THE CITY OF NEW YORK
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Ronnie Lowenstein
DIRECTOR

November 26, 2018

The Honorable Eric L. Adams
Brooklyn Borough President
Brooklyn Borough Hall
209 Joralemon Street
Brooklyn, New York 11201

Dear Borough President Adams:

At your request, the Independent Budget Office (IBO) estimated the cost of rehabilitating some of the most troubled Brooklyn public housing developments and compared those costs to estimates of replacing those units through new construction. According to our analysis, it is over 50 percent more expensive per unit to construct new public housing units than to meet all rehabilitation and modernization needs of the worst-performing New York City Housing Authority (NYCHA) developments in Brooklyn. Our findings are summarized below and the enclosed memo, which details the data, assumptions, and methodology used for this analysis.

IBO estimated the rehabilitation cost of 15 developments in Brooklyn that scored low enough to be considered "troubled" on recent Physical Inspection Score reports conducted by the U.S. Department of Housing and Urban Development (HUD). IBO found that the 15 troubled developments, totaling 16,465 apartments, require an estimated $4.3 billion in improvements to bring them into good repair. This averages to $260,000 per unit in renovation and modernization needs.

As a point of comparison, IBO examined the cost of constructing new units on NYCHA campuses by examining development costs for affordable housing built on NYCHA land that were financed from 2010 through 2016. These developments cost on average $410,000 per unit to construct in constant 2018 dollars; if financing programs that require prevailing wages are used, costs would increase by an additional 23 percent. This construction cost estimate does not reflect costs associated with land acquisition, nor does it include any costs to demolish or repurpose existing NYCHA units the new construction would replace.

Any discussion of replacing existing public housing understandably raises residents' concerns about the future of their tenancy. At your request, IBO looked at the implications of first building replacement apartments on available NYCHA land before vacating the troubled developments. IBO has not found any precedent, either in New York City or elsewhere in the nation, where new replacement public housing was constructed prior to demolition of the existing housing. The closest example to this scenario would be the infill developments built on underutilized NYCHA land; these new units, while *affordable* housing, are not *public* housing.

It is important to note that HUD funds may not be used to construct or operate new public housing if it increases the total number of units in a housing authority's portfolio. Given these rules, it is unclear how the construction of replacement public housing before the current housing is removed would fit within HUD regulatory and funding rules.

While it is outside the scope of this request to determine if there is adequate space for new construction around each of the troubled NYCHA developments, IBO examined land use at the 15 troubled developments to provide some perspective on what may or may not be possible. The existing buildings cover about one-fifth of the lot area, on average, with the remaining area used as green spaces, playgrounds, and parking lots. These developments are zoned as R5 and R6, designations for low- and medium-density residential housing. Given these floor-to-area density restrictions, under current zoning there may be some limited potential for additional residential space to be built on the properties.

Lastly, the memo includes an explanation of the formulae by which HUD's Public Housing Operating Fund and Public Housing Capital Fund are allocated to local public housing authorities to provide more detail on how potential changes to the NYCHA portfolio may alter the share of federal funding NYCHA receives.

If you have any questions or would like additional information, please feel free to contact me at RonnieL@ibo.nyc.ny.us or (212) 442-0225 or Sarah Stefanski, who researched and produced the memo, at SarahS@ibo.nyc.ny.us or (212) 341-7367.

Sincerely,

Ronnie Lowenstein

Ronnie Lowenstein

Memorandum

To:	George Sweeting
From:	Sarah Stefanski
Date:	November 26, 2018
Subject:	Cost Comparison of Rehabilitation vs. Reconstruction of Troubled NYCHA Units in Brooklyn

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IBO compared the cost of rehabilitating certain Brooklyn public housing developments with the cost of replacing the existing units with newly constructed housing. We limited our analysis to developments deemed "troubled" based on scores from recent Physical Inspection Score reports conducted by the U.S. Department of Housing and Urban Development (HUD). First, we estimated the cost to bring the units to a state of good repair as outlined in the New York City Housing Authority's (NYCHA) recent Physical Needs Assessment. Next, we calculated the per unit cost to construct new buildings on NYCHA campuses using financing data from affordable housing developments built on NYCHA land as a proxy for building replacement public housing units. We also looked at the land potentially available for development and zoning designations at the troubled developments. Lastly, IBO examined how the federal funding formulae for allocating Public Housing Operating and Capital Funds are structured to determine possible implications for federal funding if the composition of NYCHA units were to change.

