

Successful Strategies for the Private Development of Workforce Housing in New York City

By

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B.S., Economics, 2005
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Submitted to the Program in Real Estate Development in Conjunction with the Center for Real Estate in Partial Fulfillment of the Requirements for the Degree of

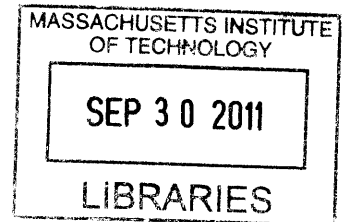
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ABSTRACT

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A lack of quality housing affordable to the average worker near employment centers has long been an issue in American cities where the private production of housing for middle income families is restricted by market forces, zoning or physical boundaries. There are approximately 2.3 million middle income households in New York who earn between 80% and 150% of the Median Family Income who are priced out of market rate housing. These households are forced to relocate elsewhere or spend a daunting percentage of their time and income on housing and/or transportation.

The high cost of land, labor and materials are further exacerbated by zoning regulations and entitlement review processes to result in a prohibitively high cost of housing production. Governments across the US and in New York have developed various types of policy strategies aimed at subsidizing development and increasing the affordability of housing.

This thesis provides a summary discussion and perspective on the factors that increase the cost of housing production. It then reviews the different strategies utilized in reducing these costs, both nationally and locally in New York. Next it tests each strategy's effectiveness using a case study of a proposed development project in Brooklyn, NY. Finally it discusses the effectiveness of these strategies and proposes additional ideas that could also be effective in reducing the overall cost of housing, aiding in the effort to make housing more affordable to the average worker.

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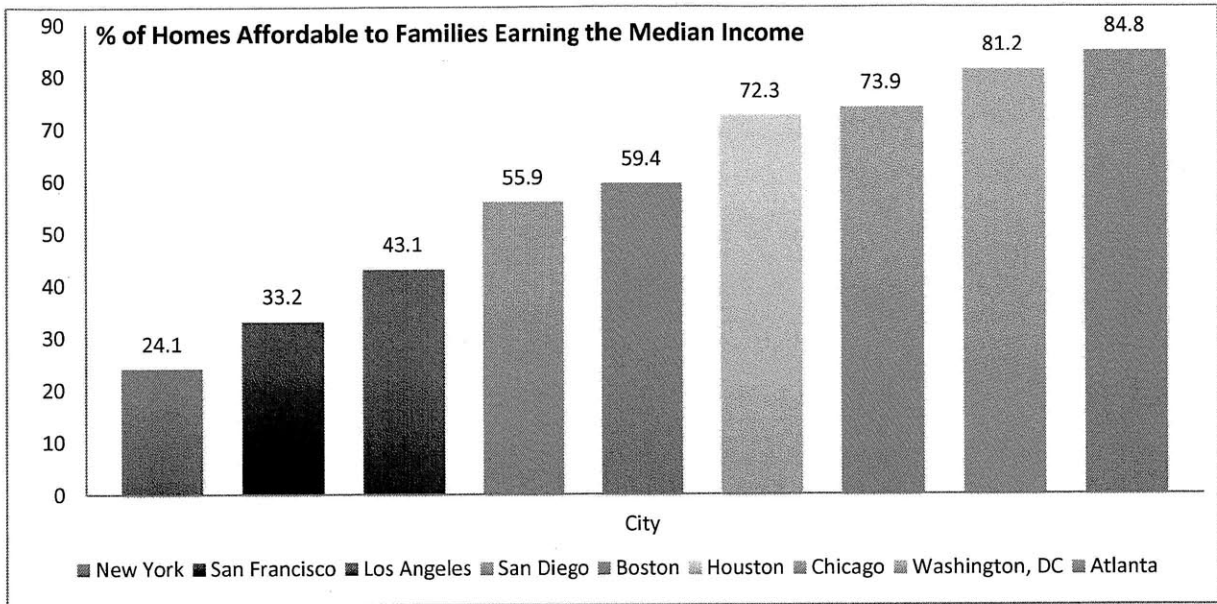
CHAPTER 1: Introduction

Overview: The Problem

A lack of quality housing affordable to the average worker near employment centers has long been an issue in American cities where the private production of housing affordable to middle income families is restricted by market forces, zoning or physical boundaries. This is exacerbated by a policy gap that exists related to public support of housing by the Federal, State and local governments. Like most high cost cities, housing production in New York City is highly segmented towards the upper and lower end of the income spectrum, with market forces producing housing for the upper end, and product for the lower end being produced using a wide range of subsidy programs. This leaves the Workforce Housing group, or the middle income earner, with few choices for housing they can afford, and this results in a large portion of the population of cities like New York, including teachers, city/state employees and other working class professionals, to move to the distant suburbs or to leave the metropolitan area.

Figure 1 below is adapted from the Housing Opportunity Index for the first quarter of 2011 produced by the National Association of Homebuilders, which determines the percentage of houses that are affordable to residents earning the median income.

% of houses affordable to those earning the median income



As of the first quarter of 2011 In New York, less than 25% of all housing is affordable to those earning the median family income (MFI).

Overview: Workforce Housing

The government calculates income limits for housing affordability using the Median Family Income (MFI) for a geographic area. This is also known as the Area Median Income (AMI). The MFI is what the household in the middle of the income distribution earns. By definition, half of the households earn more and half earn less. The Department of Housing and Urban Development divides households into sub groups by the household’s income as a percentage of MFI as follows:

- Very Low Income: up to 30% of MFI
- Low Income: 30% to 50% of MFI
- Moderate Income: 50% to 80% of MFI
- Workforce Housing: 80% to 120%

Generally, the term workforce housing is meant to capture households in the middle income range that may earn too much to qualify for low and moderate income housing subsidies but are priced out of market rate housing. While HUD defines the upper limit as 120%, cities across the country such as Los Angeles, Nashville and Miami, have increased the income limit for workforce housing to include those households earning up to and above 150% of MFI. This is a

result of the ever growing number of households in this income range that are priced out of market rate housing.

The conventional public policy indicator of housing affordability in the United States is the percentage of income spent on housing, known as the “affordable rent burden”. Housing expenditures up to 30% of income have generally been seen as ideal while expenditures above 30% have been seen as problematic. The 30% limit is still widely used in determining housing costs except in high cost markets like New York, where it is typical to adjust the affordable rent burden to 35% (New York Department of Housing Preservation and Development – NYHPD).

This paper will attempt to examine and test strategies for the development of rental housing affordable to those households earning between 80% and 150% of the Median Family Income. It will use the 2011 Area Median Income (AMI) for New York City produced by the Department of Housing and Urban Development (HUD), a 35% affordable rent burden and industry standard assumptions for determining housing expense, to extrapolate rental rates for homes in New York City.

The table below shows the 2011 FY Median Family Income limits produced by the Department of Housing and Urban Development (HUD) for New York City.

Income Family Size	Income		Thesis Focus				Income	
	20%	50%	80%	100%	120%	150%	200%	250%
1 Person	\$ 11,452	\$ 28,630	\$ 45,808	\$ 57,260	\$ 68,712	\$ 85,890	\$ 114,520	\$ 143,150
2 Persons	\$ 13,088	\$ 32,720	\$ 52,352	\$ 65,440	\$ 78,528	\$ 98,160	\$ 130,880	\$ 163,600
3 Persons	\$ 14,724	\$ 36,810	\$ 58,896	\$ 73,620	\$ 88,344	\$ 110,430	\$ 147,240	\$ 184,050
4 Persons	\$ 16,360	\$ 40,900	\$ 65,440	\$ 81,800	\$ 98,160	\$ 122,700	\$ 163,600	\$ 204,500
5 Persons	\$ 17,669	\$ 44,172	\$ 70,675	\$ 88,344	\$ 106,013	\$ 132,516	\$ 176,688	\$ 220,860
6 Persons	\$ 18,978	\$ 47,444	\$ 75,910	\$ 94,888	\$ 113,866	\$ 142,332	\$ 189,776	\$ 237,220
7 Persons	\$ 20,286	\$ 50,716	\$ 81,146	\$ 101,432	\$ 121,718	\$ 152,148	\$ 202,864	\$ 253,580
8 Persons	\$ 21,595	\$ 53,988	\$ 86,381	\$ 107,976	\$ 129,571	\$ 161,964	\$ 215,952	\$ 269,940

Source: Department of Housing and Urban Development 2011

The following table shows the maximum rent that household earning the income in the brackets shown above can afford

Monthly Rental Payment Unit Type	Thesis Focus							
	20%	50%	80%	100%	120%	150%	200%	250%
Studio	\$301	\$752	\$1,202	\$1,503	\$1,804	\$2,255	\$3,006	\$3,758
One Bedroom	\$322	\$805	\$1,288	\$1,610	\$1,933	\$2,416	\$3,221	\$4,026
Two Bedroom	\$387	\$966	\$1,546	\$1,933	\$2,319	\$2,899	\$3,865	\$4,831
Three Bedroom	\$447	\$1,117	\$1,787	\$2,233	\$2,680	\$3,350	\$4,466	\$5,583

Source: Author's Calculation

Federal funding tends to be geared towards the very low to moderate income sectors of the population. Workforce housing is usually left to state and local governments to deal with and often neglected completely. According to a 2006 study, three fourths of the households that moved into housing produced by subsidy in New York City were earning below 80% of MFI (Koepnick, Bahchieva, Schwartz, and Crowder 2006).

The first chart below shows the percentage of housing for each subgroup produced with government subsidy in 2006. The second chart shows the percentage of households within each sub group. Note the definitions of low, moderate and middle income may vary from our definitions above.

