Appendix

Estimating the Apartment Turnover Rate

Landlords of rent-stabilized units are required to register their units annually with New York State Homes and Community Renewal (HCR). Registration includes information on tenancy, the legal rent, and whether a preferential rent is paid. IBO examined the rent records for all registered units in Stuyvesant Town-Peter Cooper Village from 2004 through 2015, using the tenant of record to determine if an apartment changed hands from the previous year. For units registered with HCR in the two years being compared, where the unit was considered traditionally rent stabilized in the first year, IBO compared first and last name combinations of the primary tenant and the secondary tenant (if any) against the primary tenant for the following year. Names were compared using first and last name combinations to correct for spelling errors and different entry formats from year to year in the apartment registrations.

Estimating Annual Renewal and Vacancy Rent Increases

Under rent-stabilization rules, legal rents may be increased upon a lease renewal, but the allowable increases differ depending on whether it is a renewal lease or a vacancy lease. Because annual rent increases are established by the Rent Guidelines Board (RGB) and vacancy bonuses are governed by the Rent Act of 2015, they do not bear any relation to decisions made by a rent-stabilized building's owner. Therefore, when determining how much to increase renewal and vacancy leases in our simulations, IBO used the average increase for the full study period—from 2004 through 2015.

Renewal leases from 2004 through 2015 ranged from 1.0 percent to 8.5 percent, depending on the year and whether a one- or two-year lease was signed. To calculate the renewal lease increase used in our model, IBO first found the share of units that signed one year versus two year renewal leases in each year of the study period, from 2004 through 2015, using the HCR rent registration data. We then prorated the rent increase rates for each year based upon the mix of one- and two-year leases, and from there calculated an annualized average rent increase of 3.1 percent for lease renewals.

Vacancy leases also varied from year to year and differ for one- and two-year leases. For calculating vacancy lease increases, IBO assumed that the most recent prior turnover had been within eight years. (A small additional increase is allowable if the prior vacancy had been more than eight years earlier, but without HCR data from before 2004, IBO was unable to assess this in formulating our methodology.) Two-year leases are allowed a vacancy increase of 20 percent, while one-year leases have a vacancy increase of 20 percent minus the difference between the two- and one-year lease renewal rates set by the Rent Guidelines Board. From 2004 through 2015, one year vacancy lease increases ranged from 16 percent to 19 percent. Again, prorating these rates each year based upon the mix of one- and two-year leases observed in the data, resulted in an average vacancy lease rent increase of 19.6 percent.

Estimating the Cost of Individual Apartment Improvements

In creating the models to simulate the future of rent stabilization at Stuyvesant Town-Peter Cooper Village, IBO considered two other ways beyond renewal and vacancy increases that legal rents may be increased under rent-stabilization rules—major capital improvements (MCIs) and individual apartment improvements (IAIs). MCIs are building wide and may take multiple years for work to be completed and the resultant rent increases to be approved by HCR. Historically for the Stuyvesant Town-Peter Cooper Village development, MCIs do not appear to be a driver of rent increases specifically tied to apartment turnover and deregulation efforts in the way individual apartment improvements were used. Therefore, MCIs were not considered in our models. IBO determined, however, that individual apartment improvements in the form of major renovations were generally done in cases where the improvement increase coupled with the vacancy bonus would then push the legal rent above the high-rent deregulation threshold.

Until a rule change in 2011, landlords could permanently increase monthly rents at a rate of 1/40th of the cost of the improvement; starting in 2011, the allowable increase was reduced to 1/60th of the improvement cost. In an occupied apartment, the owner must receive tenant consent for the increase. Improvements of occupied apartments tend to

be small changes, such as a replacement refrigerator or stove, and translate to a few dollars in rent increases. In a vacant apartment, however, consent is not required. It is upon vacancy that, as observed in our data, major renovations have been undertaken in Stuyvesant Town-Peter Cooper Village apartments. In particular, this seems to take place when the increase in the legal rent that an IAI allows would be enough to boost the rent to the high-rent deregulation threshold.

