

FY 2023

RPIE 2020 Income and Expense Distributions

Prepared by the Property Division

Preston Niblack, Commissioner
Jeffrey Shear, First Deputy Commissioner
Timothy Sheares, Deputy Commissioner
Carmela Quintos, Assistant Commissioner

Special Thanks to the Property Modeling and Research Group

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RPIE 2020

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
INDUSTRIAL	2,595	Income	\$10.71	\$15.15	\$20.71	\$19.44
		Income % change	-13.04%	0.00%	4.29%	-5.20%
		Expense	\$1.55	\$2.85	\$4.95	\$5.48
		Expense % change	-22.66%	-0.78%	16.19%	0.47%
OFFICE	3,102	Income	\$23.40	\$38.21	\$59.92	\$61.70
		Income % change	-18.70%	-4.56%	2.39%	-9.70%
		Expense	\$5.59	\$10.69	\$18.89	\$17.83
		Expense % change	-20.66%	-5.18%	6.45%	-6.46%
RENTAL	13,306	Income	\$14.89	\$20.02	\$32.61	\$26.17
		Income % change	-10.03%	-3.50%	0.61%	-6.16%
		Expense	\$7.04	\$9.06	\$12.31	\$10.71
		Expense % change	-14.09%	-3.73%	4.56%	-5.51%
RETAIL	7,497	Income	\$19.13	\$30.17	\$49.75	\$147.65
		Income % change	-26.85%	-8.95%	0.22%	-14.29%
		Expense	\$3.64	\$6.68	\$11.82	\$56.99
		Expense % change	-26.22%	-5.98%	8.53%	-6.55%

Notes:

Income = Gross Income per square foot

Expense = Total Expense per square foot

Income and Expense % changes based on information filed in RPIE 2019 and RPIE 2020

Rental Apartments with greater than 10 units

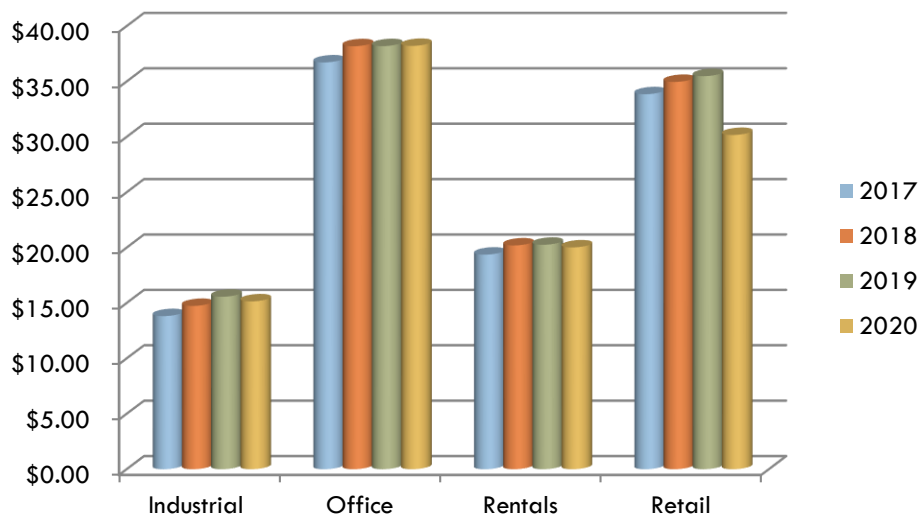
Does not include outlier filers and /or partial year filers

