



Economic Impact of the **New York City Housing Authority** in New York City and New York State



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EXECUTIVE SUMMARY

The largest public housing authority in North America, the New York City Housing Authority (NYCHA) has a mission to increase opportunities for low- and moderate-income New York City residents by providing safe, affordable housing and facilitating access to social and community services. NYCHA retained HR&A Advisors, Inc. (HR&A), an independent real estate, policy and economic development consulting firm, to estimate the annual economic impacts of NYCHA on the City and State of New York. HR&A specializes in conducting economic and fiscal impact studies of organizations, development projects, and policies.

HR&A estimated the annual economic impact of NYCHA's direct expenditures in the City of New York and State of New York; these impacts represent NYCHA's ongoing, yearly contribution to jobs, employee compensation, and total economic spending or output. In total, HR&A estimates that NYCHA's economic activities and their multiplier effects result in more than \$6 billion in economic output annually in the City and State. This report examines three key findings:

- **NYCHA's resident population is greater than the entire City of Boston.** NYCHA owns and operates 179,000 units of housing in 334 developments consisting of 2,600 buildings that contain over 400 community facilities – including senior, community, health care, and day care centers. Over 400,000 residents live in NYCHA-owned housing, and another 225,000 residents obtain Section 8 Housing Choice Voucher Program (Section 8 Program) rental subsidies through NYCHA to live in over 92,000 privately-owned housing units throughout New York City.
- **For every dollar NYCHA spends, more than \$1.70 of total output is created in New York City, and more than \$1.80 in New York State overall.** As a result of multiplier impacts of employee and vendor spending, NYCHA's average annual cash expenditure of approximately \$3.4 billion results in nearly \$5.9 billion in economic output in New York City and another \$270 million in economic output elsewhere in New York State.
- **NYCHA's direct investments create and sustain 30,000 direct and multiplier jobs in New York State annually.** NYCHA's direct expenditures serve to not only compensate approximately 11,560 NYCHA employees, but also generate an additional 16,000 jobs in New York City and 1,600 jobs in New York State each year. These jobs are ongoing, sustained full-time jobs supported by NYCHA's annual expenditure.

Average Annual Economic Impact of NYCHA's Direct Expenditures, 2013

	New York City	Elsewhere in New York State	New York State Total
Full-Time Equivalent Jobs Created	27,850	1,580	29,430
Employee Compensation Generated	\$2,090 M	\$70 M	\$2,160 M
Economic Output Generated	\$5,865 M	\$270 M	\$6,135 M

Source: IMPLAN; New York City Housing Authority Annual Financial Data Schedules; NYCHA Budget Departments; HR&A Analysis

I. INTRODUCTION

PURPOSE OF THE STUDY

The New York City Housing Authority (NYCHA or the Authority) retained HR&A Advisors, Inc. (HR&A) to conduct an economic impact analysis of the Authority's investments and activities, and quantify an annual representation of those benefits. NYCHA is North America's largest public housing authority (PHA). It currently provides housing and programming for 625,000 New York City residents, including residents in NYCHA-owned buildings and residents who are served by the NYCHA-administered Section 8 Housing Choice Voucher Program (Section 8 Program) living in private rental properties.

HR&A is a New York City-based real estate, economic development, and public policy consulting firm originally founded in 1976. The firm specializes in conducting economic impact studies of organizations, development projects, and policies. For this study, HR&A partnered with BJH Advisors LLC, a limited liability corporation based in New York City that performs independent economic analyses for both public and private sector clients.

HR&A measures the economic impacts of NYCHA in terms of full-time equivalent employment, employee compensation, and economic output in New York City and New York State. Economic output includes the value of all industry production resulting from NYCHA's direct spending, which for the purposes of this report has been organized into four activities:

- **Capital expenditure**¹ associated with physical repair and improvement of NYCHA-owned housing stock and infrastructure;
- **Ongoing maintenance and operating** expenditures associated with NYCHA-owned housing stock and infrastructure, including management and leasing, provision of family/social services and security;
- **Central office administration** and operations; and
- **Section 8 Program**, providing rental subsidies for very-low income residents in privately-owned housing.

The appendices accompanying this report include the estimated direct, indirect, and induced fiscal benefits of NYCHA's activities to New York City and New York State (Appendix B), as well as greater detail regarding the technical methodology used to estimate economic impacts (Appendix A).

¹ Per HUD funding rules, a capital expenditure is defined as a physical building improvement or repair that costs \$25,000 or more.

ORGANIZATION OF THE REPORT

This study is divided into four sections following this introduction:

- **Section II.** New York City Housing Authority: Provides more detailed background on the NYCHA's activities, the population it serves, and its revenue sources and expenses.
- **Section III.** Economic Impact Analysis: Provides an overview of the economic impact analysis methodology, the derivation and separation of expenditures associated with NYCHA's activities into the four categories outlined above, and presents HR&A's findings regarding NYCHA's economic impacts on both the City and State economies.
- **Section IV.** Conclusion: Summarizes NYCHA's key impact areas and how housing policies could play a role in shaping future impacts.
- **Section V.** Appendices:

Appendix A. Technical Methodology for Estimating Economic Impacts: Provides a more detailed description of the economic impact methodology, including additional information on data sources and how the spending attributed to NYCHA was tabulated.

Appendix B. Fiscal Benefits Analysis: Estimates the benefit of NYCHA's activities in terms of generating additional tax revenues for the City and State of New York.

Appendix C. References: Provides a list of resources, reports, and individuals consulted for this report.

II. NEW YORK CITY HOUSING AUTHORITY

MISSION

The largest public housing authority in North America, NYCHA “is committed to providing safe, affordable housing and facilitating access to social and community services for low- to moderate-income New Yorkers.” NYCHA owns and operates 179,000 units of housing in 334 developments consisting of 2,600 buildings that contain over 400 community facilities – including senior, community, health care, and day care centers. Over 400,000 residents live in NYCHA-owned housing, and another 225,000 residents receive Section 8 rental subsidies to live in over 92,000 privately-owned housing units throughout the New York City region.

Key Statistics (2012):

334 developments with **2,600** buildings
179,000 residential units
400,000+ residents in NYCHA-owned buildings
225,000 residents in 92,000 privately-owned NYC residential units subsidized through the Section 8 Voucher Program
31,000 participating private NYC landlords in Section 8 Voucher program
11,560 NYCHA employees

SCALE AND MARKET POSITION

Founded in 1934, the scale of NYCHA’s activities and responsibilities is unparalleled. NYCHA controls 15% of the approximately 1.2 million units owned and managed by 3,000 U.S. public housing authorities (PHAs).² As seen in Figure 1, of the ten largest³ U.S. PHAs in 2009, NYCHA owned more housing units than the remaining nine cities combined. NYCHA also supported more than one third of the total voucher-subsidized households for the combined ten largest PHAs.

Figure 1: Ten Largest U.S. Public Housing Authorities by City, 2009

City	PHA-Owned Units	Rental Assistance Vouchers	Total PHA-Subsidized Units
New York City	179,000	98,000	278,000
Chicago	24,000	49,000	73,000
Puerto Rico	56,000	-	56,000
Los Angeles	7,000	45,000	52,000
Philadelphia	17,000	18,000	35,000
Baltimore	12,000	17,000	29,000
Atlanta	8,000	19,000	27,000
Cuyahoga (Cleveland)	10,000	14,000	24,000
Boston	11,000	12,000	23,000
Washington DC	8,000	13,000	21,000
Total NYCHA	180,000	98,000	278,000
Total Non-NYCHA	153,000	187,000	340,000

Note: Units are rounded to the nearest thousand

Sources: NYCHA; Picture of Subsidized Households 2009, U.S. Department of Housing and Urban Development.

² Picture of Subsidized Households 2009. U.S. Department of Housing and Urban Development.

³ New York State Division of Housing and Community Renewal, New York City Department of Housing Preservation and Development, and the Michigan State Housing Development Authority are not included as part of the ten largest PHAs, though each subsidizes over 25,000 units with rental assistance vouchers.

Furthermore, among the largest U.S. public housing authorities, NYCHA's total units and resident population are representative of greater market shares than the market share of other large PHAs within the cities they serve, seen below in Figure 2. In 2009, NYCHA's housing supply represented 8.2% of the total New York City housing stock, inclusive of owned and Section 8 units.

Figure 2: Five Largest U.S. Public Housing Authorities, Market Share 2009

	PHA-Supported Housing Units (PHA owned/managed + voucher subsidized, but privately owned, units)	Market Share (As % of total city housing units)
New York City	278,000	8.2%
Chicago	73,000	6.1%
Puerto Rico	56,000	3.4%
Los Angeles	52,000	3.7%
Philadelphia	35,000	5.2%

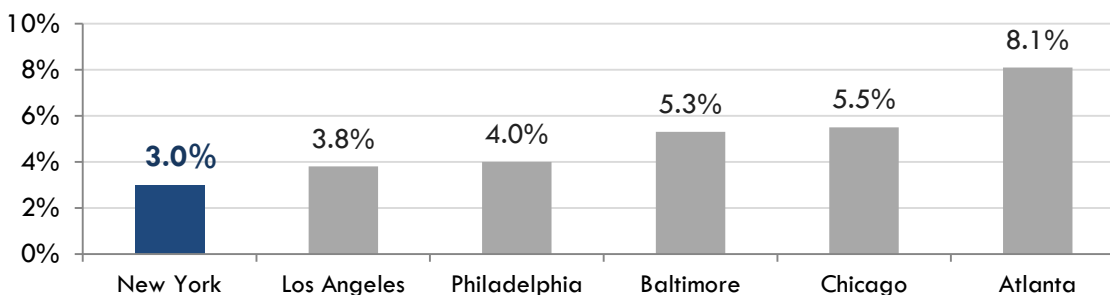
Note: Total units rounded to the nearest thousand

Source: Picture of Subsidized Households 2009, U.S. Department of Housing and Urban Development; U.S. Census Bureau 2010

NYCHA houses more residents than the population of the entire City of Boston.⁴ As of 2012, NYCHA's housing supply represented an even higher market share of the City's rental market (versus total market), approximately 13%, and housed more than 625,000 residents, representing 8% of the City's population.

