New York City Independent Budget Office

Director Louisa Chafee

Economy and Employment

Taxes and Revenues

An Evaluation of the Industrial and Commercial Abatement Program

Prepared By:
Richard DiSalvo*
Alaina Turnquist

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*Former IBO employee

New York City Independent Budget Office

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Executive Summary

Since the 1970s, New York City has implemented tax break programs to incentivize businesses to invest in the City's industrial and commercial space. These tax breaks temporarily reduce the property tax increases stemming from the new construction or renovation of qualifying properties. In this report, the New York City Independent Budget Office (IBO) evaluates the Industrial and Commercial Abatement Program (ICAP) on its effectiveness. Specifically, IBO examines whether the program is achieving its intended objectives and how it aligns with current City economic development priorities. The decision to examine the ICAP program was made collaboratively with the New York City Council per Local Law 18 of 2017.

ICAP's benefits are focused on areas primarily outside the central business district in Manhattan, with deeper benefits in Manhattan north of 96th Street, boroughs other than Manhattan, and special commercial areas designated in the program. ICAP benefit length is determined by the type of project being undertaken, such as whether it is an industrial or commercial property and the percentage of the project that is retail space.

ICAP's enabling legislation loosely defines some goals of the program but does not explicitly delineate the intended purpose for the program. In conjunction with the New York City Council, IBO identified ICAP's goals based on the legislation and program design as follows:

- Encourage industrial and commercial development
- Disperse the location of business property investment from Manhattan south of 96th Street to the rest of the City
- Stimulate investment in areas of special need, including areas of high unemployment and economic distress

Using a sampling of ICAP projects, IBO found that ICAP is a more cost-effective way of achieving industrial and commercial development in the City than direct City spending. IBO estimates that the program has a notable net cost to City tax revenues, however, and therefore the program does not "pay for itself."

IBO's analysis suggests that ICAP is successful in disbursing investment away from Manhattan below 96th Street but fails to stimulate investment in areas of special need. The geographical boundaries of designated special needs areas have not been regularly updated. Redrawing the boundaries could better target ICAP benefits to current areas of economic distress in the City. Policymakers may consider an increase in benefits for special needs areas and a decrease in benefits for other areas to tip developer's investment decisions in favor of meeting the third goal.

IBO also evaluated ICAP against current City economic development priorities. The construction of residential housing, particularly affordable housing, is presently the top economic development priority for the City. This is most prominently evidenced by the recent passage of the City of Yes for Housing Opportunity zoning text amendment. In evaluating

ICAP, IBO found that the program is at odds with the development of housing because it incentivizes investment in commercial properties and lowers the relative return on competing uses of the land, such as housing. ICAP primarily incentivizes commercial development and IBO found it is unlikely to be an effective subsidy for inducing commercial space specifically with co-located housing. Property owners looking to use ICAP can seek a zoning variance for tax lots currently zoned residential, which potentially could crowd out land available for housing construction.

In its evaluation, IBO considers an important counterargument—some housing units built between 2011 and 2024 may have indirectly benefited from ICAP because they are co-located with ICAP-benefitting commercial projects in mixed-use developments. IBO finds this is a modest part of the ICAP program and in this way, ICAP can be considered in partial alignment with the economic development priority to boost housing construction.

IBO identifies two other City economic development priorities. One is to strengthen employment hubs and workspaces across all five boroughs, bringing jobs closer to where people live—particularly for underserved communities. The other is to redevelop Manhattan business districts as vibrant 24/7 live-work-play destinations. IBO finds the ICAP modestly aligns with these two priorities. Other IBO findings include:

- ICAP is a commercial real estate subsidy, with only about 1% of the program's direct costs accruing to industrial projects. IBO identified 2,074 unique projects that received ICAP benefits in 2024.
- The largest real estate sector receiving ICAP benefits is commercial office buildings, which receive about 36.5% of the direct cost of the program.
- ICAP benefits accrue disproportionately to areas of New York City other than Manhattan south of 96th Street.
- ICAP benefits are not clustered in business areas and do not appear to target specific industries. Thus, the program is poorly designed to leverage the economic benefits that come with grouping businesses in similar areas together with similar industries, known as agglomeration economies.
- ICAP has no built-in "off ramp," meaning that the incentives for new construction or renovation are not reduced as broader neighborhood employment hubs develop and mitigate the need for tax incentives in that location.

IBO identified several data collection challenges through the course of its evaluation. Currently, ICAP participant data is collected for assessing initial program eligibility on an individual project basis and not for the intent of later evaluating the program for effectiveness. IBO highlights data concerns related to the quality of project cost information. Several projects appear to report costs high enough to meet ICAP eligibility criteria but otherwise appear low relative to the scope of the project undertaken. Moreover, aspects of various ICAP applications were not digitized for data analysis, precluding their use in IBO's evaluation.

Introduction

The Industrial and Commercial Abatement Program (ICAP) is a City economic development incentive program authorized by New York State in 2008. ICAP provides property tax reductions for certain properties that undergo commercial or industrial construction projects. The benefit is as-of-right, meaning any company that applies and meets the program's criteria on location, project type, and the amount of new investment is entitled to receive the tax break.[1] There is no limit to the number of firms that can participate in ICAP or how much the City forgoes in tax revenue.

By giving tax credits to participating businesses, the City does not collect property tax revenue that it otherwise would have—a form of spending known as a "tax expenditure." From an accounting perspective, $1 of revenue the City does not collect through a tax break program is equivalent to $1 of direct City spending. The Department of Finance (DOF) estimates that the City spent $506.3 million in foregone property tax revenue in 2024 under ICAP.[2] This total rose to $609.2 million in fiscal year 2025.[3]

The spending on ICAP in 2024 dwarfs the annual budgets of many individual City agencies in that year, such as the Department of Finance ($334.9 million), Department of Small Business Services ($246.9 million), Department of Buildings ($188.0 million), and the Department of Consumer Worker Protection ($64.3 million).[4] The ICAP program is one of the top five most expensive tax expenditures in the City, and it is the largest as-of-right property tax break for commercial or industrial (Tax Class 4) properties.

In this report, IBO evaluates ICAP's effectiveness in achieving the program's goals.[5] This report contains three major sections. First, IBO presents ICAP's historical context, the program's intended goals, and the mechanics of how the program works. IBO also describes the tax expenditure costs of the program using the change in the physical value of a property as the measure for how much development occurred in ICAP-receiving properties. IBO discusses instances where commercial and industrial properties participating in ICAP are also co-located with residential space.

The second part of this report estimates how much development in ICAP-participating properties can be attributed directly to the program. This is known as the inducement rate or a "but-for analysis"—measuring what development happened specifically because of the ICAP tax benefits, as opposed to development that received ICAP benefits but would have occurred anyways without the incentive. IBO presents a microsimulation analysis to estimate inducement rates. This section describes the economic theory underpinning the microsimulation and then presents the rate of return formulas and calculations, detailing how IBO arrives at its ICAP inducement rate estimates.

The third major section of the report evaluates the success of the program. IBO introduces two measures of success, *pays for itself* and *cost-effective*, and evaluates ICAP's goal of encouraging industrial and commercial development using these two concepts. IBO then evaluates ICAP's success on its distributional goals by estimating whether ratios of physical change between targeted and not targeted areas would increase or decrease without ICAP.

If they would decrease without ICAP, then the program would be successful at achieving these goals. IBO also evaluates whether the program is cost-effective—not just whether the program induces development but how the level of development investment compares to the amount of forgone revenue to the City. Lastly, IBO examines how well ICAP is aligned with current City economic development priorities. The report concludes and discusses limitations and recommendations for future evaluations.

Description of the Tax Expenditure

ICAP is an as-of-right property tax reduction for properties that undergo commercial or industrial construction projects that meet established criteria. To obtain the tax reduction under ICAP, a property needs to undergo an eligible commercial or industrial construction or renovation project that costs more than the minimum required expenditure (MRE). Eligibility is further limited to certain project type and location combinations. Only renovations may receive ICAP in select areas of Manhattan south of 96th Street. However, the program is much broader in boroughs outside Manhattan, with both renovations and new construction projects eligible to receive ICAP benefits elsewhere in the City.

The construction projects undertaken are expected to immediately increase the property's full market value, as assessed by the City's Department of Finance (DOF), thereby increasing taxable assessed value and thus increasing the future property tax owed to the City. The tax reduction under ICAP is based on the difference between the pre-vs-post construction tax liabilities. Essentially, tax increases due to construction that exceed 15% of the pre-construction tax are abated under the program.

Tax abatements reduce the taxes owed by a property owner. The abatement amount (termed the "abatement base") remains constant and is applied for a number of years depending on project type and location. The abatement phases out toward the end of the benefits period. In certain instances, ICAP also abates tax increases from future property value appreciation. This is called "additional inflation protection."

The theory behind the ICAP program is that, by granting tax benefits for development, ICAP increases the expected rates of return for such projects and the project becomes more lucrative. When the additional benefit from ICAP is pivotal for the project, the program stimulates additional investment. However, in other cases, the project would have proceeded without ICAP, which means a tax benefit is provided but was not necessary to get investors or developers to do the project.

Historical Context

ICAP is the successor program of two previous economic development tax incentive programs run by the City to encourage investment in commercial and industrial real estate —the Industrial and Commercial Incentive Board (ICIB) and the Industrial and Commercial Incentive Program (ICIP). Many of the motivations for ICAP can be traced back to the history of these earlier programs. Figure 1 outlines the key differences between the programs.

FIGURE 1

ICAP and Its Predecessor Programs

	ICIB: Industrial and Commercial Incentive Board	ICIP: Industrial and Commercial Incentive Program	ICAP: Industrial and Commercial Abatement Program
Years of Existence	1977-1984	1984-2008	2008-2029
Last Year of Committed Benefits	2004	2033	Currently 2054
Duration of Benefits	10 years for renovation 20 years for New Construction	8-25 years, depending on type of project and location	8-25 years, depending on type of project and location
As-of-Right or Discretionary	Discretionary	As-of-Right	As-of-Right
Location	Anywhere approved by the Incentive Board	Focused on NYC Other than Manhattan south of 96th Street	Focused on NYC Other than Manhattan south of 96th Street
Minimum Required Expenditure (percent of taxable assessed value)	20%	10-20% depending on project type	30%
Exemption or Abatement	Exemption	Exemption	Abatement

SOURCE: IBO archival research

NOTES: Years of existence reflect the initial creation period and any subsequent renewals authorized by New York State. Most recently, State legislation passed in 2024 renewed ICAP through 2029.

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Past Program: Industrial and Commercial Incentive Board (ICIB)

In the wake of the 1970s fiscal crisis, high levels of crime, and a declining urban population, Mayor Beame's administration was eager to remain friendly with the business community and to provide government subsidies to keep businesses from leaving the City. The City's Economic Development Administration advocated for the creation of the Industrial and Commercial Incentive Board (ICIB), through enabling legislation in Albany.[6] Supporters of ICIB feared the City was at a competitive disadvantage to neighboring suburban jurisdictions because of their lower tax rates.

With firms moving out of the City, local politicians sought to bolster the real estate sector, a business sector that was not easily relocated outside of the City and could shore up the weakening tax base. Incentives doled out by the Board were expected to expand the City's property and personal income tax bases, generating enough ripple effects through new tax

collections to offset the cost of granting the cost breaks. Along this line of thinking, ICIB would pay for itself.

ICIB was a discretionary program—meaning each project was reviewed by the Board for approval of the tax break based on custom criteria. Critics, including the City's Department of Investigation, claimed that the ICIB program design was riddled with "corruption hazards," while others asserted that ICIB was too generous and projects would have happened anyway without the benefits from the Board.[7] Following an ordered review of ICIB by Mayor Koch, ICIB was reworked into the Industrial and Commercial Incentive Program (ICIP).

Past Program: Industrial and Commercial Incentive Program (ICIP)

ICIP's most substantial change was to make the tax break as-of-right, meaning that properties would automatically receive the tax break if they met a set of established criteria and completed the necessary paperwork. ICIP also introduced the distributional focus on increasing investment in New York City outside of Manhattan south of 96th Street, and economically distressed areas of the City. Critics of ICIP also claimed that the "special areas," which provided deeper benefits, had not been regularly updated—resulting in deep benefits going to areas of the City that no longer needed them.[8] ICIP was reworked in 2008 into the current-day Industrial and Commercial Abatement Program (ICAP).

Current Program: Industrial and Commercial Abatement Program (ICAP)

ICAP attempted to create a higher targeting of benefits compared with ICIP through two main design changes to the program: higher minimum required expenditure to qualify for the program and less generous protection for the benefits against inflation.[9] ICAP raised the minimum required expenditure to 30% of the property's pre-project assessed value, which was set at 10-20% under ICIP. However, IBO analysis discovered evidence that even the 30% minimum required expenditure is easily met by new construction projects and is likely to only be restrictive for renovation projects. Compared with ICIP, the reworked ICAP program reduced the benefits for retail and downtown Manhattan projects. While most utility properties are ineligible for ICAP benefits, power plants that run only as needed in periods of high electricity demand, known as "peaker plants," have a special provision permitting ICAP abatements.

