

# 2022 Price Index of Operating Costs

**April 14, 2022**

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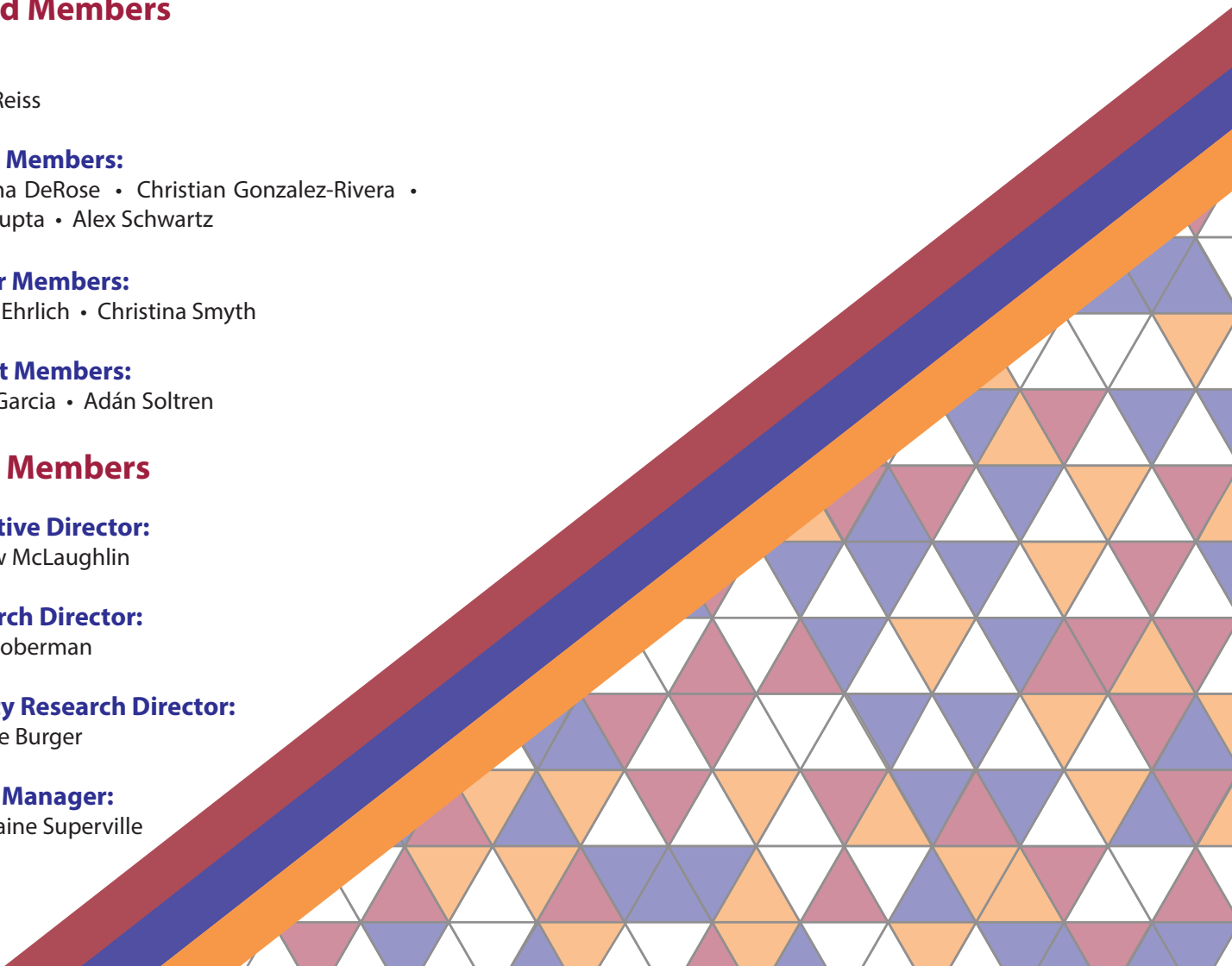
Brian Hoberman

### **Deputy Research Director:**

Danielle Burger

### **Office Manager:**

Charmaine Superville



# ***New York City Rent Guidelines Board***

1 Centre Street, Suite 2210, New York, NY 10007 • 212-669-7480 • [nyc.gov/rgb](http://nyc.gov/rgb)

# 2022 Price Index of Operating Costs

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**04** *Introduction*

**04** *Overview*

**05** *PIOC Components - Apartments*

**08** *PIOC by Building Type*

**08** *Hotel PIOC*

**08** *Loft PIOC*

**09** *The Core PIOC*

**09** *PIOC Projections for 2023*

**10** *Commensurate Rent Adjustments*

**12** *Methodology*

**15** *Acknowledgments*

**16** *Appendices*

## What's New

- ☑ The Price Index of Operating Costs (PIOC) for buildings that contain rent stabilized apartments increased 4.2% this year.
- ☑ Costs in natural-gas heated buildings increased 4.1%, while costs in fuel-oil heated buildings increased 4.3%.
- ☑ The “Core” PIOC, which excludes the changes in fuel oil prices, natural gas and steam costs, rose by 3.0% this year.
- ☑ The Hotel PIOC decreased 1.3% this year.
- ☑ Real estate taxes fell by 3.7%, the only decrease of any PIOC component, primarily due to a decline in assessments for Class Two properties.
- ☑ Fuel costs and Insurance costs rose by the greatest proportions, 19.6% and 10.9%, respectively.
- ☑ The Maintenance component increased by 9.2%.
- ☑ The Administrative component increased by 6.7%, due to a rise in attorney costs.
- ☑ The Utilities component increased by 5.8%.
- ☑ The Labor Costs component increased by 4.1%, due to increases in both union and non-union labor.
- ☑ The PIOC for buildings that contain rent stabilized apartments is projected to increase 4.7% next year.

## Apartments

### Change In Costs for Buildings that Contain Rent Stabilized Apartments, April 2021 to March 2022

Taxes	-3.7%
Labor Costs	4.1%
Fuel	19.6%
Utilities	5.8%
Maintenance	9.2%
Administrative Costs	6.7%
Insurance Costs	10.9%

**All Costs** 4.2%

## Introduction

The Price Index of Operating Costs (PIOC) measures changes in the cost of purchasing a specified set of goods and services (market basket) used in the operation and maintenance of buildings that contain rent stabilized units in New York City. The PIOC consists of seven cost components: Taxes, Labor Costs, Fuel, Utilities, Maintenance, Administrative Costs and Insurance Costs. The specific goods and services (items) within each component were originally selected based on a study of 1969 expenditure patterns by owners of buildings that contain rent stabilized

apartments. The specific items included in each component have changed over time in order to reflect changes in owner expenditure patterns. The methodology for determining the costs for each component is described in the final section of this report. The measured

*The Price Index of Operating Costs for Buildings that Contain Rent Stabilized Apartments Rose...*

4.2%

price changes (price relatives) in each index component are presented in Appendix 2. The relative importance of each index component as a percentage of total operating and maintenance expenditures is shown by its “expenditure weight” (see Appendix 2). The 2021-2022 price changes and expenditure weights are then combined to provide the overall change in the PIOC for 2021-2022.<sup>1</sup>

Changes in the overall PIOC result from changes in the prices of individual goods and services, each weighted by its relative importance as a percentage of total operating and maintenance (O&M) expenditures. Because the market basket is fixed in the sense that the quantities of goods and services of each kind remain constant, the relative importance of the various goods and services will change when their prices change either more quickly or more slowly than average. Thus, the relative importance, or weight, attached to each good or service changes from year to year to reflect the different rates of price change among the various index items.

## Overview

This year, the PIOC for all rent stabilized apartments increased by 4.2%. Increases occurred in all PIOC components, except Taxes, which fell by 3.7%. The largest proportional increase was seen in Fuel (19.6%), followed by Insurance (10.9%), Maintenance (9.2%), Administrative Costs (6.7%), Utilities (5.8%), and Labor Costs (4.1%). The growth in the Consumer Price Index (CPI), which measures inflation in a wide range of consumer goods and services was lower than the PIOC, rising 4.0% during this same time period.<sup>2</sup> See the table on this page and Appendix 2 for changes in costs and prices for buildings that contain rent stabilized apartments from 2021-2022.

## Terms and Definitions

**Price Index** - the measure of price change in a market basket of goods and services.

**Component** - categories of goods and/or services, such as Labor Costs or Taxes, that comprise the market basket of a price index.

**Item** - individual good or service within a component, such as Plumbing, Non-union Wages, Faucet or Roof Repair.

**Price Relative** - the change of current and prior year’s prices.

**Expenditure Weight** - the relative importance of the change in costs of different goods and services.

**Specification** - defined pricing unit with specific terms of sale, such as cash, volume or trade discounts.

The “Core” PIOC, which excludes changes in fuel oil, natural gas and steam costs used for heating buildings, is useful for analyzing long-term inflationary trends. The Core PIOC rose by 3.0% this year and was lower than the overall PIOC due to the exclusion of costs in the Fuel component, which rose 19.6%. The PIOC for hotels decreased by 1.3%, while apartments heated by gas increased by 4.1% and those heated by oil increased by 4.3%.

slight decline in the tax rate of 0.3%. However, the decline in assessments and the tax rate was offset by a fall in the total value of exemptions, which had the effect of dampening the total decline in taxes by 0.8%. Change in tax abatements had little impact on the change in Taxes for 2022.