There is a growing and unmet need for public housing in New York City. Despite public and private efforts to address the demand for affordable housing in New York City, a huge shortfall continues to exist, and the cost of housing in New York City continues to rise. The U.S. Bureau of Labor Statistics 2011 *Consumer Expenditure Survey* indicated that households in the New York metropolitan area spent approximately 40% of total annual expenditures on housing, as compared to the U.S. average of 34%. From 2003 to 2009, median rent in New York City rose 4.5%⁵; however, (accounting for inflation) median income decreased by about 3% over the same time period.⁶ NYC rental vacancy rates are 3%, and much lower than those of other U.S. cities, even those with a large PHA presence as seen below in Figure 3. New York State and New York City rent-regulation laws define a rental vacancy rate of lower than 5 percent as a "housing emergency." Since the first measurement of the City's rental vacancy rates by the New York City Housing and Vacancy Survey in 1965, rental vacancy rates in the city have not exceeded 5 percent.

Figure 3: Rental Vacancy Rate in U.S. Cities with Largest PHAs, 2010



Source: U.S. Census Bureau 2010

⁴ In 2011, the U.S. Census estimated Boston's population as 625,000.

⁵ State of New York City's Housing & Neighborhoods 2010, *The Furman Center for Real Estate*

⁶ HR&A Analysis of 2010 U.S. Census Data

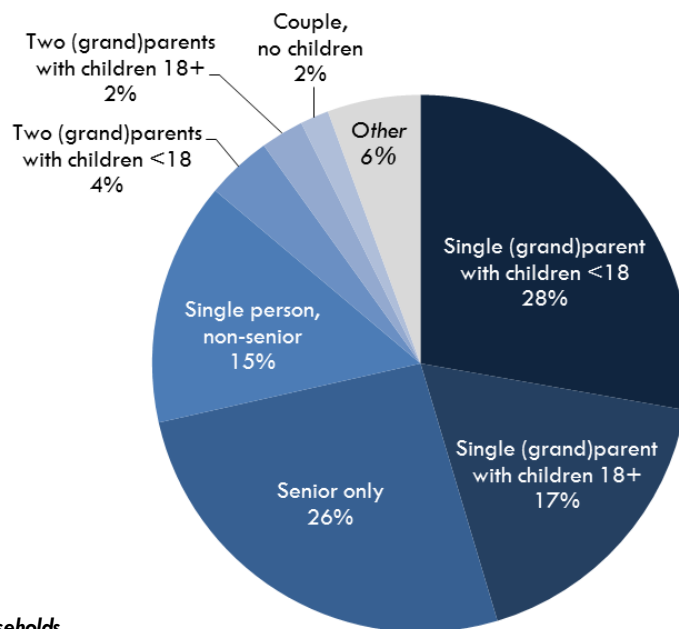
NYCHA-owned housing has seen negligible vacancy and limited turnover. In 2012 the Authority's developments exhibited a 0.7% vacancy rate and, in 2011, a turnover rate of 3.29%. As of February 2012, nearly 164,000 families were on the waiting list for NYCHA-owned units and 123,500 families were on the waiting list for Section 8 Housing, with nearly 22,000 applicants on both waiting lists.

NYCHA PUBLIC HOUSING RESIDENT DEMOGRAPHICS

NYCHA houses a large share of the City's poorest and most vulnerable residents. NYCHA is responsible for advocating, organizing and allocating resources to provide low- and moderate-income families with the opportunity to achieve financial stability through affordable housing options. In turn, these families actively contribute to the economic cycle of the communities where they live and work, producing jobs and impacts far beyond what NYCHA provides as a direct employer.

Nearly half of all households in NYCHA-owned properties (45%) are headed by single parents or grandparents. Furthermore, 28% of these households are single parent or single grandparent families with children under 18 years old, as seen below. Less than 10% of these households are headed by two parents or a couple.

Figure 4: NYCHA-Owned Unit Distribution by Household Type, 2012



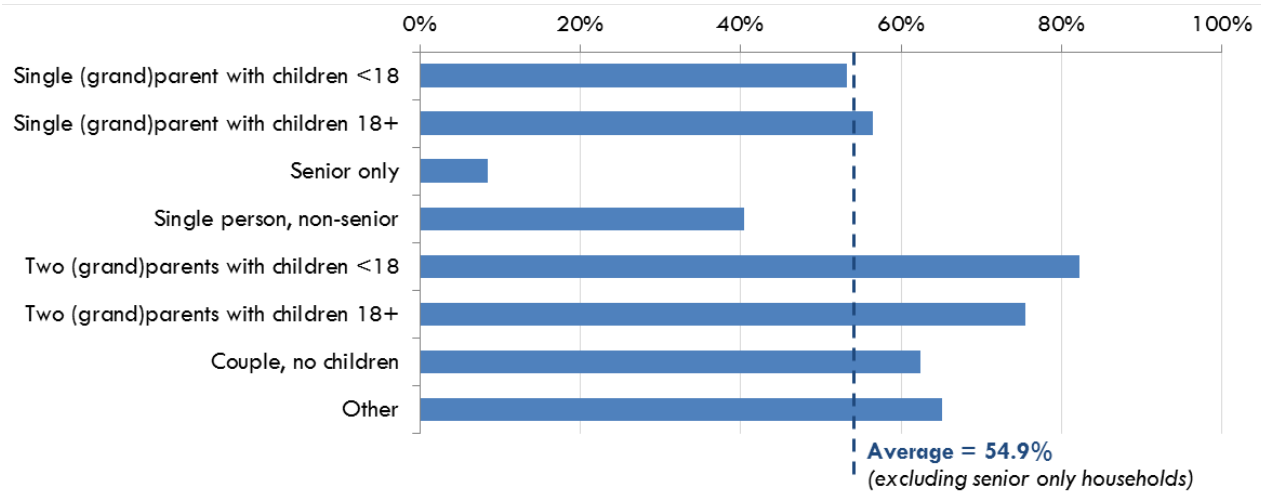
N=176,221 households

Source: New York City Housing Authority

Over one quarter of households in NYCHA-owned properties are senior-only households, with fewer than 10% reporting employment-earned income. Among senior households, a growing segment of NYCHA's resident population, only 8% of households reported employment income as contributing to total household income, seen in Figure 5. Of total senior households reporting income: 70% reported income from Social Security, 40% reported Supplemental Security Income, and 21% reported income from pensions.

Approximately 55% of non-senior households in NYCHA-owned properties earn employment income attributable to any household member. Over 80% of households with two parents or grandparents and children younger than 18 earn employment income, as seen in Figure 5.

Figure 5: Percent of NYCHA Households with Employment Income by Household Type, 2012



N=176,221 households

Source: New York City Housing Authority

In NYCHA-owned units, over 60% of total households earn less than 30% of the Area Median Income, as seen in Figure 6. NYCHA family incomes are compared to area median income as they relate to family size. In 2012, the average NYCHA household size was 2.4 persons; the associated average income range for NYCHA units can be seen in Figure 7.

Figure 6: Distribution of Tenant Income in NYCHA-Owned Housing Units, 2012

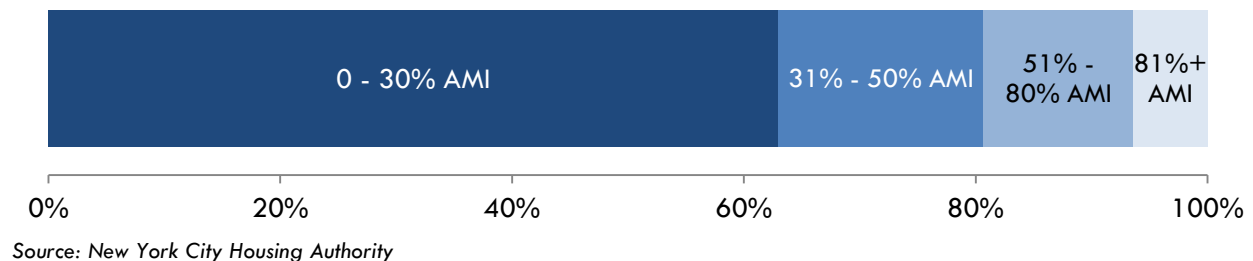


Figure 7: Tenant Income Ranges for Average NYCHA-Owned Household Size, 2012

Family Size	Less than 30% AMI	31% to 50% AMI	51% to 80% AMI	More than 81% AMI
2 Persons	\$20,600 or less	\$20,601 - \$34,400	\$34,401 - \$55,000	\$55,001 or more
3 Persons	\$23,200 or less	\$23,201 - \$38,700	\$38,701 - \$61,850	\$61,851 or more
Average	\$21,900 or less	\$21,901 - \$36,550	\$36,551 - \$58,425	\$58,426 or more

Source: New York City Housing Authority, Working Family Preference

REVENUE SOURCES

NYCHA receives revenues both from operations – primarily rental income from its buildings – and non-operating sources such as federal subsidies and private grants. The *2011 Annual Report* indicated that of a total of \$3.018 billion in revenue, 66% comes from federal funding provided by the U.S. Department of Housing and Urban Development. ***Specifically, in 2011, NYCHA received \$903 million in public housing subsidies to fund operations, \$77 million to administer the Section 8 Housing Choice Voucher Program, and \$1.08 billion to distribute as tenant rental subsidies through the Section 8 Housing Choice Voucher Program.*** Of the remaining 34% of revenues, dwelling rent contributed 30% of total operating revenue and 4% came from private grants, service fees, commercial rents, interest, and gain on the sale of capital assets. In addition, NYCHA also received a HUD capital award of \$273 million and \$41 million in New York City capital funds to support construction and large-scale capital improvements.

The major recurring federal funding streams can be broken down into the following sources, which are allocated to both operating and capital expenses:

- HUD's Public Housing Operating Fund Program – formulaic distribution of operating subsidies to PHAs;
- HUD's Public Housing Capital Fund Program – provision of funding for capital and maintenance expenditures;
- HUD's Section 8 Housing Choice Voucher Program – subsidies to families seeking private housing options; NYCHA acts as fund administrator on behalf of HUD;
- U.S. Department of Agriculture – programmatic funding for child and adult food and summer food service programs; and
- Various federal agencies – grant funding for programmatic services.

