“AFFORDABLE” HOUSING IN NEW YORK CITY: A CASE OF INCLUSIONARY ZONING IN GREENPOINT-WILLIAMSBURG

BY

SUSHMA PRAMOD

THESIS

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Advisers:

Dr. Dustin Allred
Assistant Professor Andrew Greenlee

ABSTRACT

New York City, like many other cities across the world, is experiencing a housing crisis attributed primarily to rising rents against stagnant wages for many New Yorkers. As a result, over half the city's renters pay more than 30% of their household income toward rent, limiting their resources for other essentials like health and education. Mayoral administrations have often prioritized the crisis and designed tools to increase affordable housing stock.

Inclusionary Housing in New York is one such tool, designed to integrate production of affordable homes with market development. The technique is typically tied with re-zoning activities and incentivizes the creation of affordable units by offering FAR bonuses in exchange for permanently affordable units. While these initiatives are often contentious for their transformative nature, the city continues to up-zone neighborhoods to facilitate development on underutilized land, add to housing stock and promote diversity.

While there is exhaustive literature that critically analyzes inclusionary housing policy across the nation, there is limited public knowledge about the effectiveness in specific housing markets. This thesis investigates the outcome of one such program from 2005, in the Greenpoint-Williamsburg neighborhood of north Brooklyn. Considering the limited specific data about production and affordability of inclusionary units, the document relies on reviewing the policy's text to estimate the number of units produced and argues that production simply does not meet the need for affordable housing.

Dedicated to my Mother, for her boundless strength and unparalleled support in my endeavors.

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CHAPTER 1: INTRODUCTION TO NEW YORK CITY'S HOUSING CRISIS

New York City's position as a global economic, financial and cultural center, continuously evolves its housing needs and affordability. Its unparalleled diversity and unique concentration of opportunity, is unfortunately imperiled by reducing housing affordability, attributed primarily to stagnating wages against rising costs of living. In a city of renters, over half the residents pay more than 30% of their pre-tax income toward rent, designating them as *cost-burdened* or *rent-burdened* by HUD standards. This housing crisis is severe, especially affecting vulnerable populations – for example, the Housing New York Plan (2014) identified that while there were over 1 million households that earned less than 50% of the Area Median Income (under $42,000 for a family of four), only 425,000 units were available for rents suitable for that income level. Since stable, affordable housing is known to positively impact economic, educational and health outcomes (National Low Income Housing Coalition, 2018), and overall quality of life, the Bloomberg and De Blasio mayoral administrations prioritized this crisis, both during their campaign and tenure, releasing the Housing Marketplace Plans and Housing New York Plans, respectively. They proposed a mixture of federal, state and local programs and tools to primarily fund the production and preservation of affordable units.

One such tool, popularly used in New York City, is Inclusionary Housing. Often associated with the city's zoning code, Inclusionary Housing offers land developers incentives to create affordable units for low- and moderate-income residents along with market-rate units. Used first through the Voluntary Inclusionary Housing program, developers could choose to participate in the program and could either build affordable units on site, off-site or even buy other affordable units to preserve them in exchange for an increase in permissible Floor Area Ratio (FAR)[1]. The city's current Mandatory Inclusionary Program is an evolution of the Voluntary Inclusionary Housing Program in that developers building on a parcel whose FAR has been increased by the city, must build some below market-rate units. However, these re-zoning

[1] Floor Area Ratio (FAR) is the proportion of total floor area of the development to the area of the parcel. New York City's Zoning Resolution provides an FAR control for each zoning classification, which when multiplied by the area of the zoning lot will provide the maximum permissible floor area for that parcel.

are generally contentious for the effect they have on residents, in terms of rapidly attracting investment.

Since the Mandatory Inclusionary Housing program was implemented rather recently, there has been little empirical evidence of its performance. However, Mayor de Blasio's Housing New York Plan relies heavily on the program's success in order to meet its goals, and the city continues to re-zone neighborhoods, spurring development and potentially displacing residents. Sustained practice of inclusionary housing programs and re-zoning activity in the city, coupled with limited publicly accessible data, prompts the urgent need to study the outcomes of an up-zoning, forming the first two guiding questions:

What has been the impact of a city-propelled re-zoning?

and,

How many affordable units were produced by the Inclusionary Housing Program?

Furthermore, while the NYC Department of Planning claims that by 2017, the Voluntary Inclusionary Housing program created approximately 11,000 permanently affordable units across the city, it is vital to compare production to rising needs, thus establishing the third driving question:

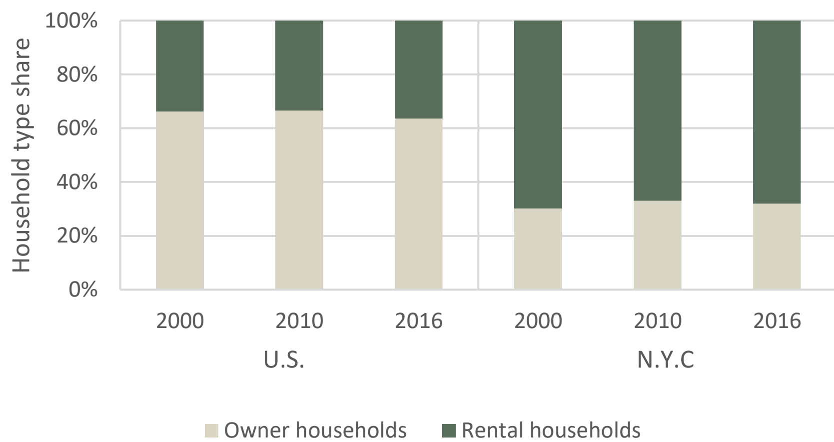
Has the demand for affordable units been met?

To answer these questions, this thesis attempts to study the effects of a comprehensive redevelopment plan from 2005, in the Greenpoint-Williamsburg neighborhood in northern Brooklyn primarily because the neighborhood is known to have transformed since the intervention by attracting investment, stimulating development and ultimately undergoing gentrification. Neighborhood change, access to a detailed re-zoning and inclusionary housing program and the adequate time since the implementation of the program makes it the ideal neighborhood to study. The following chapters examine the specific inclusionary housing program in Greenpoint-Williamsburg by first studying neighborhood change since the re-zoning, then estimating the number of affordable units built, and inspects if the production meets the demand. This chapter, however, first introduces the city's housing crisis and provides a brief overview of the various housing programs created to counter decreasing affordability.

Most residents in New York City are renters

New York City is unique, in that it does not always conform to national averages and trends. In 2016, 68% of housing units in New York City were occupied by renters, double the national rate (Figure 1.1), suggesting that affordable housing policy in the city must largely concentrate on rental housing.

Figure 1.1: Owner vs. Rental occupied housing, 2000-16



Source: U.S. Census Bureau - Census 2000 HCT011: Tenure by housing Income; ACS 2010,2016 B25118 Tenure by Housing Income

Rents of housing are steadily increasing in New York City

While only 9% of rental units costed more than $2000 in 2009, the share doubled to 18% in 2016 (Figure 1.2). Meanwhile, the 48% share of units that costed less than $1000 in 2009 reduced to only 30% in 2016. This increasing share of units of higher gross rent begins to indicate decreasing housing affordability in the city.

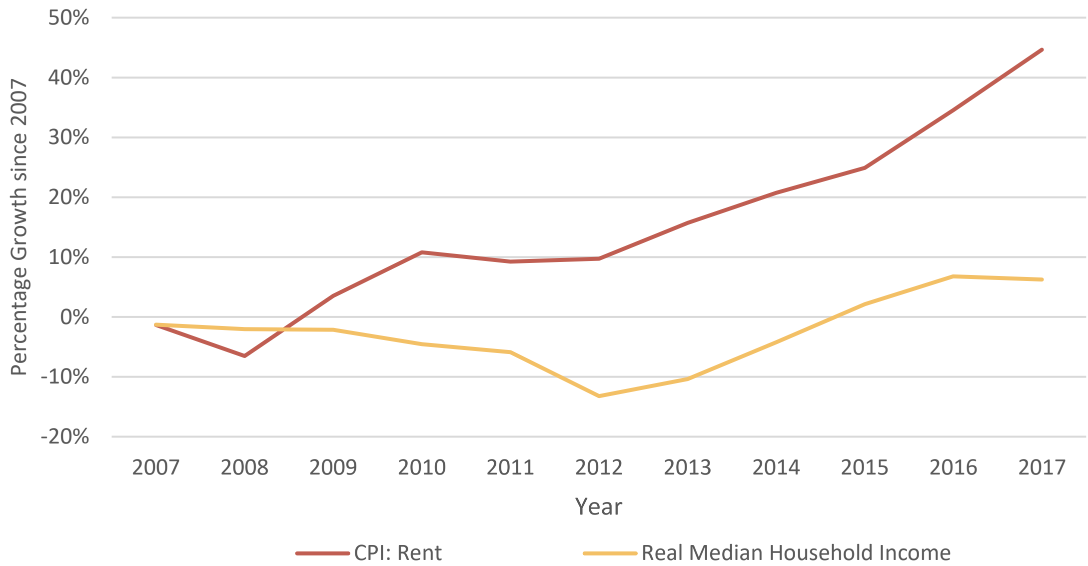
Figure 1.2: Reducing share of low-rent units

Source: U.S. Census Bureau ACS B25063: Gross Rent

Rents in New York City increased faster than incomes

Rents in New York City have risen radically over the last decade, in contrast to lower rates of increase in household median incomes. From 2007 to 2017, the Median Monthly Household income has only risen by 6.25%, while rents have increased by nearly 45% (Figure 1.3). This difference in change inevitably affects housing affordability and causes strain on renters. Furthermore, the growth in rents is severe in New York City, considering it has risen by only 32% nationally.

Figure 1.3: Faster Rising Rents than Incomes in NYC, 2007-17



Note: Dollar amounts are adjusted to CPI 2017 dollars, Consumer Price Index for rent is the rent paid for the tenant's primary residence
Source: Bureau of Labor Statistics – Consumer expenditure survey; U.S. Census Bureau – Real Median Household Income

Most low-income New York households are rent-burdened

Since affordability is determined by comparing cost of living and income, rising rents alone cannot imply reduced affordability. In the United States, housing is considered affordable when it costs its residents 30% of their income or less. Ideally, this proportion would accommodate other basic expenses such as food, healthcare and education. However, most New York households are *rent-burdened*. The Department of Housing and Urban Development (HUD) classifies renters that spend 30-50% of their income on rent as moderately burdened and renters that spend more than 50% of their income on rent as severely burdened. In 2017, 53% of all renter households were rent burdened, 9% more than the share in 2000. Nearly 88% of extremely low-income households and 81% of very low-income households were rent burdened in 2017 (Figure 1.4), verifying the urgent need to make affordable housing accessible to the city's most vulnerable populations.

