due to the Superfund.

As a gentrifying neighborhood, property values are still increasing, in some cases significantly. The polluted former coal plant sites and sewage overflow points might be expected to cause property values to increase less than they otherwise would have, but since the property values are increasing more than the median, one might assume that this

is in expectation of the Superfund cleanup. Other factors could be at play as well. The Department of City Planning withdrew a proposed rezoning of the neighborhood after the Superfund designation but the heart of the rezoning covered many of the blocks closest to the canal and, therefore, nearest to the sewers and old coal plants. This rezoning would have allowed many of the industrial buildings in the neighborhood to be turned into residential or commercial buildings. Residential or commercial uses might be more profitable for landlords than industrial buildings and the expectation that, eventually, the rezoning will take place could also motivate higher property values. In addition, the canal currently hosts boating and canoeing,² and could make living near the canal more attractive, outweighing the disincentive of being exposed to the pollution.

While this research cannot explore all the reasons people might choose to live by the canal, it can probe people's actions as demonstrated through the real estate market. Increased property values suggest that the area is becoming more popular and people are therefore more willing to pay more to live there. Alternatively, this could be speculative development by people who think that Gowanus will soon become more attractive, although anecdotal evidence suggests that rental rates are also rising (Aufill 2011), which would be more consistent with the area is already becoming more appealing to current and potential residents. By contrast, lower property values relative to other areas would suggest that people worry about the smell and pollution from the Gowanus Canal enough to avoid living there and that speculators think it is unlikely that such a negative reputation will change soon, lessening the demand for property there.

² The Gowanus Dredgers Canoe Club began in 1999 (Foote 2011).

In order to assess the impact of the Superfund, I looked at land values as compiled in New York City's Pluto dataset of properties from 2003, the first year in the set, until 2010, the most recent. The land value is used by the New York City Department of Finance to estimate the value of the land and its location for tax purposes, without considering the building on top of the land. I used estimated land value to calculate the change in land value per square foot over the last seven years. While assessed values appear to be biased downwards so that property owners pay less in taxes, this effect would seem to be more or less uniform across the area. I compared these changes in assessed land values to the plot's distance from environmental hazards, namely being near a former coal plant or CSO (CUNY Mapping Service). As a control, New York City Housing Authority developments (public housing) are used; they are known for negatively impacting property values and behave as expected in Gowanus (see Figure 3). Another factor potentially impacting property values are zoning laws and they are included in this analysis as well. I created all maps and figures used in this analysis.

Figure 4 shows that from 2003-2010, there does not seem to be much consistency in which properties increased in or lost value. The middle 20% of properties in terms of change in land value (those indicated in yellow) increased only slightly over those seven years, with land assessments changing by between \$0.29 per square foot and \$2.16 per square foot. Other properties saw either explosive growth or dramatic declines. It appears that the largest falls were on the eastern edge of Gowanus—that is the western part of Park Slope—the northern border of Gowanus with Boerum Hill and the northwestern edge that is sometimes referred to as BoCoCa (Boerum Hill, Cobble Hill, Carroll Gardens) or is otherwise considered either the southern part of Cobble Hill or the

northern section of Carroll Gardens. This is unexpected, since those areas are the most gentrified parts of the area, though the fall may be attributable to general declines as a result of the housing bust and current recession. The eastern bank of the canal had fairly mixed results though the area west of the canal and north of its bend saw some of the best results with most properties increasing in value. Throughout the entire area, assessed land values increased by an average of \$1.44 per square foot. Within the study area, the average increase was slightly larger at \$1.72 per square foot. That's significant but on a 2000 square foot lot, that's just an extra \$560.

Breaking these effects down by the different factors affecting increases in land value, the biggest drag on land value is actually being zoned for residential development, not being near an environmental hazard.

In fact, after areas currently zoned for commercial or mixed-use, the largest increases were for properties within 500 feet of a CSO or former coal plant (Figures 5 and 6). This suggests that those properties are now in

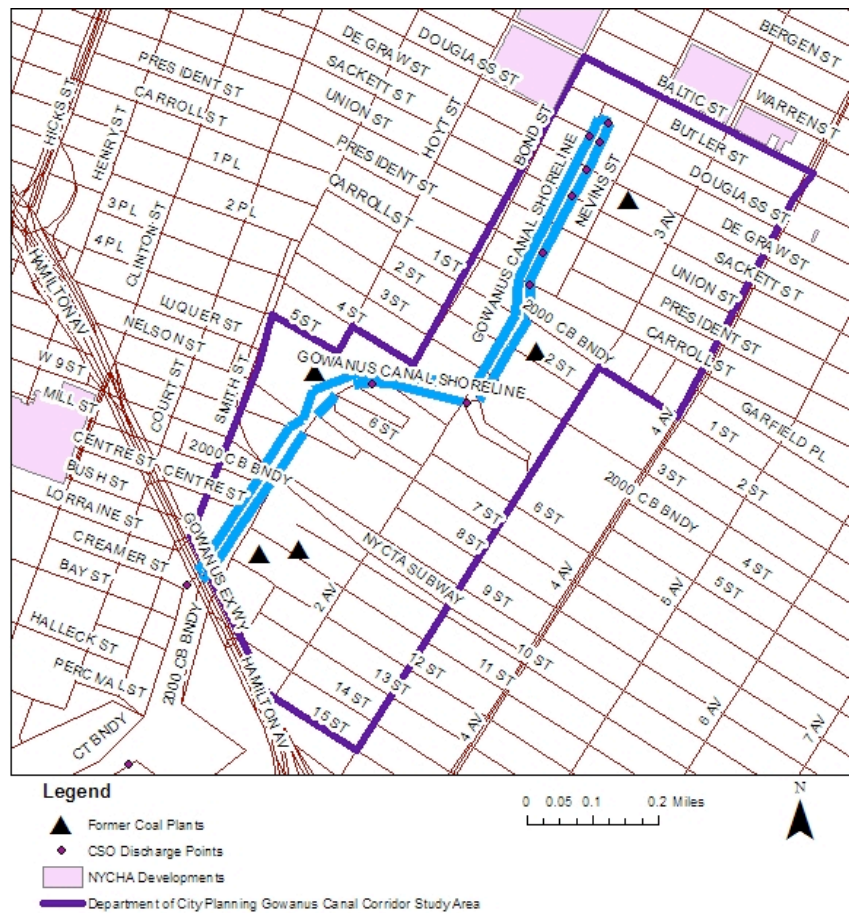


Figure 3. The Gowanus Canal Corridor Study Area and some potential influences on land value.

higher demand than they were before the Superfund, potentially contradicting the fears of Superfund opponents.

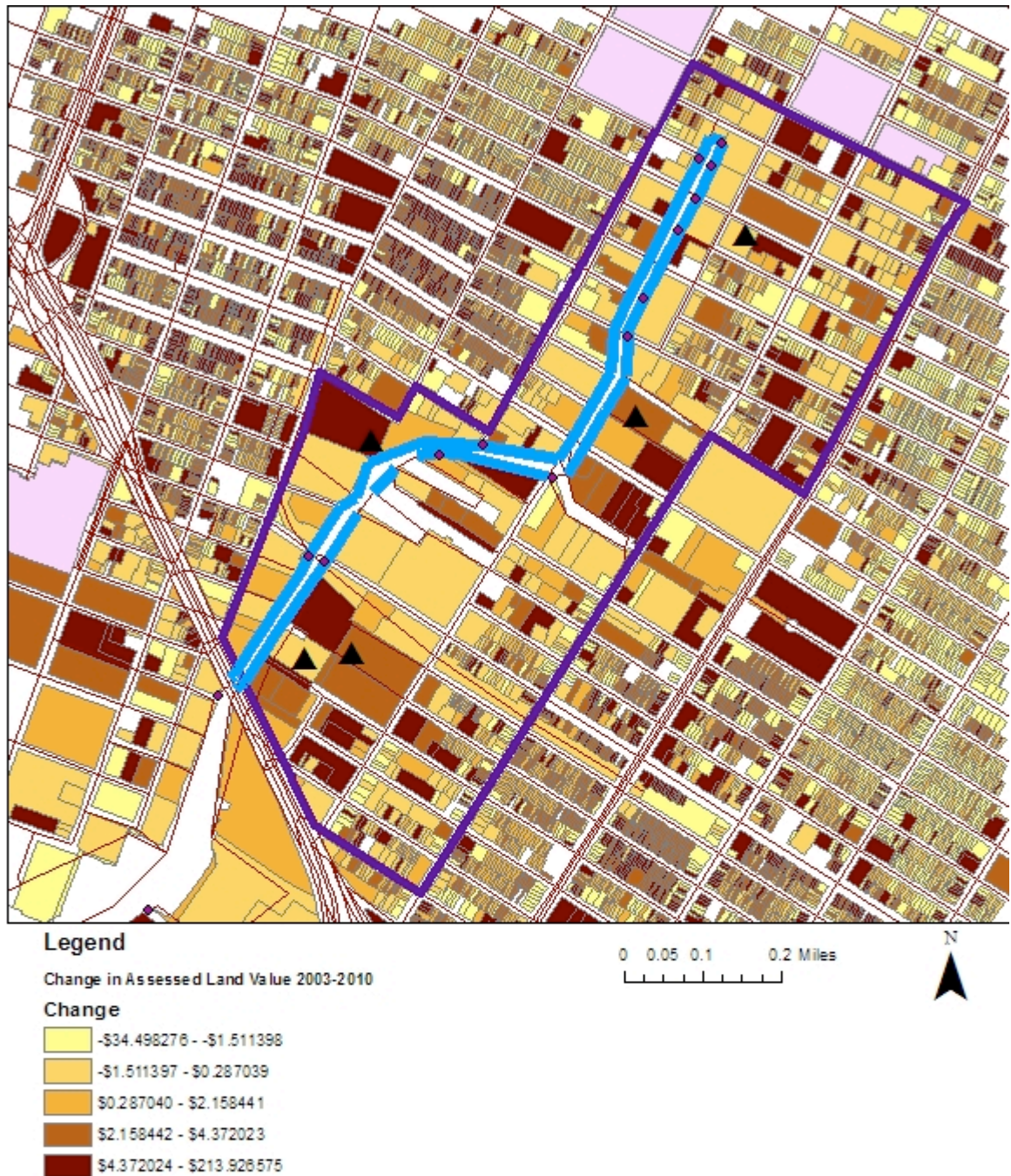


Figure 4. Change in Assessed land value 2003-2010.

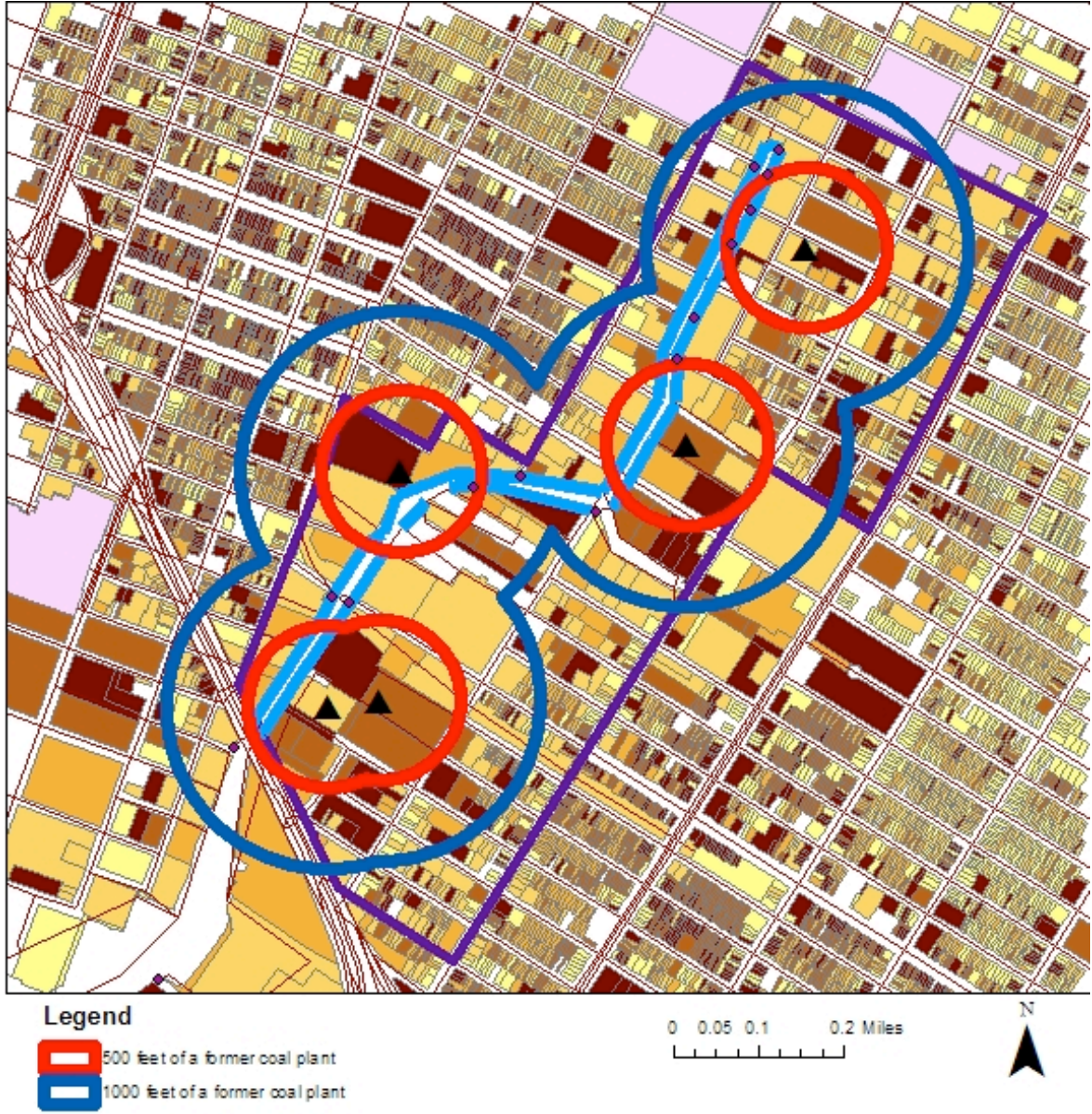


Figure 5. Area within 500 or 1000 feet of a coal plant.