NYCHA has received non-recurring funding from the following sources:

- HUD's Capital Fund Financing Program – provides borrowed funds to NYCHA through issuance of New York City Housing Development Corporation Capital Fund Program Revenue Bonds;
- American Recovery & Reinvestment Act (ARRA) – grant proceeds directed towards modernization efforts for “shovel-ready” projects⁷; and
- New York State and New York City – discrete funding for designated capital projects through one-time contributions, as well as programmatic grant funding.

⁷ ARRA funds were 100% expended as of March 2012.

EXPENDITURES: BASIS FOR THE ECONOMIC IMPACTS ANALYSIS

NYCHA's expenditures include annual funding for both operations and capital improvements to existing property. From 2009-2011, NYCHA spent an average of approximately \$3 billion annually for operating related activities and \$389 million for capital improvements to properties. NYCHA paid an annual average of \$983 million in employee compensation, which is included in the operating expenditures amount above. In order to undertake these activities, NYCHA employed about 11,560 people in 2011.

The expenditures, employees, and earnings of NYCHA constitute the basis for the estimates of the economic impact analysis detailed in Section III. Through the activities of spending, hiring, and paying employees, NYCHA impacts the economy directly, creating demand for goods and services through its purchasing power. This economic impact report not only quantifies the direct spending, hiring and earnings of NYCHA, but also estimates the "multiplier" effects of NYCHA's direct spending and hiring on the economies of New York City and State at large.

For purposes of this report, NYCHA's expenditures are categorized into four areas:

- i) capital costs related to physical repair and maintenance of properties,*
- ii) operating expenditures related to management, upkeep, and leasing residential properties, as well as provision of supportive programming including educational, social and security services;*
- iii) expenditures related to administrative/"central office" functions; and*
- iv) funding NYCHA provides through the Section 8 Program.*

HR&A allocated NYCHA's spending into these categories in order to model their economic impacts using the IMPLAN input-output model, which provides separate multiplier effects for each of these categories. Wherever possible, HR&A used actual expenditures, employee counts and earnings figures from NYCHA's own reporting to undertake this analysis, and in some cases relied on estimates provided through extensive discussions with NYCHA staff to allocate expenditures, employment and earnings to these spending categories.

III. ECONOMIC IMPACT ANALYSIS

OVERVIEW OF ECONOMIC IMPACT ANALYSIS

This study estimates the economic impacts of NYCHA in terms of full-time equivalent (FTE) employment,⁸ employee compensation, and economic output or spending generated within New York City and New York State, displayed in 2013-dollar values. Estimated full-time equivalent employment represents ongoing, sustained jobs associated with annual expenditures attributable directly to NYCHA's spending throughout the City and State economies. Employee compensation includes wage and salary income as well as employee benefits and employer paid payroll taxes. Economic output is the total value of production across all industries that results from NYCHA's initial direct spending. It is equivalent to total spending in the economy and total business revenues.

This analysis considers both direct economic impacts and the “multiplier effect” of direct spending, hiring and earnings generated by these investments and activities. The multiplier effect reflects the fact that each dollar of direct spending supports further spending and job creation in the City and State through buyer-supplier relationships between businesses and household spending.

HR&A conducted this analysis using the IMPLAN⁹ model using IMPLAN's 2011 data for New York City and for New York State. This model estimates how NYCHA's initial spending within specific industry sectors impacts the entire City's and State's economies through multiplier relationships between sectors and new household spending. The economic impacts generated can be disaggregated into “direct” impacts and “multiplier” impacts, where multiplier impacts are the sum of “indirect” and “induced” impacts as defined below, and illustrated in *Figure 8*:

- The **direct impact** represents the initial change in employment, employee compensation, or economic output directly attributable to NYCHA's annual expenditure. For employment, direct impacts are defined as those ongoing full-time equivalent (FTE) jobs employed directly by NYCHA (i.e. NYCHA's 11,560 employees in 2012) plus an estimate of those sustained annually by third-party contractors to NYCHA for construction, operations, programming, or security services. Total direct annual expenditures are drawn from NYCHA's financial data schedules, and exclude depreciation and other post-employment benefits (OPEB). Depreciation is considered a non-cash expenditure. Though annual OPEB expenditures have cash equivalents, the cash value of OPEB is not representative of an expenditure in the current year (and is considered a future expenditure), and is therefore excluded from this analysis.
- The **indirect impact** represents the change in employment, employee compensation, or economic output of businesses that supply the industries that NYCHA directly affects. For example, when a construction firm working on one of NYCHA's projects purchases supplies, this additional demand

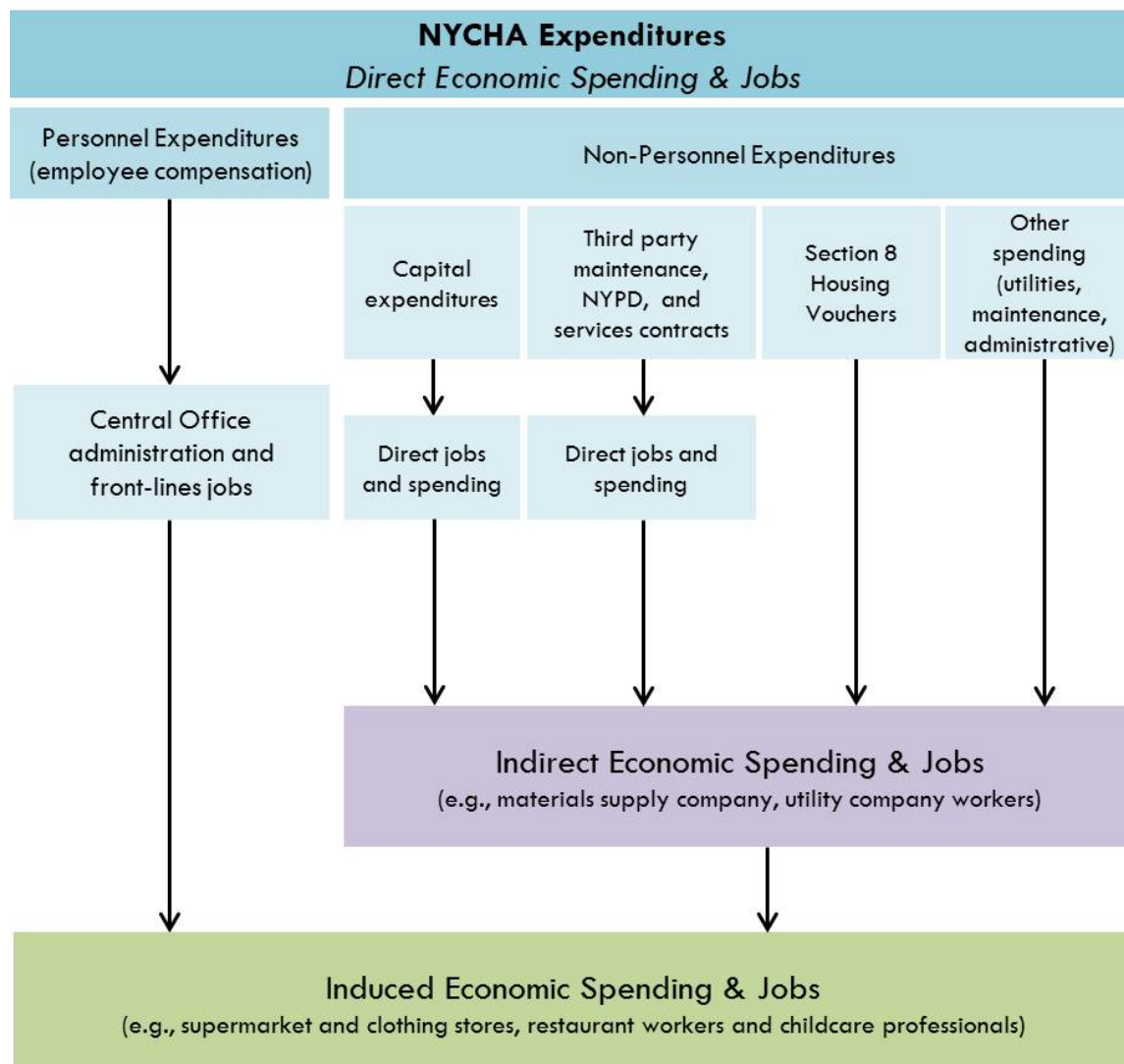
⁸ A FTE (full-time equivalent) employee is assumed to work 1,880 hours annually.

⁹ Impact analysis for PLANning (IMPLAN), an input-output model created by MIG, Inc. (formerly Minnesota IMPLAN Group, Inc.) for New York State, was used to analyze the economic impacts of NYCHA's annual expenditures. For each dollar of spending in the economy, IMPLAN traces the pattern of commodity purchases and sales interaction between 440 industries within the specified geography. The IMPLAN model is used to conduct economic impact analyses by leading public and private sector organizations across the United States. It also has been used to monitor job creation for a range of Federal government initiatives including the economic impacts of the American Recovery and Reinvestment Act of 2009 on state economies. The 2011 data for the State of New York was the most recent year of data available as of January 1, 2013.

causes the firm's suppliers to purchase more inputs from their suppliers, and so forth, promoting spending and job creation throughout the City and State economies.

- The **induced impact** represents the change in household spending of employees who are compensated for working in industries directly and indirectly affected by NYCHA's expenditures. For example, the materials or equipment supplier to a construction firm working on a NYCHA project pays wages to its employees; these employees spend their income on various goods and services, which ripples through the City and State economies, promoting spending and job creation.

Figure 8: Illustrating Direct, Indirect, and Induced Expenditures



HR&A utilized IMPLAN to perform a multi-regional analysis, in which the study identifies the economic impacts as a result of NYCHA's direct expenditures occurring solely within New York City, and the resulting indirect and induced economic impacts occurring elsewhere within New York State. The analysis does not quantify the amount of economic activity that occurs outside New York State as a result of NYCHA direct expenditures.

This analysis estimates the average annual economic impact and job creation for a typical year of NYCHA direct capital and operating expenditures, using a historical average of spending that occurred between 2009 and 2011, in 2011-dollars. ***It is important to note that while HR&A is not modeling the economic impact of spending undertaken by NYCHA's residents, NYCHA's over 400,000 residents and the 225,000 residents living in private housing supported by the Section 8 Program, contribute significant additional benefits to the local workforce and through their spending power in the City's and State's economies.***

The next section describes how HR&A developed estimates of capital expenditure, provision of housing, central office operations, and the Section 8 Voucher Program that formed the basis of the IMPLAN model.

