

Drivers of Gentrification in Brooklyn: The Impact of New Units on Incumbent Residents

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Gentrification has played a significant role in transforming and renovating dense urban areas to appeal more to wealthier populations. Revitalizing and constructing new units impose considerable ramifications for existing residents, with the most significant being displacement. This study, therefore, explores the drivers of gentrification in Brooklyn, specifically aiming to uncover the statistical and systematic issues that perpetuate community revitalization and property flipping. Using data from the U.S. Census American Community Survey, this study compares the categories of Households, Demographics, and Environmental to the percentage of new units built in all Brooklyn neighborhoods by New York City's Department of City Planning from 2010 to 2019. An OLS regression with robust standard errors was employed. Based on the findings, this study concludes that developers target their new units toward non-family, working-aged individuals who prefer renting over owning property. Individuals over 65 are not the focus of displacement, and their communities are not experiencing flipping. The Brooklyn revitalization projects do not aim to attract or retain non-white individuals in the affected neighborhoods, and Superfund Sites do not directly correlate to gentrification. These findings raise concerns about ongoing efforts to attract a specific demographic to Brooklyn while thousands of longtime residents are being priced out of their neighborhoods without the necessary policy assistance to preserve and protect their communities from complete overhaul.

Introduction

Gentrification, a multifaceted and complex form of neighborhood change, has been on the uprise in many diverse cities across the United States. This process results in the displacement of incumbent residents of one social class and culture by another, more affluent class, linked with an increase in property values (1). Gentrification raises concerns about housing affordability, displacement, and community identity. Seven cities: New York City, Los Angeles, Washington, D.C., Philadelphia, Baltimore, San Diego, and Chicago, accounted for nearly half of the gentrification nationally. In these cities, black and Hispanic residents were found to be most impacted, with at least 13% of these communities being displaced (1).

Gentrification manifests in various forms of displacement. Direct displacement occurs when rising rents or building renovations force long-term residents out of their neighborhoods. Exclusionary displacement limits housing options for low-income individuals, effectively barring them from moving into or remaining in gentrified areas. Additionally, displacement pressures arise when essential services and community resources that low-income residents rely on gradually disappear (3).

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In recent years, New York City (NYC) has experienced significant demographic and economic shifts, largely driven by gentrification in several neighborhoods. These changes

have disproportionately impacted diverse populations, particularly Black residents. Between 2010 and 2020, the Black population in NYC declined by 84,400, with Brooklyn seeing the largest decrease of 69,400 residents (2).

Investors and developers often target neighborhoods with lower property values, where the potential for profit is high due to the influx of wealthier residents willing to pay higher rents. This increased competition for housing has made historically affordable areas less accessible, pushing out lower-income individuals and reducing the availability of stable, long-term housing.

At the core of gentrification is the tension between urban renewal and the preservation of existing communities. As neighborhoods undergo revitalization, the influx of wealthier residents often results in rising rents and property taxes, placing immense pressure on long-term residents. The high rent costs due to gentrification force low-income households to move to lower-cost neighborhoods with fewer resources and amenities. These individuals and families at risk of having to move out of their community are more likely to move to neighborhoods with high unemployment rates, lower median incomes, poor public school performance, as well as lower home values (3). Additionally, there is a risk for cultural displacement, where the closing of long-time neighborhood landmarks like Harlem's iconic Lenox Lounge, a former jazz club open since 1939, where artists like Billie Holiday and Miles Davis performed, was forced to close due to rising rents. It will

now become a commercial development that will house a *Sephora* store (4). An influx of community members from different cultures and socioeconomic statuses risks the chance of long-time residents feeling like they do not have a sense of belonging in the neighborhood they have nourished.

Amongst revitalization, New York City reached a new population peak of 8.2 million in 2010 and 8.8 million in 2020 (2). This can be attributed to New York City's enticing features, including its entertainment hub, economic opportunities, cultural diversity, and vibrant neighborhoods, which continue to attract new residents and businesses. However, the wages of low-income residents have not kept up with the rise in housing prices, resulting in demographic shifts. From 2010 to 2022, the median price of a home in NYC increased by 74%, yet the minimum wage increased by \$7.50 in this period (5). Amongst ongoing interest in New York City, especially newly revitalized communities like Brooklyn, and added new interest from big tech firms including Apple, Amazon, and Google, displacement is heavily prevalent through gentrification. New York City has a critical housing crisis that has rising rent prices, homelessness, loss of rent-regulated housing, and loss of public housing. In the metro region of New York, there are 314 super-gentrified neighborhoods, comprising suburban and ex-urban communities around New York City, where 71 of these neighborhoods transitioned from low-income areas to areas where the median household income was 200% greater than the regional median in 2016 (6). As housing prices soar, the affordability crisis necessitates innovative policy responses that address both the immediate needs of displaced residents and the long-term implications of urban development. This introduces the basis of this study: How does gentrification and its revitalization process impact low-income residents and their affordable housing, specifically in Brooklyn?