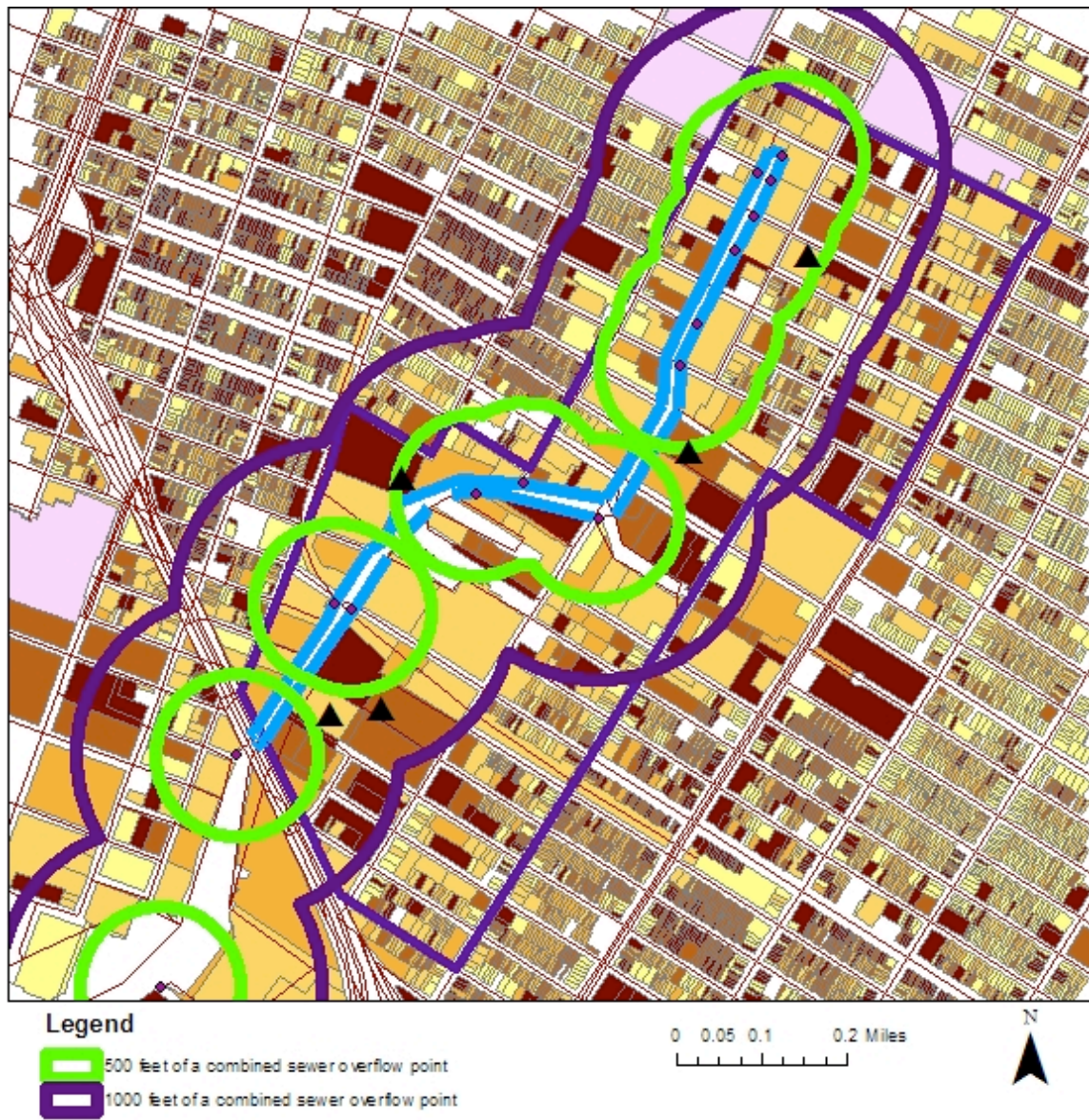


Figure 6. Area within 500 or 1000 feet of a CSO discharge point.

Factors affecting land value and average increase

Factor	Increase in assessed land value 2003-2010 (per square foot)
Average	\$1.44
Gowanus Canal Corridor Study Area	\$1.72
Within 500 feet of a CSO	\$2.17
500-1000 feet of a CSO	\$1.58
Within 500 feet of a former coal plant	\$2.04
500-1000 feet of a former coal plant	\$1.86
Within 500 feet of a NYCHA development	\$1.31
500-1000 feet of a NYCHA development	\$1.10
Within 500 feet of a former coal plant and a CSO	\$2.16
500-1000 feet of a former coal plant and a CSO	\$1.71
Within 500 feet of all three factors	\$1.93
500-1000 feet of all three factors	\$1.74
Currently Zoned for Commercial and Mixed Use	\$2.76
Currently Zoned for Residential	\$1.03
Currently Zoned for Manufacturing	\$1.60
Proposed for Rezoning from Manufacturing to Mixed Use	\$1.63
Proposed for Rezoning and within 500 feet of a former coal plant or CSO	\$0.87

Table 1. Various factors affecting land use in Gowanus along with the average increase in assessed land value from 2003-2010.

One explanation may be that the properties were underpriced before and are now reacting to the improvements from pollution remediation or the expectation of remediation. Due to pollution, waterfront property in Gowanus was inexpensive. Now that the EPA is remediating that pollution, potential owners and renters are seeing that there is inexpensive land that will quickly become pollution-free and so property values are increasing. This is the opinion of environmental planner and local activist Eymund Diegel and would accord with Noonan, Krupka, and Baden (2007) and Greenstone and Gallagher’s (2005) studies. There is also the Gowanus Dredger Canoe Club and the potential for parkland all along the Gowanus Canal and a Riverwalk-like promenade that could lure more people to the neighborhood, increasing property values, providing counterweights to the pollution, even if it’s not fully cleaned up, much as Farber (1998)

suggests can happen. There is also the possibility that the neighborhood as a whole could see gentrification and a building spree after the completion of the Superfund cleanup. That could motivate increased land values. Messer, Schulze, Hackett, et al. (2006) did find that property values increased immediately after the Superfund designation, before declining as the cleanup went on. That is also a possibility here and it could be that the Superfund is just too recent and over time property values will end up falling around the Gowanus Canal. It could also be another factor such as gentrification or better neighborhood amenities are driving the increase in property values. Either way, though, it seems that the Superfund is not weighing down property values as opponents feared.

Even the development might have continued if not for the economic crisis which coincided with the Superfund designation. Eymund Diegel has done work for developers such as Toll Brothers and observed that they withdrew from a project in Gowanus near the real estate market's nadir. They were able to get out of their contract because of the Superfund designation, but the real reason was that they were overstretched and short of capital. In the future, they might even return to the neighborhood. Moreover, the Superfund process might actually accelerate development by providing a clear timeline for how long it would take to cleanup the canal (Diegel 2011). However, it is unclear if Diegel's remarks were based on inside information or speculation. Either way, both Appel and Grace report actively talking with developers about properties in the area, even if the developers are hesitant about taking the plunge yet.

It is uncertain what the long-term effects of the pollution and Superfund cleanup will be. They may be slowing neighborhood change as developers await the completion of the cleanup before purchasing property and beginning construction. At the same time,

however, the Superfund should not have much effect on small property owners who did not pollute the Gowanus Canal. Instead, as their property values increase, as they have over the past several years, the neighborhood can slowly gentrify while the cleanup is ongoing. That more natural change could result in residents benefiting from improved services while facing less displacement. However, in all the talk about the Superfund and its effects, there has been very little attention paid to how the community will shape the future. As a result, there is little real consideration for how the Superfund might cause environmental gentrification and no affirmative plan to address those ideas and provide a forward vision for the neighborhood.

4. Gentrification in Gowanus

Gowanus is gentrifying, despite the efforts of activists in Friends and Residents of Greater Gowanus to stop it. While some residents think gentrification could bring benefits, most fear displacement and the destruction of their community. They do offer several different methods by which they might keep the neighborhood the same, or at least prevent massive changes. Nevertheless, their actions to preserve the community have so far yielded little fruit, in large part because community leaders are not unified and do not have an overarching strategy or vision for the neighborhood. Instead, opponents of gentrification in Gowanus have pursued several different tactics, some of which may be counterproductive or at odds with other anti-gentrification efforts. Community activists have not come together to really consider the benefits and disadvantages of each idea and look at how they might fit together in a single proactive anti-gentrification plan. This panoply of divergent ideas for stopping gentrification makes it much more difficult for any anti-gentrification strategy to be successful.

Although some residents and community leaders are reluctant to or refuse to acknowledge that the neighborhood is changing, it undoubtedly is not the same neighborhood that it once was. Sasha Chavchavadze claims that there has not been much gentrification; while "luxury condos and all that" were planned, the Superfund put a stop to it as developers canceled their plans. At a FROGG meeting in December 2011, after one attendee explained that he was interested in how the neighborhood is changing, Linda Mariano insisted that Gowanus was not changing. These seem to be more political statements than statements of fact because Chavchavadze, later in the interview, commented on several changes in Gowanus. Mariano, just two days later highlighting

aspects of the neighborhood, commented: “you can't go to sleep around here” if one wanted to see all the new construction. But what is actually going on?

Gentrification is generally defined by three related trends: higher housing costs (both property values and rental rates), new construction or renovation, and new residents of a higher socioeconomic moving in (Banzhaf and McCormick 2007). These are all undoubtedly happening in Gowanus, although the Superfund slowed new construction and perhaps gentrification in general. Nevertheless, several community members including Eymund Diegel and Ben Aufill commented on rising housing costs and few interviews did not touch on new residents and construction. Although the entire neighborhood is not changing at the same rate, as Mical Moser noted pointing to a Holiday Inn Express built next to what is still a parking lot, new buildings are going up. Even most of the artists’ studios are an example of adaptive reuse as developers took formerly industrial buildings and converted them so as to be useful to artists. While the rate of change might be debated and some might disagree with individual examples, one would be hard-pressed to find many people denying that gentrification is happening according to the definition Banzhaf and McCormick offer.

Banzhaf and McCormick also cite changes in aesthetics and culture, including consumption patterns, as other evidence of gentrification. A walk down 3rd Avenue, the main commercial street in Gowanus, shows the proliferation of new restaurants, coffee shops, and stores appealing to newer, wealthier residents. Moreover, most of those either did not exist or were not prominent enough for me to notice when I first spent time in Gowanus just three years ago. New restaurants and bars have popped up. This is especially true near 9th Street, but all up and down 3rd Avenue, coffee shops, bars, and

stores opened in the last couple years. David Meade, Executive Director of the Southwest Brooklyn Industrial Development Corporation, which supports industrial businesses in Gowanus and surrounding neighborhood, remarks, “Gowanus has just transformed so much over the last, not just 20 years, but 5 years.” Blogger Ben Aufill observed maybe an even greater change from his vantage point, as one of the first of the new inhabitants just four years ago. That wave of gentrification was mostly culturally minded freelancers. They want the neighborhood and community to stay the same as they feel nostalgia for the traditional small neighborhood-feel that older, blue-collar middle class residents had perpetuated, for instance by shouting across the street to their friends in other buildings. However, newer residents who are often younger professionals are moving in. They do not share the same cultural heritage and so are less comfortable with the older practices like the shouting. These cultural changes may seem less significant to some observers but beyond the physical characteristics of the neighborhood, lend a major impact to how residents and potential residents understand Gowanus.

The changes the neighborhood is undergoing are dramatic but Ray Howell offered an apt comparison that may illustrate it. Take a white piece of paper and start making black dots. At first there will just be a few, then a few more. Slowly, the paper will begin to seem black with white dots; eventually, it will become all black and one would never know that it started with a blank white piece of paper. With somewhat more bluntness, Toby Snyder argued, “Gowanus is not unique. It’s following the same gentrification cycle as everywhere else... The writing is on the wall and the only question is how long it’ll take.” While many are not convinced Snyder is right, it’s worth exploring how gentrification happens.

Theoretical Understanding of Gentrification

Both academics and community activists propose several slightly contrasting theories about the process by which the neighborhood is changing. Though no one I talked with in Gowanus cited theories of gentrification, their ideas about what caused gentrification corresponded to more academic explanations of those processes. They generally break down into a general idea of a rent gap causing the neighborhood to be affordable enough for investment and development, explanations focusing on cultural differentiation and segregation, and theories of environmental generation. Environmental gentrification is often divided into supply and demand causes for neighborhood change, although the same logic can and does apply to other forms of gentrification as well.

The preeminent explanation for gentrification is Neil Smith's idea of a rent gap. According to Smith, after being built up, neighborhoods gradually face disinvestment because new development (including the purchase of a building, tearing it down or renovating it, and creating something) simply costs too much compared to the potential profit. This pattern gradually continues until the existing buildings are so decayed as to make the costs low enough that there is significant potential profit and then development resumes (Smith 1996). Eckerd (2011) offers a similar take, pointing to studies showing that gentrification is most likely in neighborhoods near the Central Business, with older buildings, and high vacancy rates. Some of the explanations for development in Gowanus align closely with this. For instance, Owen Foote argued that because of the Superfund, investors would be unwilling to invest in Gowanus. As a result, when gentrification did happen, it would be faster and more intensive, due to this larger rent gap. Similarly, Ben

Aufill referred to tax breaks as a major cause of development, since those tax breaks decreased costs for developers. They both recognize a rent gap driving gentrification.