Chart A: FY2006 Affordability Study Results, FY2006 Completions

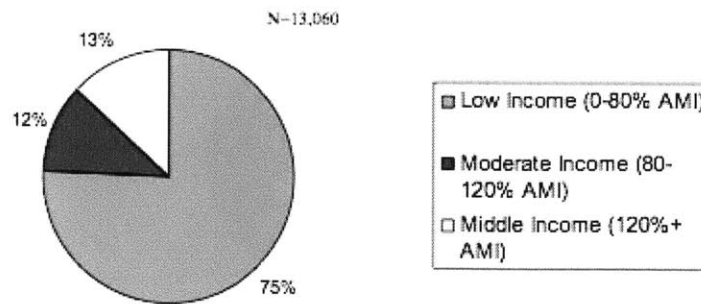
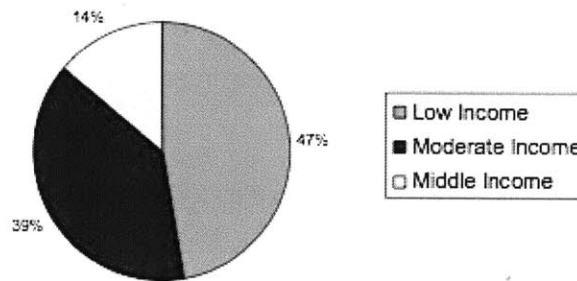


Chart B: Income Groups Served by FY2006 Completions according to Program Guidelines

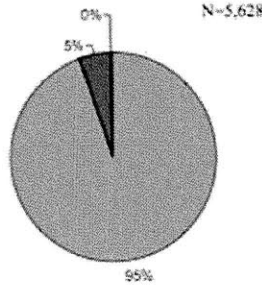


Source: (Koepnick, Bahchieva, Schwartz, and Crowder 2006).

It is also very important to note that most of the housing units produced in the moderate and middle income ranges in the chart above are in the for-sale residential market, many of which were refinanced under the Mitchell Lama refinancing program, discussed later in this thesis, and were not necessarily new housing units created.

The rental market saw an even greater disparity in programs with 95% of households earning below 80% of MFI:

Chart H: FY 2004 Rental Unit Completions, by Income Category



Source: (Koepnick, Bahchieva, Schwartz, and Crowder 2006).

This thesis will focus on housing for the roughly 38% (2.4 million households) of New York City Households that earn between 80% - 150% of AMI, and programs that address this segment of the population or increasing the affordability of housing in general.

Household Breakdown by Income		
Income Range	%	Households
Less than \$10,000	7.80%	509,640.69
\$10,000 to \$14,999	4.80%	313,625.04
\$15,000 to \$24,999	8.70%	568,445.39
\$25,000 to \$34,999	8.30%	542,309.97
\$35,000 to \$49,999	11.40%	744,859.47
\$50,000 to \$59,999	7.10%	463,903.71
\$60,000 to \$74,999	9.30%	607,648.52
\$75,000 to \$99,999	12.30%	803,664.17
\$100,000 to \$149,999	15.30%	999,679.82
\$150,000 to \$199,999	6.80%	444,302.14
\$200,000 or more	8.20%	535,776.11
Total	100.00%	6,533,855.00

Objective

The Objective of this thesis is to attempt to identify successful strategies in stimulating the production of workforce housing. It will first attempt to understand why market forces typically fail to produce housing affordable to the households in question, and then analyze the potential impact of strategies identified using a case study in Brooklyn, New York.

The first section of the thesis sets out to provide a useful summary discussion and perspective on the factors that prevent market forces from producing a housing product affordable to the demand cohort in question. Why are production costs so high? How does things like zoning and parking affect workforce housing?

Part two will discuss various strategies that state and local governments have undertaken across the nation in the production of workforce housing. It will also discuss and summarize the programs that exist in New York and how they have or have not been effective in the creation of housing for middle income households. What works well? What doesn't work?

The third part of the thesis will test the effectiveness of the different types of programs identified. This section will use a case study of a development site in New York City to test the effectiveness of the different strategies on rent affordability both separately and cumulatively.

CHAPTER 2: The Production of Workforce Housing in New York

Overview

Why do market forces fail to produce housing that is affordable to the millions of households in New York Metro area who cannot afford to live close to transit or their employment centers? There are areas near transit in New York and other cities around the country that still have sites suitable for residential development. The cost of land, materials, labor and the costs that can be associated with regulatory requirements all add up to an excessively high cost to develop housing. In order to determine how big of an effect different factors have on production costs, let us first characterize the typical costs of a housing development. A development project typically has three main categories of costs that contribute to its Total Development Costs (TDC).

Land - This section covers all costs associated with the acquisition of the property including the purchase price, transfer taxes and other fees and insurance. (Typically 10 – 25% of TDC)

Hard Costs – This section covers the physical construction costs including labor, materials and fees and insurance associated with these costs. (Typically 60 - 70% of TDC)

Soft Costs – This consists of costs associated with the design and development of the property including architecture & engineering, financing costs, county or city zoning and impact fees, development fees and other various costs. (Typically 20 - 35% of TDC)

The percentage that each of these components contributes to TDC can vary significantly by project and region.

Land Costs

The cost of vacant land in New York City is high relative to most other American cities and the scarcity of sites for new residential construction is only increasing. Further, there is typically constant competition from other uses, such as hotel and office, which can often pay more for land than residential developments in certain markets. There is an ongoing discussion surrounding the density of land zoned for residential in New York. While the majority of remaining parcels throughout New York that are vacant are zoned for residential uses, most are zoned for single family or low density residential. The scarcity of sites zoned for higher density multi-family development has resulted in significantly higher acquisition prices such sites.

Several studies have made recommendations as to ways that density increases could reduce the cost of housing. The 2005 study by the Furman Center at New York University called “Reducing the Cost of Construction in New York City” points out that of the New York City land that is vacant and zoned for residential use, most is designated R1 through R5 and therefore only allows for as of right construction of one, two and three family homes. Only just over 10% is zoned R6 and above which allows mid-rise and high rise development. Further, while the average size of vacant lots zoned R1 through R5 is 17,595 square feet (100 feet by 176 feet), the average size of vacant lots zoned R6 and above is only 5,156 square feet, making development much less feasible on these lots. If the City were to rezone significant amounts of land in Manhattan and the outer boroughs for residential, making it easier and less costly for developers to build multi-family housing, we could see a corresponding decrease in the cost of housing. However, a significant potential pitfall of rezoning actions that increase density is the potential “windfall” of land value and wealth to the landowners who may just ask more money for their land from developers.

In the past, a reliable source of vacant land was the City itself, which acquired thousands of parcels of land and buildings through tax foreclosure actions. The City would frequently dispose of these properties through auctions run by different city agencies, such as the Department of Housing Preservation and Development (NYHPD), which often earmarked them

for housing development². According to the New York Times, the city stopped acquiring properties in 1994 and the number of properties auctioned off has declined steadily every year since.

A 2008 study by the Federal Reserve Bank of New York, titled “The Price of Land In the New York Metropolitan Area” studied land prices from 1999 through 2006 and looked at how land prices fluctuated for all asset classes, and from proximity to the Empire State Building. Admittedly, this study was conducted during one of the biggest real estate booms the country has ever seen so it shows quite a dramatic increase in values that should be qualified with the recession that followed. However, the relationship between the different types of assets and proximity to the CBD is still relevant. The study found that residential land prices increased fivefold during this seven year period, which is far more than the 130% increase in residential prices during the same period.

Average Price of Land in the New York Metro Area,
1999-2006

Year	Price (Dollars per Square Foot)
1999	46.65
2000	55.65
2001	88.91
2002	71.95
2003	103.71
2004	150.63
2005	248.30
2006	366.08

Source: Federal Reserve Bank of New York, based on an analysis of CoStar Group data, April 2008.

Notes: Data for 2006 are through June 30. The New York metro area considered is the region defined in footnote 3.

Prices Increased from \$46.65 to more than \$350 per square foot of building area. While aggregate statistical data for the years following 2006 is not readily available for this thesis, it is likely that the prices reflected here reverted back to under \$100 per buildable square foot during the height of the crisis, and have since crept up to over \$100 per square foot.

Commercial and Industrial land prices saw a marked increase of up to 200%, far less than the residential increases (Haughwout, Andrew, Orr, and Bedoll, 2008).

All of these factors, along with others to be discussed below, add significantly to the cost to produce workforce housing. The same study also noted a very sharp gradient of housing prices in relation to the proximity to the city center. Those New York residents and firms that can, are clearly willing to pay a premium to live near the city center (Haughwout, Andrew, Orr, and Bedoll, 2008).

Hard Costs

The primary and most obvious culprit relative to the cost of housing is the extremely high cost of construction (labor and materials) for housing. New York City is the most costly city in the nation to construct new housing. According to data from R.S. Means Company, hard costs of construction in New York are more than 40% higher than the national average. A 2005 study by the Furman Center at New York University, priced detailed architectural drawings for three residential product types – townhouses, midrise and high-rise - in New York and three different control cities – Chicago, Los Angeles and Dallas. The results confirmed that the cost of housing in New York is up to eight percent more costly than LA, fifteen percent more costly than Chicago and more than forty percent more costly than Dallas (Salama, Schill and Carp 2005).