Renovation IAI rent increases averaged $1,132 per month in constant 2015 dollars for the period of high turnover, from 2004 through 2009. (Reported IAI rent increases were adjusted annually for inflation using the Engineering News-Record 20 City Average Construction Cost Index.) IAIs continued in the recent turnover period from 2009 through 2015, although at a slower pace—an average of 275 IAI increases annually instead of nearly 500 a year during the high turnover period.

Because IBO assumes that without the regulatory agreement landlords would behave as they did during the period of high turnover, in which there was more widespread use of IAIs, we used the average improvement cost observed during that period in our model of rent regulation in the absence of the agreement. Because allowable monthly rent increases for IAI's are now only 1/60th instead of 1/40th of the improvement costs, IBO set IAI rent increases in 2015 at $755 for our modeling purposes.

Estimating the Annual Deregulation Threshold Increase

Under the Rent Act of 2015, the deregulation threshold, starting at $2,700 in 2015, will increase annually in line with the one year renewal lease rate. To establish a rate to use in our modelling, IBO averaged the Rent Guidelines Board one year lease renewal increase rates from 2004 through 2015, for a deregulation threshold increase of 3.2 percent annually.

Identifying the Initial Affordable Units

IBO requested the list of initial affordable units designated by the owners of Stuyvesant Town-Peter Cooper Village from the Housing Development Corporation (HDC). HDC provided the street addresses of the buildings for the 5,231 initial affordable units under the regulatory agreement, but would not provide a breakdown of the apartments within those buildings, which would have allowed IBO to directly match the agreement to the HCR apartment-level rent-stabilization records.

As described to us by HDC, the initial affordable units were all units with rents at or below the rent limit defined as affordable to a middle-income household (below 165 percent of area median income) at the time the regulatory agreement was signed, with actual rent limits depending on household size and the number of bedrooms. Knowing this, we examined our rent-stabilization data to determine how many units had had legal rents affordable to a middle-income household, as defined under the regulatory agreement when the agreement took effect in December 2015. Looking at rent levels and lease dates, IBO identified 5,246 units of the traditionally rent-stabilized apartments that met the rent limits defined for the initial affordable units around the time the agreement was signed, a difference of 15 units, or 0.3 percent.

Model 1: Estimating the Number of Rent-Stabilized Apartments Absent the Regulatory Agreement

To model the future of traditionally rent-stabilized units at Stuyvesant Town-Peter Cooper Village absent the regulatory agreement, IBO applied the turnover rate during the period of high turnover for the development, based on our assumption that without the preservation deal, the owners would once again have an incentive to turn over units quickly upon the expiration of the J-51 benefits. We use the turnover rate of 10.5 percent, the average turnover rate seen from 2004 through 2009, a period of aggressive turnover and deregulation efforts within Stuyvesant Town-Peter Cooper Village.

Each year, 10.5 percent of units (rounded to the nearest complete unit), were selected from the pool of traditionally rent-stabilized units using simple random selection without replacement to be designated as turnover units, and the vacancy increase of 19.6 percent was applied to the prior year's legal rent. The simple random sample is done without replacement—once a unit is selected in a given year to be a turnover unit, it cannot be selected again in that year's sample. Each year's sample is independent of previous or subsequent years' sample results, meaning that an apartment can be selected to turn over more than once during the 20-years of the regulatory agreement. Units not selected for turn over had the renewal increase of 3.1 percent applied to the prior year's legal rent.[1] Starting at $2,700 in 2015, the high-rent deregulation threshold—which under the Rent Act of 2015 increases annually in line with the one year renewal lease rate—was increased in our model each year by 3.2 percent, the average one year lease renewal increase from 2004 through 2015.