Figure 1.4: Rent-burdened share by Household Income, NYC, 2000-17

Source: U.S. Census Bureau ACS 2000 and 2017 retrieved from IPUMS, HUD AMI levels;
Note: Only households that pay cash rent are considered

Housing Policy in New York City

New York City has been a forerunner in creating housing policy for decades. The city had the nation's first tenement laws, its first comprehensive zoning ordinance, and its first public housing project (NYU Furman Center, 2006). However, no single policy could serve the city's wide range of affordability needs, consequently leading to the use of a collection of individual programs, aided by both federal and state resources. Furthermore, the city's unique position as a city with an extensive history of housing policy, helped various mayoral administrations implement a range of affordable housing programs, some more successful than the others. For example, Mayor Koch's (Mayor of N.Y.C. from 1978-89) Ten-year Plan for Housing, spanned more than a hundred programs, broadly categorized into three policy tools (NYU Furman Center, 2006) – Low Interest loans to owners for upgrades and repairs, subsidies for new construction and the use of Community Development Corporations and non-profits to achieve the goals. The plan was later followed by Mayor Bloomberg's and Mayor de Blasio's housing plans that primarily proposed the use of public-private partnerships to create more affordable housing units.

Decades of national and local interventions resulted in fragmented housing programs existing side by side in NYC, often managed by multiple departments (Elmedni, 2018):

1. Public Housing Programs: Conventional public housing units in New York City are funded by federal, state and local resources, but are administered by the New York City Housing Authority (NYCHA), North-America's largest housing authority. Public Housing represents 8% of all rental housing stock in the city, making NYCHA the largest landlord (New York City Housing Authority, 2018). Households that earn 80% of Area Median Income are eligible for public housing units, whose flat rents are usually established at 80% of Fair Market Rent, depending on the unit-size (number of bedrooms). By design, the average rent is 30% of the household income, the remainder subsidized by the U.S. Department of Housing and Urban Development (HUD).
2. Housing Choice Voucher Program (HCV): Also known as Section 8, this federal program is administered by NYCHA, NYC Housing Preservation and Development (HPD) and New York State Department of Homes and Community Renewal (DHCR). Unlike conventional public housing, HCV allows residents to choose where to live. In 2018, 85,619 households were served by Section 8 administered by NYCHA (New York City Housing Authority, 2018).
3. Project-based Section 8: Unlike HCV, Project-based Section 8 vouchers can be applied to only particular buildings and cannot be used elsewhere. Tenants of this program also pay 30% of their household income toward rent, the balance subsidized by the local authority. In 2017, NYCHA managed 4350 units under this program, while there were additional units managed by HPD, DHCR and other private parties. Together, NYCHA's Public Housing and Section 8 vouchers serve 589,958 New Yorkers, occupying 11.7% of rental units in the city (New York City Housing Authority, 2018).
4. Mitchell-Lama Housing Program: This program offers affordable rental and cooperative housing units to moderate- and middle-income families. Signed into law in 1955, there exists both city and state supervised developments. The bill was originally sponsored by New York State Senator MacNeil Mitchell and Assemblyman Alfred Lama, with housing made up of income-restricted rentals and "limited equity" co-ops. Builders received tax-breaks and low-interest mortgages to make units affordable. While the program originally created over 100,000 units, they were not required to be permanently affordable – today, more than half the units have opted out of the program, after remaining affordable for a minimum of 20 years. Although Mayor de Blasio announced in 2017, to spend $250

million to help 15,000 Mitchell-Lama apartments remain affordable by offering owners tax exemptions and low interest loans in exchange for extending their participation in the program, tenants and housing experts believe there is little incentive for landlords to remain in the program (Kamping-Carder, 2018).

5. Rent-Stabilization and Rent-Control: Rent-stabilized buildings prove as the first line of defense for housing affordability in a tight market (Elmedni, 2018). New York City's popular rent control and stabilization policies were first introduced in the 1940s to mitigate rising rents, as home-seeking soldiers returned to the city. While rent control limits the rent a homeowner can charge, rent stabilization determines permissible rate of rent increment. The law generally applies to buildings constructed prior to 1974 that have six or more units, or to buildings that opt into the program in exchange for certain public subsidies (NYU Furman Center, 2014). However, the laws are often tied to a unit, rather than a person. So, renters in rent regulated apartments tend to rarely vacate, although their family size and income increase, thus contributing to shortage of housing for the poor. Moreover, the provisions do not ensure that these units are occupied by those who cannot afford it, thus prompting housing experts to critique the program's efficiency.
6. Tax Incentive Programs: Primary tax-incentives practiced in New York City include Low-Income Housing Tax Credit (LIHTC), a federal program, and other local tax abatement programs like the 421-a. LIHTC provides tax incentives to encourage individual and corporate investors to invest in the development, acquisition, and rehabilitation of affordable rental housing (Office of the Comptroller of the Currency, 2014). Private investors can purchase tax credits toward their federal income tax, and the payments are distributed to state governments, which in turn allocate funds to developers, on the condition that they ensure a share of the housing units be affordable to low- and very-low-income residents. Local tax abatement programs tend to be applied directly to private developers, by either eliminating or reducing future property tax on profitable development in exchange for a share of below-market rate units. For example, the 421-a tax exemption program encourages development of underutilized land by drastically reducing property taxes for usually ten years. It gives owners a total exemption from any increase in property tax for the first two years, after which the taxes are increased by 20% of the normal tax rate every two years for the remaining time.

7. Inclusionary Housing Programs: Most other programs that create affordable units for low- to moderate-income residents, do not remain permanently affordable. Recognizing the value of property and the private market, the city designed the Inclusionary Housing Program to preserve and promote the creation of permanently affordable housing within neighborhoods whose zoning has been modified to encourage new development. Here, developers are usually offered an FAR bonus in exchange for a certain share of affordable units, essentially tying affordable housing production to the progress of the housing market.

Mayor Michael Bloomberg's Housing Marketplace Plan

In 2001, at the beginning of his three terms, Mayor Bloomberg sought to reform New York City's affordable housing policies as well as transform the built fabric.

> "We will continue to transform New York physically, giving it room to grow for the next century to make it even more attractive to the world's most talented people" – Mayor Bloomberg, State of the City address, 2003

A series of re-zonings and incentives contributed to consequent change in the city's landscape, adding waterfronts and skyscrapers to neighborhoods that did not previously permit any. The re-zonings that usually increased permissible density relied on the 2007 PlaNYC 2030, which aimed at creating more housing, with the belief that increasing density and supply of housing units, would adequately respond to the increasing demand and make the city more affordable. 18% of the city's lots were re-zoned during Mayor Bloomberg's three terms (a total of 108 re-zonings) (Fahim, 2010). Although this seemed aggressive, NYU Furman Center's statistical report on the re-zonings (2010), found that building capacity was reduced or limited on 86% of the re-zoned lots, and greater density was allowed on only 14% of the lots that were re-zoned, adding approximately 1.7% to residential capacity.

Amid such extensive re-zoning activities, creating and preserving affordable housing was a priority within the administration, leading to the issue of the Housing Marketplace Plan (NHMP), a driving document that aimed to create or preserve 65,000 affordable units by 2008. It was later updated to create or preserve 165,000 affordable units by 2013, by expanding the use of re-zonings, creating city funds and collaborating with state agencies to finance the affordable units. The plan included new tools to spur private investment in affordable housing, including innovative uses for city-owned land, initiatives to preserve existing affordable units, and a new program to provide affordable housing for middle-class families (Loeser & Elliott, 2006).

1. Use of City-Owned Land: The plan ensured that the Department of Housing Preservation and Development (HPD) collaborated with other agencies like the Economic Development Corporation (NYCEDC), the City Housing Authority (NYCHA) and even the Department of Transportation, to expand its affordable housing pipeline. Furthermore, it encouraged housing to be developed with other compatible uses – for example, HPD issued RFPs for developers to build affordable housing and replacement parking on underutilized Department of Transportation property (Loeser & Elliott, 2006).
2. Affordable Housing for Middle-Income Families: The plan proposed to build certain affordable units for middle-income residents within NYCHA public housing properties, in addition to projects eligible for the Mitchell-Lama program, wherein the city could acquire property by eminent domain and allow developers to build housing for middle-income earners.
3. Cornerstone Round IV Designations: These designations encouraged development of mid-rise apartments on city-owned land, designating half the units for ownership and the other half for rental units. Nearly 66% of the units built on these lands were to be reserved for Low-Income residents, and 18% for Moderate- or Middle-Income residents, totaling to 84% affordable units.

Mayor Bloomberg's New Housing Marketplace Plan (2003-2014) was by design built on partnerships between private sector, nonprofit, and public agencies (Elmedni, 2018). It featured tax incentives, targeted re-zonings and several funds to be used toward the production and preservation of affordable units. Although the plan created thousands of housing units across the city, many residents and housing advocates believe that the plan was implemented with significant flaws and might have undermined the impact of investment on local neighborhoods. About two-thirds of New Housing Marketplace units were too expensive for most local neighborhood residents (Association for Neighborhood and Housing Development, 2013). Furthermore, not all units were permanently affordable and were concentrated in certain neighborhoods only. The unit sizes of the homes that NHMP created also did not match the distribution of households in the city, suggesting a need for enhancement of practiced affordable housing policies.

Mayor Bill de Blasio's Housing New York Plan

Elected in 2014, the new mayor proposed the Housing New York program, the centerpiece of the de Blasio administration's housing policy that used tax breaks, city subsidies, and enforced trickle-down from market-rate development to encourage private owners to build new housing or limit rents in occupied buildings (Wishnia, 2018). The plan, much like others before it, aimed at increasing the number of affordable units, and some of its primary objectives are:

1. Fostering diverse, livable neighborhoods: The plan encourages diversity by having the city identify neighborhoods that can support new development, leverage investment and potentially rezone to trigger a new Mandatory Inclusionary Housing program, requiring a portion of new housing to be permanently affordable to low- and moderate-income residents. Increased construction and preservation can in turn create quality jobs that will target local labor.
2. Preserving the affordability and quality of the existing housing stock: While actively protecting the tenants in rent-regulated units from landlord harassment, the plan proposes the use of other incentives and state tax benefits to preserve affordability in rent-regulated and unregulated units, alike. It also proposes to introduce a new program that incentivizes energy efficiency retrofits for affordable housing in need of preservation, creating energy savings and long-term affordability.
3. Building new affordable housing for all New Yorkers: The plan identified the urgent need to serve very-low-income residents and proposed to allocate additional resources to its housing programs to ensure that a higher share of affordable units reach the city's neediest residents. Furthermore, the plan aimed to ensure that vacant/underutilized land, both publicly and privately owned, large or small, will be used to build more affordable units, integrating new mixed-income programs to guarantee broader reach.

