

RESEARCH BRIEF | MAY 2015

Building New or Preserving the Old?

The Affordable Housing Tradeoffs of Developing on NYCHA Land

With around 178,000 apartments in 328 developments, the New York City Housing Authority (NYCHA) is the nation's largest provider of public housing and the city's single largest provider of affordable housing.¹ While public housing in New York City has proven to be more successful than public housing in many other large cities, the Authority faces financial shortfalls that threaten its long-term ability to provide quality public housing for the more than 400,000 New Yorkers who call it home.² About 80 percent of NYCHA's 2,500 buildings are 40 or more years old and the Authority has over \$16 billion in unfunded capital needs.³ Yet, grants from the federal Public Housing Capital Fund, NYCHA's largest source of support for capital needs, have fallen—decreasing by 36 percent between 2001 and 2014, from \$420 million to \$296 million.⁴

1 Mayor's Office of Operations. (n.d.). Preliminary Mayor's Management Report. Retrieved from http://www.nyc.gov/html/ops/downloads/pdf/pmmr2015/2015_pmmr.pdf

2 New York City Housing Authority. (n.d.). Fact Sheet - New York City Housing Authority. Retrieved February 18, 2015, from <http://www.nyc.gov/html/nycha/html/about/factsheet.shtml>

3 Olatoye, S. (2015, March 26). Testimony from NYCHA Chair & CEO Shola Olatoye. Retrieved from <http://www.nyc.gov/html/nycha/downloads/pdf/preliminary-budget-testimony-20150326.pdf>

4 New York City Housing Authority. (2014, December 22). Capital Plan Calendar Years 2015-2019. Retrieved from <http://www.nyc.gov/html/nycha/downloads/pdf/2015-2019-5-year-capital-plan.pdf>



At the same time, the city faces a shortage of housing affordable to low- and moderate-income households. Many NYCHA developments are zoned for high density residential use and are significantly underbuilt relative to the maximum floor area allowed by the city’s zoning regulations. Consequently, on multiple sites, NYCHA could allow residential development without a zoning change.⁵ In the past, NYCHA, in partnership with the New York City Department of Housing Preservation and Development, has sold and leased land for housing construction to help meet city’s affordable housing needs. The city has a limited number of developable sites, and may again look to NYCHA’s underdeveloped land for new affordable housing development.⁶ Yet, if NYCHA sells or leases land at below fair market value for new construction, the Authority would be giving up an opportunity to obtain revenue to use for the rehabilitation of its existing stock.

In 2013, NYCHA proposed the *Land Lease Initiative* in response to its growing financial shortfalls. NYCHA planned to lease land for private development on 14 specific parcels in Manhattan where the rental income from mixed-income housing would exceed what would be required to cover the cost of development and operation. The goal of the initiative was to generate revenue to address NYCHA’s financial needs while also creating some new units affordable to low-income households (20 percent of total units).⁷

⁵ There are also NYCHA sites where additional development capacity exists, but other zoning rules prohibit building absent the removal of existing NYCHA structures. For instance, open space ratios (OSR) may require that a large percentage of a zoning lot be kept unbuilt. Additionally, building envelope constraints that regulate the shape of the building may make it difficult, or impossible, to fit unused floor area on a buildable site. On the other hand, if NYCHA land is adjacent to a potential private development site, a zoning lot merger could facilitate the transfer of unused development rights. Where a NYCHA site has unused floor area that it cannot use or transfer to an adjacent lot, a zoning change would be required to facilitate development. For instance, zoning changes could alter the OSR and building envelope constraints.

⁶ While NYCHA is a legally separate entity from the City of New York, its board members are appointed by the mayor.

⁷ New York City Housing Authority. (2013, August 16). Land Lease Initiative Request for Expression Of Interest.

Although the *Land Lease Initiative* sparked controversy and was ultimately withdrawn, it began an important conversation about the tradeoffs faced by NYCHA and the city over how to use the valuable resource of NYCHA’s underdeveloped land.