This study's purpose is to address this question in the borough of Brooklyn, using a ten-year time frame (2010-2019) of housing development across 54 neighborhoods in this borough. This study employs the U.S. Census Bureau's American Community Survey (2018-2022) and NYC Department of City Planning data on housing unit changes in Brooklyn, analyzing new construction, demolitions, and alterations. The DCP dataset, based on a full population census, helps distinguish between new, repaired, and removed units. Additionally, stratified random sampling from the ACS will be used to assess Brooklyn's population by location and attributes. The study compares the categories of Households, Demographics, and Environmental to the percentage of new units built in all Brooklyn neighborhoods by New York City's Department of City Planning from 2010 to 2019. The main findings of this study are significant, with results that link gentrification with areas having high concentration of Non-family, working aged individuals who

prefer to rent over owning their own property, and housing developers catering new units to this demographic.

Following this introduction, the reader will find the literature review that provides a history of gentrification as well as determining factors influencing gentrification. In the next section, information on research methodology follows, describing this study's units of analysis and data sources. Last, findings are provided that are followed by a discussion and policy recommendations.

Literature Review

Gentrification and Low-Income Housing: Recent History

Gentrification has a rich history that has stemmed from several governmental hardships, where those living in the lower class were not supported and left displaced as a result. Beginning with the 1975 Fiscal Crisis in New York City, the crisis was rooted in a declining manufacturing sector, rising poverty, increasing demand for social spending, and a depressed real economy (7).

In February of 1975, New York City ran out of money to pay basic operating expenses, leaving the city with a debt of over \$11 billion and the inability to borrow money (7). This financial crisis commenced the major push to gentrify the city and its communities. This crisis brought about decreased government housing assistance, meaning the city's housing assistance was less feasible for poor households to access subsidized housing or tenant-based subsidies (9).

As a means of recovering from debt, the city allocated subsidy programs to support gentrification, like giving tax abatements to those who would buy and renovate decaying housing stock for more affluent tenants (8). These property tax abatement programs included single-room occupancy (SRO) units, which allowed owners to convert SROs into higher-cost housing, such as cooperatives, condominiums, or rental housing (9). When those in the SROs (typically lower-class people) were faced with significantly higher rents, they had no choice but to move out of their neighborhood and into someplace they could afford. The number of SRO units in New York City fell from approximately 129,000 in 1960 to 25,000 in 1978, leaving those fleeing their SROs, due to cost, with extremely limited replacement options, and out of those options, with an even narrower amount options that were not converting to higher-cost housing (9). The "solution" to this crisis was publicly stated to be in support of those who were struggling the most, financially, because of the monetary loss: the municipal workers and the service recipients, especially the poor. However, similar to many governmental projects, while the intent is to solve the problem for those who are hurting the most, the wealthy always end up benefiting more, and in this case, those were

the gentrifiers, bankers, and developers (8).

In the late 1970s, as manufacturing jobs declined, city planners and policymakers began promoting urban renewal projects, as a resort of final hope to encourage wealthier residents to return to the city and help the economy. SoHo, then a decaying industrial district, began to have a drastic shift from abandoned warehouses to a trendy neighborhood, filled with art galleries and high-end stores (10). The SoHo gentrification project's economic transformation in the neighborhood set the stage for the future of gentrification patterns across the city. While seemingly beneficial to the economy, SoHo set the precedent for a troubling trend. Landlords raised rent significantly as property values rose, forcing many working-class, original residents to leave and become displaced. Similar to the 1975 Fiscal Crisis, the reduced affordable housing options left residents with little to no options for places to live (10).

Gentrification accelerated in the 1980s-1990s as economic conditions in New York City improved due to a new wave of affluent residents moving in, enticed by the booming finance sector. These affluent people moved into historically working-class neighborhoods, like Williamsburg in Brooklyn and the East Village, both traditionally lower-income immigrant neighborhoods that provided labor to an industrial hub. As the appeal of these areas grew, so did the demand for housing, driving up rents and property values. In congruence with previous periods, this resulted in the displacement of long-term, low-income tenants, who could no longer afford the rising costs of living in these gentrifying areas.

While on paper, housing policies appear to have been intended to help low-income residents find and afford housing, the rising demand for real estate in gentrified areas created a severe housing affordability crisis in NYC. Federal housing policies like President Reagan's HUD budget cut from \$83.6 billion in 1976 to \$40 billion in 1982, leading to the quick decline in the quality of public housing (3). Additionally, the Section 8 Housing Choice Voucher Program was launched, which allowed tenants to pay 30% of their income toward rent, and the rest would be covered by federal subsidies (11). This was a helpful initiative as it enabled low-income residents to access decent housing in the private market while managing their housing costs based on their income level. The Low-Income Housing Tax Credit (LIHTC) was also introduced, which allowed banks and private companies to purchase federal income tax credits to build affordable housing (1). Thousands of rent-stabilized and rent-controlled apartments were deregulated through landlord buyouts or vacancy decontrol laws, heightening the housing problem for low-income residents (12).

In the 2000s, gentrification spread to many neighborhoods across New York City, including the South Bronx, Harlem, and especially Brooklyn. As housing

demand in Manhattan neared capacity, developers sought inexpensive land in other boroughs like Brooklyn and Harlem to build luxury developments and high-rise condos to capitalize on the influx of wealthier residents. While these developments can be seen as a sign of economic revitalization for developers, they have significantly reduced the availability of affordable housing for low-income residents. As a result, one of the most significant effects of gentrification in New York City has been the displacement of long-time residents. A report from the Community Service Society in 2015 estimated that over 200,000 low-income residents were displaced from gentrifying neighborhoods between 2002 and 2014 (1). As rents surged in these areas, rent-burdened households (those paying more than 30% of their income on rent) found it increasingly difficult to remain in their homes.