The most significant factor in these numbers was the cost of Labor. According to the same study by the Furman Center, the cost of labor in New York is over fifty percent higher than the national average. These extremely high wages are largely a product of New York's very powerful unions. According to a June 2011 article in Crain's New York Business Journal, Electricians in New York City, for example, earn \$83.81 per hour in wages and fringe benefits in the city, compared to \$73.08 in Philadelphia, the second highest in terms of compensation. Plumbers in New York City earned \$84.37 per hour in wage and benefits, followed by Boston at \$68.20. Labor rates in New York City account for 50% to 60% of building expenses. If a developer does not use union labor for a residential project he still must use the prevailing wage under the Davis-Bacon act for projects that include financing from federal sources. This prevents many of projects utilizing tax credits or other main stream resources for affordable

housing to move forward, putting even more strain on the total housing stock and upward pressure on prices.

New York saw a moderate decrease in construction costs during the recession but saw up to a 2.68% increase in costs in 2010 (Cole 2011). It is predicted that construction costs will continue to increase more than inflation in 2011.

While hard costs are a major issue in New York, it is unlikely that these costs will be falling significantly anytime in the near future without drastic changes in the union relationships or severe reductions in commodities prices.

Zoning and Entitlements

Zoning has been and remains a major factor exacerbating of the cost to produce housing as an important factor in land prices as well as bulk and density, construction type and economies of scale. The Zoning Resolution of the City of New York remains one of the longest and most complicated zoning ordinances in the country (Salama, Schill and Carp 2005). The City Planning Commission has, over the years, adapted the Resolution to changing conditions, but this task has been accomplished at the expense of increasing complexity. There are four areas within the Zoning and Entitlement category which merit discussion:

- Uses
- Large Scale Rezoning
- Bulk and Density
- Parking (and other ancillary uses)

Rezoning this land on a project-by-project basis is expensive and creates delay. However, review under the Uniform Land Use Review Process (ULRUP) is seen as a necessary means to preserve the value of communities and prevent a windfall of wealth to landowners. In recent years, the City Planning Commission has taken a proactive role and has made significant progress in re-zoning parts of the city to facilitate residential construction.

Use Regulations

There are substantial amounts of suitable land which would otherwise be available for residential development that is currently zoned for manufacturing and other potentially obsolete uses (Salama, Schill and Carp 2005). There is an opportunity to re-use these manufacturing, industrial and other low value uses as residential uses. These properties are often located in areas that would now be considered ripe for middle-income housing development. However, there is still a barrier to this redevelopment. In New York City, the zoning resolution prevents a residential project from being built in a manufacturing district as of right (Salama, Schill and Carp 2005). Even though many of these districts have been rezoned as residential or mixed-use, this type of development still triggers review under the City Environmental Quality Review (CEQR) and the Uniform Land Use Review Process (ULURP). Mandatory compliance with the processes can slow down the development process, adding further to the bottleneck that exists in the production of housing in general. An increase in trained staff would certainly be an appropriate first step in order to streamline the process and increase the number of applications that can be reviewed at any given time.

Large Scale Rezoning

The last city wide rezoning in New York took place in 1987 and such an action should be reconsidered given the growth patterns of the city. The city has made significant strides in rezonings from 2000-2005 in Hudson Square, Frederick Douglass Boulevard, East Harlem and Chelsea in Manhattan, Morrisania in the Bronx, Downtown Brooklyn, Greenpoint-Williamsburg, Park Slope, Bridge Plaza and Flushing/Bedford in Brooklyn, and North Corona, Hunter's Point and Long Island City in Queens (salama, schill and carp 2005). The cumulative effect of these rezonings on the housing stock is unclear at this point, although cursory reviews of the proposed changes reflect only a modest increase in the potential density of the neighborhoods.

Since the in depth analysis was completed in 2005, the city has continued to make progress in helping to spur residential development through initiatives such as the 2008 East Village/Lower East Side Rezoning, the 2007 Bed-Stuy South Rezoning and the 2010 Astoria Rezoning. These rezoning and others like them mostly aim to incentivize housing affordable to the low to

moderate income groups and generally allow for residential growth. However, just as the study pointed out in 2005, a closer look at these re-zonings reveals that they also diminish opportunity for housing by setting firm height limits, bulk requirements and forcing projects to go through typically long and costly review processes. While the public review process is certainly important, the city should look beyond the typical rezoning and aim for large scale changes to allow for high density residential near transportation nodes.

Bulk/Density

As New York City continues to grow, housing demand will increase and the need for denser buildings and neighborhoods will continue to increase. Most municipalities, New York City included, are hesitant to increase density during rezonings and often tend to bow to political or community pressure and fail to increase density at all.

There are several nodes, especially in Queens and Brooklyn, that seem to be prime candidates for increased density based on their proximity to transit including: Roosevelt Avenue/Jackson Heights, Jamaica Center and Queens Plaza/Long Island City in Queens; Borough Hall, Atlantic Terminal, Crown Heights and Broadway Junction/Bushwick in Brooklyn; and The Hub/Third Avenue, Fordham Road and West Farms/Tremont in the Bronx (Salama, Schill and Carp 2005). According to the New York Department of City Planning, the city has taken a number of new initiatives since this time period, a few of which are at or near these suggestions, although most of these areas still maintain their original zoning.

Shown below are before and after zoning maps of a 2007 rezoning of Jamaica Center with a goal of allowing for residential growth.

In the Jamaica neighborhood of New York City, the city set out to preserve the character of several residential neighborhoods and to increase density in appropriate areas closest to transit. The rezoning added several areas with the zoning classification R7. According to the zoning resolution, R7 areas are medium density apartment house districts. In New York (and most places around the United States), development densities are calculated using Floor to Area Ratio (FAR). This is simply a multiple of the lot size. For example, the RX7 district shown above in Jamaica has an FAR of 3.75. If the lot size were 20,000 SF then a density of 75,000 square feet (20,000 x 3.75) could be built on the site. The Jamaica Plan also highlights a district-wide inclusionary housing program which permits a 33% bonus density for the inclusion of housing affordable to low and moderate income households (up to 80% AMI). In the R7X district, this would permit an FAR bonus of an additional 1.25 FAR resulting in a total allowable FAR of 5.0 or 100,000 SF.

While the city has taken many new initiatives such as the Jamaica rezoning and is actively involved in the rezoning efforts throughout the city with a focus on residential uses, it seems as though they have been somewhat unsuccessful in permitting large increases in density. This is likely the result of the ever increasing political and social challenges present when dealing with the many constituents involved in the public process.

Another important density issue is the prevalence of setback requirements in New York City that can often make projects financially infeasible. In 2005, the American Institute of Architects New York Chapter Housing Task Force made recommendations as to areas in Manhattan changes could be made that could preserve the neighborhood character while allowing modest increases in density. They proposed modest technical changes to rear yards, setbacks, side yards, courts and minimum distance regulations that would increase the feasibility of development sites in infill locations (Salama, Schill and Carp 2005). For example, to develop a project under the Quality Housing program, a developer must set the building back at lower heights, ranging from 40-85 feet. The Quality Housing Program of the Zoning Resolution of New York City is a program relating to districts R6 – R10 that encourages development consistent with the fabric of neighborhoods.

Parking

Perhaps one of the most challenging constraints surrounding the production of a workforce housing product (and all housing construction in New York City) is the requirement to build on site parking spaces. The zoning resolution does not require parking on site in developments south of 96th street in Manhattan but requires them almost everywhere else. The idea is that south of 96th street has better availability of mass transit and adding parking exacerbates the existing congestion. There are many other areas of the city that have similar access to mass transit, but still require on-site parking with the construction of new housing. Moreover, as discussed earlier, often housing sites are constrained by lot size and bulk requirements and the inclusion of parking simply makes them infeasible. Ironically, it seems that City Planning is responding to the fact that car ownership has increased by trying to provide more parking rather than trying to prevent an increase in private vehicle use.

The increased cost to include parking is passed down to the end user and results in overall higher costs of housing, but also prevents subsidized housing projects from moving forward. Currently, the city offers relief from parking requirements in affordable housing projects targeting the elderly from 10% - 35% less spaces (Zoning Resolution). If these on site parking requirements were waived for all projects targeting affordable and workforce housing, each housing unit constructed could sell for less. This strategy could take into account a project's proximity to transit and reduce parking requirements as projects get closer to transit and more residents are likely to use the subway to get around. Fortunately, the city has also been considering car sharing services, such as "Zip Car", as substitutions to regular parking spaces. These programs allow users to rent cars by the hour that are parked throughout the city.

CHAPTER 3: Strategies

Overview

The shortage of housing for middle income families in America is a growing concern and is widely discussed by governments across the nation. However, the overwhelming majority of funding and resources from federal and state sources dedicated to housing is aimed at low to moderate income households. Many of these programs could be modified to include workforce households where projects would require much less subsidy. There are, however, some government and quasi-government agencies that have created new programs aimed directly at middle income households or already adapted their affordable housing programs to include the growing number of middle income households who are now priced out of housing near their place of employment. There are four main types of policy initiative (with countless variations) that have been implemented across the country. All of these programs were originally aimed at producing low to moderate income housing, but have been modified to include somewhat higher income workforce housing strategies.

Inclusionary Zoning

Inclusionary zoning programs originated in the 1970s in response to housing discrimination uncovered in the prior decade and the programs proliferated in the 1990s, partly in response to the real estate boom. An estimated 350 to 400 local jurisdictions currently have either voluntary or mandatory inclusionary housing programs, with a concentration of programs in Massachusetts, California and New Jersey. The movement for inclusionary zoning gained momentum in the 1980's, with Boston, San Francisco, Denver, San Diego and Sacramento all having adopted or expanded mandatory programs (Salama, Schill, Springer 84'). Typical programs require a set-aside of ten or 15 percent of units as housing affordable to households up to 80 percent of area median income in projects with ten or more units. In exchange for this set-aside, typical voluntary programs provide some form of compensation, such as increased density allowances. Certain jurisdictions have modified this program to include the workforce housing income cohort.