METHODOLOGY FOR ESTIMATING AVERAGE ANNUAL DIRECT SPENDING

HR&A calculated total direct NYCHA spending using data drawn from NYCHA's annual Financial Detail Schedules (FDS). The FDS is developed as part of NYCHA's HUD financial reporting procedure. As noted earlier, OPEB and depreciation are excluded from this analysis. Working with the Accounting & Fiscal Services Department, NYCHA's expenditures were organized into four general categories of spending, described below. As seen in *Figure 9*, expenditures from 2009 to 2011 were averaged to create a representative "direct annual expenditure" in 2011-dollars.

- **Capital Expenditure.** NYCHA provided total annual capital expenditure associated with investment in substantial building repair and improvements for its 334 existing developments. A substantial building repair and improvement is defined as any investment over \$25,000.¹⁰
- **Provision of Public Housing.** The direct operations spending for maintenance, management and leasing services, security, utility purchases, and supportive programming (i.e. senior/community center and social services) occurring at NYCHA developments. Expenditures occurring at NYCHA developments were provided as personnel expenditure, non-personnel expenditure, and relevant contract expenditures by NYCHA's Department of Accounting. Contracted expenditures include direct payment for security services to the New York Police Department, and other security services providers, and facilities maintenance staff.¹¹ Total employee headcount was provided by the Budget Department. Jobs and spending defined as occurring at NYCHA developments is consistent with HUD definition and reporting requirements, categorized as "front-lines" expenditures.
- **Central Office Operations.** Annual expenditure associated with activities related to the management and administration of NYCHA's operations. This includes all activities occurring at 90 Church, 250 Broadway, and main borough offices, consistent with HUD definition and reporting of "Central Office" or headquarters administration jobs. It comprises the following departments: Chair, General Manager, Operations, Capital Planning, Administration (including administration of the Section 8 Voucher program), Information & Technology, and Community Programs.
- **Section 8 Voucher Program.** Annual expenditure associated with program administration and additional direct capital infusion to tenant household income through the distribution of Section 8 Vouchers, as rental subsidies for tenants residing in privately-owned housing.

Figure 9: NYCHA Direct Expenditures, 2009 – 2011 (\$2011, millions)

Year	Capital Expenditure (\$2011, millions)	Provision of Housing (\$2011, millions)	Central Office (\$2011, millions)	Section 8 Voucher (\$2011, millions)	Total (\$2011, millions)
2009	\$390.0	\$1,640.6	\$292.9	\$1,066.6	\$3,390.1
2010	\$415.1	\$1,691.0	\$261.4	\$1,082.6	\$3,450.1
2011	\$361.3	\$1,687.8	\$270.7	\$1,020.7	\$3,340.6
Average	\$388.8	\$1,673.2	\$275.0	\$1,056.6	\$3,393.6

Source: NYCHA 2009, 2010, and 2011 Financial Data Schedules; HR&A Analysis

¹⁰ Capital expenditures are assumed to be in existing residential buildings, and not associated with new construction.

¹¹ Third party maintenance contract expenditures includes the following contracted services: garbage and trash removal, heating and cooling repair, elevator maintenance, landscaping, electrical and plumbing, janitorial, and routine maintenance contracts. Of listed services, routine maintenance contracts represent approximately 75% of average annual third party maintenance contract expenditures.

AVERAGE ANNUAL ECONOMIC IMPACT OF NYCHA CAPITAL AND OPERATING EXPENDITURES IN NEW YORK CITY AND NEW YORK STATE, 2013

HR&A used NYCHA's average direct expenditures in 2011-dollars to estimate the total annual impacts of full-time jobs, employee compensation, and economic output (or spending) in 2013-dollars, as detailed in the Appendix A and summarized in the call-out box below.

Total Annual Economic Impact

The average annual ongoing economic impacts of NYCHA's total capital and operations expenditures in New York City and New York State are summarized below, in 2013-dollars and full-time equivalent jobs. As noted in the Overview on page 11, direct annual FTE jobs are the sum of NYCHA's directly-employed staff of 11,560 (in 2012) and the jobs created through directly-contracted labor to third parties for construction, maintenance, security, and programming. The jobs represent the number of ongoing, annually-sustained employment assuming a consistent annual expenditure.

Figure 10: Annual FTE Jobs Created by NYCHA's Expenditures

	NYC	Elsewhere in NYS	NYS Total
Direct	14,310	-	14,310
Indirect	3,760	200	9,960
Induced	9,780	1,380	11,160
Total	27,850	1,580	29,430

Source: IMPLAN; NYCHA Budget Department; HR&A Analysis

Figure 11: Employee Compensation Generated by NYCHA's Average Annual Direct Expenditures (\$2013, millions)

	NYC	Elsewhere in NYS	NYS Total
Direct	\$1,140	-	\$1,140
Indirect	\$305	\$10	\$315
Induced	\$645	\$60	\$705
Total	\$2,090	\$70	\$2,160

Source: IMPLAN; NYCHA Financial Data Schedules

Figure 12: Total Economic Output Generated by NYCHA's Average Annual Direct Expenditures (\$2013, millions)

	NYC	Elsewhere in NYS	NYS Total
Direct	\$3,495	-	\$3,495
Indirect	\$570	\$50	\$620
Induced	\$1,800	\$220	\$2,020
Total	\$5,865	\$270	\$6,135

Source: IMPLAN; NYCHA Financial Data Schedules; HR&A Analysis

Estimating Economic Output and Employee Compensation in 2013 dollars:

The following five steps illustrate how HR&A translated NYCHA's average direct expenditures into total economic output, in today's dollars:

1. Calculate average annual direct expenditure using NYCHA actual expenditures from 2009 to 2011, in 2011 dollars.
2. Input direct expenditure in 2011 dollars into IMPLAN model as expenditures associated with salary, and non-salary expenditures within particular types of industries, relative to North American Industry Classification System definitions.
3. IMPLAN model estimates indirect and induced economic impacts and wages associated with direct expenditures in 2013 dollars.
4. Inflate the average annual direct expenditure to 2013 dollars.
5. Sum direct NYCHA expenditure with IMPLAN-calculated indirect and induced impacts to estimate total economic output and employee compensation in 2013 dollars.

The following section shows the detailed economic outputs within each category of NYCHA activity generated by NYCHA's direct expenditures associated with (1) capital projects; (2) provision of housing; (3) central office operations; and (4) the Section 8 Program.

Capital Expenditures

The analyzed capital investments associated with NYCHA's annual purchases of building equipment and supplies, appliances and equipment for dwelling units, furniture and equipment for administrative uses, leasehold improvements, and NYCHA infrastructure between 2009 and 2011 are estimated to have the following one-time economic impacts in New York City (NYC) and State (NYS), in 2013-dollars:

- **Creation of 2,640 FTE jobs annually (10% of NYCHA's total employment impact).** Direct capital expenditure created approximately 1,690 FTE jobs in New York City, assuming prevailing wage labor compensation¹², and multiplier activity created about an additional 810 FTE jobs in NYC and 160 elsewhere in NYS, sustained annually at this level of ongoing annual expenditure.
- **Generation of \$115 million in employee compensation.** The average annual NYCHA one-time capital expenditure directly generated \$55 million in compensation, and multiplier activity generated an additional \$55 million in NYC and \$10 million elsewhere in NYS.
- **Generation of \$570 million in economic output (i.e., spending).** Annual capital expenditures directly generated \$400 million of the total spending, and multiplier activity generated \$140 million of spending in NYC and \$30 million of spending elsewhere in NYS.

Figure 13: Annual FTE Jobs Resulting from NYCHA Annual Capital Expenditure

	NYC	Elsewhere in NYS	NYS Total
Direct	1,690	-	1,690
Indirect	340	70	400
Induced	470	90	550
Total	2,500	160	2,640

Source: IMPLAN; NYCHA Budget Department; HR&A Analysis

Figure 14: Employee Compensation Generated by NYCHA Annual Capital Expenditure (\$2013, millions)

	NYC	Elsewhere in NYS	NYS Total
Direct	\$55	-	\$55
Indirect	\$25	\$5	\$25
Induced	\$30	\$5	\$35
Total	\$110	\$10	\$115

Source: IMPLAN; NYCHA Financial Data Schedules; HR&A Analysis

Figure 15: Economic Output Generated by NYCHA Annual Capital Expenditure (\$2013, millions)

	NYC	Elsewhere in NYS	NYS Total
Direct	\$400	-	\$400
Indirect	\$55	\$15	\$70
Induced	\$85	\$15	\$100
Total	\$540	\$30	\$570

Source: IMPLAN; NYCHA Financial Data Schedules; HR&A Analysis

¹² The total direct employment has been adjusted to reflect prevailing wage requirements associated with NYCHA's contracted labor. Please refer to Appendix A for a more detailed explanation.

Provision of Housing

Annual expenditures related to the maintenance, management, leasing, and utility payment, as well as provision of supportive programming services including senior/community center programs, social services and security services at NYCHA developments, including New York Police Department (NYPD)¹³, results in following economic activity:

- **Creation of about 15,620 FTE jobs annually (over 50% of NYCHA's total employment impact).** Staff employed directly by NYCHA and through third-party maintenance, sanitation, security, and services contracts accounted for approximately 8,760 of these ongoing, annual jobs. Multiplier activity generated an additional 5,930 jobs in the City and 930 jobs elsewhere in the State.
- **Generation of \$1.3 billion in annual employee compensation.** The average annual NYCHA expenditure associated with employee compensation generated \$815 million in NYC, and multiplier activity generated an additional \$440 million in NYC and \$40 million elsewhere in NYS.
- **Generation of \$2.8 billion in annual economic output.** NYCHA's expenditures related to the provision of housing directly generated \$1.7 billion of the total spending, and multiplier activity generated \$965 million of spending in NYC and \$155 million of spending elsewhere in NYS.