However, Gowanus is a complex neighborhood and profit is not the only reason developers and potential residents look at Gowanus; the “authentic” culture and feel of the neighborhood is a major draw. Sharon Zukin (2008) points to new residents and their demand for different goods and services than older residents as making new residents into gentrifiers who displace older residents and institutions. Their different consumption patterns push out older establishments, which gave the neighborhood its treasured “authenticity”. Even newer stores and restaurants from a first wave of gentrification can suffer the same fate from newer gentrifiers. Although these consumption patterns claim to be inclusive and based on taste, rather than class, income, or race, they nevertheless exclude businesses which do not fit the same aesthetic, have similar price points, or even shopping cultures. As those businesses are marginalized, they slowly leave and along with them, their customers do as well. This may be simply a matter of comfort or it could be that the prices make continuing to live in the neighborhood unaffordable for long-time residents and businesses (Zukin 2008). In that milieu, boutiques and other similar businesses not only signal gentrification by their presence but also cause more gentrification. By replacing companies or even simply brands that appealed more to previous residents, they precipitate the displacement of customers of the former businesses (Zukin, Trujillo, Frase, et al. 2009).

Without referring to Zukin’s research, Gowanus residents described gentrification similarly. One artist at the Annual Gowanus Artists Studio Tour, for example, explained that artists only indirectly caused gentrification. The major factor was that after moving

in, they wanted high-end coffee shops, nice restaurants, music venues, and bars. Those amenities attract newcomers and replace older businesses that might have been in the same category but appealing to a different market. Mical Moser, another artist, made the point in the same fashion. Some restaurants developed to serve the old Italian community but are not as attractive to the newer residents and people working nearby. Despite treasuring “authenticity,” the newer stores and restaurants simply had more appeal to her, and so got her business. This pattern provokes more gentrification. However, it should be noted that not all residents saw gentrification the same way. Owen Foote credited artists for improving the perception of the neighborhood. However, he saw them, and even the music venues and bars they brought in, as simply using existing building space. They might pay more for those spaces but the spaces had been vacant and so there was little displacement. However, even without displacement yet, new higher-class inhabitants (whether in income or simply in taste) can ultimately lead to gentrification and displacement in the long-term as they make the area susceptible to continued gentrification.

There is another major gentrifying influence in Gowanus but is under-theorized: the Superfund that will clean up the pollution in the Gowanus Canal. The Superfund’s effects fit into a broader trend of environmental gentrification, which is gentrification in which the cleanup of environmental hazards is the dominant factor (Banzhaf and Walsh 2005). As a newer phenomenon (at least for academic study), there are fewer prime examples although parts of Long Island City might qualify. Since the eyesore of abandoned railroad tracks was transformed into an attractive elevated park, the surrounding area has become much more popular. But are environmental hazards

remediated because residents and stakeholders demand better facilities? Or, instead, do the new amenities and new lack of disamenities make the neighborhood more attractive and so more people move in? The two are obviously linked but the priorities different people place on each one demonstrates something about their understanding of the neighborhood's problems.

Supporters of new development often cited demand-side explanations for the Superfund cleanup and resulting gentrification, pointing to a demand for better environmental conditions. Buddy Scotto remarked that people want to live in the inner city now, but did not want the nearby body of water to be filthy. Ray Howell observed that high-income people were now staying in the city, rather than moving to the suburbs, and they wanted environmental amenities like canoeing on a clean Gowanus Canal. Eymund Diegel explained that the only way the Gowanus Canal would be cleaned up was when wealthy people put political pressure on their representatives to do so. Prioritizing the demand side of the equation would lead to encouraging development and gentrification in the hopes of it leading to a cleaner Canal.

Compared to the demand perspective, the supply-side explanation was much less expressed by the activists I spoke to. This perspective suggests that after the cleanup, the surrounding neighborhood would be relatively inexpensive and so more attractive to new residents. Eckerd (2011) writes that when prices are low because of the proximity to an environmental hazard, the prices do not automatically go up when the hazard is remediated. Instead, "Surrounding land may well be substantially undervalued and therefore appealing for speculators and/or investors" who can then construct or renovate housing (35). This view was heard much less frequently, except for one developer, David

Von Spreckelsen, who saw Gowanus as an up-and-coming neighborhood with the potential to support luxury condos. Unfortunately, the Superfund and a poor economy derailed his project to build those condos by highlighting the pollution there and setting a relatively long timeline of at least a decade or two in length to completely clean up the pollution; he did not want to be looking for buyers while EPA scientists combed the area for pollution. Owen Foote saw a similar possibility for new development as a result of the removal of environmental hazards, but expected it far in the future. Other related factors that might have made developers more eager to build housing in Gowanus were also mentioned. Bette Stoltz suggested that developers flew over Brooklyn looking for large less-developed areas and found Gowanus; those sites in Gowanus were likely unused because of their proximity to the Gowanus Canal, which made them much less valuable.

Oddly however, no one else mentioned the cleanup as leading to more development. This lack of supply-side gentrification theories offered may suggest that Gowanus may no longer be undervalued, and the real estate boom over the course of the last decade may have contributed to that. Alternately, Gowanus real estate values might only rocket higher once the canal is fully clean. Either could be true but it seems more likely that Gowanus is something of an exception to a generally true pattern. Because Gowanus is gentrifying at the same time that a cleanup is going on, the increase in real estate prices seems concurrent or even to precede the cleanup, rather than following the remediation process. This might actually result in more gentrification and development before the Superfund is even complete as developers and potential residents rush to get in on a bargain before prices rise too high.

Hopes and Fears of Gentrification

Gowanus residents don't all think gentrification is horrible. Instead, many see potential benefits from gentrification. Even residents who don't want the neighborhood to change at all, as Owyn Ruck does, do not see the neighborhood as perfect and think aspects might be improved by gentrification. These hopes fall into a few different categories: greater political power, more economic vitality, and more cultural shifts in neighborhood attitudes and services. However, for many activists, their fears of residential displacement, losing industry and jobs, and the loss of community far outweigh the benefits of gentrification.

Many interviewees remarked that government does not adequately serve the area. One activist described the City Department of Environmental Protection and the State Department of Environmental Conservation knowing about illegal dumping into the canal and doing nothing to enforce the law. He believed that development would mean more people would care about the neighborhood and, even if government did not do anything, there would be more people to put pressure on the government. Similarly, Eymund Diegel thought only rich professionals would be able to get government attention for the environmental cleanup, which Diegel prioritized. Owen Foote described how, in other neighborhoods, the city provided greater services after they became gentrified, and thought the same thing might happen in Gowanus. He explicitly described the Gowanus Dredgers Canoe Club as an effort to build a constituency for a living, working, environmental, and recreational Gowanus canal and community. Only by putting pressure on government could they realize those goals and by increasing the population around the

canal on a regular basis, they would do so. As a result, gentrification and development would result in a more vocal community receiving more government support.

Others also emphasized the better economy in the neighborhood. Mical Moser, while bemoaning many of the changes she saw, also appreciated the new restaurants and shops. Walking around, she pointed to all the new restaurants and stores she patronized, and others were no different. Several described how much they love new restaurants in the neighborhood and regularly go there or order take-out from them. Eymund Diegel also thought that the new economic activity might have other benefits for existing residents and businesses, as well. Businesses will enjoy more customers nearby. Even artists may benefit, as they will have a significant number of potential clients in close proximity. Renters may benefit as well if new developments create enough additional housing units that prices stay stable. While not assured, Eymund and others thought there was at least potential for it.

There are also other benefits that residents draw from the changing neighborhood. Marlene Donnelly was excited about having community-supported agriculture (often referred to by its initials, CSA) linking residents to farms upstate through a contract to buy a set amount of food every week in exchange for a lower price. Mical Moser mentioned that her community garden used to have almost no one participating. As the neighborhood has gentrified, there are more foodies interested in getting high-quality foods as well as more locavores who emphasize eating local foods, and they have participated in the garden. The garden is better maintained and even has a waiting list of people who want a plot in the garden. Leslie Boyce described a similar trend in her community garden. When they started in 2003, the soil had needles and condoms, not

bugs, and homeless people disturbed the garden and made people leery of coming by the garden. A developer tried to take the property as well, but now the garden is doing much better as the surrounding community has changed to include people who will take part in maintaining the garden.

Owyn Ruck was one of the few interviewees who worried about safety, but she thought that might be one positive result of gentrification. The Textile Arts Center, which she runs, is almost all women, and they sometimes feel unsafe leaving at night. In addition, their main revenue source is children's programming but parents need to feel safe enough to take their kids there. Better safety would be a real benefit for them. Residents may not always see these benefits as outweighing the costs of gentrification, but they do recognize and hope to enjoy some positive consequences of the changing neighborhood.

As much as Gowanus residents saw the potential for improving the neighborhood as a result of gentrification, and some were even eager for the possibility, every resident I talked to expressed fears and disappointment with what they thought the neighborhood would become. Many would agree with Owen Foote, who observed, "Gentrification can be good but all the negatives associated with gentrification...I see that guaranteed." Few others were as assertive as Foote, but on the whole, Gowanus residents thought gentrification will mean displacement and a homogenizing of the community. Those costs to them outweigh any benefits from gentrification.

Activists and residents of Gowanus did not agree on how much could be done to save the neighborhood from those costs. Some thought those problems were inevitable, like Toby Snyder who saw "the writing on the wall" for Gowanus. Others, though, blame a lack of government action or misguided government action, which they did not think

they could change. Mical Moser expressed frustration with Mayor Mike Bloomberg's administration for caring only about tax revenue, rather than the community, and this was a common thread. Bloomberg was frequently criticized for not prioritizing communities, although some followed Moser in attributing government support of development to a desire for greater property taxes, others like Leslie Boyce blamed him for being too cozy with developers and giving them sweetheart deals. On a more local level, Bette Stoltz noted that the Community Board was not very active on Gowanus issues because the Atlantic Yards development northeast of Gowanus took up all their time. Owen Foote was also unhappy with the EPA because, in his view, they were not worrying about or planning for the neighborhood after the Superfund ended. Even though residents may not agree about who is responsible for gentrification, they are fearful about what the neighborhood will become.

Residential displacement, that is housing prices, especially rents, rising to the point where they become unaffordable for long-time residents, is a major fear for Gowanus residents. This concern grips locals to the point that Sasha Chavchavadze expressed a common sentiment when she said that displacement would be the worst possible consequence of neighborhood change. As she explained it, the rising rents would force out artists and remove what makes the neighborhood special. Ben Aufill recounted his personal experience, narrowly avoiding the fate of displacement. He moved there when the area was less expensive and as a blogger and freelance marketer for small businesses, he does not make much, and his girlfriend who works in non-profits, doesn't either. They can't really afford the market rate for a new apartment, and if their apartment cost that, they would have to move out. Their building has tripled in value over the last

few years; luckily their rent has not tracked that. Bill Appel indicated, however, that others have not been so lucky. Seniors especially were being forced out of their homes by rising rents and the neighborhood has a desperate shortage of affordable housing. Eymund Diegel, although a homeowner, reported drastically higher rents, and renters, including artists and early waves of gentrifiers “will be screwed” by the rising rents. His hope was that new affordable housing, like the Gowanus Green project planned along the Gowanus Canal, would increase supply and stabilize rental costs. However, others were less hopeful. Mical Moser said that the new developments springing up on 4th Avenue, besides being ugly, were displacing older poor residents. Even homeowners might not be safe, especially with the economic downturn. They might need to sell their homes for cash and then be forced to move out of the neighborhood because they could not afford a new house, according to Diegel. Owen Foote also worried that costs related to the Superfund cleanup could displace homeowners. This displacement would force long-term residents out of the neighborhood and Gowanus might lose its vitality and neighborhood spirit that so many love.

Residents also fear industrial and commercial displacement, and especially the jobs that might disappear from the neighborhoods as a result. This is already happening; Bette Stoltz estimates that in 1996, there were 450 industrial businesses in Gowanus, providing 1700 jobs. Now, she thinks half of them are gone. Even on more commercial streets like Smith, on the edge of the neighborhood, inexpensive cafes are closing and being replaced by more high-end restaurants and shops, and I’ve witnessed several places go out of business just over the past several months. Moser reported that her car mechanic received an offer of \$2 million to sell his shop and the property it was on to a

developer who wanted to build housing. He was going to take the money, retire and go to Italy, which may have been a great decision for him, but it would have deprived residents of their auto repair shop and eliminated jobs. The deal fell through but other similar deals actually happened. On 3rd Avenue, Moser pointed to a set of lots that once held buildings offering studio space to artists. The landlords sold several of them to developers who tore them down. Manufacturing establishments and stores selling to the Old Italian community had suffered similar fates. Owyn Ruck noticed that in her building, the landlords were already talking of increasing property values to try to get more money from tenants. Although her Textile Arts Center has a ten-year lease, she fears that rents might double in 2020 when it expires. If they aren't successful enough, they might be forced out, and other businesses faced similar situations.

Ruck expected this trend of displacing industry to accelerate on 2nd Avenue, since that street had much larger lots which would be more inviting to big box stores like Whole Foods, which is hoping to open up one of its largest stores in Gowanus (Appel 2011). Diegel expected about a third of the trucking businesses to quickly disappear from Gowanus due to the rising rents, and did not think that other small industrial businesses like Bayside Fuel Oil would last much longer. Toby Snyder offered an even more pessimistic view, that artists and industry would not remain in Gowanus once it was fully gentrified. Graphic designers and “live-work” industries such as some more-commercial artists might remain in the neighborhood but manufacturing would not stay in the neighborhood because the property would either be too expensive or too small for modern industry and existing buildings were not equipped properly. Even the canal wouldn't be that useful because it just was not as large as the waterways and industrial

districts of Bayonne or Jersey City, New Jersey. In Snyder's view, "It's a shame," but also a national issue, rather than anything unique to Gowanus. The industry, "making things," which many residents and activists value, is simply too expensive to be profitably done in Gowanus or even in the US in general. If that happens, it will be a loss not just for the people without jobs but Gowanus will lose a distinguishing characteristic that makes it so impressive to both residents and outside observers.