Workforce and Moderately Priced Dwelling Units Program (MPDU), Montgomery County Maryland

Montgomery County, MD is located just to the north of Washington, DC and has long been hailed a leader in housing and planning solutions. The county is considered a very affluent suburb with a 2010 Median Family Income of \$93,744 (HUD). This program originally started in 1976 with the goal of constructing housing for households who generally earned around 80% or less of MFI. The program has been modified more than 20 times and now includes a workforce housing program that targets households earning between 80% - 120% of MFI, although the workforce housing component is much less active.

The program is an inclusionary zoning program that requires that buildings with more than 35 units set aside 15% of it's units as Moderately Priced Dwelling Units (MPDUs), or units affordable to low to moderate income households who earn less than 80% of AMI. In return the developer gets up to a 22% density bonus to help recover the costs of including the MPDUs. For sale units are held under price controls for 10 years, after which point the county splits the profit with the unit owner. Rental buildings remain under rent control for 20 years. The program is administered through the county's Department of Housing and Community Affairs. The department is responsible for setting prices. The MPDU program generally targets households earning 60% - 80% of MFI while the Workforce housing program targets families earning between 80% - 120% of AMI.

The program is very active and has produced over 13,000 units to date, mostly MPDUs targeted to low to moderate income households. Just over 2,000 remain under price controls. The program is not without its challenges. Developers often opt out of the program by electing the option of making cash payments in lieu of constructing the units on site, for which they do not receive a density bonus. This may result from a problem here with the price of the "opt-out". The price of the cash payment should be set high enough as to encourage the onsite development of MPDUs. Further, as in many other jurisdictions, the benefits from the density bonus simply may not justify the reduced values. This type of inclusionary zoning program is

the most typical throughout the US and has been more successful in Montgomery County than is Typical in many other US locations, including New York.

Inclusionary Zoning in New York

Inclusionary Zoning in New York started in 1987 and gives developers the right to build larger buildings if they include price constrained units. In New York, Inclusionary Housing designated areas are mapped in specified areas of the Bronx, Brooklyn, Manhattan and Queens and is listed by borough and community district in the Zoning Ordinance. In general, within Inclusionary Housing designated areas, new developments that allocate at least 20 percent of their residential floor area for price constrained housing can receive a floor area bonus of 33 percent above the base floor area permitted. Developers typically get a bonus if they set aside 20% of the units for families earning 80% of MFI (Woo, Rosten and Mangel 2009). However, in certain areas such as Greenpoint and Williamsburg, developers can earn the bonus for providing the units at higher levels of affordability, up to 125% of MFI.

Unfortunately, New York's much debated inclusionary zoning program has produced very few units. The numbers typically do not make sense for developers and fails to incentivize the production of these low to moderate income and workforce housing units. A 2005 study (Salama, Schill, Springer 2005) showed that the feasibility of the Inclusionary housing program was highly volatile depending on land value and construction costs. Section 3 of the thesis will perform more analysis here.

Subsidized Debt Financing

A very popular initiative among state governments is to provide subsidized or guaranteed debt financing to developers who include income restricted housing in their projects. This financing can take many forms but often is originated through the sale of state backed taxable or tax-exempt bond financing. There may or may not be a second mortgage available through a state or local program that can be paired with the financing. These programs are often paired with Low Income Housing Tax Credits and other forms of subsidy which may further limit the income ranges.

Virginia Housing Development Authority: Bond Financing

The Virginia Housing Development Authority offers an array of housing finance programs aimed at middle income households. VHDA offers both a taxable and a tax-exempt bond program aimed at the production of workforce housing in Virginia. Under the taxable program the state issues bonds and provides non-recourse financing for up to 90% of value or 95% of TDC. The housing units must be affordable to families earning at or below 150% of MFI. The mortgage must meet a 1.10 debt service coverage ratio. The loans carry are amortized up to 35 years and there is a 1% origination fee for construction and 2% for permanent loans. Current rates for the taxable bonds are 7.622%. The taxable bond financing can be paired with the 9% Low Income Housing Tax Credit (LIHTC), but only for projects constraining rent levels to 60% of MFI.

The Tax-exempt program works similar except it requires that 20% of units be rented to households earning up to 50% of MFI or 40% of units be rented to households earning up to 60% of MFI, the balance of units are rented to workforce households earning below 150% of MFI. Current rates for tax exempt bonds are approximately 6.28%. The tax exempt bonds can be and are often paired with 4% LIHTC.

The Housing Trust of Santa Clara County

The Housing Trust of Santa Clara County (The "Trust") is distinguished from other similar programs in that 43% of its funding comes from private companies, with companies like Adobe and HP contributing over \$1,000,000 each (Haughey 2006). The Trust was created to help ease the burden of housing in one of the most expensive housing markets in the country. Santa Clara lies in the heart of Silicon Valley and has seen rapidly expanding incomes and property prices as a result of the rapid expansion of the technology companies. In Santa Clara County, 42% of residents have a bachelor's degree and 17% have a Masters. The 2010 Median Family Income was \$74,355 (US Department of Housing and Urban Development). Young people aged 25-34 earn a median income of over \$77,000, although exorbitant home prices make it so that even these highly paid persons are priced out of homes near their job (Haughey 2006).

As a result of this housing shortage for skilled and unskilled labor, government and private sectors both faced a crisis of labor. Without an affordable option for housing, workers might not continue to relocate to Santa Clara County and the famous Silicon Valley, risking of stagnating job growth. In response, the county formed the Trust and reached out to the private sector, the state government and fifteen municipalities within the county. Since its inception the Trust has received \$30 million in funding for its financing programs (Haughey 2006).

The Trust runs three housing programs including: 1) The first time homebuyer assistance program; 2) the multifamily rental housing program' 3) the homeless and special needs rental program. The first time homebuyer assistance program is to subsidize the cost of down payments and closing costs associated with buying a home. The buyer must secure a mortgage from a lender who approves down payment assistance coming from a trust. The buyers can earn no more than 120% of MFI. The special needs and homeless program targets housing for underserved and needy populations. The program most relevant to this thesis is the multifamily rental housing program, which provides low cost loans to developers of housing affordable to those earning at or below 120% of Median Family Income. The housing trust provides four types of financing: Land or property acquisition loans, predevelopment loans, bridge loans and debt service coverage guarantees. The loans are subordinate to the first mortgage and carry a two percent interest rate, a two percent origination fee, and terms that vary from 24 months to 30 year permanent mortgage rates.

These three programs administered by the Housing Trust of Santa Clara County have produced 5,310 housing opportunities for the residents. According to ULI, the average home value under the first time home buyer program was almost \$350,000, and average household income close to \$70,000. The multifamily program has lent \$10.5 million dollars to date according to the managers of the Housing Trust. This program has leveraged an additional \$557,000,000 to help over 2.096 households. The biggest challenge to this trust is that its sources are uncertain. Commitments from companies are made on a one time basis and may or may not be renewed. Loan repayments will take many years to re-accumulate in accounts and are likely to be worth

less than original donation due to inflation. This trust must continually raise funds in order to keep making an effort in Santa Clara.

Subsidized Debt Financing in New York: New Housing Opportunities Program – New HOP

While New York State also offers an 80/20 Bond Financing program as in Virginia, New York City Housing Development Corporation runs the New Housing Opportunities Program (New HOP) which combines a first mortgage, funded through proceeds from the sale of variable or fixed rate taxable bonds, with a subsidized second mortgage, provided through HDC corporate reserves, to finance multi-family rental housing affordable to moderate and middle income families. Under this program, all units must be affordable to households earning up to 130% of AMI.

In addition to providing the bond financing to fund the first mortgages of developments financed under the initiative, HDC provides \$45,000 to \$85,000 per unit, depending upon the level of affordability, per unit as a second mortgage at 1% interest for the moderate and middle-income units in the development as follows:

- Up to \$45,000 / dwelling unit for projects where units will be affordable for households earning up to 130% of MFI
- Up to \$65,000 / dwelling unit for projects where at least 20% of units are affordable to households earning up to 80% of MFI and the remainder to households earning up to 130% of MFI
- Up to \$75,000 / dwelling unit for projects where 20% of units are affordable to families earning up to 80% of MFI, 20% to households earning up to 100% of MFI and the remainder to households earning up to 130% of MFI
- Up to \$85,000 / dwelling unit for projects where all units are affordable to households earning up to 80% of MFI

The second mortgages are structured with fixed minimum payments of at least 1% interest only. The second mortgages are capped at \$15 million dollars per project. This HDC subsidy may be used in conjunction with subsidies provided by other agencies, including loans provided

by the New York City Department of Housing Preservation and Development (HPD) through its Mixed Income Program described below.

Subsidized Debt Financing in New York: Mixed Income 50/30/20

HDC's Mixed-Income Program combines a first mortgage, funded through proceeds from the sale of variable or fixed rate tax-exempt bonds, with a second mortgage, provided through HDC corporate reserves in accordance with the guidelines below, to finance multi-family rental housing affordable to low and middle income families. Under this initiative, at least 20% of the units in a new or rehabilitated development must be reserved for low-income households earning less than 50% of the New York City Area Median Income (AMI), with at least 15% of these low-income units set aside for very low-income families earning less than 40% of AMI. A minimum of 30% of the units would be set aside for middle income households. A maximum of 50% of the units would be set at market rates for households without regard to incomes. The tax exempt first mortgage is financed with a combination of "private activity" bonds, which may qualify the low income units for as of right "4%" Federal Low Income Housing Tax Credits, and "recycled" bonds which provide a tax exempt rate for the middle and market rate units but do not support tax credits. In addition to providing the tax-exempt financing (credit enhanced by a long-term credit enhancer) to fund the first mortgages of developments financed under the initiative, HDC will provide, through New HOP, \$65,000 to \$85,000 per unit as a second mortgage at 1% for the low and middle-income units in the development. The HDC second mortgage is subordinate to the credit-enhanced first mortgage. The second mortgage is amortized with a minimum of a 2% constant, though preference is be given to projects that permit full amortization of HDC subordinate financing. Again, the second mortgage is capped at \$15 million dollars per project.