Figure 16: Annual FTE Jobs Created Resulting from NYCHA's Provision of Housing

	NYC	Elsewhere in NYS	NYS Total
Direct	8,760	-	8,760
Indirect	2,960	130	3,090
Induced	2,970	800	3,770
Total	14,690	930	15,620

Source: IMPLAN; NYCHA Budget Department; HR&A Analysis

Figure 17: Annual Employee Compensation Generated by NYCHA Provision of Housing (\$2013, millions)

	NYC	Elsewhere in NYS	NYS Total
Direct	\$815	-	\$815
Indirect	\$245	\$5	\$250
Induced	\$195	\$35	\$240
Total	\$1,255	\$40	\$1,295

Source: IMPLAN; NYCHA Financial Data Schedules; HR&A Analysis

Figure 18: Annual Economic Output Generated by NYCHA Provision of Housing (\$2013, millions)

	NYC	Elsewhere in NYS	NYS Total
Direct	\$1,725	-	\$1,725
Indirect	\$415	\$30	\$445
Induced	\$550	\$125	\$675
Total	\$2,690	\$155	\$2,845

Source: IMPLAN; NYCHA Financial Data Schedules; HR&A Analysis

¹³ HR&A assumed that of direct contract payment to the NYPD, 90% of total contract expenditure (\$73 million in 2013 dollars) is dedicated to employee compensation for police officers and 10% is dedicated to non-personnel expenditures. HR&A then estimated the number of direct police officer jobs based on the average annual NYC police officer compensation in 2009 indicated by the Citizens Budget Commission report "Six-Figure Civil Servants: Average Compensation Cost of New York City Public Employees," inflated to 2011 dollars.

Central Office Operations

Annual expenditures related to operations and activity occurring at NYCHA's central office operations results in following economic activity:

- **Creation of about 4,640 FTE jobs annually (15% of NYCHA's total employment impact).** NYCHA headquarters¹⁴ and central office administrative staff accounted for approximately 3,500 of these jobs. Multiplier activity generated an additional 970 jobs in the City and 170 jobs elsewhere in the State.
- **Generation of \$295 million in annual employee compensation.** The average annual NYCHA expenditure associated with employee compensation for NYCHA central office employees generated \$220 million in New York City, and multiplier activity generated an additional \$65 million in NYC and \$5 million elsewhere in New York State.
- **Generation of \$500 million in annual economic output.** NYCHA's expenditures related to its central office and headquarters operations directly generated \$285 million of the total spending, and multiplier activity generated \$190 million of spending in NYC and \$25 million of spending elsewhere in New York State.

Figure 19: Annual FTE Jobs Created Resulting from NYCHA's Central Office Operations

	NYC	Elsewhere in NYS	NYS Total
Direct	3,500	-	3,500
Indirect	330	-	330
Induced	640	170	810
Total	4,470	170	4,640

Source: IMPLAN; NYCHA Budget Department; HR&A Analysis

Figure 20: Annual Employee Compensation Generated by NYCHA Central Office Operations (\$2013, millions)

	NYC	Elsewhere in NYS	NYS Total
Direct	\$220	-	\$220
Indirect	\$25	-	\$25
Induced	\$40	\$5	\$50
Total	\$285	\$5	\$295

Source: IMPLAN; NYCHA Financial Data Schedules; HR&A Analysis

Figure 21: Annual Economic Output Generated by NYCHA Central Office Operations (\$2013, millions)

	NYC	Elsewhere in NYS	NYS Total
Direct	\$285	-	\$285
Indirect	\$70	-	\$70
Induced	\$120	\$25	\$145
Total	\$475	\$25	\$500

Source: IMPLAN; NYCHA Financial Data Schedules; HR&A Analysis

¹⁴ Staff employed at 90 Church St. and 250 Broadway, and at central borough offices. No operations or community programs "front-line" staff, nor Section 8 program administrative staff, are included in this employment estimate.

Section 8 Voucher Program

Annual expenditures related to the administration of NYCHA's Section 8 Voucher Program and the infusion of direct rental subsidy toward tenants' household income results in following economic activity:

- **Creation of about 6,510 FTE jobs annually (over 20% of NYCHA's total employment impact).** NYCHA staff associated with management and operation of the Section 8 Voucher Program accounted for approximately 360 of these jobs. Multiplier activity generated an additional 5,830 jobs in NYC and 320 jobs elsewhere in NYS.
- **Generation of \$450 million in annual employee compensation.** The average annual NYCHA expenditure associated with employee compensation for administration of the Section 8 Voucher Program generated \$50 million in New York City, and multiplier activity generated an additional \$385 million in NYC and \$15 million elsewhere in New York State.
- **Generation of \$2.2 billion in annual economic output.** NYCHA's expenditures related to administration of the Section 8 Voucher Program and direct payment of rental subsidy (as a capital infusion to household income) generated \$1.1 billion of the direct total spending. Multiplier activity generated \$1.1 billion of spending in NYC and \$55 million of spending elsewhere in NYS.

Figure 22: Annual FTE Jobs Created Resulting from NYCHA-Administered Section 8 Voucher Program

	NYC	Elsewhere in NYS	NYS Total
Direct	360	-	360
Indirect	140	-	140
Induced	5,690	320	6,010
Total	6,190	320	6,510

Source: IMPLAN; NYCHA Budget Department; HR&A Analysis

Figure 23: Annual Employee Compensation Generated by Section 8 Voucher Program (\$2013, millions)

	NYC	Elsewhere in NYS	NYS Total
Direct	\$50	-	\$50
Indirect	\$10	-	\$10
Induced	\$375	\$15	\$390
Total	\$435	\$15	\$450

Source: IMPLAN; NYCHA Financial Data Schedules; HR&A Analysis

Figure 24: Annual Economic Output Generated by Section 8 Voucher Program (\$2013, millions)

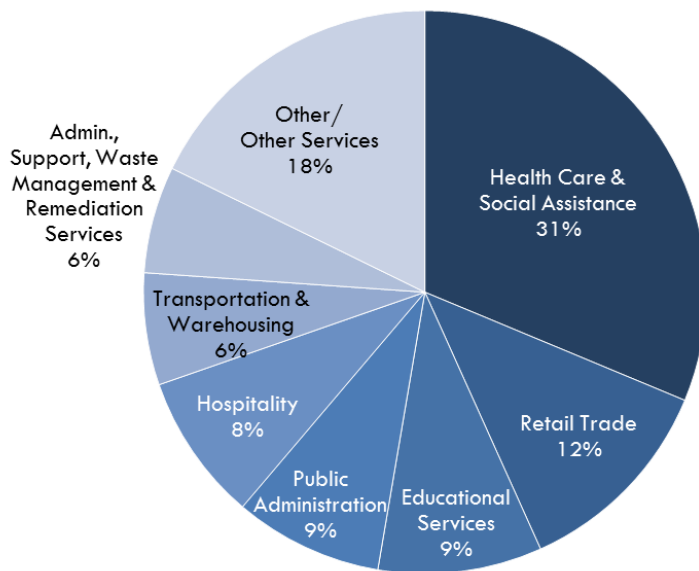
	NYC	Elsewhere in NYS	NYS Total
Direct	\$1,090	-	\$1,090
Indirect	\$30	-	\$30
Induced	\$1,045	\$55	\$1,100
Total	\$2,165	\$55	\$2,220

Source: IMPLAN; NYCHA Financial Data Schedules; HR&A Analysis

Resident Benefits to Labor and Consumer Markets

NYCHA's public housing residents are significant contributors to New York City's labor markets. With over 58,000 heads of households working, and over 30,000 working household members, residents of NYCHA-owned housing provide at least 88,000 members of the City's workforce (as of year-end 2012). The major industries employing NYCHA residents include healthcare and social assistance (31%), retail trade (12%), educational services (9%), and public administration (9%).¹⁵ Industries include a mixture of private and public employers, as seen in Figure 24 indicating the ten largest employers of NYCHA residents.

Figure 23: NYCHA Tenant Employment by Industry, 2012



N=61,277

Source: NYCHA, 2012

Figure 24: Ten Largest Employers of NYCHA Residents, 2012

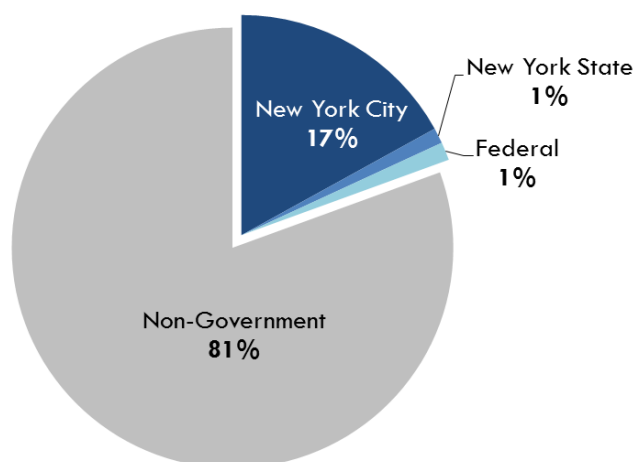
Employer	# of NYCHA Residents
NYC Department of Education	3,797
NYCHA	2,584
NYPD	1,667
NYC Health & Hospitals Corporation	1,228
Metropolitan Transit Authority	1,123
NYC Human Resources Administration	758
Partners in Care	606
NYC Administration for Children's Services	590
United States Postal Service	508
City University of New York	506

Source: NYCHA, 2012

¹⁵ Resident employees working in undefined industries, as well as those working for employers with 10 or fewer NYCHA resident employees and were not categorized by industry, are both excluded from this total and Figure 23. Those two categories represent an additional 27,200 employed residents.

Of residents reporting income from employment, almost 20% (17,280) work for the City, State or federal governments, as seen in Figure 25. Over 15,000 NYCHA residents work for a New York City agency; the City agencies employing the largest number of NYCHA residents include the Department of Education, NYCHA, the NYPD and the city's Health and Hospitals Corporation, as seen in Figure 24.

Figure 25: NYCHA Resident Employment by City, State, Federal, and Non-Government Employees



N=88,443

Source: NYCHA, 2012

NYCHA residents working in the health care and social assistance industry, the largest resident employment industry with over 19,000 residents, have an average annual wage of \$23,700. NYCHA residents working in the retail trade industry, the second largest employment industry, earn among the lowest wages with an average annual wage of \$15,700. Some of the higher-paying industries include transportation and warehousing and public administration, with an average salary of around \$40,000. In the utilities industries, NYCHA residents earn an average of \$57,600; however, the utilities industries employ little more than 100 NYCHA residents.