The ICAP legislation specified that the Boundary Commission—a committee in charge of setting the program's geographical boundaries— meet every five years (starting in 2009) to revise the ICAP special commercial areas that receive additional benefits.[10] Despite this, the boundaries still have not been updated since the 1990s. The last Boundary Commission meeting IBO identified was in 2015, in which the Commission chose to leave the boundaries for ICAP special areas unchanged.[11] The lack of meetings has created confusion about the status of ICAP's specials areas. IBO contends that if ICAP is intended to increase commercial investment in distressed areas of the City, these boundaries should be updated.

ICAP's Early Renewal

In June of 2024, the State passed legislation to renew the ICAP program through 2029, signed into law by Governor Hochul in September 2024. (See IBO's report on the 2023-2024 Albany

legislative session for further discussion.) The program was renewed one year before its expiration and before the findings of IBO's review of the program were completed.[12]

The renewal of the program came at the request of the City's Department of Finance, which also provided IBO data for this project.[13] The memo of support claimed "ICAP promotes significant new economic activity". The bill's memo of support also provided a new justification for ICAP, claiming the program is meant to prevent increases in consumer energy prices. The City argued that the failure to renew ICAP could cost consumers "hundreds of millions of dollars each year" in increased energy bills if ICAP was not available to peaker plants. It is unclear how the Adams administration arrived at this claim.[14]

IBO's investigation of the data on ICAP from DOF found no peaker plants receiving ICAP in 2024, although this was a key justification for the renewal of ICAP. Under the Bloomberg administration, the City sought a separate tax break for utilities, apart from the industrial and commercial real estate focus of ICAP.[15] In the 2024 early renewal of ICAP, the justification for renewing the program was based on potential future participation of a utility property and not on the merits of the program's main uses—commercial real estate economic development

Program Goals

In discussion with City Council staff, IBO has identified ICAP's goals as:

- Encouraging industrial and commercial development
- Dispersing the location of investment from Manhattan south of 96th Street to the rest of the City
- Encouraging investment in areas of special need, including areas of high unemployment and economic distress

For purposes of this evaluation, IBO measures industrial and commercial development using the value of physical change on the tax rolls. This measure is introduced later in the report. Moreover, IBO considers the "areas of special need" in the third goal to be specifically areas of "economic distress," where economic distress is measured using the poverty and unemployment rates of residents who live in the City block. This is also described later in the report.

While IBO did not identify ICAP as having job-creation goals, some City Council proposals for greater program accountability have mentioned jobs reporting. IBO does not evaluate ICAP from the perspective of job creation as the City does not collect data on job creation from the program.

In addition, some sources suggest that these programs had the additional goal of creating "competitively priced" office space. For example, the State Division of the Budget recommendation for the renewal of ICIP discussed this as one of the benefits of the program. Cheaper office space and more office space are not the same goals; however, subsidizing the creation of office space through a tax break works toward both, in proportions that depend on the price elasticity (sensitivity) of demand. If elasticity is such that the tax break benefit is passed through to tenants, it will not lead to new office space development. That is, in such a

case there would be little to no increase in the *quantity* of office space, which would suggest the program failed to achieve the goals IBO identified, although it may have achieved other effects that were not identified as goals.

How the Program Works

To obtain the as-of-right tax reduction under ICAP, a property must undergo an eligible commercial or industrial construction or renovation project that exceeds the minimum required expenditure (MRE). The program provides smaller abatements to projects involving retail space, and larger abatements to properties located outside of Manhattan south of 96th Street. For example, new construction is only eligible for the ICAP abatement when it is undertaken outside of Manhattan south of 96th street, while abatements for renovations can be obtained anywhere except in Manhattan between 59th and 96th Street. There are also special commercial areas, designated in the policy, that receive greater ICAP abatements than other areas.

Projects must spend a minimum of 30% of the taxable billable assessed value (that is, assessed value post assessment ratios, transitional value phase-ins, and exemptions if any) of the property as of the tax year preceding the first building permit. To receive the abatement, the project must be completed within five years, and the required construction expenditure must be made within four years, both starting from the date of the first building permit.

Properties receiving ICAP must have less than 20% of total rentable square footage dedicated to residential space. When a mixed-use building receives ICAP to obtain the abatement, the residential part of the property must be split off into one or more separate tax lots through parcel apportionment. (Parts of buildings can be divided to different “condo lots” for tax purposes.)

The construction projects undertaken are expected to immediately increase the property’s full market value, thereby increasing taxable assessed value, and thus future property taxes. The tax reduction under ICAP is based on the difference between the pre-vs-post construction tax liabilities. Under ICAP, tax increases pre-vs-post construction that exceed 15% of the pre-construction tax are abated under the program. Specifically, this difference is called the “abatement base.”

At first, 100% of the abatement base is abated, and this abatement is later reduced through a phase-out schedule that depends on the project type and location. For example, the most common benefits period is 25 years, phasing out at ten percentage points per year starting in year 17. In certain cases, called “additional inflation protection,” later tax increases are added to the abatement base. Specifically, for industrial projects, the entirety of future tax increases is added to the abatement base, and for commercial projects in special commercial areas, tax increases that exceed a 5% annual increase are added to the abatement base.

Data Sources

To describe and evaluate the ICAP program, IBO makes use of data assembled from a variety of sources. IBO used the following data from the New York City Department of Finance (DOF):

- Annual tax rolls listing all tax lots in the City together with property assessed values, building classifications, square footage by use, and other information
- Notice of property values, which (for commercial properties) include capitalization rates that DOF uses to convert net operating incomes (NOIs) into full market values, as well as the dollar value of the full market value change that DOF attributes to physical changes in the property
- Property charges files, which include ICAP abatement amounts applied to tax bills.
- Selected variables from ICAP applications, including application identifiers, post-construction years, and abatement types (including length and phase-out schedules)

IBO also uses Department of City Planning (DCP) MapPLUTO spatial data from fiscal years 2008 thorough 2024. In addition to mapping and geographic analyses, MapPLUTO allowed IBO to identify:

- Prior tax lots that may have been deleted in current records due to tax lot mergers
- Co-located residential tax lots associated with ICAP projects that may have been split off via apportionment
- ICAP applications matched with tax lots

IBO uses a construction project identifier for project tabulations, which is why there are fewer projects reported in this report than there are ICAP applications or ICAP-receiving tax lots. IBO also approximated commercial downtown areas as presented in the "New New York: Making New York Work for Everyone" report.

Lastly, ICAP reportedly has the goal to encourage economic development in distressed areas but does not define what constitutes a distressed area. For the purposes of this evaluation, IBO used estimates of unemployment and poverty rates from the U.S. Census Bureau's 2022 American Community Survey 5-year estimates to classify areas of the City as economically distressed wherever a property is in a Census Block Group that has:

- Higher unemployment rates (defined as above the 61st percentile, 7.6%)
- Higher poverty rates (defined as above the 61st percentile, 16.3%)

Census Block Groups that do not have enough residents to estimate an unemployment or poverty rate were classified as not economically distressed. IBO uses Census Block Groups for this analysis because it is the most granular level at which poverty and unemployment rates are available. These cutoffs were chosen so that approximately half of the blocks in the City are considered economically distressed. Because economically distressed areas is not defined by ICAP itself, in measuring whether the program impacted investment in distressed areas, IBO chose a broad and generous definition of such areas against which to measure.

Direct Costs of the Program

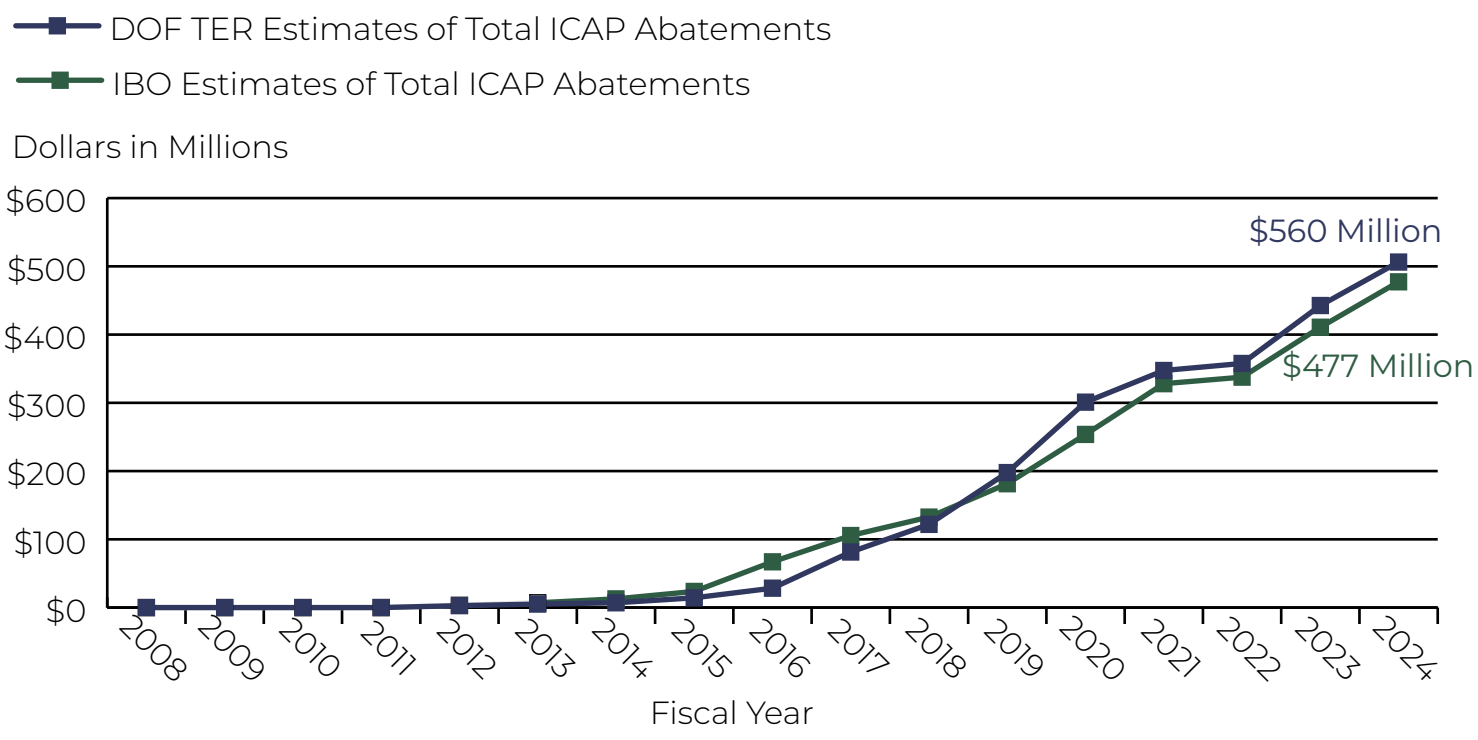
Based on DOF estimates, ICAP is one of the City's largest tax expenditure programs, and it is the largest single property tax break awarded to commercial properties. In terms of current

direct expenditures, the latest estimate from DOF, obtained by summing ICAP abatements on tax bills, puts the cost of the program in 2024 at about $506 million. Figure 2 further describes the trends in the overall cost of the program in terms of direct tax expenditure, obtained by summing over the ICAP abatement entries on tax bills in each fiscal year. These are nominal expenditures, not adjusted for inflation. Moreover, considering direct expenditures as cost estimates assumes the program has no behavioral effects. In other words, it assumes the same property values would exist on the tax rolls even without ICAP. For this reason, IBO calls these "direct" cost or expenditure estimates, to be distinguished from "net costs," which will consider the behavioral effects of the program. Generally, the net costs will be lower than the direct costs, because some of the ICAP projects would not have occurred without the tax break.

Official current expenditure estimates for tax breaks are provided by DOF in its annual Tax Expenditure Reports; these are the most accurate measures of current expenditures in Figure 2. Each TER estimate presented in Figure 2 is taken from the report dated for that year. For example, the 2018 estimate is from the 2018 tax expenditure report. This is an important consideration, because DOF can revise tax expenditure estimates in later years. These revisions occur partly because abatements are sometimes retroactively applied to previous tax years,

FIGURE 2

Direct ICAP Expenditure



SOURCES: Department of Finance Tax Expenditure Reports and IBO analysis of DOF data
NOTES: Direct ICAP expenditures are the sums of ICAP property tax abatements over tax bills. The DOF tax expenditure reports do not have a value for ICAP tax expenditures in fiscal year 2011. These values are nominal and not adjusted for inflation.
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through refunds. In the 2024 tax expenditure report, DOF added a new Appendix VI that provides revisions to the last year's tax expenditure estimates, and ICAP costs for 2023 were revised upwards from $442.6 to $477.3 million. (This appendix is not available in prior years.)

Figure 2 also includes IBO's estimated ICAP direct spending, using DOF records available to IBO. IBO's estimate is smaller than DOF's tax expenditure report estimates in recent years. One reason for the difference is that IBO's data used for calculating these amounts are in July (near the start of the fiscal year), whereas each tax expenditure report uses data in November (later in the fiscal year) for its estimates. The IBO estimates represent the direct ICAP spending used in analysis throughout this report. The tax expenditure report estimates are more accurate, although they are still smaller than the long-run direct cost of the program accruing to each year, because in future years some additional ICAP abatements will be retroactively applied.

Figure 3 estimates the overall direct cost of ICAP, expressing all costs in 2024 dollars, and accounting for future obligations. The direct cost of ICAP abatements given prior to 2024 is $2.617 billion. IBO estimates that as of 2024, ICAP has committed $3.55 billion in 2024 dollars to future abatements from projects already within the program. IBO's total cost estimates do *not* forecast future ICAP abatements that will enter the program in subsequent years.

