



**Finance**  
Jacques Jiha, Ph.D.  
Commissioner

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# FY 2021

## RPIE 2018 Income and Expense Distributions

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Special Thanks to the Property Modeling and Research Group

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# RPIE 2018

## Citywide by Property Type

### Income, Expense, and Year-Year Change Distribution

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Property Type	Count	Variable	25th Pctl	50th Pctl	75th Pctl	Mean
<b>INDUSTRIAL</b>	2,763	Income	\$10.69	\$14.74	\$19.73	\$18.66
		Income % change	0.00%	2.73%	8.69%	3.06%
		Expense	\$1.55	\$2.91	\$4.94	\$4.70
		Expense % change	-16.30%	2.22%	21.67%	6.14%
<b>OFFICE</b>	2,785	Income	\$23.41	\$38.18	\$61.14	\$60.25
		Income % change	-1.87%	2.18%	7.47%	1.40%
		Expense	\$5.00	\$9.76	\$17.99	\$17.40
		Expense % change	-10.92%	2.08%	15.81%	3.29%
<b>RENTAL</b>	14,213	Income	\$15.08	\$20.20	\$35.53	\$27.89
		Income % change	0.03%	2.54%	5.47%	2.12%
		Expense	\$7.14	\$9.33	\$12.90	\$11.08
		Expense % change	-4.59%	3.98%	13.35%	3.98%
<b>RETAIL</b>	9,335	Income	\$22.12	\$34.96	\$58.39	\$58.66
		Income % change	-1.96%	2.18%	7.30%	1.21%
		Expense	\$3.98	\$7.49	\$13.82	\$12.75
		Expense % change	-12.77%	2.02%	17.71%	3.91%

**Notes:**

Income = Gross Income per square foot

Expense = Total Expense per square foot

Income and Expense % changes based on information filed in RPIE 2018 and RPIE 2017

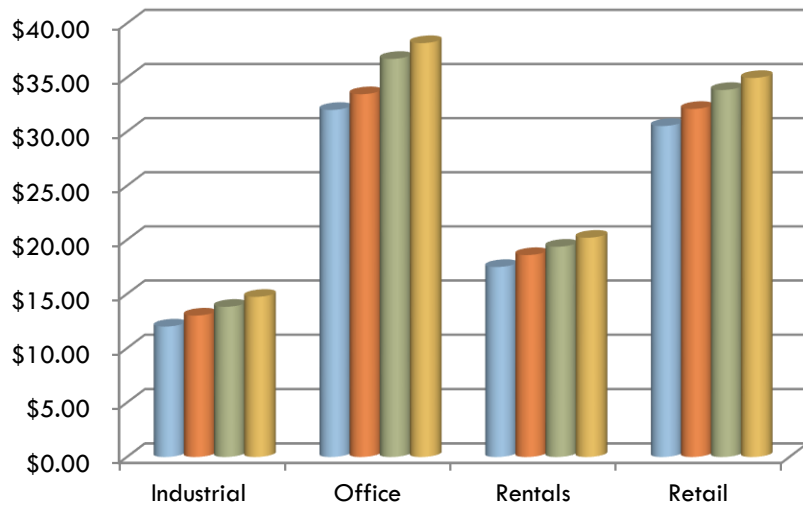
Rental Apartments with greater than 10 units