Property Tax Exemption/Abatements

Under these program types the developer or owner has the benefit of a reduction in property tax liability in exchange for providing some form of reduced housing expense at their property. Property tax liability reduction programs can take many forms.

Seattle Multifamily Property Tax Exemption Program (MFTE)

Seattle offers a tax exemption on the residential improvements on multifamily projects in exchange for setting aside 20% of the units for moderate-wage workers. Once construction is completed, the property owner will only pay taxes on the pre-construction value of the property for a minimum of 12 years.

For rental projects; the tax exemption is available for all units, and A minimum of 20% of the units must be rented to households with incomes:

- At below 65% of median for studio units
- At below 75% of median for 1-bedroom units
- At below 85% of median for 2-bedroom and larger units

For homeownership projects; the tax exemption is available only for those units occupied by income-eligible households. The units must be sold to households with income at time of purchase that does not exceed:

- 100% of median income for studio and 1-bedroom units
- 120% of median income for 2-bedroom and larger units

Tax Exemptions in New York City: 421a Tax Exemption Program

The 421a Program sets out to promote Multi-Family Residential construction. While this is not a strategy that always targets the income cohort that is the focus of this thesis, it generally promotes housing construction, and as we will see in section 3, increases the feasibility for workforce housing projects. It provides a declining property tax exemption based on the new value created. The program is administered by the NYC Department of Housing Preservation and Development (HPD) and the Department of Finance. The 421a Property Tax Exemption Program was initially established in the 1970s, when New York City officials were concerned that residential construction was dropping as many residents moved to the suburbs (see chart below). The City decided to give property tax breaks to any newly constructed housing development. In the 1980s, as housing rebounded a bit in Manhattan, the City designated an “exclusion zone” in Manhattan, roughly between 14th and 96th Streets. Developers building in this area are only eligible for a tax exemption if they construct affordable units either on-site

(usually with 20% of units set aside for low-income households) or off-site (by purchasing “certificates” that are used to create affordable housing elsewhere in the city).

A 421-A exemption is available for new housing developments with three or more units, located on sites that were vacant, underutilized, or had a “nonconforming” zoning use. Under the program, owners are exempt from paying the increase in property taxes that result from the new construction. For example, if the vacant land was valued at \$1 million and the new property is worth \$10 million after construction, the property owner will not be taxed for the \$9 million increase in value for the duration of the exemption period.

The following chart, taken from a study by the Pratt Center for Community Development, shows the types of exemptions that exist within and outside of the exclusion area:

Manhattan, roughly 14 – 96th St	Rest of Manhattan below 110th	Outer Boroughs/Above 110th St
<p>10 year exemption: Off-site affordable certificates</p> <p>Developers purchase certificates from low-income housing developer creating affordable housing anywhere in the city. Certificates have generally sold for \$12,000 - \$15,000 each; each provides a 10-year exemption for a market-rate unit (as described in the adjacent box). Affordable developers receive 4 or 5 certificates for each affordable unit they build.</p>	<p>10 year exemption: As-of-right for market-rate</p> <p>Buildings are eligible for a 10-year exemption from property taxes, with no affordability requirement. Two years of full exemption, then two years of 80% tax exemption, then two years of 60% tax exemption...and so on.</p>	<p>15 year exemption: As-of-right for market-rate</p> <p>Buildings are eligible for a 15-year exemption from property taxes, with no affordability requirement. The first 11 years are fully-exempt, year 12 is 80% exempt, year 13 is 60% exempt ...and so on.</p> <p>(NOTE: Not available on Greenpoint-Williamsburg waterfront).</p>
<p>20 year exemption: 20% affordable on-site</p> <p>Developers who set aside 20% of their units, on-site, for low-income households (below 80% AMI) receive a 20-year exemption. Most of these are 80/20s, also subsidized with tax-exempt bonds and low-income housing tax credits. These projects are fully exempt for 12 years, then 2 years 80% exempt, 2 years 60% exempt, etc.</p>	<p>20 year exemption: 5% affordable for middle-inc</p> <p>Buildings are also eligible for a 20 year exemption if they receive substantial government assistance. This gives a 20 year exemption to building receiving Liberty Bond financing, even though they are only required to make 5% of the units affordable to middle-income families.</p>	<p>25 year exemption: 20% affordable or special area</p> <p>Buildings are eligible for a 25-year exemption (21 years of full exemption, then 1 at 80%, 1 at 60%), if they:</p> <ul style="list-style-type: none"> ◦ Set aside 20% of units for low-income households, or ◦ Receive substantial government assistance, or ◦ Are located in “Neighborhood Preservation Areas,” which are spotted throughout all boroughs (e.g. Corona, Jackson Heights)

Source: Habitat NYC/Pratt Center 421-A study, 2004

Expedited Review

Several Jurisdictions across the country have implemented programs that fast track the entitlement process and subsidize review and impact fees in exchange for the production of housing affordable to both low income and workforce households. As discussed earlier, the entitlement process can be long and costly and often the process alone can inhibit projects from being executed. This type of program aims to provide developers with a fast and clear process to project execution, often considered invaluable.

S.M.A.R.T. Austin, Texas

As discussed in the previous section, the process which developers have to go through in order to obtain approvals for housing projects in New York (and many other locations across the country) can be quite daunting and costly. The city of Austin, Texas has adopted a strategy that allows for expedited review along with a partial or entire waiver of development and impact fees if developers commit a portion of units to be affordable to low to moderate income and/or workforce households. Not only do developers save time and headache but they save carry costs and entitlement risk. The Workforce housing program only applies to downtown Austin's CDB and Downtown mixed use areas and grants the fee waivers and expedited review process if the development contributes a portion of units to families earning up to 120% of Median Family Income. In areas outside of the CBDs, the program is geared towards low income families earning below 80% of MFI.

Since the inception of the program nearly 4,000 units that meet the S.M.A.R.T. standards have been developed in Austin. According to a ULI Publication titled *Workforce Housing: Innovative Strategies and Best Practices*, a review of the program has revealed that the fee waivers and expedited review end up paying for themselves. Since projects are completed more quickly, units get into the tax base faster and associated revenues with the city owned utilities received sooner than projects forced to use the typical review process.

Expedited Review in New York

There is no program like this currently in New York, although it should be considered in New York City policy. A policy that expedites approvals and permits for housing projects that target middle income housing, would certainly remove a significant bottleneck in middle income housing development in New York. However, the financing gap in New York City is so great that a program like this, or any other along, is unlikely to produce immediate benefits on its own.

A note on Mitchell Lama, an outgoing policy program in New York City

Mitchell Lama is a program of tax breaks, low interest mortgages and other subsidies for owners and developers who agree to certain restrictions for their homes. Mitchell-Lama was started in 1955 and generally targets moderate and middle income families. Generally Mitchell-Lama developments were structured so that a landlord could only charge rents equal to operating expenses plus some set rate of return. To qualify, families could earn up to 7 times the annual rent. Each building has a separate waiting list, some of which are so long they are now closed.

The Mitchell-Lama program facilitated the construction of nearly 142,000 units of affordable housing in New York City. Owners were required by law to keep rents affordable in exchange for low-interest mortgage loans and real property tax exemptions.

Table: Total Number of Mitchell Lama Units Created in Each Borough

Borough	Rentals	Co-ops	Total
Bronx	21,755	22,732	44,487
Brooklyn	18,044	16,391	34,435
Manhattan	25,219	15,876	41,095
Queens	8,176	12,816	20,992
Staten Island	988	0	988
NYC Total	74,182	67,815	141,997

Sources: Division of Housing and Community Renewal (DHCR) and NYC Comptroller's Office

The Mitchell-Lama program did not ensure permanent affordable housing. After twenty years from the original occupancy date, owners of the developments were allowed to buy out and leave the program. Buildings are generally covered for 20-30 years. Once coverage expires buildings can be removed from restraints. If they were built before 1974 then they go into the rent stabilization program. No new buildings are being constructed with Mitchell Lama and thousands of units leave the program every year.

CHAPTER 4: Case Study: 22 Caton Place Brooklyn, NY

22 Caton Place Brooklyn, NY

Context

The Neighborhood

22 Caton is located in the Windsor Terrace neighborhood of Brooklyn near the border of Prospect Park South and Kensington to the Southeast. The site is two blocks from the Fort Hamilton Subway and just two blocks from Prospect Park.