RPIE 2017 - 2020

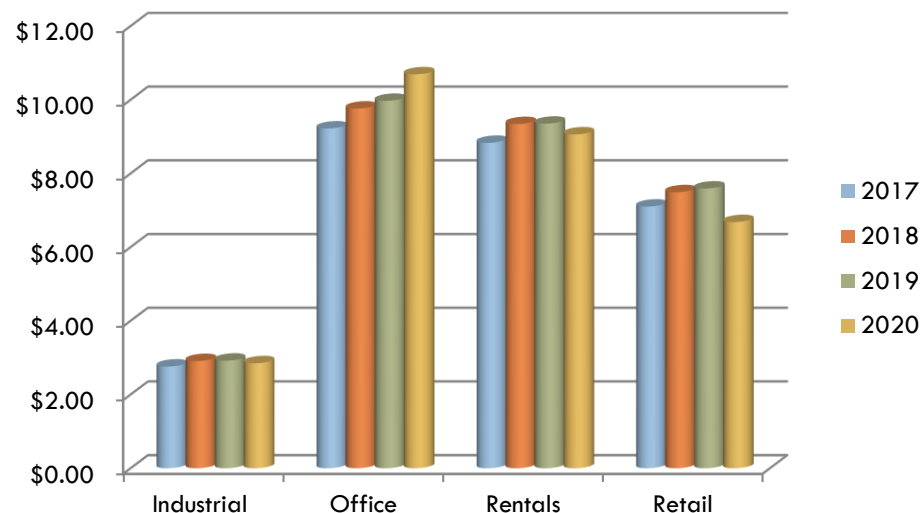
Citywide by Property Type

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Median Income Per Square Foot



Median Expense Per Square Foot



Number of Filings

Number of Filings	2017	2018	2019	2020
Industrial	2,511	2,763	2,840	2,589
Office	3,126	2,785	2,890	2,644
Rentals	12,454	14,213	13,865	13,319
Retail	7,754	9,335	8,983	7,953

Does not include outlier filers and /or partial year filers

RPIE 2020

Citywide by Borough

Income, Expense, and Year-Year Change Distribution

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Borough	Count	Variable	25th Pctl	50th Pctl	75th Pctl	Mean
Manhattan	8,078	Income	\$24.60	\$40.10	\$56.51	\$62.89
		Income % change	-20.69%	-8.79%	-1.13%	-13.03%
		Expense	\$8.89	\$12.63	\$18.18	\$19.53
		Expense % change	-19.92%	-6.35%	3.91%	-8.03%
Bronx	4,490	Income	\$12.68	\$15.87	\$21.46	\$21.03
		Income % change	-8.41%	-2.00%	1.88%	-4.80%
		Expense	\$5.64	\$7.55	\$9.66	\$8.51
		Expense % change	-13.79%	-2.43%	6.10%	-3.80%
Brooklyn	7,324	Income	\$14.18	\$18.94	\$28.82	\$27.00
		Income % change	-10.93%	-2.23%	1.61%	-6.49%
		Expense	\$4.09	\$6.69	\$9.45	\$8.63
		Expense % change	-17.01%	-2.50%	7.72%	-3.61%
Queens	5,772	Income	\$16.57	\$22.56	\$33.47	\$150.66
		Income % change	-16.11%	-3.69%	1.31%	-9.18%
		Expense	\$3.65	\$6.72	\$9.98	\$64.76
		Expense % change	-19.98%	-4.57%	6.93%	-5.18%
Staten Island	836	Income	\$14.21	\$21.34	\$32.53	\$32.35
		Income % change	-12.45%	-1.37%	2.01%	-6.51%
		Expense	\$2.80	\$5.30	\$8.77	\$7.50
		Expense % change	-20.89%	-2.05%	10.64%	-3.63%

Notes:

Income = Gross Income per square foot

Expense = Total Expense per square foot

Income and Expense % changes based on information filed in RPIE 2019 and RPIE 2020

Rental Apartments with greater than 10 units

Does not include outlier filers and /or partial year filers

RPIE 2020

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	35	Income	\$16.87	\$32.62	\$49.01	\$151.69
			Income % change	-36.13%	-11.68%	0.00%	-18.93%
			Expense	\$2.08	\$5.59	\$14.50	\$113.08
			Expense % change	-26.29%	-6.85%	2.69%	-10.18%
	Bronx	318	Income	\$9.70	\$13.68	\$18.24	\$16.72
			Income % change	-10.58%	0.00%	4.95%	-2.50%
			Expense	\$1.46	\$2.81	\$4.73	\$3.84
			Expense % change	-20.13%	0.06%	20.88%	2.09%
	Brooklyn	1,139	Income	\$10.63	\$14.68	\$19.93	\$17.08
			Income % change	-13.22%	0.00%	4.44%	-5.18%
			Expense	\$1.63	\$2.90	\$4.99	\$4.20
			Expense % change	-24.63%	-1.09%	14.75%	0.23%
	Queens	992	Income	\$11.31	\$16.46	\$22.30	\$18.93
			Income % change	-13.14%	0.00%	4.23%	-5.73%
			Expense	\$1.52	\$2.82	\$4.94	\$3.93
			Expense % change	-22.24%	-1.87%	15.70%	-0.16%
	Staten Island	111	Income	\$8.93	\$12.94	\$15.88	\$14.44
			Income % change	-10.01%	0.00%	3.82%	-4.20%
			Expense	\$1.37	\$2.18	\$4.21	\$3.15
			Expense % change	-12.07%	1.73%	25.81%	7.42%