Does not include outlier filers and /or partial year filers

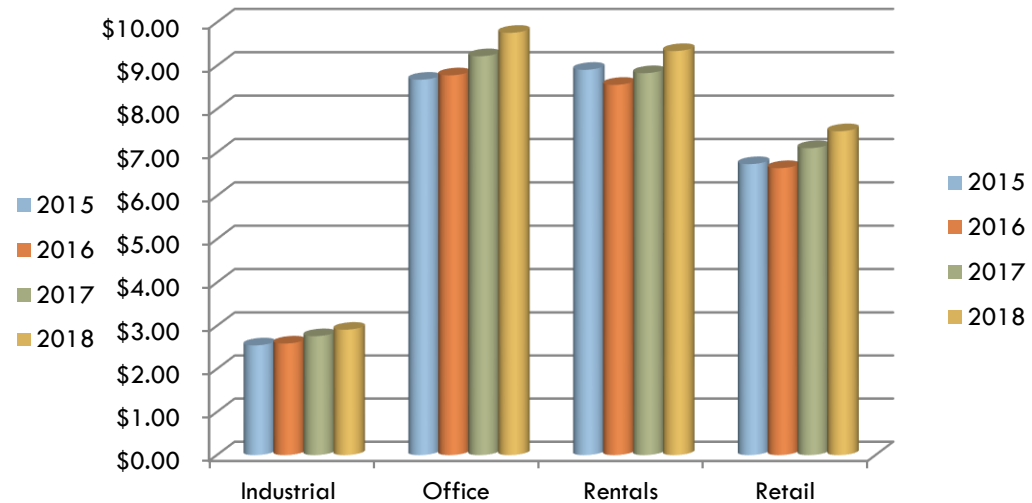
# RPIE 2015 - 2018

## Citywide by Property Type

Median Income Per Square Foot



Median Expense Per Square Foot



Number of Filings

Number of Filings	2015	2016	2017	2018
Industrial	2,689	2,591	2,466	2,763
Office	2,498	2,502	2,424	2,785
Rentals	13,073	13,202	13,225	14,213
Retail	8,661	8,600	8,465	9,335

Does not include outlier filers and /or partial year filers

# RPIE 2018

## Citywide by Borough

### Income, Expense, and Year-Year Change Distribution

Borough	Count	Variable	25th Pctl	50th Pctl	75th Pctl	Mean
MANHATTAN	9,354	Income	\$28.27	\$45.53	\$64.14	\$66.70
		Income % change	-1.12%	2.31%	5.99%	1.37%
		Expense	\$9.51	\$13.45	\$19.20	\$18.53
		Expense % change	-7.10%	3.51%	14.94%	4.18%
BRONX	4,649	Income	\$12.90	\$15.86	\$21.78	\$21.82
		Income % change	0.00%	2.70%	6.42%	2.37%
		Expense	\$5.70	\$7.52	\$9.62	\$8.46
		Expense % change	-5.77%	3.86%	14.47%	4.44%
BROOKLYN	7,798	Income	\$14.31	\$19.10	\$29.01	\$26.19
		Income % change	0.00%	2.53%	6.18%	2.06%
		Expense	\$4.05	\$6.56	\$9.33	\$8.09
		Expense % change	-8.78%	2.74%	14.81%	3.86%
QUEENS	6,365	Income	\$17.30	\$23.20	\$36.00	\$32.75
		Income % change	-0.15%	2.44%	6.54%	2.07%
		Expense	\$3.86	\$6.85	\$10.35	\$8.77
		Expense % change	-9.84%	2.81%	16.24%	4.45%
STATEN ISLAND	930	Income	\$13.74	\$21.21	\$31.44	\$27.30
		Income % change	-1.26%	1.31%	6.52%	0.85%
		Expense	\$2.64	\$5.06	\$8.79	\$6.90
		Expense % change	-15.94%	0.60%	15.56%	0.99%

**Notes:**

Income = Gross Income per square foot

Expense = Total Expense per square foot

Income and Expense % changes based on information filed in RPIE 2017 and RPIE 2018

Rental Apartments with greater than 10 units

Does not include outlier filers and /or partial year filers

# RPIE 2018

## Industrial Properties by Borough

### Income, Expenses, and Year-Year Change Distribution

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Major Building Category	Borough	Count	Variable	25th Pctl	50th Pctl	75th Pctl	Mean
INDUSTRIAL	Manhattan	46	Income	\$22.72	\$34.01	\$50.99	\$108.75
			Income % change	-2.74%	2.86%	8.44%	3.04%
			Expense	\$2.38	\$5.56	\$10.78	\$43.96
			Expense % change	-3.67%	7.16%	23.03%	6.96%
	Bronx	335	Income	\$9.27	\$12.91	\$16.94	\$15.28
			Income % change	0.00%	3.00%	11.30%	4.16%
			Expense	\$1.37	\$2.74	\$4.35	\$3.29
			Expense % change	-16.00%	1.56%	24.27%	8.91%
	Brooklyn	1,167	Income	\$10.47	\$14.29	\$19.29	\$16.88
			Income % change	0.00%	2.72%	8.89%	3.14%
			Expense	\$1.55	\$2.96	\$5.07	\$4.10
			Expense % change	-15.66%	2.45%	19.76%	5.26%
Queens	1,100	Income	\$11.73	\$16.07	\$20.93	\$18.46	
		Income % change	-0.49%	2.83%	8.26%	2.80%	
		Expense	\$1.65	\$2.97	\$4.98	\$4.30	
		Expense % change	-17.48%	2.45%	22.08%	6.84%	
Staten Island	115	Income	\$8.68	\$11.61	\$14.08	\$12.56	
		Income % change	-0.73%	0.00%	6.97%	1.45%	
		Expense	\$1.49	\$2.18	\$3.80	\$3.02	
		Expense % change	-15.70%	0.00%	15.09%	-0.11%	