Furthermore, gentrification has placed immense pressure on the city's already limited supply of affordable housing. Public and project-based housing programs have been inadequate to meet the growing demand for affordable units. Despite efforts by the city to build or preserve affordable housing through programs like Mayor Bill de Blasio's "Housing New York" plan, which aimed to create or preserve 300,000 affordable units by 2026, many argue that these efforts have fallen short (13). Although this plan has appeared to be beneficial to those displaced, the affordability levels for new developments often do not align with the income levels of the displaced residents, leading to a toss-up between the supply of affordable housing and the needs of the population.

Drivers of Gentrification

Redevelopment

In their article, "The Right to Stay Put, Revisited: Gentrification and Resistance to Displacement in New York City," authors Newman and Wyly challenge arguments in favor of mixed-income redevelopment and gentrification (14). According to their quantitative analysis, evidence was provided for the "political salience" of displacement. Methods like selective deregulation and market-oriented social policy to resist displacement were then suggested. Presenting data ranging from 1989-2002, significant trends are shown regarding increases in the number of displaces, number of movers, displacement rate, and reasons for moving, the authors make it evident that gentrification displacement has gotten significantly worse over time. All thirteen tables of data included in this source can apply to present-day NYC, as even though they are not from today's world, they still provide an abundance of information and statistics that point out trends that are still occurring and help make sense of where the city has gone wrong in supporting those requiring affordable housing.

In their study, “Superfund Me: A Study of Resistance to Gentrification in New York City,” Pearsall, the author explores brownfield redevelopment programs that transform into urban sustainability plans, attempting to make these sites into productive uses (15). They use the Gowanus Canal in New York City, specifically in the borough of Brooklyn, as their case study, which provides an illustrative example of how regulatory mechanisms can be leveraged to resist gentrification. The proposal to redevelop contaminated sites along the canal for residential and commercial uses was met with community opposition and regulatory scrutiny, ultimately leading to the site’s designation on the US National Priorities List (NPL). The authors highlight how the listing of the canal as a hazardous site served as a form of place stigmatization, slowing developer-driven projects and enabling a more comprehensive approach to environmental remediation. This literature reveals a complex connection between urban sustainability and gentrification. While the revitalization of contaminated sites is often promoted as an environmentally and economically beneficial endeavor, its execution frequently worsens socio-economic inequalities and leads to displacement. The Gowanus Canal demonstrates how brownfield redevelopment can be contested and shaped by regulatory designations such as the National Priorities List (NPL), which can slow speculative development and allow for a more comprehensive remediation process, as it did in this case.

In their article, “Vertical Gentrification: A 3D Analysis of Luxury Housing Development in New York City,” Lauermaun introduces the concept of vertical gentrification, analyzing how luxury housing developments reshape urban landscapes in street level, height, and volume (16). Unlike traditional gentrification, which displaces residents through rising rents and redevelopment at the street level, vertical gentrification introduces new forms of exclusion. Unlike traditional gentrification, which often displaces low-income residents, vertical development in already gentrified neighborhoods accelerates the exclusion of middle-class households, as rising land values make previously accessible areas unaffordable.

The increase in building height and volume amplifies this process as luxury developments attract wealthier buyers and investors, driving up prices in surrounding areas. Additionally, vertical expansion leads to the loss of historic architectural identity, reduced sunlight exposure, and increased congestion, while also creating a drastic visual and economic contrast with previously built structures. The authors have examined how urban policies, such as tax incentives and relaxed zoning regulations, encourage vertical expansion by prioritizing private investment over public housing needs. The rapid rise of luxury high-rises in New York City exemplifies how urban inequality is reinforced through the built environment,

creating new forms of displacement and exclusion.

Insufficient Policy

In their article, “Running to Stand Still: Through the Looking Glass with Federally Subsidized Housing in New York City,” DeFilipis and Wyly critique the widespread belief that project-based housing subsidies are inherently detrimental because they confine low-income households to poor, racially segregated neighborhoods, whereas Housing Choice Vouchers (HCVs) are seen as promoting tenant mobility and neighborhood integration (17). Their work, while using data from 3 decades ago, is still applicable to current-day NYC and offers exploratory power in the deficiencies of affordable housing policy. Using New York City as a case study, the authors challenge this consensus by highlighting how gentrification has altered the urban housing market dynamics. As formerly impoverished neighborhoods transform, project-based subsidized housing units are disappearing, whereas voucher recipients are increasingly concentrated in poorer, often racially segregated areas on the outskirts of the city.

The article argues for a reevaluation of federal housing policies, advocating for measures such as “right of first refusal” laws, which give tenants the option to purchase buildings when landlords terminate affordability agreements, as seen with New York City’s Local Law 79. Moreover, the authors criticize the federal Mark-Up-to-Market (MU2M) program for perpetuating a flawed market-driven approach to affordable housing, calling instead for shifting ownership to tenant-run or community-based organizations to ensure long-term affordability. The author’s argument is flawed in even recommending to evaluate using the “right of first refusal laws” like Local Law 79, as these laws almost always get tabled and never passed. Since this article was written in 2008, Local Law 79 has become a new law that is completely unrelated to housing affordability as a result of the tabling of the one discussed in the article. However, the critique of the federal MU2M program was very profound and took the approach that the ownership of affordable housing needs to be removed from the government’s hands and placed in the hands of the people who fully understand the situations of the families undergoing displacement as a result of gentrification.

