Economic Impacts of Affordable Housing on New York State's Economy

Prepared for the New York State Association for Affordable Housing (NYSAFAH)

February 10, 2017

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Economic Impacts of Affordable Housing on New York State

The New York State Association for Affordable Housing (NYSAFAH) engaged HR&A Advisors, Inc. (HR&A) to analyze the economic impact of New York's affordable housing industry since 2011 and to update the findings of HR&A's 2012 report on the same topic. The updated report finds that affordable housing development continues to be a key driver of economic activity, job creation and neighborhood revitalization in New York State, with limited state dollars leveraging significant federal and city resources, as well as private investment.

Between 2011 and 2015, the years analyzed in this report, over 128,000 affordable units were built or preserved across New York State, representing $30.8 billion in public and private investment. Based on findings from HR&A's 2012 report, every dollar of public funding for affordable housing leverages an additional dollar of private investment.

These projects generated a total economic impact of $54.5 billion during construction, including direct spending and indirect and induced economic activity, which in turn supported over 329,000 jobs throughout New York State. The ongoing operations of these units and household retail spending generates an additional $6.5 billion in total economic activity each year. (Multiplier or spinoff activity is comprised of two components: 1) indirect economic impacts caused by additional business spending stimulated by the direct economic spending on affordable housing development, e.g., supplier business operations, and 2) induced economic impacts stimulated by additional household spending due to wages from the direct and indirect activity.)

On average, New York State's affordable housing industry builds or preserves 25,655 affordable housing per year.

- Each year, the construction or renovation of these affordable units directly generate 30,410 construction jobs, $2.5 billion in compensation and $6.2 billion in economic activity
- The indirect and induced impacts of this one-time construction spending create an additional 35,460 jobs, $1.9 billion in compensation, and $4.7 billion in economic activity

Once completed, these affordable housing units:

- Directly generate 6,600 permanent jobs that support resident spending and building maintenance and operations, $267 million in direct compensation and $803 million in economic activity, and
- An additional 2,800 permanent jobs, $169 million in compensation annually, and $488 million in annual economic spending as a result of the indirect and induced impacts of operations

A protypical 50-unit project in New York State generates:

- 100 jobs during construction (resulting from direct and multiplier spending), and sustains 14 jobs on an ongoing basis
- $7.8 million in compensation during construction, sustaining $0.7 million in compensation annually
- $16.7 million in economic spending during construction, including $7.2 million in economic spinoff activity, including spending on materials and services
- $2.0 million in ongoing economic activity annually

Economic Impacts of Affordable Housing Developed in New York City

Eighty-three percent of affordable housing units developed annually in New York are in New York City due to the overwhelming need for housing that low, moderate and middle income New York City residents can afford. The number of New York City households paying over 30 percent of their income on rent rose from 41 percent in 2000 to 51 percent in 2015. Meanwhile, market rate rental units affordable to households at median income fell from 63 percent to 48 percent over the same period.

Between 2011 and 2015, New York City's affordable housing industry generated:

- 106,406 affordable housing units, including new construction, rehab and preservation units
- 249,000 jobs during construction, and sustains 39,000 permanent jobs to support resident spending and building maintenance
- $21.9 billion in compensation during construction, and $1.9 billion in compensation annually thereafter
- $26.4 billion during construction in economic activity, including spending on materials and services, while thereafter sustaining $5.4 billion in annual economic spending on local goods and services, and building maintenance

I. Introduction

The New York State Association for Affordable Housing (NYSAFAH) is the statewide trade association for New York's affordable housing industry. Its 300 members include for-profit and non-profit developers, lenders, investors, syndicators, attorneys, architects and others active in the financing, construction, and operation of affordable housing. Together, NYSAFAH's members are responsible for virtually all of the housing built in New York State with the help of Federal, State, and local subsidies.

In order to demonstrate the full impacts of the affordable housing industry on the State of New York, NYSAFAH engaged HR&A Advisors, Inc. (HR&A) to conduct an economic impact study of the development and operation of affordable housing units throughout the State. HR&A is a real estate advisory, economic development, and public policy consulting firm with offices in New York, Dallas, Los Angeles, and Washington, D.C.

The following report describes the findings of HR&A's analysis and is organized as follows:

- **Section II. Trends in Affordable Housing Development** provides context and an overview of the need for affordable housing both nationally and in New York State.
- **Section III. Affordable Housing Investment in New York State** provides an overview of the sources and uses of funding for affordable housing development in the State with additional considerations to New York City.
- **Section IV. Economic Impacts of Affordable Housing** assesses economic impacts of affordable housing development, ongoing operations, and spending by residents.

II. Trends in Affordable Housing Development

This section provides an overview of socioeconomic and affordable housing development trends to demonstrate the need for affordable housing development. The first part of this section reviews the literature on national trends, followed by a section that looks specifically at housing trends in New York State. In addition, the section provides comparative analysis of housing affordability between various regions and counties within New York State.

A. Overview | National Trends in Affordable Housing

After facing significant turmoil during and after the recession of 2008, the national housing sector has recovered in recent years, with home prices and rents in many markets returning to and surpassing pre-recession levels. While the recession technically ended in 2010, the housing sector was slow to recover due to the lingering effects of record foreclosures, lack of credit for new purchases, and consumer weariness due to the continued de-leveraging of household debt. However, after bottoming out in February 2012, the market began a swift recovery, with single family home prices rising 33 percent and reaching their highest value since 2006.