Figure 26: NYCHA Resident Average Wage by Employment Industry, 2012

Industry	# NYCHA Resident Employees	Average Annual Wage
Health Care & Social Assistance	19,162	\$23,700
Retail Trade	7,347	\$15,700
Educational Services	5,772	\$29,400
Public Administration	5,229	\$40,200
Accommodation & Food Services	5,183	\$18,900
Transportation & Warehousing	3,944	\$40,100
Admin, Support, Waste Management & Remediation Services	3,759	\$23,100
Real Estate Rental & Leasing	2,745	\$38,500
Finance & Insurance	856	\$32,800
Arts, Entertainment, & Recreation	821	\$23,000
Information	708	\$32,800

Industry (continued)	# NYCHA Resident Employees	Average Annual Wage
Manufacturing	550	\$22,300
Professional, Scientific, & Technical Services	246	\$23,700
Construction	193	\$25,200
Utilities	104	\$57,600

Source: NYCHA, 2012

IV. CONCLUSION

National Public Housing Policy Context

While the demand for services provided by public housing authorities like NYCHA continues to grow, with over 5.4 million families receiving rental assistance or living in public housing in the United States, the supply of affordable housing available under the auspices of PHAs (either directly or in privately-subsidized residences) is shrinking. The U.S. Department of Housing and Urban Development's 2013 *Fiscal Year Budget* reported that the total supply of public housing stock – 1.1 million units across the United States – is decreasing at a rate of 10,000 units per year, primarily as the result of unmet capital needs due to decreasing federal funds to support PHAs' capital and operational needs. PHAs require public and private financial support to maintain and manage their housing portfolios, as well as provide services for populations in need; an overwhelming 72% of PHA households are categorized as extremely low-income. Furthermore, a significant share of PHA residents is comprised of senior citizens and veterans. Federal public funding, as well as other sources of public and private revenue, not only help PHAs to fulfill their mission to provide housing to some of the poorest and most vulnerable populations, but also generate considerable economic activity in their surrounding regions. For NYCHA, by far the largest PHA in the United States relative to size of operations and housing portfolio, this expenditure is in the range of \$3.5 billion annually.

Impact of NYCHA

This report has found that NYCHA, as an organization and business, has a significant economic impact in New York City and New York State. Not only does NYCHA contribute to economic activity through direct expenditures and employment, enabling it to fulfill its supportive housing mission, but also NYCHA, through these activities, creates multiplier effects that ripple throughout the economy. For every \$1 in direct expenditures, NYCHA creates an additional \$1.80 in multiplier economy activity in the City and State. NYCHA's annual activities support nearly 30,000 ongoing jobs in both the public and private sectors in New York. Additionally, beyond traditional measures of economic impacts, NYCHA's residents are important contributors to the labor markets in the City as well as cycling their earnings back into the economy as consumers of local products and services, which a future study could help to quantify.

Future Outlook for Economic Impact

There are a number of factors that may help to increase, or decrease, NYCHA's future economic impact on the local New York City and New York State economies. The outlook for NYCHA's revenues and expenses will ultimately define the scale of annual job creation and spending in the region, particularly as it relates to access to federal funds, planned changes to increase operational efficiency, and public-private partnerships. The potential effects on NYCHA's economic impact are described below.

Over the past several years, NYCHA has worked with HUD to address funding shortfalls and an ongoing reduction of subsidies and grants, versus what the Authority has historically received. Partially mitigating reductions in standard operating funding, NYCHA's federal partners have been able to provide additional support to NYCHA for efforts to convert early to new procedures as well as for economic recovery efforts provided through American Recovery & Reinvestment Act (ARRA). In addition, NYCHA is hopeful that through the Federal Emergency Management Agency (FEMA) and other federal mechanisms, support efforts to restore damage to NYCHA facilities resulting from October 2012's Superstorm Sandy will be

forthcoming and assist in maintaining essential federal resource levels, those that NYCHA relies upon to maintain service and safety standards. However, NYCHA is aware that the extraordinary funding that was made available through ARRA, and which may be provided as a result of Superstorm Sandy is short-term and limited in nature.

In January 2013, NYCHA announced a partnership with the City of New York to expedite the backlog of repairs for its facilities, with joint funding from the federal government, efficiency savings realized through ongoing operational initiatives, and a City funding allocation. NYCHA has been a strong advocate for its residents, both in acting to preserve its existing stock of affordable housing and in advocating for the timely repair and maintenance of deficiencies. The Authority's advocacy for and success in creating funding partnerships to support these efforts will have an effect on internal resource allocation decisions. And the ability of NYCHA to adequately maintain and preserve its existing housing stock has wider implications for the housing models NYCHA and local governmental partners will employ in the future, and the quality and amount of affordable housing the Authority will be able to keep on the market and in its portfolio of operations. With continued successes in addressing repair issues, as well as efforts to improve operational efficiency and ensure building resiliency, the economic and fiscal impacts of NYCHA will remain significant.

Thus NYCHA continues to seek longer-term solutions to reduce budget gaps and make comprehensive capital upgrades to sustain its housing infrastructure. Without continued support, both from HUD and from State and City agencies, NYCHA will be challenged to support the operating and capital expenditures necessary to function at acceptable levels and provide the economic benefits to the City and State at the levels outlined in this Report.

V. APPENDICES

APPENDIX A | TECHNICAL METHODOLOGY FOR ESTIMATING ECONOMIC IMPACTS

TECHNICAL METHODOLOGY OVERVIEW

This technical appendix provides a detailed overview of the methodologies and assumptions used by HR&A in the economic impacts analysis for NYCHA. The first three subsections discuss the methodology for the economic impacts modeling, including a discussion of IMPLAN. The last subsection provides data tables containing inputs and assumptions used in the economic impact analysis.

OVERVIEW OF ECONOMIC IMPACT MODELING PROCESS

HR&A employed the IMPLAN analysis for PLANning (IMPLAN) input-output model for the State of New York, created by MIG, Inc. (formerly Minnesota IMPLAN Group, Inc.), to analyze the economic impacts of NYCHA's annual investments and operating expenditures. For each dollar of spending in the economy, IMPLAN traces the pattern of commodity purchases and sales interactions between 440 industries within the specified geography. The IMPLAN model is used to conduct economic impact analyses by leading public and private sector organizations across the United States. It also has been used to monitor job creation for a range of Federal government initiatives including the economic impacts of the American Recovery and Reinvestment Act of 2009 on state economies.

HR&A used 2011 data for all New York State counties, which is the most recent available as of January 1, 2013, and performed a multi-regional analysis to assess impacts in New York City and New York State. HR&A defined New York City as its constituent counties – Bronx, Kings, New York, Queens, and Richmond Counties – and elsewhere in New York State as all other counties. To assess the total impact in both the City and State, spending and jobs in the two areas were totaled.

HR&A made a minor adjustment to the IMPLAN output in estimating total impacts. IMPLAN employment estimates include both full-time and part-time workers, and HR&A converted these numbers to full-time equivalent (FTE) employees using ratios based on national averages from the U.S. Department of Commerce, Bureau of Economic Analysis and provided by MIG. A full-time equivalent job therefore represents sustained, ongoing employment that is supported by consistent annual expenditure.

METHODOLOGY FOR ESTIMATING ANNUAL DIRECT SPENDING AND JOBS

Spending. HR&A worked with NYCHA to estimate direct annual capital and operations expenditures associated with the five categories of activity described in Section III of this report. Using the Authority's Financial Data Schedules submitted to the U.S. Department of Housing and Urban Development (HUD), NYCHA organized actual annual expenditure from 2009 to 2011 into personnel and non-personnel spending described in *Figure A1*. HR&A then adjusted those expenditures in 2009 and 2010 to 2011-dollars by using the U.S. Bureau of Labor Statistics Consumer Price Index inflation indices, and then averaged the adjusted 2009, 2010, and 2011 annual expenditures for each detailed NYCHA activity to create a prototypical "average annual" expenditures. The 2011 average annual expenditures were adjusted for inflation in 2013, and HR&A input these expenditures into the IMPLAN model as 2013 expenditures, which provided outputs for direct, indirect, and induced jobs and spending in 2013-dollars.

Three of NYCHA's direct annual expenditures included in the Financial Data Schedules were removed for the purpose of this analysis: depreciation, other personnel employee benefits (OPEB) that cover post-employment liability, and payment in lieu of taxes (PILOT). Depreciation is considered a non-cash expenditure. Though annual OPEB expenditures have cash equivalents, the cash value of OPEB is not representative of an expenditure in the current year (and is considered a future expenditure), and is therefore excluded from this analysis. PILOT is considered a direct fiscal benefit to the City, and was included in the fiscal benefits analysis, described in Appendix B. The other two expenditures are considered non-cash expenses.