If NYCHA chooses to lease its underdeveloped land, some argue that it should not accept anything less than fair market value given the agency’s significant financial needs. Others contend that no market-rate housing should be built on public housing authority land given the city’s need for affordable units and the scarcity of available sites for development. Whether NYCHA land should be used to raise revenue, facilitate new affordable housing development, pursue both of these goals, or meet some other objective cannot be answered by financial models alone. Nevertheless, financial analyses can help illuminate some of the tradeoffs involved and how these considerations vary in different market types across the city.⁸ In this brief, we present a series of financial analyses that show the degree to which different strategies for developing NYCHA’s land in areas with relatively high rents could generate lease payments for NYCHA on the one hand, and create many permanently affordable units on the other.⁹ Below, we summarize the key lessons from our financial analyses, which highlight the tradeoffs facing policymakers.¹⁰ In places where rents are not high enough on their own to justify mid-rise or high-rise construction, NYCHA land will not generate a lease payment. But that land

⁸ For our model, we use information we have gathered on rents, construction costs, and operating costs from a range of housing industry experts. More information on our financial analysis can be found in the Furman Center’s *Inclusionary Housing Policy in New York City* White Paper (see: http://furmancenter.org/files/NYU-FurmanCenter_InclusionaryZoningNYC_March2015.pdf).

⁹ In this brief, we focus on leasing land for development of rental units. We do not explore other options available to NYCHA for using its underused land to raise revenue or create affordable units, such as selling the land or leasing it for development of cooperative or condominium apartments.

¹⁰ While NYCHA could sell its land at fair market value or lease or sell it below fair market value to facilitate new affordable housing construction (potentially in combination with other public subsidies), we do not model those scenarios here.



Table 1: Analyzed Project Types

Construction Type	Unit Count	Annual Gross Market Type	Example Market Rent	Neighborhood
High-rise (no parking)	302	Very Strong, inside the GEA ¹⁶	\$80 per rentable sf (1BR: \$4,800/mo)*	Manhattan Core
High-rise (20% parking ratio)	302	Strong, inside the GEA	\$60 per rentable sf (1BR: \$3,500/mo)*	Downtown Brooklyn
Mid-rise (50% parking ratio)	109	Moderate, inside the GEA	\$44 per rentable sf (1BR: \$2,600/mo)*	Astoria

*Approximate monthly rent for one-bedroom apartment of 720 square feet.

can still be used to help the city create subsidized affordable housing by making building sites readily available at low or no cost of land.*

Analysis and Findings

Based on assumptions regarding construction costs,¹¹ operating expenses, and required developer returns,¹² in the subsections below, we explore three approaches, based on distinct policy goals, to leasing NYCHA land for the development of new housing. First, all of the land value could go towards maximizing a ground lease payment to NYCHA by allowing 80 percent of new units to rent at market rate.¹³ The annual ground lease payment reflect the maximum that would still allow

for minimum developer financial return. Second, all of the land value could support creation of new units of affordable housing. Third, NYCHA could pursue a compromise between these first two approaches by generating a long-term ground lease payment while also supporting the creation of new affordable units.

We assess how NYCHA could pursue each of these policy objectives in the three different market types shown in Table 1. For the **very strong market** (\$80/square foot (sf)) and **strong market** (\$60/sf), we model a high-rise building of 250,000 square feet with 302 units.¹⁴ In the **moderate market** (\$44/sf), we model a 90,000 square foot mid-rise building with 109 units.¹⁵ While increasing or decreasing the sizes of our prototype buildings would shift the ground lease or the percent of affordable units that could be cross-subsidized per square foot (due to costs that do not scale), such adjustments would not change the order of magnitude of our findings. Our assumptions and findings are rough approximations and should not be interpreted as true point estimates.

11 For all building types, we estimated soft costs of \$75 per square foot. For a high-rise in our “very strong market,” we estimated hard costs at \$375 per square foot. For a high-rise in our “strong market,” we estimated hard costs at \$310 per square foot and \$200 per square foot for parking. For a mid-rise in our “moderate market,” we estimated \$250 per square foot for non-parking and \$200 per square foot for parking.

12 As further explained in the appendix, we estimate a minimum net operating income yield on development costs would need to be 5.50 percent in the very strong and strong markets and 6.0 percent in the moderate markets. In the NYCHA version of the model, due to use of a ground lease payment rather than an outright sale of the land, we estimate that yields would need to be 25 basis points higher than what was modeled for in the Inclusionary Housing Policy in New York City White Paper (see: http://furmancenter.org/files/NYU-FurmanCenter_InclusionaryZoningNYC_March2015.pdf).