### Price Index Components — Apartments

#### Taxes



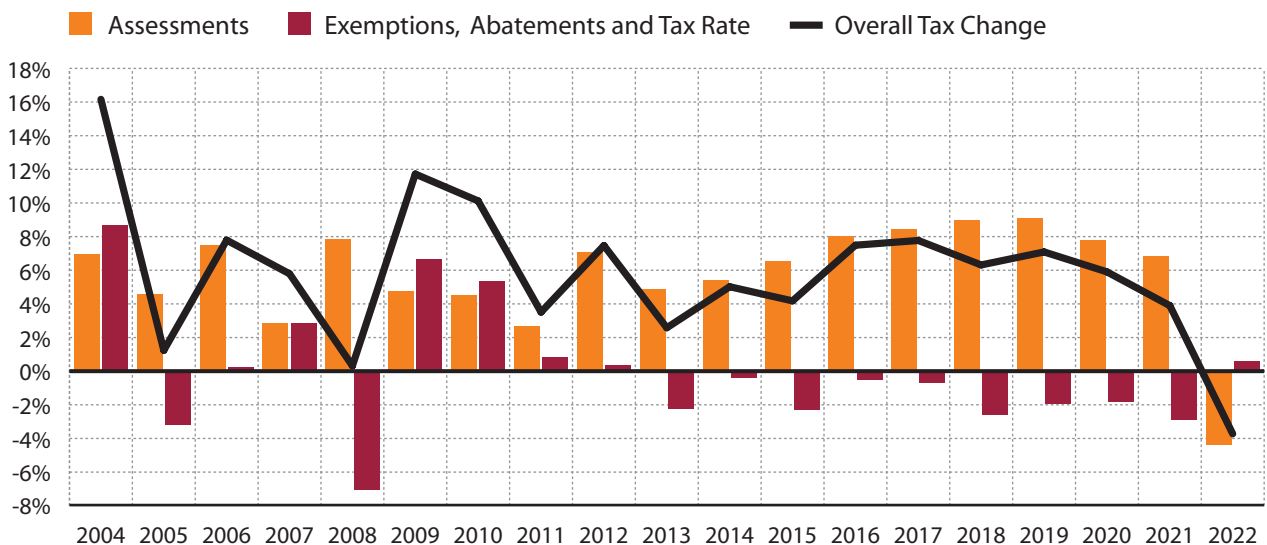
The Taxes component of the PIOC is based entirely on real estate taxes and accounts for 36.1% of the overall price index. The change in tax cost is estimated by comparing aggregate taxes levied on buildings that contain rent stabilized apartments in Fiscal Year (FY) 2021 and FY 2022. Aggregate real estate taxes fell by 3.7%. The decline in taxes was primarily due to a 4.3% decline in assessments. There was also a

**Tax Levy** — The total tax levy for all properties in the City (commercial and residential) decreased by 5.2% from FY 2021 to FY 2022. The large majority of rent stabilized apartments are contained in multi-family buildings that are in Tax Class 2.<sup>3</sup> The total Class 2 property levy fell at a slower pace than that of the City as a whole, at a rate of 1.5%. The distribution of the levy among property classes tends to shift from year to year. From FY 2021 to FY 2022, the levy share for Class 2 properties increased by 1.5 percentage points, from 37.8% to 39.3% of the total tax burden. This is significantly higher than the 26.3% share that was established at the inception of the four-class tax system in 1983.

**Tax Rate** — The average annual FY 2021 Tax Class 2 rate of 12.267% decreased by 0.26%, resulting in a

### Percent Change in Taxes due to Assessments and Exemptions/Abatements/Tax Rate 2004-2022

Both Assessments and the Overall Tax Change for Buildings with Rent Stabilized Apartments Declined in 2022



Source: New York City Department of Finance

new annualized rate of 12.235% for FY 2022. This is the eighth time in the past ten years that the Class 2 tax rate decreased. For a historical perspective on changes in the tax rate, abatements, and exemptions, see the graph on the previous page.

**Assessments** — In the wake of the pandemic, assessed valuations of properties containing rent stabilized apartments fell by 4.3% Citywide in FY 2022. Assessments fell in all five boroughs, with Manhattan witnessing the greatest decline, at 5.1%, followed by the Bronx at 4.9%, Staten Island at 3.6%, and Queens at 3.0%. Brooklyn witnessed the smallest decline in assessments, falling by 0.6%. Buildings in Manhattan drive much of the change in assessed value Citywide. This was true in FY 2022, with 58% of the total assessed value attributed to this borough. For a historical perspective on changes in tax assessments, see the graph on the previous page.

**Abatements and Exemptions** — This year, the number of buildings that contain rent stabilized apartments receiving tax abatements decreased by 4.3% from the previous fiscal year. At the same time, the average benefit value of the typical tax abatement increased by 2.2% from FY 2021 to FY 2022. The net impact of the decrease in the number of buildings receiving abatements and the increase in the average abatement value was a negligible increase in the overall change in Taxes of just 0.1%.

In FY 2022, 1.3% fewer buildings benefited from tax exemptions and the value of the average tax exemption decreased by 1.7%. This combination of a decrease in the average value of tax exemptions and the decrease in the number of buildings receiving exemptions resulted in increasing the overall change in Taxes by 0.8% (see Appendices 5 and 6).

### Labor Costs



The Price Index measure of Labor Costs includes union and non-union salaries and benefits, in addition to Social Security and unemployment insurance. The cost of non-unionized

labor makes up more than 57% of the Labor Costs component. The entire Labor Costs component comprises 9.9% of the overall Price Index.

Labor Costs rose 4.1%, 1.3 percentage points higher than last year's rise of 2.8%. Wages comprise 80% of the Labor Costs component. Non-union pay increased by 3.6%, 1.4 percentage points higher than the increase seen in the 2021 PIOC (2.2%). Unionized wages also rose, rising by 3.2%, 0.7 percentage points lower than last year (3.9%). Health and welfare benefits, which comprises 14% of the Labor Costs component, increased 4.3%. An increase in unemployment insurance of 51.4% had minimal impact, since it accounts for only one percent of this component's weight. See Appendix 2 for all Labor Costs item weights and price relatives.

### Fuel



The Fuel component comprises 6.8% of this year's Price Index. The change in cost measured in this component considers both the change in weather and the change in prices for heating multifamily buildings by fuel oil, natural gas and steam.<sup>4</sup>

This year the Fuel component increased 19.6%, following a 3.3% decrease in the prior year. Natural gas costs, which account for 53% of the overall costs in this component, increased 22.6%. The cost for heating buildings by fuel oil makes up 40% of this component, and increased 16.8%. Steam costs increased 12.8%, but these costs account for only 7% of the Fuel component.

Along with measuring price, the PIOC also considers the effect of weather on the demand for fuel, especially during the heating season when the large majority of fuel is burned. Since the weather in the period of April 2021-March 2022 was warmer than the prior 12-month period, the Fuel Component increased by a lesser degree than would be seen based purely on price. For instance, the increase in fuel oil prices (20.1%) was offset by the warmer weather, decreasing the consumption of fuel oil and causing a lesser increase in the Fuel component, 16.8%. In years where the weather does not vary much from the prior year, the change



**Fuel Oil Cost Relative vs. Change in Fuel Price, 2013-2022**

PIOC Year	Fuel Oil Cost Relative*	Change in Fuel Oil Price**
2022	16.9%	20.1%
2021	-16.1%	-19.9%
2020	-8.6%	2.5%
2019	14.4%	9.4%
2018	19.9%	16.3%
2017	22.1%	7.3%
2016	-45.5%	-30.9%
2015	-23.4%	-22.5%
2014	7.8%	0.3%
2013	20.0%	2.9%

\* The Fuel Oil Cost Relative factors in the effect of weather on total fuel oil consumption. In months that are colder than the same month in the prior year, the weather factor will put upward pressure on the fuel oil relative. In months that are warmer than the same month in the prior year, the weather factor will put downward pressure on the fuel oil relative.

\*\* Weighted change in #2, #4 and #6 fuel oil prices. From 2016 forward, weighted change in #2 and #4 fuel oil prices only.

Source: Price Index of Operating Costs reports (2013-2022)

in the cost of fuel oil is roughly equal to that of the change in price, such as in 2015. See the table on this page for a comparison of the past ten years of fuel oil cost relatives to fuel oil prices. See Appendix 2 for all Fuel item weights and price relatives.

**Utilities**



The Utilities component consists of non-heating natural gas and electricity costs, as well as water and sewer charges, and it comprises 9.5% of this year's Price Index. In the case of the gas and electricity items, changes in costs are measured using the PIOC specifications (e.g., the quantity of electricity and gas being purchased) and the changes in rate schedules. Water and sewer costs are based on rate adjustments set by the NYC Water Board and they account for 73% of the Utilities component.

This year Utilities increased 5.8%, compared to a 2.1% increase in the previous year. The increase in

this component was driven primarily by the increase in the cost of electricity, which rose by 13.9% and accounts for 26% of this component. Water and sewer costs rose 2.76% this year, which served to lower the overall increase in this component. Gas costs, which account for less than two percent of the Utilities component, rose 18.7%. See Appendix 2 for all Utilities item weights and price relatives.