Notes:

Income = Gross Income per square foot

Expense = Total Expense per square foot

Income and Expense % changes based on information filed in RPIE 2019 and RPIE 2020

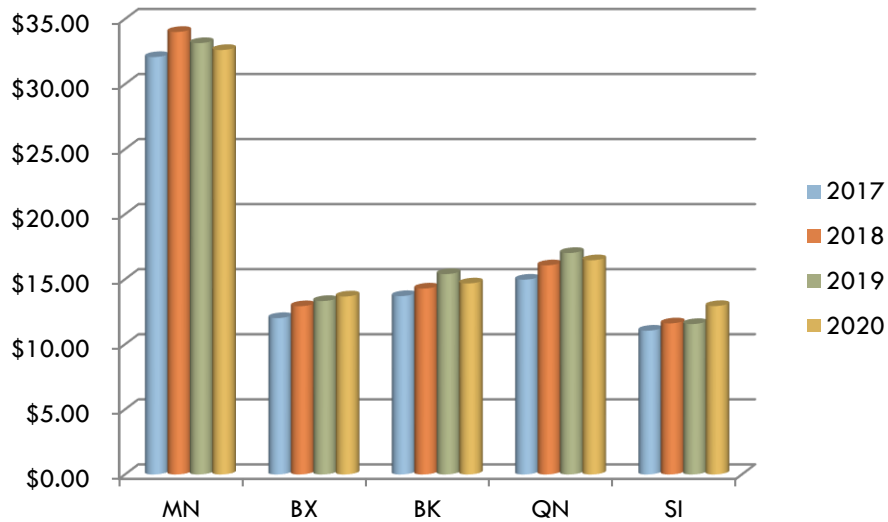
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RPIE 2017 - 2020

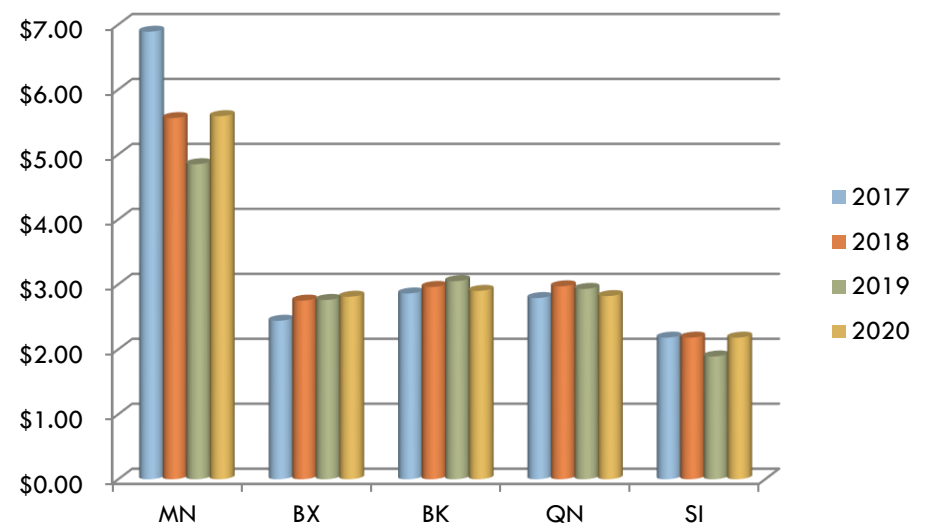
Industrial Properties by Borough

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Median Income Per Square Foot