**Notes:**

Income = Gross Income per square foot

Expense = Total Expense per square foot

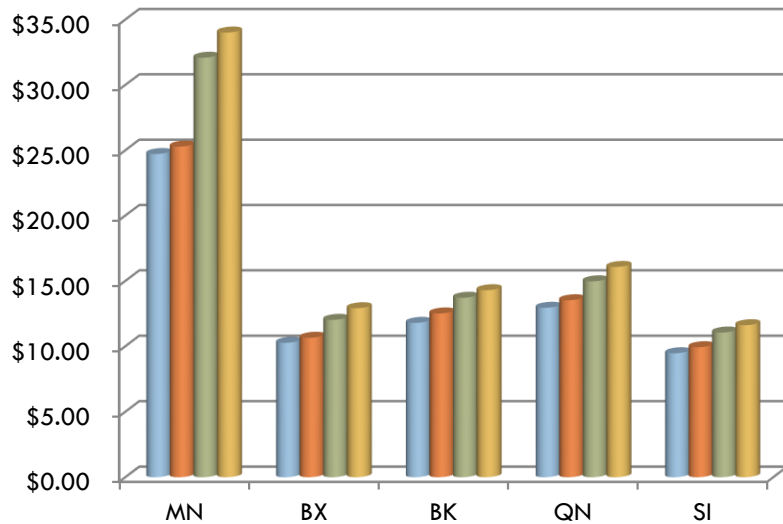
Income and Expense % changes based on information filed in RPIE 2017 and RPIE 2018

Does not include outlier filers and or partial year filers

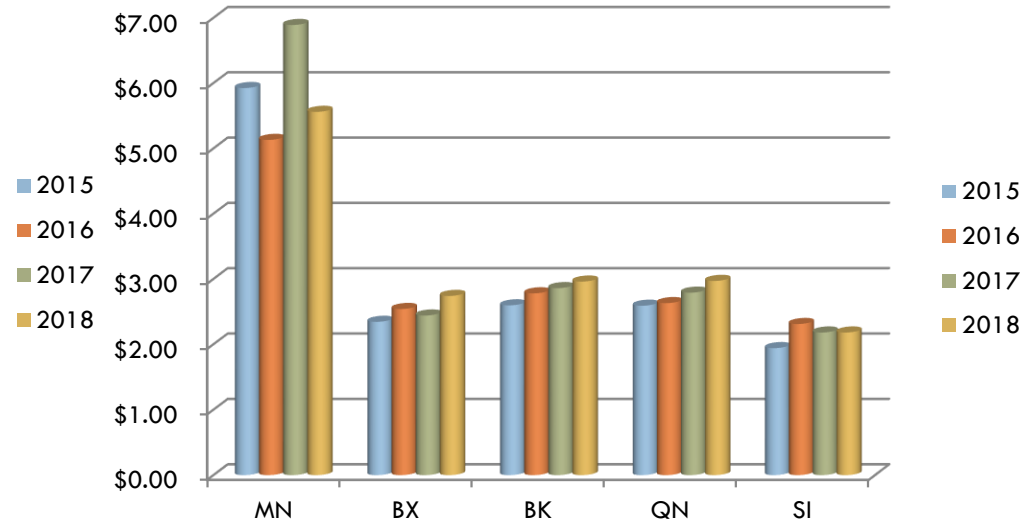
# RPIE 2015 - 2018

## Industrial Properties by Borough

Median Income Per Square Foot



Median Expense Per Square Foot



Number of Filings

	2015	2016	2017	2018
Manhattan (MN)	40	35	32	46
Bronx (BX)	331	333	312	335
Brooklyn (BK)	1,152	1,096	1,026	1,167
Queens (QN)	1,067	1,036	998	1,100
Staten Island (SI)	99	91	98	115