**Maintenance**



The Maintenance component accounts for 16.3% of this year's Price Index. The Maintenance component rose 9.2%, 6.1 percentage points higher than last year's rise of 3.1%. Of the 29 expense items contained in this component, just four items account for 52% of its expenditure weight: Repainting, Plumbing (faucet), Plumbing (stoppage), and Electrician Services. This year, painters' rates rose 4.4%, more than the 3.7% recorded last year. Combined plumbing rates increased at a higher pace, rising 7.3%, more than last year's rise of 2.9%. Electrician Services also rose at a faster pace, 10.3%, more than last year's increase of 2.3%.

Other price relatives of note were boiler repairs (13.5%), floor maintenance (20.8%), Roof Repair (23.4%), and Extermination Services (12.8%), which represent a total of seven expense items and account for over 23% of this component. See Appendix 2 for all Maintenance item weights and price relatives.

**Administrative Costs**



Fees paid to accountants, attorneys, and management companies make up 87% of this component. This year, Administrative Costs rose 6.7%, following a 0.7% fall in the prior year. Administrative Costs comprise 14.8% of the PIOC.

Much of the increase in the Administrative Costs component can be attributed to a rise in Attorney fees, which comprise a quarter of this component and rose 24.2%, compared to an increase of 5.3% last year.

However, in the wake of the pandemic, management fees fell for the second consecutive year, by 1.0%. These fees comprise almost half of this component. Management fees are often tied to apartment rental income and are affected by changes in rents and vacancies. This year's decline compares to a decrease of 5.1% last year, indicating that management companies' fees and/or rents continued to fall, but at a slower pace as compared to last year. This fall in management fees may also indicate that vacancies and/or collection losses in managed buildings rose as compared to the previous year.

Accounting fees increased in this year's PIOC by 2.7%, more than last year's rise of 1.0%. Communications, which accounts for about 5% of the Administrative Costs component, increased 1.9%. See Appendix 2 for all Administrative Costs item weights and price relatives.

### Insurance Costs



For the eleventh consecutive year there was an increase in the Insurance Costs component, rising 10.9%, compared to last year's increase of 18.8%. Insurance Costs account for 6.5% of the PIOC.

Changes in insurance costs for owners varied by the amount of the policy. Policies that cost more than \$7,847, which represent half of all insurance quotes, saw an increase in cost of 11.4% upon renewal. Buildings with policies that cost \$7,847 or less saw an increase of 7.3%.

### PIOC by Building Type

The 1983 Expenditure Study provided a basis for calculating separate sets of expenditure weights for different types of buildings that contain rent stabilized apartments. In addition to the price index for all buildings that contain rent stabilized apartments, the PIOC includes separate indices for buildings constructed before 1947 (pre-1947) and for buildings constructed in 1947 or later (post-1946), as well as for gas-heated and oil-heated buildings (see Appendices 2 and 3).

This year, total costs in both the Pre-1947 Index

and the Post-1946 Index rose by 4.1%. In addition, the Gas-Heated Index (4.1%) rose less than the Oil-Heated Index (4.3%).

### Hotel PIOC

The Hotel Price Index includes separate indices for each of three categories of hotels that contain rent stabilized units (due to their dissimilar operating cost profiles) and a general index for all Hotels that includes all three. The three categories of hotels are: 1) "Traditional" Hotels — a Class A multiple dwelling that has amenities such as a front desk, maid or linen services; 2) Rooming Houses — a Class B multiple dwelling other than a hotel with thirty or fewer sleeping rooms; and 3) Single Room Occupancy (SROs) hotels — a Class A multiple dwelling which is either used in whole or in part for single room occupancy or as a furnished room house.

The Hotel Price Index for all hotels that contain rent stabilized units decreased 1.3% this year, a 3.2 percentage point decline from the 1.9% rise in 2021.

This year there were increases in all of the Hotel PIOC components except Taxes, which fell 14.0% and account for 42% of the entire Hotel Index. The Fuel component increased, rising 15.0% and accounts for 13% of the index. Insurance Costs rose by the second greatest proportion, 10.9%, and account for 6% of the index. The remaining four components all rose by lesser proportions, including Maintenance, which rose 7.6%; Utilities, 7.0%; Labor Costs, 3.6%; and Administrative Costs, 2.7%. See the table on the next page for changes in costs and prices for all hotels that contain rent stabilized units from 2021-2022.

Among the different categories of Hotels, the index for "Traditional" Hotels decreased 6.0%, while Rooming Houses increased by 4.6% and SROs increased by 3.6% (see Appendices 4 and 7).

### Loft PIOC

The increase in the Loft PIOC this year was 5.3%, just slightly higher than the increase of 5.1% in 2021. Increases in costs were seen in all but two of the eight components that make up this index, with declines in Taxes and Administrative Costs-Other. Taxes declined by 3.7%, while Administrative



Costs-Other fell by 0.2%. All other components increased, including Administrative Costs-Legal (24.2%), Fuel (16.8%), Insurance Costs (10.9%), Maintenance (8.1%), Utilities (4.3%), and Labor Costs (3.7%). Note that historically Administrative Costs in the Loft Index has been split into two components — Administrative Costs-Legal and Administrative Costs-Other. Therefore, the Loft PIOC has eight components. See the table on this page and Appendix 8 for changes in costs and prices for all rent stabilized lofts from 2021-2022.

### The Core PIOC

The Core PIOC, which measures long-term trends by factoring out shifts in fuel costs for heating buildings that contain rent stabilized apartments in NYC, rose 3.0% in 2022. The rise in the 2022 Core PIOC was 1.2 percentage points lower than this year’s Apartment Index (4.2%), and 0.5 percentage points lower than last year’s Core Index (3.5%). This year’s Core PIOC rose at a slower pace than the overall PIOC because fuel costs, which were not used to calculate the Core, increased 19.6%.

### PIOC Projections for 2023

Section 26-510 of the Rent Stabilization Law requires the Board to consider prevailing and projected operating and maintenance costs for buildings containing rent stabilized apartments. Projections for components of the PIOC are calculated to provide the RGB with an estimate of how much costs are expected to rise in the year following the current Price Index.

Projecting changes in the PIOC has become more challenging in recent years. Energy prices have become increasingly volatile. Unpredictable geo-political events, recession, and changing weather patterns are some of the forces behind large changes in fuel costs that have in turn limited the accuracy of the PIOC projections in recent studies. The tax component, which accounts for almost 33% of the entire Price Index, has also become harder to project. This is due to changes in tax policy, such as tax rate adjustments and changes to the City’s tentative assessment roll, after the period covered in this Price Index. In addition, the uncertainty of the post-pandemic economic recovery may also play a significant role in the accuracy of projected costs for the next PIOC year.

This year, operating costs in buildings that contain rent stabilized apartments increased by 4.2%, versus last year’s projected PIOC increase of 0.8%, a difference of 3.4 percentage points. The component with the largest deviation between actual and projected changes in costs was Fuel. Fuel was projected to rise 0.1%, but actually rose 19.6% in the 2022 PIOC, a 19.5

<b>Hotels</b>	
<b>Change In Costs for All Hotels that Contain Rent Stabilized Units, April 2021 to March 2022</b>	
Taxes	-14.0%
Labor Costs	3.6%
Fuel	15.0%
Utilities	7.0%
Maintenance	7.6%
Administrative Costs	2.7%
Insurance Costs	10.9%
<b>All Costs</b>	<b>-1.3%</b>

<b>Lofts</b>	
<b>Change In Costs for Rent Stabilized Lofts, April 2021 to March 2022</b>	
Taxes	-3.7%
Labor Costs	3.7%
Fuel	16.8%
Utilities	4.3%
Maintenance	8.1%
Admin Costs-Legal	24.2%
Admin Costs-Other	-0.2%
Insurance Costs	10.9%
<b>All Costs</b>	<b>5.3%</b>

**2023 Projections**

*Projected Change In Costs for Buildings that Contain Rent Stabilized Apartments, April 2022 to March 2023*

Taxes	5.1%
Labor Costs	3.9%
Fuel	-1.7%
Utilities	2.4%
Maintenance	5.7%
Administrative Costs	3.1%
Insurance Costs	15.4%
<b>All Projected Costs</b>	<b>4.7%</b>

percentage point difference. Insurance costs, which were projected to increase 18.0%, instead rose 10.9%, a 7.1 percentage point difference. This is the only component that rose by a smaller than projected increase. Administrative Costs, which were projected to rise 0.7% instead rose 6.7%, a 6.0 percentage point difference. Maintenance costs rose 9.2%, 5.5 percentage points higher than the projected increase of 3.7%. Utilities, which were projected to rise 1.9%, instead rose 5.8%, a 3.9 percentage point difference. The Labor Costs and Taxes components were the closest to the projections, with Taxes falling 3.7%, a 1.3 percentage point difference from the projection of 5.0%, and Labor Costs, which rose 4.1%, slightly higher than the projection of 3.7%.