The plan essentially incorporates an array of broad objectives. However, Elmedni (2018) notes major flaws in the ambitious plan – firstly, although past attempts at using private-sector development, cross-subsidized to create affordable housing had limited impact on housing affordability, the plan still heavily relies on the same method. Furthermore, the plan's dependence on rezoning as a tool, like previous plans, greatly undermines the effects of catalyzed gentrification on residents. Moreover, the plan's integration of tax incentive programs such as LIHTC and Local Tax Abatement programs to incentivize private developers can potentially overpopulate attractive neighborhoods and create a serious deficiency in less favorable neighborhoods.

CHAPTER 2: INCLUSIONARY HOUSING

Expensive housing options in New York City forces low-income residents to choose among several undesirable options: poor quality of housing, extreme commute times, unsafe neighborhoods, underfunded schools, overcrowding, etc. While these conditions could inevitably create segregation, studies show that entire communities suffer when economic diversity deteriorates. Unequal access to housing drives sprawling development patterns, worsens traffic congestion, pollutes air quality, increases taxpayer dollars spent on basic infrastructure, and decreases racial, cultural, and economic diversity (Ewing, Pendall, & Chen, 2003). Recognizing the need to promote mixed-income development, communities across the nation have endorsed policies to increase economic inclusion, one of those being Inclusionary Housing.

> *Inclusionary housing* refers to a range of local policies that tap the economic gains from rising real estate values to create affordable housing—tying the creation of homes for low- or moderate-income households to the construction of market-rate residential or commercial development (Lincoln Institute of Land Policy, 2015).

Inclusionary Housing is also called *Inclusionary Zoning* because the policies are often tied to the city's zoning code. First developed in the 1970s, Inclusionary Zoning served as a response to exclusionary, often racially segregated zoning. Today, cities use it as a tool to trigger affordable housing development within the private market, requiring little or no subsidy from the public. In most cases, developers are offered land development incentives (such as a density bonus or an expedited permitting process) in exchange for agreeing to restrict the rents or price levels of a portion of the units to levels that are affordable to low-income households (Stromberg & Sturtevant, 2016).

Since its inception, the number of jurisdictions that have adopted inclusionary zoning policies has grown steadily, with a significant number of jurisdictions adopting programs in the last decade (NYU Furman Center, 2008). They each differ in their structure and goals, depending on the severity of the need and the type and priorities of jurisdictions they serve – they could either be mandatory or voluntary, different types of development could trigger the program, they could vary in length of affordability, they could cater to different income groups or they could even differ in location requirements. Extensive use of Inclusionary Zoning has prompted arguments for and against the policy. Proponents of Inclusionary Zoning not only recognize the benefit in the use of little public subsidy, but also believe that inclusionary zoning policies that require affordable units to be built on site will improve economic and racial integration. Conversely, critics note that restrictive zoning policies, especially Mandatory Inclusionary Zoning programs will deter developers from building in that jurisdiction, consequently making even market-rate housing more expensive and ultimately reducing affordability.

Success of these programs can rely on a variety of preconditions such as market conditions, political climate, parameters of the program, etc. A report by the NYU Furman Center (2008) found that the amount of time the jurisdiction's Inclusionary Zoning program has existed, is the strongest predictor of how many affordable units it produced, mainly because development projects have long gestation periods and the number of units produced adds up over time. The report also indicates that a more flexible program may result in greater production of affordable units.

Inclusionary Zoning in New York City

New York City's Inclusionary Housing Program (IHP) is designed to create and preserve more affordable housing to promote economic diversity within neighborhoods where zoning has been modified to promote new development. It offers developers a Floor Area bonus in exchange for creation or preservation of affordable housing. The affordable units may either be located on the same site as the market-rate units or off-site in the same Community District or within half a mile of the market-rate units. The city offers two types of inclusionary zoning programs:

1. Mandatory Inclusionary Zoning (MIH): Introduced only in 2016, the program is applied to neighborhood re-zonings and private applications that increase residential capacity by a significant amount. Developments, enlargements or conversions above 10 units or 12,500 sq. Ft. are required to set aside a percentage of floor area for permanently affordable housing (Department of City Planning, 2018). It includes four options that will be applied by the Commission and the City Council when creating MIH areas:
    - Option 1: 25% floor area set aside for residents at an average 60% AMI, with a minimum of 10% at 40% AMI
    - Option 2: A 30% floor area set aside at an average of 80% AMI
    - Deep Affordability Option: A 20% floor area set aside at an average of 40% AMI

- Workforce Option: A 30% floor area set aside at an average of 115% AMI, with a minimum of 5% at 70% AMI and 5% at 90% AMI

Although developers can build affordable units off-site, they are required to increase the area set aside for affordable units by 5%. Furthermore, developments adding less than 25 units can pay a fee in lieu of providing affordable units, that will be used by the city to preserve or create other affordable housing options within the same community district, ensuring private investment in the neighborhood contributes to localized affordable housing production.

2. Voluntary Inclusionary Zoning: The city offers voluntary programs through its R10 and Designated Areas programs. First designed in 1987, new developments within *R10 Designated Areas* can increase FAR from 10 up to 12 by providing affordable housing for low-income households (Low Income households earn 80% of Area Median Income and below). While most R10 areas lie in Manhattan, the *Inclusionary Housing Designated Areas* program, created in 2005, established districts in Bronx, Manhattan, Brooklyn and Queens and was applied to a series of neighborhood re-zonings. It could increase permitted FAR by 33% if at least 20% of the building's floor area was dedicated to permanently affordable housing, catering to families earning 80% AMI or lower.

CHAPTER 3: THE RE-ZONING OF GREENPOINT-WILLIAMSBURG

Located toward north Brooklyn, the neighborhoods of Greenpoint and Williamsburg were largely industrial neighborhoods that substantially transformed after a re-zoning in 2005. The area is primarily bound by the East River to the west and the Newton Creek to the north (Map 3.1).

Map 3.1: Greenpoint-Williamsburg in north Brooklyn

Source: NYC Open Data

The upland areas were first developed a century ago as housing for workers from the industries that lined the waterfront during Brooklyn's great industrial age. While the neighborhoods evolved over the years to accommodate new generations of businesses, entrepreneurs, artists, and residents, the waterfront remained largely vacant and inaccessible to the public. To resolve these issues, community board sponsored plans were adopted in 2002 that primarily focused on creating public spaces along the waterfront and on building housing on underutilized land, compatible with the existing residential scale. The 2005 Greenpoint-Williamsburg Land Use and Waterfront Plan built upon these existing principles to enact comprehensive zoning changes in response to the decline in industrial activity and an increased demand for housing. Noting that the neighborhood had lost over 40% of its industrial jobs between 1991 and 2002, the new plan aimed to promote market-rate and affordable housing production, protect neighborhood characteristics, retain some industrial activity and improve waterfront accessibility and development.

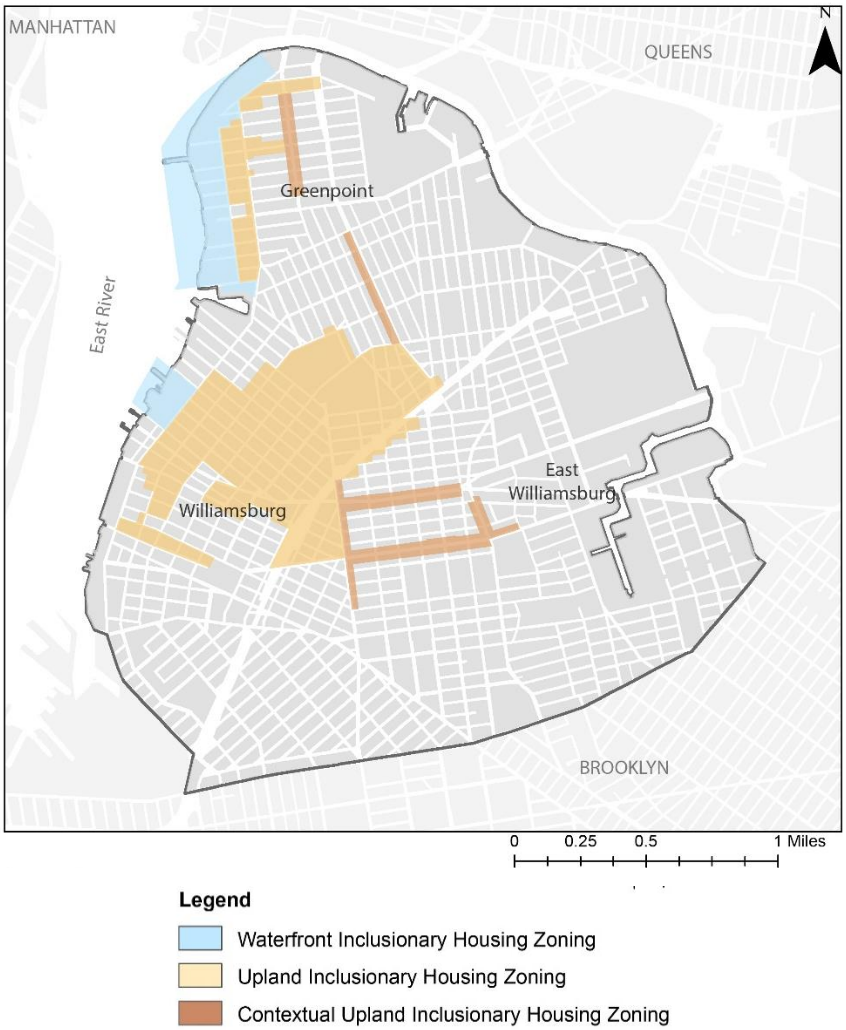
The Comprehensive Redevelopment Plan created new opportunity for much-needed housing by increasing permissible density, facilitated commercial development and promoted light-industrial activity in certain areas. It also detailed an Affordable Housing Program that granted additional floor area to developers providing affordable housing for low-income and moderate-income families. Moreover, the plan penalized developments that did not partake in the affordable housing program, by reducing maximum permissible heights than generally allowed. Developments could provide a portion of units for moderate- or middle-income families if they set aside a higher percentage of floor area for affordable housing (Department of City Planning, 2018). They could either build affordable housing on site, off-site or by acquiring and preserving existing affordable housing.

In 2009, after the rapid change in neighborhood character, the Department of City Planning, at the request of the community board and elected officials, proposed to amend zoning regulations in 175 blocks of residential upland area, east of the 2005 rezoning area. It primarily aimed at protecting the existing neighborhood character by restricting heights of new development, providing opportunities for inclusionary housing and supporting local retail corridors. Together, the increasing demand for housing and the city's active participation in incentivizing development in Greenpoint-Williamsburg triggered a significant change in neighborhood character and composition.