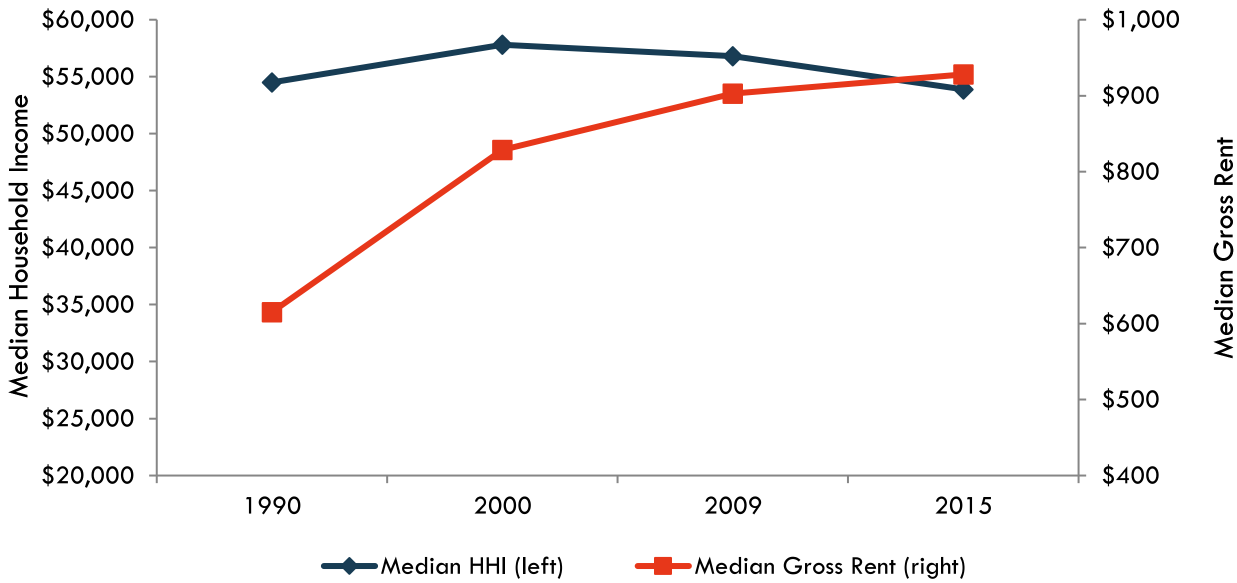
U.S. households have experienced a decline in real incomes, causing housing costs to consume a larger share of household budgets. Recent Census data suggest that poverty rates in the U.S. are the highest in decades, with 15.1 percent of households living below the poverty line in 2015, up from 14.3 percent in 2010 despite the broader economic recovery.[1] Real median wages declined by nearly seven percent between 2000 and 2015, and are below the level they were in 1990.

The poor economic climate has increased the percentage of household incomes spent on housing. HUD guidelines define households that spend more than 30 percent of their gross income on rent as cost-burdened. Nationally, gross rent as a percentage of household income increased from 26.5 percent in 2000 to 31.0 percent in 2015. More than 16 million renter households, over 39 percent of all renters in the country, pay more than 35 percent of their household income toward rent according to Census data for 2015 – up from 30 percent in 2000

Figure 1 illustrates how this trend has changed over time for renter households. From 1990 to 2015, median gross rent increased by 108 percent. By contrast, during this same period, the median household income only increased by 79 percent. The trend is starker when controlling for inflation. Over the past 25 years, the real median gross rent grew 51 percent even as the real incomes fell 1 percent.

[1] The poverty line is defined by the U.S. Census Bureau's poverty threshold, for which every person or family is assigned to one of 48 poverty thresholds dependent upon the size of a family and the ages of its members, but does not consider geography. The threshold is defined by the U.S. Department of Agriculture food budgets designed for families under financial stress and the portion of income families spend on food. A family is considered in poverty if its income is less than its determined threshold.

Figure 1: Real Median Household Income vs. Real Median Gross Rent, Nationwide, 2015$



Source: U.S. Census; HR&A Advisors, Inc.
Note: Both rents and incomes are reported in real, rather than nominal dollars.

B. OVERVIEW | NEW YORK STATE HOUSING AND DEMOGRAPHIC TRENDS

New York is among the top five least affordable states in the country for housing,[2] and has experienced more domestic outmigration than any other state. The following sections review supply and demand trends in the State.

From 2000 to 2015, New York lost more residents to domestic migration than any other state in the nation. While overall population increased, driven primarily by foreign immigration, over 1.5 million residents left New York[3] for other areas of the United States during the 2000s. Approximately one third of these out-migrants moved to Florida, and an additional 30 percent moved to other southern states. The remaining third moved to neighboring metropolitan area states, New Jersey, Pennsylvania, and Connecticut. This loss is representative of a long-term trend; during the 1990s the State lost 1.7 million residents to domestic outmigration. While warmer climates and employment opportunity have attracted New Yorkers to the South, other Northeast states with lower costs of living (e.g. New Hampshire, Vermont, and Maine) exhibited either positive or neutral domestic migration over the same time period. These trends have continued in recent years. Between 2011 and 2015, New York State lost an additional 416,000 residents to domestic outmigration.

[2] Joint Center for Housing Studies of Harvard University. "America's Rental Housing: Meeting Challenges, Building on Opportunities." Harvard University, 2011.
[3] The loss in domestic outmigration was more than offset by an increase in foreign immigration, leading to a slight increase in overall population.

Several studies suggest that New York's high housing costs and onerous tax burden contribute to this significant outmigration. Downstate residents face housing costs that are rated among the most "severely unaffordable" in the world's metropolitan areas, second only in the United States to the Los Angeles metropolitan region in the United States.[4] While housing is relatively inexpensive in upstate New York, the area has been burdened by anemic economic growth and the loss of jobs. According to the U.S. Census, New York's state and local taxes per capita are the highest in the nation. An income-adjusted metric developed by the Tax Foundation found that New Yorkers shoulder the second heaviest tax burden, 21 percent above the nationwide average.[5] Further, Census data indicates that the number of individuals living below poverty level grew from 13.8 percent in 2009 to 15.3 percent in 2015. The number of cost-burdened individuals also increased during this time period. The share of renter households paying at least 35 percent of their income in rent grew from 39.7 percent in 2009 to 42.2 percent in 2015

Figure 2 provides a snapshot of the key demographic and housing indicators in New York State from 1990 to 2015 according to the U.S. Census. The median household income increased significantly less than housing costs. From 2009 to 2015, a period of economic recovery, the median household income increased at an average annual rate of 1.2 percent, compared to a 3.5 percent increase in the median contract rent. Home values have yet to recover from the recession, but remain well above their 2000 level.