Does not include outlier filers and /or partial year filers

# RPIE 2018

## Office Properties by Borough

### Income, Expenses, and Year-Year Change Distribution

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Major Building Category	Borough	Count	Variable	25th Pctl	50th Pctl	75th Pctl	Mean
OFFICE	Manhattan	971	Income	\$41.64	\$59.30	\$83.98	\$88.12
			Income % change	-2.35%	2.47%	7.66%	1.67%
			Expense	\$10.39	\$17.22	\$25.05	\$26.58
			Expense % change	-8.00%	2.76%	14.56%	4.68%
	Bronx	172	Income	\$17.78	\$26.34	\$38.53	\$31.71
			Income % change	-1.46%	2.10%	7.49%	1.02%
			Expense	\$3.34	\$6.06	\$9.88	\$8.40
			Expense % change	-15.36%	1.73%	21.99%	4.29%
	Brooklyn	577	Income	\$18.59	\$26.68	\$38.59	\$35.09
			Income % change	-1.03%	2.36%	7.50%	1.93%
			Expense	\$3.47	\$5.79	\$9.93	\$8.97
			Expense % change	-13.08%	0.68%	17.26%	2.85%
Queens	520	Income	\$20.69	\$31.60	\$46.94	\$51.07	
		Income % change	-2.45%	1.71%	7.00%	0.68%	
		Expense	\$4.24	\$7.47	\$12.80	\$14.19	
		Expense % change	-12.37%	1.32%	15.30%	1.39%	
Staten Island	184	Income	\$18.30	\$24.85	\$32.91	\$28.11	
		Income % change	-1.69%	1.37%	7.14%	0.66%	
		Expense	\$2.73	\$5.97	\$10.27	\$7.55	
		Expense % change	-20.47%	1.67%	18.57%	1.44%	

**Notes:**

Income = Gross Income per square foot

Expense = Total Expense per square foot

Income and Expense % changes based on information filed in RPIE 2017 and RPIE 2018

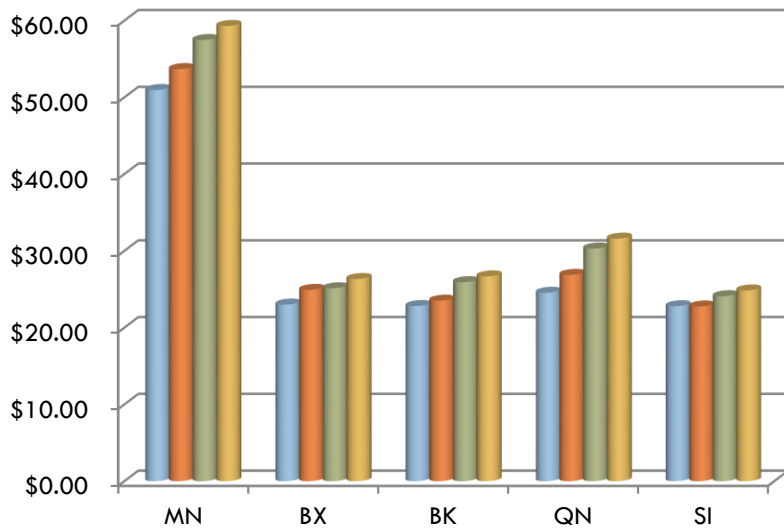
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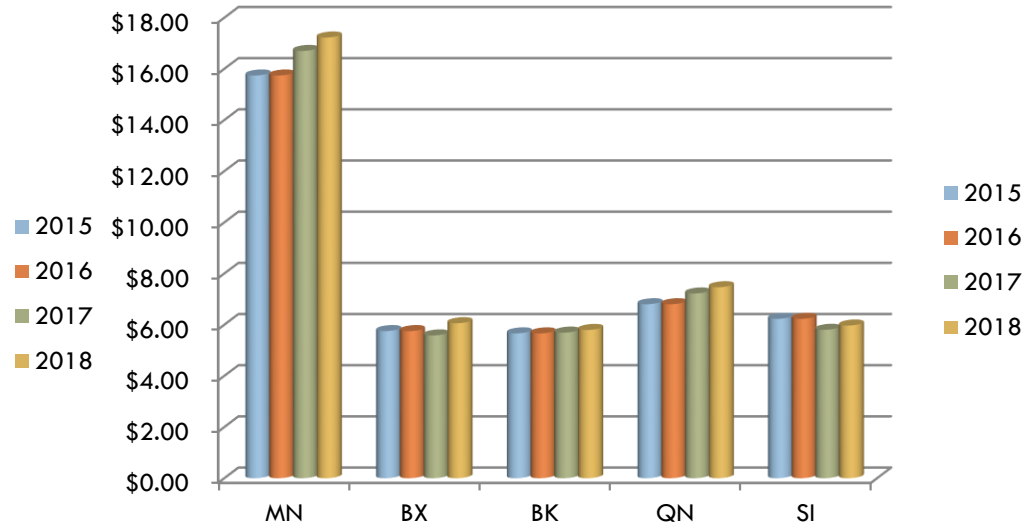
# RPIE 2015 - 2018