13 While the NYCHA *Land Lease Initiative* would have required 20 percent of units to be affordable to households, on average, with income at 50 percent of AMI (annual income of \$33,600 for family of two in 2014), we model affordable units in this scenario for households with income at 60 percent of AMI (annual income of \$40,320 for family of two in 2014) to mirror the affordability level required when 20 percent of units are affordable to comply with 421-a property tax exemption in the Geographic Exclusion Area (GEA). See: New York City Housing Authority. (2013, August 16). *Land Lease Initiative Request for Expression of Interest*.

*Please note that that this paragraph was updated on May 18, 2015.

14 Building square feet represents total floor area for compliance with zoning. This exceeds the amount of rentable square feet in a building.

15 High-rises and one mid-rise were to be built to similar sizes in NYCHA’s *Land Lease Initiative*.

16 The GEA is the area in Manhattan and certain neighborhoods in the other boroughs where 421-a requires that buildings make a portion of their units (20%) affordable in order to participate in the program.

Table 2: Maximum Ground Lease Payment from 80/20 Development in Different NYC Markets

Market Type	Building Type	Total Units	Market Units	Affordable Units	Annual Ground Lease Payment
Very Strong (rents at \$80/sf)	High-rise	302	242 (80% of total)	60 at 60% of AMI (20% of total)	\$4.21 million
Strong (rents at \$60/sf)	High-rise	302	242 (80% of total)	60 at 60% of AMI (20% of total)	\$2.24 million
Moderate (rents at \$44/sf)	Mid-rise	109	87 (80% of total)	22 at 60% of AMI (20% of total)	\$117,000

Maximizing Ground Lease Payments

We first consider how much revenue NYCHA could raise to meet its financial needs if it sought to maximize ground lease payments within the context of an 80/20 rental building. Eighty percent of the units would rent at market rate while 20 percent of the units would be permanently affordable for households with income at 60 percent of the Area Median Income (AMI). Rents affordable to households with income at 60 percent of AMI, which is the standard required under the 421-a property tax exemption inside the Geographic Exclusion Area (GEA), would be affordable for a two-person household with an income of \$40,320 in 2014.¹⁷

Table 2 shows the capacity for new 80/20 development to generate an annual ground lease payment in different markets and with different building types. In **very strong markets**, with rents at \$80 per rentable square foot, NYCHA could receive an annual lease payment of \$4.21 million each year from a high-rise building with 302 units. This ground lease payment does not include the payment in lieu of taxes that would likely be paid to either NYCHA or the city, which would be equivalent to taxes under 421-a (see discussion of PILOT in Appendix). In **strong markets**,

¹⁷ In the *Land Lease Initiative*, NYCHA required proposed development to be carried out in a manner that would qualify for an as-of-right partial property tax exemption due to the provision of low income housing pursuant to Section 421-a of the Real Property Tax Law. The property would have continued to be owned by NYCHA (and therefore not subject to property taxes), but the developer would have made a PILOT equivalent to either NYCHA or an affiliate. We have similarly modeled development with a PILOT equivalent to property taxes under a 421-a property tax exemption as explained further in the appendix.

with rents at \$60 per rentable square foot, the Authority could obtain a \$2.24 million annual lease payment from a high-rise building. In a **moderate market**, with rents of \$44 per rentable square foot, NYCHA could generate an annual lease payment of \$117,000 from a mid-rise development with 109 units. In neighborhoods where market rents cannot justify even mid-rise construction of an 80/20 development without subsidy,¹⁸ NYCHA would not be able to generate a lease payment.

Maximizing Number of New Affordable Units at Varying Income Levels without Subsidy

Next we consider the approach of using underdeveloped NYCHA land to produce as many new affordable units as possible. With this approach, NYCHA would forego a lease payment and all of the land value would be funneled into the creation of new affordable units on the site.