Median Expense Per Square Foot



Number of Filings

	2017	2018	2019	2020
Manhattan (MN)	32	46	44	35
Bronx (BX)	312	334	363	318
Brooklyn (BK)	1,026	1,167	1,178	1,139
Queens (QN)	998	1,100	1,132	992
Staten Island (SI)	98	115	123	111

Does not include outlier filers and /or partial year filers

RPIE 2020

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	1,510	Income	\$36.30	\$53.13	\$75.76	\$86.27
			Income % change	-23.85%	-8.23%	0.98%	-12.61%
			Expense	\$10.27	\$17.04	\$24.55	\$25.77
			Expense % change	-19.88%	-6.48%	4.15%	-7.49%
	Bronx	181	Income	\$18.14	\$28.46	\$38.42	\$32.54
			Income % change	-8.28%	0.00%	4.09%	-4.28%
			Expense	\$3.41	\$6.40	\$10.48	\$8.74
			Expense % change	-21.34%	-2.41%	9.48%	-4.81%
	Brooklyn	606	Income	\$17.92	\$27.16	\$40.52	\$36.24
			Income % change	-12.10%	-1.09%	3.20%	-5.54%
			Expense	\$3.62	\$6.41	\$10.64	\$10.03
			Expense % change	-21.07%	-3.02%	10.96%	-4.59%
	Queens	624	Income	\$20.03	\$30.56	\$45.70	\$45.04
			Income % change	-18.72%	-3.85%	2.56%	-9.90%
			Expense	\$4.07	\$7.40	\$13.05	\$11.74
			Expense % change	-22.89%	-4.64%	7.44%	-7.28%
	Staten Island	181	Income	\$18.72	\$24.42	\$34.05	\$28.63
			Income % change	-7.69%	0.00%	2.86%	-3.99%
			Expense	\$3.63	\$6.29	\$9.52	\$7.83
			Expense % change	-19.17%	-0.88%	11.02%	-3.05%

Notes:

Income = Gross Income per square foot

Expense = Total Expense per square foot

Income and Expense % changes based on information filed in RPIE 2019 and RPIE 2020

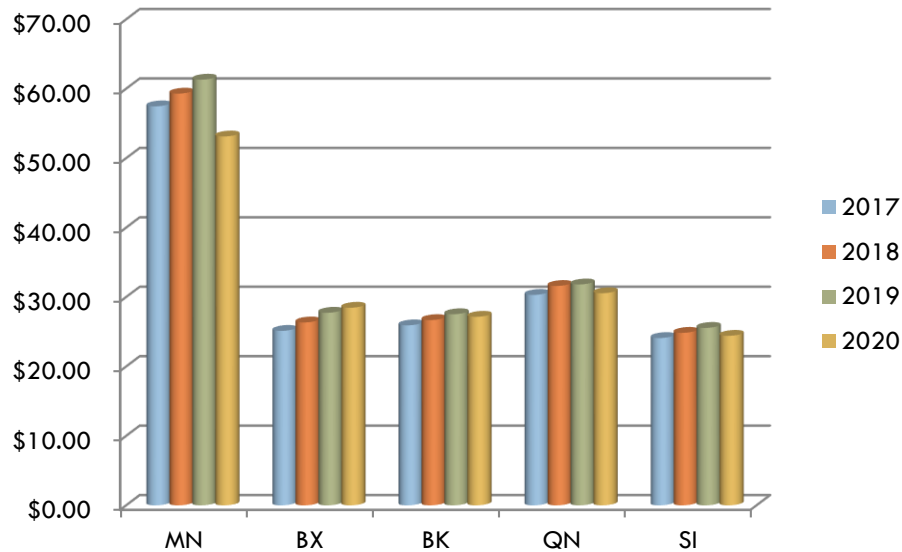
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RPIE 2017 - 2020