Overall, the PIOC is expected to grow by 4.7% from 2022 to 2023. Costs are predicted to rise in each component except Fuel, with the largest growth (15.4%) projected to be in Insurance Costs. Other projected increases include Maintenance (5.7%), Labor Costs (3.9%), Administrative Costs (3.1%), and Utilities (2.4%). Taxes, the component that carries the most weight in the Index, is projected to increase 5.1%, while Fuel is projected to decrease 1.7%. The table on this page shows projected changes in PIOC components for 2023. The Core PIOC is projected to rise 5.2%, 0.5 percentage points higher than the overall projected PIOC for rent stabilized apartments.

**Commensurate Rent Adjustments**

Throughout its history, the Rent Guidelines Board has used formulas, known as commensurate rent adjustments, to help determine annual rent guidelines for rent stabilized apartments. In essence, the “commensurate” combines various data concerning operating costs, revenues and inflation into a single measure to determine how much rents would have to change for net operating income (NOI) for rent stabilized apartments to remain constant. While these formulas do not attempt to adjust rents in deregulated units, the various “commensurate” adjustments described below can provide a foundation for the discussion of prospective guidelines for any building that contains rent stabilized units.<sup>5</sup>

In its simplest form, a commensurate rent adjustment is the amount of rent change needed to maintain NOI for rent stabilized apartments at a constant level from year to year. In other words, the commensurate provides a set of illustrative one- and two-year renewal rent adjustments, or guidelines, that will compensate owners for the change in prices measured by the PIOC and keep net operating income constant.

The first commensurate method is called the “Net Revenue” approach. While this formula takes into consideration the term of leases actually signed by tenants, it does not adjust owners’ NOI for inflation. The “Net Revenue” formula is presented in two ways: first, by adjusting for the mix of lease terms; and second, by adding an assumption for rent stabilized apartment turnover and the subsequent impact on revenue from vacancy leases. Under the “Net Revenue” formula, a guideline that would preserve NOI in the face of this year’s 4.2% increase in the PIOC is 3.0% for a one-year lease and 6.0% for a two-year lease. Historically, the formula also includes the impact of estimated revenue from vacancy leases. However, an examination of HCR registration data from 2020 and 2021 (the most recent file available for analysis) for units reporting a vacancy lease showed that the median increase upon vacancy was 0.0%.<sup>6</sup> Therefore, in this year’s report, the “Net Revenue” commensurate guideline that includes vacancy is the same as that which does not.

The second commensurate method considers the mix of lease terms while adjusting NOI upward to reflect general inflation, keeping both operating and maintenance (O&M) costs and NOI constant. This is commonly called the “CPI-Adjusted NOI” formula. A guideline that would preserve NOI in the face of the 4.0% increase in the Consumer Price Index (see Endnote 2) and the 4.2% increase in the PIOC is 4.5% for a one-year lease and 9.0% for a two-year lease. As explained in the “Net Revenue” section above, guidelines using this formula and adding the estimated impact of vacancy leases are equal this year.<sup>7</sup>

The third commensurate method, the “traditional” commensurate adjustment, is the formula that has been in use since the inception of the Rent Guidelines Board and is the only method that relies on the PIOC projection. The “traditional” commensurate yields 2.7% for a one-year lease and 4.3% for a two-year lease. This reflects the increase in operating costs of 4.2% found in the 2022 PIOC and the projection of a 4.7% increase next year.

All of these commensurate methods have limitations. The “Net Revenue” formula does not attempt to adjust NOI by the effect of inflation. The “CPI-Adjusted NOI” formula inflates the debt service portion of NOI. For both of these commensurate methods, including a consideration of the amount of income owners receive on vacancy (when there is such income) assumes that turnover rates are constant across the City.

As a means of compensating for cost changes, the “traditional” commensurate rent adjustment has two major flaws. First, although the formula is designed to keep owners’ current dollar income constant, the formula does not consider the mix of one- and two-year lease renewals. Since only about two-thirds of leases are renewed in any given year, with a slight majority of leases being renewed having a one-year duration, the formula does not necessarily accurately estimate the amount of income needed to compensate owners for O&M cost changes.

A second flaw of the “traditional” commensurate formula is that it does not consider the erosion of owners’ income by inflation. By maintaining current dollar NOI at a constant level, adherence to the formula may cause profitability to decline over time. However, such degradation is not an inevitable consequence of using the “traditional” commensurate formula.<sup>8</sup>

Finally, it is important to note that only the “traditional” commensurate formula uses the PIOC projection and that this projection is not used in conjunction with, or as part of, the “Net Revenue” and “CPI-Adjusted NOI” formulas. As stated previously, all three formulas attempt to compensate owners for the adjustment in their operating and maintenance costs measured each year in the PIOC. The “Net Revenue” and the “CPI-Adjusted NOI” formulas attempt to compensate owners for the adjustment in O&M costs

<b>Commensurates</b>	
<i>“Net Revenue” Commensurate Adjustment</i>	
<u>1-Year Lease</u>	<u>2-Year Lease</u>
3.0%	6.0%
<i>“Net Revenue” Commensurate Adjustment with Vacancy Leases<sup>10</sup></i>	
<u>1-Year Lease</u>	<u>2-Year Lease</u>
3.0%	6.0%
<i>“CPI-Adjusted NOI” Commensurate Adjustment</i>	
<u>1-Year Lease</u>	<u>2-Year Lease</u>
4.5%	9.0%
<i>“CPI-Adjusted NOI” Commensurate Adjustment with Vacancy Leases<sup>11</sup></i>	
<u>1-Year Lease</u>	<u>2-Year Lease</u>
4.5%	9.0%
<i>“Traditional” Commensurate Adjustment</i>	
<u>1-Year Lease</u>	<u>2-Year Lease</u>
2.7%	4.3%

by using only the known PIOC change in costs (4.2%). The traditional method differs from the other formulas in that it uses both the PIOC's actual change in costs as well as the projected change in costs (4.7%).

Each of these formulas may be best thought of as a starting point for deliberations. The data presented in other Rent Guidelines Board annual research reports (e.g., the *Income and Affordability Study* and the *Income and Expense Study*) along with public testimony can be used in conjunction with these various commensurates to determine appropriate rent adjustments.

### Methodology

The Price Index measures changes in the cost of purchasing a specified set of goods and services, which must remain constant both in terms of quantity and quality from one year to the next. The need to exclude the effect of any alterations in the quality of services provided requires that very careful specifications of the goods and services priced must be developed and applied. The pricing specifications must permit the measurement of changes in prices paid for carefully defined pricing units with specific terms of sale, such as cash, volume, or trade discounts.

Note that the various components of the PIOC utilize cost/price changes from differing time periods throughout the PIOC year (April through March, the most current time period available for analysis). For instance, the change in Taxes is based on a point-to-point change from one fiscal year to the next, while other components, such as Maintenance, Labor Costs, Administrative Costs and Insurance Costs rely on a point-to-point change from one PIOC year to the next. For those components where owners receive a bill every month, such as Fuel and Utilities, prices are gathered each month and a bill for the entire year (April through March) is calculated and compared to the same period of the previous year.

The Methodology section of this report outlines the methods used to calculate each component of the 2022 PIOC, as well as the PIOC projection for 2023.

### Owner Survey

The Owner Survey gathers information on management fees, insurance, and non-union labor from building managers and owners. A survey, accompanied by a letter describing the purpose of the PIOC, was mailed to the owners or managing agents of buildings that contain rent stabilized units. If a returned survey was not complete, an interviewer contacted the owner/manager and tried to gather the missing information. Owners could complete the survey online or by mail. The data gathered by the Owner Survey is the only owner-reported data used in the PIOC.

The sample frame for the Owner Survey included more than 40,000 buildings that contain rent stabilized units registered with New York State Homes and Community Renewal (HCR). RGB staff used a random sampling scheme to choose 15,000 addresses from this pool for the Owner Survey. The number of buildings chosen in each borough was nearly proportional to the share of buildings in that borough. Two successive mailings were sent at timed intervals to the owner or managing agent of each property selected in the survey sample.

To increase the number of responses, minor changes made in the methodology for the Owner Survey in 2021 were continued in 2022. Twice as many surveys (15,000, versus 7,500 in prior years) were sent to building owners and managers, reaching approximately one-third of all buildings that contain rent stabilized units. In addition, an analysis of surveys from previous PIOC's showed that submitted insurance and labor costs were largely accurate when verified with brokers and non-union employees. Therefore, not every response obtained through the Owner Survey was independently verified in this year's PIOC. For example, staff verified insurance policies that accounted for 80% of the cost of current year insurance policies.

However, because the number of buildings surveyed was doubled, a greater number of responses were received than in recent years. The increase in responses allowed more insurance policies, wage rates, and management fees to be used in the calculation of the components of the PIOC that rely on the owner survey, thus increasing accuracy.



Roughly 3.9% of the questionnaires mailed out received a response. This was a lower response rate than 2021 (4.7%), but the number of returned surveys was still higher than 2020 (the last year preceding the methodology changes). A total of 559 returned surveys contained usable information, down from 640 in 2021, but up from 503 in 2020. As a result, RGB staff was able to use 552 annual insurance premiums, 178 non-union labor wage rates, and 97 reported management fees. The number of prices in 2021 and 2022 for the Owner Survey is shown in Appendix 1.