Of course, NYCHA must determine what household incomes the new affordable units will serve. The depth of affordability chosen will determine how many affordable units can be created on NYCHA land where no other public subsidy is used (e.g., state/city capital or tax credits). In these instances, revenue from market-rate units, above that required for developing and operating those

¹⁸ Our modeling suggests that rents below \$35 per square foot may not provide adequate developer return for new construction of a fully market-rate 90,000 square foot mid-rise building even if there is no land cost and the building pays a PILOT equivalent to taxes under 421-a.

Table 3: Maximum Number of Affordable Units Produced from Development with No Ground Lease

Market Type	Building Type	Total Units	Market Units	Affordable Units	Annual Ground Lease Payment
Very Strong (rents at \$80/sf)	High-rise	302	136 (45% of total)	166 at 60% of AMI (55% of total)	0
Very Strong (rents at \$80/sf)	High-rise	302	154 (51% of total)	148 at 30% of AMI (49% of total)	0
Strong (rents at \$60/sf)	High-rise	302	156 (52.5% of total)	144 at 60% of AMI (47.5% of total)	0
Strong (rents at \$60/sf)	High-rise	302	181 (60% of total)	121 at 30% of AMI (40% of total)	0
Moderate (rents at \$44/sf)	Mid-rise	109	81 (60% of total)	28 at 60% of AMI (26% of total)	0
Moderate (rents at \$44/sf)	Mid-rise	109	87 (80% of total)	22 at 30% of AMI (20% of total)	0

units, would cross-subsidize affordable units so that the total revenue in the building would be sufficient to pay for development and operating costs. There is a direct tradeoff between the number of affordable units that can be generated by this cross subsidy and the depth of the affordability provided in the affordable units.¹⁹

To explore this option, we first test how many affordable units could be supported in a building through cross subsidy from market-rate rents, assuming no additional public subsidy beyond the use of NYCHA land and a payment in lieu of taxes (PILOT) with property tax exemption identical to 421-a. Our findings are described below and reported in Table 3. Then in Table 4, we calculate what rents are necessary to develop and maintain a new building if 100 percent of the units have below market rents.

¹⁹ The level of affordability required in any potential new development might be determined by a range of factors, including the city's overall needs and plans. But, one issue that might be of particular importance to NYCHA is the ability of NYCHA tenants to access some portion of the new units. By setting rents as affordable for households with income at 30 percent of AMI for instance, affordable for a two-person household with an income of \$20,160 in 2014, new apartments are more likely to be within reach for existing NYCHA residents. As in their *Land Lease Initiative* proposal, NYCHA could require that existing NYCHA tenants have priority for some number of new units created.

In the **very strong markets** (\$80/sf), NYCHA has ample opportunity to have market-rate units cross-subsidize a very large number of apartments for low-income households as seen in Table 3. A full 55 percent of high-rise units (166 units) in these **very strong markets** could be affordable for households with income at 60 percent of AMI based on the cross-subsidy provided by the remaining 45 percent of the units renting at market rate.

If, instead, the new development served households with income at 30 percent of AMI, 49 percent of the units (148 units) could be affordable in the **very strong markets**. At this income level, apartments would be affordable for a two-person household with an income of \$20,160 in 2014.

In the **strong markets** (\$60/sf), NYCHA forgoing ground lease payments also enables the creation of many new units without additional subsidy. In **strong markets**, almost half (47.5 percent or 144 units) of the 302 total units in a high-rise building could be affordable for households with income at 60 percent of AMI. 40 percent (121) of the units could be affordable for households with income at 30 percent of AMI.



Table 4: Minimum Rents Required for a 100% Below Market Rent Building

Market Type	Building Type	Total Units	Market Units	Affordable Units	Annual Ground Lease Payment
Very Strong (rents at \$80/sf)	High-rise	302	0	302 at 170% of AMI 0 (100% of total) ²⁰	
Strong (rents at \$60/sf)	High-rise	302	0	302 at 147% of AMI 0 (100% of total)	
Moderate (rents at \$44/sf)	Mid-rise	109	0	109 at 138% of AMI 0 (100% of total)	

In **moderate markets** (\$44/sf), there is much less opportunity to create affordable units through cross-subsidy from the market-rate units. In a 109 unit, mid-rise building, just 26 percent of total units (28 units) could be affordable for households with incomes at 60 percent of AMI; or only 20 percent of units (22 units) could be affordable for households with incomes at 30 percent of AMI.