Jobs. HR&A consulted with NYCHA budget department staff to allocate NYCHA's actual employment, 11,560 workers, into the activity categories in *Figure A1*. For the purpose of this analysis, HR&A used the IMPLAN model to derive direct jobs created as a result of contract expenditures for capital, provision of housing, and supportive programming activities – not inclusive of the New York City Police Department (NYPD) contract. The jobs created by contract labor are considered directly attributable to NYCHA, and are not included as part of NYCHA's actual 11,560 direct employees but are considered direct jobs. For the NYPD contract, HR&A estimated the total number of jobs created making two key assumptions: (1) that 90% of the total contract amount is dedicated to personnel services expenditures, and (2) that the average annual compensation costs for an NYPD office (inclusive of benefits and overtime) is approximately \$164,000 per year.¹

Figure A1: Detailed NYCHA Activities

Capital	Provision of Housing	Central Office Operations	Section 8 Voucher Program
Contracts <i>Third party contracts for large-scale physical repair and maintenance</i>	Maintenance <i>Basic physical repair, cleaning, and facilities management</i>	Central Office Administration <i>250 Broadway, 90 Church, and at borough headquarters offices</i>	Section 8 Voucher Payments <i>Direct subsidies to tenants for rent</i>
	Real Estate <i>Leasing, asset management, applications, and front-line administration</i>		Program Administration <i>Managerial or administrative work associated with operating Section 8 Program</i>
	Utilities <i>Direct payment to private utilities providers for electric, fuel, water & sewage</i>		
	Social Services <i>Social and/or family services provided to residents and non-residents at NYCHA-owned developments</i>		
	Senior / Community Centers <i>Programs provided at NYCHA-owned centers.</i>		
	Contracts <i>Third party contracts to provide:</i> <ul style="list-style-type: none"> <i>Maintenance (including janitorial, sanitation, repair, and other services)</i> <i>Security, through NYPD and other security contractors</i> <i>Social services</i> <i>Resident and non-resident (neighborhood) programming</i> 		

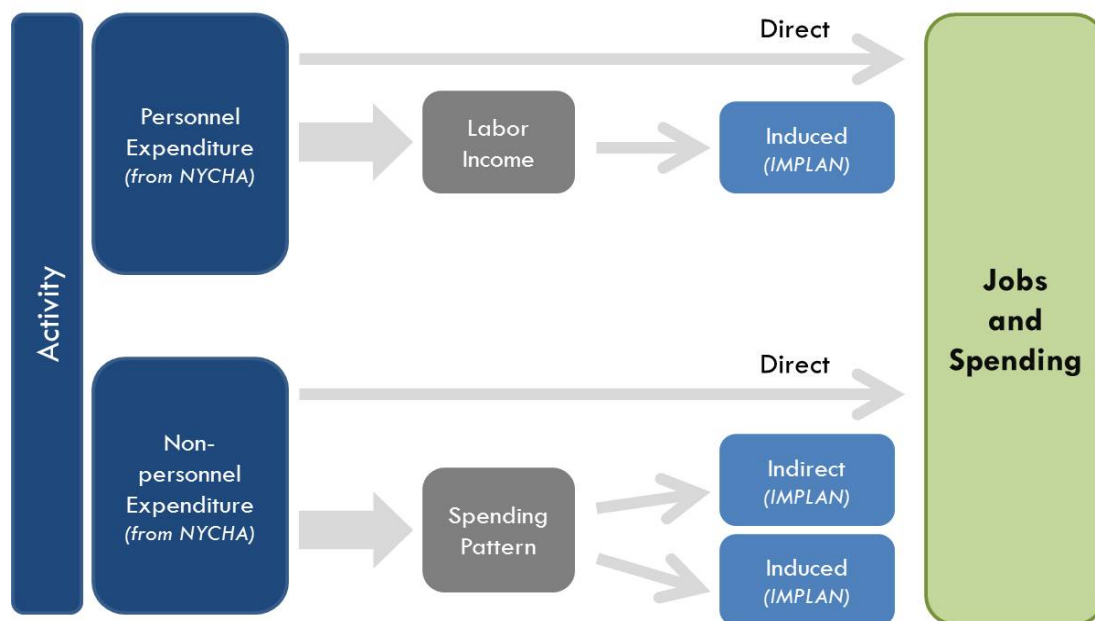
¹ Citizens Budget Commission. "Six-Figure Civil Servants: Average Compensation Cost of New York City Public Employees." January 2009.

DETAILED METHODOLOGY FOR ESTIMATING INDIRECT AND INDUCED ANNUAL SPENDING

In order to calculate the indirect and induced spending and jobs created by NYCHA's direct expenditures, HR&A performed an "analysis-by-parts," which essentially allows for a more detailed approach to estimating the impact of personnel versus non-personnel expenditures. HR&A modeled NYCHA's personnel expenditures as a "labor income change," essentially indicating those expenditures as payments from NYCHA to employees. Employee spending as a result of these payments is considered an induced impact, with no associated indirect impacts. All non-contract, non-personnel expenditures were evaluated with respect to their "industry spending pattern," or the typical spending patterns for non-personnel expenses within a particular industry represented by the aforementioned activities (i.e., real estate, maintenance and repair of residential buildings). These industries correlate to those defined by North American Industry Classification System, used by Federal statistical agencies. Non-personnel expenditures create both indirect and induced impacts, as payments directly to suppliers for NYCHA (indirect) and employee spending throughout the economy (induced).

This process is described in the figure below, and includes all personnel and non-personnel expenditures with the exception of non-NYPD contracts, utilities expenditures, and direct Section 8 Voucher subsidy payments to tenants.

Figure A2: Indirect and Induced Economic Impact Methodology, excluding Non-NYPD contracts, Utilities, and Section 8 Voucher Payments



Non-NYPD contracts, such as those for capital work, third party maintenance/management of NYCHA developments, security, or services, and utilities expenditures, were modeled as traditional industry changes, for which IMPLAN generated total direct, indirect, and induced impacts associated with expenditure in a particular type of industry. All direct job creation associated with NYCHA's annual utilities expenditures for purchase of fuel, electric, and water/sewage services were considered to be indirect jobs for the purpose of this analysis. That is to say, HR&A considered payments to utilities companies as those to a NYCHA "supplier," rather than a direct contractor.

HR&A made further adjustments to IMPLAN-calculated full-time equivalent employees associated with NYCHA's capital expenditures, in order to account for prevailing wage requirements. NYCHA capital projects must meet federal requirements for employee wage minimums, as defined by the New York State Department of Labor for the New York City region. Therefore, HR&A reduced the number of jobs associated with IMPLAN-calculated jobs by increasing the assumed average wage per worker to meet NYC-area prevailing wage minimums for construction laborers.

Section 8 Voucher payments were modeled as household income changes, and IMPLAN estimated the amount of indirect and induced economic activity associated with the incremental cash infusion directly to tenant household income. For the purpose of this analysis, HR&A assumed that the household income distribution of tenants in Section 8 units mirrored that of tenant household income distribution for residents in NYCHA-owned developments, seen in Figure 6 in Section II of this report.

DATA TABLES: DIRECT NYCHA EXPENDITURE BY ACTIVITY, 2009 – 2011

The following tables indicate the direct expenditures derived by working with NYCHA, in 2011-dollars average year, derived from NYCHA's Financials Data Schedules.

Figure A3: NYCHA Direct Expenditures, 2009 – 2011 (\$2011, millions)

Year	Capital Expenditure (\$2011, millions)	Provision of Housing (\$2011, millions)	Central Office (\$2011, millions)	Section 8 Voucher (\$2011, millions)	Total (\$2011, millions)
2009	\$390.0	\$1,640.6	\$292.9	\$1,066.6	\$3,400.1
2010	\$415.1	\$1,691.0	\$261.4	\$1,082.6	\$3,450.1
2011	\$361.3	\$1,687.8	\$270.7	\$1,020.7	\$3,340.6
Average	\$388.8	\$1,673.2	\$275.0	\$1,056.6	\$3,393.6

Source: NYCHA's 2009, 2010, and 2011 Financial Data Schedules; HR&A Analysis

Figure A4: NYCHA Direct Capital Expenditures, 2009 – 2011 (\$2011, millions)

	2009 (\$2011, millions)	2010 (\$2011, millions)	2011 (\$2011, millions)	Average Year (\$2011, Millions)
Personnel expenditure	-	-	-	-
Non-personnel expenditure				
Contracts	\$390.0	\$415.1	\$361.3	\$388.8
Total	\$390.0	\$415.1	\$361.3	\$388.8

Source: NYCHA's 2009, 2010, and 2011 Financial Data Schedules; HR&A Analysis

Figure A5: NYCHA Direct Provision of Housing Expenditures, 2009 – 2011 (\$2011, millions)

	2009 (\$2011, millions)	2010 (\$2011, millions)	2011 (\$2011, millions)	Average Year (\$2011, Millions)
Personnel expenditure				
Maintenance & systems operations	\$606.0	\$626.6	\$632.2	\$621.6
Real estate	\$62.5	\$59.0	\$69.6	\$63.7
Community and senior centers	\$34.0	\$29.6	\$30.4	\$31.3
Family, social, security services	\$7.5	\$7.8	\$7.6	\$7.9
<u>NYPD*</u>	<u>\$66.2</u>	<u>\$64.3</u>	<u>\$63.0</u>	<u>\$66.4</u>
<i>Subtotal</i>	<i>\$776.1</i>	<i>\$787.3</i>	<i>\$802.9</i>	<i>\$788.7</i>
Non-personnel expenditure				
Maintenance	\$32.0	\$37.8	\$38.3	\$36.1
Real Estate	\$192.6	\$168.9	\$193.9	\$185.1
Utilities	\$544.4	\$561.4	\$544.7	\$550.2
Community/senior centers	\$7.0	\$9.9	\$9.3	\$8.7
NYPD*	\$7.4	\$7.2	\$7.0	\$7.2
Maintenance Contracts	\$71.1	\$106.1	\$81.5	\$388.8
<u>Security Contracts</u>	<u>\$10.1</u>	<u>\$12.5</u>	<u>\$10.4</u>	<u>\$11.0</u>
<i>Subtotal</i>	<i>\$864.6</i>	<i>\$903.7</i>	<i>\$885.1</i>	<i>\$884.4</i>
Total	\$1,640.6	\$1,691.0	\$1,688.0	\$1,673.2

*NYPD assumes that 90% of total annual payment is allocated to personnel expenditures and 10% of annual payment is allocated to non-personnel expenditures.