### **Taxes**

The 2022 tax price relative was calculated by providing a list of properties registered with HCR to the NYC Department of Finance. Finance “matched” this list against its records to provide data on assessed value, tax exemptions, and tax abatements for over 36,000 buildings in FY 2021 and FY 2022. This data was used to compute a tax bill for each building containing rent stabilized units in each of these fiscal years. The change computed for the PIOC is simply the percentage difference in aggregate tax bills for these buildings from FY 2021 to FY 2022.

### **Labor Costs**

The Labor Costs component consists of the cost of unionized and non-unionized labor. Rate increases for unionized labor, including wage increases and health benefits, come directly from the contracts of unions that represent workers in buildings and hotels that contain rent stabilized units. The cost of Social Security and unemployment insurance is obtained from the NYS Department of Labor and the Internal Revenue Service (IRS). Wage increases for non-union labor are obtained from the Owner Survey (see “Owner Survey” section on the previous page regarding non-union labor wage methodology).

### **Fuel**

The Fuel component consists of all types of fuel used for heating buildings, including oil, natural

gas, electricity, and steam.

In order to calculate the change in cost of fuel oil, prices set by fuel oil vendors for a gallon of heating oil are gathered on a monthly basis. A monthly survey makes it possible to keep in touch with fuel oil vendors and to gather the data on a consistent basis (i.e., on the same day of the month for each vendor). Vendors are called each month to minimize the likelihood of misreporting and also to reduce the reporting burden for the companies by eliminating the need to look up a year’s worth of prices. The number of fuel oil quotes gathered this year for #2 and #4 oil is higher than last year and is contained in Appendix 1.

To calculate changes in fuel oil costs, monthly price data is weighted using a degree-day formula to account for changes in the weather. The number of Heating Degree Days (defined in Endnote 4) is a measure of heating requirements.

The Fuel component includes not only the cost of fuel oil, but also the cost to heat buildings with natural gas, electricity, and steam. For these items, RGB staff calculates a hypothetical monthly bill for utilities based in part on supply rates, fuel adjustments, delivery charges, taxes, and other surcharges and fees. Bills are calculated based on typical usage in a multi-family building in New York City, an amount that remains constant from year to year.

Because these items represent prices to heat buildings, monthly price data is adjusted to account for changes in weather. The price relatives for all items in the Fuel component were calculated by comparing the most recent April-March period with the prior April-March period.

### **Utilities**

The Utilities component consists of costs for non-heating electricity and natural gas, as well as water and sewer charges. RGB staff calculates a hypothetical monthly bill for electricity and natural gas based in part on supply rates, fuel adjustments, delivery charges, taxes, and other surcharges and fees. Bills are calculated based on typical usage in a multi-family building in New York City, an amount that remains constant from year to year. The price

relatives for electricity and natural gas items in the Utilities component were calculated by comparing the most recent April-March period with the prior April-March period.

Water and sewer price changes are based on annual rate adjustments set by the NYC Water Board.

### Maintenance

All prices for items in this component are obtained using a Vendor Survey. This Survey is used to gather price quotes for items such as painting and other services performed by contractors; hardware and cleaning items; and appliances that need periodic replacement. Each year the database is updated by adding new vendors and by deleting those who no longer carry the products or perform the services outlined in the Vendor Survey item specifications. Vendor quotes were obtained over the telephone, and for non-service based items by telephone and from websites that carry items in the PIOC's market basket of goods. A total of 509 recorded price quotes were gathered (for both Maintenance and Administrative Costs). For a description of the items priced and the number of price quotations obtained for each item, refer to Appendix 1.

### Administrative Costs

Management fees are obtained directly from building owners and managers, using the Owner Survey (see "Owner Survey" section on Page 12). Other expense items, such as accountant and attorney fees, are obtained using the Vendor Survey, as described in the "Maintenance" section, above. For communications costs, because there are so many variations in types of plans for internet and phone service, staff relied on the national Consumer Price Index to obtain price changes for these items. Monthly price changes were obtained from the U.S. Bureau of Labor Statistics website and were calculated by comparing the most recent 12-month period from March-February with the prior March-February period. For a list of all the expense items contained in the Administrative Costs component, see Appendix 1.

### Insurance Costs

The Owner Survey asks owners to provide information about their current and prior year's insurance policies. Temporary workers call the relevant insurance agents/brokers to verify much of this information. As noted in the Owner Survey methodology, for the second consecutive year, because of an increased number of responses, not every insurance policy was verified. Staff verified insurance policies that accounted for 80% of the cost of current year insurance policies.

### Price Index Projections

The PIOC Projections are estimated by using data from federal, state, and local agencies; estimates from industry experts; and trend forecasting using three-year or long-term averages. The projections in this report are for the time period from April 2022 to March 2023.

Taxes were projected by using data from the Department of Finance's tentative assessment roll for FY 2023 adjusted by estimates of how the final PIOC tax index has compared to the change in the tentative assessment roll over the last decade. These estimates produce a projected tax cost for owners of rental properties. Labor costs are projected by calculating the average wage and benefit increases of the most recent labor contracts for apartment workers union Local 32-BJ, and a ten-year geometric average (which compounds annual growth rate) of all other Labor Costs items. Fuel oil and natural gas costs for the Fuel component are projected by using data and information from the U.S. Energy Information Administration's (EIA) current "Short-Term Energy Outlook" report, which includes assumptions about changes in usage according to a projected return to the average temperature over the last five years. Utility costs are projected by taking the average of the last four New York City Water Board water and sewer rate adjustments as well as EIA projections for residential gas and electricity costs.<sup>9</sup>

The other components — Administrative Costs, Insurance Costs, and Maintenance — are projected by using three-year geometric averages of the component price relatives.



## Acknowledgments

The Rent Guidelines Board would like to acknowledge the following individuals for their assistance in preparing the Price Index of Operating Costs this year: Dr. James F. Hudson for technical assistance, expense component reweighting, methodology, and report review; and Michael Taylor for the collection of owner and vendor data. □

## Endnotes

1. Prior to 2015, the relative importance of the various goods and services in the market basket was based on a 1983 study of expenditure patterns of owners of buildings that contain rent stabilized units. In 2015, the Price Index of Operating Costs (PIOC) component expenditure weights for buildings that contain rent stabilized apartments were changed to the expenditure patterns found in the Rent Guidelines Board's annual Income and Expense (I&E) Study, which allows for the annual updating of expenditure patterns based on what owners report to the New York City Department of Finance as their actual costs on Real Property Income and Expense (RPIE) statements required by Local Law 63 (enacted in 1986). Note that only the Apartment PIOC is weighted with data from RPIE reports. The Hotel and Loft PIOC's continue to use the 1983 study. For a full description of the methodological changes to the expenditure weights used in the current PIOC, please refer to the RGB 2015 Price Index of Operating Costs report at <https://rentguidelinesboard.cityofnewyork.us/research/>.
2. The average CPI for All Urban Consumers, New York-Northeastern New Jersey for the year from March 2021 to February 2022 (294.7) compared to the average for the year from March 2020 to February 2021 (283.5) rose by 4.0%. This is the latest available CPI data and is roughly analogous to the 'PIOC year'.
3. New York City has four property tax classes. Most buildings that contain rent stabilized units are in Tax Class 2, which consists of rental buildings of four units or more and cooperative and condominium buildings of two units or more. A small building that contains rent stabilized units only because of a tax abatement or exemption program (such as 421-a or J-51) would more likely be in Tax Class 1, which consists of most residential property of up to three units (family homes and small stores or offices with one or two apartments attached), and most condominiums that are not more than three stories. In the tax file used by the RGB to compute the Taxes component, almost all of the more than 36,000 buildings analyzed were Tax Class 2.
4. The cost-weight relatives are calculated on an April to March time period. The April 2021 to March 2022 time period was 3.3% warmer than the previous April to March period. "Normal" weather, which is the standard set by National Oceanic and Atmospheric Administration (NOAA), refers to the typical number of Heating Degree Days measured at Central Park, New York City, over the 30-year period from 1991-2020. NOAA recalculates this 30-year average and issues a new "normal" every ten years. A Heating Degree Day is defined as, for one day, the number of degrees that the average temperature for that day falls below 65 degrees Fahrenheit.
5. The commensurate rent adjustments were first introduced before deregulation was wide-spread. At their inception, with little to no deregulation, these formulas largely reflected the rent stabilized stock at large, despite being designed to keep NOI constant in only those units subject to rent stabilization. Note that with deregulation permitted under State law from 1993 through 2019, thousands of buildings now contain both rent stabilized and deregulated units. Because the commensurates were not designed to keep NOI constant in deregulated units (where annual adjustments in rents are subject to changes in the real estate rental market), these formulas will not necessarily keep NOI constant for buildings that contain both rent stabilized and deregulated units.
6. From 1997 through 2019, vacancy increases of up to 20% were permitted under State law. In 2019, with the passage of the Housing Stability and Tenant Protection Act, vacancy increases were no longer permitted under State law, but vacancy increases equal to renewal lease guidelines were permitted. In addition, any vacant unit where the previous tenant was charged a preferential rent can charge the higher legal rent to the incoming tenant. Therefore, while vacancy increases are no longer permitted under State law, increases upon vacancy are possible. However, under RGB Order #51 (for renewal guidelines during the period of 10/1/19 to 9/30/20), vacancy increases were not specifically authorized. In the next guideline period (Order #52, from 10/1/20 to 9/30/21), while vacancy increases were authorized (in the amount equal to renewal guidelines), the one-year lease renewal guideline was 0.0%, as was the first year of the two-year guideline. While individual units within the HCR registration files showed increases and decreases on a point-to-point basis from April of 2020 to April of 2021 (the most recent file available), the median change was 0.0%.
7. The following assumptions were used in the computation of the commensurates: (1) the required change in owner revenue is 65.5% of the 2022 PIOC increase of 4.2%, or 2.7%. The 65.5% figure is the most recent ratio of average operating costs to average income in buildings that contain rent stabilized units; (2) for the "CPI-Adjusted NOI" commensurate, the increase in revenue due to the impact of inflation on NOI is 34.5% times the latest 12-month increase in the CPI ending February 2022 (4.0%), or 1.4%; (3) these lease terms are only illustrative—other combinations of one- and two-year guidelines could produce the adjustment in revenue; (4) assumptions regarding lease renewals and turnover were derived from the 2017 Housing and Vacancy Survey; (5) for the commensurate formulas, including the impact on revenue from vacancy leases, a 0.0% increase in vacancy leases was applied to the estimated 10.1% of rent stabilized units that turn over each year (as based on 2017 NYC Housing and Vacancy Survey data). This increase was derived from the median change in rent paid on leases noted as having a rent change due to vacancy in the 2021 HCR registration file (the most recent data available to the RGB). As noted in the text, because it was determined that there was no impact from the revenue derived from vacancy leases, the commensurates that include vacancy equal those that do not; and (6) the collectability of these commensurate adjustments are assumed.
8. Whether profits will actually decline depends on the level of inflation, the composition of NOI (i.e., how much is debt service and how much is profit), and changes in tax law and interest rates.
9. Source: "Short-Term Energy Outlook," March 2022. U.S. Energy Information Administration, Department of Energy. <https://www.eia.gov/outlooks/steo/report/>.
10. See Endnote 7 or the text in the "Commensurate Rent Adjustments" section for more information on why the commensurates that include vacancy are equal to those that do not.
11. See Endnote 7 or the text in the "Commensurate Rent Adjustments" section for more information on why the commensurates that include vacancy are equal to those that do not.