In their study, “Linking Residents to Opportunity: Gentrification and Public Housing,” Dastrup and Gould-Ellen explore federal housing programs, embracing the goal of deconcentrating poverty and increasing access to neighborhoods with lower poverty rates, with a result of increased opportunity for low-income individuals (18). Through the use of the U.S. Department of Housing and Urban Development’s (HUD’s) “HOPE VI Program and Choice Neighborhoods program,” the authors analyze how

the reshaping of public housing through tearing down the most distressed public housing projects and replacing them with mixed-income developments, is a direct result of neighborhood changes from gentrification. After a recent wave of neighborhood changes, “two-thirds of New York City Housing Authority (NYCHA) public housing units were located in developments surrounded by census block groups with an average household income that was more than the citywide median income” (18). With increased income in these neighborhoods, public school standardized test scores were significantly increased and crime rates were lowered which are great statistics for NYC to exhibit, however, they were achieved at the expense of displacing life-long residents of these neighborhoods due to gentrification. Moreover, residents of New York City Housing Authority developments located in neighborhoods with rising or high-income levels are more likely to be employed, earn an additional \$1,675 to \$3,500 annually, and achieve higher levels of adult educational attainment.

While public housing residents value the improvements in their surrounding neighborhoods, particularly enhanced safety, they often feel alienated as these areas change. Additionally, they face difficulties with rising daily living costs, even if their rents remain stable. The research presented offered a new perspective on some of the benefits of gentrification like increased income and higher levels of education achieved, however, it is important to recognize that these individuals are losing a sense of identity from losing their neighborhoods and are having to re-adjust to a new gentrified world, one that is new and unfamiliar to anything they have ever been exposed to before. Their qualitative research was insightful and presented nuanced data different from all other articles examined.

In the book entitled “The Lack of Low-Income Housing (2021),” Mayor Bloomberg lays out the map of how the lack of low-income housing is the fault of the federal government, the state, and the real estate sector (19). There is a severe lack of interest from private developers to build low-income housing due to the low profit, even with financial incentives like tax benefits from policymakers. Tax incentives have been misused to build luxury housing, and sufficient low-income housing has not been established. Federal and state policy is no longer providing sufficient funding for public housing in the 21st century, leaving New York City mayors with the difficult task of finding a way for low-income housing to exist for millions of New Yorkers. There is a severe housing deficit in NYC for all citizens, even though the city built or renovated 165,000 units, which were affordable and not necessarily low-income. This caused the city to suffer a net loss of low-income housing. Bloomberg explores the different rental options and the potential problems that arise with them, including government-regulated housing. With weak rent regulations in NYC, an

owner can mostly ask for whatever he/she want for rent. Learning about the current conditions of NYC’s housing policies and how they are at a standstill with their low-income housing indicates the large impact gentrification has had on the city. Since many private developers are not interested in helping those in need as they want to maximize their profit, the government needs to do better at offering appealing incentives and regulating the development of low-income housing before all neighborhoods are completely gentrified.

The COVID-19 pandemic intensified existing racial and spatial inequalities in urban environments, particularly in historically marginalized neighborhoods. In the article “Race and the Infrapolitics of Public Space in the Time of COVID-19: The Case of Harlem, New York,” Gregory examines how Black communities in Harlem navigated public space during the pandemic (25). It highlights the concept of Infrapolitics, the subtle, often hidden forms of resistance, and how racialized bodies experienced and contested urban space under heightened social and health restrictions. The authors argue that racialized communities have been subjected to disproportionate surveillance, policing, and displacement through gentrification. As a center of Black culture and political life, Harlem is a modern-day example of the struggle to keep space. Harlem has been both a refuge for Black communities and a site of systemic disinvestment and displacement, for which the pandemic further exposed these inequalities. Harlem residents faced higher rates of infection, economic precarity, and increased policing related to social distancing enforcement. The pandemic not only exacerbated pre-existing racial inequalities but also revealed the ways Black communities resist and navigate exclusionary urban policies. Harlem’s case emphasizes the need for urban policy frameworks that acknowledge and address racialized disparities in public space governance.

Overpopulation

In their study, “Shifting Neighborhoods: Gentrification and Cultural Displacement in American Cities,” Richardson, Mitchell, and Franco examine large cities in the United States and the direct correlation gentrification has on the displacement of long-time residents (20). Studies found that between 2000 and 2013, gentrification was concentrated in larger cities with booming economies, impacting housing near central business districts the most significantly. Uncoincidentally, New York City was one of seven cities in the U.S. that account for nearly half of the gentrification nationally. Given the high concentration of people and rising poverty rates, it is not surprising that NYC is amongst these seven cities being gentrified. Additionally, studies found that NYC was the most gentrified by “sheer volume” as compared to the other six most gentrified cities in the United States. NYC had the most gentrified tracts at

144, which was significantly higher than the second most gentrified tracts of Los Angeles's 73. From this study, it is apparent that NYC actively partakes in the gentrification of lower-income neighborhoods, displacing long-time residents who can no longer afford the rent.

In their article "Gentrification and the Increasing Significance of Racial Transition in New York City, 1970–2010," Sutton explores the racial dynamics of gentrification, revealing that Black and Latino residents, even those in the middle class, are disproportionately displaced over time (21). This article introduces discussions of urban overpopulation; specifically, how higher incomes intersect with minority races to reshape New York City neighborhoods.