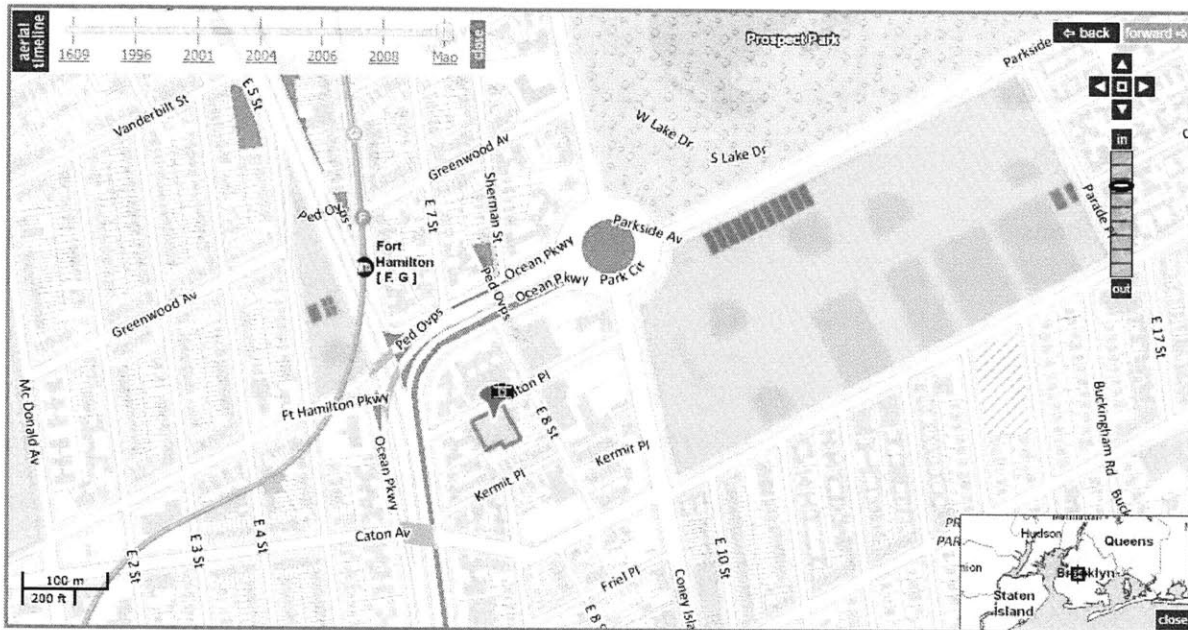
Windsor Terrace is a quiet neighborhood of tree-lined, almost-suburban streets. Historic two- and three-story row houses, many with original details, mid-rise apartment buildings and a number of newly-built luxury condos characterize the housing stock. The neighborhood's population includes longtime residents as well as newcomers from nearby Park Slope and Prospect Heights.

Though the area is relatively quiet, the strip along Prospect Park West offers a number of shops, restaurants and cafes. Windsor Terrace residents enjoy direct access to the park without the high prices and urban crowding of other park-side neighborhoods. The popular—and expensive—shopping- and restaurant-filled neighborhood of Park Slope lies just to the north. The vast green spaces of Prospect Park abuts neighborhood just to the east. The 585-acre Frederick Law Olmstead-designed park is home to green lawns, lakes, a tennis center and other recreation opportunities. The landmarked Green-Wood cemetery with its wildlife and landscaped park land—lies just to the west.

Within Brooklyn Community District 7, the neighborhood is largely in the shadow of its neighbor on the east side of Greenwood Cemetery, Sunset Park. Windsor Terrace/Kensington has an average household income of \$54,709 and a MFI of \$43,407.

The Site

The Site is in the middle of a largely residential block between 8th street and the prospect park expressway. There is a stalled residential construction project across the street. The site is 20,625 feet in area and is 150' x 125 feet. The site is currently vacant.



Source: NYC Oasis Portal

The Building

The proposal is a 6 story, 70' wide double loaded corridor set along Caton Place running the length of the site with a 7th story penthouse level set back at the top with parking located at both the rear of the building and underground.

Zoning & Entitlements

The site is zoned R7B which allows for mid rise residential development and contextually seeks to provide for 6-7 story apartment buildings. The maximum Floor to Area (FAR) ratio is 3 and with a base height limit of 60 feet and a maximum building height of 75 feet. Onsite parking is required for 50% of dwelling units in this district.

Assessing the Impact of Workforce Housing Strategies

We will now turn to an analysis designed to test the effectiveness of various Workforce Housing development strategies already discussed. First, we look at the base case scenario and assumptions for key parameters in determining the feasibility of a proposed development without assumptions. Then the thesis will present a series of scenario analyses that test the effectiveness of the three strategies available in New York, including: inclusionary zoning density bonuses, government subsidized debt financing (New HOP/Mixed Income) and tax exemptions.

Assumptions

Land Value

The base case scenario analysis assumes a land value of \$50 per FAR Square Foot (FAR), of per square foot of gross building area. This assumption is derived from market expectations regarding the current climate for acquisition prices in this neighborhood in Brooklyn and the actual, recent purchase price paid for the property.

Unit Mix/Sizes

The unit mix is derived from the market and what is believed to be an optimal mix of units based on the demand for workforce housing in Brooklyn.

Multifamily	# Units	Square Feet
Studio (1 Person)	14	500
1BR (1.5 Persons)	32	700
2BR (3 persons)	18	900
3BR (4.5 Persons)	7	1,200
Total	70	53,200
Averages		760

Household Multipliers (# of persons per household per unit)

In order to determine the maximum rent that can be charged per unit, we must adapt the Median Family Income for the number of households most likely to live in each unit. Based on standards used by the New York Department of Housing and Preservation Guidelines, the Median Family Income based on a four person household is modified for each unit type to include the number of persons in the household as outlined below:

Household Factors	
Studio	0.60
1 BR	0.75
2 BR	0.90
3 BR	1.04
Average HH	2.08

For example, since the Median Family Income is \$81,800 for a family of four, a studio designed for one person will have a maximum rent based on an income of \$57,260. Given the average household is 2.075 people for our given unit mix, the 2011 average household income will be \$66,053.

Unit Pricing

Pricing is derived by the following equation:

$$\text{Maximum Income} \times 35\% / 12 - \text{Operating Expenses} = \text{Maximum Rent}$$

Operating Expenses

The following operating expenses have been derived through discussions with market participants and through the study of a comparable product.

	Proforma	Pro Forma Per Unit	Pro Forma Per SF
Operating Expenses			
Administration/Misc	\$ 77,000	\$ 1,100	\$ 1.45
Advertising	\$ 10,000	\$ 143	\$ 0.19
Utilities (electricity/gas/water&sewer)	\$ 84,000	\$ 1,200	\$ 1.58
Building Maintenance	\$ 35,000	\$ 500	\$ 0.66
Grounds Maintenance	\$ 14,000	\$ 200	\$ 0.26
Payroll	\$ 98,000	\$ 1,400	\$ 1.84
Management Fee	\$ 51,967	\$ 742	\$ 0.98
Insurance	\$ 30,000	\$ 429	\$ 0.56
Property Taxes	\$ 1,170,000	\$ 16,714	\$ 21.99
Total Replacement Reserve	\$ 21,000	\$ 300	\$ 0.39
TOTAL EXPENSES AND RESERVE	\$ 1,590,967	\$ 22,728	\$ 29.91

*Note the budget above does not utilize the 421-A tax exemption which allows the property to phase in property taxes after a 15-25 year period of not paying taxes on the increased building value.

Absorption and Occupancy

Discussions with industry participants yield that an average time of less than two weeks on the market for vacant units in existing buildings and an absorption of more than 25 units a month for new buildings. Based on the market as well as perceived demand for the workforce housing product in Brooklyn, we will estimate a conservative lease up schedule of 6 months to allow time for additional construction and other delays.

Hard Costs

Construction costs have been derived by a comparative method of estimating based on recently bid construction projects of similar construction type and method and through conversations with market participants. We are using a \$185 per gross square foot (including garage SF) estimate for structure and interior costs, a market general contractor fee and general conditions.

Soft Costs

All soft cost estimates are standard market estimates for similar projects in New York

Financing Costs

Financing Costs are based on discussions with capital markets experts in New York. Construction Interest and lease up reserve are calculated using a 6.5% annual interest rate based on current Freddie Mac mortgage rates, a max LTV of 75%, a 1.20 debt service coverage limit, an 18 month construction timeline and a 6 month absorption schedule.

The paper uses a 9% initial cash return on equity as a benchmark for determining developer profit.

Total Development Costs (TDC)

DEVELOPMENT COSTS				Per Unit	Per FAR SF
LAND		\$ 3,000,000		\$ 42,857	\$ 48.48
Direct Hard Costs		\$ 15,146,875		\$ 216,384	\$ 244.80
General Requirements and fee		\$ 1,060,281		\$ 15,147	\$ 17.14
HARD COSTS		\$ 16,207,156		\$ 231,531	\$ 261.93
Soft Costs					
Architecture & Engineering	6.5%	\$ 1,053,465		\$ 15,050	\$ 17.03
Permits & Fees	1%	\$ 162,072		\$ 2,315	\$ 2.62
Geotech		\$ 15,000		\$ 214	\$ 0.24
Environmental		\$ 20,000		\$ 286	\$ 0.32
Market Studies & Appraisal		\$ 7,500		\$ 107	\$ 0.12
Marketing & Lease up		\$ 30,000		\$ 429	\$ 0.48
Bonding	1%	\$ 162,072		\$ 2,315	\$ 2.62
Title & Recording		\$ 25,000		\$ 357	\$ 0.40
Property Taxes During Construction		\$ 110,000		\$ 1,571	\$ 1.78
Legal & Organizational		\$ 150,000		\$ 2,143	\$ 2.42
FF&E		\$ 50,000		\$ 714	\$ 0.81
Testing & Inspections		\$ 25,000		\$ 357	\$ 0.40
Insurance		\$ 75,000		\$ 1,071	\$ 1.21
Utility Fees		\$ 50,000		\$ 714	\$ 0.81
Accounting		\$ 20,000		\$ 286	\$ 0.32
Survey		\$ 10,000		\$ 143	\$ 0.16
General Soft Costs		\$ 1,965,108		\$ 28,073	\$ 31.76
Construction Loan Interest		\$ 567,250		\$ 8,104	\$ 9.17
Operating/Lease up Reserve		\$ 141,813		\$ 2,026	\$ 2.29
Origination - Construction	0.75%	\$ 91,165		\$ 1,302	\$ 1.47
Origination - Perm	0.50%	\$ 60,777		\$ 868	\$ 0.98
Fees		\$ 30,000		\$ 429	\$ 0.48
Financing Costs		\$ 891,005		\$ 12,729	\$ 14.40
Developer Overhead and Fees	10%	\$ 1,906,327		\$ 27,233	\$ 30.81
SOFT COSTS		\$ 4,762,440		\$ 68,035	\$ 76.97
TOTAL DEVELOPMENT COSTS		\$ 23,969,597		\$ 342,423	\$ 450.56