Identifying Troubled NYCHA Developments in Brooklyn. Under a 2005 federal rule, local housing authorities are required to form groupings of developments—called Asset Management Projects—that are located near each other or have similar building or tenant characteristics. HUD inspects a sample of buildings and apartments within each of the asset management groups and assigns an inspection score for the group as a whole. A score below 60 is considered "troubled," from 60 to 89 is considered "standard performer" and above 90 is designated as "high performer."[1] In Brooklyn, there are 11 asset management groups consisting of 15 NYCHA developments that scored less than 60 points on either the 2016 or the 2018 Physical Inspection Scores; the average inspection score for these developments was 53. This average reflects the results of inspections that took place from November 2015 through September 2017. Developments that scored low enough to be considered troubled but are planned for either disposition or for participation in the HUD Rental Assistance Demonstration program were not included in this total.[2]

Cost Considerations for Rehabilitating Troubled NYCHA Brooklyn Developments. The 15 developments with low physical inspection scores (listed at the end of this memo) total 16,465 apartments and are home to over 39,000 residents. The median year built is 1955. For these developments, IBO calculated a per unit cost to fully rehabilitate the units using capital improvement estimates as reported in the NYCHA 2017 Physical Needs Assessment report. Cumulatively, the total capital needs to bring these developments into good repair is estimated at $4.3 billion. On a per unit basis, IBO estimates the average cost at $260,000. About one-third of the rehabilitation expense is for in-unit upgrades, another third for architectural and structural needs, and the remaining third a mix of elevator, electrical, mechanical, and site work. These totals are based on the repair needs estimated in NYCHA's Physical Needs Assessment for each development over the next 20 years. This time frame was chosen because IBO is comparing the rehabilitation cost with new construction, where components can be assumed to have a useful life span of at least 20 years. Additionally, this cost assumes that rehabilitation work would take place while tenants remain in place; any temporary relocation costs would add to the overall cost of rehabilitation.

Cost Considerations for Replacing Troubled NYCHA Brooklyn Developments. IBO next examined the cost of building replacement housing on NYCHA campuses. To estimate a per unit cost of constructing a new unit of public housing, IBO analyzed the final construction budgets for affordable housing developments built on NYCHA land. IBO identified 10 new construction affordable housing projects with a total of 1,407 units built on NYCHA campuses that were financed from 2010 through 2016. Construction costs were converted to 2018 dollars using the Engineering New-Record Construction Cost Index. Not including costs associated with land acquisition, these developments averaged $410,000 per unit to construct—a cost that reflects hard costs such as labor and materials, soft costs such as architectural and design expenses, reserves, contingency, and developer fees. Note that the $410,000 is the per unit cost of building on available NYCHA land and does not include the cost to demolish or repurpose existing NYCHA units that would be replaced. Finally, the estimate is based on the assumption that prevailing wages are not required; if federal funding sources that require prevailing wages were used for public housing construction, we project that costs would increase by 23 percent.[3]

Feasibility of Building New Replacement Housing on Existing NYCHA Campuses. Any proposal to tear down and replace public housing is likely to raise residents' concerns about the future of their tenancy. One proposal to mitigate such concerns is to build one-for-one replacement housing on NYCHA land around existing buildings, thus allowing current residents to be moved from existing housing directly into new housing.

IBO has not found any precedent, either in New York City or elsewhere in the nation, where new replacement public housing was constructed prior to demolition of the existing housing. The developments most similar to this proposal would be the NYCHA Next Generation infill projects, where additional affordable and mixed-income housing is constructed on underdeveloped NYCHA land. The infill housing, however, has not been new public housing and has not been on a scale of thousands of units, the size of large NCYHA developments.