[4] Cox, Wendell and Hugh Pavletich. "7th Annual Demographia International Housing Affordability Survey: 2011." Demographia, 2011, http://www.demographia.com/dhi.pdf.

[5] Cox, Wendell and E.J. McMahon. "Empire State Exodus: The Mass Migration of New Yorkers to Other States." Empire Center for New York State Policy, October 2009.

Figure 2: Summary of New York State Demographic and Housing Profile, 1990-2015

	1990	2000	2009	2015
Population	17,990,445	18,976,457	19,423,896	19,673,174
Median Household Income	$32,965	$43,494	$55,233	$59,269
Ann. Percentage change	-	*2.81%*	*2.69%*	*1.18%*
Percentage of Individuals Below Poverty Threshold	12.7%	14.6%	13.8%	15.3%
Total Housing Units	7,226,891	7,679,307	7,950,035	8,171,725
Percentage Vacant	*8.1%*	*8.1%*	*10.2%*	*11.13%*
Median Home Value	$131,600	$148,700	$300,600	$283,400
Ann. Percentage change	-	*1.23%*	*8.13%*	*-0.98%*
Median Contract Rent	$428	$605	$822	$1,012
Ann. Percentage change	-	*3.52%*	*3.46%*	*3.53%*

Source: U.S. Decennial Census; American Community Survey; HR&A Advisors, Inc.

There is a growing financial burden on both owners and renters across the State. The percentage of housing cost-burdened owners (defined as housing costs which equal or exceed 30 percent of household income) increased 18 percent between 1990 and 2008 in the run up to the Great Recession. Since 2009, the percentage has continued to grow in spite of the recovery, reaching 42 percent of all renter households in 2015. Based on 2008 American Community Survey (ACS) data, 54 percent of renter households are unable to afford a two-bedroom fair market rent apartment statewide.[6]

The age of the housing stock also creates significant problems. New York State's housing stock is considerably older than the stock in other parts of the country, with a median construction year of 1956 versus the median construction year of 1976 nationwide. Many units may be priced at a level that is affordable to a high percentage of households, but are aging and of low quality. Particularly in upstate New York, the challenge is to supply housing that is decent and safe, in addition to being affordable.

New York exhibits substantial regional variation in affordability, with significantly higher unaffordability downstate. The Affordability Index is a meaningful measure of relative regional affordability because it controls for regional differences in income and housing costs. The Affordability Index, as calculated by HCR, increased from 2000 to 2006 (the last year for which data is available) in every region within New York State, with the most significant increases seen in the New York City Suburban, Mid-Hudson, and Capital Region areas. (For further detail, see HR&A's original 2012 report.)

[6] Ibid. pg. 77

New York State faces barriers to meeting the need for development of additional affordable housing. Although there are a number of Federal and State housing programs, there is still a significant lack of adequate financial resources to incentivize the development of affordable housing, according to a 2009 HCR study.[7] Federal resources have been outpaced by demand, particularly in the case of HOME and CDBG. Several factors have consistently been identified by HCR as barriers to affordable rental development including:

- High taxes
- High land acquisition costs
- High infrastructure costs
- "Not in my back yard" (NIMBY) opposition, referring to those that do not want affordable housing development in their neighborhood.

These factors are described in greater detail in the 2012 report.

[7] NYS HCR. "Statewide Affordable Housing Needs Study 2009."

III. Affordable Housing Investment in New York State

New York State's allocation of funding for the development of affordable housing has been consistently among the highest in the nation (behind Connecticut, Delaware, and New Hampshire in 2000), according to a study by the State of Connecticut.[8] This section provides an overview of the public investment[9] data used in the study to translate how public investment supports the development of affordable housing units. HR&A obtained program data from HCR and the New York City Department of Housing Preservation and Development (HPD) on all projects funded through State, Federal, and City programs administered by the agencies between 2011 and 2015. HCR administers funding from State and Federal government available for investment in housing statewide, while HPD administers City and Federal government funding available for investment in hosuing within New York City only. A total of 128,275 units[10] were developed or preserved statewide between 2011 and 2015, for an average of 25,655 per year.[11]

While New York City's population only represents 43 percent of the statewide total (8.4 million out of 19.7 million[12]), more than 90 percent of the affordable housing units built or preserved during these years were located in New York City, reflecting the overwhelming need for affordable housing in the City. As discussed in the previous section, evidence of this need is demonstrated by data on housing cost burdens. Households paying more than 30 percent of their household income on rent are considered cost burdened and households paying more than 50 percent of their income on rent are considered severely cost burdened.The percentage of cost-burdened New York City households rose from 41 percent in 2000 to 51 percent in 2015, and the percentage of severely cost-burdened households increased from 22 percent to 28 percent over the same period.[13] The percentage of market rate rental units that are affordable to households at the median income fell from 63 percent in 2000 to 48 percent in 2015.

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[8] Connecticut Office of Labor Relations. "Comparison of States' Allocations for Affordable Housing." 2000.

[9] This study defines public investment as subsidy for affordable housing development.

[10] Unit counts for affordable housing projects are based on starts not completions.

[11] The actual number of units constructed during this period ranged significantly and were supported by a robust economy and major government initiatives. In recent years, and going forward, these numbers are much lower as government investment declines. Every $1 million decline in government investment reduces the number of affordable units developed by 14.

[12] American Community Survey, 2015.

[13] Furman Center for Real Estate and Public Policy. State of New York City's Subsidized Housing: 2011, p.11

IV. Economic Impacts of Affordable Housing

The development of affordable housing creates significant economic benefits for the State of New York. During the construction period, it produces direct job opportunities for construction workers and spinoff jobs from indirect and induced spending, stimulating the local and regional economies. Upon completion, affordable housing projects help stabilize distressed neighborhoods, drive local retail spending, and support permanent jobs to service local residents and operate and maintain the housing developments.