Inclusionary Housing Program in Greenpoint-Williamsburg

Attempting to respond to the goals set by Mayor Bloomberg's New Housing Marketplace Plan, the 2005 re-zoning plan claimed that about one-third of the projected units would be affordable to low- and moderate-income households. The 2009 contextual rezoning provided further opportunity for the creation and preservation of affordable housing, east of the original re-zoning. Together, they encouraged affordable housing production by offering Floor Area Bonuses and other tax incentives (Map 3.2). Specifically, the Inclusionary Housing program allowed projects providing affordable housing to develop additional floor area, within height and bulk restrictions in each zoning district and established income limits for future tenants of the affordable units.

Map 3.2: Inclusionary Housing Boundaries in Greenpoint-Williamsburg



Source: NYC Open Data Re-zoning boundaries

Floor Area Bonus and Affordability Requirements

In the upland areas of Greenpoint-Williamsburg, developments providing 20% affordable housing to low-income households either on-site or off-site were eligible to receive a 33% floor area bonus. This means that 1 sq. Ft. of low-income housing must be provided for each 0.25 sq. Ft. of bonus floor area. For waterfront areas, bonuses between 15% - 30% of floor area were made available to developments providing affordable housing. Details of affordability requirements is provided in Table 3.1 below.

Tax Incentives

The 421-a tax abatement state program, started in 1971, encourages the development of underutilized land. Used extensively in Manhattan before the 2008 housing crash, the tax incentive is usually valid for 10 years, but can sometimes be valid for 15-25 years in certain neighborhoods. The exemption gives owners a 100% exemption from any increases in their property taxes for the first two years and then taxes are increased by 20% of the normal tax rate every two years for the remaining years (Streeteasy, n.d.).

The inclusionary housing program in Greenpoint-Williamsburg, in addition to providing floor area bonuses, also offered eligibility for the 421-a tax abatement program. While upland areas would have been eligible for 15 year as-of-right 421-a tax benefits, those developments providing at least 20% floor area of affordable housing for low income residents on site, could receive 25-year extended 421-a benefits. On the other hand, waterfront areas that were generally not eligible for 421-a benefits could receive them if they provided affordable housing.

Table 3.1: Affordability Requirements by Zoning Districts

Area	Zoning Districts	Affordability Requirements
Waterfront	R6, R8, R6/R8	20% Floor Area for Low-Income Residents OR 10% area for Low-Income Residents and 15% area for Moderate-Income Residents
Upland	R6B, M1-2/R6B, R6, M1-2/R6, R6A, R6, M1-2/R7A	20% Floor Area for Low-Income Residents
Contextual	R7A, C4-4A	20% Floor Area for Low-Income Residents OR 20% Floor Area for Moderate-Income Residents

Source: NYC HPD, DCP, Greenpoint-Williamsburg Inclusionary Housing Program

The 2005 and 2009 zoning activities seemed to create ample opportunity for new market-rate and affordable housing by increasing permissible FAR and providing incentive for development. Although measures were taken to retain the neighborhood's affordability, the rezoning has potentially drastically affected neighborhood character and displaced several low-income residents and small-business owners.

CHAPTER 4: DATA AND METHODOLOGY

Principle

Inclusionary Housing Programs are designed to increase the supply of affordable housing and to promote social and economic integration (Jacobus, 2015; Shwartz, 2012) by primarily leveraging private investment. Chapter 5 first examines the change in socio-economic composition of the neighborhood to attempt to answer the question of what the impact of the re-zoning has been. The analysis uses U.S. Census data from 2000 and 2010, and American Community Survey data from 2016 and 2017 to illustrate significant neighborhood change. Furthermore, the continued practice of inclusionary housing policies makes it vital to compare the number of affordable homes built through the inclusionary housing program, to the need for affordable housing.

Although New York City has used many different programs to create affordable housing, over decades, there is a lack of comprehensive, publicly available data to truly evaluate the policies. The de Blasio administration, however, has made considerable advancement in tracking progress of the Housing New York Plan. While periodic update reports and maintenance of transparent databases form the crux of the initiative, the drawback lies in that most affordable housing data only caters to the current administration's effort, creating a grave gap in available information about the performance of previous policies. The evaluation in this thesis hence relies on the text of the Inclusionary Housing policy itself and uses the NYC PLUTO database to estimate the amount of Inclusionary Housing built or preserved since the re-zoning of Greenpoint-Williamsburg.

Using the PLUTO database

The Primary Land Use Tax Lot Output (PLUTO) is extensive tax lot level land use and geographic data in comma-separated values, available on the NYC Open Data portal. It was approved by the Department of City Planning (DCP) and contains more than seventy fields derived from data maintained by city agencies. Each tax lot has a distinct Borough-Block-Lot (BBL) code, matched with relevant lot characteristics including information about permissible and built FAR, Zoning district and Land Use. Table 4.1 below details the specific attributes used in this analysis.

First, lots that lay within the Contextual, Upland and Waterfront re-zoning areas were identified and then filtered by the year it was developed, zoning district and built and permissible FAR. While specific conditions are detailed in Table 4.2 below, the principle lay in that developments that built more than the permissible FAR, also built or preserved inclusionary housing, either on site or off site, ultimately contributing toward increasing affordable housing stock. Next, the total residential area that was built on these tax lots was used to further determine the percentage of residential area that was required to be permanently affordable, as per the Inclusionary Housing Program. Considering the options of affordability requirements outlined in Table 3.1, the lack of information about the affordability option applied to each tax-lot, and the lack of precise values of inclusionary units created, four potential scenarios could be drawn (Table 4.3). The scenarios represent different combinations of share (% of residential Sq. Ft.) and depth of affordability (catering to residents with low- or moderate-income), depending on the lot’s zoning. Values of total number of residences and total residential area helped determine the average unit size, which was then further used to find the median unit size, from which total number of inclusionary units could be estimated.

Table 4.1: PLUTO attributes used to determine number of inclusionary units

Attribute Name	Description
CD	Community District - Used to isolate only those tax lots located within Brooklyn Community District 1
ZoneDist1	Zoning District - Applied to each tax-lot
UnitsRes	Total Residential Units built on tax lot
YearBuilt	Tax-lots within Upland and Waterfront Areas developed since 2005 Tax-lots within Contextual rezoning area developed since 2009
BuiltFAR	Built Floor Area Ratio
MaxFAR	Maximum Permissible Floor Area Ratio without the FAR bonus
BBL	Borough, Tax Block and Lot Number, unique to each distinct tax-lot

Source: PLUTO Data Dictionary

Table 4.2: FAR conditions by Zoning District

Zoning District	Built FAR
Within Upland Areas (For lots developed since 2005)	
M1-2/R7A	3.45 < Built FAR <= 4.60
R6B, M1-2/R6B	2.00 < Built FAR <= 2.20
R6, M1-2/R6	2.20 < Built FAR <= 2.42
R6, R6A, M1-2/R6, M1-2/R6A	2.70 < Built FAR <= 3.60
Within Waterfront Areas (For lots developed since 2005)	
R6	2.43 < Built FAR <= 2.75
R8	4.88 < Built FAR <= 6.60
Within Contextual Areas (For lots developed since 2009)	
R7A, C4-4A	3.45 < Built FAR <= 4.60

Source: NYC HPD, DCP, Greenpoint-Williamsburg Inclusionary Housing Program

Table 4.3: Potential Scenarios of affordable housing creation/preservation

	Affordability Requirements (% of residential floor area)		
Scenario	Upland	Waterfront	Contextual
1	20% low income	20% low income	20% low income
2	20% low income	20% low income	20% moderate income
3	10% low + 15% moderate	20% low income	20% low income
4	10% low + 15% moderate	20% low income	20% moderate income

Source: NYC HPD, DCP, Greenpoint-Williamsburg Inclusionary Housing Program

Using the Local Law 44 database

Inclusionary Zoning typically requires minimal city funding but offers other incentives to developers through land-use regulations. However, inclusionary housing policies are not designed to be practiced exclusively and are often complemented by other affordable housing programs that generally do require funds and subsidies provided by the city, state or federal agencies. New York City attempts to meet the need for affordable housing through other programs such as Mitchell-Lama, NYCHA Tax Credits, and others.

To maintain transparency between the government and the public, the New York City Council passed the Local Law 44, requiring HPD to disclose information about certain housing developments that receive financial assistance from the city. The Local Law 44 database thus contains information about the housing programs applied at project- and building-level, and includes funding information, rent and affordability by unit and information about the developer, contractor and sub-contractors. However, since the law was recently passed in 2012, the database only contains complete data since 2009, 5 years after the Greenpoint-Williamsburg Rezoning.

Furthermore, since not all the inclusionary housing provided would have received financial aid from the city, the database is not a comprehensive representation of the same. However, analysis of available data can provide insight on the use of other programs, the amount of affordable housing produced in general, and the income categories they serve, to ultimately determine the gap – which income-categories are being underserved? Furthermore, comparison of the affordable housing distribution in the neighborhood against the city and borough can also clarify if the neighborhood serves its fair share of New Yorkers.

Datasets of Projects, Buildings, and Depth of Affordability were used to ultimately determine the number of affordable units built with city financial assistance. Buildings were grouped by HPD assigned unique Project Identification Numbers and their composition was calculated based on the number of units by income band. They were then filtered by Census Tract numbers to identify the distribution of affordable housing separately in the city, borough and neighborhood.