In this sense, IBO's evaluation is backward-looking, estimating historical costs and historical benefits, and determining if, thus far, ICAP has been successful. This approach has the benefit of avoiding forecasting error on how new properties may use ICAP going forward. But it presents an understatement of how much the program would cost the City in forgone tax revenue by including only the projects that entered into ICAP by 2024. For determining whether the program should continue, be eliminated, or be modified, historical costs and benefits are likely reflective of how the program would be used in the future.

FIGURE 3

Direct Costs of ICAP as of 2024

	Nominal Direct Costs	Real Direct Costs (2024 Dollars)
2011 through 2023 Past ICAP abatements	$1.86 billion	$2.14 billion
Current Abatements: ICAP tax abatements in 2024	$0.477 billion	$0.477 billion
ICAP Direct Costs Through 2024	**$2.337 billion**	**$2.617 billion**
Future Abatements: 2025 and after committed abatements, assuming no inflation protection	$5.32 billion	$3.55 billion
ICAP Direct Costs	**$7.657 billion**	**$6.167 billion**

SOURCE: IBO analysis of Department of Finance data

NOTES: Past abatements are inflated to 2024 dollars using the Consumer Price Index for All Urban Consumers. Future committed abatements are discounted to 2024 dollars at a 6.25% discount rate, taken from the City's cost of debt as described in Brindisi and Ehrenberg's 2008 New York City Economic Development Corporation evaluation of ICIP.

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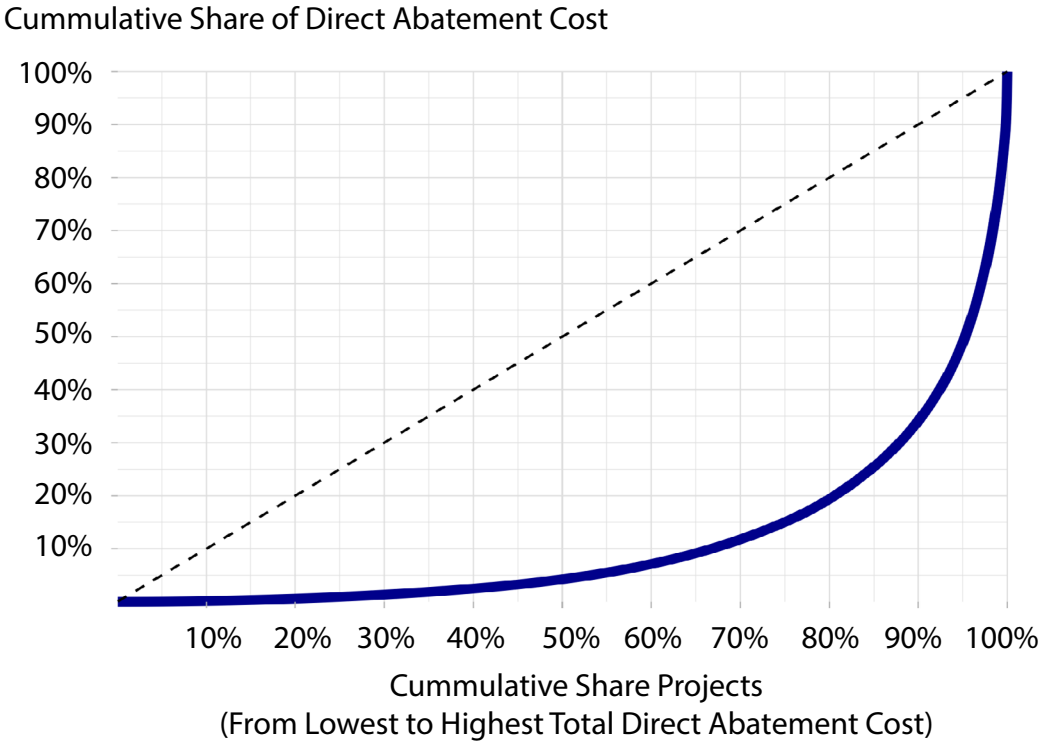
Concentration Across Projects

IBO identified 2,074 unique projects (see the "Data Sources" section for the definition of an ICAP project, which is not the same as an ICAP application).

IBO found program costs are heavily concentrated in a few ICAP projects. Figure 4 shows a vast majority—90% of ICAP projects (1,867 projects)—represent 35% of the program's abatement costs. Conversely, 10% of projects (207 projects) receive 65% of abatements. At the extreme upper end, three projects (0.15% of the total ICAP projects) account for about 8% of direct abatement spending. These three projects are the Gateway Center in Brooklyn, the Mall at Bay Plaza in the Bronx, and One and Three Gotham Center in Long Island City, Queens.

Figure 4

Lorenz Curve of ICAP Abatement Direct Costs as of 2024



SOURCE: IBO analysis of Department of Finance data
NOTES: Past abatements are inflated to 2024 dollars using the Consumer Price Index for All Urban Consumers. Future committed abatements are discounted to 2024 dollars at a 6.25% discount rate
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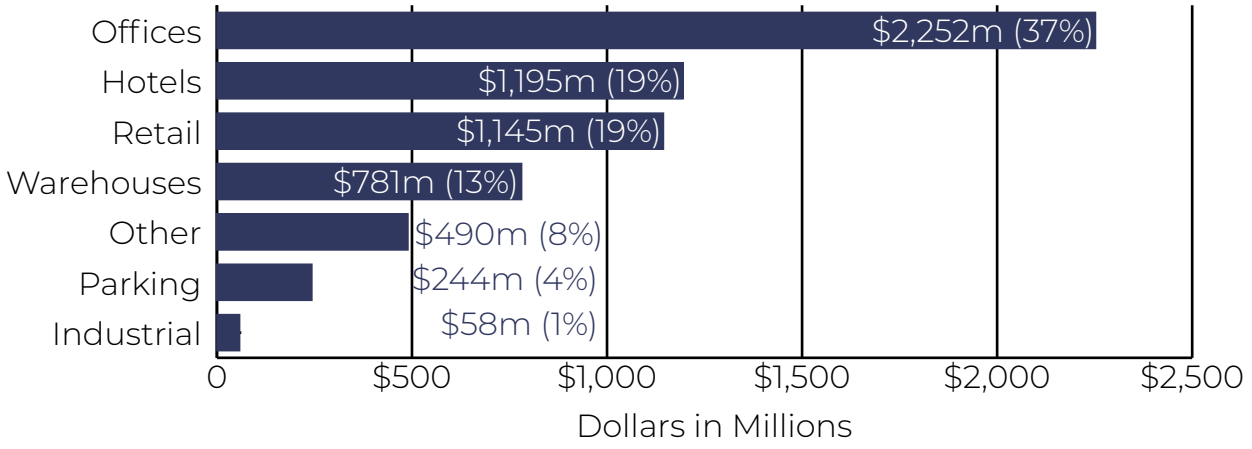
Figure 4 displays the concentration of direct abatement cost across these projects, known as a Lorenz curve. The curve represents the cumulative share of ICAP projects relative to the cumulative direct abatement costs of the program. The direct abatement cost of a project includes the past, present, and future cost, adjusted to 2024 dollars.

By Building Type

Offices are the largest recipients of ICAP abatements, followed by hotels and retail buildings. Except for warehouses, industrial properties (which includes factories) receive a very small amount of ICAP benefit, only about 1% of abatements. Figure 5 displays the breakdown of ICAP expenditure by building type, based on the property tax data for the recipient property.

FIGURE 5

ICAP Abatements by Building Type



SOURCE: IBO analysis of Department of Finance data
NOTES: Totals may not sum due to rounding. Past abatements are inflated to 2024 dollars using the Consumer Price Index for All Urban Consumers. Future committed abatements are discounted to 2024 dollars at a 6.25% discount rate. ICAP projects applied to commercial condominium (condo) tax lots are included in the relevant building category based on their detailed description. For example, commercial condo lots used as office space are included in the office category. The detailed building class descriptions do not permit separating warehouse condos from industrial condos, however. As such, IBO categorized these as industrial.

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By Geography

Figure 6 illustrates the geographic breakdown of direct ICAP spending, including past, present, and future committed direct spending as well as the breakdown of ICAP across commercial business districts outside of Manhattan south of 96th Street.

Of the $6.17 billion in ICAP direct cost, 18% ($1.12 billion) accrues to Manhattan south of 96th street. Of the $5.05 billion in ICAP tax breaks allocated to areas outside core Manhattan, about 30% went to commercial business districts. The largest aggregate ICAP expenditure occurred in the commercial districts of Downtown Brooklyn and Long Island City, at $421 million and $413 million in tax breaks, respectively. The remaining 70% of these abatements went to ICAP projects outside of these commercial district areas.

If ICAP is viewed as a means of encouraging "downtowns in every borough," this evidence suggests that ICAP is not particularly well-designed to encourage these types of commercial business districts. Rather than ICAP focusing on business centers, ICAP tax abatements are broadly spread out geographically. Nevertheless, these estimates do suggest that ICAP abatements are largely going to developments outside of Manhattan south of 96th Street, a reported goal of the program.

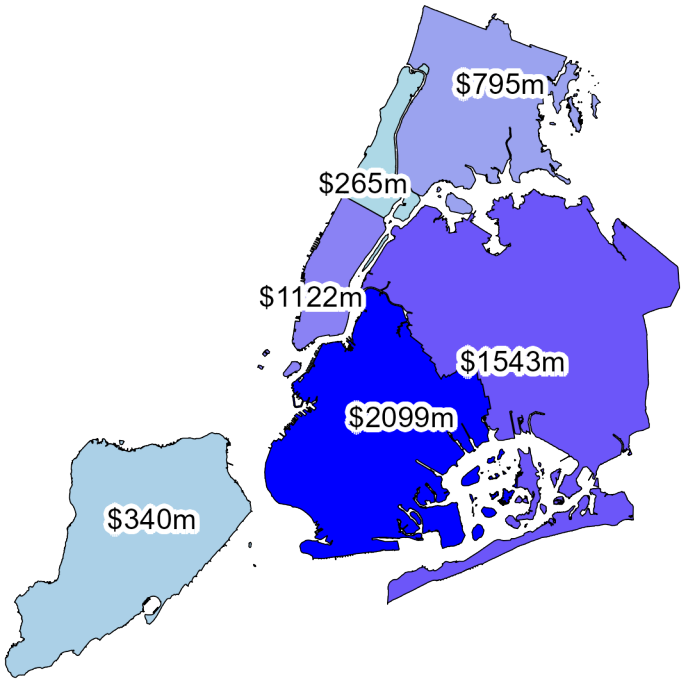
Special Commercial Areas

In special areas, commercial projects receiving ICAP obtain additional inflation protection—tax increases that exceed a 5% annual increase are added to the abatement base for year 2 through 13 of the abatement period. Moreover, the abatements provided for such projects are 25 years in length, rather than 15 years in other areas.

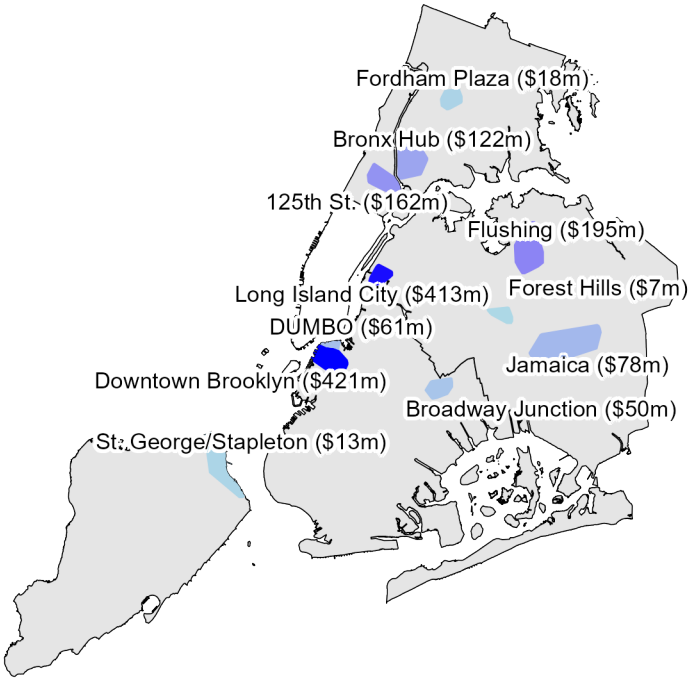
FIGURE 6

Geography of ICAP Direct Costs

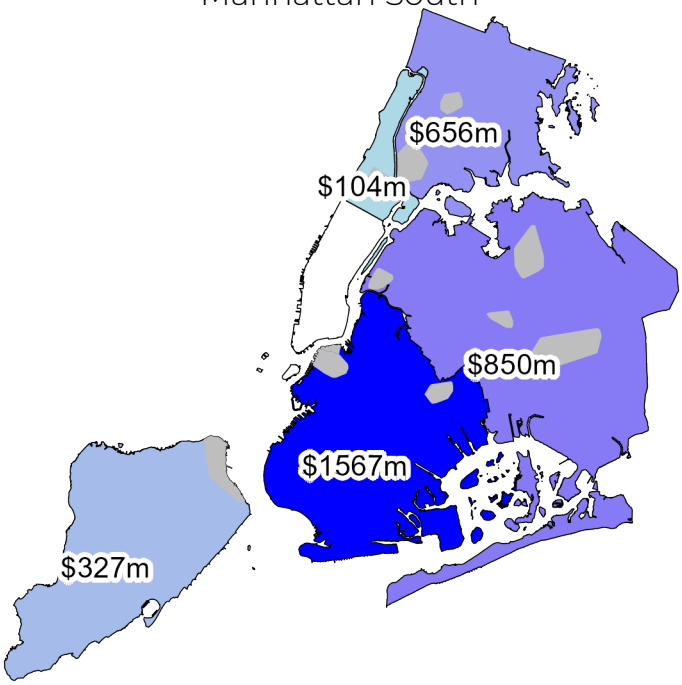
By Borough and Manhattan North/South



By Commercial District Outside of Manhattan South



By Non-Commercial District Outside of Manhattan South



SOURCE: IBO analysis of Department of Finance data
NOTES: All costs stated in 2024 dollars. Total direct costs include past, present, and future ICAP obligations.