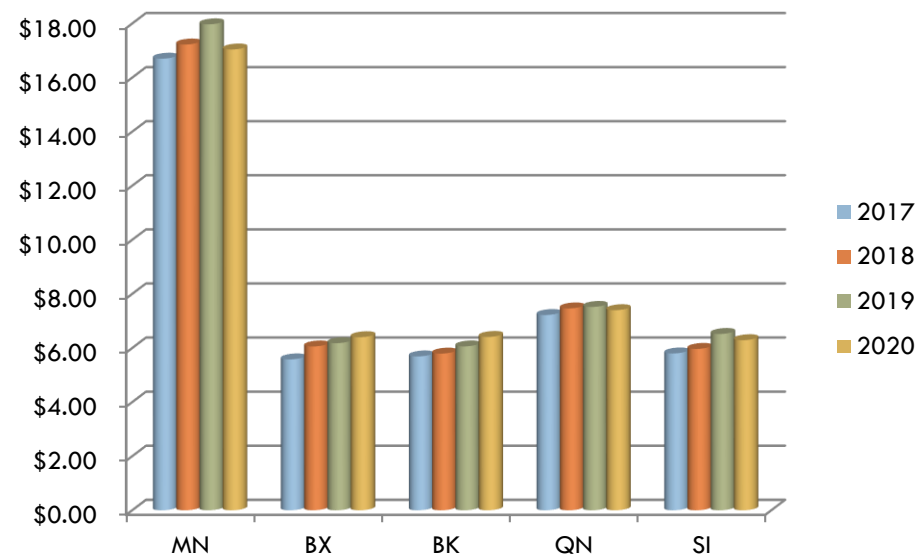
Office Properties by Borough

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Median Income Per Square Foot



Median Expense Per Square Foot



Number of Filings

	2017	2018	2019	2020
Manhattan (MN)	971	1,173	1,177	1,510
Bronx (BX)	172	179	196	181
Brooklyn (BK)	577	633	646	606
Queens (QN)	520	613	689	624
Staten Island (SI)	184	187	182	181

Does not include outlier filers and /or partial year filers

RPIE 2020

Rental Apartments By Borough

Income, Expense, and Year-Year Change Distribution

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Major Building Category	Borough	Count	Variable	25th Pctl	50th Pctl	75th Pctl	Mean
RENTAL APARTMENTS	Manhattan	5,076	Income	\$21.82	\$35.01	\$46.60	\$36.92
			Income % change	-16.72%	-7.91%	-1.81%	-10.43%
			Expense	\$9.04	\$11.98	\$15.98	\$13.50
			Expense % change	-17.62%	-5.98%	3.28%	-7.88%
	Bronx	2,916	Income	\$12.28	\$14.66	\$17.41	\$16.10
			Income % change	-6.27%	-1.80%	1.56%	-3.35%
			Expense	\$6.59	\$7.94	\$9.62	\$8.78
			Expense % change	-10.72%	-2.20%	4.89%	-3.58%
	Brooklyn	3,458	Income	\$14.14	\$17.48	\$23.31	\$20.99
			Income % change	-6.33%	-1.88%	1.16%	-3.56%
			Expense	\$6.26	\$7.92	\$10.06	\$9.02
			Expense % change	-11.84%	-2.21%	6.00%	-3.86%
	Queens	1,752	Income	\$17.23	\$20.77	\$24.67	\$22.21
			Income % change	-6.58%	-1.92%	1.05%	-3.90%
			Expense	\$6.58	\$8.25	\$10.47	\$9.20
			Expense % change	-13.23%	-4.30%	4.02%	-5.37%
	Staten Island	104	Income	\$13.73	\$16.59	\$20.44	\$21.80
			Income % change	-3.53%	-0.23%	2.99%	-1.31%
			Expense	\$6.14	\$7.65	\$10.19	\$9.97
			Expense % change	-8.44%	-0.40%	8.04%	-1.82%

Notes:

Income = Gross Income per square foot

Expense = Total Expense per square foot

Income and Expense % changes based on information filed in RPIE 2019 and RPIE 2020