A note on using ACS data derived from IPUMS

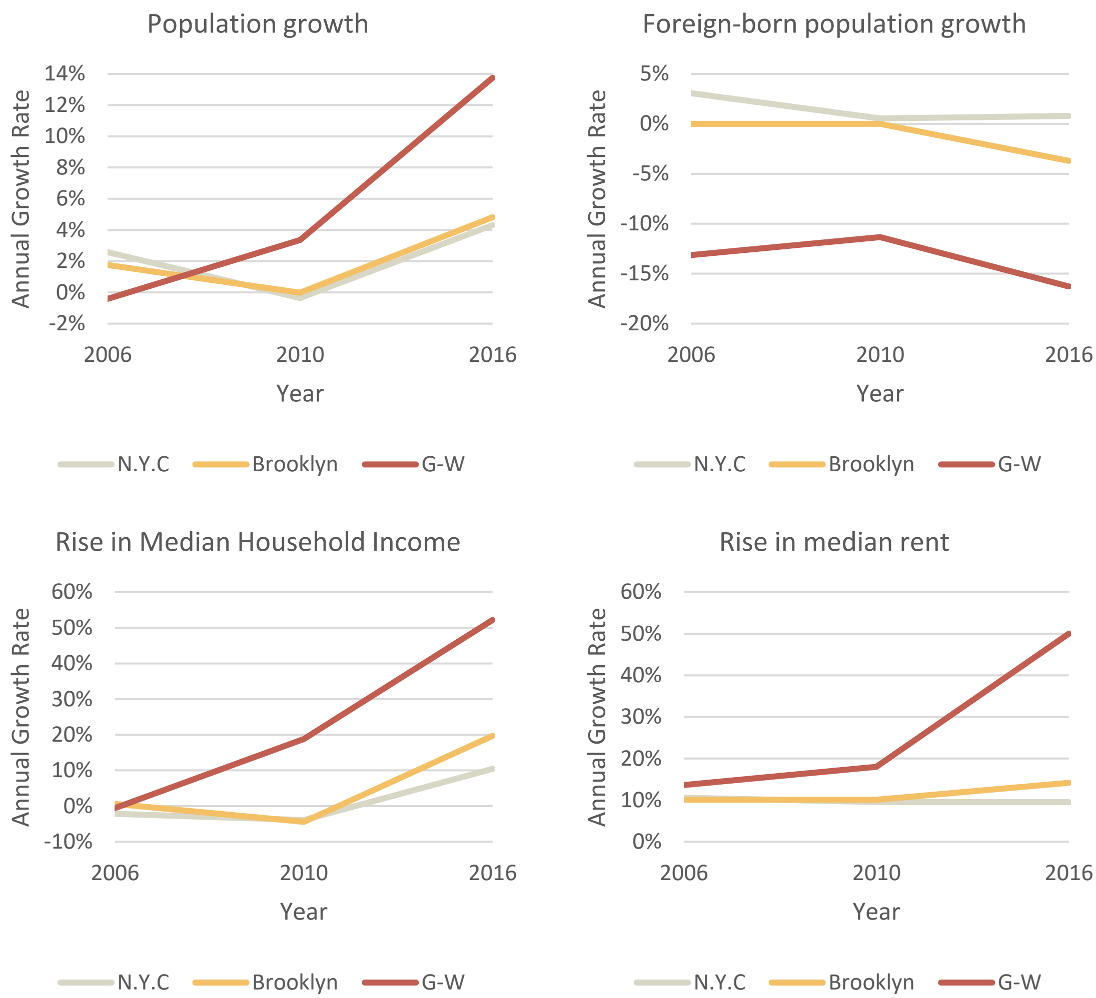
IPUMS USA provides U.S. census microdata. American Community Survey data derived through IPUMS and filtered by PUMA codes, helped determine the amount of rent burdened households that lived in New York in 2000 and 2017. Household Income, Household Size, Gross Rent and Tenure (Ownership vs. Rental) were cross-referenced with HUD specified standards of income bands in this analysis. The next chapter details the findings from the analysis of data derived from PLUTO and Law 44 databases, compared to the rent burden.

CHAPTER 5: NEIGHBORHOOD CHANGE IN GREENPOINT-WILLIAMSBURG

Since the rezoning, overall population grew at a higher rate in Greenpoint-Williamsburg than it did in the city or neighborhood (Figure 5.1). While population had declined in the neighborhood in 2000, it grew by over 3% in 2010 and over 13% in 2016. In contrast, population in the city and borough declined in 2010 and slightly grew by under 5% in 2016, indicating that Greenpoint-Williamsburg had become an attractive neighborhood. Meanwhile, the foreign-born population in Greenpoint-Williamsburg has continually declined since 2000, suggesting rapid neighborhood change, significant increase in demand and density and the likely displacement of original residents.

Median Rent in Greenpoint-Williamsburg doubled from $880 in 2000 to $1,770 in 2016 (dollar amounts adjusted to 2017 dollars), while it only increased by 14% in Brooklyn and by 9.5% in the city. Similarly, Median Household Income in the neighborhood doubled from $39,530 in 2000 to $71,050 in 2016 (adjusted to 2017 dollars), while it only increased by 20% and 10% in the borough and city, respectively. Significant increase in both Median Rent and Median Income can suggest that Greenpoint-Williamsburg became affordable to only more affluent residents.

Figure 5.1: Neighborhood changes in Greenpoint-Williamsburg (2000-16)



Source: U.S. Census Bureau, data retrieved from State of New York City's Housing and Neighborhoods in 2017, NYU Furman Center

Demographic Changes – Age and Sex

Since the rezoning, over 40% of residents aged between 20-40 years moved into Greenpoint-Williamsburg – a significantly larger proportion than the city or borough (Figure 5.2). Furthermore, while larger proportions of residents between ages 50-75 continued to live in the city or borough after 2000, this proportion remained same or declined within the neighborhood, indicating that retiring residents moved out of the Greenpoint-Williamsburg after the rezoning, likely due to decreasing affordability and a change in neighborhood character. The unusually high share of young residents aged between 20-40 and decreased share of residents below the age of 20 in 2016 could also indicate that the neighborhood was most affordable and accessible to young professionals rather than families with children.

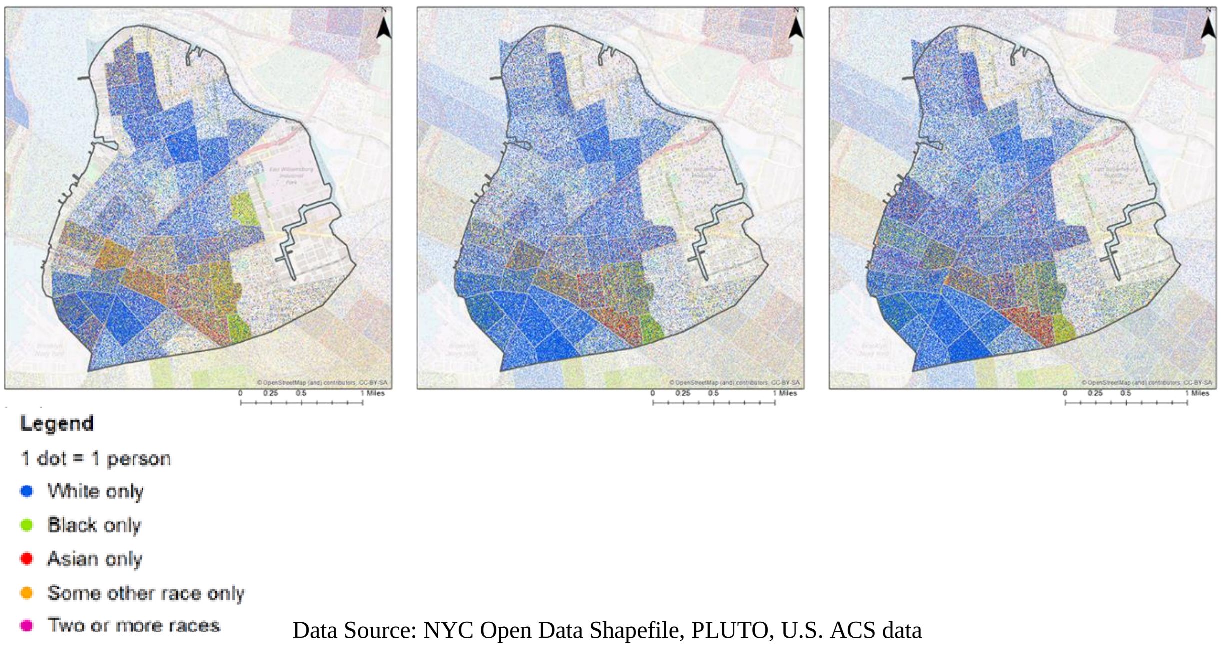
Figure 5.2: Population by Age and Sex (2000-16)

Source: U.S. Census Bureau -Census 2000,2010 QT91: Age Groups and Sex; ACS 2016 B01001 Sex by Age

Demographic Changes – Racial Composition

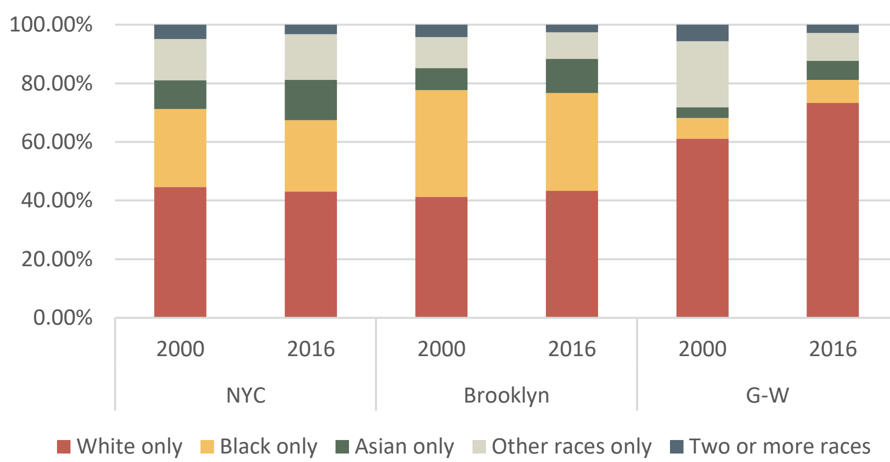
The white population in Greenpoint-Williamsburg grew to over 73% in 2016 from only 61% in 2000. While the share of the African American population remained stable at 7% and the Asian population doubled to 6.5% in 2016, the population that identified as "some other race only" declined to only 9.5% in 2016 from over 22% in 2000 (Figure 5.3). A large share of this population seems to have been displaced from the southern regions of the community district, after the rezoning (Map 5.1). In contrast, the racial composition has remained stable between 2000 and 2016 in both the city and the borough, except for a 4% increase in Asian populations.

Map 5.1: Racial Distribution in Greenpoint-Williamsburg, 2000, 2010 and 2017



Data Source: NYC Open Data Shapefile, PLUTO, U.S. ACS data

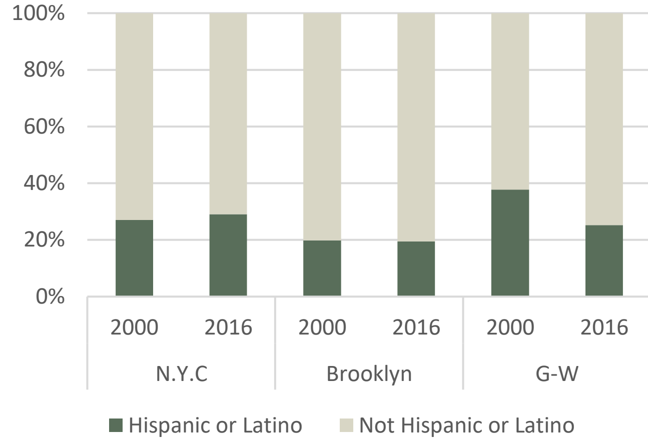
Figure 5.3: Racial Composition 2000-16



Source: U.S. Census Bureau -Census 2000,2010 QTP3: Race; ACS 2016 DP03 Race

The Hispanic and Latino population in the neighborhood also decreased to 25% in 2016 from over 37% in 2000, while the share remained stable at approximately 28% and 19% in the city and borough, respectively (Figure 5.4). These changing demographic patterns further suggest increasing gentrification in the neighborhood after the rezoning.