Source: NYCHA 2009, 2010, and 2011 Financial Data Schedules; HR&A Analysis

Figure A6: NYCHA Direct Central Office Expenditures, 2009 – 2011 (\$2011, millions)

	2009 (\$2011, millions)	2010 (\$2011, millions)	2011 (\$2011, millions)	Average Year (\$2011, Millions)
Personnel expenditure	\$241.5	\$201.1	\$194.7	\$212.4
Non-personnel expenditure	\$51.4	\$60.4	\$76.0	\$62.6
Total	\$292.9	\$261.4	\$270.7	\$275.0

Source: NYCHA 2009, 2010, and 2011 Financial Data Schedules; HR&A Analysis

Figure A7: Section 8 Voucher Program Expenditures, 2009 – 2011 (\$2011, millions)

	2009 (\$2011, millions)	2010 (\$2011, millions)	2011 (\$2011, millions)	Average Year (\$2011, Millions)
Personnel expenditure	\$52.8	\$44.0	\$41.9	\$46.2
Non-personnel expenditure				
Program Administration	\$16.7	\$30.1	\$34.1	\$26.9
<u>Voucher payments (rent subsidies)</u>	<u>\$997.1</u>	<u>\$1,008.5</u>	<u>\$944.7</u>	<u>\$983.4</u>
<i>Subtotal</i>	<i>\$1,013.8</i>	<i>\$1,038.6</i>	<i>\$978.8</i>	<i>\$1,010.3</i>
Total	\$1,066.6	\$1,082.6	\$1,020.7	\$1,056.6

Source: NYCHA 2009, 2010, and 2011 Financial Data Schedules; HR&A Analysis

APPENDIX B | FISCAL BENEFITS ANALYSIS

OVERVIEW OF FISCAL BENEFITS ANALYSIS

As a supplement to the economic impact report, HR&A conducted a fiscal benefits analysis to estimate how much tax revenue NYCHA's annual direct spending contributes to the New York City and State governments. This analysis estimates the increase in tax revenue and other income to the City and State of NYCHA's economic activity; it does not estimate possible expenses of the City and State related to NYCHA's activities, whether direct, indirect or induced. This analysis considers four categories of tax revenues:

- **New York City and State Personal Income Tax.** New York City income tax rates range between 3% and 4% for individual and married households. New York State income tax rates range between 4% and 9%. Various deductions are available.
- **New York City and State Sales and Use Tax.** New York City has a 4.875% sales and use tax, inclusive of a Metropolitan Transportation District surcharge of 0.375%, and New York State has a 4% sales and use tax. Groceries, medicine, and clothing are exempted.
- **New York City and State Corporation and Other Business Tax.** New York City has an 8.85% corporation tax and a 4% unincorporated business tax on net income; while New York State has a 7.1% corporation tax. Modifications exist for different corporation types and income levels.
- **Local Property Tax.** Property tax is charged at the municipal level in New York. The tax due on each property is based upon the general tax rate in its home municipality and the assessed value of the property. NYCHA does not pay any property taxes for Authority-owned properties, but, properties which NYCHA rents or leases may pay property taxes for which NYCHA has indicated it would be responsible.

DETAILED METHODOLOGY FOR ESTIMATING FISCAL BENEFITS

This section provides an overview of the methodology used by HR&A to estimate fiscal benefits of NYCHA's investments and operating expenditures. Fiscal benefits include direct personal income, sales and use, property, and business taxes paid to either the City or State of New York, and also indirect/induced tax revenues paid to the combined City and State. HR&A used slightly different approaches to estimate the direct benefits of NYCHA's activities versus the indirect and induced benefits of NYCHA's expenditures due to limitations in the IMPLAN fiscal impacts model in accounting for the significant amount of tax-exempt economic activity by NYCHA. The following paragraphs describe the approach for each, also illustrated in *Figure B1*.

Direct Fiscal Benefits. NYCHA itself is exempt from taxation; however, its employees and suppliers pay taxes to the City and State of New York. In this analysis, HR&A assumed that NYCHA's direct expenditures associated with Section 8 Voucher subsidies were not subject to direct taxes (see below for how subsidies affected tax revenues associated with the indirect and induced economic activity). HR&A used the following approach to estimate the different types of taxes generated to the City and State from NYCHA's direct annual expenditures:

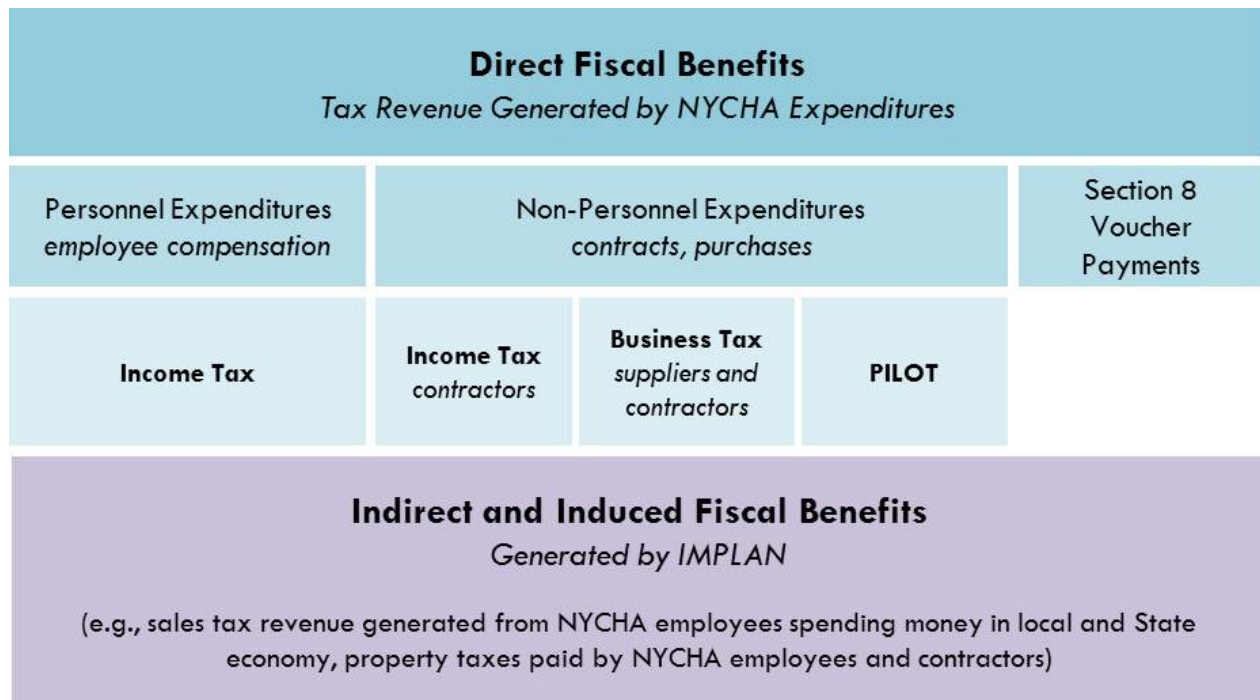
- **Personal income taxes** were calculated based on NYCHA's average annual compensation for its combined employees and contractors. HR&A made assumptions regarding the marital status and household profile in order to apply the appropriate income tax rates. Using the 2013 New York City and New York State tax tables,¹ HR&A assumed that 50% of total direct employees were married and 50% were single. Of the 50% assumed married, HR&A assumed that half were the sole household earners and half filed jointly at a higher combined household income bracket. HR&A assumed that 90% of NYCHA's employees are New York City residents, and then estimated the total revenue to the City and State as a result of the average NYCHA worker.
- **Sales and use taxes** were not estimated, as NYCHA is exempt from City and State sales tax.
- **Business taxes** were estimated based on NYCHA's direct total non-personnel expenditure for contracts (non-NYPD) and suppliers. HR&A compared the direct annual expenditure to the total New York City and New York State economic output and the total City and State business tax revenues generated in 2011 (in 2013-dollars). HR&A then extrapolated the share of business tax revenue in the City and State directly attributable to NYCHA spending.
- **Local property taxes** were not estimated, as NYCHA is exempt for paying taxes on property that it owns and property that it uses for tax-exempt purposes (e.g., social programs). However, NYCHA does make payments in lieu of tax (PILOT) to the City of New York, as reported in its Consolidated Annual Financial Reports, based on negotiated amounts and other established PILOT schedules. To estimate annual PILOT for purposes of the fiscal benefits analysis, HR&A calculated an average PILOT payment based on NYCHA's actual PILOT payments from 2009 to 2011, in 2013-dollars.

Indirect and Induced Spending. HR&A used the following approach to estimate the different types of taxes paid to the combined City and State from *indirect and induced spending*:

- **State personal income, sales and use, and business taxes** were estimated by the IMPLAN model according to the change in total value-added (the sum of employee compensation, proprietor income, other property income, and indirect business taxes) resulting from NYCHA's annual expenditures. The model assumes that the economy's current ratios between value-added accounts and tax revenues for each state and local tax also hold for NYCHA's economic activity, and uses these ratios to estimate the fiscal impacts generated by NYCHA's expenditures. IMPLAN uses the annual survey of State and Local Government Finances conducted by the U.S. Census Bureau to estimate these ratios, and IMPLAN's fiscal impacts provide a combined State and Local estimate that does not distinguish between revenues to the City versus the State of New York.
- **Local property taxes** are also estimated using the IMPLAN model. These local property taxes reflect those generated by NYCHA's indirect and induced activities (e.g. the portion of property taxes paid by the construction company working on a NYCHA capital project attributable to company revenues from that project, property taxes paid by employees for residences), rather than local property tax owed by NYCHA itself.

¹ New York State Department of Taxation and Finance, 2013

Figure B1: Approach for Estimating Direct, Indirect and Induced Fiscal Benefits



Source: HR&A

ANNUAL FISCAL BENEFITS OF DIRECT NYCHA EXPENDITURES TO THE CITY AND STATE, 2013

HR&A estimated the annual fiscal benefits of NYCHA's direct expenditures to the City of New York and State of New York. The analyzed annual expenditure between 2009 and 2011 generated \$138 million in State and local tax revenue in New York, comprised of \$72 million in State tax and \$66 million in local New York City tax. This tax revenue is summarized in Figure 27.

Figure B2: Average Annual Direct Fiscal Benefit of NYCHA in New York City and New York State (\$millions, 2013)

	New York City	New York State
Personal Income Tax	\$32	\$60
Sales and Use Tax	<i>not applicable</i>	<i>not applicable</i>
Corporation and Business Taxes	\$9	\$12
Property Tax (PILOT)	\$25	-
Total	\$66	\$72

Source: HR&A Analysis

ANNUAL FISCAL BENEFITS OF INDIRECT AND INDUCED EXPENDITURES TO THE CITY AND STATE, 2013

HR&A used IMPLAN to estimate the annual fiscal benefits to the total City and State as a result of indirect and induced spending generated from NYCHA's direct expenditures. The average annual \$2 billion of indirect and induced economic output generated \$173 million in combined City and State tax revenues, which include the breakdown shown in Figure B3.

Figure B3: Average Annual Indirect and Induced Fiscal Benefit of NYCHA to New York City and State (\$millions, 2013)

	New York City and New York State
Personal Income Tax	\$36
Sales and Use Tax	\$55
Corporation and Business Taxes	\$16
Property Tax	\$66
Total	\$173

APPENDIX C | REFERENCES

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