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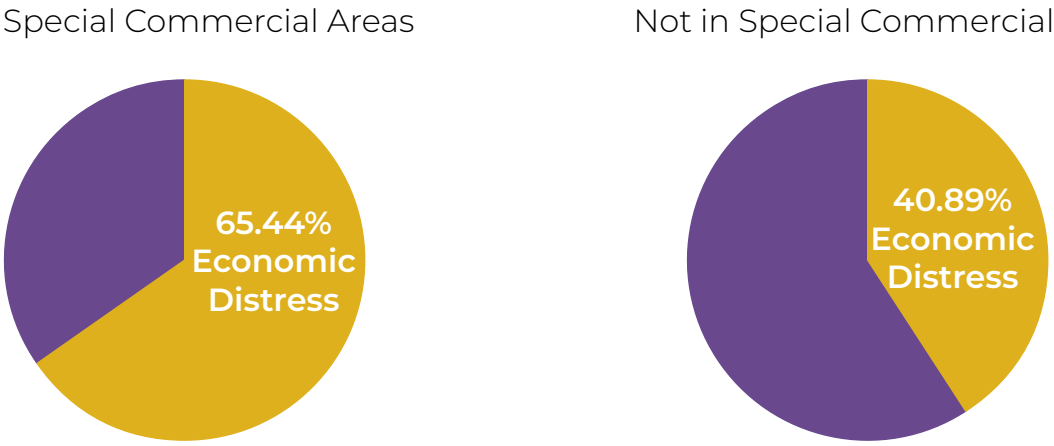
FIGURE 7

Share of Economically Distressed Census Block Groups Within and Outside of ICAP Special Commercial Areas



SOURCE: IBO analysis of Department of Finance and 2022 American Community Survey 5-year Estimates data
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DOF provides a map and a list of City blocks that are special areas. The special commercial areas are outside of Manhattan south of 96th street.

IBO views these special areas as the part of the program that most directly focuses on the distributional goals of the program—to disperse investment outside of Manhattan south of 96th street and toward economically distressed areas. IBO defined economically distressed areas as Census Block Groups with higher poverty or unemployment rates. (See Data Sources section above for more details.)

The alignment of these areas with economic distress is important for achieving the distributional goals of the program, however the boundaries of ICAP's special areas have not been changed since the 1990s. Figure 7 shows that special commercial areas are somewhat aligned with areas of economic distress, although the alignment is imperfect. It appears that even if the special areas were originally drawn to favor economically distressed areas, the geographic distribution of economic activity in the City has shifted since the 1990s.

Prevalence of Co-Located Residential

IBO examined ICAP projects that also have tax lots with residential units listed in the property tax data and the number of housing units added in these projects. Note that co-located residential ICAP projects include projects with housing units that are part of Class 4 properties (such as mixed-use properties that are primarily commercial), as well as projects with housing units that are on separate tax lots from the commercial spaces but that were originally part of the commercial building space.

Overall, IBO associates 57,782 additional housing units (on net) with the ICAP-participating projects from 2011 through 2024. (For context, the City had just over 2.9 million housing units in 2011 and

FIGURE 8

ICAP Projects with Co-located Residential

	ICAP Projects with an Increase in Co-located Residential Units	ICAP Projects with a Decrease in Co-located Residential Units	All ICAP Projects: With and Without Co-located Residential Units
Number of ICAP Projects	564	206	2,074
ICAP Direct Spending (2024 dollars)	$0.82 billion	$0.34 billion	$6.17 billion
Change in Housing Units From 2011 Through 2024	60,137	(2,355)	57,782

SOURCE: IBO analysis of Department of Finance data and the 2011 and 2024 Department of Finance Annual Property Tax Reports

NOTE: Past abatements are inflated to 2024 dollars using the Consumer Price Index for All Urban Consumers. Future committed abatements are discounted to 2024 dollars at a 6.25% discount rate. IBO's calculations assume no additional inflation protection.

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nearly 3.1 million in 2024.) The total direct ICAP spending on projects with housing units is $820 million. These indirectly subsidized housing units represent about 40% of the increase in the housing stock in the City from 2011 to 2024, but only 13% of the ICAP direct spending over this period.

Figure 8 provides summary statistics on ICAP projects specifically identified to have co-located residential space. The first column shows projects that had an increase in housing units, while the second shows projects that had a decrease in housing units. Note that these estimates are of the number of housing units *associated* with a project participating in ICAP. It should not be interpreted that these housing units were induced, or brought about, because of the ICAP program. Newly developed housing units often receive other property tax subsidies for residential development, such as the 421-a and 485-x tax exemption programs.

Because the ICAP program is a subsidy for commercial and industrial development, it implicitly works against housing development. This is because property developers considering alternative uses of their property could see a greater relative return of an ICAP-benefitting development compared with residential development (that does not benefit directly from ICAP). On the other hand, Figure 8 shows that many ICAP projects have co-located residential development. If ICAP reduces the cost to develop the commercial portion of a building, it could indirectly be subsidizing the housing portion of a building. Supporters of ICAP may argue that the program, in fact, encourages housing development. It can be implied that these two competing effects—that ICAP could make commercial development more lucrative over residential development, and that ICAP indirectly subsidizes co-located residential development—counteract one another.

IBO's evaluation of ICAP focuses on Class 4 commercial and industrial properties, and IBO assumes ICAP does not have any net effect on development choices in other tax classes, such as Class 2 residential development.

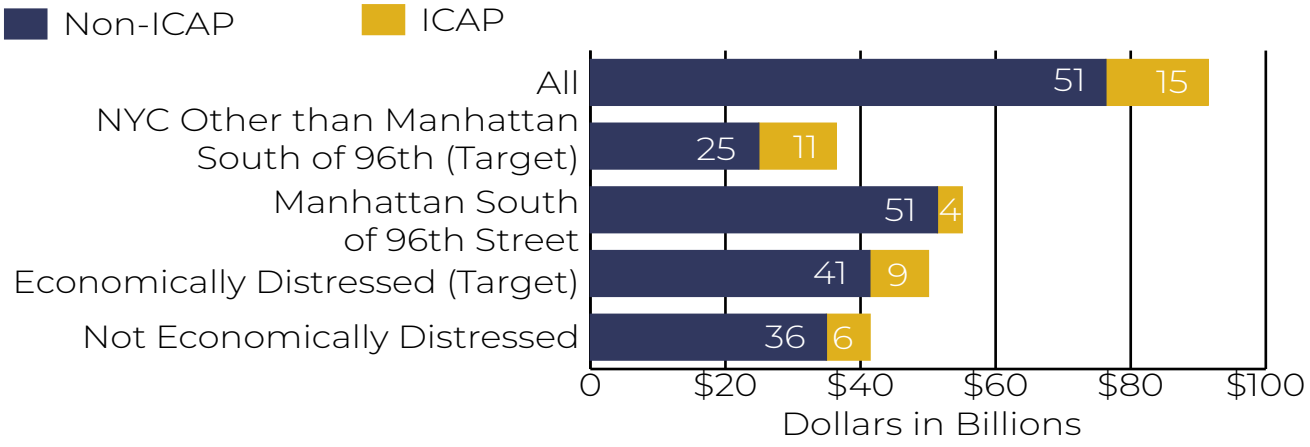
Physical Value Change as the Development Measure

IBO uses the *physical value change*, or simply *physical change*, on the City's property tax rolls to evaluate the effectiveness of ICAP in achieving its goal of encouraging industrial and commercial development. The physical change of a property is the change in the property's assessed full market value due to construction-related improvement, relative to last year's full market value. DOF's calculation is based on the property value's increase due to structural changes in the property, separate from property value appreciation for the existing structures and land. From a property tax perspective, physical change is separated out on the tax rolls because it is not subject to transitional phase-ins or growth cap rules. For the purposes of this evaluation, physical change is a valuable measure because it is available for all properties in the City and represents a dollar value of structural improvements to property. Alternative measures IBO considered but did not ultimately use due to data limitations include increases in gross square footage and construction expenditures.

The top bar of Figure 9 displays the total amount of $91 billion in commercial and industrial (Class 4) physical value change in the City from 2011 through 2024.[16] Figure 9 then splits out this amount by the total present on ICAP-receiving properties (tax lots that received ICAP benefits at any point between 2011 and 2024), versus the total present value of all other Class 4 properties. IBO estimates that $15 billion worth of physical value change occurred on properties that received ICAP benefits. Note that the remaining $76 billion of physical change represents investments in real estate that either were not eligible for ICAP, or which were eligible but did not apply. (IBO does not distinguish between these two cases.)

FIGURE 9

Physical Value Change for Class 4 2011-2024, ICAP and Non-ICAP Properties



SOURCE: IBO analysis of Department of Finance data and 2022 American Community Survey 5-year Estimates data
NOTE: Amounts in 2024 dollars.

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Evaluating whether ICAP achieves its first goal requires an answer to the question: how much lower would the total physical change bar be without ICAP, if at all? Two extreme estimates can be provided from Figure 9:

- $15 billion lower if every project receiving ICAP would have counterfactually not occurred without ICAP (and no other changes would have happened to the property)
- $0 lower if every project receiving ICAP would have been undertaken in exactly the same way, even without ICAP

The true effect of ICAP lies between these two extremes. The *inducement rate* (for physical value) is the share of this $15 billion of physical value change that would not have occurred but for ICAP. The key task of IBO's evaluation is to propose plausible estimates of ICAP's inducement rate. The effect of ICAP on the total physical value change would then be $15 billion multiplied by this inducement rate.

In addition to encouraging development overall, ICAP also has distributional goals, as captured in the second and third goals identified by IBO. Figure 9 further shows the total amount of Class 4 physical value change in the City for Manhattan south of 96th street versus elsewhere in the five boroughs, and the total amount by economically distressed areas versus non-economically distressed areas in the City. Each bar also shows the amount of physical value change that occurred that year, broken out by ICAP status.

For evaluating the second and third goals of the program, the question is how much relatively lower these bars would be without ICAP. In other words, would the *removal* of ICAP make the Manhattan south of 96th Street bar (the non-targeted area), for example, even larger *relative to* the New York City outside of Manhattan south of 96th Street bar (the targeted area)? If so, then ICAP is achieving its second goal, which is to disperse investment outside of Manhattan south of 96th Street to other parts of the City.

This section of the IBO's report focused on the *benefits* of the ICAP program. Determining and, where possible, quantifying a program's benefits is a key step for evaluating a program's success, but a full evaluation requires comparing these benefits to the program's cost. The program is only a success if it achieves its benefits at a reasonable cost. The direct cost of ICAP was discussed and estimated earlier in this report. Once ICAP's benefits are estimated, success rests on what amount of cost is reasonable to achieve those benefits. IBO discusses this further later in the report.

Microsimulation for Inducement Rate Estimation

To evaluate ICAP's effectiveness at spurring industrial and commercial development, IBO models how the added benefits of ICAP would influence a developer's expected rate of return on a project. In short, the more sensitive investments are to ICAP tax breaks, the more effective the program is.

IBO uses a *microsimulation* methodology for evaluating the sensitivity of investment with respect to the ICAP tax break. IBO simulates the behavior of individual ICAP projects with versus without ICAP. Because ICAP makes projects more lucrative, it is possible that some of the ICAP-receiving projects would not have taken place without ICAP. IBO's microsimulation intends to infer what share of projects and physical value increases would only be undertaken because of ICAP tax incentives, which is the inducement rate, or "but for" rate, of the program. This methodology follows prior evaluations of ICAP and its predecessor program ICIP.[17]

First, for each project in ICAP, IBO estimates the expected internal rate of return (IRR) for the project, using available data on:

- Net operating incomes
- Development costs
- ICAP tax abatement amount and type
- Assumptions about the change in taxes from the development
- Tax incidence between the property owner and commercial tenants

Then, IBO simulates what this expected IRR would have been were the ICAP tax abatement removed, while everything else stays constant.[18] IBO then makes the behavioral assumption that developers would have undertaken a project if and only if its expected IRR exceeds a *hurdle rate*, which represents the rate of return investors can obtain on the best alternative among similarly risky and illiquid investments. IBO estimates the relevant hurdle rate using a capital asset pricing model (CAPM). Importantly, IBO assumes that if the project is *not* undertaken, then there will be no change in the properties involved except that which is captured by a constant annual growth rate in value. For this analysis, IBO uses a constant annual growth rate of 3.6%.