This section discusses the economic impacts of affordable housing development on New York State's economy from 2011 to 2015. The first section discusses the economic impacts of all projects completed in New York State and the second section discusses the economic impacts of only projects located in New York City.

Two different types of economic impacts are considered within each section. The first addresses the economic impact of affordable housing development, which includes the construction and rehabilitation of units. These are the one-time impacts from the purchase of construction materials and labor hours associated with development and construction. The second addresses the ongoing economic impact of the affordable units driven by spending by households residing in the units and building operation and maintenance.[14] Each section also considers the average annual impacts of the construction and ongoing operations of affordable housing units. *Please note that numbers in some tables may not add up to the stated total due to rounding.*

HR&A used the input-output model IMpact analysis for PLANning (IMPLAN) to estimate the direct and spinoff economic impacts of affordable housing development, operation, and occupation on New York State's economy. The IMPLAN model is used to conduct economic impact analyses by leading public- and private-sector organizations across the United States, including the New York State Department of Labor, the New York State Assembly, and the New York State Division of the Budget. HR&A inputted values for direct spending into the model for construction and ongoing operations. Based on these values, IMPLAN produced estimates of the resulting jobs, compensation, and economic spending. Economic spending is the change in industry production due to spending from the investment in and operation of affordable housing. In addition to the direct effects, the IMPLAN model also produces estimates of spinoff effects. These include indirect economic impacts caused by additional business spending stimulated by the direct economic spending on affordable housing development (e.g., supplier business operations) and induced economic impacts stimulated by additional household spending due to wages from the direct and indirect activity.

Appendix A provides more detailed information on the methodology used in this study.

A. Economic Impacts of Affordable Housing Development in New York State, All Projects, 2011-2015

Investment in affordable housing development made a significant contribution to the New York State economy from 2011 to 2015. This analysis includes all projects in New York State, including those in New York City.

[14] The analysis of the ongoing impacts of affordable housing development estimates the economic contributions of the people living in the units and employees supporting the units to the New York State economy. The authors are not asserting that all of this spending is new to the economy, as some households may have lived in the region prior to moving to an affordable unit or lived in a unit that was rehabilitated.

Government, non-profit, and private sector organizations made investments of $30.8 billion in the development or preservation of 128,275 affordable housing units statewide. The overwhelming majority of these units (106,406 or 83 percent) were located in the five boroughs of New York City. As illustrated in Figure 3, HR&A used industry standards to estimate the distribution of hard and soft costs that comprise the total investment in affordable housing development. (Soft costs are assumed to account for 30 percent of total development costs.) Total development costs include the costs associated with market rate units built as part of mixed-income projects but exclude the cost of land.

Figure 3: Investment in Affordable Housing Development in New York State, All Projects 2011-2015

	New York City	Outside New York City	Total
Hard Costs (Millions)	$18,486	$3,062	$21,548
Soft Costs (Millions)	$7,923	$1,312	$9,235
Total (Millions)	**$26,409**	**$4,374**	**$30,783**
Affordable Units	**106,406**	**21,869**	**128,275**

Source: HR&A Advisors, Inc.

One-Time Construction Impacts, 2011-2015

The development of 128,275 affordable housing units in New York State between 2011 and 2015 generated the following economic impacts, as detailed in Figure 4.

- ***$54.5 billion in total economic spending.*** This includes the $30.8 billion in investment, which is reflected in the IMPLAN input-output model as direct economic spending. The direct spending stimulated an additional $12.9billion in indirect economic spending and an additional $10.8 billion in induced economic spending.
- ***329,400 total one-time jobs.***[15] This includes 152,100 direct jobs in construction and related sectors, 98,200 indirect jobs in industries supporting construction, and 79,100 induced jobs from their household spending in a range of industries, including construction, architecture and engineering, professional services, restaurants, retail, etc.
- ***$20.9 billion in total employee compensation.*** This figure includes $12.4 billion in direct compensation in construction-related industries. The spinoff activity supported $4.8 billion in indirect employee compensation and $3.7 billion in induced employee compensation. The overall average employee compensation across all industries (including spinoff effects from indirect and induced spending) was approximately $62,400 per year based on the IMPLAN input-output model.

[15] For the analysis of construction impacts, a "job" refers to the amount of work completed by one person in one year, (or an annual FTE).

Figure 4: One-Time Construction Impacts from Affordable Housing Development in New York State, All Projects 2011-2015

Source	Affordable Units	Investment (Millions)
Total	**106,406**	**$30,783**

	Jobs	Compensation (Millions)	Economic Spending (Millions)
Direct	152,100	$12,364	$30,783
Indirect	98,200	$4,832	$12,892
Induced	79,100	$3,695	$10,803
Total	**329,400**	**$20,891**	**$54,477**

Source: HR&A Advisors, Inc.

Ongoing Annual Impacts, 2011-2015

In addition to temporary impacts during the construction period, occupied affordable housing has a permanent impact on local and neighborhood economies.

The total ongoing impacts from 128,275 households living in units developed from 2011 to 2015 generated the following economic impacts, as detailed in Figure 5.

- ***$6.5 billion in annual economic spending.*** This total includes $4.0 billion in direct spending on local goods and services and building operations and maintenance. This direct spending generated an additional $1.3 billion in indirect spending and $1.2 billion in induced spending.
- ***46,800 total jobs.*** This figure includes 32,800 direct jobs (27,100 jobs in a range of industries supported by local consumer spending and 5,700 jobs in building operation and maintenance positions). In addition, building operations and local spending generated 6,900 indirect jobs and 7,100 induced jobs.
- ***$2.2 billion in total annual compensation.*** This includes $1.3 billion in direct compensation, $441 million in indirect compensation, and $404 million in induced compensation. The average compensation for jobs across all industries is $46,500.