However, as much as the residential and industrial displacement would be a shame, in Snyder's words, the much larger problem for Gowanus residents would be the loss of community and the homogenization that they fear as it becomes just a cookie-cutter neighborhood of luxury condos. As Owen Foote put it, this would represent the wholesale destruction of the neighborhood. Even people who were not displaced would not want to live in what Gowanus would become. As a result, Linda Mariano and the Friends and Residents of Greater Gowanus seem to oppose most new development, because in Mariano's words, they are "trying to preserve the integrity of the Gowanus." Aufill expressed a similar hope to keep the area as an untouched "mystical place." Although he and others moved there because of economics, many of them were bohemians who lent the neighborhood its uniqueness. Ruck arrived at the same theme, worrying that the new money would push people, including artists, out of the neighborhood. Chavchavadze agreed with this sentiment and saw city government as promoting "money-making development," which would not respect the culture of the neighborhood or the concerns and desires of artists. The new developers used the arts scene as a selling point for potential residents, which Chavchavadze angrily rejected: "I don't appreciate this assumption of using us as an example of the lovely Gowanus." They

had no idea about the blood, sweat and tears of artists, with no money, who made the neighborhood what it is, and when the developers came in, they raised rents so that artists couldn't afford it. This homogenizes the neighborhood and removes what makes it special. Marlene Donnelly echoed this with her concern that Whole Food was "going to wipe out the vibrant artistic community around here." This, Leslie Boyce explained, destroyed communities since newcomers and developers had no sense of community and just knew it was hot. The rising rents and gentrification could result in losing what made Gowanus special.

However, even newcomers who hope to preserve the culture do not always do so. As Aufill sees it, Gowanus is on the verge and wants to remain the same. However, by moving in, newcomers inadvertently destroy the culture because Gowanus is "not Disneyland, it's where people live and work." (Aufill 2011). However, it's difficult for people who haven't spent their time there to integrate. Many of the newer residents are uncomfortable with older traditions and clash with older residents. Canal Bar, a dive bar in the heart of the neighborhood, has seen many of those clashes. Aufill recounts that, although only six years old, the bar used to have many older patrons. They avoid it now, though, because of the newer residents. Ruck felt similar problems come to the surface after the Textile Arts Center's building suffered several burglaries over the summer of 2011. They don't feel connected with neighborhood organizations or older businesses. She thought there was probably a feeling that new companies like hers are taking over and having a severe impact on the community without doing anything about it. This would naturally create divisions, and Moser described similar divisions between older restaurants appealing to the older Italian and Latino communities and more upmarket

venues targeting newcomers with gourmet food, modern design, and cleaner appearances. These differences are clear and inescapable.

Unsurprisingly, the newer development crystalizes many of the fears and worries about gentrification. So far, this has been especially true on 4th Avenue and Chavchavadze worried that this irresponsible development might continue into the heart of Gowanus. Ruck recommended that developers, new businesses and community organizations make clear that they aren't trying to destroy the neighborhood and encourage everyone to be respectful. This means getting to know each other and letting older residents know about events like large parties. But those efforts might be in vain. Bill Appel saw it almost as inevitable that Gowanus would "lose the flavor, the human side" with more construction. He didn't want that to happen but saw no way to avoid having 20 story buildings on street corners. Ruck saw this as a broader psychological problem that Gowanus residents, especially older residents would encounter: "you feel your space being invaded and taken over. In suburbs, you stay rooted and it feels like home. That can't happen in cities." As Gowanus changes, its residents may feel rootless and displaced even if they do not move because the neighborhood will change anyway.

Responding to Gentrification

Despite these unwanted change to Gowanus, residents are finding ways to fight back against gentrification. Toby Snyder was skeptical that the community could do much, but residents still in the neighborhood are coming up with plans to resist. Ruck described the organizing FROGG and others were doing against big box stores on 2nd Avenue and thought similar protests and lobbying to block new development would

continue. Although they might not get much media attention, they could deter some of the displacement and destruction of community. These actions have had some success in stopping development; Linda Mariano's first involvement as a community activist, for example, resulted in saving a historic building near the canal. This also has the potential to galvanize more residents who might otherwise stay out. For instance, Jon Bunge, a mostly uninvolved artist joined a protest to stop a 15-story development on his block.

The responses of Gowanus community activists break down into a few different categories: seeking compromise by creating affordable housing, using historic preservation to keep parts of the neighborhood the same, establishing an Industrial Business District to preserve industry in the southern part of the neighborhood, and seeking the holy grail of mixed use which might allow industry to coexist with gentrified luxury housing. All have potential but none has unambiguously succeeded in its goals.

Activists who support and prioritize creating affordable housing do not necessarily see gentrification as all bad, and some even embrace gentrification. Buddy Scotto when asked about new development casually remarked, "Yeah, it will gentrify the neighborhood." He went on to explain "We have Red Hook Housing at the base [of Gowanus] and Wyckoff Gardens and Gowanus Low-Income Housing to the north." Those three NYCHA projects could not be moved but they would be balanced by luxury housing and more affordable middle-class development. Appel, despite being a close ally of Scotto, was less supportive of gentrification but bemoaned Toll Brothers canceling their project. Not only would they have created affordable housing in the neighborhood but were a leader and expected others to follow by creating affordable housing. This housing, he thought would unite the neighborhood and provide housing that seniors, the

poor, and artists could all afford. The development could create revenue and offer shopping, and this would suit Appel as long as it was uniform and the revenue went to pay for parkland along the canal and other smaller parks in the area. Diegel also wanted development, hoping for more affordable housing for renters who would otherwise be priced out. However, he did not think this would necessarily exclude artists. Gowanus Green would have included gallery space and Toll Brothers even sponsored a piece of art. Developers were friendly to commercial art, because they knew it attracted people to the neighborhood, and so they would make room for artists. Affordable housing might be more difficult to get, but Appel and Diegel both thought new development could include it and that would limit the impact of gentrification.

FROGG has recently developed another strategy for safeguarding the neighborhood. They are focusing on historic preservation laws to create a historic district and use landmarking laws to protect individual buildings. Roberta Brandes Gratz argues that historic preservation forces developers to go through additional steps to make significant changes, allowing the neighborhood to mobilize to fight plans that would substantially alter the area or do more to mitigate the impact. She writes that historic preservation in Greenwich Village ensured that change was “deliberative, incremental, and manageable” (Brandes Gratz 2010: 71). Zukin however, claims that, historic districts protect residents both aesthetically, making it much more difficult to change the look of the neighborhood, but also financially by keeping property values higher. While seeming to preserve the area, this actually reinforces gentrification by writing into law the desired consumption practices of the gentrifiers who campaign for the historic designation (2008). It would seem that Mariano, Stoltz, and others involved see it as Brandes Gratz

does, rather than Zukin. They are on the way to becoming the first Historic Industrial District on the National Register of Historic Places and have hired an architectural historian to record the history of the neighborhood (Mariano 2011). The exteriors of these landmarked buildings would remain authentic and would be very difficult to alter, even if the current tenants move. Leslie Boyce, while cheering the proposal and seeing it as a way to stop gentrifying apartment buildings, noted that it was not a panacea, since it only protects the outside of the building. Moreover, even with the designation, developers could still tear down buildings if they can get approval, and Whole Foods is currently trying to do that with one building on their property (Mariano 2011). Alternatively, they could follow what one developer in Dumbo did after he was denied permission. Rather than halt his plans, he simply did so in the middle of the night (Boyce 2011). Marlene Donnelly noted that one building on Union Street, the Green Building, is still standing thanks to this effort. However, it is not clear that FROGG will be able to preserve the entire neighborhood and not just older buildings.

In a similar fashion to historic preservation districts, an Industrial Business District includes the southern part of Gowanus and makes it more difficult for non-industrial businesses to operate in the area. David Meade, head of the local group that oversees it under an agreement from the city, explains that it consists of variance protections, which add additional regulations to prevent developers from putting non-industrial uses in the zone. This keeps the area affordable for industrial businesses. Stoltz expressed faith in the city to protect industry using this tool, citing a promise by Mayor Bloomberg not to rezone the area. While she thought that industry outside the zone might be sacrificed, at least some would remain in the neighborhood. Moreover, the city was

making other efforts to save industry, and the Army Corps of Engineers would dredge the Gowanus Canal so that tugs and barges could continue to use the canal. Diegel also cited simple necessity for why he thought some industry would remain. Cement has to be used within a given time after being made, and so the new World Trade Center's cement came from Gowanus since there just wasn't enough time to get the cement in a truck from New Jersey to Lower Manhattan. Other businesses like ConEd and Verizon would remain as well, for similar reasons. If there was some emergency power, phone, or Internet outage in the Financial District, trucks would need to rush there and Gowanus was the last place with room for the infrastructure necessary to support that response. This necessitated at least some companies remaining in Gowanus. As part of Mariano's celebration of manufacturing, she commented, "I'm interested in proving that we have an authentic urban industrial district. And we do." However, if that industry is marginalized to a small part of southern Gowanus, it will be a hollow and small victory.

True mixed use is the holy grail of Gowanus activists. This would consist of combining industry, retail, and residential space in the same area or even the same building. The zoning plan shelved in the wake of the Superfund designation proposed to do this for three out of five sections of the neighborhood, but this was not seen as a true solution. In Williamsburg's experience, according to Wolf-Powers (2005), this merely resulted in industry being displaced by residential buildings and Gowanus residents worried that something similar could happen. As Bette Stoltz declared, "Next door just doesn't work." In her view, this was just a fig leaf for converting the area to apartment buildings because no one wants to live in a luxury condo building next to a marble plant; they'd get marble dust on their BMWs. However, mixed use could work, if it took place

in the same building. The first floor or two would be light industry and the upper floors would be residential, a throwback to traditional housing arrangements. The kind of people who would choose to live there would be okay with light industry, and Stoltz claimed it already happened in some cases, both legally and illegally. While some might think this was unlikely to actually happen, she was optimistic that it would be successful if it could get by real estate developers and agents. It would preserve the neighborhood and Owyn Ruck observed that such diversity makes for a much richer cultural experience. Stoltz adds that New York needs industry and art in order to continue to be a world-class city, and real mixed use would keep that in Gowanus.

Gowanus is at a tipping point. With the pressures of gentrification increasing, many see slightly different expectations for how the process is happening. Residents also see both hopes for the future as well as fears about what gentrification has already caused and will in the future. Community activists are seeking a few different avenues by which they hope to address those problems and chart a successful future for the neighborhood. Interestingly, although their prescriptions for how to change Gowanus rest on shared ideas about cleaning up the Gowanus Canal and attracting creative professionals to the area, they draw widely divergent lessons about what they want and how to do that. A unified plan developed through the participation of community members from across the spectrum might be able to draw wider support, but they have not yet come together in a purposeful meeting to create such a plan. This wide array of anti-gentrification strategies without a single dominant, viable plan is also reflected in economic development strategies for Gowanus, which face the same problem.

5. Economic Development Strategies to Create a New Gowanus

As Gowanus rushes towards the future, one of the biggest debates animating decisions about its future is the type of economy the neighborhood will have. Interestingly, both supporters of preserving arts and industry as well as supporters of a more residential, post-industrial neighborhood draw heavily, if unconsciously, on Richard Florida's idea of a creative class (2002a). This school of thought builds upon Paul Peterson's (1981) concept of a limited city. Since cities have limited powers and resources, and if this is true for cities, it is even more so for neighborhoods, they must focus on attracting the wealthy and things that will generate economic activity, at the expense of almost everything else. Richard Florida explicates that since the drivers of the economy today are the creative class, which he defines as professionals who use their brains in industries as diverse as arts, technology, law, medicine, and many others, cities must do their best to attract them. Since these professionals prefer and even seek out certain types of amenities, cities must do their best to provide them.

Although most Gowanus residents probably are not familiar with creative class urbanism, it permeates discussions. Supporters of maintaining industry and art glorify its role in making what Bette Stoltz described as a "world-class" city, highlighting the newer, more creative industries over the older mainstays of manufacturing. Opponents who would prefer a mix of residential and leisure amenities advocate policies that would attract creative class professionals to the area. Even alternatives like making Gowanus a center for scientific research or turning the entire area into a mix of residential, commercial and industrial uses would seek to bring well-educated, creative professionals to the area. While any or all of these ideas may shape what Gowanus will be, so far this

widespread disagreement means that there is no concerted effort to put pressure on policy-makers to enact the policies necessary to achieve those goals and New York City's government has not acted to either impose a vision or develop a community-based process to arrive at such a vision for the neighborhood.

Despite the utopian tone of some Gowanus activists who talk about it as a mystical place that will be transformed, it is important to realize that not everything is likely to change. The older, more traditional industry is still concentrated there and some businesses would be hard-pressed to move. In addition, the New York City government has committed to preserving industry in the Gowanus area and has done nothing to shake the belief of Stoltz and others that they will follow through with that promise. Many people in Gowanus, including creative class professionals like marketer and blogger Ben Auffer see this as a good thing. As he exclaimed, it's okay to have an industrial zone there, because that's what the Gowanus area and the Canal are good for. David Meade, the head of the local development corporation, noted that even after all the gentrification, there is still a robust industrial base that employs thousands of people who might not otherwise have jobs. They aren't likely to go away just because Gowanus is now hip and cool.