## Office Properties by Borough

Median Income Per Square Foot



Median Expense Per Square Foot



Number of Filings

	2015	2016	2017	2018
Manhattan (MN)	969	973	971	1,173
Bronx (BX)	182	186	172	179
Brooklyn (BK)	571	587	577	633
Queens (QN)	581	572	520	613
Staten Island (SI)	195	184	184	187

Does not include outlier filers and /or partial year filers

# RPIE 2018

## Rental Apartments By Borough

### Income, Expense, and Year-Year Change Distribution

Major Building Category	Borough	Count	Variable	25th Pctl	50th Pctl	75th Pctl	Mean
RENTAL APARTMENTS	Manhattan	5,792	Income	\$23.17	\$38.82	\$51.79	\$40.99
			Income % change	-0.85%	2.05%	5.20%	1.31%
			Expense	\$9.66	\$12.82	\$16.93	\$14.40
			Expense % change	-6.10%	3.75%	14.31%	3.77%
	Bronx	2,883	Income	\$12.50	\$14.51	\$17.11	\$15.82
			Income % change	0.57%	2.92%	6.00%	2.83%
			Expense	\$6.60	\$7.86	\$9.52	\$8.70
			Expense % change	-2.65%	4.51%	12.43%	4.54%
	Brooklyn	3,532	Income	\$13.89	\$16.90	\$21.65	\$19.81
			Income % change	0.41%	2.79%	5.48%	2.56%
			Expense	\$6.07	\$7.70	\$9.88	\$8.62
			Expense % change	-4.86%	3.64%	12.47%	3.46%
Queens	1,883	Income	\$17.50	\$20.56	\$24.14	\$21.76	
		Income % change	0.55%	2.65%	5.42%	2.68%	
		Expense	\$6.66	\$8.49	\$10.72	\$9.26	
		Expense % change	-3.65%	4.47%	13.16%	4.77%	
Staten Island	123	Income	\$14.14	\$16.43	\$20.10	\$19.42	
		Income % change	0.08%	3.07%	5.45%	2.74%	
		Expense	\$5.70	\$7.42	\$9.19	\$8.68	
		Expense % change	-6.83%	4.80%	15.05%	3.32%	