Figure 5: Ongoing Annual Impacts from Affordable Housing Development in New York State, All Projects 2011-2015

	Jobs	Compensation (Millions)	Economic Spending (Millions)
Direct	32,800	$1,333	$4,017
Indirect	6,900	$441	$1,258
Induced	7,100	$404	$1,181
Total	**46,800**	**$2,178**	**$6,457**

Source: HR&A Advisors, Inc.

B. Economic Impacts of Average Annual Affordable Housing Development in New York State

The following section discusses the average annual impacts of affordable housing in New York State, excluding New York City. Between 2011 and 2015, a total of 128,275 affordable units were developed in New York State for an average of 25,655 units per year. The following section considers the future economic impacts, assuming this many units were developed annually.

One-Time Construction Impacts

The development of 25,655 affordable housing units per year would produce the following impacts on New York State, as detailed in Figure 6.

- ***$10.9 billion in total economic spending.*** This includes $6.2 billion in investment, which is represented in the IMPLAN input-output model as direct spending from affordable housing investment. The direct investment would stimulate an additional $2.6 billion in indirect economic spending and an additional $2.2 billion in induced economic spending.
- ***65,800 total one-time jobs.*** This includes 30,400 direct jobs in construction-related sectors, 19,6400 indirect jobs in industries supporting construction, and 15,800 induced jobs from their household spending in a range of industries, including construction, architecture and engineering, professional services, restaurants, retail, etc.
- ***$4.2 billion in total employee compensation.*** This figure includes $2.5 billion in direct compensation in construction-related industries. The spinoff activity would support $966 million in indirect compensation and $739 million in induced compensation. The overall average compensation across all industries would be approximately $63,400 per year based on the IMPLAN input-output model.

Figure 6: One-Time Construction Impacts from Average Annual Affordable Housing Development in New York State

Source	Affordable Units	Investment (Millions)
Total	**25,655**	**$6,157**

	Jobs	Compensation (Millions)	Economic Spending (Millions)
Direct	30,400	$2,473	$6,157
Indirect	19,600	$966	$2,578
Induced	15,800	$739	$2,161
Total	**65,800**	**$4,178**	**$10,895**

Source: HR&A Advisors, Inc.

Ongoing Annual Impacts

The households living in affordable housing developed in each year would generate the following impacts annually, as detailed in Figure 7.

- ***$1.3 billion in annual economic spending.*** This total would include $803 million in direct spending on local goods and services and building operations and maintenance. This direct spending would generate an additional $252 million in indirect spending and $236 million in induced spending.

- ***9,400 total jobs.*** This figure includes 6,600 direct jobs (5,400 jobs in a range of industries supported by local consumer spending and 1,100 jobs in building operation and maintenance positions). In addition, local spending and operations generate 2,800 indirect and induced jobs.
- ***$436 million in total annual compensation.*** Direct jobs would generate $267 million in compensation. Indirect jobs would generate $88 million and induced jobs would generate $81 million in compensation annually. The overall average compensation across all industries would be approximately $$46,500 per year based on the IMPLAN input-output model.

Figure 7: Ongoing Impacts from Average Annual Affordable Housing Development in New York State

	Jobs	Compensation (Millions)	Economic Spending (Millions)
Direct	6,600	$267	$803
Indirect	1,400	$88	$252
Induced	1,400	$81	$236
Total	**9,400**	**$436**	**$1,291**

Source: HR&A Advisors, Inc.

C. Economic Impacts of Affordable Housing Development in New York City, All Projects, 2011-2015

Given the scale of affordable housing investment in New York City, HR&A conducted a separate analysis to estimate the economic impacts from affordable housing development in New York City on the New York State economy. HR&A obtained data from HCR and HPD on 137,926 units, including 106,406 affordable units, built and preserved across the five boroughs between 2011 to 2015.[16] This section describes the cumulative impact of these units on New York City's economy.

One-Time Construction Impacts, 2011-2015

The development and preservation of 106,406 affordable housing units in New York City between 2011 and 2015 generated the following economic impacts, as detailed in Figure 8.

- ***$45.9 billion in total economic spending.*** This includes $26.4 billion in investment, which is reflected in the IMPLAN input-output model as direct economic spending. The investment stimulated an additional $10.8 billion in indirect economic spending and an additional $8.7 billion in induced economic spending.
- ***248,900 total one-time jobs.*** This includes 128,900 direct jobs in construction-related sectors, 68,300 indirect jobs in industries supporting construction, and 51,800 induced jobs from their household spending in a range of industries, including construction, architecture and engineering, professional services, restaurants, retail, etc.
- ***$17.9 billion in total employee compensation.*** This figure includes $10.7 billion in direct compensation in construction-related industries. The spinoff activity supported $4.1 billion in indirect employee compensation and $3.0 billion in induced employee compensation. The overall average compensation across all industries (including spinoff effects from indirect and induced spending) was approximately $72,000 per year based on the IMPLAN input-output model.

Figure 8: One-Time Construction Impacts from New York City Affordable Housing Development, All Projects 2011-2015

Source	Units	Investment (Millions)
Total	**106,406**	**$26,409**

	Jobs	Compensation (Millions)	Economic Spending (Millions)
Direct	128,900	$10,739	$26,409
Indirect	68,300	$4,133	$10,796
Induced	51,800	$3,045	$8,743
Total	**248,900**	**$17,917**	**$45,949**

Source: HR&A Advisors, Inc.

[16] The total unit count includes projects sponsored by HPD, HCR and HDC.

Ongoing Annual Impacts, 2011-2015

In addition to temporary impacts during the construction period, occupied affordable housing has a permanent impact on local and neighborhood economies.

The total ongoing impacts from households living in affordable and mixed-income projects developed or preserved from 2011 to 2015 generated the following economic impacts, as detailed in Figure 9.