Rising numbers of people in higher classes serve as a primary driver of neighborhood change. However, the racial disparities in income growth reflect broader structural inequalities in wealth accumulation, employment opportunities, and access to affordable housing. Even when Black and Latino residents achieve middle-class status, they face unique barriers in the housing market, they face discrimination in select high-value housing markets due to their race. These findings must also be considered within the broader context of overpopulation and the housing scarcity in New York City that comes along with it. Population growth in large cities increases competition for limited housing, accelerating gentrification and displacement. As demand for housing increases, wealthier residents outbid lower-income Black and Latino families for available units, leading to increased racial segregation and stratification. Overpopulation further exacerbates issues of affordability, as rising demand pushes rents and property values beyond the reach of historically marginalized communities. It can be concluded that gentrification is not simply about neighborhood "revitalization" but is fundamentally tied to larger forces of urban economic restructuring that prioritize profit over housing stability.

Research Methodology

Variables, Data Sources, Hypothesis

This study focuses on gentrification's impact on housing affordability in Brooklyn, NY, as presented in Table 1. As its dependent variable, this study employs the percent of housing units that are new over a 10 year period (2010–2019), allowing for a closer look at gentrification's direct impacts and how its neighborhood revitalization forces lifelong occupants out of their homes. It is important to note that this data is Class A housing, the premier units offered in Brooklyn. This dataset from the Department of City Planning (Open Data NY) specifically focuses on households that are newly constructed in Brooklyn, leading to key discoveries about household occupancies and if the

cost of living has been raised due to these building changes.

Following the literature, a number of independent variables are utilized. For example, this study employs Non-family households to see if there was a direct impact on the number of people and the affordability of housing due to gentrification. Given the current housing crisis in NYC, where long-time residents are being priced out and forced to relocate, there has also been a surge of interest in moving into the city, particularly into newly developed neighborhoods (1). Single, non-married relationships with no children, also referred to as Non-family individuals, fall into this category of those interested in relocating to NYC. As an increasing number of individuals without children, who live with a partner or friend, move to Brooklyn, there is a growing desire for new luxurious units in communities close to Manhattan. These new housing spaces can have tenants arrive in Manhattan through the use of only one form of public transportation, maximizing convenience.

Research Hypothesis

H1: Gentrification has high dependency on Superfund Sites which results in an influx of higher-income residents.

Building on the findings of authors, Dastrup and Gould-Ellen, gentrification's relationship with environmental restoration efforts, particularly those associated with Superfund sites, reveals a likely trajectory: as environmental cleanup becomes a catalyst for neighborhood revitalization, areas previously deemed undesirable due to toxicity and industrial waste are increasingly becoming targets for investment and redevelopment (18). Once considered health hazards, these sites, when remediated, become prime real estate in dense urban centers, especially in cities like New York. This environmental transformation often precedes the influx of higher-income residents, echoing the trajectory of public housing communities surrounded by rising-income census blocks. The outcome is a familiar pattern: increased employment opportunities and educational attainment for long-standing residents who remain, but also a loss of community identity and mounting pressure from rising living costs. If Superfund cleanups continue to align with broader redevelopment initiatives, it is likely they will increasingly serve as subtle engines of gentrification, displacing vulnerable populations under the guise of environmental justice and urban renewal.

H2: The higher the diversification of communities, the lower the levels of gentrification.

In communities where there are higher levels of diversification of individuals, developers struggle to

Variables	Definitions	Data Source	Hypothesis
<i>Dependent Variable</i>			
Sum of housing units that are new over a 10 year period (2010-2019)	Sum of new buildings of the total available in Brooklyn, New York based on the 2020 Census	NYC Open Data (NYC Department of City Planning)	
<i>Independent Variables</i>			
<u>Households:</u>			
Non-family Households	Number of residents living in non-family households, with/without children or a spouse as a percent	US Census Bureau (American Community Survey)	(+)
<u>Demographics:</u>			
Non-white	Number of Residents who are not White living in each Brooklyn neighborhood as a percentage of the total population	US Census Bureau (American Community Survey)	(-)
Total Population	Total Number of Residents in each Brooklyn neighborhood	US Census Bureau (American Community Survey)	(+)
Population Over 65 Years Old	Number of Residents over 65 years old in each Brooklyn neighborhood as a percentage of the total population	US Census Bureau (American Community Survey)	(-)
<u>Environmental:</u>			
Superfund Sites	Presence of Superfund Sites in each Brooklyn on a scale of 1-0 (1 being present, 0 being nonexistent)	(24)	(+)

Table 1. Variable Definitions, Data Sources, & Hypothesis

implement gentrification. Where there is high ethnic diversity, gentrification is less likely to occur, as individuals in these communities are more active, advocate, and work together as an empowered community to protect their communities. More coalitions are likely present to fight off gentrification, despite the common belief that gentrification aims for lower socioeconomic, diverse areas. There are areas of Brooklyn where specific concentrations of minority groups are affected, like a Black community, where there was the closing of long-time neighborhood landmarks like Harlem's iconic Lenox Lounge (4). However, in highly diversified neighborhoods, containing multiple minority groups and cultures, gentrification is more resistant. While surprising and challenging, this inverse result is backed by movements like the Brooklyn Anti-Gentrification Network (BAN), a people of color-led, mass-based coalition of tenants, homeowners, legal and grassroots organizations working together to "end the rampant gentrification and displacement of low to middle income residents of Brooklyn, New York" (22).