If the legal rent of an apartment exceeded the deregulation threshold for that year and the apartment turned over

Assumptions Made in Modeling Future of Rent-Stabilized Apartments Absent the Regulatory Agreement
Based on averages from 2004 through 2009

Turnover Rate	10.5%
Rent Guidelines Board Average Annual Rent Increase	3.1%
Average Vacancy Increase	19.6%
Annual Deregulation Threshold Increase	3.2%
Average Individual Apartment Improvement Rent Increase	$755
Turnover Unit Selection	Simple random sample without replacement, each year

SOURCES: IBO analysis of New York State Homes and Community Renewal and New York City Rent Guidelines Board data
NOTES: Apartments are removed from rent stabilization in the year that their legal rent or their legal rent plus the individual apartment improvements amount exceeds the high-rent deregulation threshold and the unit becomes vacant. Rent-stabilization rules remain constant for the next 20 years.
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tenancy, the apartment was removed from rent stabilization in our model. Additionally for turnover units, if an IAI—in conjunction with the vacancy increase—would be enough to deregulate a unit, then an IAI increase was applied and the apartment was removed from the model. With the IAI level in 2015 set at our estimate of $755, the IAI amount was then indexed each year to the average annual increase seen in the Engineering News-Record 20 City Average Construction Cost Index from 2004 through 2015, 3.2 percent. IAIs were applied in this model because in the absence of the agreement, once the J-51 benefits end in 2020, the owner will again have an incentive to renovate apartments and increase legal rents in order to deregulate units.

Apart from adjusting the turnover rate, other assumptions in our simulations were held constant, including: the mix of one- and two- year leases within Stuyvesant Town-Peter Cooper Village remains consistent; the spending level for vacant apartment renovations, which impact rents in the form of IAIs, remain constant in inflation-adjusted terms, and that the current rent-stabilization rules remain unchanged for the next 20 years. The model was run 100 times and the results averaged to produce the findings in this report.

Model 2: Estimating the Impact of the Preservation Agreement Under Recent Turnover Rate Conditions

IBO estimated the number of affordable apartment-years and the number of apartment-years that otherwise could be deregulated and converted to market rate at the turnover rates seen from 2009 through 2015, an average

Assumptions Made in Recent Turnover Rate Model
Based on averages from 2009 through 2015

Turnover Rate	4.0%
Rent Guidelines Board Average Annual Rent Increase	3.1%
Average Vacancy Increase	19.6%
Annual Deregulation Threshold Increase	3.2%
Turnover Unit Selection	Simple random sample without replacement, each year

SOURCES: IBO analysis of New York State Homes and Community Renewal and New York City Rent Guidelines Board data
NOTES: Apartments are removed from rent stabilization in the year that their legal rent exceeds the high-rent deregulation threshold and the unit becomes vacant. Rent-stabilization rules remain constant for the next 20 years.
New York City Independent Budget Office

of 4.0 percent a year. This period was chosen to reflect the current rate of turnover because these recent years most likely represent tenant and management behavior going forward at the development. We do not include IAIs, as affordable units are subject to a rent cap under the HDC agreement, even if they are deregulated from rent stabilization, removing the incentive to boost rent stabilization legal rents through IAIs.

Again, the average annual RGB renewal increase of 3.1 percent and the average vacancy increase of 19.6 percent were used to calculate annual rent increases under rent stabilization. Each year, 4.0 percent of units (rounded to the nearest complete unit), were randomly selected without replacement from the pool of units as turnover units, and the vacancy increase was applied to the prior year's legal rent. Units not selected for turnover had the renewal increase applied to the prior year's legal rent.

If the legal rent of an apartment exceeded the deregulation threshold for that year and the apartment turned over tenancy, the apartment was removed from rent stabilization in our model. Again, the model assumed leases to be one year in length, and that the current rent-stabilization rules remain constant for the next 20 years. The model was run 100 times and the results averaged to produce the findings in this report.