The rate of return IBO uses for this evaluation is the 30-year *internal rate of return* (IRR). IBO's IRR calculation assumes that the project that was undertaken yields its observed increase in net operating income for 30 years (growing at a constant rate of 3.6% annually). After 30 years, cash flows are assumed to be zero forever after. IBO does not model a reversion cash flow at the end of the 30 years; implicitly it is assumed that a 30-year time horizon is long enough to ignore ending payoffs.

With estimates of the expected IRR with versus without the ICAP abatement, IBO estimates the share of projects and the share of physical value that would not have been undertaken but for the project receiving ICAP. There are two relevant possibilities.

The first possibility is that IBO's estimated expected IRRs are consistently very high. In this case, the ICAP abatement would be unlikely to significantly affect investment decisions. For example, investors considering a project with a 20% rate of return without ICAP versus 21% with ICAP would be unlikely to change their decision based on that additional percentage point. If most projects are like that, ICAP is unlikely to be effective.

The second possibility, however, is that IBO's estimated expected IRRs are clustered around the estimated hurdle. If so, then it would be difficult to draw definitive conclusions about the inducement effect of the program. This second possibility describes IBO's actual findings. The following subsections describe IBO's IRR calculations and the hurdle rates used, respectively.

FIGURE 10

Calculating an ICAP Project's Internal Rate of Return

$$\text{Present Value} = \sum_{t=1}^{30}\left[\frac{(\Delta\text{NOI} - \text{Incidence} \times \Delta\text{Tax}) \times (1+g)^{t-1} - \text{Incidence} \times \text{ICAP}_t}{(1+r)^{t-1+\text{YearsToCompletion}}}\right] = \text{Cost}$$

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Internal Rate of Return (IRR) Calculations

Translating the property tax abatement into a change in the expected rate of return requires estimates of:

- The cost of the project
- Change in the future trajectories of net operating income because of the project
- Trajectories of taxes

Once these estimates are obtained, IBO calculates a projects IRR with ICAP by solving for in IBO's formula presented in Figure 10.

The IRR is thus the break-even rate of return for the project. It is the interest rate (cost of capital) that makes the developer indifferent between undertaking the project or not. The estimates in this formula are:

ΔNOI: The increment in net operating income (NOI) that results if the project is undertaken. This is calculated from tax data by subtracting the maximum NOI after project construction complete, minus the maximum from before project construction complete. NOIs are inferred from tax data using property full market values and DOF capitalization rates. The ΔNOI value is project specific.

ΔTax: The increment in property tax if the project is undertaken, separate from the ICAP abatement, which will be subtracted later in the formula. This is calculated from data using the total increase in full market value that DOF ascribes to the physical change of the project. The ΔTax value is project specific.

$ICAP_t$: The full series of the ICAP abatements for a specific project. This is the same series that captures the direct cost of ICAP. $ICAP_t$ is calculated using the observed ICAP abatement amounts from the tax bills data, combined with the inferred phase out schedule, which is based on the abatement type. IBO uses the maximum observed ICAP abatement for each property to accommodate upward corrections in abatement amounts after construction is completed.

Incidence: IBO assumes the tax incidence is 75% throughout the analysis, in keeping with the methodology of a 2016 evaluation of ICAP.[19] This means that 25% of the tax break will be obtained by tenants through a reduction in commercial market rents due to the tax change for the property owner. Symmetrically, 25% of the tax increase due to the project (from the physical value change increase) would be paid by tenants through an increase in commercial market rents. This means that demand for commercial space is somewhat elastic—some reduction in price is needed to absorb the new space induced by ICAP.

Cost: Total project (upfront) cost, calculated using a *square foot method* combined with Rider Levett Bucknall (RLB) construction cost estimates. This approach starts with the building code of the property (after construction) and estimates the cost per square foot of new construction for buildings of that type using the RLB estimates. It then multiplies that cost per square foot by the change in square foot of the property, based on property tax rolls. This approach is plausible for new construction because most of the projects comprise the added floor space. For this reason, IBO's inducement rate analysis will focus on new construction projects only.[20] (Sample selection is described later in this report).

YearsToCompletion: The number of years between when the cost is incurred to build the project, and the increments to NOI (and Tax) are realized. Throughout the analysis, IBO assumes this is two years. It is challenging to estimate this parameter or to make it project specific. Moreover, the relevant question for a rate of return analysis is not the time from project *start* to completion, rather, it is the time between *spending the money* on the project and completion. With this in mind, coupled with development timelines, IBO decided on a two-year assumption. (Prior studies used a one-year assumption.)

***g*:** The annual growth rate of NOI and Tax. IBO assumes this is 3.6%, in keeping with the assumptions used in the 2016 study. (For comparison, IBO estimated the mean annual growth rate of full market value for tax lots in ICAP from 2011 through 2024 at about 4.5%.) The 3.6% growth rate captures not only property value appreciation, but also negative cash flows due to upkeep and future maintenance investments in the property. Moreover, future value appreciation may be lower than historical growth rates.

The formula also includes several additional assumptions. First, IBO assumes that the project change in NOI lasts 30 years. This assumption follows the 30-year IRR analysis conducted in the 2016 and 2008 studies of ICAP and ICIP. This assumption is captured by the 30 in the summation sign (∑). Developers oftentimes do a 10-year analysis but include a reversion cash flow at the end for the (sale) value of the property. IBO's analysis is 30 years but does not include a reversion.

IBO also assumes that the change in NOI, and therefore tax, due the construction is given by the "initial" incremental changes ΔNOI and ΔTax, and subsequently these changes both grow annually at a constant rate *g*.

FIGURE 11

Calculating Hurdle Rates Using Capital Asset Pricing Model

$$\text{HurdleRate} = \text{Risk Free Rate} + \beta_{\text{real estate}} \times \text{Market Risk Premium} + \text{Liquidity Premium}$$

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To determine whether a project is likely induced by ICAP, the project's expected IRR without ICAP is needed. To obtain this expected IRR without ICAP, IBO deletes the $ICAP_t$ term from the Figure 10 equation. Everything else remains the same, and the new solution (for *r*) is the estimated expected IRR without ICAP.

Hurdle Rates

IBO makes the behavioral assumption that developers would have undertaken a project if and only if its expected IRR exceeds a *hurdle rate*, which represents the rate of return investors can obtain on the best alternative among similarly risky and illiquid investments. IBO assumes a common hurdle rate applies to all ICAP projects. IBO calculates two separate hurdle rates for an earlier period of ICAP projects (circa 2011) and a later period (circa 2017). For IBO's early estimate, if 2011 data was unavailable, IBO used the next earliest year available. IBO's CAPM equation to calculate hurdle rates is shown in Figure 11.

The estimates in this formula are:

Risk-Free Rate: Risk-free rate of return calculated from the 10-year moving average on 30-year U.S. Treasury bonds. IBO used a 2011 estimate of 4.65% and a 2017 estimate of 3.46%.

ß: Unlevered industry beta for the real estate sector, corrected for cash. IBO used a 2014 estimate of 0.85 and a 2017 estimate of 0.47.

Market Risk Premium: Implied equity risk premium in the context of a Dividend Discount Model. IBO's 2011 estimate is 2.71% and 2017 estimate is 2.36%.

Liquidity Premium: Illiquidity and management premium estimate of 2.25% for both the earlier and later estimates. This was the lower bound in a range presented by the Department of Finance in 2009.

Using these inputs in the Figure 11 equation, IBO obtains two hurdle rate estimates, 9.2% using data earlier in the ICAP program period (2011), and 6.9% using data later in the program (2017). Two factors lead to the change in the hurdle rate during this period: a decline in IBO's estimate of the risk-free rate of return, and a reduction in $ß_{realestate}$. IBO's evaluation of the program makes use of both hurdle rates, as described later in the report.

Analytic Subsample

For estimation of the inducement rate, IBO focuses on a specific subset of ICAP projects. IBO uses the square foot method for estimating the cost of projects. For this reason, IBO focused on ICAP projects where every associated ICAP application is designed as "New Construction." Moreover, IBO only analyzed projects where every associated lot is Tax Class 4. For example, commercial space with co-located residential, such as upper floors of condos, classified as residential for tax purposes was not included in IBO's sample. Co-located residential that is part of a Class 4 property was included. Co-located Class 3 properties (utility properties) were not included in the sample. There is a much greater challenge in determining the rate of return on a project when there is residential or utility development, which have a different

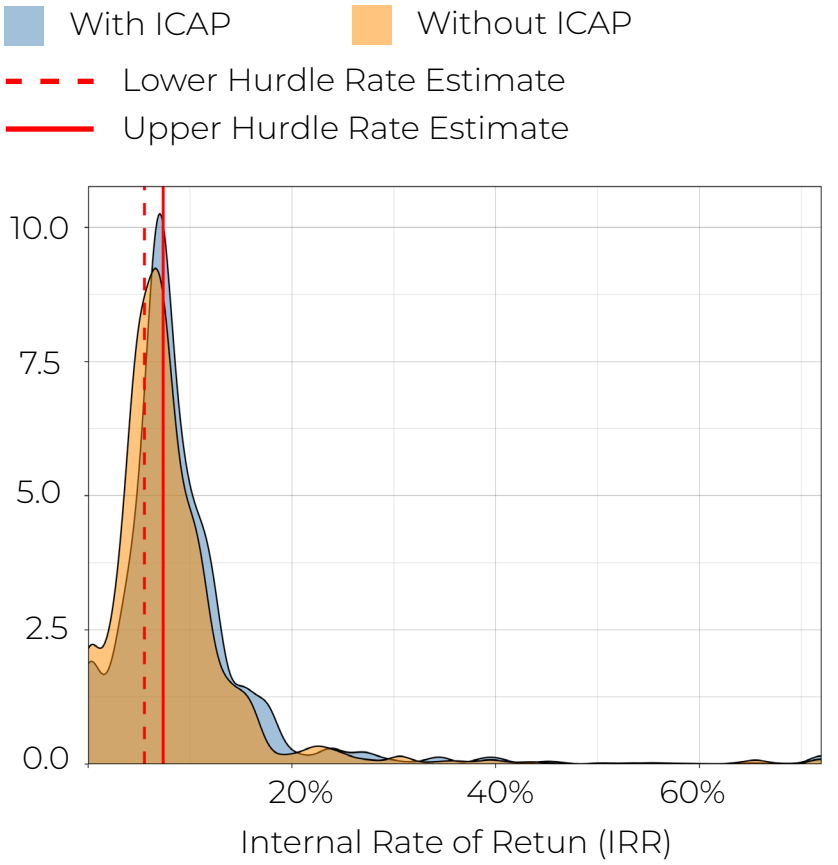
system for calculating taxes and participate in different tax breaks, such as 421-a/485-x. Additionally, calculations would look different for properties whose value derives from sales rather than from an income stream.

For the evaluation of ICAP's success on its second goal, IBO also makes use of the subset of projects that are only renovations. For these projects, IBO must use cost estimates from the ICAP applications, but IBO adjusts the resulting inducement rate estimates to compensate for the low reported project costs, in a manner described in a subsequent section of this report.

IBO's analytic sample ultimately contains 554 projects with IRR estimates, out of a total of 2,074 ICAP projects identified by IBO.[21] Total physical value change for these projects is $5.79 billion, out of a total physical value change for ICAP recipient properties of about $15 billion from 2011 through 2024.