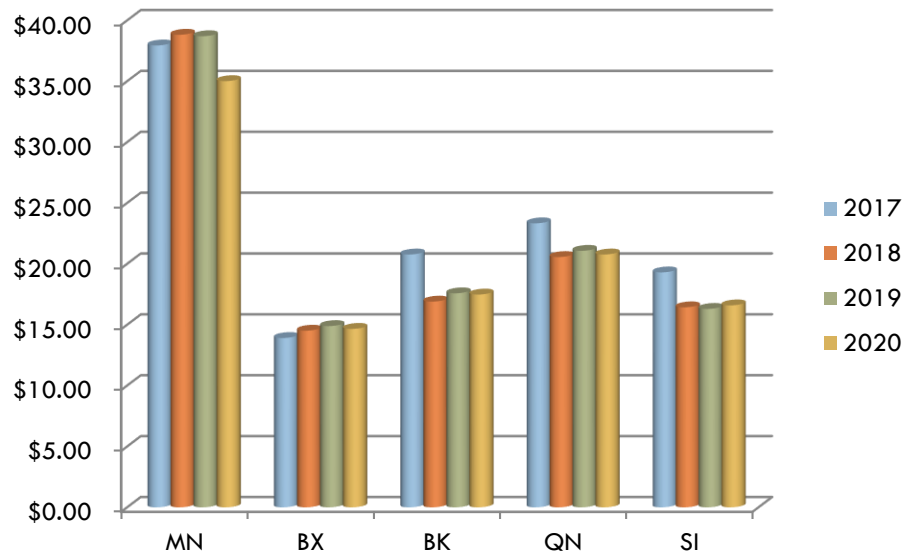
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RPIE 2017 - 2020

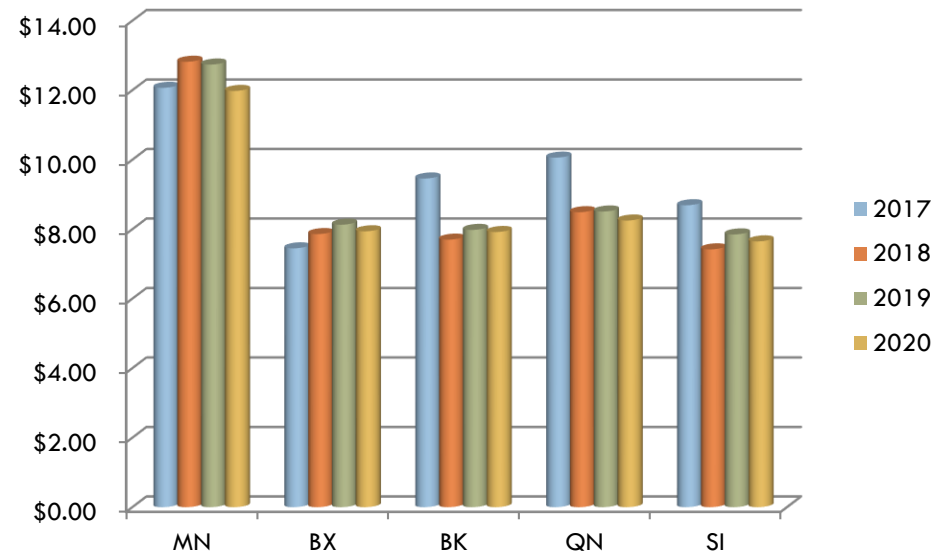
Rental Properties by Borough

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Median Income Per Square Foot



Median Expense Per Square Foot



Number of Filings

	2017	2018	2019	2020
Manhattan (MN)	5,423	5,342	5,167	5,076
Bronx (BX)	2,747	2,652	3,116	2,916
Brooklyn (BK)	3,210	3,222	3,578	3,458
Queens (QN)	1,732	1,643	1,894	1,752
Staten Island (SI)	113	107	110	104