H3: Non-family households are more likely to populate areas that are newly renovated or built.

Given the current housing crisis in NYC, where long-time residents are being priced out and forced to relocate, there has also been a surge of interest in moving into the city, particularly into newly developed neighborhoods (1). Single, non-married relationships with no children, also referred to as Non-family individuals, fall into this category of those interested in relocating to NYC. As an increasing number of individuals without children, who live with a partner or friend, move into Brooklyn, there is a growing desire for new luxurious units in communities close to Manhattan. These new housing spaces can have tenants arrive in Manhattan through the use of only one form of public transportation, maximizing convenience.

H4: The higher the number of individuals in the Population Over 65, the lower the number of new units built.

Throughout history, individuals over 65 years of age have tended to live in the same neighborhood, and housing accommodations, and would like to grow older. According to a recent AARP survey, "75% of adults aged 50 and older would prefer to stay in their homes as they age" (23). It can also be said that it is harder for older adults in this age group to mobilize and not be settled in a familiar space. There are physical and mental restrictions that come with aging that encourage these individuals to stay put in a space they are comfortable with. Given these situations, it is predicted that individuals in the Population Over 65 will have an adverse effect on gentrification, preventing newer

housing units from being built.

Regression Model & Technique

Drawing from the gentrification literature, the following model is used to test each hypothesis:

$$Y_i = b_0 + B1(\text{Households Conditions})_i + B2(\text{Demographics})_i + B3(\text{Environmental})_i + B4(\text{Economics}) + e_i,$$

where Y represents the sum of housing units that are new over a 10-year period (2010-2019) in each neighborhood in the borough of Brooklyn *i*. B1(Households Conditions)_{*i*} is described through the sum of Non-family households in each neighborhood of Brooklyn, B2(Demographics)_{*i*} captures non-white individuals, total population, as well as population over 65, B3(Environmental)_{*i*} represents the presence of a Superfund Site, B4(Economics) represents Median Household Income. The preferred estimation is an Ordinary Least Squares Regression (OLS) with robust standard errors.

Discussion of Findings

Descriptive Statistics

In Table 2, the Descriptive Statistics of the Dependent and Independent Variables are analyzed in terms of Mean, Standard Deviation, Minimum, and Maximum. On average, the percentage of Non-family households in communities of Brooklyn is 38.94%, indicating a large percentage of community members in Brooklyn who are single, in a non-marital relationship, with no children. The maximum percentage of Non-family households being 61.4% and the minimum being 17.4% signifies that there are communities in Brooklyn where over half of the individuals are in Non-family households, perhaps a nod to a gentrified community. In contrast, the Population Under 18 and over 65 does not show a large population in Brooklyn communities in their Minimum and Maximums, never reaching 50% of the population. Most notably, the maximum Median Household Income is \$192,130, where the minimum is \$30,828. This marks the contrasting incomes throughout the neighborhoods of Brooklyn, showing a potential for gentrification in the higher-income areas as compared to lower-income areas that have likely not been gentrified.

In Figure 1, Superfund Sites in the communities of Brooklyn are displayed. This map includes all 53 neighborhoods of Brooklyn. The color scheme ranges from red to green, red showing low gentrification while green displays a higher prevalence of gentrification. The borough in green includes the neighborhoods of Williamsburg and

Variable	Obs	Mean	Std. dev.	Min	Max
<i>Dependent Variable:</i>					
10-Year Sum	53	1,396.226	2,050.257	14	11,974
<i>Independent Variables:</i>					
<u>Households:</u>					
Sum of Nonfamily Households	53	38.94%	11.189%	17.4%	61.4%
<u>Demographics:</u>					
Percentage of Non-White Individuals	53	63.166%	24.962%	16.433%	98.822%
Population Over 65	53	14.968%	5.002%	6.8%	28.4%
Total Population (in thousands)	53	38.9396	11.189	17.4	61.4
<u>Environmental:</u>					
Superfund Sites	53	0.0377	0.192	0	1
<u>Economic:</u>					
Median Household Income	53	80,139.13	34,558.4	30,828	192,130

Table 2. Descriptive Statistics.

Dumbo, which all have a 20-36% of new homes built in Brooklyn. These locations have close proximity to Manhattan, making them highly desirable, and new buildings are easy to justify charging increased amounts. However, it is close in proximity to the Superfund site that is located in Greenpoint, which may have offered a more cost-effective solution to build new units nearby.

Figure 2 shows the presence of Superfund sites in Brooklyn. According to this information only 3.77% of Brooklyn communities have a Superfund site. As shown in Figure 1, only the 2 neighborhoods featuring a star contain a Superfund site in Brooklyn, and the location of

the site was pivotal in the prevalence of gentrification. This information contradicts the literature because it does not seem that superfund sites alone motivate gentrification; it is likely dependent on its location and its proximity on economic hubs.