FIGURE 12

Simulated Internal Rate of Return Densities With and Without ICAP



SOURCES: IBO analysis of Department of Finance and Rider Levett Bucknall Construction Cost data

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Inducement Rate Relevant Estimates

Densities that show the internal rates of return distributions, both with and without ICAP, are displayed in Figure 12 for IBO's analytic subsample. The Figure shows a solid red vertical line at the upper hurdle rate of 9.2 percent, and a dashed red vertical line at the lower hurdle rate of 6.9 percent. The blue density represents the distribution of rates of return with ICAP,

FIGURE 13

Inducement Rate Relevant Estimates

Share that...	Projects	Physical Value
"Jump over Hurdle" at 9.2% Hurdle Rate	8.30%	11.30%
"Jump over Hurdle" at 6.9% Hurdle Rate	6.90%	11.20%
is "Within the Hurdles" (with ICAP for lower, without ICAP for upper)	29.80%	34.50%

SOURCES: IBO analysis of Department of Finance and Rider Levett Bucknall Construction Cost data

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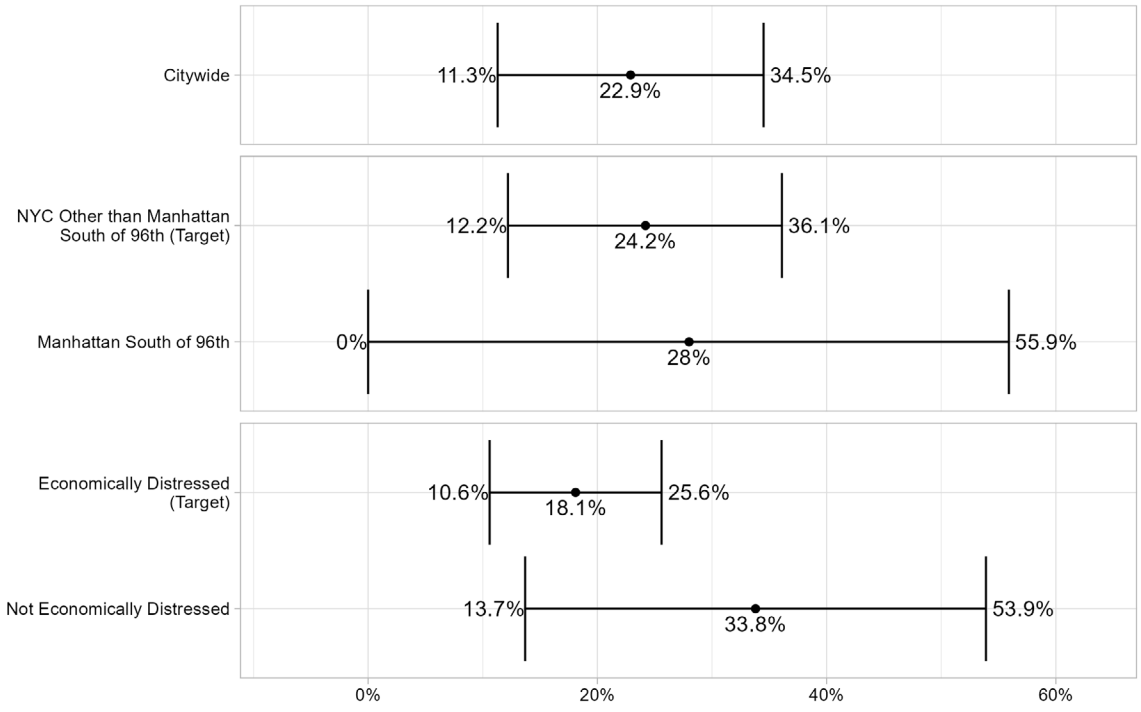
while the orange density is the distribution without ICAP. The orange density is shifted to the left relative to the blue density, because the ICAP tax abatement makes these projects more lucrative. The average change in the IRR from removing ICAP is 1 percentage point (estimates are a 10.1% unweighted mean IRR with ICAP, 9.1% unweighted without ICAP); 6.9% of projects jump over the hurdle at the 6.9% hurdle, and 8.3% jump over at the 9.2% hurdle.

IBO's evaluation focuses on the physical value induced by these programs, and therefore the inducement rates for *physical value* changes are the most relevant. Figure 13 presents a set of inducement rate relevant estimates for physical value changes. The first two rows of Figure 13 are the share of projects that "jump over the hurdle" for the two earlier and later hurdle rates. The share of physical value improvements associated with projects that meet the hurdle threshold end up being quite similar, and IBO uses the 11.3% rate for subsequent calculations. IBO takes this as a "lower bound" estimate for the ICAP inducement rate for physical value.

Because IBO is unsure what hurdle rate applies to each ICAP project, IBO provides a range of hurdle rates and assumes that if a project jumps a hurdle rate within this range (6.9% to 9.2%), it is considered "induced" by ICAP. IBO considers this estimate an upper bound for the inducement rate of the program, meaning it errs on the side of overstating the inducement

FIGURE 14

Inducement Rate Estimates



SOURCES: IBO analysis of Department of Finance and Rider Levett Bucknall Construction Cost data
NOTES: Each bar plot corresponds to a different inducement rate. The left-hand side of each error bar is IBO's lower bound inducement rate; the right-hand side is IBO's upper bound inducement rate. For example, IBO's lower bound Citywide inducement rate is11.3%, and IBO's upper bound Citywide inducement rate is 34.5%. The midpoint between these two is IBO's midpoint inducement rate, which is the focus in the remainder of the report. IBO's midpoint Citywide inducement rate is 22.9%.

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of projects by ICAP. Based on this approach, 29.8% of projects, and 34.5% of physical value was induced by the program.

Inducement Rate Estimates

Figure 14 provides IBO's inducement rate estimates, which were obtained through interpretation of the Inducement Rate Relevant Estimates of the previous subsection. In each case, the lower estimate is the "Jumps over Hurdle" share for a 9.2% hurdle rate. The upper estimate is the share that is within the hurdles either with ICAP or without ICAP. The midpoint estimate is the average of the lower and upper estimates. Figure 14 provides Citywide estimates, which IBO uses to evaluate the effectiveness of the program in its entirety, for its first goal. It also provides geographical estimates, splitting the program by Manhattan south of 96th Street versus elsewhere in the City, and economically distressed places versus elsewhere in the City.

All estimates for upper Manhattan and boroughs outside Manhattan are obtained through an approach identical to that of the Citywide estimates. For Manhattan south of 96th Street, mainly renovation-based and not new construction ICAP projects are permitted—the square foot cost estimation strategy is not reasonable for these projects. As a result, IBO estimated inducement rates using project costs from the ICAP applications. However, IBO believes that these costs are understated, which leads to an underestimate of the inducement rate. IBO thus estimated inducement rates for New York City outside of Manhattan South of 96th Street, separately using square foot cost and ICAP application cost, and took the ratio of these inducement rates. IBO then inflated the Manhattan south of 96th Street inducement rate estimates by this ratio to compensate for the different cost estimation strategy.

Evaluation of the Program

IBO proposes two criteria for evaluating the success of ICAP. The first is *pays for itself* success. If the program brings about new tax revenue due to increased property investment and economic activity equal to or more than the cost of the ICAP abatements and administration, then it would be considered paying for itself. This would have a net positive effect on City tax revenues because the increased revenue from the expanded tax base would meet or exceed the direct cost.

The second criterion for success IBO calls *cost-effective*.[22] Cost-effective would mean that the program achieves its goals in a way that is lower cost than alternative ways of achieving the goal. In its evaluation, IBO focuses on one specific alternative policy, where the ICAP expires and the City spends the gain in tax revenue (if any) directly on real estate development instead. IBO recognizes that this "direct City spending alternative" is only one alternative way of achieving ICAP's goals, and there may be alternative programs (or adjustments to ICAP) that could achieve the goals at lower cost.

IBO identifies the goals of ICAP as being industrial and commercial development, as measured by physical value increases on the tax rolls. By this measure, cost effective means that ICAP yields a greater amount of physical value increase than the City government could obtain through direct spending. For this purpose, IBO assumes that for $1 of direct spending,

the City government can obtain $1 of physical value increase. This ratio was obtained by comparing ICAP project costs to ICAP project physical value changes, under the assumption that the City could act like private developers using direct City spending. If the program meets the higher standard of paying for itself, then it would automatically be considered cost-effective, because it would have no net cost to the City.

For the evaluation of ICAP on its first goal, IBO evaluates "pays for itself" and "cost-effective" success. The first goal, as articulated in the originating legislation for the program, is not for ICAP to be revenue positive. Rather, ICAP is intended to encourage development, and therefore the cost-effectiveness criterion is arguably more in alignment with the stated purpose. However, many economic development incentives are justified by their proponents because they are expected to pay for themselves. For evaluating ICAP on the distributional goals (the second and third goals of the program), only the cost-effective criterion is reasonable, because those goals cannot be interpreted as representing a tax revenue-maximizing objective.

Did the Program Succeed at Encouraging Industrial And Commercial Development?

Evaluating ICAP on its first goal requires a measure of the additional tax revenue from induced projects. IBO only calculates the property tax revenue increase from the induced projects, and does not include other possible revenue increases, such as through the personal income tax, sales tax, or business tax that result from the activity in the new commercial space. The ICAP program does not collect data on job creation associated with ICAP developments. If proponents of ICAP invoke the economic multipliers attributed to ICAP job creation, the

FIGURE 15

Tax Revenue from ICAP-Induced Projects as of 2024 Using Midpoint Inducement Rate Estimate of 22.9%

	Nominal Tax Revenue	Real Tax Revenue (2024 Dollars)
Past Revenue: 2011 through 2023 tax revenue gains, using median growth rate of tax lot	$0.652 billion	$0.743 billion
Current Revenue: tax revenue gains in 2024 from induced value	$0.181 billion	$0.181 billion
ICAP Tax Revenue Gains from 2011 Through 2024	**$0.833 billion**	**$0.924 billion**
Future Revenue: 2025 and after expected tax revenue gains with 3.6% constant rate of growth	$6.32 billion	$2.84 billion
ICAP Tax Revenue Gains	**$7.153 billion**	**$3.764 billion**

SOURCE: IBO analysis of Department of Finance data

NOTE: Past abatements are inflated to 2024 dollars using the Consumer Price Index for All Urban Consumers. Future committed abatements are discounted to 2024 dollars at a 6.25% discount rate.

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number of jobs newly created in New York City through the program would need to be quantified. Without this data, the secondary and tertiary impacts of ICAP on City employment remains anecdotal and untested. Figure 15 presents IBO's calculations and estimates.

Regarding the paying for itself criterion for success, IBO estimates that at a 22.9% inducement rate (IBO's midpoint estimate), ICAP yields $3.764 billion total revenue. Comparing this to ICAP's direct cost, as calculated in Figure 3, of $6.167 billion, IBO concludes that the program does not pay for itself—the revenue of $3.764 billion falls short of the total cost of $6.167 billion.

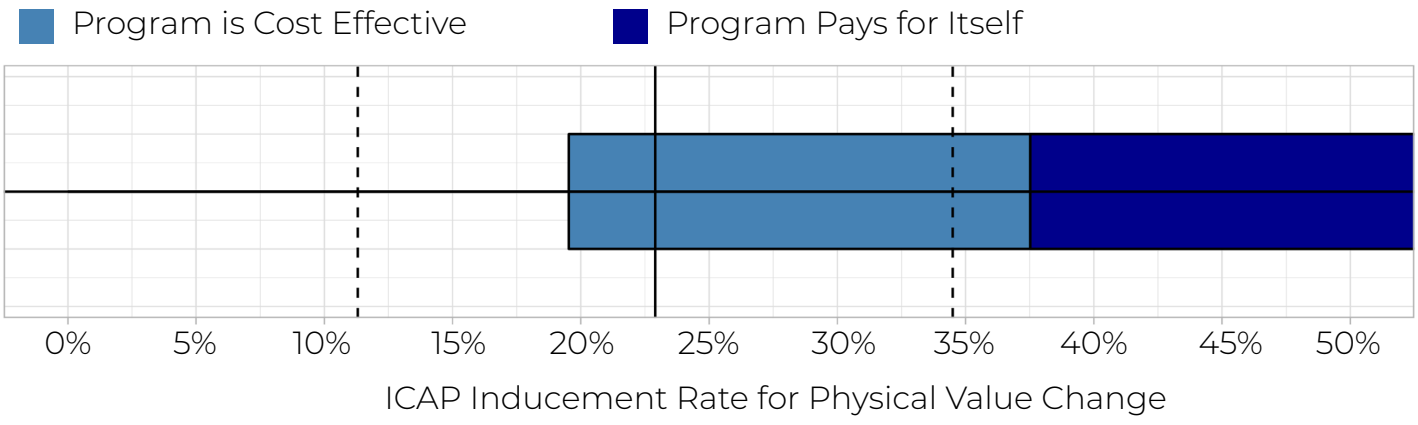
This calculation highlights the importance of looking forward to future commitments and revenue streams in the evaluation of this program. While the program falls about 39% short of paying for itself when IBO considers past, present, and future revenues and costs, the program falls 65% short of paying itself if IBO considers only past and present revenues and costs ($2.617 billion total cost through 2024 versus only $0.924 billion in tax revenue). This is to be expected, because the program provides a front-loaded tax break, and the City's additional revenues from induced projects will come only later, when the properties are eventually taxed.

Regarding cost-effectiveness, at an inducement rate of 22.9%, ICAP induces a total physical value of $3.47 billion ($15.14 billion from Figure 9, times the 22.9% inducement rate). Moreover, ICAP has a net cost of about $2.40 billion ($3.764 billion tax revenue minus $6.167 billion direct cost). If ICAP were to sunset and the City were to recover the $2.40 billion in ICAP's net cost, then the City could, in principle, spend these savings directly on physical property improvements. There are few examples of direct government spending on commercial development. More commonly, the City indirectly spends on commercial development by using municipal bonds to support broader neighborhood and regional infrastructure or the City provides economic development tax breaks apart from ICAP to encourage private development such as sports stadiums.

As discussed earlier, IBO assumes that the City could obtain $1 of physical value improvement by using $1 of direct spending, and that the City would not obtain additional revenue by, for

FIGURE 16

Inducement Rate Ranges for Program Success Based on IBO Estimates



SOURCE: IBO analysis of Department of Finance data

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example, selling the constructed buildings. Under these assumptions, the City cannot do better than ICAP by sunsetting the program and undertaking direct spending instead—the City would achieve only $2.40 billion of physical value increase, while IBO estimates that the program obtains $3.47 billion instead.

In short, IBO's analysis concludes that the program is unlikely to pay for itself, but it is likely to be a cost-effective way to generate commercial real estate development, relative to the alternative of direct government spending. Of course, both success evaluations hinge on the inducement rate, and IBO notes that the estimate of the inducement rate for the program fell within a wide spread of inducement rate estimates in Figure 13. This is illustrated further in Figure 16, which displays the range of inducement rates under which the program is cost-effective or pays for itself, as well as IBO's lower, middle, and upper estimates for the inducement rates. At a physical value inducement rate of 19.5% or higher, ICAP is cost-effective. At a rate of 37.5% or higher, ICAP pays for itself. Figure 16 permits the reader to convert whichever inducement rate they think is most plausible into a general conclusion about the program.