Model 3: Estimating the Impact of the Preservation Agreement Under High Turnover Rate Conditions

IBO also produced an alternative estimate of the affordable apartment-years and the number of apartment-years that otherwise could be deregulated and converted to market rate at a high rate of turnover. The high turnover rate refers to the average turnover of 10.5 percent seen from

Assumptions Made in High Turnover Rate Model *Based on averages from 2004 through 2009*	
Turnover Rate	10.5%
Rent Guidelines Board Average Annual Rent Increase	3.1%
Average Vacancy Increase	19.6%
Annual Deregulation Threshold Increase	3.2%
Turnover Unit Selection	Simple random sample without replacement, each year

SOURCES: IBO analysis of New York State Homes and Community Renewal and New York City Rent Guidelines Board data
NOTES: Apartments are removed from rent stabilization in the year that their legal rent exceeds the high-rent deregulation threshold and the unit becomes vacant. Rent-stabilization rules remain constant for the next 20 years.
New York City Independent Budget Office

2004 through 2009 as described in Model 1. All other assumptions from Model 2 remain the same, providing a sensitivity analysis of turnover rates on the findings under the HDC agreement. The agreement, however, removes the incentive for the owners to push for high turnover of the rent-stabilized units, as 5,000 units remain regulated under the preservation deal regardless of their rent-stabilization status through 2020. Therefore, the estimated outcomes seen in the "high" turnover rate model are less likely than the outcomes under the "recent" model.

HDC Alternative to Estimating Value of Preservation Deal

HDC, in conjunction with HPD, have suggested to IBO that although the press releases hailing the Stuyvesant Town-Peter Cooper Village and other preservation deals, the Housing New York plan goals, and the Mayor's Management Report measurements all discuss preservation in terms of units preserved (as IBO's analysis does), a more meaningful approach is to calculate the agreement's "affordability value" in dollar terms. Their Stuyvesant Town-Peter Cooper Village affordability value calculation takes the difference between market rents (around $4,100 per month in 2015) and the monthly rent cap set forth in the agreement for middle- and low-income households ($2,961 and $1,435, respectively, after adjusting for number of bedrooms) for units that have turned over tenancy and become income-tested.[2] This calculation is essentially measuring the benefit gained as the cost to the city if each income-tested household were to be given a housing voucher over the 20-year regulatory period. The value capture calculation assumed a 4.5 percent turnover rate. In doing this exercise, HDC and HPD estimated an affordability value of $505 million in present value dollars for the deal, which exceeds the value of the $220 million in foregone tax revenue. By nature of how affordability value is calculated, any preservation deal done in an area of strong market rents will inherently yield a higher affordability value than a preservation deal done in an area of weak market rents.

Although HDC's affordability value calculation affordability capture calculation is a different way to measure the outcomes of a preservation deal, its value is unknown relative to other preservation deals the city has or could make, as neither HDC nor HPD have publicly disclosed such a calculation for other preservation deals. Therefore it is difficult to assess the Stuyvesant Town-Peter Cooper Village preservation outcomes relative to other preservation deals.

Endnotes

[1]The Rent Guidelines Board set a zero percent increase for one-year leases effective starting in or after October 2015 and maintained the rent freeze in the following year, for leases starting in or after October 2016. Although the two years of zero percent increases is known, IBO chose to apply the overall average rent increases seen from 2004 through 2015 for all 20 years of our model, consistent with the rest of our methodology of using historical data through 2015 and applying it forward. Historically there has been a cyclical trend between high rent increase periods followed by lower rent increase periods, and IBO cannot know how the board may consider two years of rent freezes in setting subsequent rent levels. The effect of this methodological decision is to increase the estimate of how many otherwise market-rate units the preservation deal helped to protect.
[2]The agencies' analysis assumed market rates increase annually by 4.0 percent and the monthly rent cap limits would increase annually by 2.75 percent, and then applied a discount rate of 6.25 percent to put nominal dollars into present value dollars.

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