Figure 5.4: Share of ethnicities, 2000-16

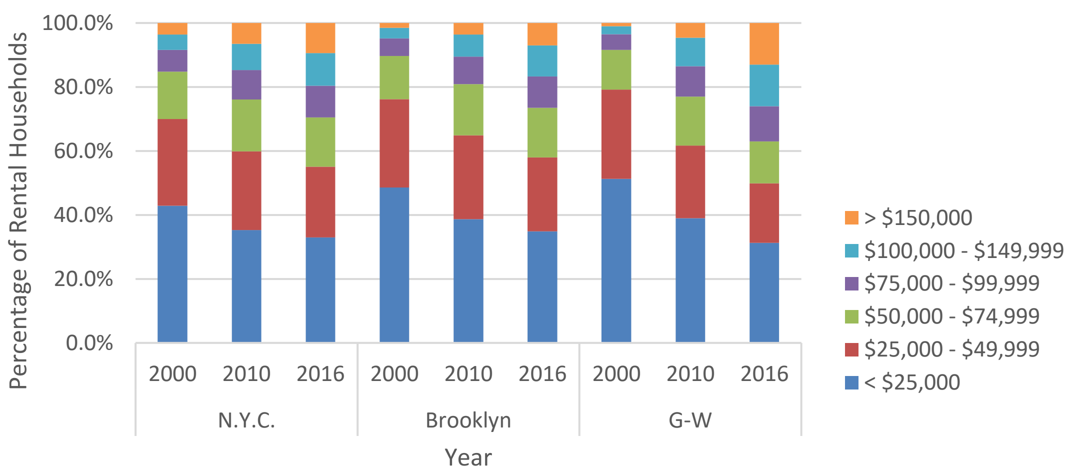


Source: U.S. Census Bureau -Census 2000,2010 QTP3: Race; ACS 2016 DP03 Race

Household Income in Rental-occupied homes

Over 26% of the households in Greenpoint-Williamsburg in 2016 earned more than $100,000 annually, a significant increase from only 3% of the households in 2000 (Figure 5.5). Only 11% of the households in 2016 earned below $10,000, less than half the proportion in 2000. Similar trends are also observed in the city and borough. The share of households that earned between $50,000 and $75,000 in Greenpoint-Williamsburg, although increased between 2000 and 2010 from 12% to 15%, reduced to 13% in 2016, indicating that more affluent residents continue to move to the neighborhood.

Figure 5.5: Household Income in Renter Occupied Homes



Source: U.S. Census Bureau -Census 2000 HCT011: Tenure by housing Income; ACS 2010,2016 B25118 Tenure by Housing Income

Gross Rent

Although the share of renters paying less than $500 in monthly rent remained similar between 2000 and 2016 in Brooklyn, this share reduced significantly in Greenpoint-Williamsburg. Those paying between $1,000 and $1,500 in the neighborhood form only half the share of those in the city. The concentration of renters paying more than $2,000 in Greenpoint-Williamsburg is nearly double that in the city, indicating that the neighborhood is more expensive than citywide trends. Increasing concentrations of high renters in the neighborhood, even higher than those in Brooklyn, implies a concentration of expensive rental units.

Table 5.1: "Location Quotient" of Gross Rent in Brooklyn and Greenpoint-Williamsburg, based on Citywide trends

	Brooklyn			Greenpoint-Williamsburg		
Gross Rent	**2000**	**2010**	**2016**	**2000**	**2010**	**2016**
Less than $500	1.08	1.06	1.04	1.63	1.46	1.18
$500 to $999	1.12	1.09	1.01	0.90	0.97	1.00
$1000 to $1499	0.72	1.10	1.09	0.65	0.75	0.56
$1500 to $1999	0.42	0.84	1.01	0.43	1.22	0.95
$2,000 or more	0.16	0.51	0.78	0.19	1.09	1.81

Source: U.S. Census Bureau -Census 2000 H062: Gross Rent; ACS 2010,2016 B25063 Gross Rent

Rent-Burden: Gross Rent as a Percentage of Household Income

The share of rent-burdened households (those paying more than 30% of their income in rent) in Greenpoint-Williamsburg is slightly lower than the share in Brooklyn and the city, also indicating that the majority of the neighborhood's households are not rent-burdened. Furthermore, share of households that paid more than 50% of their income in rent in Greenpoint-Williamsburg in 2010 reduced by 2% in 2016. This could either indicate that the neighborhood is becoming more affordable or, more likely that higher income earners are moving into the neighborhood and potentially displacing residents with lesser means.

Table 5.2: Proportion of rent-burdened households, 2000-16

	2000	**2010**	**2016**
N.Y.C.	40.66%	49.00%	51.18%
Brooklyn	43.02%	50.88%	52.01%
Greenpoint-Williamsburg	41.15%	50.18%	48.63%

Source: U.S. Census Bureau -Census 2000 H069: Gross Rent as a percentage of household income; ACS 2010,2016 B25070 Gross Rent as a percentage of household income

Figure 5.6: Proportion of Rent-Burdened households

Source: U.S. Census Bureau -Census 2000 H069: Gross Rent as a percentage of household income; ACS 2010,2016 B25070 Gross Rent as a percentage of household income

Re-zonings have the potential to dramatically change the City's development landscape, and the nature and quality of life of different kinds of neighborhoods. But whether a particular type of rezoning will benefit or burden local residents is not always clear (NYU Furman Center, 2010). In Greenpoint-Williamsburg, although the rezoning spurred economic development and revived an underutilized neighborhood, it drastically changed neighborhood character and inevitably caused harm to existing residents, by either displacing those who could no longer afford to live there or simply increasing their burden. High housing costs are not only detrimental for families: they are also bad for business and local competitiveness. They make it harder for companies to attract and retain workers or force employers to pay higher wages, which may be passed along to consumers in the form of higher prices (Urban Land Institute, 2016). While development is necessary, rezoning policies must be adapted to protect residents, maintain affordability and improve quality of life for all.

CHAPTER 6: RESULTS AND DISCUSSION

The need for Affordable Housing in Greenpoint-Williamsburg

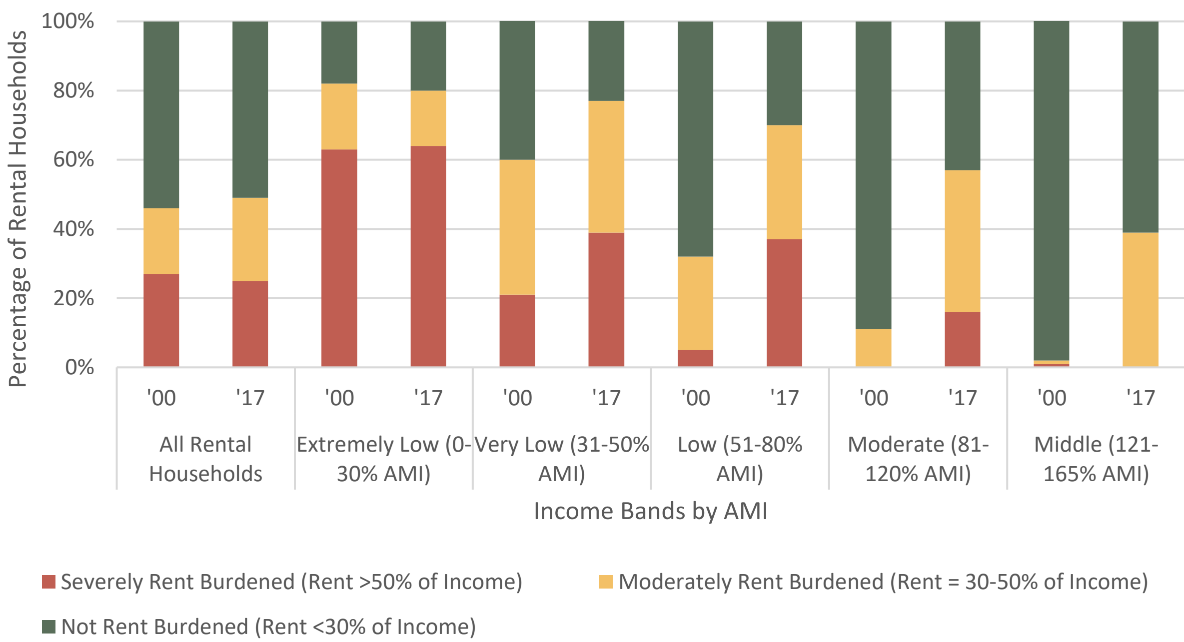
The neighborhood has clearly transformed over the last two decades, with changes in both demographic and economic characteristics. While affordable housing is crucial to overall quality of life, housing affordability has severely reduced since the 2005 rezoning of Greenpoint-Williamsburg. The rezoning provided mitigation strategies to counter increased demand in the form of an inclusionary housing policy and potentially contributed to the minimal increase of only 2% in the overall share of rent burdened households from 2000 to 2017. However, further investigation illustrates that a considerably larger share of Low-, Moderate- and Middle-Income earners were rent-burdened in 2017, suggesting that other rent-burdened households may have been displaced since the re-zoning.

Most change is observed in rental households with Moderate- and Middle-incomes, where the share of rent-burdened households changed from only 11% in 2000 to 57% in 2017 for residents with moderate income and from 1% to 39% for middle-income residents (Figure 6.1). It is followed by Low-Income residents, whose share of rent-burdened households more than doubled to 70% in 2017. In contrast, although a slight change, the share of rent-burdened Extremely Low-Income households reduced by 2%, suggesting either an increase in affordable housing for extremely low-income residents or displacement of those that were rent-burdened.

Among rental households of Moderate Income, the share of severely and moderately rent burdened households increased from 0% and 11% in 2000 to 16% and 41% in 2017. Considerable change is also observed among severely rent-burdened Low-Income households, whose share in the neighborhood increased from 5% in 2000 to 37% in 2017. This change in share of households of both moderate- and low-income might have been more extreme, if not for the inclusionary housing policy that provides additional residential FAR to developments that create permanently affordable housing for Low- and Moderate-Income residents. Still, the increase of rent-burdened Middle- and High-Income households from almost 0 to 33% and 5%, suggests a profound reduction in housing affordability.

Although Inclusionary Housing Policies, targeted toward Low- and Moderate-Income residents aim to improve housing affordability, the share of rent-burdened households that still live in the neighborhood, has increased. Hence, the housing policies in place clearly cannot keep-up with market changes and the increasing need for affordable housing.