Does not include outlier filers and /or partial year filers

RPIE 2020

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	1,457	Income	\$32.25	\$59.73	\$110.10	\$127.01
			Income % change	-40.24%	-19.37%	-1.18%	-22.37%
			Expense	\$6.55	\$12.71	\$23.78	\$31.83
			Expense % change	-29.60%	-8.88%	7.33%	-9.09%
	Bronx	1,075	Income	\$18.40	\$27.11	\$39.47	\$33.73
			Income % change	-19.53%	-5.05%	1.85%	-9.49%
			Expense	\$3.76	\$6.66	\$11.00	\$9.13
			Expense % change	-25.01%	-5.53%	9.53%	-5.96%
	Brooklyn	2,121	Income	\$17.19	\$25.61	\$39.28	\$39.50
			Income % change	-23.70%	-6.98%	0.98%	-12.23%
			Expense	\$3.13	\$5.57	\$9.13	\$9.97
			Expense % change	-24.61%	-4.43%	9.56%	-5.00%
	Queens	2,404	Income	\$18.98	\$29.28	\$44.76	\$326.05
			Income % change	-26.02%	-9.52%	0.00%	-14.25%
			Expense	\$3.52	\$6.26	\$10.31	\$144.13
			Expense % change	-25.87%	-6.00%	7.79%	-6.55%
	Staten Island	440	Income	\$16.20	\$24.89	\$37.17	\$40.88
			Income % change	-18.03%	-3.38%	1.07%	-9.35%
			Expense	\$2.99	\$4.98	\$8.90	\$7.88
			Expense % change	-26.41%	-5.71%	8.21%	-7.09%

Notes:

Income = Gross Income per square foot

Expense = Total Expense per square foot

Income and Expense % changes based on information filed in RPIE 2019 and RPIE 2020

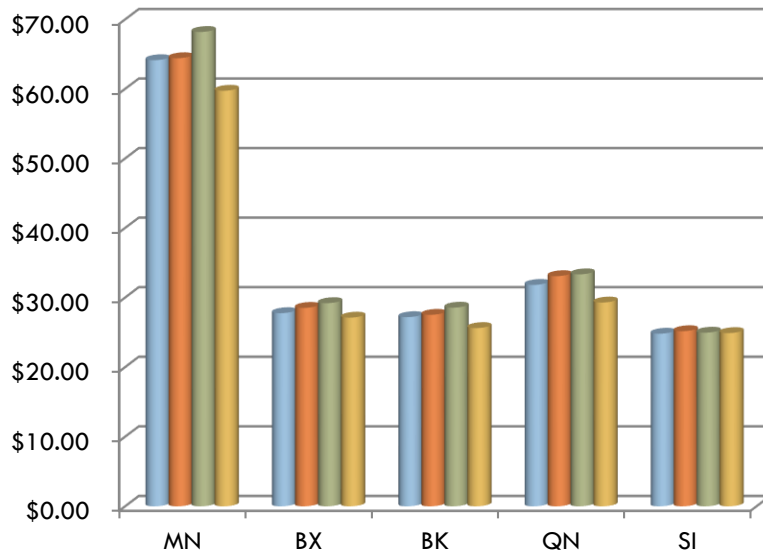
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RPIE 2017 - 2020

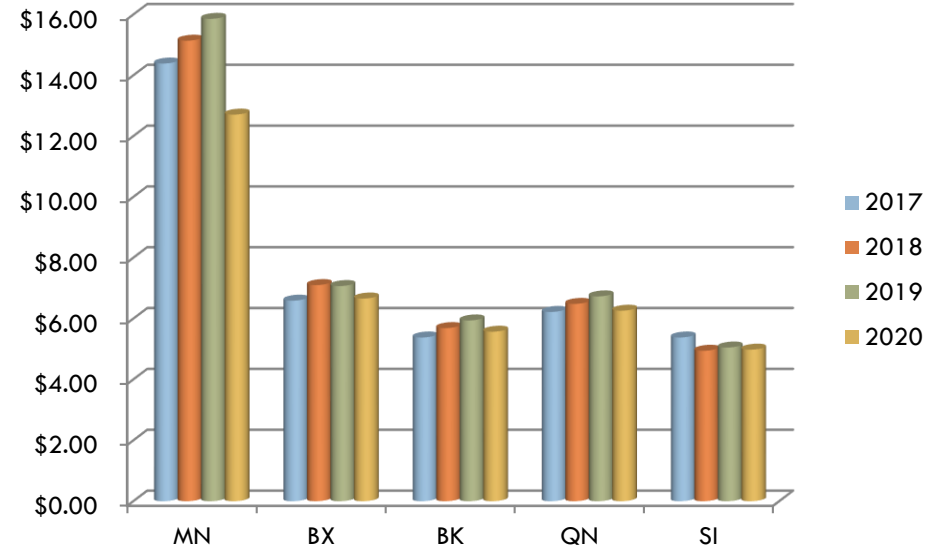
Retail Properties by Borough

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Median Income Per Square Foot