Table 3 displays the regression results regarding the drivers of gentrification across Brooklyn neighborhoods. According to the OLS Regression estimates, a number of factors appear to influence gentrification in this study's sample of communities. Beginning with household conditions, the estimates suggest that Non-family households have developed statistically significant

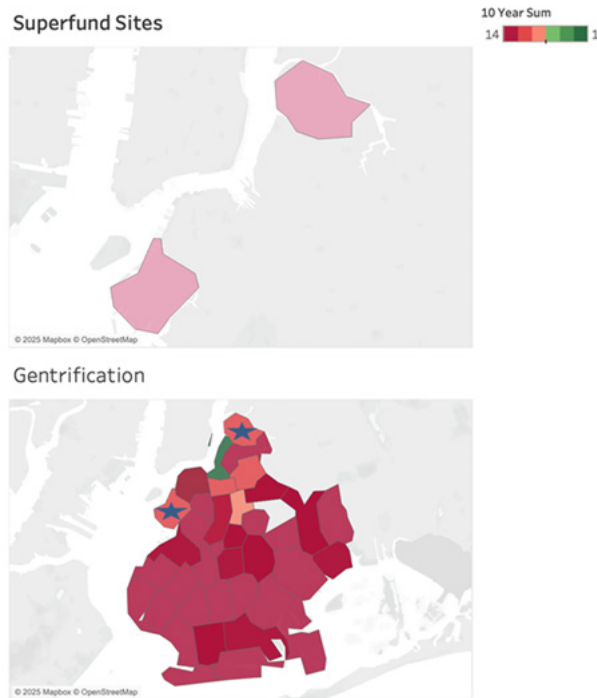


Figure 1. Superfund Site Analysis

relationships with the percent of newer housing units. In fact, Non-family households have developed a positive, statistically significant relationship with the dependent variable; for every one unit increase in the percent of Non-family households, the sum of newer housing units increases by 86.9 units, as supported by the discussion of H3.

Additionally, the estimates suggest that Non-white individuals and the Total Population have developed a weaker, yet significant relationship with the percent of newer housing units. Specifically, both Non-white individuals and the Total Population have a positive but weak statistical significance with the dependent variable. For every one unit increase in the percentage of Non-white individuals, the sum of newer housing units increases by 86.9 units, as supported by the discussion in H2. This points to a difficulty for developers to increase gentrification in a highly diverse community with strongly connected and like-minded individuals who are able to advocate against gentrification in their communities. However, for every one unit increase in the Total Population, the number of newer housing units increases by 15.8 units. This could be attributed to the lack of relationship with the percentage of newer housing units, given the population sample collected and analyzed in this study. On the contrary, the Population Over 65 has developed statistically significant relationships with the percentage of newer housing units. The estimates suggest that for every one unit increase in the population over 65 percent, the number of newer housing units



Figure 2. Presence of Superfund Site in Brooklyn

decreases by 94.623, as supported by H4.

In the last set of independent variables, including Superfund sites and Median Household Income, the estimates suggest that there is no significance in the relationship with the percent of newer housing units. In terms of Superfund sites, the data rejects the predictions made in H1, and it can be determined that Superfund Sites, alone, are not a factor for gentrification. However, given the descriptive statistics in Figure 1, Superfund site locations are crucial in determining their relevance to gentrification. The closer the Superfund site is to downtown Manhattan, the higher the amount of gentrification occurs, increasing the number of newer housing units. Comparatively, it can be determined that Median Household Income alone is not a factor for gentrification in this dataset. Given the wide range of incomes across the communities in the Borough of Brooklyn from Table 2, with a minimum Median Household income value of \$30,828 in Brownsville and a maximum Median Household income value of \$192,130 in Park Slope, it can be determined that there is no significant relationship with the number of newer housing units.

Conclusion and Recommendations

The primary purpose of this study was to explore the drivers of gentrification in Brooklyn, specifically to uncover the statistical and systematic issues that perpetuate community revitalization and property flipping. This research sought to better understand the complex mechanisms that contribute to neighborhood transformation and displacement. To do this, the study examined independent variables that capture household, demographic, and economic conditions, aiming to uncover how these factors influence the experiences of incumbent residents. Particular attention was paid to the development of new housing units, analyzing how shifts in the housing landscape impacted existing communities. By linking these independent variables to patterns of new construction and neighborhood change, the study worked to reveal the

Dependent Variable: Sum of housing units that are new over a 10-year period (2010-2019)	Coefficient	Robust Standard Error
<i>Independent Variables</i>		
<u>Households:</u>		
Non-family Households	86.962**	25.894
<u>Demographics:</u>		
Non-White Individuals	86.962*	6.324
Total Population	15.829*	9.716
Population Over 65	-94.623**	46.351
<u>Environmental:</u>		
Superfund Sites	-934.578	1006.123
<u>Economic:</u>		
Median Household Income	5.693	14.192
Constant	-2710.898	2495.325
Obs.	53	
Prob>F	0.000	
R-squared	0.533	

*p<.01; **p<.05; ***p<.001

Table 3. OLS Regression Results

deeper systemic forces at play in the gentrification process in Brooklyn.

Through the OLS Regression results, it can be concluded that developers may gear their new units toward Non-family, working-aged individuals who prefer renting over owning their properties. This group likely lives in dual-income households without children, which aligns with the increasing trend of more housing units being designed for Non-family households rather than those in imminent need of housing in Brooklyn, including those seeking affordable housing or who are low-income residents. Additionally, findings reveal that populations over the age of 65 tend to remain in their homes, resisting gentrification, and communities with higher concentrations of older residents are not seeing significant increases in the development of new housing units. This suggests that developers are less focused on areas with large elderly populations, favoring younger, more mobile demographics instead.