Some industry simply has no reason to leave Gowanus and many barriers to them leaving. A number of businesses own their land, meaning that rising rents alone won't displace them. Moreover, these are often businesses that would have enormous difficulty finding adequate space elsewhere. As Ray Howell observed, Gowanus is very centrally located. The entire neighborhood lies within a mile of the Gowanus Expressway and Lower Manhattan is not far on the Expressway, even with traffic. There are few other

neighborhoods that are so centrally located and still have the room to host trucks and buses. But Gowanus is, and, as Eymund Diegel explained, ConEd and Verizon have numerous trucks stationed in the area in order to quickly fix problems in Lower Manhattan or Downtown Brooklyn. Bette Stoltz mentioned that cement for the new World Trade Center comes from Gowanus since it needs to be used within an hour and a half of being made; New Jersey cement companies can't cross the Hudson and be downtown quickly enough to do that. Buses may not have the same time crunch that cement-makers and emergency response vehicles do, but they need to park somewhere, as Bill Appel noted. As a result, many are located in Gowanus and are unlikely to go anywhere, although they are perhaps the most vulnerable to being displaced since they do not need to be in Gowanus. Owyn Ruck also mentioned automotive services such as gas stations and auto body shops as another business that could not disappear, since as long as there were drivers, they would need to get their cars fixed. Bill Appel agreed, even though he claimed to almost never drive, because "what're you going to do, drive over the Verrazano to get gas?" As noxious and ugly as those businesses may be, they do not appear to be near the verge of disappearing.

In addition to the necessity for some industry to remain, New York City has also made it a matter of policy to preserve industry in part of the Gowanus area. The Industrial Business District David Meade oversees has protections, built into city law, that make it significantly more difficult to convert any building to non-industrial uses in the district. While not covering all of Gowanus, it does affect a significant portion of the southern part of the neighborhood. The IBD had also been left out of the proposed initial rezoning, a sign that the City is not about to give up on it, and advocates like Bette Stoltz expressed

confidence that they would continue to do so. Other government agencies are also making similar moves to keep industry in the area, she noted. The Army Corps of Engineers is planning on dredging, deepening the Canal so that it remains navigable for tugs and barges. This will help the three cement companies that ship in materials by barge, as well as recycling and scrap metal centers along the Canal, which send the extracted metal out by barge. This not only keeps costs low but also reduces the greenhouse gas emissions that trucks would produce to do the same thing. Moreover, the big polluting industries are already gone, so Stoltz was not worried about the Superfund and environmental regulations closing those businesses down. Bill Appel, the Executive Director for the Gowanus Canal Community Development Corporation and active in the Independent Neighborhood Democrats, the local club for the area, though unsure about who the next mayor would be, nevertheless thought they would continue the same policies as Mayor Bloomberg in Gowanus. Assuming that holds true, then, Gowanus is likely to keep some industry. It may not be as numerous as today and may be more concentrated in the Industrial Business Zone, but the industry does not seem to be going away.

The Creative Class in Gowanus: Arts and Industry

While Richard Florida's definition of the creative class is focused on white-collar occupations, a small group of other academics disagree. Pratt (2008), for instance, argues that the entire chain of production from the artist or designer to a manufacturer must be included in this creative class. For modern industrial goods, even factory workers need to be well educated and highly skilled to do their job effectively, and Gowanus activists

celebrate this. For instance, Jon Bunge reports signs and Broadway sets are built in Gowanus. Linda Mariano showed me the Old American Can Factory, which once was a traditional manufacturer and now consists of “studios” turning out things like neon signs. Owen Foote several times mentioned candle-makers in Gowanus as an example of unusual creative industry, although making candles, even fancy, artistic candles, does not require the university education that seems a prerequisite for membership in Florida’s creative class. The carpenter who makes the set, the person operating the machine to create neon signs, even the seamstress sewing textiles are all highly skilled and creative, though not white collar professionals. They are part of the creative process and add vitality to the economy of Gowanus. However, Florida and others neglect their involvement. Most Gowanus activists do not make the same mistake and instead celebrate this activity.

One could be forgiven for missing this as Florida does, and a regular theme of conversation at the Annual Gowanus Artists’ Studio Tour was just how much happened behind closed doors and intimidating walls. Indeed, for Eymund Diegel, this mystery is part of the neighborhood’s charm. Brooklyn Boulders, a hip rock climbing gym is behind the facade of an otherwise unremarkable building, but so is a studio sewing custom drapes. A company making coffins has only a small sign. Bunge recounted how once, at 11 PM, biking home from his studio, he saw the door of a building open to reveal giant Google signs, of the type used for conventions. Even businesses that seek publicity, like a retailer for Apple products, restaurants and bars go up but tend to have the look and feel of a hole in the wall or are out of the way enough that one would not go looking for them. Without knowing to look, one might miss this vitality.

But they would be missing the hum of Gowanus, an incredibly creative and innovative hum, even if not all the noise is made by college graduates. One female artisan I spoke with came as an immigrant to the US ten years ago and makes incredibly elaborate custom drapes. She may not need a college education to do that, but she is successful enough to earn a living and adds to the economy. Embroidery and costume-makers are similar in that they require tremendous skills and add to the economy but are not office jobs. Eastern Effects, a special effects company near the head of the Gowanus Canal adds money to the economy and also participates in the local community, for instance, by documenting storm surges into the canal, Stoltz said. Another big new driver of economic activity is alcohol; according to Meade, Gowanus is one of the few areas in New York where companies can make alcohol on an industrial scale. Food processors are also located in the area. These businesses require an incredible level of food science and, at least in the case of alcohol, are providing a new, high-end product but most of their jobs would probably not fit into Richard Florida's definition of the creative class. But Meade observes that, increasingly entrepreneurs who had worked in finance or other professional "creative" occupations and are now trying something else are starting these businesses. Even people who are not fleeing soul-sucking "creative" occupations for a chance at real creativity have incredible skills that are utilized in Gowanus industries, and Meade noted, these industries require a diverse array of skill sets from unskilled traditional blue collar jobs like packers to chefs who might seem too low-tech for Florida's white-collar-focused digital future. But even though they work with their hands, these workers possess vast knowledge and use it to create economic activity. Even jobs that were traditionally seen as blue collar and unskilled like machinists now need

advanced skills and education, as a recent article in *The Atlantic* notes (Davidson 2012). By marginalizing people who work outside of offices, Florida and others of his ilk unwittingly forget that no one is an island and even the most high-tech good needs to be made somewhere. Those goods often require skilled manufacturers, and many of them are in Gowanus.

Seeing this vibrant economic activity, some businesses in the area are trying to build greater infrastructure to support these new, creative industries in Gowanus. For instance, the Textile Arts Center is located in a building with other similarly artistic businesses. The landlord sought to capitalize on a growing arts movement in the neighborhood but these similar businesses located in the same building also gain. Customers cross paths and patronize other business in the building, Ruck notes, and the businesses there can easily work together. Ben Aufill suggested this potential as well. The Gowanus Print Lab, for instance, prints t-shirts but they have to order the shirts from elsewhere. At the same time, there are numerous textile makers, with the Textile Arts Center being just the largest, scattered across the neighborhood. They could work together to expand and grow their business, and city government could encourage this. Brandes Gratz (2010) discusses how the proximity of related companies not only reduce shipment costs for materials sent from one company to another but also allow them to work more closely together on complex projects. Sasha Chavchavadze suggested another policy the city could adopt, encouraging artists to join together in coops like the one, which operates her building, and educating them on how to do so. Besides potential economic benefits from working together, this would also help keep them in the neighborhood even in the face of rising rents. However, she also noted that the City

wasn't eager to make it easier to maintain artists and similar businesses. She had attempted to get an artist in residence program allowing artists to live in their studio, a measure that SoHo and Williamsburg had enjoyed. However, many artists work with hazardous materials in unsafe conditions and the City didn't want to sanction that. The Gowanus Studio Space posted warnings about that and the smell of wet paint pervaded the Gowanus Print Lab, demonstrating that those fears might be realistic. Toby Snyder also noted that artists tend to work late, make noise, and create smells, which neighbors might not enjoy, and that could be a reason city government was reluctant. In addition, Chavchavadze recognized it might be an imperfect solution since anyone could say they are an artist without having to prove they are. Nevertheless, there is a large segment of artists and creative industries in Gowanus doing their best to stay in the neighborhood and community activists want to keep them.

Reimagining Gowanus

Another group of community activists led by Buddy Scotto and the Gowanus Canal Community Development Corporation wants a Gowanus much more in line with what Richard Florida describes as the creative class. They hope to attract urban professionals to live in new housing developments, create a Riverwalk to attract their leisure time and dollars, and envision a science center that revolves around cleaning up the Canal. However, there are some like Bette Stoltz who think that Gowanus might be best off with a mixture of both the creative class and creative industries. Their efforts may seem perhaps over-ambitious but they have the chance to fundamentally reshape ideas about economic development.

The research of Terry Nichols Clark (2004) suggests that people filing high-tech patents, one part of the larger creative class, prefer locations with both manmade amenities such as juice bars and cultural institutions as well as “natural” amenities like parks. While one might think that it is difficult, if not impossible, to add natural amenities, especially to a city as densely developed as New York, a certain segment of Gowanus activists revolving around Buddy Scotto and Bill Appel’s Gowanus Canal Community Development Corporation want to create one in the form of a Riverwalk. Modeled on San Antonio’s Riverwalk, which Buddy Scotto claimed was the largest single attraction in all of Texas, this could have greenery, outdoor cafes, restaurants, and bars looking out over the water. This would have started with a “landscaped esplanade” on the Toll Brothers property and, if Buddy Scotto had his way, would continue like Battery Park City all along the Canal with new residential buildings enveloping the canal and surrounding parkland. David Von Spreckelsen, the developer behind the Toll Brothers project, explained the Riverwalk as a good idea because it would help attract “urban pioneers.” This is a phrasing that Neil Smith rails against as colonialist since it ignores the poor living in neighborhoods before they become gentrified and imagines the area as devoid of people when in fact most gentrifying neighborhoods are teeming with people, albeit poor minorities (1996). That is less true here, since the Toll Brothers project, for instance, would have been built on formerly industrial land where no one has lived in recent memory. Nevertheless, Von Spreckelsen inadvertently sums up a worldview that privileges the white professional “creative class” above everyone else.

Von Spreckelsen, though a developer, is not much of an outlier on this count. Scotto, too, had little interest in anything but attracting the middle-class and upper-

middle-class to the neighborhood. After bemoaning the loss of jobs and industry when the Port of New York moved to New Jersey, he remarked “containerization ain't gonna come to Brooklyn.” The standard technique of modern mass production (although not the small artisanal production now springing up in Gowanus) depends on putting goods in 20-foot containers and moving those containers from ship to truck or train and visa versa. Continuing, Scotto recounted a story a friend told him “containerization couldn't come to Brooklyn because there just wasn't enough space.” He also discussed how the industry of Gowanus polluted the Canal and left the neighborhood a “slum”. Scotto instead declares that Gowanus needs affordable housing and luxury housing to house professionals and balance out the low-income living elsewhere in the area. Others in his circle seem to agree that industry is the past while housing and catering to white-collar professionals is the future. In several interactions, Bill Appel mentioned industry only when specifically asked, and merely remarked on its existence. The future for Gowanus, he made clear, was not industry but housing and leisure. This would include shopping, which he proposed for the Batcave building, a former subway power plant that now sits polluted and vacant. He suggested it could be like Faneuil Hall, rehabilitated as a classy, upscale marketplace to appeal to the upper-middle and upper class. Appel also cheered the new Whole Foods proposed for Third Avenue as a sign that Gowanus was coming into its own. While he specifically mentioned the jobs it would create, the low-pay retail jobs seemed secondary to a larger sense that Whole Foods was certifying the neighborhood’s rise and would also help attract to the area Whole Foods customers, that is professionals of a certain culture, which Florida identifies as the creative class. Indeed, it is significant that Nichols Clark uses Whole Foods as one of the amenities said to attractive the creative class (2004:107).

Regardless of whether they refer to the creative class, this circle of Gowanus boosters wants to attract the creative class to replace their lost industry.

As part of the creative class project, the Gowanus Canal Community Development Corporation (GCCDC) and its allies want to attract leisure time and money. This includes both local recreation as well as tourists, whose arrival Ray Howell rejoiced in. He described how there were almost no hotels anywhere nearby 20 years ago and in just the last two years, there were eight or nine new hotels in Gowanus and the surrounding areas. They are Best Westerns and Holiday Inns, not five-star hotels, but they are filling up with a mix of foreigners, people on business, and parents visiting their children in Brooklyn, and they all need things to do. Cafes, restaurants, bars, and music venues can all do that and there are some, but the Riverwalk would add to the appeal for Gowanus. The Gowanus Dredgers also see themselves as a draw for people in Gowanus with the canoeing opportunities. As a result, Ray Howell sees the canal, with canoe-goers on it, as a recreational amenity, even without the Riverwalk, and points to the already extant greenery in the area such as a wooded strip on Second Street. Without much work, these could be even more of a draw for visitors and New Yorkers with free time. Toby Snyder was more negative about the canal as a recreational opportunity, saying that the best part was getting out of the canal and into New York Bay. But even if he did not appreciate the neighborhood, he was nevertheless going to Gowanus and might spend money in the area, generating economic activity. By creating a Riverwalk and turning the Gowanus Canal into more of a recreational space, backers seek to draw more leisure money to the area. While slightly different than attracting the creative class, this strategy

nevertheless centers on professionals with money to spare and would be hard to reconcile with an industrial zone in the same area.