- ***$5.4 billion in annual economic spending.*** This total includes $3.4 billion in direct spending on local goods and services and building operations and maintenance. This direct spending generated an additional $1.0 billion in indirect spending and $958 million in induced spending.
- ***39,300 total jobs.*** This figure includes 27,900 direct jobs (23,100 jobs in a range of industries supported by local consumer spending and 4,800 in building operation and maintenance positions). In addition, local spending and operations generated 5,700 indirect jobs and 5,700 induced jobs.
- ***$1.9 billion in total annual compensation.*** This includes $1.2 billion in direct compensation. Spinoff activity generated $375 million in indirect compensation and $334 million in induced compensation annually. The overall average compensation across all industries (including spinoff effects from indirect and induced spending) was approximately $47,300 per year.

Figure 9: Ongoing Impacts from New York City Affordable Housing Development, All Projects 2011-2015

	Jobs	Compensation (Millions)	Economic Spending (Millions)
Direct	27,900	$1,150	$3,442
Indirect	5,700	$375	$1,045
Induced	5,700	$334	$958
Total	**39,300**	**$1,858**	**$5,444**

Source: HR&A Advisors, Inc.

In addition to these significant one-time construction and ongoing economic impacts, these 106,406 affordable units improve the quality of shelter for more than 272,000 people, assuming the New York City average household size of 2.69 and a minimal vacancy rate. These units help enhance New York City's economic competitiveness by providing lower income households with high quality housing and less financial strain. These benefits in turn lead to better health, higher employment rates, and greater economic productivity.

E. Economic Impacts of a PROTOTYPICAL 50-unit affordable development in New York State

This section analyzes the economic impact of a typical 50-unit project in New York State, approximately the average size of an affordable housing development built or preserved during this period.

One-Time Construction Impacts

The development of 50 units of affordable housing in New York State would generate the following economic impacts, as detailed in Figure 10.

- ***$16.6 million in total economic spending.*** This includes the $9.4 miliion in investment, which is reflected in the IMPLAN input-output model as direct economic spending. The investment would stimulate an additional $3.9 million in indirect economic spending and an additional $3.3 million in induced economic spending.
- ***100 total one-time jobs.*** This includes 46 direct jobs in construction-related sectors, 30 indirect jobs in industries supporting construction, and 24 induced jobs from their household spending in a range of industries, including construction, architecture and engineering, professional services, restaurants, retail, etc.
- ***$6.43 million in total employee compensation.*** This figure includes $3.8 million in direct compensation in construction-related industries. The spinoff activity would support $1.5 million in indirect employee compensation and $1.1 million in induced employee compensation. The overall average compensation across all industries (including spinoff effects from indirect and induced spending) would be approximately $63,400 per year.

Figure 10: One-Time Construction Impacts from 50 Units of Affordable Housing Development

	Jobs	Compensation (Millions)	Economic Spending (Millions)
Direct	46	$3.8	$9.4
Indirect	30	$1.5	$3.9
Induced	24	$1.1	$3.3
Total	**100**	**$6.4**	**$16.6**

Source: HR&A Advisors, Inc.

Ongoing Annual Impacts

In addition to temporary impacts during the construction period, the 50 occupied affordable housing units would have a permanent impact on local and neighborhood economies.

The total ongoing impacts from 50 households could be expected to generate the following economic impacts, as detailed in Figure 11.

- ***$2.0 million in annual economic spending.*** This total includes $1.2 million in direct spending on local goods and services and building operations and maintenance. This direct spending is expected to generate an additional $0.4 million in indirect spending and $0.4 million in induced spending.
- ***14 total jobs.*** This figure includes 10 direct jobs (approximately 8 jobs in a range of industries supported by local consumer spending and 2 in building operation and maintenance positions). In addition, local spending would generate 2 indirect jobs and 2 induced jobs.
- ***$0.7 million in total annual compensation.*** This includes $0.4 million in direct compensation. Spinoff activity would generated $0.1 million in indirect compensation and $0.1 million in induced compensation annually. The overall average compensation across all industries (including spinoff effects from indirect and induced spending) would be approximately $46,500 per year.

Figure 11: Ongoing Impacts from 50 Units of Affordable Housing

	Jobs	**Compensation (Millions)**	**Economic Spending (Millions)**
Direct	10	$0.4	$1.2
Indirect	2	$0.1	$0.4
Induced	2	$0.1	$0.4
Total	**14**	**$0.7**	**$2.0**

Source: HR&A Advisors, Inc.

VI. Conclusion

While housing values have declined significantly in many parts of the United States, finding decent, safe housing remains a challenge for large segments of the population due to the loss of jobs and overall wage stagnation. Nationwide, the real median contract rent has increased by 51 percent since 1990, while the real median household income has fallen by 1 percent. As a result, households across the country are devoting more income to cover housing costs, or living in lower quality units and experiencing longer commutes.

Housing affordability is particularly challenging for residents of New York State:

- New York is one of the five least affordable states in the country in terms of overall housing costs, and housing cost burdened households have increased significantly between 1990 and 2015:
    - The number of cost burdened homeowners increased 18 percent
    - The number of cost burdened renters increased 11 percent
- These numbers might have been even higher had it not been for the continued outmigration of residents from the State. Since 2011, New York State lost over 400,000 people to other areas of the country. Several studies suggest that high housing costs, along with an onerous tax burden and lack of employment opportunities in certain parts of the State, are key drivers behind decisions to relocate.

Affordable housing development impacts New York State's economy at multiple levels. The development of affordable units produces direct employment in construction and affiliated industries. Construction spending also produces spinoff effects through new business spending (e.g., suppliers spend money on their business operations) and induced economic spending through household spending of wages generated by the direct and indirect activities.