Figure 6.1: Rent-burdened share by Household Income, G-W, 2000-17



Source: U.S. Census Bureau ACS 2000 and 2017 retrieved from IPUMS, HUD AMI levels;
Note: Only households that pay cash rent are considered

Inclusionary Housing Produced

The 2005 re-zoning of Greenpoint-Williamsburg spurred development across the neighborhood, creating numerous residential units, commercial and office spaces. While 10,382 residential units were built in the Community District since the re-zoning, over 2 Million square feet of residences, or 2245 units, were built in developments that opted to receive the FAR bonus in exchange for permanently affordable residential units (Figure 6.2). Total residential square footage built by developments receiving FAR bonus in Greenpoint-Williamsburg since the 2005 rezoning:

Waterfront Areas	408,865	Sq.Ft
Upland Areas	1,699,422	Sq.Ft
Contextual Areas	66,303	Sq.Ft

By the provisions of the Inclusionary Housing Program, this mix of built residential space can create affordable housing in four scenarios, detailed previously in Table 4.3. Considering the lack of publicly available comprehensive measures of inclusionary housing created since the rezoning, and the value in assessing the performance of the program, the number of units created can be estimated using available tax lot level building data.

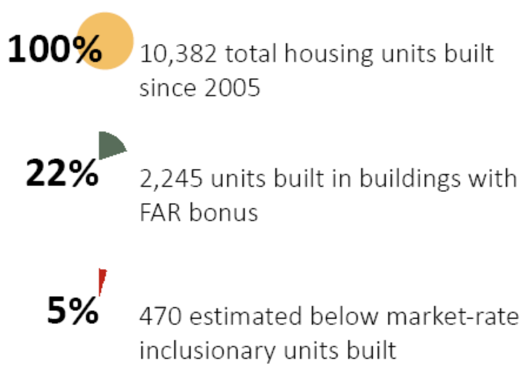
Among those developments that used the FAR bonus, the average unit size is estimated to be 968 Sq.Ft. It is found, that **at a maximum, approximately 470 affordable homes for low- and moderate-income households were created since the up-zoning in Greenpoint-Williamsburg**. While most units cater to Low-Income residents, nearly 15% of inclusionary homes cater to Moderate-Income residents in Scenarios 3 and 4.

Table 6.1: Estimates of Inclusionary Housing Created

	Inclusionary Housing (SqFt)		Units Created		
Scenario	Low Income	Moderate Income	Low Income	Moderate Income	Total
1	434,918	0	449	0	449
2	421,657	13,261	435	14	449
3	394,032	61,330	407	63	470
4	380,771	74,590	393	77	470

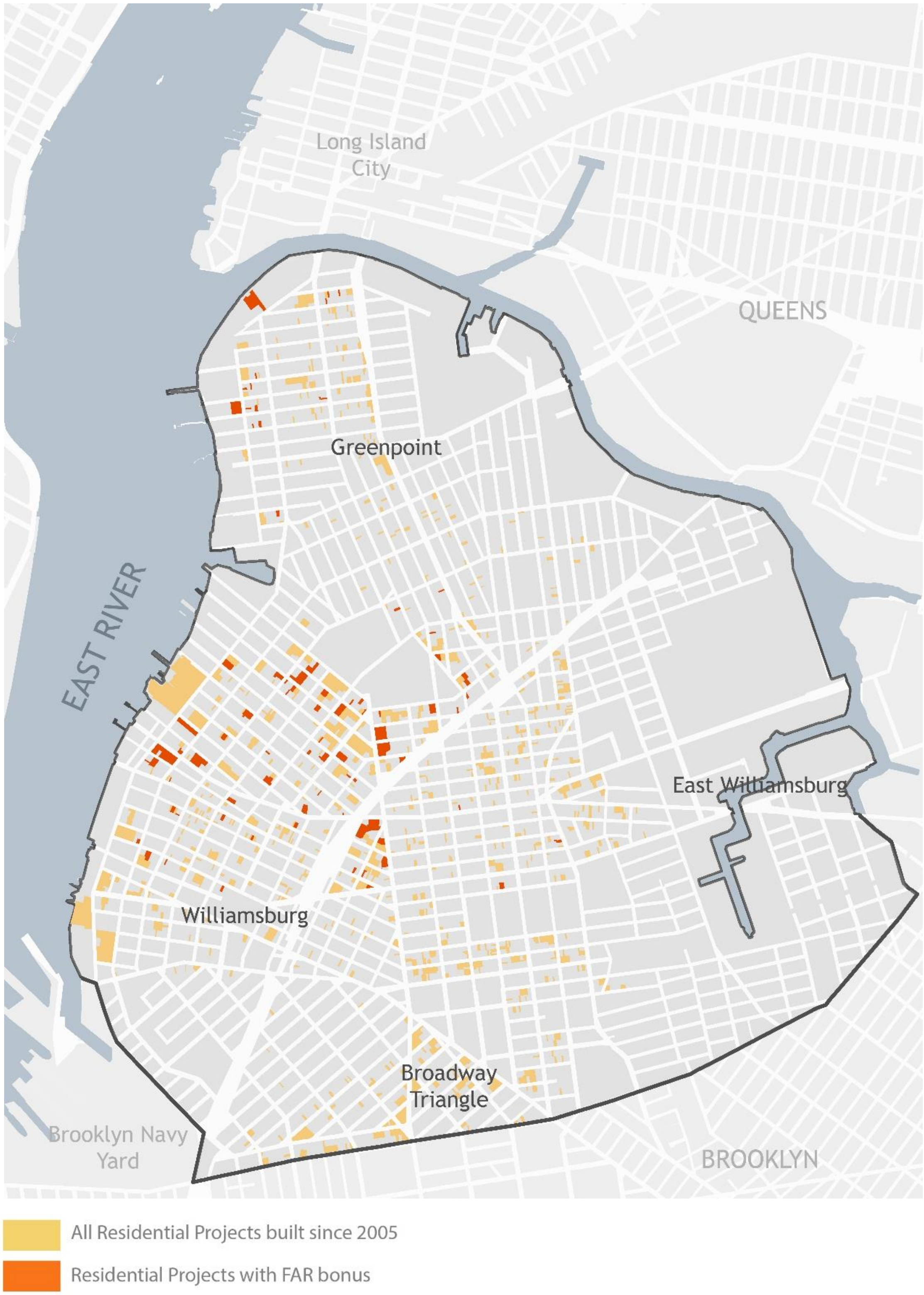
Source: Greenpoint-Williamsburg Inclusionary Housing Program (2005), Greenpoint-Williamsburg Contextual Rezoning (2009)

Figure 6.2: Estimates of share of Inclusionary Housing in the community



Source: NYC PLUTO

Map 6.1: Residential projects receiving FAR bonus in Greenpoint-Williamsburg



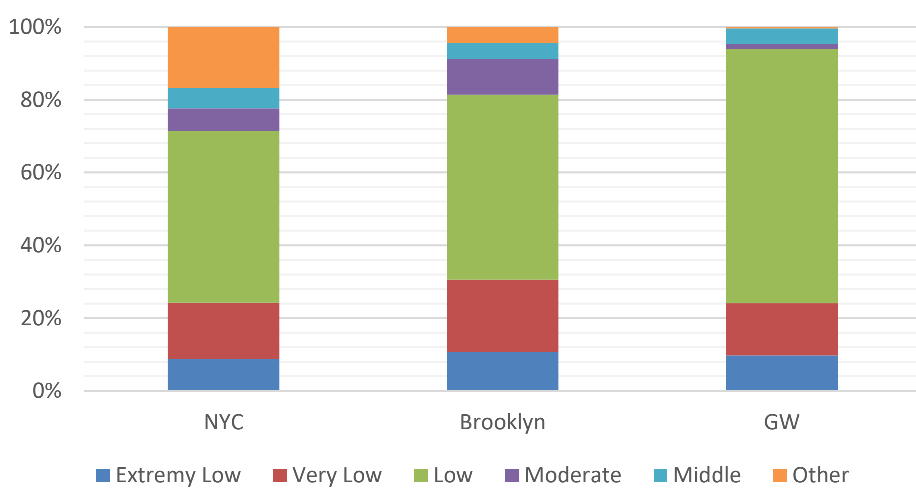
Source: NYC Open Data

Other Affordable Housing Programs

Affordable units in general only make up approximately 5.5% of all residential units in the city, borough and neighborhood. While the share of these units among income bands are consistent across the city and borough, Greenpoint-Williamsburg is unique in its high share of units for low-income residents, suggesting that opportunity for other income groups is least in this neighborhood, and are forced to look elsewhere for affordable housing.

Of the 2216 affordable housing projects in the city, created/preserved since 2009, 72 are located in Greenpoint-Williamsburg. While 30% of all the projects containing affordable units lie in Brooklyn, only 3% of all the projects are located in Greenpoint-Williamsburg. Furthermore, while 25% of the city's affordable units lie in Brooklyn, only 2.3% lie in Greenpoint-Williamsburg, equating to 4879 individual affordable units. Of these, 70% of the units are restricted to low-income residents, earning 51-80% of the Area Median Income, higher than the approximately 52% share in both the city and the borough (Figure 6.3). Although the share of units for Extremely Low, Very Low- and Middle-Income residents remains fairly consistent at all scales, only 1% of the units in Greenpoint-Williamsburg cater to Moderate Income residents earning between 81-120% of AMI. This concentration of low-income rental affordable units in the neighborhood can suggest that developers find it only feasible to reach that depth of affordability because of how expensive the neighborhood could be.

Figure 6.3: Distribution of Affordable Units by Income Bands



Source: HPD LL44 - Projects, Housing New York Units;

CHAPTER 7: CONCLUSION

Depth of affordability, or the affordability to residents with the lowest incomes, proved to be the primary weakness in Bloomberg's affordable housing plan – more than 80% of the affordable units built in the neighborhoods of Harlem, central Bronx and East New York were too expensive for the typical household in the area (Association for Neighborhood and Housing Development, 2013). Similar conditions were observed in Greenpoint-Williamsburg, where new developments were inevitably more expensive and regulated rents also were too high for residents with extremely low- and very-low incomes.

The changes in demographic and economic composition of the neighborhood, indicates that many New Yorkers that resided in the neighborhood prior to the re-zoning may have been displaced due to rising rents and increased demand for real estate. Moreover, while the policy is designed to only cater to low- and moderate-income households, cost of market-priced units may have increased to cover the cost of the Inclusionary Units. This ultimately affects middle-income households who do not have the means to afford market-rate units but are not even eligible for the affordable units under the Inclusionary Housing Program, hence practically squeezing out the middle class from this neighborhood.