Not all supporters of a Riverwalk and more recreational opportunities in the area are affiliated with the GCCDC. However, they are noticeably different in their emphasis and reasons for supporting such moves, and do not see them as part of a creative class strategy. For instance, Sasha Chavchavadze wants to see a park along the Gowanus Canal. She referenced, however, the Highline, rather than San Antonio's Riverwalk and that distinction is critical, for the Highline represents the adaptive reuse of a former elevated railroad surrounded by plants, rather than a manmade promenade that is Riverwalk. Chavchavadze emphasized the linkage, describing both the Highline and Gowanus Canal as post-industrial artifacts. She suggested this Highline by the water could highlight local history such as the Revolutionary War Battle of Brooklyn, which happened somewhere in the area, and be lined with indigenous plants, a reminder of the marshland that the area used to be. This would be a preservation strategy, following in line with some of Chavchavadze's work managing the Hall of the Gowanus, a local museum-cum-display space that occupies the front part of her studio and gallery. Linda Mariano also liked the idea of turning land near the Canal into parks, but her vision was less a Riverwalk and more a traditional park, mentioning multiple times that the neighborhood did not have enough parkland. Ben Afill did like the idea of a Riverwalk in line with what Appel and others propose. However, he was not especially eager for it and suggested it should wait "at least 20 years," until after the Superfund is over. These demonstrate the crucial difference between the GCCDC and others; the GCCDC sees a Riverwalk as a development strategy. Even where others agree with the basic idea, they

look more at the idea individually, rather than part of that overall strategy to attract creative professionals.

Science and the Future Economy

Beyond using a Riverwalk to attract creative professionals, another strategy to draw new industry to Gowanus involves reversing what it is best known for--pollution. This also manages to cross lines between the different activist groups, as both backers of industry and creative class attractors want less pollution and innovative methods of sustainability. Bette Stoltz was excited about the potential for developing and using new technologies to remove pollutants from water and the soil. This could be 20 years of jobs just for Gowanus, plus more dealing with pollution in the Newtown Creek, the very polluted body of water that divides Brooklyn from Queens. Bette thought this could be a model for remediation as well as a new industry in the area providing "a whole generation of work, blue collar work." Another member of Friends and Residents of Greater Gowanus, Marlene Donnelly, hoped for an entire industrial center in the area. Although industrial, even the Community Development Corporation is behind this goal because it cleans up the area. On two separate occasions, Bill Appel described how his group advocated for using new technology to detect pollution, although a *Daily News* article questioned how altruistic that advocacy really was (Durkin 2012). The GCCDC also works with and share space with another organization working on innovation, the Living City Block, a Colorado-based organization which looks to integrate sustainability through a systems approach at the neighborhood level. Despite their work with the GCCDC, which doesn't see much of a role for industry, Living City Block is working

with industrial businesses to reduce waste. As their head, Chris Grace, described to me, storm and waste water management is the most important thing for Gowanus but funders and observers from other areas are more interested in energy production and efficiency. As a result, she works to combine the two, for instance, by “aggregating” the community into one customer for new energy systems that can create energy and also heat buildings and water, while also saving enough money to pay for itself. Another effort, led by Bill Appel, seeks to create an environmental science center on the Gowanus Canal. Geared to third and fourth graders, this could be managed by NYU or Columbia and introduce children to environmental issues in New York City. Though there are some skeptics like Toby Snyder who thinks much of this won’t get off the ground, most Gowanus activists are eager to pursue a greener future.

A Mixed Use Future for Gowanus

As much as many want green industry in Gowanus, the holy grail of sorts is true mixed use coexistence between industry and a creative class in a way that revitalizes the area. Chris Grace is already working with a mix of different people from residential buildings, artists, warehouses, a bike maker, and medical supply and electronics companies. The marble-cutting company is nearby, as well, and this diversity makes it difficult to develop solutions and collaborate. David Meade was skeptical that they could really coexist, at least under the original plan for mixed use, and from the other side Buddy Scotto was not eager to keep industry in Gowanus, seeing industry as benefitting the neighborhood less than new upper-middle-class residents would. Neither, though, rejected mixed-use out of hand. Kevin Kelly, the Deputy Commissioner of the New York

City Department of Small Business Services, suggested that there was potential. He compared what Gowanus needed to the anchor tenant of a mall or a vital component of an ecosystem; individually they might not provide the maximum benefit but they allow the entire ecosystem to thrive by connecting everything together. Rather than aiming for maximizing the gain for each single lot, a single unified strategy could transcend the divisions between boosters of the creative class and defenders of industry and instead unite the two to optimize benefits for the entire area. David Meade suggested that could happen around green manufacturing and the adaptive reuse of old buildings, and if it did, that would be a clear and shining future for Gowanus. However, the inability to highlight effective examples of this sort of mixed-use shows how steep the odds are for this mixed-use strategy to be effective.

This diversity of ideas for Gowanus' economy demonstrates the ingenuity of community activists and their hard work to come up with ideas for the neighborhood, even if those ideas all rely on drawing some form of Richard Florida's creative class to the area. While it is important that Gowanus residents are thinking, they are not joining together to see how their ideas might fit together in practice. The divisions within the community make it virtually impossible to pressure government officials to accept their vision. However, a collaborative process to evaluate different options could unite them into a single, unified vision. Including activists across the ideological spectrum, they could probe different ideas for planning Gowanus' future, debate them, and develop a plan. Such a participatory planning process has the potential to bridge the divide and arrive at a realistic solution.

6. Participatory Planning for Gowanus

The biggest problem of politics is the question of trade-offs. The adage goes that there is no such thing as a free lunch--everything has some cost. The same is true in policy, but Gowanus has not and is not considering those trade-offs. Gowanus residents really care about their community. They treasure its history and look, frequently with trepidation, to the examples of other gentrifying neighborhoods. They brush off the pollution that surrounds them but are intensely interested in the cleanup of the Gowanus Canal and worried about the effects of the Superfund program to do so. They fear gentrification but also hope the area gets better. They want to attract creative professionals to Gowanus but differ in whether that means preserving industry and art in Gowanus or building housing and a post-industrial future. There is simply no way to reconcile all these different concerns and hopes without carefully considering the benefits and drawbacks of each idea as they relate to one another. Unfortunately, community groups do not have a comprehensive plan which might bring together all these wishes into a broader vision. The only real vision for Gowanus is the concept advanced by Buddy Scotto and Bill Appel of a Gowanus with a Riverwalk and housing but no real space for artists or industry. This would be Gowanus without the things that make it so exciting and defenders of artists and industrial businesses (and the jobs they create) do not have a proactive vision of what they want Gowanus to become.

Community groups do not have a real plan for a cohesive Gowanus, removing the biggest potential source of ideas and political power. Government agencies that might help craft such a plan are absent and not involved, though they are so distrusted that it might not even matter if they were involved. The people I spoke with saw corporate

developers perhaps even more negatively. The Gowanus Canal Community Development Corporation (GCCDC) advances the only clear agenda for the neighborhood, and that vision is little more than gentrification with affordable housing and a Riverwalk. Moreover, in the only clear test of neighborhood sentiment, they opposed the Superfund designation while anti-gentrification groups like Friends and Residents of Greater Gowanus (FROGG) supported the Superfund. Of the more than a thousand responses the EPA received, the vast majority of them supported the designation, opposing the GCCDC's position (Buxbaum 2011). However those community activists who do oppose gentrification are working at cross-purposes, without an overall plan for the neighborhood. An inclusive planning effort, on the other hand, could really preserve Gowanus for the future.

Saying that there is no planning for the neighborhood does not mean community groups have not been involved in shaping the neighborhood. On the contrary, groups actively involved in supporting or opposing individual projects, whether it is the cultivation of the arts scene in Gowanus or opposing Whole Foods. Nevertheless, as Deputy Commissioner Kevin Kelly of the Department of Small Business Services describes the failing of this strategy, these piecemeal efforts maximize the benefit for an individual parcel or group without considering the neighborhood as a whole. A community is made up of more than just plots of land with buildings and people going into and out of them. A community might be best thought of as an ecosystem and some pieces of an ecosystem might be insignificant on their own but vital in the context of an ecosystem. A worm, for instance, is miniscule and barely noteworthy, but without the worm, nutrients would not return to the earth and plants would eventually die. A store

might behave similarly. Any one store might sell the same wares as another store but if the first store supports the community, its loss could be devastating. But by considering only the individual store rather than the community as a whole, one loses this perspective. And right now, activists are focusing on the stores and missing the entire community. This makes it easier, for it does not necessitate considering the costs of each action, but it results in a myopic perspective that misses the overall health and wellbeing of the neighborhood.

Government agencies could make a difference by initiating a much broader look at the future of Gowanus. Unfortunately, they are not. The local Community Board, theoretically responsible for neighborhood planning, is too worried about the new Atlantic Yards complex northeast of Gowanus to consider other areas, according to Bette Stoltz. Owen Foote blasts the EPA for saying that their responsibilities are merely cleaning up pollution in the Gowanus Canal, without considering what the neighborhood will become. The City Planning Commission halted a proposed rezoning once the EPA announced the Superfund and restarting a study of the area does not appear to be in the cards for the near future. However, even if they did make an effort to consider the neighborhood's future, it is unclear if the community trusts them to do so.

Much of the hostility that I encountered towards government focused on New York City Mayor Mike Bloomberg and his actions, although the distrust of government institutions was fairly pervasive. Mical Moser said that the City just cared about real estate development and the additional tax revenue it would bring, not the arts and industry that would disappear. Sasha Chavchavadze took a similar view, that the City was promoting development that would make money but would not respect the culture of the

neighborhood or consider the concerns and desires of residents. Leslie Boyce repeated a story that Bloomberg moved the Department of Education out of its headquarters in order to make money by converting the building to condos and profit from it. In truth, though, while it is being converted into condos, a developer without any known financial ties to Mayor Bloomberg actually bought the buildings (Cooper 2003). These stories indicate that Gowanus activists do not trust the Mayor to actually help them.

But the distrust of government is not merely about Mayor Bloomberg but extends to almost everyone in government. Marlene Donnelly suggested in a FROGG meeting that politicians, specifically the politicians running to succeed Mayor Bloomberg, were a waste of time, and another FROGG member agreed. Donnelly blasted one Congresswoman, Yvette Clarke, saying that she “just didn't represent the community.” Linda Mariano was slightly more positive about their Assemblywoman, Joan Millman, but not by much. They also saw the Community Board and its manager as going behind their backs to advance an agenda at odds with the community. Mariano recounted stories of secret meetings and backroom deals with developers. Even low-level government officials were not seen more favorably. Owyn Ruck described cops as unresponsive to a series of burglaries at the Textiles Arts Center building. One community activist who pushed for the Superfund claimed that this lack of government attention was not merely accidental but that the City and State agencies focused their help on wealthier areas. However, those agencies were severely understaffed--he said that as a result of layoffs at the state Department of Environmental Conservation, there was just one guy in charge of enforcing environmental regulations for the entire city--and did not get to even a middle-income neighborhood like Gowanus.

Buddy Scotto described this suspicion of government as not a new phenomenon but one dating back more than 40 years to the beginnings of local community efforts to improve the neighborhood. They wanted to build a \$450 million sewage treatment plant to keep the canal clean and tried to put pressure on elected representatives to build the plant. The neighborhood was very blue-collar and most of the men worked at the port. The union representing longshoremen had close ties with both the Mafia and the Democratic Party, and so tried to stamp out Scotto's organizing. They feared that pressuring politicians to build a sewage treatment plant would endanger government support for modernizing the port. But in Scotto's view, the politicians were selling the union leaders and the longshoremen they represented a line because there just wasn't enough space to unload the containers necessary for modern shipping. Instead, Governor Nelson Rockefeller gave the port away to New Jersey as part of a deal that resulted in building the World Trade Center. Scotto succinctly summarizes the result of the deal for his neighbors: "Brooklyn, of course, got screwed." While Scotto is the founder of the local Independent Neighborhood Democrats and is still a very active leader, it seems he holds the same view of politicians. Most of the neighborhood not only appears to agree but also see Scotto somewhat similarly to other political leaders and some observers believe he does not enjoy much support in the community (Hay 2010).

However, while local activists do not trust government, most hate corporations and fear corporate development schemes for the neighborhood. Both Stoltz and Boyce described developers scheming to carve up the neighborhoods, although their stories were different. Stoltz claims that developers flew over Brooklyn in helicopters looking for sites with large footprints that they could easily buy and build on. Boyce says that while eating

in an upstate diner in Red Hook, she overheard a North Carolina developer talking about buying up land in Gowanus. For Boyce, this was part of a much larger effort of developers conniving to destroy Brooklyn and become profitable. She hopes that things could be different and would embrace investment that respected the community but does not think that real estate developers do that. On a complementary note, Ben Aufill does not want to “persecute” people who invest in the community but thinks that giant megabusineses don’t give anything back and don’t keep the neighborhood “cool,” while small businesses do. Ruck also felt a general discomfort about corporations, especially Whole Foods, coming in to revitalize the neighborhood. These suspicions lead to activists not being willing to accept developers’ leads on recreating Gowanus.

While not all major corporations are the same, it seems that many feel corporations in the past have not treated Gowanus well. Moser blamed “corporations” as a single entity for the pollution in the canal and thought they were being let off the hook. Scotto claimed that businesses along the Gowanus Canal destroyed the flushing tunnel, which would have helped clean up the canal, although the chronology does not line up. He also fired away at “the bastards” represented in the Brooklyn Chamber of Commerce for not being interested in cleaning up the canal. Residents see corporations harming the neighborhood even more recently. Boyce recounted developers throwing away the tools of her community garden. Donnelly claimed that Whole Foods did not tell the truth in its application for permission to build a store. They had to get a waiver from the Board of Standards and Appeals to build the plan they wanted but the backup plan they had offered if they didn’t get permission was, itself, illegal. Even Bill Appel, head of the GCCDC and one of the most pro-development of local leaders, was upset about how National

Grid, the gas company that polluted the canal, was cleaning up its pollution. They had a meeting with the EPA at the end of 2011 and National Grid simply did not show up. This legacy makes the community hostile to developers proposing new visions for Gowanus.