# Appendices

## 1. PIOC Sample, Number of Price Quotes per Item, 2021 vs. 2022

Spec #	Description	2021	2022	Spec #	Description	2021	2022
211	Apartment Value	157	110	817	Large Trash Bags	16	16
212	Non-Union Super	127	117	818	Smoke Detectors	13	13
216	Non-Union Janitor/Porter	77	61	902	Refrigerator #2	11	11
	<b>LABOR COSTS</b>	<b>361</b>	<b>288</b>	903	Air Conditioner #1	8	9
				906	Dishwasher	10	11
301	Fuel Oil #2	23	26	908	Range #2	11	11
302	Fuel Oil #4	7	8	909	Carpet	10	10
	<b>FUEL OIL</b>	<b>30</b>	<b>34</b>	910	Dresser	5	5
				911	Mattress & Box Spring	8	9
501	Repainting	63	65		<b>MAINTENANCE</b>	<b>421</b>	<b>407</b>
502	Plumbing, Faucet	27	25	601	Management Fees	119	97
503	Plumbing, Stoppage	24	23	602	Accountant Fees	23	23
504	Elevator #1, 6 fl., 1 e.	6	6	603	Attorney Fees	24	19
505	Elevator #2, 13 fl., 2 e.	5	5	604	Newspaper Ads	25	28
506	Elevator #3, 19 fl., 3 e.	5	5	607	Bill Envelopes	12	11
507	Burner Repair	10	9	608	P.O. Box	10	10
508	Boiler Repair, Tube	10	10	609	Copy Paper	11	11
509	Boiler Repair, Weld	6	6		<b>ADMINISTRATIVE COSTS</b>	<b>224</b>	<b>199</b>
510	Refrigerator Repair	12	9				
511	Range Repair	12	9		<b>INSURANCE COSTS</b>	<b>640</b>	<b>552</b>
512	Roof Repair	13	12	701			
514	Floor Maint. #1, Studio	7	5		<b>ALL ITEMS</b>	<b>1,676</b>	<b>1,480</b>
515	Floor Maint. #2, 1 Br.	7	5				
516	Floor Maint. #3, 2 Br.	7	5				
517	Extermination Services	10	10				
518	Linen/Laundry Service	4	4				
519	Electrician Services	9	10				
805	Paint	12	12				
808	Bucket	16	15				
810	Linens	10	8				
811	Pine Disinfectant	14	14				
813	Switch Plate	11	11				
815	Toilet Seat	15	15				
816	Deck Faucet	14	14				

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**2. Expenditure Weights, Price Relatives, Percent Changes, and Standard Errors, All Apartments, 2022**

Spec #	Item Description	Expenditure Weight	Price Relative	% Change	Standard Error	Spec #	Item Description	Expenditure Weight	Price Relative	% Change	Standard Error
101	<b>TAXES</b>	<b>0.3611</b>	<b>0.9628</b>	<b>-3.72%</b>	<b>0.0521</b>	805	Paint	0.0271	1.0818	8.18%	3.0630
201	Payroll, Bronx, All (Union)	0.0472	1.0367	3.67%	0.0000	808	Bucket	0.0051	1.1250	12.50%	2.7780
202	Payroll, Other, Union, Supts.	0.0496	1.0293	2.93%	0.0000	811	Pine Disinfectant	0.0066	0.9936	-0.64%	5.8800
203	Payroll, Other, Union, Other	0.1275	1.0308	3.08%	0.0000	813	Switch Plate	0.0049	1.1672	16.72%	2.0777
204	Payroll, Other, Non-Union, All	0.5739	1.0358	3.58%	0.6486	815	Toilet Seat	0.0118	1.1360	13.60%	5.0185
205	Social Security Insurance	0.0549	1.0347	3.47%	0.0000	816	Deck Faucet	0.0151	1.1628	16.28%	7.3620
206	Unemployment Insurance	0.0098	1.5138	51.38%	0.0000	817	Large Trash Bags	0.0110	1.0547	5.47%	5.4011
207	Private Health & Welfare	0.1371	1.0432	4.32%	0.0000	818	Smoke Detectors	0.0101	1.0540	5.40%	1.0945
	<b>LABOR COSTS</b>	<b>0.0994</b>	<b>1.0405</b>	<b>4.05%</b>	<b>0.3722</b>	902	Refrigerator #2	0.0385	1.0522	5.22%	1.9326
301	Fuel Oil #2	0.2522	1.1799	17.99%	2.6114	903	Air Conditioner #1	0.0013	1.0492	4.92%	3.2795
302	Fuel Oil #4	0.1489	1.1485	14.85%	5.1273	906	Dishwasher	0.0042	1.0902	9.02%	2.6192
405	Gas #2, 650 therms	0.1009	1.2096	20.96%	0.0000	908	Range #2	0.0185	1.1568	15.68%	3.3363
406	Gas #3, 2,140 therms	0.4269	1.2294	22.94%	0.0000		<b>MAINTENANCE</b>	<b>0.1633</b>	<b>1.0925</b>	<b>9.25%</b>	<b>0.8256</b>
407	Steam #1, 1,150 Mlbs	0.0537	1.1334	13.34%	0.0000	601	Management Fees	0.4897	0.9897	-1.03%	1.3249
408	Steam #2, 2,600 Mlbs	0.0174	1.1116	11.16%	0.0000	602	Accountant Fees	0.1292	1.0268	2.68%	0.9506
	<b>FUEL</b>	<b>0.0683</b>	<b>1.1957</b>	<b>19.57%</b>	<b>1.0082</b>	603	Attorney Fees	0.2491	1.2419	24.19%	8.3991
401	Electricity #1, 2,500 KWH	0.1283	1.1065	10.65%	0.0000	604	Newspaper Ads	0.0100	1.0000	0.00%	0.0000
402	Electricity #2, 15,000 KWH	0.1293	1.1717	17.17%	0.0000	607	Bill Envelopes	0.0237	1.0172	1.72%	4.6620
404	Gas #1, 120 therms	0.0134	1.1865	18.65%	0.0000	608	P.O. Box	0.0267	1.0648	6.48%	1.9787
410	Water & Sewer	0.7290	1.0276	2.76%	0.0000	609	Copy Paper	0.0235	1.2224	22.24%	5.2273
	<b>UTILITIES</b>	<b>0.0949</b>	<b>1.0585</b>	<b>5.85%</b>	<b>0.0000</b>	409	Communications	0.0482	1.0191	1.91%	0.0000
501	Repainting	0.2452	1.0442	4.42%	0.6951		<b>ADMIN COSTS</b>	<b>0.1482</b>	<b>1.0669</b>	<b>6.69%</b>	<b>2.2008</b>
502	Plumbing, Faucet	0.1039	1.0716	7.16%	2.5699	701	<b>INSURANCE COSTS</b>	<b>0.0648</b>	<b>1.1091</b>	<b>10.91%</b>	<b>1.4162</b>
503	Plumbing, Stoppage	0.0976	1.0740	7.40%	2.3578		<b>ALL ITEMS</b>	<b>1.0000</b>	<b>1.0416</b>	<b>4.16%</b>	<b>0.3734</b>
504	Elevator #1, 6 fl., 1 e.	0.0203	1.0386	3.86%	1.8801						
505	Elevator #2, 13 fl., 2 e.	0.0127	1.0479	4.79%	2.4095						
506	Elevator #3, 19 fl., 3 e.	0.0072	1.0389	3.89%	2.1491						
507	Burner Repair	0.0332	1.0650	6.50%	3.3317						
508	Boiler Repair, Tube	0.0422	1.1487	14.87%	5.2179						
509	Boiler Repair, Weld	0.0355	1.1196	11.96%	6.6201						
510	Refrigerator Repair	0.0127	1.0588	5.88%	3.6090						
511	Range Repair	0.0119	1.0588	5.88%	3.6090						
512	Roof Repair	0.0516	1.2338	23.38%	1.7076						
514	Floor Maint. #1, Studio	0.0033	1.1756	17.56%	2.8757						
515	Floor Maint. #2, 1 Br.	0.0055	1.2289	22.89%	4.0764						
516	Floor Maint. #3, 2 Br.	0.0495	1.2077	20.77%	3.1891						
517	Extermination Services	0.0448	1.1281	12.81%	7.6872						
519	Electrician Services	0.0690	1.1027	10.27%	6.7338						