The Inclusionary Housing program has produced relatively small numbers of affordable units and hardly meets the demand – in Greenpoint-Williamsburg, the number of rent-burdened low- and moderate-income households still increased despite the creation of an estimated 470 affordable units under the program. Continued dependence on the program is hence unlikely to substantially mitigate the effects of rising costs of housing, recommending the adjustment of long-range plans to rely less on the program.

Inclusionary Housing is primarily popular for the minimal public investment it requires. It transfers costs to the private market, specifically to developers and through them to market-rate tenants and home-owners. However, in New York City, its association to the 421-a tax abatement program will incur some cost. Still, the program is designed to depend on market-rate development, and thus will not work well in traditionally "less attractive" neighborhoods. In this regard, the city will incur further costs to attract investment by up-zoning or by improving infrastructure and facilities. Such improvements could lead to increased land value and can potentially cause gentrification and displacement of vulnerable populations who may then further be forced to rely on government welfare, ultimately increasing the city's spending. Increased sources of funding for the government is thus crucial.

Inclusionary Zoning in attractive neighborhoods could also potentially promote destruction of existing affordable housing, especially those under rent regulation and stabilization laws which were typically built at a lower density than inclusionary housing permits. While upgrading older buildings might improve quality of life, the average income for rent-stabilized tenants is $37,000; for rent controlled tenants it is $29,000, both significantly lower than the income targets for many inclusionary apartments (NAHB, 2016).

Income and rent limits in New York City's affordable homes are maintained by the HPD and are based on AMI values and household size. Although these follow HUD guidelines, the AMI in New York is calculated over an area that includes the city and its wealthy suburbs, thus likely skewing the outcome. The neighborhoods rezoned or slated for it, such as East New York, East Harlem, the Jerome Avenue area of the west Bronx, and Inwood, are all mostly working-class ethnic minority areas, where the affordable apartments cost more than what most residents can afford (Wishnia, 2018), thus arguing for either more representative AMI boundaries or for setting affordable rents comparative to household incomes in the specific neighborhood, rather than a blanket standard.

Still, practice of Inclusionary Zoning can be beneficial in certain ways. For example, the nature of the policy is such that inclusionary housing units typically lie in neighborhoods with higher opportunity, in terms of school performance, infrastructure and even racial diversity. Furthermore, the proximity requirement of off-site inclusionary housing construction ensures access to opportunity and circumvention of creating concentrations of low-income communities. While inclusionary housing programs often serve higher income levels than many federal housing programs, the placement of affordable housing in opportunity-rich neighborhoods is a meaningful outcome of well-designed inclusionary housing programs (Schwartz, Ecola, Leuschner, & Kofner, 2012). Greenpoint-Williamsburg has an abundance of amenities, including waterfronts, parks and access to multiple public transportation lines and consequent short commute times. Although such factors allow developers to charge a premium on rental units, the few low- and moderate-income households in inclusionary units also gain access to these conveniences – a noteworthy benefit.

The Greenpoint-Williamsburg Inclusionary Housing Program also addressed a key flaw in other housing programs – *length of affordability*. Earlier programs, inclusionary housing and others often imposed short-term affordability requirements. The incentives offered to developers and the short affordability requirement may have motivated more development. However, units that revert to market-rate can pose immense strain on renters, potentially exposing them to the risk eviction. The Inclusionary Housing policy in question ensured permanent affordability, minimizing the risk for renters. However, the requirement for permanent affordability can potentially prevent developers and property owners from investing in these neighborhoods or even opt for the FAR bonus.

The De Blasio administration's Mandatory Inclusionary Housing program seems to respond to the lack of obligatory affordability requirements, by forcing all new developments within re-zoned areas to create inclusionary units. The new policy essentially places the authority of granting the FAR bonus entirely on the city and can also be used by city officials to compensate for the drastic changes usually associated with re-zonings. However, a report on Inclusionary Zoning by the NYU Furman Center recommends flexibility in the policy, citing that mandatory requirements can disincentivize development and raise concerns about financial feasibility. Ultimately, inclusionary housing programs must consider local market conditions and balance the economic impacts of a policy against the desire to create affordable housing (Hollingshead 2015; Schuetz, Meltzer, and Been 2011).

Key Recommendations

1. Increase funding: With the introduction of the Mandatory Inclusionary Housing program, developers are likely to face financial strain in including affordable units within new development. While this effect can deter developers from building in neighborhoods where the program is in effect, government agencies can try to offset some of these expenses and hence, promote further development. However, it reverses the very benefit of the program in that it should typically require minimal public funding. Still, budgetary adjustments must be made to subsidize development for more effective outcomes.

2. Modify State and Federal level support and adjust eligibility of Inclusionary Housing Programs to include middle-income residents: Although local Inclusionary Housing programs typically serve households with higher incomes than those served by the State and Federal housing programs, the previous chapters prove that middle-income households are very vulnerable to displacement from the neighborhood, given their ineligibility for affordable housing programs and very expensive market-rate housing. State and Federal level programs must be adjusted to allow local government to maintain affordability for middle-income residents, and the Inclusionary Housing Program can consequently be modified to include middle-income residents. This method will likely be more attractive to developers and can promote development.
3. Create awareness and gain support: The rent-burdened population in the city is most likely to understand the need for affordable housing. However, it is important to create awareness of the urgency in the matter with the general population, policy makers and government officials to potentially increase investment toward the issue as well as gain broader perspective about policy making.
4. Actively track progress: Evidence-based policymaking is critical for any government to assess the effectiveness of their policies. In this regard, there is unfortunately a severe lack of reliable comprehensive data to measure the outcomes of the Inclusionary Housing Policy. Although the current administration seems to be tracking progress of the Housing New York plan, all relevant data must be accessible to the public in an operational manner. The transparency can assist in maintaining public support and facilitate policy improvement.
5. Maintain some flexibility: While the Mandatory Inclusionary Housing program is revolutionary and is sure to contribute to increasing affordable housing stock, the binding nature of the policy can potentially disincentivize construction. Hence, maintaining some flexibility in requirements may be crucial to improve rate of production. Periodic adjustments to incentives and requirements can ensure alignment with changing needs.

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APPENDIX: REFERENCE TABLES FOR TREND FIGURES

Table A.1: Owner vs. Rental occupied housing in U.S.A.

		2010		2016	
	2000	Estimate	MOE	Estimate	MOE
Total Households	105,480,101	114,235,996	248,114	117,716,237	222,078
Owner households	69,816,513	76,089,650	362,764	74,881,068	360,470
Rental households	35,663,588	38,146,346	120,182	42,835,169	142,056

Source: U.S. Census Bureau - Census 2000 HCT011: Tenure by housing Income; ACS 2010,2016 B25118 Tenure by Housing Income

Table A.2: Owner vs. Rental occupied housing in N.Y.C.

		2010		2016	
	2000	Estimate	MOE	Estimate	MOE
Total Households	3,021,588	3,047,249	5,268	3,128,246	5,188
Owner households	912,133	1,006,657	5,311	1,000,242	5,296
Rental households	2,109,455	2,040,592	6,050	2,128,004	5,836

Source: U.S. Census Bureau - Census 2000 HCT011: Tenure by housing Income; ACS 2010,2016 B25118 Tenure by Housing Income

Table A.3: Gross Rent in New York City, Env: Number of Households

	2009	2010	2011	2012	2013	2014	2015	2016
Less than $1000	936,845	883,683	805,750	751,933	707,364	672,960	653,885	622,233
$1000 to $1999	840,257	902,457	963,494	1,006,378	1,034,956	1,066,962	1,078,170	1,078,848
More than $2000	184,837	201,821	234,168	262,325	285,631	313,021	333,653	368,697

Source: U.S. Census Bureau ACS B25063: Gross Rent

Table A.4: Gross Rent vs. Household Median Income in N.Y.C. (Adjusted to 2017 dollars)

	Gross Rent	Household Median Income
2006	5,397	58,772
2007	5,326	58,007
2008	5,045	57,592
2009	5,588	57,513
2010	5,981	56,089
2011	5,896	55,309
2012	5,924	51,000
2013	6,245	52,665
2014	6,518	56,290
2015	6,740	60,017
2016	7,260	62,758
2017	7,807	62,447

Source: Bureau of Labor Statistics – Consumer expenditure survey; U.S. Census Bureau – Real Median Household Income

Table A.5: Rent Burdened Households in N.Y.C., 2000

Income Bracket by AMI	Total Households	Not Rent Burdened	Rent Burdened Severe	Rent Burdened Moderate
Extremely Low Income	577,632	74,140	427,935	75,557
Very Low Income	277,908	79,506	77,132	121,270
Low Income	363,102	222,575	25,836	114,691
Moderate Income	336,476	291,465	9,478	35,533
Middle Income	219,122	201,968	2,523	14,631
High Income	291,359	280,550	0	10,809

Source: U.S. Census Bureau ACS 2000, extracted from IPUMS USA; HUD AMI FY2000

Table A.6: Rent Burdened Households in N.Y.C., 2017

Income Bracket by AMI	Total Households	Not Rent Burdened	Rent Burdened Severe	Rent Burdened Moderate
Extremely Low Income	626,115	74,514	447,252	104,349
Very Low Income	302,253	57,170	120,494	124,589
Low Income	345,527	154,003	37,068	154,456
Moderate Income	292,483	216,579	11,887	64,017
Middle Income	205,995	176,983	0	29,012
High Income	300,830	291,527	0	9,303

Source: U.S. Census Bureau ACS 2017, extracted from IPUMS USA; HUD AMI FY2017

Table A.7: Rent Burdened Households in Greenpoint-Williamsburg., 2000

Income Bracket by AMI	Total Households	Not Rent Burdened	Rent Burdened Severe	Rent Burdened Moderate
Extremely Low Income	14,754	2,684	9,322	2,748
Very Low Income	6,527	2,647	1,345	2,535
Low Income	7,335	4,955	400	1,980
Moderate Income	6,856	6,102	26	728
Middle Income	3,427	3,379	27	21
High Income	3,054	3,003	0	51

Source: U.S. Census Bureau ACS 2000, extracted from IPUMS USA; HUD AMI FY2000

Table A.8: Rent Burdened Households in Greenpoint-Williamsburg., 2017

Income Bracket by AMI	Total Households	Not Rent Burdened	Rent Burdened Severe	Rent Burdened Moderate
Extremely Low Income	12,801	2,554	8,247	2,000
Very Low Income	4,435	1,053	1,710	1,672
Low Income	5,801	1,748	2,124	1,929
Moderate Income	7,131	3,044	1,170	2,917
Middle Income	7,714	4,678	0	3,036
High Income	14,507	13,591	0	916

Source: U.S. Census Bureau ACS 2017, extracted from IPUMS USA; HUD AMI FY2017