Though Gowanus activists may be glad to not have corporations or government dictating their future, the result is that they are flying blind. Many of their efforts make sense on an individual basis but do not on a larger scale. For instance, their work to prevent pollution and clean up already existing pollution is admirable and they've already seen success by getting the EPA to declare the canal a Superfund site. However, the remediation is likely to result in environmental gentrification as potential residents are more attracted to an unpolluted community so close to Downtown Brooklyn and Lower Manhattan. Informal buy local campaigns may support the community's stores and businesses, but so far they mostly include gentrifying boutiques, restaurants and cafes, part of the discourse of consumption that Zukin (2008) refers to, without any obvious benefits for the older stores in the area, and that helps displace those older stores. Similarly, a historic district and landmarking campaign would help maintain the look of at least parts of Gowanus but it might also make the neighborhood too expensive for industry and lower-income renters. The industrial zone, by contrast, may keep industry in Gowanus but it might also mean that parts of the neighborhood remain unfriendly late at night and new restaurants and cafes, opened to take advantage of gentrifiers moving to the area, are unable to make money and have to close. A Riverwalk may make the neighborhood nicer and canoers may be grateful but it could lead to greater gentrification as well. Increasing the police presence to make the neighborhood safer might mean that longtime residents feel less comfortable in the area. This is the truth about life in a city;

every improvement comes with some downsides. Unfortunately, by not engaging in neighborhood planning, community activists are not confronting these issues and are not making the crucial decisions about what they want their neighborhood to be.

Planning for the Future of Gowanus

Under Mayor Bloomberg, New York City has proactively worked to redevelop parts of the city, especially old industrial waterfronts like Gowanus but also other neighborhoods like Williamsburg. The Gowanus rezoning plan in particular would have created open spaces but would have done little to protect industry (Schaller and Novy 2011). It would have divided the neighborhood into five zones: two would be rezoned for residential buildings while another three would have been mixed-use. However, Bette Stoltz feared this was little more than a fig leaf, as new residents would push out older, noisy and messy industry. Owen Foote disagreed, suggesting that the Department of City Planning tried to preserve part of the old industrial core of the community. However, either way this was clearly a plan imposed from above rather than coming from the community. Sasha Chavchavadze recounted how artists in her building looked at the map and found that their building had been specifically cut out of the plan. A neighboring company does movie special effects, including explosions, and feared that if artists could live in their studios, they would not want the explosions going off. To prevent that possibility, the company approached politicians and got the building exempted. Chavchavadze and other artists had to hire a lawyer to fight to include them in the plan. However, before they succeeded, the EPA declared the area a Superfund and the city shelved the rezoning plan. Stopping the rezoning was for the best, as rather than

reflecting what the community actually wanted, it was an example of top-down planning which reflected the desires of political leaders and people with access to them.

The lack of inclusion in the rezoning plan and even in the planning around the EPA's Superfund process is somewhat shocking. Numerous activists mentioned that, although several public housing developments are in the vicinity of the Gowanus Canal, none were represented in the planning. Chris Grace described residents of public housing as not interested in the planning process, though she said that it's not impossible to bring them into the discussion. Ben Aufill likewise recognized their absence but said it was difficult to include them because they don't participate in the general discourse and culture of the area. Owyn Ruck, despite having grown up in the area and running a program that focused on children, had little contact with people in public housing. Bette Stoltz said that this was not just a single instance but also a broader problem of being unable to include low-income people, especially from neighboring Red Hook, in discussions. But the larger problem is more systematic. Even the most well meaning planning authority would have difficulty addressing the hopes and concerns of every stakeholder in a single report; there are just too many people and opinions and too little time to do so and then accomplish anything. Most planners are not that idealistic, either. In the *Power Broker*, Caro (1974) describes how Robert Moses was utterly intolerant of criticism or even helpful suggestions from almost anyone. Once he made up his mind, there was no further discussion. Moses was exceptional but unfortunately not that exceptional. It is probably only a natural reaction to stick to a decision once it is made.

There is an alternative, though. James Scott (1998) points out that although hierarchical planning schemes fail because while they claim to scientifically consider

everything, there is too much information for anyone to process without being immersed in what he describes as *metis* or local knowledge. However, by drawing on *metis*, Scott argues that localized community-based planning can figure out how to address major issues that might not otherwise be solved correctly. They can incorporate both this experiential knowledge as well as more scientific and technical knowledge, merging both into practical solutions for communities. Jane Jacobs similarly insisted that developing a better city rested on the shoulders of citizens who could “be the ultimate expert on” what would improve the city (1958 [2011]). Brandes Gratz quotes Jacobs writing, “The community really does know best.” (qtd. in Brandes Gratz 2010: 118). This belief influences an entire field of participatory planning.

Starting in the 1960’s, there was a gradual shift from what might be called “rational” planning where one planner decided what was best to a more deliberative, participatory planning model that included the input of citizens and community group. This earlier rational model assumes that politics can be removed from the decision, at least after an initial prioritization happens. However, this prioritizing was often seen as occurring at elections and the elected representatives were assumed to be adequate advocates for their communities. This also legitimated leaving control in the hands of planners and allowed individual constituencies to benefit without much public attention. Moreover, goals were often not clearly defined, leaving planners both the burden of deciphering goals as well as the chance to subvert the intentions of a community (Shannon 1999). Fundamentally then, participatory planning recognizes that not only are planners not omniscient but that their aims may also not be the same as the goals of the community they are planning for. Moreover, importantly for Gowanus, participatory

planning also emphasizes not merely the final plan but also the process during which stakeholders seek consensus and consider their options. This process both empowers citizens to recognize that they can take hold of and guide their own future without needing to an authority to hand them their demands and educates them about planning and the needs of the community (Smith 1973). As Forester (1982) explains, this theory, which he refers to as progressive planning, emphasizes educating the public and using participatory systems to balance out the influence of the powerful.

Fainstein (2000) criticizes participatory planning as ignoring power imbalances and assuming that any conflict can be bridged by sitting around a table talking. She also assails the process for having a potential to create undesirable results while claiming that less transparent processes have resulted in better policies around the welfare state in Europe and New Deal policies in America. Moreover in South Africa, where participatory planning has seen widespread adoption by the post-Apartheid government, the plans created have not always included everyone, not actually tackled the difficult issues or were not followed. Fainstein suggests that the alternative is a “Just City” social democracy, focusing on the effects of plans to achieve social integration, not just their process. This is a valid critique, but the same criticism could apply to all democratic institutions. Democracy does not always lead to the best policies. Sometimes democratic institutions do not solve major problems and Congress is not a scene of leaders calmly discussing policies and arriving at a consensual solution. Participatory planning is equally guilty of those problems. However, it is not clear that the alternative is better. A planner fighting for a more just city can easily slip into policies that aggravate inequality, and Robert Moses followed roughly that course (Caro 1974). If participatory planning does

not always lead to the glorious master plans that Fainstein would like, at least it stops calamities like what Moses unleashed on New York City. Indeed, one study suggests that empowering participants and derailing bad policies through publicity and a demonstration of their unpopularity may be the largest potential benefits of deliberative exercises like participatory planning (Goodin and Dryzek 2006). This more democratic form of planning would hopefully lead to better outcomes as a result.

While participatory planning may seem like a foreign idea, after the September 11, 2011 terrorist attacks, a form of participatory planning took place in New York City. The organization AmericaSpeaks, working with local government, brought together more than 4,300 people in a “Listening to the City” town hall event to discuss the future for Lower Manhattan and specifically Ground Zero. Participants divided into groups to consider both plans for the site as well as potential ideas for a memorial, transportation, open space, economic development and working to revitalize the surrounding area. Attendees were strongly opposed to many of the proposals as written and succeeded in getting various government agencies to return to the drawing board in order to develop new plans for the World Trade Center site. Indeed, this seems like a good example of the ability of participatory planning to halt bad projects. However, a lack of funding prevented more town halls that could have further guided the process (Lukensmeyer and Brigham 2002). This failing points to a truth about any planning process: it cannot be a one-off event. Instead, participatory planning must be an iterative process where the public discussion is repeated with every step so as to continue to guide a project. This is costly and takes longer but can instead lead to better results.

A related idea, though endowed with actual power, is already taking root in parts of New York--participatory budgeting. Like participatory planning, participatory budgeting assumes that even a local elected official is not as knowledgeable about community needs as community members themselves are. As a result, four New York City council members are currently undertaking a plan to allocate millions of dollars of funding to projects based on a long, collaborative process. Council Members Melissa Mark-Viverito (Upper Manhattan and the South Bronx), Brad Lander (Gowanus, Park Slope, and parts of central Brooklyn) Jumaane Williams (central Brooklyn), and Eric Ulrich (Eastern Queens) held neighborhood assemblies to consider the needs of each of the neighborhoods they represented. Residents divided up into committees to develop project proposals ranging from improving recycling at public housing developments to building a greenhouse. The committees worked with local organizations and city agencies to flesh out their ideas, determine where the money would go, and how much the proposal would cost. There was then a second set of neighborhood assemblies to explain the various proposals, followed by a vote at the end of March, open to any adult resident of the City Council district, to determine how the money would be allocated (“The Participatory Budgeting Process” 2012). While so far only taking place in four City Council districts, out of 52, one of them includes part of the Gowanus neighborhood. In nearly every procedural respect, this resembles participatory planning in and might be one model for how it could function.

A key component of participatory planning is having an informed and involved community and there, Gowanus already has a leg up. Community members have strong networks among each other. As Mariano explained, she wouldn’t publicly point fingers at

anyone in Gowanus because “We're a community, I have to live with them.” Even if she doesn't like a person, they still work together in various community settings. These informal bonds are already translating into action. For instance, Ruck described how Whole Foods' plans mobilized community members to organize against the plan. Donnelly mentioned that twenty people took time off during their day to testify against the store at a hearing, even if they weren't successful. Bette Stoltz observed that community members were already regularly fighting to prevent zoning variances, like the Whole Foods plan, which allowed developers to build something other than what the area is zoned for. Diane Buxbaum, a leader in the Sierra Club who works in the EPA's enforcement division, observed that the community was so active in the debate over the Superfund that they sent in 1300 responses, setting a record for the history of the Superfund program. 95% of those 1300 responses supported inclusion in the program. Even activists with the Gowanus Canal Community Development Corporation, a group that opposed the designation, testify to a community active in trying to influence that process. Appel describes the phone ringing off the hook during the run-up to the Superfund designation. Ray Howell claims that Japanese TV did a live broadcast from the Gowanus Canal for Good Morning Japan describing how community groups were mobilizing and actually making a difference by getting the Superfund designation.

This community activism is going on even outside the policy arena. Aufill recounted a story of a crime that had happened in Gowanus. Even though the victim was a newcomer, older Italian residents promised to work together to find the assailant and take care of him. Similarly, after Ruck's building was robbed, there was a generalized fear of crime but it also led to building community as people got together and talked

about what happened. But environmental issues are probably where Gowanus is making the largest strides, on their own, without government planners' involvement, and in some cases going against their decisions. For instance, Living City Block is dealing with a combined sewer overflow at the end of their block; the backflow when it rains heavily causes numerous issues. While they would like city government to fix the system, they are also working on natural filtration to prevent the problem without needing governmental involvement. Eymund Diegel developed a system whereby homeowners would reconfigure their storm drains so that the water does not flow into the sewer. Instead, the water would flow directly into the canal and avoid mixing with sewage first. However, "The Gowanus is permitted to death," as he says, and the city won't allow even clean rainwater to flow into the canal, though it seems unlikely that a government agency would interfere with their plans.

While environmental improvements may be higher profile, even mixed-use spaces are already taking off, even without the permission of government officials. Stoltz describes these are buildings where the first floor or two are commercial or light industrial while the upper floors are residential. That's already happening and will continue to happen as long as city government and real estate developers don't prevent it. Gowanus may face many issues but they are already succeeding in addressing some of them even without government assistance.

There are even the first hints of participatory planning. EPA's Community Advisory Group (CAG) takes on a similar role compared to the Listening to the City event after 9-11, advising government agencies and calling for policy changes. The CAG counts most of the institutional actors in the neighborhood as members, including

FROGG, the GCCDC, and other groups, and is beginning to discuss the future of Gowanus. These different groups are, according to Marlene Donnelly, coming together to work for the future of Gowanus, and have at least come to the agreement that they want the canal to be fully cleaned up, regardless of their differences on the initial Superfund question. In March 2012, the entire CAG unanimously passed a resolution calling on the EPA to reclassify the canal so that it would be clean enough to support recreational uses, such as canoeing (Donnelly 2012). Even though the CAG is not completely open to the public, and is as, the name suggests, an advisory body, it is a step in the right direction. Donnelly thinks that it has the potential to evolve into a body that helps join the various groups together in a structure that leads to a grassroots plan for the future of the Gowanus neighborhood.

Gowanus has a tremendous opportunity to reshape itself and become a model of a neighborhood for the twenty-first century. Residents face numerous challenges from pollution, gentrification, and economic development strategies that see industry as the past rather than part of a future. Nevertheless, participatory planning offers the opportunity to work together to shape a new neighborhood. Even without that structure, Gowanus residents are already starting to make a difference. The additional power they would be afforded through participatory planning and government backing for community plans is immense. Without planning it, Gowanus is hurtling towards an abyss. But if community members come together to chart a new course, they can preserve the neighborhood and ensure that it continues flourishing far into the future.