**NOTES.**

Income = Gross Income per square foot

Expense = Total Expense per square foot

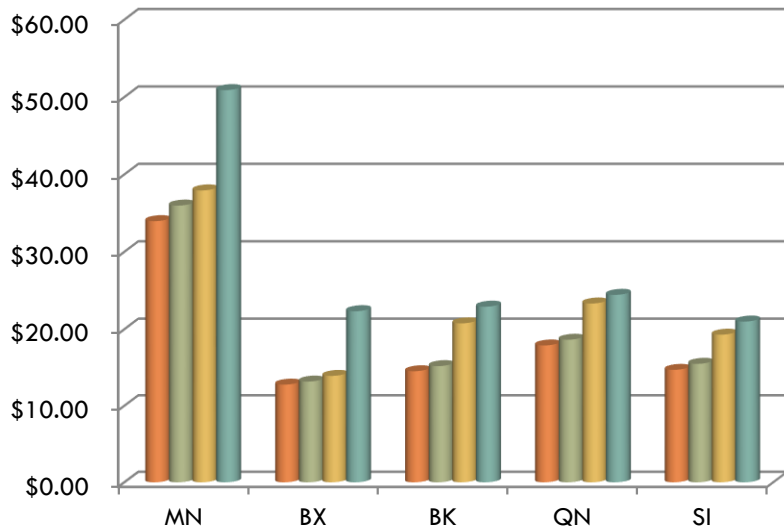
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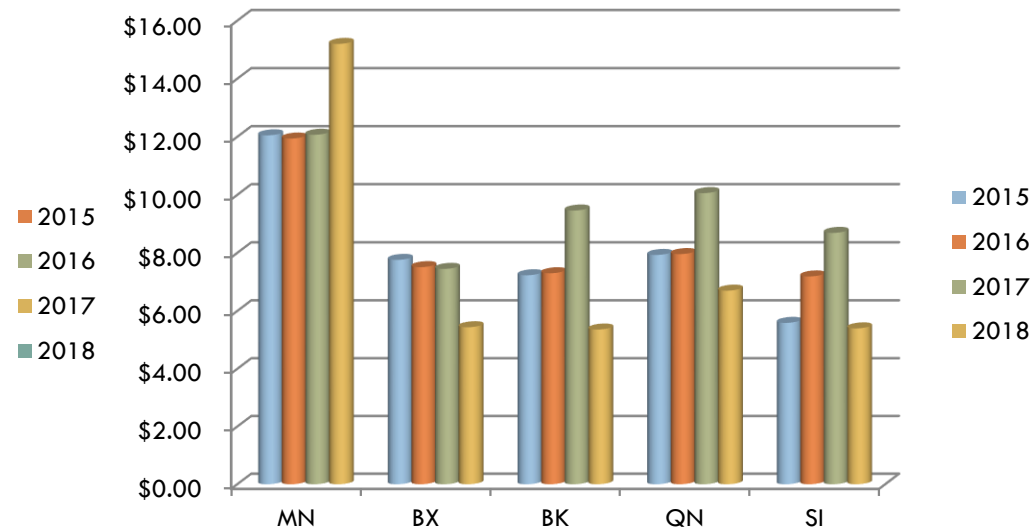
# RPIE 2015 - 2018

## Rental Properties by Borough

Median Income Per Square Foot



Median Expense Per Square Foot



Number of Filings

	2015	2016	2017	2018
Manhattan (MN)	5,367	5,362	5,423	5,342
Bronx (BX)	2,564	2,675	2,747	2,652
Brooklyn (BK)	3,267	3,288	3,210	3,222
Queens (QN)	1,769	1,773	1,732	1,643
Staten Island (SI)	106	104	113	107

Does not include outlier filers and /or partial year filers

# RPIE 2018

## Retail Properties By Borough

### Income, Expenses, and Year-Year Change Distribution

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Major Building Category	Borough	Count	Variable	25th Pctl	50th Pctl	75th Pctl	Mean
RETAIL	Manhattan	2,343	Income	\$42.86	\$64.42	\$112.74	\$118.70
			Income % change	-2.05%	3.04%	8.00%	1.33%
			Expense	\$8.49	\$15.14	\$23.78	\$24.21
			Expense % change	-10.25%	3.17%	17.39%	4.91%
	Bronx	1,252	Income	\$19.20	\$28.51	\$43.27	\$35.96
			Income % change	-2.66%	1.83%	6.91%	1.03%
			Expense	\$3.94	\$7.10	\$11.20	\$9.29
			Expense % change	-15.26%	2.00%	18.67%	3.04%
	Brooklyn	2,466	Income	\$19.09	\$27.51	\$42.42	\$37.44
			Income % change	-1.71%	1.96%	6.44%	0.86%
			Expense	\$3.18	\$5.69	\$9.56	\$8.98
			Expense % change	-13.49%	1.78%	17.94%	4.05%
	Queens	2,769	Income	\$21.97	\$33.07	\$50.25	\$41.83
			Income % change	-1.54%	2.12%	7.59%	1.68%
			Expense	\$3.66	\$6.48	\$11.03	\$9.01
			Expense % change	-13.28%	1.76%	17.77%	3.96%
Staten Island	505	Income	\$16.33	\$25.16	\$36.59	\$32.28	
		Income % change	-2.18%	0.84%	6.60%	0.33%	
		Expense	\$2.90	\$4.94	\$8.98	\$7.10	
		Expense % change	-17.59%	0.20%	15.44%	0.50%	