Financial Analysis

The Following exhibit shows the analysis of several scenarios using the different strategies discussed so far. The scenarios are as follows:

FEASIBILITY EXHIBIT	Variations from the base					CUMULATIVE	CUMULATIVE
	Base Case	421 A Exemption	(80/20)	Inclusionary	NewHOP	(New HOP, 421a, inclusionary)	((80/20), 421a, inclusionary))
FAR SF	\$ 61,875	\$ 61,875	\$ 61,875	\$ 82,500	\$ 61,875	\$ 82,500	\$ 82,500
Net SF	\$ 53,200	\$ 53,200	\$ 53,200	\$ 71,440	\$ 53,200	\$ 71,440	\$ 71,440
#/Units	\$ 70	\$ 70	\$ 70	\$ 94	\$ 70	\$ 94	\$ 94
Avg Unit size	\$ 760	\$ 760	\$ 760	\$ 760	\$ 760	\$ 760	\$ 760
Avg Household Size	\$ 2	\$ 2	\$ 2	\$ 2	\$ 2	\$ 2	\$ 2
2011 MFI for average HH size	\$ 66,054	\$ 66,053.50	\$ 66,053.50	\$ 66,053.50	\$ 66,053.50	\$ 66,053.50	\$ 66,053.50
Uses							
Acquisition	\$ 3,000,000	\$ 3,000,000	\$ 3,000,000	\$ 3,000,000	\$ 3,000,000	\$ 3,000,000	\$ 3,000,000
Hard Costs	\$ 16,207,156	\$ 16,207,156	\$ 16,207,156	\$ 21,279,625	\$ 16,207,156	\$ 21,279,625	\$ 21,279,625
Soft Costs	\$ 1,965,108	\$ 1,965,108	\$ 1,965,108	\$ 2,396,268	\$ 1,965,108	\$ 2,396,268	\$ 2,396,268
Financing Costs	\$ 950,094	\$ 950,094	\$ 984,872	\$ 1,238,062	\$ 1,100,685	\$ 1,355,987	\$ 1,203,926
Developer Fee/Overhead	\$ 1,912,236	\$ 1,912,236	\$ 1,915,714	\$ 2,491,396	\$ 1,927,295	\$ 2,503,188	\$ 2,487,982
Total Development Costs	\$ 24,034,594	\$ 24,034,594	\$ 24,072,850	\$ 30,405,351	\$ 24,200,245	\$ 30,535,068	\$ 30,367,801
Sources							
Construction Loan	\$ 18,025,946	\$ 18,025,946	\$ 18,859,940	\$ 22,804,013	\$ 18,150,184	\$ 22,901,301	\$ 22,775,851
Required Equity	\$ 6,008,649	\$ 6,008,649	\$ 4,156,374	\$ 7,601,338	\$ 2,900,061	\$ 3,403,767	\$ 6,377,377
NewHOP Second	\$ -	\$ -	\$ -	\$ -	\$ 3,150,000	\$ 4,230,000	\$ -
Tax Credits	\$ -	\$ -	\$ 1,056,535	\$ -	\$ -	\$ -	\$ 1,214,573
		\$ -					
Annual Debt Service	\$ 1,367,235	\$ 1,367,235	\$ 1,397,906	\$ 1,729,642	\$ 1,518,773	\$ 1,918,891	\$ 1,688,154
Required Return on Equity	\$ 540,778	\$ 540,778	\$ 374,074	\$ 684,120	\$ -	\$ 306,339	\$ 573,964
Annual Cost of Capital	\$ 1,908,013	\$ 1,908,013	\$ 1,771,979	\$ 2,413,763	\$ 1,779,778	\$ 2,225,230	\$ 2,262,118
Affordability Requirement Adjustment			\$ (220,671)	\$ (141,110)		\$ (141,110)	\$ (246,942)
Operating Expenses	\$ (399,967)	\$ (399,967)	\$ (409,424)	\$ (480,039)	\$ (409,424)	\$ (480,039)	\$ (480,039)
Property Taxes	\$ (1,170,000)	\$ (38,400)	\$ (38,400)	\$ (1,579,500)	\$ (1,170,000)	\$ (38,000)	\$ (38,000)
Replacement Reserves	\$ (21,000)	\$ (21,000)	\$ (21,000)	\$ (28,200)	\$ (21,000)	\$ (28,200)	\$ (28,200)
Parking/Storage/Other Income	\$ 156,000	\$ 156,000	\$ 156,000	\$ 198,000	\$ 156,000	\$ 198,000	\$ 198,000
		\$ -					
Total Income Required	\$ 3,342,980	\$ 2,211,380	\$ 2,305,475	\$ 4,444,612	\$ 3,224,202	\$ 2,714,579	\$ 2,857,299
NOI/SF	\$ 5.24	\$ 3.46	\$ 3.61	\$ 5.18	\$ 5.05	\$ 3.17	\$ 3.33
Corresponding HH Income	\$ 136,448	\$ 90,260	\$ 94,101	\$ 135,095	\$ 131,600	\$ 82,510	\$ 86,848
% MFI	207%	137%	142%	205%	199%	125%	131%
Resulting NOI	\$ 1,908,013	\$ 1,908,013	\$ 1,771,979	\$ 2,413,763	\$ 1,779,778	\$ 2,225,230	\$ 2,262,118

Base Case

This section sets out to show what rents an as of right development on this site will need to achieve and the corresponding income that needs to be earned. It is important to note that 22 Caton Place is located outside of the “exclusion zones” as outlined in the section discussing 421-A tax exemptions above. Essentially, this means that the property is eligible for a 15 year property tax exemption as a “matter of right”, or automatically. However, in order to show the results of the tax exemption and each other strategy aimed at lowering the affordability of housing for the workforce, the base case scenario here uses the full tax liability of the property. Without any subsidy the average rent necessary to support the development of 22 Caton Street is \$5.24 per square foot per year, corresponding to an annual income that is 207% of MFI.

421-A Tax Exemption

This scenario only varies from the base in that it incorporates the fact that the site is eligible for an exemption from increased real estate assessment, and that the owner of the completed project will only be liable for taxes due as if the property were still vacant. This reduces the tax liability from approximately \$1,170,000 to \$38,000 per year or less than 2%. The average apartment building in New York City that is not receiving an exemption pays more than 42% of its income to taxes (Stanlon and Cohen, 2009). The tax exemption has a drastic effect on affordability and results in a rent level of \$3.46 per square foot corresponding to an income of 137% of MFI.

(80/20) financing and 421a tax exemption

If the project were located a few blocks to the north, in South Park Slope, it wouldn't be eligible for a tax exemption as a matter of right and would have to provide 20% of its units as affordable to low to moderate income households in order to receive the tax exemption. This applies to many more established areas in the outer boroughs and most of Manhattan below 110th street. Therefore, it is necessary to show the cumulative effects of this type of project. Further, these projects tend to take advantage of other housing programs that become available to them now that they have achieved this level of affordability, such as the 80/20

bond financing and the 4% LIHTC. This scenario has several key assumptions and changes from the base case.

- **Debt:** This project is eligible for tax exempt bond financing from New York State. This rate is currently estimated at 6.28%. It is important to note that this type of debt financing is non-recourse and that market debt financing for construction in today's market typically carries with it at least some recourse and often full recourse. The origination fee will increase from .75% to 1.25%.
- **Affordability:** This program requires 20% of units to be set aside at 80% of MFI or less. The resulting loss of income is estimated at \$220,671
- **Tax Credits:** This project is now eligible for the 4% Low Income Housing Tax Credits. These credits are calculated as annual benefits for 10 years. Eligible Hard and Soft costs are multiplied by the adjusted rate of 3.42% (NYHPD) to determine the annual tax break. The amount of costs that are eligible is the percentage of costs that are allocated to affordable units, so in our case this will amount to 20% of costs. This amount is multiplied by 10 years and then by the value at which the tax credits can be sold on the market. For example, in a great market for tax credits, a developer may receive par value for his credits, or \$1 for \$1. Today, the market is closer to .85 per \$1 according to New York City Housing officials. So for our project we take our eligible costs x 3.42% x 10 x .85 = Tax Credit Proceeds.

$$\$3,634,453 \times 3.42\% \times 10 \times .85 = \mathbf{\$1,056,535}$$

The changes in the capital structure above result in a required average rent per square foot of \$3.61 per month. This is affordable to a household earning \$94,101 or a household earning at 142% of MFI. You can see here the combined benefits of the tax credits and the property tax abatement. While neither of these programs target workforce housing, the project is able to achieve a lower, yet still very high, overall affordability through the subsidies provided here.

Inclusionary Zoning

This scenario will show the implications of New York's inclusionary zoning program on the costs and rewards associated with a bigger building.