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### 3. Price Relatives by Building Type, Apartments, 2022

Component Description	Pre-1947	Post-1946	Gas Heated	Oil Heated
TAXES	-3.9%	-3.4%	-3.7%	-3.7%
LABOR COSTS	4.2%	3.9%	4.1%	4.1%
FUEL	20.1%	17.9%	22.6%	16.8%
UTILITIES	4.8%	7.2%	5.6%	5.6%
MAINTENANCE	9.2%	9.5%	9.3%	9.2%
ADMINISTRATIVE COSTS	7.0%	5.5%	6.7%	6.7%
INSURANCE COSTS	10.9%	10.9%	10.9%	10.9%
<b>ALL ITEMS</b>	<b>4.1%</b>	<b>4.1%</b>	<b>4.1%</b>	<b>4.3%</b>

### 4. Price Relative by Hotel Type, 2022

Component Description	"Traditional" Hotel	Rooming House	SRO
TAXES	-17.4%	-3.0%	-13.1%
LABOR COSTS	3.5%	3.8%	4.0%
FUEL	14.2%	18.0%	15.8%
UTILITIES	5.6%	8.9%	7.1%
MAINTENANCE	7.2%	7.7%	8.8%
ADMINISTRATIVE COSTS	2.0%	4.7%	4.2%
INSURANCE COSTS	10.9%	10.9%	10.9%
<b>ALL ITEMS</b>	<b>-6.0%</b>	<b>4.6%</b>	<b>3.6%</b>

### 5. Percentage Change in Real Estate Tax by Borough and Source of Change, Apartments and Hotels, 2022

	% Change Due to Assessments	% Change Due to Exemptions	% Change Due to Tax Rates	% Change Due to Abatements	% Change Due to Interactions*	Total % Change
<b>APARTMENTS</b>						
Manhattan	-5.1%	1.0%	-0.2%	-0.1%	0.0%	-4.4%
Bronx	-4.9%	1.4%	-0.3%	-0.1%	0.0%	-3.8%
Brooklyn	-0.6%	-0.6%	-0.3%	0.1%	0.0%	-1.4%
Queens	-3.0%	0.5%	-0.3%	-0.1%	0.0%	-2.9%
Staten Island	-3.6%	-7.1%	-0.2%	0.3%	0.0%	-10.6%
<b>All Apartments</b>	<b>-4.3%</b>	<b>0.8%</b>	<b>-0.3%</b>	<b>0.1%</b>	<b>0.0%</b>	<b>-3.7%</b>
<b>HOTELS</b>						
"Traditional" Hotel	-19.3%	1.7%	0.3%	0.0%	-0.1%	-17.4%
Rooming House	-2.7%	-0.1%	-0.2%	0.0%	0.0%	-3.0%
SRO	-14.1%	0.6%	0.2%	0.3%	-0.1%	-13.1%
<b>All Hotels</b>	<b>-15.4%</b>	<b>1.1%</b>	<b>0.2%</b>	<b>0.1%</b>	<b>-0.1%</b>	<b>-14.0%</b>

\* Real estate tax interactions are the cumulative effects of changes in tax rates, assessments, exemptions, and abatements in the same year, after subtracting out the individual effects of each of these changes. Interactions have minimal impact on the overall change in real estate taxes.

Note: Totals may not add up due to rounding.

## 6. Tax Change by Borough and Community Board, Apartments, 2022

Borough	Community Board	# of Buildings	Tax Relative	Borough	Community Board	# of Buildings	Tax Relative	Borough	Community Board	# of Buildings	Tax Relative
Manhattan		<b>11,634</b>	<b>-4.40%</b>								
				7		905	-5.46%		17	563	-2.38%
	1	88	1.00%	8		342	-4.19%		18	76	-1.92%
	2	1,017	-4.09%	9		317	-6.89%				
	3	1,480	-3.49%	10		212	-1.82%	Queens		<b>6,586</b>	<b>-2.94%</b>
	4	884	-3.50%	11		302	-3.49%		1	1,934	-1.13%
	5	239	-3.36%	12		411	-3.73%		2	855	-2.29%
	6	744	-5.97%		Brooklyn	<b>12,315</b>	<b>-1.40%</b>		3	504	-5.09%
	7	1,602	-4.37%						4	487	-3.79%
	8	1,720	-4.81%	1		1,665	3.97%		5	1,106	-0.34%
	9	705	-3.20%	2		577	1.81%		6	302	-2.87%
	10	1,063	0.43%	3		1,033	2.50%		7	432	-3.44%
	11	678	-2.45%	4		1,318	4.36%		8	219	-5.56%
	12	1,382	-5.75%	5		367	0.72%		9	212	-3.61%
Lower		<b>7,347</b>	<b>-4.43%</b>	6		816	1.97%		10	42	-0.10%
				7		844	0.64%		11	114	-0.48%
Upper		<b>4,287</b>	<b>-4.20%</b>	8		952	0.92%		12	187	-1.88%
				9		554	-3.30%		13	48	-1.09%
Bronx		<b>5,566</b>	<b>-3.81%</b>	10		720	-3.40%		14	93	-1.71%
				11		635	-3.18%	St. Island		<b>182</b>	<b>-10.58%</b>
	1	437	0.81%	12		512	-3.31%		1	128	-13.44%
	2	264	-0.26%	13		185	-0.18%		2	33	-2.64%
	3	399	2.44%	14		820	-4.12%		3	21	-5.07%
	4	740	-3.20%	15		328	-5.33%				
	5	687	-3.96%	16		343	3.61%	ALL		<b>36,283</b>	<b>-3.72%</b>
	6	539	-0.46%								

Note: No Community Board (CB) could be assigned to the following number of buildings for each borough: Manhattan (3), Bronx (11), Brooklyn (7), Queens (51). The number of buildings in the category "ALL" for each borough includes the buildings that could not be assigned a Community Board. In addition, 29 buildings in Manhattan are a part of Community Board 8 in the Bronx. These buildings are not included in the total for CB 8 in the Bronx, but are represented in the Manhattan total and the total for "ALL" buildings. Core and Upper Manhattan building totals are defined by block count and cannot be calculated by using Community Board numbers alone.