Works Cited

- Troy D. Abel and Jonah White, "Skewed Risksapes and Gentrified Inequities: Environmental Exposure Disparities in Seattle, Washington," *American Journal of Public Health*, 2011.
- Jason & Todd (Alström Bros), "Beer for Beasts! (Brooklyn, Mar 26)," email message received by author, March 3, 2011.
- Bill Appel and Ray Howell, conversation with author, December 2011.
- Ben Aufill (Gowanus Your Face Off), interview by author, October 2011.
- Mackenzie Baris, "Richard Florida, The Flight of the Creative Class," *Next American City*, November 2005, <http://americacity.org/magazine/article/review-richard-florida-the-flight-of-the-creative-class-baris/>.
- H. Spencer Banzhaf and Eleanor McCormick, "Moving Beyond Cleanup: Identifying the Crucibles of Environmental Gentrification," National Center for Environmental Economics, Working Paper #07-02, January 2007.
- H. Spencer Banzhaf and Randall P. Walsh, "Do People Vote With Their Feet? An Empirical Test of Environmental Gentrification," Paper for the NBER Summer Meetings, July 2005.
- Marino Bonaiuto, Glynis M. Breakwell, and Ignacio Cano, "Identity Processes and Environmental Threat: the Effects of Nationalism and Local Identity upon Perception of Beach Pollution," *Journal of Community & Applied Social Psychology*, Volume 6, Issue 3, pages 157–175, August 1996.
- Leslie Boyce, phone interview by author, December 2012.
- Charles Frederick Breitzke, "An investigation of the sanitary condition of the Gowanus Canal, Brooklyn, New York," *Technology Quarterly and Proceedings of the Society of Arts*, Vol. 21 No. 3, September 1908, pp. 243-279.
- Jon Bunge, interview by author, October 2011.
- Trudy Ann Cameron and Graham D. Crawford, "Superfund Taint and Neighborhood Change: Ethnicity, Age Distributions, and Household Structure," 2004, https://scholarsbank.uoregon.edu/xmlui/bitstream/handle/1794/303/UO-2003-38_Cameron_Crawford_Superfund_Taint.pdf?sequence=1.
- Rich Calder, "Feds: Gowanus Canal a cancer threat and among the nation's most polluted waterways," *New York Post: The Brooklyn Blog*, February 2, 2011, http://www.nypost.com/p/blogs/brooklyn/feds_gowanus_canal_cancer_threat_zqGEAw5JTYe2Vh14AvyykI.
- Robert Caro, *The Power Broker: Robert Moses and the Fall of New York*, New York: Random House, 1974.
- "A Change for Gowanus," *New York Tribune*, April 12, 1908.
- Sasha Chavchavadze, interview by author, October 2011.
- Michael Cooper, "So Long, School Bureaucrats: 110 Livingston Is Being Sold," *New York Times*, July 9, 2003, <http://www.nytimes.com/2003/07/09/nyregion/so-long-school-bureaucrats-110-livingston-is-being-sold.html?pagewanted=all&src=pm>.
- Consumer Price Index (Estimate), Federal Reserve Bank of Minneapolis, accessed March 27, 2012, http://www.minneapolisfed.org/community_education/teacher/calc/hist1800.cfm.

- CUNY Mapping Service at the Center for Urban Research, "NYC OASIS," 2010, accessed December 17, 2011, <http://www.oasisnyc.net/map.aspx>.
- Winifred Curran, "From the Frying Pan to the Oven': Gentrification and the Experience of Industrial Displacement in Williamsburg, Brooklyn," *Urban Studies*, Vol. 44, No. 8, 1427-1440, July 2007.
- Larry Dale, James C. Murdoch, Mark A. Thayer, and Paul A. Waddell, "Do Property Values Rebound from Environmental Stigmas? Evidence from Dallas," *Land Economics*, Vol. 75, No. 2, May 1999, pp. 311-326.
- Adam Davidson, "Making it in America," *The Atlantic*, January/February 2012, http://www.theatlantic.com/magazine/archive/2012/01/making-it-in-america/8844/?single_page=true.
- Eymund Diegel, interview by author, October 2011.
- Marlene Donnelly, Friends of Greater Gowanus meeting, December 13, 2011.
- Marlene Donnelly, personal email, April 4, 2012.
- Erin Durkin, "Gowanus cleanup is blasted as health risk," *New York Daily News*, January 21, 2012.
- Adam Eckerd, "Cleaning Up Without Clearing Out? A Spatial Assessment of Environmental Gentrification," *Urban Affairs Review*, Vol. 47, No. 1, 2011, pp. 31-59.
- Susan S. Fainstein, "New Directions in Planning Theory," *Urban Affairs Review*, Vol. 35, 2000.
- Stephen Farber, "Undesirable facilities and property values: a summary of empirical studies," *Ecological Economics*, Vol. 24, 1998, pp. 1 - 14.
- Richard Florida, *The Rise of the Creative Class: And How It's Transforming Work, Leisure, Community, and Everyday Life*, Cambridge: Basic Books, 2002a.
- Richard Florida, "The Rise of the Creative Class," *Washington Monthly*, May 2002b, <http://www.washingtonmonthly.com/features/2001/0205.florida.html>.
- Owen Foote, interview by author, September 2011.
- John Forester, "Planning in the Face of Power," *Journal of the American Planning Association*, Vol. 48, No. 1, 1982, pp. 67-80.
- Gatemouth (Howard Graubard), "Suffering from Premature Evacuation," *Room 8 New York Politics*, August 27, 2011, http://www.r8ny.com/blog/gatemouth/suffering_from_premature_evacuation_dedicated_to_t_bone_walker.html.
- Gatemouth (Howard Graubard), "Fallout from the Buddy Zone (Part Two of Gate's Skeptical Look at Brooklyn 'Reformers,'" *Room 8 New York Politics*, March 13, 2012, http://www.r8ny.com/blog/gatemouth/fallout_from_the_buddy_zone_part_two_of_gates_skeptical_look_at_brooklyn_reformers.html.
- Malcolm Gladwell, *Outliers: The Story of Success*, New York: Little, Brown and Company, 2008.
- Robert E. Goodin and John S. Dryzek, "Deliberative Impacts: The Macro-Political Uptake of Mini-Publics," *Politics Society*, Vol. 34, 2006.
- Chris Grace, interview by author, February 2012.
- Roberta Brandes Gratz, *The Battle for Gotham: New York in the Shadow of Robert Moses and Jane Jacobs*, New York: Nation Books, 2010.

- Roberta Brandes Gratz, "Jane Jacobs and the Power of Women Planners," *The Atlantic Cities*, November 16, 2011, <http://www.theatlanticcities.com/arts-and-lifestyle/2011/11/jane-jacobs-and-power-women-planners/502/>.
- Michael Greenstone and Justin Gallagher, "Does Hazardous Waste Matter? Evidence from the Housing Market and Superfund Program," NBER Working Paper Series, Working Paper 11790, November 2005, <http://www.nber.org/papers/w11790>.
- Jason Hackworth, "Postrecession Gentrification in New York City," *Urban Affairs Review*, Vol. 37, No. 6, July 2002, pp. 815-843.
- Mark Hay, "Buddy Scotto, on the ramparts of Carroll Gardens," Capital New York, August 10, 2010, <http://www.capitalnewyork.com/article/politics/2010/08/296403/buddy-scotto-ramparts-carroll-gardens?page=all>.
- Richard C. Hula, "Changing Priorities and Programs in Toxic Waste Policy: The Emergence of Economic Development as a Policy Goal," *Economic Development Quarterly*, Vol. 15, No. 2, May 2001, pp. 181-199.
- Hunter Research Inc., Rabner Associates, Northern Ecological Associates, Inc., "Final Report National Register of Historic Places Eligibility Evaluation And Cultural Resource Assessment for The Gowanus Canal Borough of Brooklyn, King County, New York In Connection With The Proposed Ecosystem Restoration Study," May 2004 [Revised December 2004].
- Jane Jacobs, "Downtown is for People," *Fortune Classic*, 1958, reposted September 18, 2011, <http://features.blogs.fortune.cnn.com/2011/09/18/downtown-is-for-people-fortune-classic-1958/>.
- Jane Jacobs, *The Death and Life of Great American Cities*, New York: Vintage Books, 1961 [1992].
- Philip Kasinitz, "The Gentrification of "Boerum Hill": Neighborhood Change and Conflicts over Definitions," *Qualitative Sociology*, 11(3), Fall 1988.
- Katherine A. Kiel and Michael Williams, "The impact of Superfund sites on local property values: Are all sites the same?" *Journal of Urban Economics*, Vol. 61, 2007, pp. 170–192.
- Carolyn J. Lukensmeyer and Steve Brigham, "Taking Democracy to Scale: Creating a Town Hall Meeting for the Twenty-First Century," *National Civic Review*, Vol. 91 No. 4, Winter 2002.
- Linda Mariano, interview by author, December 2011.
- Peter Marcuse, "Comment of Elvin K. Wyly and Daniel J. Hammel's 'Islands of decay in seas of renewal: housing policy and the resurgence of gentrification,'" *Housing Policy Debate*, Vol. 10, No. 4, Princeton, NJ: Princeton University Press, 1999, pp. 789–797.
- Douglas Martin, "Last Vestige of the Dodgers in Brooklyn," *New York Times*, November 2, 1997.
- David Meade, phone interview by author, February 2012.
- Brian Merlis, phone interview by author, November 2011.
- Kent D. Messer, William D. Schulze, Katherine F. Hackett, Trudy A. Cameron, and Gary McClelland, "Can Stigma Explain Large Property Value Losses? The Psychology and Economics of Superfund," *Environmental & Resource Economics*, Vol. 33, 2006, pp. 299–324.

- Peter B. Meyer, "Accounting for Differential Neighborhood Economic Development Impacts in Site-Specific or Area-Based Approaches to Urban Brownfield Regeneration," Working Paper, 1998.
- Mical Moser, interview by author, September 2011.
- "The Participatory Budgeting Process," *News from Melissa Mark-Viverito*, accessed March 3, 2012, <http://mmviverito.com/pbnyc/the-participatory-budgeting-process/>
- Terry Nichols Clark, "Urban Amenities: Lakes, Opera, and Juice Bars," in Terry Nichols Clark (ed.) *The City as an Entertainment Machine* (Research in Urban Policy, Volume 9), Bingley, UK: Emerald Group Publishing Limited, 2004, pp. 103-140.
- Douglas S. Noonan, Douglas J. Krupka, and Brett M. Baden, "Neighborhood Dynamics and Price Effects of Superfund Site Cleanup," *Journal of Regional Science*, Vol. 47, No. 4, 2007, pp. 665–692.
- Paul Peterson, *City Limits*, Chicago: University of Chicago Press, 1981.
- PlaNYC: A Greener, Greater New York*, City of New York, 2007.
- Andrew C. Pratt, "Creative cities: the cultural industries and the creative class," *Geografiska Annaler: Series B, Human Geography*, Vol. 90, No. 2, 2008, pp. 107-117.
- Alan K. Reichert, "Impact of a Toxic Waste Superfund Site on Property Values," *The Appraisal Journal*, October 1997.
- Dan Rosenblum, "The bioswales of New York: A city plan to make more tree-stands and less sewage runoff," *Capital New York*, March 13, 2012, <http://www.capitalnewyork.com/article/politics/2012/03/5327266/bioswales-new-york-city-plan-make-more-tree-stands-and-less-sewage->
- Owyn Ruck, interview by author, October 2011.
- Saskia Sassen, *Cities in a World Economy*, Newbury Park, CA: Pine Forge Press, 2006.
- Susanna Schaller and Johannes Novy, "New York City's Waterfronts as Strategic Sites for Neoliberalism", in *Transforming Urban Waterfronts: Fixity and Flow*, ed. Gene Desfor, Jennefer Laidley, Quentin Stevens, and Dirk Schubert, New York: Routledge, 2011, pp. 166-187.
- James C. Scott, *Seeing Like a State: How Certain Schemes to Improve the Human Condition Have Failed*, Yale University Press, 1998.
- Buddy Scotto, interview by author, December 2011.
- Margaret A. Shannon, "Moving from the Limits and Problems of Rational Planning Toward a Collaborative and Participatory Planning Approach," in *Formulation and Implementation of National Forest Programmes, Vol 1: Theoretical Aspects*, Peter Gluck, Gerhard Oesten, Heiner Schanz and Karl-Reinhard Volz (eds.), 1999.
- Neil Smith, *The New Urban Frontier: Gentrification and the Revanchist City*, New York: Routledge, 1996.
- Richard Warren Smith, "A Theoretical Basis for Participatory Planning," *Policy Sciences*, Vol. 4, 1973, pp. 275-295.
- Social Explorer Tables: ACS 2005- 2009 (5-Year Estimates), ACS 2005-2009 (5-Year Estimates), Social Explorer; U.S. Census Bureau.
- Toby Snyder, phone interview by author, December 2011.
- Bette Stoltz, interview by author, October 2011.

- Michael Spitzer-Rubenstein, "Coal Burning Industry in Gowanus: Gone But Not Forgotten" (research paper, Columbia University, 2011).
- David Von Spreckelsen, phone interview by author, December 2011.
- John Waldman, *Heartbeats in the Muck*, New York: Lyons Press, 1999.
- Misse Wester-Herber, "Underlying concerns in land-use conflicts—the role of place-identity in risk perception," *Environmental Science & Policy*, Volume 7, Issue 2, April 2004, pp. 109-116.
- David Wilson and Roger Keil, "The real creative class," *Social & Cultural Geography*, Vol. 9, No. 8, December 2008.
- Laura Wolf-Powers, "Up-Zoning New York City's Mixed-Use Neighborhoods: Property-Led Economic Development and the Anatomy of a Planning Dilemma," *Journal of Planning Education and Research*, Vol. 24, 2005, pp. 379-393.
- Sharon Zukin, "Consuming Authenticity," *Cultural Studies*, Vol. 22, No. 5, 2008, pp. 724-748.
- Sharon Zukin, Valerie Trujillo, Peter Frase, Danielle Jackson, Tim Recuber, and Abraham Walker, "New Retail Capital and Neighborhood Change: Boutiques and Gentrification in New York City," *City & Community*, Vol. 8, No. 1 March 2009.