FIGURE 17A

Evaluation of the Distributional Effects of ICAP on Development, 2011-2024

	Estimates with ICAP	
	A	B
	Total Class 4 Physical Change	Ratio with ICAP (Observed Ratio, calculated from A)
New York City Outside of Manhattan South of 96th (Target)	$36.41	0.66
Manhattan South of 96th	$55.06	
Economically Distressed (Target)	$50.05	1.21
Not Economically Distressed	$41.41	

SOURCE: IBO analysis of Department of Finance data

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Did the Program Succeed at Moving Investment into Targeted Areas?

The second and third goals of ICAP involve the distribution of induced investment. Specifically, the second goal seeks to encourage investment specifically in New York City outside of Manhattan south of 96th Street. The third goal seeks to encourage investment in areas of special need, which IBO interprets as economically distressed areas.

IBO makes two notes regarding this evaluation. First, ICAP may tilt the ratio of physical change *toward* Manhattan south of 96th Street, or *away* from economically distressed areas. If so, then ICAP unambiguously fails its distributional goals. However, even if ICAP does tilt these ratios in the desired directions—away from Manhattan south of 96th Street and toward economically distressed areas—it is possible that ICAP does not do this in a *cost-effective* way.

Yet it is challenging to identify an alternative policy for comparison. The alternative that IBO considers is sunsetting ICAP, recovering its net cost, and directly spending the entire recovered net cost on real estate improvements in only the targeted area under consideration, completely

FIGURE 17B

Evaluation of the Distributional Effects of ICAP on Development, 2011-2024

	Estimates Sunsetting ICAP with No Re-investment of Savings				
	C	D	E	F	G
	Class 4 Physical Change from ICAP Recipients	Midpoint Inducement Rate Estimate	ICAP Induced Physical Change (C x D)	Simulated Class 4 Physical Change, Without ICAP (A - E)	Ratio without ICAP, Savings Ignored (calculated from F)
New York City Outside of Manhattan South of 96th (Target)	$11.47	24.20%	$2.78	$33.63	0.62
Manhattan South of 96th	$3.67	28.00%	$1.03	$54.03	
Economically Distressed (Target)	$8.68	18.10%	$1.57	$48.48	1.24
Not Economically Distressed	$6.47	33.80%	$2.19	$39.22	

FIGURE 17C

Evaluation of the Distributional Effects of ICAP on Development, 2011-2024

	Estimates Sunsetting ICAP and Instead Spending Savings on Target		
	H	I	J
	Tax Revenue Increase from removing ICAP (midpoint estimate)	Class 4 Physical Change, Spending Savings on Target (F + H in target)	Ratio without ICAP, Spending Savings on Target (calculated from I)
New York City Outside of Manhattan South of 96th (Target)	$2.40	$36.03	0.67
Manhattan South of 96th		$54.03	
Economically Distressed (Target)	$2.40	$50.10	1.3
Not Economically Distressed		$39.22	

SOURCE FOR 17B & 17C: IBO analysis of Department of Finance data

New York City Independent Budget Office

ignoring the other targeted area and the first goal of ICAP. This is an extreme version of an alternative policy for illustrative purposes, and it appears unlikely that the ICAP would do better than this alternative. However, if ICAP comes close to matching the outcomes of this extreme alternative, then IBO concludes that ICAP is successful on this objective, in that ICAP would be doing almost as well as if the City put the entire net cost of the program towards the given objective.

To conduct this evaluation, IBO examines the ratio of the Class 4 physical value change in targeted versus not targeted areas. Figure 9, earlier in the report, provided a first look at the data underlying these ratios. These ratios are calculated in Figure 17 A-C. The ratio of physical value change for the rest of New York City relative to Manhattan south of 96th Street is 0.66. The second goal of the program is to increase this ratio. Using midpoint estimate inducement rates for the relevant geographic level from Figure 14, IBO's simulation demonstrates that, were there no ICAP, this ratio would fall to 0.62. Thus, the program does in fact encourage investment to disperse from Manhattan south of 96th Street to elsewhere in the City. IBO's simulation is detailed in Figure 17 A-C.

If ICAP were allowed to sunset and savings from ending ICAP were spent in New York City outside of Manhattan south of 96th Street, IBO estimates that the ratio would be 0.67. This is an extreme counterfactual, where the entirety of the net cost of the program is spent on this single goal. Still, the program does not do too much worse than this extreme alternative (the program leads to a ratio of 0.66, whereas this alternative is a ratio of 0.67), leading IBO to conclude that the program is at least somewhat effective at dispersing investment outside of Manhattan south of 96th Street.

The conclusions are different for the comparison of economically distressed areas versus other areas of the City. As displayed in Figure 17, IBO estimates that the removal of ICAP would *increase* this investment ratio, from 1.21 to 1.24. This means that ICAP in fact works *against* its third goal. Sunsetting the program and spending directly on economically distressed areas would further and substantially increase this ratio to 1.30. IBO concludes that the program fails to achieve its third goal. If this is a continued objective of ICAP, the program would need to be reformed to achieve it.

Is ICAP Aligned with Current City Economic Development Priorities?

To assess the City's goals for economic development policy, IBO reviewed source documents from the Office of the Mayor and the New York City Economic Development Corporation (EDC). IBO identified the following relevant stated goals:

- Expansion of housing supply and the construction of new affordable housing
- Strengthen employment hubs and workspaces across all five boroughs
- Bringing jobs closer to where people live
- Encouraging development in underserved communities
- Redeveloping Manhattan business districts as vibrant 24/7 live-work-play destinations

To identify the City's goals for economic development policy, IBO first reviewed the "Making New York Work for Everyone" report published by the New New York panel. The panel was launched in 2022 on behalf of Governor Hochul and Mayor Adams and was tasked with examining the future of the City's local and regional economy. IBO also considered Mayor Eric Adams' 2024 State of the City Speech and the 2024 Preliminary Mayor's Management Report for EDC which discussed the development authority's priorities. IBO further considered recent City policies and City Council committee hearings.

Among these goals, IBO's interpretation is that the foremost priority is to expand housing supply and construction of new affordable housing. In 2023, the City Council passed a Fair Housing Framework in response to the City's housing crisis. Mayor Eric Adams highlighted housing security in his 2024 State of the City speech and has established a "moonshot goal" of adding 500,000 new housing units to New York City over the next decade.

While The New New York panel report is less starkly focused on housing, the report introduces housing priorities by describing the current state of housing in the City as a "crisis," highlighting its importance. The report later describes prioritizing relaxing regulations and zoning to permit more housing development, and reimagining New York business districts (Core Manhattan) as "vibrant 24/7 destinations," which include office-to-residential conversions. Such conversions have also been supported by other City policies, such as Office Conversion Accelerator, and the City of Yes for Housing Opportunity zoning reforms. In addition to these sources, the current situation in the City's housing market is often referred to as a "housing crisis" in City Council hearings, and in presentations by New York City Planning Commission Chair Garodnick.

Housing

A relatively small subset of the ICAP program encourages housing development. ICAP taken overall, is not a housing program. ICAP is overwhelmingly a tax break for commercial development, and property developers considering alternative uses of their property weigh the relative return of that kind of development against residential. ICAP tips these calculations toward industrial and commercial.

It can thus be conceptualized, in a simple model of investment, that this program works directly against housing development. IBO does not have an estimate of how often residential developments become commercial or industrial due to ICAP. But because IBO does estimate that ICAP induces some development, it is very likely the program induces switching to encouraged projects from other possible projects.

IBO's study of ICAP projects with co-located residential found that many housing units were co-located with ICAP projects. About 40% of the housing units added in the City from 2011 to 2024 had some aspect of ICAP benefiting the property. However, IBO found that only 13% of ICAP direct expenditure goes to projects that add housing units ($820 million out of total direct cost of $6.167 billion). Moreover, there are no affordable housing requirements tied to

these housing subsidies. When City subsidies are provided for housing, it almost universally attaches affordability requirements for those units. Taken together, IBO argues that the perspective of justifying ICAP as a housing program is weak, and that the program is not in alignment with the City's housing goals.

Geographically Disperse Property Investment

The second identified goal is closely related to the dispersing of investment outside of Manhattan South of 96th Street and toward areas of economic distress, and is identified both in the EDC report and in the New New York publication. IBO's analysis suggests that ICAP does work to disperse investment outside of Manhattan south of 96th Street, but it does not work to increase relative investment specifically in areas of economic distress.

Moreover, ICAP is poorly designed to "strengthen employment hubs." ICAP does not effectively target incentives to employment hubs. Moreover, the program does not have an "off ramp" that reduces incentives once an employment hub, such as Downtown Brooklyn or Long Island City, is growing rapidly. The program would need substantial reform to make it effective toward this end.

IBO also encourages policymakers to consider whether bringing jobs to parts of New York City outside of Manhattan south of 96th Street is the most cost-effective way to bring jobs "closer to where people live." Using 2016-2020 U.S. Census data on commuting flows, IBO found that 38% of the residents outside of Manhattan, if they work in the City, commute to Manhattan. While this estimate may have changed post-pandemic, the transportation system that supports these commuting patterns has not. It remains that, due to the City's mass transit system, a job created in Manhattan is accessible to many more people, including those in a variety of underserved communities, than a job created far away from Manhattan. In short, while it sounds plausible that the best way to increase employment in underserved communities is to bring jobs close to them, IBO remains skeptical without further evidence incorporating transit considerations.

Live-Work-Play Neighborhoods

The third goal, to revitalize the Manhattan business district as a vibrant 24/7 live-work-play destination, is described in the New New York report. It is not clear whether ICAP is an effective policy for this objective. While it provides incentives for Manhattan office renovations to support other types of commercial space, which may help convert some offices to non-office uses, it provides no abatement for retail space in these places. The availability of retail space (especially space complementary to nearby residential) appears to be a critical part of these neighborhood transformations.

Moreover, the recent Manhattan Commercial Revitalization (M-CORE) policy further confuses the discussion by providing greater tax incentives for office renovations. M-CORE appears to singularly focus on incentivizing the creation of world-class office space rather than helping to convert these office districts into something different. Also, ICAP and M-CORE are not consistent policies. IBO identifies that ICAP effectively disperses investment outside of Manhattan south of 96th Street, but M-CORE works with very similar policy levers to increase

investment in Manhattan south of 59th Street, particularly for renovations. This suggests that either the City no longer holds the objective of investment dispersion as an important policy goal, or policymakers have not adequately accounted for the disparate pushes and pulls of various economic development incentive policies collectively.

ICAP's Redundancy with IDA Industrial Program

As previously discussed, IBO finds that ICAP is overwhelmingly received by commercial development projects, with substantial program dollars going to office space development. The lack of uptake of ICAP's benefits for industrial projects is likely due to already existing deeper benefits for industrial projects under the Industrial Program, administered by the New York City Industrial Development Agency (NYCIDA).

The Industrial Program provides the following:

- City and State sales tax waivers for purchases of construction materials and equipment (not provided under ICAP)
- Reduction in the mortgage recording tax (generally a decrease from 2.8% to 0.3% of the mortgage amount, also not available under ICAP)
- Reduction in property taxes through a payment in lieu of property taxes (PILOT) for 25 years, including a phase out beginning in year 21

IBO released a report reviewing the Industrial Program in 2021. Unlike ICAP the Industrial Program does require reporting on employment and enforces recapture provisions for the incentives if the firm fails to meet the program requirements. The Industrial Program has a lower required investment than ICAP, with a minimum required expenditure of 15% compared to 30% under ICAP.

Overall, for most industrial projects ICAP offers weaker benefits and requires more investment. Unless a firm has concerns about its ability to meet the program requirements of the Industrial Program, there is little reason for any industrial project to pursue benefits from ICAP.

Conclusion

Considering the likely inducement rates for the program, IBO argues the program may be effective at achieving its most basic stated objective in a cost-effective way: encouraging industrial and commercial investment in the City. The program also appears to work in the direction of encouraging more investment to parts of the City outside of Manhattan south of 96th street. In particular, ICAP is about as effective as direct City spending equal to the program's net cost on this objective. However, the program does not work to achieve its third goal of encouraging investment in economically distressed areas, and in fact appears to work in the opposite direction. However, based on these estimates, IBO did not find that the program would pay for itself. The program yields a net cost to the City and City tax revenues would rise if it were eliminated.

Moreover, the goals of ICAP are potentially at odds with current City economic development priorities. In particular, the City's most prominent development policy priority appears to be the construction and preservation of new, and preferably affordable, housing. ICAP is a tax break for industrial and commercial development, and property developers considering alternative uses of their property weigh the relative return of that kind of development against residential. The existence of ICAP tips these calculations toward industrial and commercial (relative to if ICAP did not exist) and therefore works against housing development. IBO considered the extent of co-located residential property. While many co-located residential units are part of ICAP projects, only a small share (13%) of ICAP direct spending goes toward projects that increase housing units.

Given ICAP's failure to achieve its third goal of steering investment into distressed areas, IBO notes that while the special commercial areas are somewhat in alignment with areas of economic distress, this alignment is relatively weak and could be improved through boundary revisions. However, given that there is some alignment, supplying even greater tax benefits to the special commercial areas, and fewer to other areas, could improve the program's performance on its third goal—but at an added cost to the City.