Median Expense Per Square Foot



Number of Filings

	2017	2018	2019	2020
Manhattan (MN)	2,000	2,343	2,157	1,457
Bronx (BX)	1,144	1,252	1,190	1,075
Brooklyn (BK)	2,318	2,466	2,449	2,121
Queens (QN)	2,539	2,769	2,679	2,404
Staten Island (SI)	464	505	508	440

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	\$15.36	\$18.30	\$22.01	\$19.70
	Expense	\$2.68	\$3.55	\$4.64	\$3.86
	Cap Rate	14.40%	14.41%	14.44%	14.28%
OFFICE	Income	\$29.14	\$35.86	\$48.11	\$42.45
	Expense	\$5.82	\$8.40	\$12.68	\$10.56
	Cap Rate	15.71%	15.90%	15.91%	15.55%
RENTAL	Income	\$15.61	\$20.81	\$34.40	\$26.87
	Expense	\$7.57	\$9.53	\$12.76	\$10.70
	Cap Rate	12.39%	12.81%	13.55%	13.09%
RETAIL	Income	\$28.96	\$37.40	\$52.30	\$46.69
	Expense	\$4.99	\$7.14	\$10.38	\$8.88
	Cap Rate	15.39%	15.49%	16.31%	15.45%

Notes:

Income = Gross Income per square foot

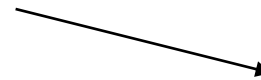
Expense = Total Expense per square foot

FY23 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

FY23 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 1985 - 2021 and sold between 2012 - 2021.

FY23 Capitalization Rate Methodology Tax Class 2

- Guideline curves are applied on *rental filer population*

FY23 Market Cap Rate and Annual Growth Rate

Variable	25th Pctl	50th Pctl	75th Pctl	Mean
Ro	2.08%	3.53%	4.86%	3.62%
Δ	2.99%	3.63%	4.68%	3.85%

FY23 versus FY22 Capitalization Rate

Variable	25th Pctl	50th Pctl	75th Pctl	Mean
Cap Rate FY23	6.87%	7.20%	7.87%	7.48%
Cap Rate FY22	6.97%	7.41%	8.17%	7.70%
Cap Rate FY23- Cap Rate FY22	-0.10%	-0.21%	-0.30%	-0.22%

FY23 Capitalization Rate Formulas and Example Tax Class 2

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- Capitalization Rate used reflects earnings-based return

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

$$R_o = \exp (-1.077873977 * \ln(\text{income psf}))$$

$$\Delta_n^{(a_n)} = -0.030236745 + 0.02144592 * \ln(\text{income psf})$$

Example: income psf = **\$22.64**

$$R_o = \exp (-1.077873977 * \ln(22.64)) * 100 = 3.464\%$$

$$\Delta_n^{(a_n)} = (-0.030236745 + 0.02144592 * \ln(22.64)) * 100 = 3.667\%$$

$$Y_o = 3.464 \% + 3.667 \% = \mathbf{7.131\%}$$

FY23 Capitalization Rate Methodology Tax Class 4

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Major Building Category	Flat Cap Rate Adjustment from FY22 (BPS)
OFFICE – MANHATTAN SOUTH OF 110TH STREET CLASS A/B/T AND DOWNTOWN BROOKLYN CLASS A	70
OFFICE – MANHATTAN SOUTH OF 110TH STREET Non CLASS A/B/T	70
OFFICE – MANHATTAN NORTH OF 110TH STREET AND OUTER BOROUGHES	70
RETAIL – MANHATTAN SOUTH OF 125TH STREET AND DOWNTOWN BROOKLYN	70
RETAIL – MANHATTAN NORTH OF 125TH STREET AND OUTER BOROUGHES	0
INDUSTRIAL	-10
GARAGE	-10

- Capitalization Rate are given a flat rate adjustment from FY22