Affordable housing benefits the State's economy and supports economic development by:

- **Creating jobs during construction:** The construction and preservation of affordable housing statewide supported over 329,000 direct and spin-off jobs between 2011 and 2015. An average annual production of 25,700 units per year would support 65,900 direct and spinoff temporary jobs with an average annual compensation of $63,400.
- **Creating permanent jobs from operations and resident spending**: The ongoing operations of and resident spending from units developed and preserved between 2011 and 2015 supported 46,800 direct and spin-off jobs. An average annual production of 25,600 units per year would support 9,400 direct and spinoff jobs with an average compensation of $46,500.
- **Contributing to local economies.** The development of a typical 50-unit affordable housing project requires investment of approximately $9.4 million, which generates $16.6 million in one-time economic spending and supports 100 one-time direct and spinoff jobs. The ongoing operation of the project would generate $2.0 million in annual economic spending and support 14 direct and spinoff jobs.
- **Stabilizing neighborhoods:** The construction and preservation of affordable housing helps stabilize communities by developing underutilized property, improving the public realm, and stabilizing neighborhood population bases.
- **Supporting economic growth:** These units help enhance New York City's economic competitiveness by providing lower income households with high quality housing and less financial strain. These benefits in turn lead to better health, higher employment rates, and greater economic productivity.

Investment in affordable housing should not be viewed as simply an investment in shelter, but also as a primary driver for economic development that generates both short-term construction related jobs and economic spending, as well as long-term jobs supported by resident spending.

While all levels of government have recently focused housing policy on mitigating the impacts of the housing bubble burst, record foreclosures, and declines in housing values, the problem of affordable housing has not disappeared. To this end, investment in affordable housing should remain among the government's top priorities in order to revitalize the real estate market, produce greatly needed jobs, stimulate economic development, and support neighborhood stabilization.

Appendix A: Methodology

HR&A used data provided by HPD and HCR for the period 2011 to 2015 to estimate the economic impacts of affordable housing development on New York State's economy. This data includes projects that were supported by Federal, State, and New York City sources of funding.

HR&A entered direct spending into the nationally recognized input-output model "IMpact analysis for PLANning" (IMPLAN) to estimate economic impacts. The model produces estimates of:

- ***Economic spending,*** which is defined as the total value of industry production that results from an activity. It includes both gross domestic product and spending to produce intermediate goods.
- ***Employee Compensation,*** which is defined as the total payroll cost paid by an employer, including wages, all benefits, and employer paid payroll taxes.
- ***Jobs,*** which are defined differently for one-time construction and ongoing activities. One-time construction jobs represent the amount of work completed by one person in one year. Ongoing jobs represent full-time equivalent employees on an annual basis.

The following provides an overview of the types of impacts estimated and a description of the IMPLAN model. Appendix B includes a longer list of key definitions.

1. One-Time Construction Impacts

HR&A estimated the economic impacts of construction using total project cost data provided by State and City agencies. Land and acquisition costs, which do not contribute to new economic impacts were excluded from total development costs. For the purposes of this analysis, HR&A assumed the industry average of 70 percent of total development cost as hard costs and 30 percent as soft costs. Each cost item was entered into the IMPLAN input-output model and classified as either a residential construction cost or soft cost (architecture and engineering) category. The number of jobs generated during construction represents the number of total annual full-time equivalents (FTEs) that worked over the construction period. The actual number of people employed on an annual basis varied based on the amount of spending in a particular year and phase of each project.

2. Ongoing Impacts

HR&A conducted a two-pronged analysis of the ongoing impacts of affordable housing on local economies. The first component of ongoing economic impact is consumer spending by residents living in the newly constructed or rehabilitated units. The second component of ongoing economic impact is on-site employment to operate and maintain the affordable units.

Consumer spending by households living in affordable units is included in the economic impact analysis based on the assumption that were it not for the development of the affordable housing units, the households would either migrate to other parts of the country, spend more of their household income on rent, leaving them will less money to spend, or live in substandard housing. HR&A analyzed spending data from the *2010 Consumer Expenditure Survey* conducted by the U.S. Department of Labor (inflated to current dollars) and estimated that consumers spend approximately 50 percent of household incomes on goods, including groceries, restaurants, apparel, health care services, utilities, and transportation within New York State. HR&A used a conservative assumption and discounted the household spending estimate to 40 percent of household income. This estimate is also consistent with those used in affordable housing economic impact studies, including a series by the National Association of Homebuilders. The breakdown of household spending by category is detailed in the Appendix.

For the purposes of estimating the amount of household income that would be spent locally, HR&A assumed household income of 80 percent of the Median Household Income[17] for New York City Metro area residents ($50,960) and 80 percent of the statewide median income ($46,950) for residents in other parts of the State. This percentage was selected because it represents the typical low- to moderate-income household that may reside in privately developed affordable housing units, and excludes very-low income households that tend to be served by government owned and operated units. Using the percentage of local spending and MFI parameters, HR&A estimates that, on average, households residing in affordable units spend between $18,800 and $22,000 per year on locally available goods and services.

The second component of ongoing economic impact concerns employment generated to support the operation and maintenance of affordable units. HR&A estimated that 3.5 full-time employees are required to operate and maintain 100 affordable housing units. This estimate includes a building manager, but excludes leasing or other real estate industry personnel that market or place people in the building. HR&A multiplied this ratio by the number of units to estimate the jobs associated with operations and management.

3. *Economic Impact Model*

HR&A used the input-output model IMpact analysis for PLANning (IMPLAN) to estimate the economic impacts of affordable housing development, operation, and occupation on New York State's economy. Direct economic spending and employment during construction and ongoing spending related to affordable housing development produces spinoff effects throughout the State economy. For all analyses, HR&A estimated the spinoff effects on New York State using the IMPLAN input-output model. The model generates estimates of direct economic impacts as well as spinoff activities based on a series of inputs.

The IMPLAN model is used to conduct economic impact analyses by leading public and private sector organizations across the United States, including the New York State Department of Labor, the New York State Assembly, and the New York State Division of Budget. 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.

IMPLAN traces the pattern of commodity purchases and sales between industries that are associated with each dollar's worth of a product or service sold to a customer, analyzing interactions among 440 industrial sectors for New York State, with assumptions about spending that takes place outside of the State. HR&A conducted its analysis with 2014 multipliers[18] for the New York State economy, the most recent data available, and inflated the results to 2016 dollars.