While it was initially anticipated that race would be the leading demographic factor targeted in gentrification efforts, the data expressed that age and type of household was more significant. Higher-income individuals, regardless of racial background, are increasingly moving into Brooklyn’s rental properties, thereby driving up housing costs and displacing lower-income residents. As an increasing number of relatively affluent individuals without children move into Brooklyn, particularly seeking luxury units in neighborhoods close to Manhattan, long-term, lower-income residents are being “priced out” of the communities they have called home for generations. The shortage of new affordable units and the prioritization of new housing developments aimed at wealthier individuals, exacerbate the housing crisis for Brooklyn’s most vulnerable populations.

These research findings emphasize the broader dynamics shaping housing development in Brooklyn, specifically the interplay between demographic trends and market-driven priorities. It reveals a critical pattern: new housing development is being built at the expense of lifelong, lower-income residents where there are limited units available for them. This focus on

luxury rental units for dual-income households without children aligns with broader economic forces driving urban gentrification, which prioritize profitability over community preservation. The resulting demographic shift underscores a broader trend of urban inequity, where the needs of vulnerable populations are put aside in favor of economic gain. This research emphasizes the pressing need for policies that balance the increased need for housing for middle to upper-class individuals moving into the city with community preservation. Addressing the housing crisis in Brooklyn requires a shift in focus to preserve diversity, prevent displacement, and create inclusive communities that reflect the needs of all residents.

The findings highlight the key drivers behind gentrification and the construction of new housing units in Brooklyn, emphasizing how demographic shifts and market forces intersect to shape urban development. The study reveals a critical trend: developers are increasingly

responding to the demand from Non-family, working-age individuals, particularly dual-income households without children, who seek rental opportunities in vibrant urban areas. This demand drives the focus on luxury rental units, influencing where and how new developments occur. Rather than meeting the needs of existing, long-term lower-income residents, housing production is geared toward attracting wealthier newcomers, fueling neighborhood change. The findings of this study serve as a reflection of systemic challenges in urban planning, especially in New York City. Developers prioritize the increasing market demand for upscale housing in areas with close proximity to economic hubs like Manhattan, targeting neighborhoods in Brooklyn like Williamsburg, Dumbo-Boerum Hill, and Fort Greene, all can have tenants arrive in Manhattan through the use of only one form of public transportation. While this meets the needs of wealthier individuals moving into the borough, it exacerbates the displacement of lower-income families who face fewer affordable housing options as revitalization projects increase. This targeted development strategy reflects the broader economic forces driving gentrification: profitability, upward mobility, and market demand, rather than efforts toward community preservation. By understanding these factors, stakeholders can better understand how new unit development is accelerating the displacement of incumbent communities and advocate for sustainable solutions that prioritize equity over exclusivity.

Regarding potential solutions, significant policy changes that prevent a whole community from being flipped and a reduction of relocation for incumbent residents, especially those who fall under low-income classification, are suggested. Specifically, a policy that mandates a percentage of housing to go to residents who are unable to purchase homes in the communities where they grew up and can no longer afford them due to gentrification. For example, in New Jersey, there is a new law through the Mount Laurel Doctrine where builders and developers have to reserve 15% of rentals or 20% of sold units as qualified affordable housing (26). This prevents an entire population from being displaced, and while the percentage of affordable housing may not be able to cover the entire need for housing from the amount of low-income residents in the community, it will allow a portion of that community to be preserved. Implementing new policies, as states like New Jersey have begun to do, would help a portion of residents to be able to stay in their communities and not be pushed further away from their homes for the sake of profit.

An additional policy recommendation is to encourage developers to create diverse housing options instead of solely luxurious, modern units. New York City can offer tax breaks or subsidies for mixed-income developments. These incentives for mixed-income housing developments would support the city's need for both high-

income and low-income residents while lessening the number of individuals who have to be displaced. Lastly, a policy to stabilize rent and increase tenant protections would be vital for Brooklyn, along with the other boroughs of NYC. Implementing laws that strengthen rent stabilization and enacting tenant protections would help prevent sudden rent spikes that displace lower-income residents and result in community flipping. Policies could include capping annual rent increases, as some densely populated cities have already implemented, as well as offering city-provided legal support for tenants facing evictions due to rising costs. The city-provided legal support would serve as a check to the capped annual rent costs, preventing incumbent, low-income residents from being taken advantage of in a system where they live at a disadvantage.

This study has helped us to understand the drivers of gentrification, but it does not come without its caveats. These findings are applicable to Brooklyn, and as an extension of New York City, they can also be applied to the remaining boroughs. However, the findings cannot be applied to all cities as the demographics and market-driven strategies differ. The results only have direct relevance to the period analyzed in this study but can indicate patterns for the future. In terms of timeframe, adding more years to the data would allow more patterns and potentially additional drivers of gentrification to be uncovered. Given the impact of COVID-19 on the world, extending the data to include this period would expand the scope of the study and capture the impact of the time. Additionally, the economic cycle has shifted significantly since the timeframe examined, which could have a crucial impact on the findings of which residents are more directly impacted in the past five years to the present day. Moreover, the measurements in this study may have been affected by limitations in Census data, as not every individual is captured despite efforts to achieve a complete count. Lastly, the variables studied and run through the OLS Regression are not inclusive of all potential variables that could have an impact on gentrification, and there may be variables that were missed in the context of this study.

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