Under the terms of the 1998 legislation known as the "Faircloth Amendment" to the Housing Act of 1937 (the act that created public housing), HUD funds may not be spent on construction or operation of new public housing if this construction increases the total number of public housing units in a housing authority relative to the number of public housing units the authority had in 1999—effectively capping the number of units at 1999 levels.[4] (For New York City, the Faircloth limit is 178,948 units, just 1,625 above the authority's current housing portfolio.) HUD does allow its capital funding to be put towards building replacement housing through a program called the Replacement Housing Factor Fund, but the existing housing intended for replacement must be demolished before the replacement funds become available. In addition, this program does not provide capital funds based on the costs of new construction. Instead the program awards the same capital funding that would have been provided to the authority if the old developments had not been demolished. It is unclear how the construction of replacement public housing before the current housing is removed from the housing authority's portfolio would fit within HUD regulatory and funding rules.

Space Considerations for Building on Existing NYCHA Campuses. While IBO does not have the architectural or engineering expertise to determine conclusively if there is space for new construction in and around each of the troubled NYCHA developments, we completed a simple comparison of the existing buildings' footprints to the overall size of the developments. Most NYCHA developments are built with a tower-in-the-park design, allowing for large open spaces between buildings. The building footprint for the 15 troubled developments covers an average of 18 percent of the total land area of each development, with a range from a low of 12 percent through a high of 35 percent. The remaining open areas consist of green spaces, playgrounds, and parking lots. Any development on existing open spaces requires forgoing the current use of open land.

Even where NYCHA land is available for development, zoning density rules may preclude the construction of new housing on NYCHA campuses. IBO used data from the Department of City Planning's Primary Land Use Tax Lot Output (PLUTO) to determine the zoning and building bulk of the 15 troubled NYCHA developments. Six developments are zoned R5, a zoning classification for low-density residential districts. R5 zoning has a height limit of 40 feet and a floor area ratio (FAR)— which determines the allowable bulk of a building on a lot—of 1.25. The R5 developments average a FAR of 1.0, indicating limited additional building potential for those property lots. The remaining nine troubled developments are zoned R6, a zoning designation for medium-density residential neighborhoods. The FAR for R6 lots ranges from 0.78 to 2.43 depending on the amount of open land around the building and—in some cases—the width of the street on which the building is located. The R6 developments currently are built at an average FAR of 1.5, suggesting that these developments may have potential for additional residential space to be built under the current zoning designation.

Funding Formulae for Allocating Federal Public Housing Operating and Capital Funds. Public housing finances are structured so that residents pay only 30 percent of their income in rent, rental income that often falls short of meeting the operating costs and the capital needs of maintaining the apartments. To address such shortfalls, HUD's budget includes the Public Housing Operating Fund and Public Housing Capital Funds, funded in 2018 at $4.4 billion and $1.9 billion, respectively. NYCHA's 2018 Final Annual Plan projected the authority would receive $823 million from the Operating Fund and $346 million from the Capital Fund. IBO examined the formulae used by HUD to allocate these funds across public housing authorities nationwide, and how any changes in the number of public housing units within NYCHA may affect the amount of HUD funding the authority receives.

In the federal budget, Congress appropriates funds to HUD for the Public Housing Operating and Capital Funds. Appropriations are then allocated to public housing authorities via state and local governments based on formulae in the Code of Federal Regulations Title 24, which covers HUD operations and programs. If the amount appropriated by Congress is not adequate to cover the full needs of public housing authorities nationwide, then HUD revises the funding amounts for housing authorities on a proportional basis.

The Public Housing Operating Fund formula is intended to allocate funds to address the gap between rent collected and the cost of project management and operations.[5] Project expenses are calculated on a per-unit per-month basis for each housing authority individually, using regression analysis to estimate operating costs using the following variables: number of housing units, age of property, bedroom mix, building type, occupancy type (senior, family, etc.), location, neighborhood poverty rate, percent of the development that is public housing, ownership type, and geographic information. This expense calculation is designed to reflect the costs associated with administration, management fees, maintenance, security, leasing, staffing, insurance, and utilities.