## 7. Expenditure Weight, Price Relatives, Percent Changes, and Standard Errors, All Hotels, 2022

Spec #	Item Description	Expenditure Weight	Price Relative	% Change	Standard Error	Spec #	Item Description	Expenditure Weight	Price Relative	% Change	Standard Error
101	<b>TAXES</b>	<b>0.4163</b>	<b>0.8595</b>	<b>-14.05%</b>	<b>1.7123</b>	518	Linen/Laundry Service	0.1191	1.0357	3.57%	2.1821
205	Social Security Insurance	0.0481	1.0347	3.47%	0.0000	519	Electrician Services	0.0223	1.1027	10.27%	6.7338
206	Unemployment Insurance	0.0068	1.5138	51.38%	0.0000	805	Paint	0.0487	1.0818	8.18%	3.0630
208	Hotel Private Health/Welfare	0.0607	1.0289	2.89%	0.0000	808	Bucket	0.0202	1.1250	12.50%	2.7780
209	Hotel Union Labor	0.3123	1.0289	2.89%	0.0000	810	Linens	0.0618	1.0844	8.44%	6.5431
210	SRO Union Labor	0.0122	1.0289	2.89%	0.0000	811	Pine Disinfectant	0.0087	0.9936	-0.64%	5.8800
211	Apartment Value	0.1072	1.0353	3.53%	1.0740	813	Switch Plate	0.0131	1.1672	16.72%	2.0777
212	Non-Union Superintendent	0.3226	1.0358	3.58%	0.7063	815	Toilet Seat	0.0192	1.1360	13.60%	5.0185
216	Non-Union Janitor/Porter	0.1300	1.0357	3.57%	1.4849	816	Deck Faucet	0.0247	1.1628	16.28%	7.3620
	<b>LABOR COSTS</b>	<b>0.1502</b>	<b>1.0363</b>	<b>3.63%</b>	<b>0.3200</b>	817	Large Trash Bags	0.0271	1.0547	5.47%	5.4011
301	Fuel Oil #2	0.5671	1.1799	17.99%	2.6114	818	Smoke Detectors	0.0248	1.0540	5.40%	1.0945
302	Fuel Oil #4	0.0142	1.1485	14.85%	5.1273	902	Refrigerator #2	0.0140	1.0522	5.22%	1.9326
403	Electricity #3, 82,000 KWH	0.2404	1.0152	1.52%	0.0000	903	Air Conditioner #1	0.0081	1.0492	4.92%	3.2795
405	Gas #2, 650 therms	0.0335	1.2027	20.27%	0.0000	908	Range #2	0.0061	1.1568	15.68%	3.3363
406	Gas #3, 2,140 therms	0.1446	1.2416	24.16%	0.0000	909	Carpet	0.0409	1.0779	7.79%	6.8205
407	Steam #1, 1,150 Mlbs	0.0003	1.1334	13.34%	0.0000	910	Dresser	0.0226	1.0933	9.33%	2.7751
	<b>FUEL</b>	<b>0.1310</b>	<b>1.1496</b>	<b>14.96%</b>	<b>1.4826</b>	911	Mattress & Box Spring	0.0192	1.0918	9.18%	3.6397
401	Electricity #1, 2,500 KWH	0.1342	1.1065	10.65%	0.0000		<b>MAINTENANCE</b>	<b>0.1141</b>	<b>1.0765</b>	<b>7.65%</b>	<b>0.2977</b>
402	Electricity #2, 15,000 KWH	0.1346	1.1717	17.17%	0.0000	601	Management Fees	0.5462	0.9897	-1.03%	1.3249
404	Gas #1, 120 therms	0.0784	1.1865	18.65%	0.0000	602	Accountant Fees	0.0663	1.0268	2.68%	0.9506
410	Water & Sewer	0.6527	1.0276	2.76%	0.0000	603	Attorney Fees	0.1063	1.2419	24.19%	8.3991
	<b>UTILITIES</b>	<b>0.0432</b>	<b>1.0701</b>	<b>7.01%</b>	<b>0.0000</b>	604	Newspaper Ads	0.0846	1.0000	0.00%	0.0000
501	Repainting	0.1502	1.0442	4.42%	0.6951	607	Envelopes	0.0065	1.0172	1.72%	4.6620
502	Plumbing, Faucet	0.0501	1.0716	7.16%	2.5699	608	P.O. Box	0.0073	1.0648	6.48%	1.9787
503	Plumbing, Stoppage	0.0498	1.0740	7.40%	2.3578	609	Copy Paper	0.0064	1.2224	22.24%	5.2273
504	Elevator #1, 6 fl., 1 e.	0.0217	1.0386	3.86%	1.8801	409	Communications	0.1766	1.0191	1.91%	0.0000
505	Elevator #2, 13 fl., 2 e.	0.0188	1.0479	4.79%	2.4095		<b>ADMIN COSTS</b>	<b>0.0839</b>	<b>1.0272</b>	<b>2.72%</b>	<b>1.1516</b>
506	Elevator #3, 19 fl., 3 e.	0.0173	1.0389	3.89%	2.1491	701	<b>INSURANCE COSTS</b>	<b>0.0614</b>	<b>1.1091</b>	<b>10.91%</b>	<b>1.4162</b>
507	Burner Repair	0.0170	1.0650	6.50%	3.3317		<b>ALL ITEMS</b>	<b>1.0000</b>	<b>0.9873</b>	<b>-1.27%</b>	<b>0.7571</b>
508	Boiler Repair, Tube	0.0195	1.1487	14.87%	5.2179						
509	Boiler Repair, Weld	0.0194	1.1196	11.96%	3.6090						
511	Range Repair	0.0818	1.0588	5.88%	3.6090						
512	Roof Repair	0.0226	1.2338	23.38%	1.7076						
514	Floor Maint. #1, Studio	0.0004	1.1756	17.56%	2.8757						
515	Floor Maint. #2, 1 Br.	0.0009	1.2289	22.89%	4.0764						
516	Floor Maint. #3, 2 Br.	0.0077	1.2077	20.77%	3.1891						
517	Extermination Services	0.0225	1.1281	12.81%	7.6872						

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8. Expenditure Weight and Price Relatives, Lofts, 2022

Spec #	Item Description	Expenditure Weight	Price Relative	% Change	Spec #	Item Description	Expenditure Weight	Price Relative	% Change
101	<b>TAXES</b>	<b>0.3214</b>	<b>0.9628</b>	<b>-3.72%</b>	805	Paint	0.0464	1.0818	8.18%
202	Payroll, Other, Union, Supts.	0.2177	1.0293	2.93%	808	Bucket	0.0087	1.1250	12.50%
204	Payroll, Other, Non-Union, All	0.5518	1.0358	3.58%	811	Pine Disinfectant	0.0118	0.9936	-0.64%
205	Social Security Insurance	0.0385	1.0347	3.47%	813	Switch Plate	0.0057	1.1672	16.72%
206	Unemployment Insurance	0.0035	1.5138	51.38%	815	Toilet Seat	0.0201	1.1360	13.60%
207	Private Health & Welfare	0.1886	1.0432	4.32%	816	Deck Faucet	0.0259	1.1628	16.28%
	<b>LABOR COSTS</b>	<b>0.0827</b>	<b>1.0374</b>	<b>3.74%</b>	817	Large Trash Bags	0.0159	1.0547	5.47%
301	Fuel Oil #2	0.2827	1.1799	17.99%	818	Smoke Detectors	0.0146	1.0540	5.40%
302	Fuel Oil #4	0.5447	1.1485	14.85%	902	Refrigerator #2	0.0762	1.0522	5.22%
405	Gas #2, 650 therms	0.0415	1.2096	20.96%	903	Air Conditioner #1	0.0026	1.0492	4.92%
406	Gas #3, 2,140 therms	0.1105	1.2294	22.94%	906	Dishwasher	0.0083	1.0902	9.02%
407	Steam #1, 1,150 Mlbs	0.0158	1.1334	13.34%	908	Range #2	0.0366	1.1568	15.68%
408	Steam #2, 2,600 Mlbs	0.0049	1.1116	11.16%		<b>MAINTENANCE</b>	<b>0.0866</b>	<b>1.0814</b>	<b>8.14%</b>
	<b>FUEL</b>	<b>0.0618</b>	<b>1.1684</b>	<b>16.84%</b>		<b>ADMIN COSTS - LEGAL</b>	<b>0.0608</b>	<b>1.2419</b>	<b>24.19%</b>
401	Electricity #1, 2,500 KWH	0.0081	1.1065	10.65%	601	Management Fees	0.8195	0.9897	-1.03%
402	Electricity #2, 15,000 KWH	0.0968	1.1717	17.17%	602	Accountant Fees	0.1428	1.0268	2.68%
404	Gas #1, 120 therms	0.0031	1.1865	18.65%	604	Newspaper Ads	0.0094	1.0000	0.00%
410	Water & Sewer - Frontage	0.8920	1.0276	2.76%	607	Envelopes	0.0072	1.0172	1.72%
	<b>UTILITIES</b>	<b>0.0558</b>	<b>1.0427</b>	<b>4.27%</b>	608	PO Box	0.0081	1.0648	6.48%
501	Repainting	0.2982	1.0442	4.42%	609	Copy Paper	0.0071	1.2224	22.24%
502	Plumbing, Faucet	0.0828	1.0716	7.16%	409	Communications	0.0059	1.0191	1.91%
503	Plumbing, Stoppage	0.0778	1.0740	7.40%		<b>ADMIN COSTS - OTHER</b>	<b>0.0752</b>	<b>0.9977</b>	<b>-0.23%</b>
504	Elevator #1, 6 fl., 1 e.	0.0331	1.0386	3.86%	701	<b>INSURANCE COSTS</b>	<b>0.2558</b>	<b>1.1091</b>	<b>10.91%</b>
505	Elevator #2, 13 fl., 2 e.	0.0209	1.0479	4.79%		<b>ALL ITEMS</b>	<b>1.0000</b>	<b>1.0534</b>	<b>5.34%</b>
506	Elevator #3, 19 fl., 3 e.	0.0117	1.0389	3.89%					
507	Burner Repair	0.0243	1.0650	6.50%					
508	Boiler Repair, Tube	0.0309	1.1487	14.87%					
509	Boiler Repair, Weld	0.0261	1.1196	11.96%					
510	Refrigerator Repair	0.0078	1.0588	5.88%					
511	Range Repair	0.0073	1.0588	5.88%					
512	Roof Repair	0.0522	1.2338	23.38%					
514	Floor Maint. #1, Studio	0.0001	1.1756	17.56%					
515	Floor Maint. #2, 1 Br.	0.0002	1.2289	22.89%					
516	Floor Maint. #3, 2 Br.	0.0021	1.2077	20.77%					
517	Extermination	0.0260	1.1281	12.81%					
519	Electrician	0.0258	1.1027	10.27%					

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