There are several changes to the project that occur under the inclusionary zoning program. **Building Size:** The density bonus allows us to increase the size of the building by 33%. The size of the building will increase from 81,875 Gross SF to 107,500. This is the result of an increase in 23 units as well as 12 additional underground parking spaces.

- **Construction:** These increases in building size result in a \$5,072,469 increase in direct hard costs associated with the project. This increase in construction will increase the height of the building from 7 to 10 stories but will not change the type of construction. Block and Plank construction can be used for up to 10-11 stories. In the event that the project would have switched construction types to concrete and steel, the analysis would have need to show a increase in the unit cost of construction to show the variation.
- **Operating Costs:** The increase from 70 to 94 units is a change in which we will see marginal efficiencies and a slightly lower cost per SF.
- **Soft Costs:** These costs will increase as fees for impact, design and development increase along with the size of the building. We see an increase of \$431,160 on a nominal basis but actually experience a small decrease in the cost per unit as we achieve marginal efficiencies here as well (\$500/unit).
- **Income:** the income of the project will be reduced by the fact that 20% of the units are required to be affordable to households earning below 80% of MFI. This project is located outside of the designated inclusionary housing areas which means that it gets a 33% bonus on the R7B area's full FAR. If it were located within a designated area it may receive less of a bonus. The lost income is estimated at a reduction in income of \$141,120.

The Inclusionary Zoning program results in a very slight reduction in the rent level needed to support development. The required rent in order to support the development costs in this scenario is \$5.18 per square foot per month. The corresponding income level is \$134,610 or a staggering 205% of MFI. The increase in income resulting from the increase in units is offset by the increase in building costs, the large increase in property taxes and the reduction in income for the 20% of units priced affordable to low to moderate income households.

New HOP

This scenario will show the effect of the New Housing Opportunities Program on the affordability of the project.

Under the New Housing Opportunities Fund, as seen in section three of this thesis, developments can receive a first mortgage funded through the proceeds or the sale of taxable bonds and a second mortgage provided through Housing Preservation and Development's corporate reserves. The bonds are sold on the open market by agency hired brokers. Current Taxable bond rates are approximately 7.26%.

The second mortgage is financed at a 1% interest rate with a minimum payment of at least interest only. Because this project is going to be targeted towards households with income greater than 80% of MFI, the project is eligible for the smallest second mortgage of \$45,000/ per unit totaling \$3,195,000. This relieved a significant amount of pressure on the required equity as seen below.

The full benefits of the low cost second mortgage are partially offset by the increase in the cost of the debt financing using the taxable bonds. The higher rate results in a lower loan to cost and therefore a larger equity requirement which is only partially offset by the subsidized second mortgage.

The New Housing Opportunity Fund results in a slightly lower affordability rent level of \$5.05 per square foot per month corresponding to an income of \$131,600 or 199% of median income.

Cumulative Strategies

The last strategies that this model will test will combine the applicable strategies to see the lowest level of affordability achievable using current products currently available in New York City. The first scenario is an “as of right” scenario for the proposed development in Brooklyn and uses the inclusionary housing density bonus, New HOP taxable bond debt financing for the first mortgage and the program’s subsidized second mortgage along with the 421-A Tax exemption that comes as a matter of right for 22 Caton Place.

The result is a rent level of \$3.17 per square foot at an income level of \$82,510 or 125% of Median Family Income. The largest portion of this increase in affordability is a result of the 421-A Tax exemption. The benefits of New HOP are enhanced further by the use of the density bonus and the increased limit of the New HOP second mortgage that is allowed from the increased number of units. The Inclusionary zoning benefits the project more in this scenario as when tested alone because the 421-A exemption nullifies the hefty increased tax bill. Taken together these policies do in fact increase the affordability of the project significantly. However, households earning the median income are still priced out of this project.

The second cumulative strategy shows what rents a project located in one of the exclusion zones would need to support development. This strategy would use 80/20 tax exempt bond financing, LIHTCs and the 421-A exemption. The result is an average rent level \$3.33 corresponding to an income of 131% of MFI. This analysis allows us to show the benefit of being located outside of the exclusion zones. Sites that have to provide 20% of their units as affordable to households earning the median income benefit from the LIHTC they receive and the lower rate of the tax exempt bond financing but are unable to receive the new HOP second mortgage so end up needing a larger amount of equity resulting in higher rents.

CHAPTER 5: Conclusions

Summary and recommendations

This thesis identifies several strategies, found both nationally and in New York City, and then assesses the effects that they have on the overall affordability of rental housing. The preceding analysis attempts to determine the effectiveness of various policy strategies aimed at incentivizing the affordability of rental apartments in New York City. New York City currently employs three of four of the main types of strategies taken nationally including inclusionary zoning, tax exemptions and subsidized debt financing. When all strategies are taken cumulatively, rents required to support the production of housing in New York City for our example project were reduced from \$5.24 to \$3.17 per square foot. Without any subsidy, only households earning more than 207% of Median Family Income could afford to rent at the proposed development. By employing all of the available strategies, households earning 125% of Median Income could now afford to rent at the project. While this is a vast improvement over the “base case” scenario, the rents still price out many hard working middle income families. What more can be done?

There are two strategies that we see could further improve the affordability at the proposed development. One involves relief from parking requirements and the other an expedited approvals process.

Parking Relief

New York City could remove parking obligations for projects aimed at low income and workforce households, especially at sites near transit centers, which would result in substantial reductions in costs and construction time. This type of savings could easily be passed through to buyers and renters.

If no parking were required as under code at 22 Caton Place, construction costs could be reduced by approximately \$50,000 per parking space or \$2,400,000. Construction timing could also be reduced by up to 5 months resulting in almost \$200,000 in construction interest savings. However, not all of these cost savings are passed directly down to buyers and renters. Not

providing parking spaces means foregoing income from those spaces at \$250 per month per space, or losing out on 144,000 of annual rental income. When the analysis is performed on our “Cumulative as of right” strategy for 22 Caton Place, the overall result is still a net savings that results in a required rental income of \$2.97 per square foot or a rental income of \$77,334, 117% of MFI.

Not all of the benefits and risks of reducing the number of, or not providing any, spaces are easily quantifiable. The processes of excavation, underpinning, sheeting and shoring are often some of the most time consuming aspects of construction. They also tend to carry the most risk, as it is very hard to tell what might be uncovered beneath the surface of the earth during excavation, including environmental contamination, hard to excavate materials like rock as well as structural stability issues. These risks are hard to quantify, but eliminating does remove a certain level of complexity from a project which is valuable to most developers and jurisdictions.

Just as it is hard to quantify the benefits discussed above, it is also hard to quantify if less parking would impact the marketability of the apartments. Industry participants generally respond that there would not be any reduction in the attractiveness of units, especially with good proximity to transit and the fact that there is such strong demand from workforce households that would jump at the opportunity live in such a project. To relieve some of the concerns of those in the government or potential renters who may be skeptical of the parking reduction, developers must pitch their project’s proximity to transit, the ever growing traffic problem in New York City and their willingness to participate in a car sharing program like “Zip Car”. A developer could either build a few spaces below grade on site or purchase some parking spaces nearby dedicated to car sharing for each resident’s use.

Finally, neighbors and existing residents are likely to be concerned with regulations reducing or waiving parking requirements due to their impact on street parking. Existing residents usually demand sufficient parking for new projects as to not further complicate their lives with competition for street parking. These concerns could be partially offset with regulations that limit the number of local permits issued.

Expedited Entitlements

An expedited review process for workforce housing projects with reduced or eliminated entitlement and permit fees should be implemented in New York City. The S.M.A.R.T program in Austin, Texas is a great example of the success a program like this can have.

Fees for reviewing plans and issuing building permits in New York can total several hundred thousand or more dollars depending on a buildings size. The cost of carrying land during a time consuming review process can also total several hundred thousand dollars. While this is a significant cost, it is not likely to have a large impact on affordability as it only represents a small percentage of total project costs, but it could have other benefits. An expedited review process will result in more projects moving forward in less time and more units coming onto the market resulting in reduced demand pressure. The best means for reducing the cost of housing is to increase supply. To streamline the process by which developments can move forward seems like a low cost means of increasing supply.

On a larger scale effort, we have seen that the main strategies that are often the most costly to tax payers were not overly effective. What we saw from the analysis was that programs other than the tax abatement did not have a dramatic effect on the minimum affordability levels.. Each program typically involves a tradeoff between the municipality and the developer, such as a subsidized second mortgage in exchange for workforce housing as in the New HOP program. The analysis shows that in most cases the cost of the tradeoff, such as the more expensive taxable bonds used in a New HOP first mortgage, somewhat offset the benefits of what is received.

However, a guaranteed or subsidized mortgage program like New HOP is effective on several levels, other than the value of the subsidized second mortgage. Non-recourse financing is very attractive to developers and provides a significant incentive due to the inherent risk reduction. As in Santa Clara County, New York might pursue a private funding strategy in which firms from New York City contribute to a trust which helps provide low cost loans to developers. Firms in New York City are at risk of losing employees to the high cost of living and would be motivated

to participate. The City could also direct tax revenue to subsidizing the cost of the first mortgage to a lower rate.

The combination of the benefits from reduced parking obligations, an expedited entitlement process, and reduced zoning and permit fees paired further subsidized could bring affordability levels down to the point that the average apartment is affordable to the Median Income for our sample project in Brooklyn. While this is certainly a step in the right direction, New York should carefully pursue more aggressive rezoning strategies near transportation nodes that will increase density for residential uses while preserving the character of the neighborhood and protecting the stakeholders. Overall increased residential density combined with the use of existing strategies and the new elements suggested here could bring New York closer to the goal of affordability to the average worker.

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