**Notes:**

Income = Gross Income per square foot

Expense = Total Expense per square foot

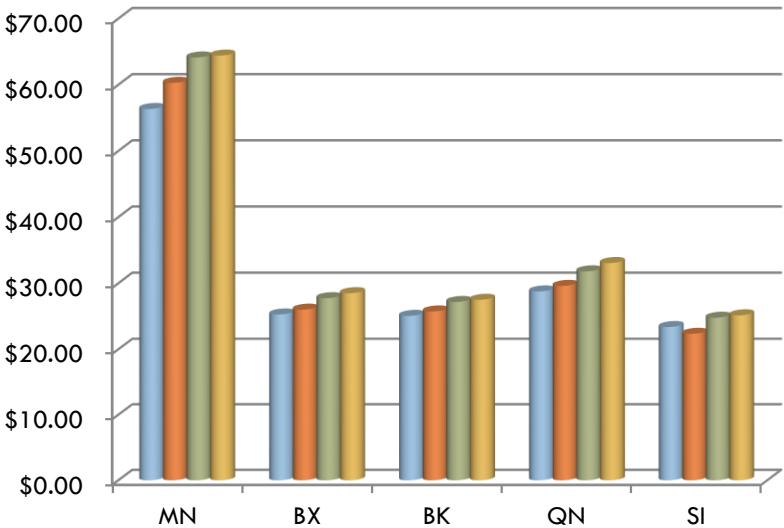
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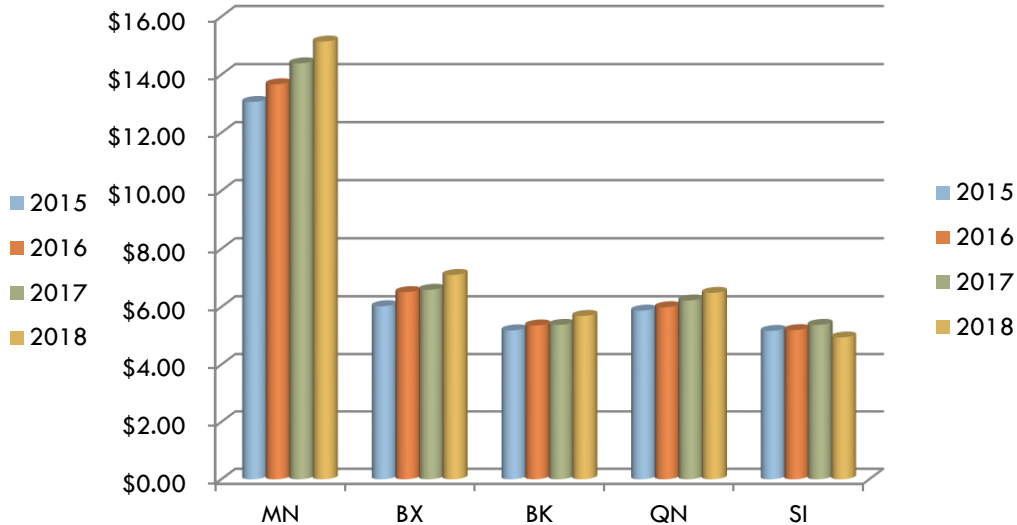
# RPIE 2015 - 2018

## Retail Properties by Borough

Median Income Per Square Foot



Median Expense Per Square Foot



Number of Filings

	2015	2016	2017	2018
Manhattan (MN)	2,005	2,010	2,000	2,343
Bronx (BX)	1,217	1,136	1,144	1,252
Brooklyn (BK)	2,325	2,368	2,318	2,466
Queens (QN)	2,643	2,592	2,539	2,769
Staten Island (SI)	471	494	464	505

Does not include outlier filers and /or partial year filers

## Guideline Income, Expense, and Cap Rate Distributions

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Major Building Categories	Variable	25th Pctl	50th Pctl	75th Pctl	Mean
INDUSTRIAL	Income	\$14.85	\$17.48	\$20.96	\$18.69
	Expense	\$2.82	\$3.34	\$4.01	\$3.57
	Cap Rate	14.20%	14.22%	14.25%	14.07%
OFFICE	Income	\$28.99	\$35.83	\$50.68	\$43.71
	Expense	\$5.95	\$8.33	\$12.57	\$10.45
	Cap Rate	14.68%	14.90%	14.91%	14.50%
RENTAL	Income	\$16.51	\$22.01	\$36.82	\$28.84
	Expense	\$7.38	\$9.36	\$12.64	\$10.55
	Cap Rate	12.31%	12.85%	13.77%	13.19%
RETAIL	Income	\$29.39	\$37.53	\$52.64	\$47.50
	Expense	\$5.68	\$7.52	\$10.51	\$9.27
	Cap Rate	14.69%	15.08%	15.90%	14.88%