Project income is also calculated on a per unit per month basis, taking the rents collected annually and dividing by the number of units and the number of months the units were rented out. The difference between project expenses and project incomes is then multiplied by the number of units and months of use to determine Operating Fund needs. Should the number of units in a housing authority change, the per unit per month multiplier would likewise be adjusted (up or down but not above the limit set by the Faircloth Amendment). HUD provides a bonus incentive for housing authorities that undertake energy efficiency improvements that can easily be integrated into project rehabilitation and modernization work. HUD also allows for an Asset Repositioning Fee, intended to supplement the housing authority for the cost of administration and management of projects that are vacant due to planned demolition or disposition. These units are also allowed to partially count towards the per unit per month project expense calculation in the period leading up to demolition or disposition.

The Public Housing Capital Fund formula is intended to allocate funds based on the relative physical improvement and modernization needs of a public housing authority.[6] In New York City, the needs score is based on a sample of direct inspections of units.[7] For all housing authorities, units built or acquired by a housing authority after 1991 are not considered. A housing authority's formula funding share is based on its needs divided by total public housing authority needs nationwide, so long as no housing authority receives less than 94 percent of the funding share it received in 1999.

If a public housing authority has demolished or disposed of units, lowering its formula unit count, the housing authority may be eligible to count those "lost" units in the formula for the following five years under the Replacement Housing Factor Fund and put the funding towards replacement units, subject to HUD approval. Similarly, HUD also allows for units that a housing authority has demolished or disposed of to be counted towards the Capital Fund grant for a period of five years, assuming that no other HUD program funds were used to construct their replacements. This is known as Demolition and Disposition Transitional Funding.

Fifty percent of the Capital Fund is allocated this way. The other 50 percent of the Capital Fund is not formula-driven, but instead allocated based on data provided by housing authorities, information on building portfolio conditions as reported in the HUD Real Estate Assessment Center, and local cost indices.

Developments Scoring as "Troubled" on HUD Physical Needs Assessment				
Development	**Total Number of Apartments**	**Total Population**	**Number of Residential Buildings**	**Year Built**
Brevoort	896	1,969	13	1955
Coney Island I (Site 8)	125	359	1	1973
Farragut	1,390	3,277	10	1952
Gravesend	634	1,533	15	1954
Linden	1,586	3,809	19	1958
Marlboro	1,765	4,259	28	1958
Nostrand	1,148	2,363	16	1950
O'Dwyer Gardens	573	984	6	1969
Red Hook II	344	891	3	1955
Red Hook West	1,010	3,287	11	1940
Sheepshead Bay	1,056	2,435	18	1950
Tompkins	1,046	2,841	8	1964
Van Dyke I	1,603	3,993	22	1955
Whitman	1,659	3,909	15	1944
Williamsburg	1,630	3,118	20	1938

SOURCE: IBO analysis of United States Department of Housing and Urban Development and New York City Housing Authority data

New York City Independent Budget Office

[1]IBO based these categories on rankings HUD assigns through its Public Housing Assessment System.
[2]The Rental Assistance Demonstration program is a HUD-sponsored program that allows public housing authorities to address unmet capital needs by converting developments to Section 8 rental assistance, which simplifies administrative oversight and allows for the leveraging of private investment to finance rehabilitation and repair. Rents are maintained at 30 percent of tenants' household income.
[3]See IBO report "The Impact of Prevailing Wage Requirements on Affordable Housing Construction in New York City."
[4]Any units removed from a housing authority portfolio through RAD commensurately reduces that authority's Faircloth Limit.
[5]Complete rules and regulations for the Public Housing Operating Fund are found in 24 CFR §990.
[6]Complete rules and regulations for the Public Housing Capital Fund are found in 24 CFR §905.
[7]For most housing authorities, the needs score is calculated from the following variables: the average number of bedrooms in the units at a project, the total number of units in a project, the share of units completed in 1978 or earlier, the local cost of housing rehabilitation, the number of units located in nonmetropolitan areas, and whether the housing authority is in the Southern, Western, and Midwest census regions. Two exceptions to this formula-based needs calculation are the New York City and Chicago Housing Authorities, which have their needs score based on a sample of direct inspections.