We also examine the minimum level of rents needed to allow all the new units to be set below market rate while still allowing for a developer to achieve a sufficient financial return with zero land cost and the equivalent of a property tax exemption. Given the absence of market-rate units to provide a cross subsidy, the income from the below market-rate units would need to fully cover development and operating costs of the building. As seen in

Table 4, in the **very strong markets**, those rents would have to be affordable to households with income at 170 percent of AMI (\$114,240 for a two-person household in 2014). In the **strong markets** outside of Manhattan where construction costs are reportedly lower, rents could be affordable to households with income at 147 percent of AMI (\$98,784 for a two-person household in 2014). Because mid-rise construction is even less expensive, rents in the **moderate market** could be set at levels affordable to a household with income at 138 percent of AMI (\$92,736 for a two person household in 2014). Thus, even with the generous subsidy of free land, rents sufficient to cover development and operating costs of a high-rise or mid-rise would need to be fairly high—well out of range of low-income households under typical affordability standards and absent additional subsidies.

²⁰ According to experts we interviewed, construction costs in very strong markets in Manhattan are higher than construction costs in strong markets outside of Manhattan.

Table 5: 50/30/20 Buildings

Market Type	Building Type	Total Units	Market Units	Affordable Units	Annual Ground Lease Payment
Very Strong (rents at \$80/sf)	High-rise	302	151 (50% of total)	91 at 130% AMI (30% of total) and 60 at 50% of AMI (20% of total)	\$1.58 million
Strong (rents at \$80/sf)	High-rise	302	151 (50% of total)	91 at 130% AMI (30% of total) and 60 at 50% of AMI (20% of total)	\$755,000

Table 6: 70/30 Buildings

Market Type	Building Type	Total Units	Market Units	Affordable Units	Annual Ground Lease Payment
Very Strong (rents at \$80/sf)	High-rise	302	211 (70% of total)	91 at 60% of AMI (30% of total)	\$3.08 million
Very Strong (rents at \$80/sf)	High-rise	302	211 (70% of total)	91 at 30% of AMI (30% of total)	\$2.63 million
Strong (rents at \$60/sf)	High-rise	302	211 (70% of total)	91 at 60% of AMI (30% of total)	\$1.48 million
Strong (rents at \$60/sf)	High-rise	302	211 (70% of total)	91 at 30% of AMI (30% of total)	\$1.02 million

Balancing the Goals: Generating a Ground Lease Payment and Creating Affordable Units

Finally, for our third approach, we explore leasing NYCHA land for new construction that pursues a middle ground between the above two policy objectives by obtaining some ground lease payment (to support existing NYCHA properties) while requiring more units of affordable housing or deeper affordability than an 80/20 development where 20 percent of units are affordable to households with income at 60 percent of AMI. In our discussion below, and in Tables 5 and 6, we explore two hybrid options as illustrations of development models that could balance these goals.

One approach would be to set rents along the lines of the income mix in the 50/30/20 Mixed-Income Program of the New York City Housing Development Corporation. In this scenario, as Table 5 shows, 50 percent of units would rent at market rate, 30 percent of units would be affordable to households with income at 130 percent of AMI (\$87,360 for a two-person household

in 2014), and 20 percent of units would be affordable to households with income at 50 percent of AMI (\$33,600 for a two-person household in 2014). Under this scenario, NYCHA would receive a \$1.58 million ground lease payment each year in very strong markets (\$80/sf) and \$755,000 per year in the strong markets (\$60/sf). However, the market rents in the moderate markets (\$44/sf) would not be sufficient to facilitate this income mix even if NYCHA offered a ground lease with no annual payment.

We also consider development that creates a larger number of units for low-income households. Here, we assume that 70 percent of the units would rent at market rate and we calculate what ground lease payment would be feasible when the affordable units have rents set for households with incomes at 60 percent of AMI or at 30 percent of AMI. Our results are shown in Table 6.²¹

²¹ Though some developers have said that setting rents at levels affordable to households with income at 30 percent of AMI instead of at 60 percent of AMI may make it more challenging to command as high rent for the market-rate units, we do not lower market rents in this scenario.