**Notes:**

Income = Gross Income per square foot

Expense = Total Expense per square foot

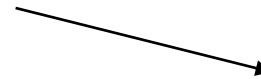
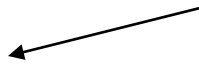
# FY21 Capitalization Rate Methodology

## Tax Class 2

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- Capitalization Rate based on Ellwood formula

$$R_o = Y_o - \Delta_n^{(a_n)}$$



Fallout Capitalization Rate = return *on* capital (dividend yield) - return *of* capital (capital gain/loss)



Capitalization Rate based on earnings

- the higher the growth rate, the lower the fallout Capitalization Rate, the more valuable the property

\*Guideline Cap rates will not reflect future property appreciation

## FY21 Capitalization Rate Methodology Tax Class 2

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- $R_o$  and  $\Delta_n^{(an)}$  are **not** estimated for each property but are guideline curves that reflect median relationships with income
- 
- $R_o$  is estimated by a median regression of market Capitalization Rate on income per square foot
- 
- $\Delta_n^{(an)}$  is estimated by a median regression of annual sales growth of Class 2 rentals that were purchased between 1986-2019 and sold from 2015-2019.



## FY21 Capitalization Rate Methodology Tax Class 2

- Guideline curves are applied on *rental filer* population and centered to reflect market rates

- For FY21: - the median Capitalization Rate  $R_o$  is centered on 3.47%\*

### Guidelines Rates

Variable	25th Pctl	50th Pctl	75th Pctl	Mean
Ro	2.00%	3.47%	4.74%	3.52%
$\Delta$	3.06%	3.66%	4.72%	3.91%

- FY21 versus FY20 Capitalization Rate \*

### Citywide

Variable	25th Pctl	50th Pctl	75th Pctl	Mean
Cap Rate FY21	6.85%	7.17%	7.80%	7.43%
Cap Rate FY20	6.70%	7.30%	8.21%	7.62%
Cap Rate FY21-FY20	0.15%	-0.13%	-0.41%	-0.19%

\*Does not include effective tax rate portion of Capitalization Rate

## FY21 Capitalization Rate Formulas and Example Tax Class 2

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- Capitalization Rate used reflects earnings-based return

$$Y_o = R_o + \Delta_n^{(a_n)}$$

$$R_o = \exp(-1.08737 * \ln(\text{income psf}))$$

$$\Delta_n^{(a_n)} = -0.028323 + 0.021001 * \ln(\text{income psf})$$

*Example:* income psf = **\$19.55\***

$$R_o = \exp(-1.08737 * \ln(19.55)) * 100 = 3.945\%$$

$$\Delta_n^{(a_n)} = (-0.028323 + 0.021001 * \ln(19.55)) * 100 = 3.411\%$$

$$Y_o = 3.945\% + 3.411\% = **7.356%**$$

\* FY21 Guidelines Post-1973 Rental Elevator Building Outer Borough

## FY21 Capitalization Rate Methodology Tax Class 4

Major Building Category	Flat Cap Rate Adjustment from FY20
OFFICE – MANHATTAN SOUTH OF 110TH STREET CLASS A/B/T AND DOWNTOWN BROOKLYN CLASS A	0.25
OFFICE – MANHATTAN SOUTH OF 110TH STREET Non CLASS A/B/T	0
OFFICE – MANHATTAN NORTH OF 110TH STREET AND OUTER BOROUGHES	0
RETAIL – MANHATTAN SOUTH OF 125TH STREET AND DOWNTOWN BROOKLYN	0.5
RETAIL – MANHATTAN NORTH OF 125TH STREET AND OUTER BOROUGHES	0.5
INDUSTRIAL	0.25
GARAGE	0.25

- Capitalization Rate are given a flat rate adjustment from FY20