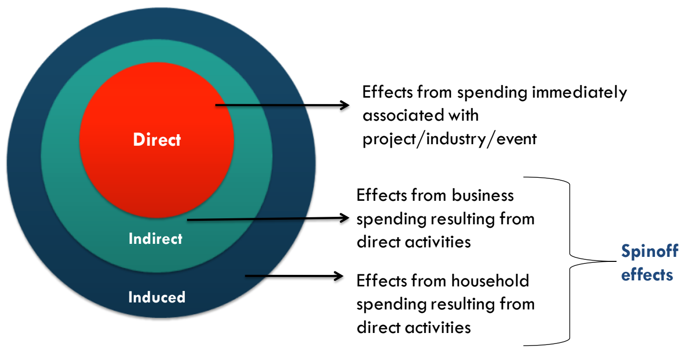
Figure 29 illustrates the structure of economic impacts produced by the model. Multiplier or spinoff activity is comprised of two components: 1) indirect economic impacts caused by additional business spending

[17] The affordable housing industry uses a range of income measures that generate slightly different numbers. For the purposes of estimating ongoing impacts in this study, HR&A uses the 2015 HUD Median Household Income, which is used to determine eligibility for many affordable housing programs.

[18] Multipliers are the total production requirements in New York State for all goods and services consumed by final users in 2014.

stimulated by the direct economic spending on affordable housing development (e.g., supplier business operations) and 2) induced economic impacts stimulated by additional household spending due to wages from the direct and indirect activity.

Figure 12: Overview of Economic Impacts, Direct and Spinoff Effects



Source: HR&A Advisors, Inc.

In addition to overall economic spending, the IMPLAN input-output model also produces estimates of the number of jobs supported and employee compensation. Compensation generated by the IMPLAN input-output model is based on a nationally recognized econometric model, customized for conditions in New York State. It includes wage and salary income plus benefits and employer paid taxes. IMPLAN compensation figures are not directly comparable with wages and salaries reported by the New York State Department of Labor (NYSDOL)[19] due to differences in measures of "compensation," wages and benefits versus wages only, and of industry categorization. The estimates of jobs and compensation are based on industry-specific data collected by the Bureau of Economic Analysis and Bureau of Labor statistics.

HR&A estimated total annual impacts by combining these drivers to estimate total economic spending, total jobs, and total compensation. Total construction spending was entered into the model under residential construction and soft costs (mainly architecture and engineering). Ongoing spending was entered into the model under residential maintenance and repair and a range of codes reflective of household spending patterns based on the distribution described in the Appendix C.

[19] New York State Department of Labor and U.S. Bureau of Labor Statistics, Quarterly Census of Employment and Wages (QCEW). Average wage reflects both union and non-union wages. Data on total compensation including benefits was not available from NYSDOL and QCEW.

Appendix B: Glossary

Compensation	Compensation in IMPLAN is the total payroll cost of the employee paid by the employer. This includes, wage and salary, all benefits (eg, health, retirement, etc) and employer paid payroll taxes (e.g. employer side of social security, unemployment taxes, etc).
One-Time Job	A one-time job in IMPLAN equals the amount of work completed by one person in one year. Thus, 1 job lasting 12 months equals 2 jobs lasting 6 months each equals 3 jobs lasting 4 months each. A job can be either full-time or part-time.
Direct Investment	Total direct public and private spending on affordable housing rehabilitation and development.
Economic Spending	Economic spending includes direct investment and spinoff activity. Economic spending represents the value of industry production. In IMPLAN these are annual production estimates for the year of the data set and are in producer prices. For manufacturers this would be sales plus/minus change in inventory. For service sectors, production equals sales. For Retail and wholesale trade, output equals gross margin and not gross sales.
Economic Spinoff Activity	Economic spinoff activity includes *indirect economic spending* caused by additional business spending stimulated by the direct construction economic spending and *induced economic spending* stimulated by additional household spending due to wages generated from direct and indirect activity.
Indirect Effect	The impact of local industries buying goods and services from other local industries. The cycle of spending works its way backward through the supply chain until all money leaks from the local economy, either through imports or by payments to value added.
Induced Effect	The response by an economy to an initial change (direct effect) that occurs through re-spending of income received by a component of value added. IMPLAN's default multiplier recognizes that labor income (employee compensation and proprietor income components of value added) is not a leakage to the regional economy. This money is recirculated through the household spending patterns causing further local economic activity.
Job	A full time equivalent position.
Multipliers	Total production requirements within the Study Area for every unit of production sold to final users. Production requirements may be estimated for output and employment.
Private Investment	Total funds spent by the private sector on affordable housing development including rehabilitation and new construction.
Public Investment	Total funds allocated by public entities to affordable housing rehabilitation and new construction.

Source: Minnesota IMPLAN Group; HR&A

Appendix C: Consumer Expenditures

	$	Neighborhood		Local	
		%	$	%	$
Individual Spending Categories					
Food at home	3,624	100%	3624	80%	2899
Food away from home	2,505	50%	1252.5	80%	2004
Alcoholic beverages	412	50%	206	90%	371
Utilities, fuels, and public services	3,660		0	75%	2745
Household operations	1,007	25%	251.75	25%	252
Housekeeping supplies	612	50%	306	100%	612
Household furnishings and equipment	1,467	10%	146.7	90%	1320
Apparel and services	1,700	10%	170	90%	1530
Transportation	7,677		0	90%	6909
Gasoline and motor oil	2,132	50%	1066		0
Medical services	722	25%	180.5	100%	722
Drugs	485	50%	242.5	100%	485
Medical supplies	119	50%	59.5	100%	119
Entertainment	2,504	20%	500.8	80%	2003
Personal care products and services	582	50%	291	90%	524
Reading	100	10%	10	90%	90
Education	1,074	20%	214.8	90%	967
Tobacco products and smoking supplies	362	50%	181	100%	362
Miscellaneous	849	50%	424.5	50%	425
Median Household Income	48,109	19%	9,128	51%	24,338
Spending Assumptions		15%		40%	

Source: HR&A Analysis of National Survey of Consumer Expenditures, 2010

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