In the **very strong markets** (\$80/sf) and **strong markets** (\$60/sf), there is opportunity to generate a ground lease payment while requiring 30 percent of units to rent at levels affordable for low-income households. In the **very strong markets**, NYCHA could obtain a lease payment of \$3.08 million per year from a building and have 30 percent of units (91 units) rent at levels affordable for households with income at 60 percent of AMI. Or, it could require 30 percent of units rent at levels affordable to households with income at 30 percent of AMI and receive \$2.63 million per year in a lease payment. In the **strong markets**, NYCHA could obtain a lease payment of \$1.48 million per year and have 30 percent of units (91 units) be affordable to households with income at 60 percent of AMI, or \$1.02 million each year when 30 percent of the units (91 units) are affordable to households with income of 30 percent of AMI.

In **moderate markets** (\$44/sf), requiring that 30 percent of building units be affordable for households with income at 60 percent of AMI or 30 percent of AMI would not be feasible with existing market rents.

Conclusion

There are many options available to the city as it considers how best to use NYCHA's undeveloped land to address the needs of NYCHA's housing stock and the city's broader affordable housing objectives. Here we show that there is capacity in some parts of the city to use the land to generate a significant annual payment to help NYCHA meet its fiscal needs or to produce new affordable housing units without additional subsidy. It might be possible, in areas with relatively high rents, to try to address both of these goals at once, but there is a direct tradeoff between them. The choice about how to best use NYCHA land ultimately raises a number of questions that go well beyond simple economics and requires input from a range of stakeholders.

Appendix

Unless indicated below, all assumptions for modeling new development on NYCHA land are the same as those referenced in the Furman Center’s *Inclusionary Housing Policy in New York City* white paper, http://furmancenter.org/files/NYUFurmanCenter_InclusionaryZoningNYC_March2015.pdf

Assumptions include construction costs, building size configuration, operating and management costs, property taxes, building revenue, financing and financial performance.

Building Size and Configuration

We modeled high-rise developments as 250,000 square feet and mid-rise developments as 90,000 square feet which are close to developments sizes identified in the 2013 NYCHA *Land Lease Initiative*.

Project Type	Square Feet For Zoning Compliance
High-rise with no parking, very strong market, inside the GEA	250,000
High-rise with 20% parking ratio, very strong market, inside the GEA	250,000
Mid-rise with 50% parking ratio, moderate market, inside the GEA	90,000

Payment in Lieu of Taxes

New development on NYCHA land would be exempt from property taxes because the land would remain owned by NYCHA. In our model, we assume that development on NYCHA land through a ground lease would require a payment in lieu of taxes (PILOT) equivalent to 421-a because that was the requirement in NYCHA’s *Land Lease Initiative*.

In the very strong market, we estimate the annual PILOT would be \$385,650 for the first 12 years, after which there would be an eight-year phase out. In the strong and moderate market, we estimate the PILOT would be \$67,489 for 21 years, after which there would be a four-year phase-out.

Ground Lease Payment

When there is a ground lease payment, we model with a one percent annual escalation for each year.

Financial Performance

Development in these scenarios is on leased land. Consequently, we estimate that NOI yields would need to be 25 basis points higher than required in the model we present in our *Inclusionary Housing Policy in New York City* white paper.

Project Type	Target NOI Yield	Exit Cap Rate
High-rise with no parking, Manhattan Core, inside the GEA	5.50%	4.25%
High-rise with 20% parking ratio, Downtown Brooklyn, inside the GEA	5.50%	4.25%
Mid-rise with 50% parking ratio, Astoria, inside the GEA	6.00%	4.75%



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Special Thanks

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Acknowledgments

We gratefully acknowledge the generous support of the **Ford Foundation** for the funding that made this policy brief possible. The statements made and views expressed in this brief, however, are solely the responsibility of the authors. We are also grateful to Ingrid Gould Ellen and the advisory boards of the Furman Center and Moelis Institute for Affordable Housing Policy for their insight and valuable feedback on this report; and the other experts, stakeholders, and city officials we consulted as we conducted our research for this brief.

The NYU Furman Center advances research and debate on housing, neighborhoods, and urban policy. Established in 1995, it is a joint center of the New York University School of Law and the Wagner Graduate School of Public Service. More information about the Furman Center can be found at www.furmancenter.org.