Limitations and Recommendations for Future Evaluations

A key limitation of the main evaluation is that the inducement rates estimated by IBO are imprecise. As shown in Figure 15, different conclusions regarding cost-effectiveness can be drawn within the range of IBO's upper and lower inducement rate estimates. The analysis could be made much more precise if IBO had access to the *pro forma* calculations of the developers. With this information, IBO could observe the actual expected rate of return for each project and could calculate how this expectation would change with the removal of ICAP.

Instead, with the more limited data available, IBO had to estimate the rates of return, which likely led to substantial noise in the estimates, both because parts of the estimates are based on *realized* rates of return, and because the inputs to the estimates are likely measured with error. The collection of more information on the expected project parameters as part of the ICAP application process could make analyses based on this methodology more precise.

Even ignoring the imprecision in the inducement rate estimates, the methodology has several built-in limitations that lead to the over and underestimation of the effects of ICAP. The most transparent reason for overestimation of ICAP's benefits is that the inducement analysis assumes that, if the commercial development project does not succeed without ICAP (because its return is too low), then *no* physical changes will be made to the property going forward. Instead, the property's incomes and taxes will grow at a constant (relatively modest) appreciation rate. However, this seems unlikely. If the particular commercial development induced by ICAP does not pencil out when ICAP is removed, there are likely many cases where alternative uses of the property, such as residential uses, or a smaller commercial development, may still be viable. As a result, IBO is overestimating the amount of value created due to physical change induced by ICAP, because the counterfactual is not no physical change, but different (though still likely less) physical change.

Regarding underestimation of ICAP's benefits, there are two clear possibilities. First, in IBO's analysis, a large share of projects had estimated IRRs fall below the hurdle rate. In theory, no expected IRR should fall below the hurdle, and so many of these IRRs below the hurdle may have been close to, but to the right of, the hurdle in expectation. This implies that many of these projects may have been induced by ICAP.

Additionally, in principle, the real estate development due to ICAP will lead to downstream economic development effects besides the increase in property values. For example, new commercial space may lead to new businesses locating in the City, which due to agglomerations may lead to other businesses also moving in, and spur general economic development. ICAP could also lead to increases in nearby retail or residential development that does not receive ICAP. The City may capture revenues from these downstream economic developments through other taxes, such as the business income tax, personal income tax, or property taxes on non-ICAP properties. These potential "multiplier effects" were not accounted for in IBO's analysis. IBO did note that ICAP is not particularly well designed to leverage agglomeration effects.

IBO confronted some other data limitations, including missing information on the retail share of the property for purposes of the tax abatement, which IBO had to infer from the tax records instead. Moreover, some of the variables on the ICAP applications were not digitized by DOF. In addition, IBO believes that the ICAP policy itself does not provide strong incentives to accurately collect some variables, such as for project costs. IBO believes this is because for the vast majority of ICAP recipients, it was easy for them to meet their minimum required expenditures, and all that is necessary regarding project cost to receive ICAP is to meet these thresholds.

While not critical for the implementation of the program, project cost information was important for the evaluation methodology. In general, IBO recommends that policies funding and mandating data collection and reporting be implemented, considering IBO's mandate for evaluation of the effectiveness of policies for their intended objectives, as well as against current City policy priorities.

Glossary

As-of-Right Tax Break: An as-of-right tax break can be obtained with certainty as long as a taxpayer satisfies a list of objective conditions.

Assessment Ratio (or Target Assessment Ratio): The ratio used for the calculation of actual assessed value. Also the number toward which the ratio of billable assessed value and full market value "heads," though it may never reach this target ratio. Assessment ratios as of fiscal year 2024 are 6% for Class 1, and 45% for all other classes.

Billable Assessed Value (BAV): Property assessed value after assessment growth caps and phase-ins ("transitional assessed values") are applied. These assessment growth caps and phase-ins are applied to actual assessed values. Billable Assessed Values are always less than or equal to actual assessed values.

Building Classification: Building classifications are codes established by DOF for individual tax lots. Building classifications describe the building in broad categories, such as office, hotel, retail, or warehouse.

Capitalization Rate: In general, a capitalization rate is the ratio of a property's net operating income divided by its market value. In order to estimate full market values for Class 2 and Class 4 properties, DOF divides the property's DOF-estimated NOI by the DOF-estimated capitalization rate. The DOF-estimated capitalization rate for Class 2 properties is the market (fallout) capitalization rate, plus an estimate of market appreciation, plus the Class 2 effective tax rate. For Class 4 properties, DOF-estimated capitalization rates are determined through guideline market capitalization rates, plus the Class 4 effective tax rate. DOF-estimated capitalization rates are property-specific.

Cost-Effective: IBO says that a program is *cost-effective* if it achieves its objectives at a cost that is less than alternative ways for the City to achieve its objectives. In this report, IBO considers only one alternative way for the City to achieve ICAP's objective—direct government spending.

Direct Cost (or Direct Tax Expenditure): The sum of tax abatements as applied on tax bills throughout the City. It is the estimate of the tax expenditure used in the City's DOF Tax Expenditure Report. It can also be referred as the "tax roll estimate" of the tax expenditure.

Discretionary Tax Break: A *discretionary* tax break can only be obtained with the approval of an agency or board that reviews the particulars of the project, such as the New York City Economic Development Corporation.

Exemptions: Exemptions reduce property assessed values before (gross) taxes are calculated. A property may be partially or fully exempt depending on the amount of the exemption. Exemptions reduce tax liability like abatements. They may seem interchangeable from the perspective of property owners, in that any individual property owner can receive equivalent tax relief through an exemption or an abatement. But the choice of exemption versus abatement for providing a property tax break has system-wide implications for tax burdens, as IBO has previously reported on.

Final Roll: After the issuance of the tentative roll in January, property owners have until March to challenge assessments. DOF updates the tentative roll with appeal decisions and other corrections and issues a final property tax assessment roll (dataset) each May. The final roll provides an updated view of property assessed values for tax purposes in the City, and these data are used directly in the determination of tax bills. However, further corrections and results of appeals may continue to affect tax liability beyond the final roll (through, e.g., tax remissions—that is, tax refunds from successful appeals).

Full Market Value (FMV): The property's value on the tax assessment roll, as determined annually by DOF, and before any modifications due to the property tax system are applied. This is the closest estimate on the tax roll to an "actual" property market value. However, full market value is not, in general, an accurate estimate of actual property market value. For properties in Class 4 (commercial properties), which can receive ICAP, full market values are determined by DOF through an estimate of the net operating income and capitalization rate.

Minimum required expenditure (MRE): The amount of investment spending needed to obtain a tax break. For ICAP, this is 30% of the pre-construction taxable billable assessed value (TBAV).

Net Cost (or Net Tax Expenditure): The increase (decrease if it is negative) in government revenue if the program is repealed. This amount takes into account both the direct cost of the program as well as behavioral changes that would affect City tax revenues. In general, if the program induces behavior that increases the City's tax base, then the behavioral changes lead to a reduction in City revenues, and the Net Cost of the program is less than the Direct Cost (the Net Cost may in certain cases be negative).

Net Operating Income (NOI): In general, net operating income is the difference between a property's income from sources such as leases, minus property expenses. In valuing commercial property for tax purposes, DOF does not necessarily use a property's own self-reported net operating income to value the property directly—in some cases, DOF adjusts the reported data. Moreover, depreciation and debt service expenses are not included in DOF's estimates of net operating income.

Pays for Itself: A program pays for itself if its net cost is negative, or in other words, if a repeal of the program would on net decrease City tax revenues.

Physical Value Change: The physical change of a property is the change in the property's assessed full market value, relative to last year's full market value, that the DOF attributes to structural changes in the property (rather than due to property value appreciation for existing structures and land). From a property tax perspective, physical change is separated out on the tax rolls because it is not subject to transitional phase-ins or growth caps.

Taxable Billable Assessed Value (TBAV): The value of a tax lot or property for tax purposes, after the application of legally required reductions to assessed value, including property tax exemptions (but before applying property tax abatements).

Transitional Assessed Value: For some Class 2 properties and all Class 4 properties, these are modified versions of actual assessed value where changes in value are spread out ("phased-in") over five years. In this case, billable assessed value is the minimum of actual assessed value and transitional assessed value.

Tentative Roll: DOF determines market and assessed values for all properties in the City annually and issues a tentative property tax assessment roll (dataset) each January. This dataset provides a preliminary look into property assessed values for tax purposes and is subsequently updated to produce the final roll.

Endnotes

1 An as-of-right tax break can be obtained with certainty if a taxpayer satisfies a list of objective conditions. This contrasts with a discretionary tax break, which can only be obtained with the approval of an agency or board (such as the New York City Economic Development Corporation) that reviews the details of the proposed project. Often discretionary tax breaks are evaluated and granted competitively.

2 New York City Department of Finance, Tax Policy and Data Analytics Division (2024, February). *Annual Report on Tax Expenditures, Fiscal Year 2024*, p. 21.

3 New York City Department of Finance, Tax Policy and Data Analytics Division (2025, February). *Annual Report on Tax Expenditures, Fiscal Year 2025*, p. 49.

4 New York City Comptroller, Annual Comprehensive Financial Report (ACFR) for Fiscal Year Ended June 30, 2024. p. Part II-F—General Fund—Schedule G5

5 This is the fourth report produced by IBO under the terms of City Council Local Law 18 of 2017, which requires IBO to issue evaluations of the city's economic development tax expenditure programs. The decision to examine the ICAP program was made collaboratively with the City Council and IBO.

6 Oser, Alan S (1976, November 10). About Real Estate: Beame Seeking to Spur Commercial and Industrial Work. *New York Times*.

7 Goodwin, Michael (1983, May 4). City's Tax Incentive Panel Is Called Slipshod. *New York Times.*

8 Special areas under ICIP provided a 25-year ICIP benefit for commercial new construction compared with 15 years in other parts of the city.

9 Champeny, Ana (2008, August). *With Changes to Commercial Property Tax Program, Breaks Will Not be as Costly for the City*. New York City Independent Budget Office.

10 The Boundary Commission consists a Deputy Mayor designated by the Mayor, the Commissioner of Finance, the Chair of the City Planning Commission, the Director of Management and Budget, the Borough Presidents, the Speaker of the City Council and a public member appointed by the Mayor to serve at the Mayor's pleasure.

11 ICAP Boundary Commission (2015, September 24). *Board Book*.

12 ICAP's renewal was passed on June 6th, one of the final days of the official legislative calendar in 2024. It passed the Senate and Assembly without a public hearing on the program.

13 Senate Bill S9822, 2023-2024 Legislative Session.

14 The bill's Memo of Support appears to be speculating on how property taxes for power plants could interact with rulemaking at the Federal Energy Regulatory Commission, though the bill memo did not cite specific energy price regulation rules.

15 In the 2008, Mayor Bloomberg suggested removing all utilities from ICIP or the revamped ICAP and proposed the creation of a new discretionary program that could more narrowly tailor benefits. Mayor Bloomberg expressed that such a program could provide "tailored benefits tied to City goals such as clean energy" according to Bill Jackets from the 2008 creation of ICAP.

16 Due to data limitations, physical change estimates may be an overstatement because IBO does not observe any physical change reversals in these data that occur between tentative and final property tax assessment rolls.

17 ICAP was previously evaluated in 2016. See: Task Force on Economic Development Tax Expenditures (2016, July). *Lessons from Evaluating the Industrial and Commercial Abatement Program* New York City Council [Working Paper]. ICIP was evaluated in 2008. See: Brindisi, Francesco and David Ehrenberg (2008, September 16). The New York City Real Property Tax Industrial and Commercial Incentive Program (ICIP): Description and Analysis. New York City Economic Development Corporation.

18 Choosing investment projects based on an IRR decision-rule is applicable only when all the costs (cash outflows) come before all the benefits (cash inflows). This is the situation for how ICAP is set up—construction costs happen first and then the project receives the benefit of tax abatements for the construction that was undertaken.

19 Task Force on Economic Development Tax Expenditures (2016, July). *Lessons from Evaluating the Industrial and Commercial Abatement Program* New York City Council [Working Paper].

20 IBO could also use an alternative approach, using cost estimates from ICAP applications data provided by DOF, but IBO found that many of the cost estimates in the ICAP applications data were much lower than appeared reasonable. For this reason, IBO solely uses the square foot cost method in this report.

21 Note that IBO's definition of "project" is not the same as ICAP application or ICAP-recipient tax lot. See the "Data Sources" section for IBO's definition of project.

22 In general, *cost-effectiveness analysis* compares the benefits of an action to its cost, without converting the benefits into a dollar benefit amount. IBO's definition of *cost-effective* used in this report is that this ratio of benefits to cost is large enough to argue in favor of the program.

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IBO's mission is to enhance understanding of New York City's budget, public policy and economy through independent analysis.

This is the fourth report produced by IBO under the terms of Local Law 18 passed by the New York City Council in 2017. In fulfillment of this law, IBO issues evaluations of the City's economic development tax expenditure programs.

Prepared by:
RIchard DiSalvo*
Alaina Turnquist

Supervised by:
Sarah Parker
Micheal Jacobs*
Cole Rakow

Produced by:
Tara V. Swanson

Other Contributors:
Benjamin Ferri
Zachary Herman

**Former IBO employee*

info@ibo.nyc.gov

www.ibo.nyc.gov

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@nycibo