

FY 2022

RPIE 2019 Income and Expense Distributions

Prepared by the Property Division

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Special Thanks to the Property Modeling and Research Group

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RPIE 2019

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	2,840	Income	\$11.16	\$15.57	\$21.21	\$20.34
		Income % change	-1.11%	2.48%	8.24%	2.36%
		Expense	\$1.55	\$2.92	\$5.01	\$5.45
		Expense % change	-19.66%	0.58%	20.36%	4.21%
OFFICE	2,890	Income	\$23.39	\$38.19	\$62.60	\$61.64
		Income % change	-3.23%	1.72%	6.86%	0.75%
		Expense	\$4.98	\$9.97	\$18.60	\$17.33
		Expense % change	-11.91%	1.53%	16.39%	3.09%
RENTAL	13,865	Income	\$15.19	\$20.26	\$33.95	\$27.59
		Income % change	-0.19%	2.17%	5.17%	1.79%
		Expense	\$7.20	\$9.35	\$12.78	\$11.05
		Expense % change	-8.00%	1.22%	9.85%	0.48%
RETAIL	8,983	Income	\$22.33	\$35.48	\$58.77	\$63.12
		Income % change	-3.16%	1.89%	7.08%	0.61%
		Expense	\$4.12	\$7.59	\$14.18	\$14.68
		Expense % change	-15.65%	0.95%	18.30%	3.24%

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 2019

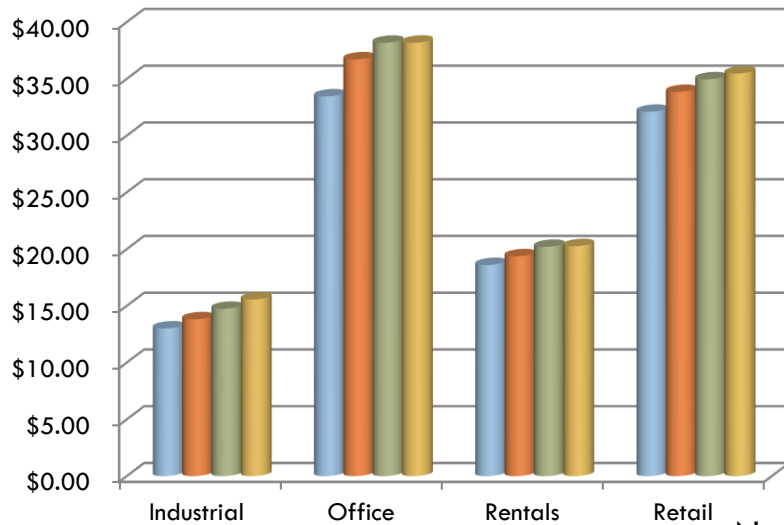
Rental Apartments with greater than 10 units

Does not include outlier filers and /or partial year filers

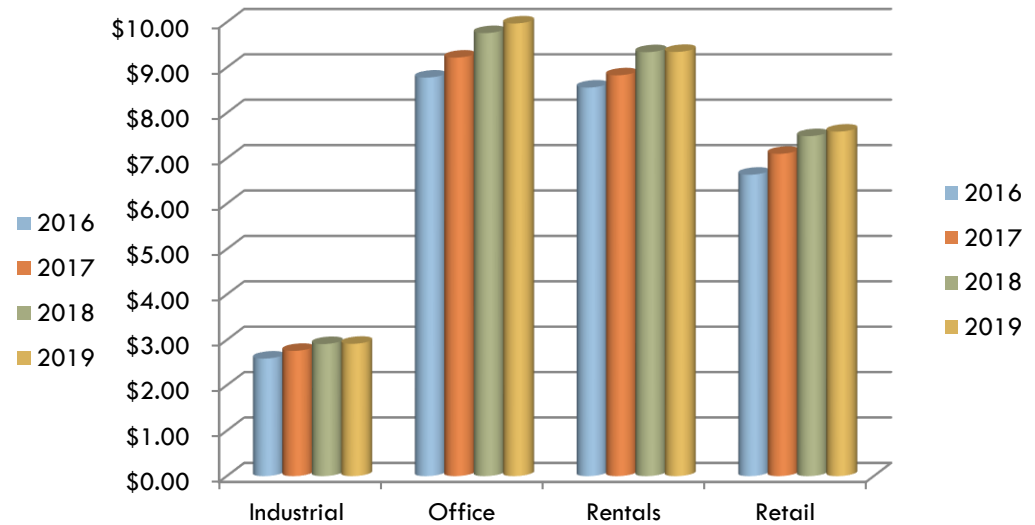
RPIE 2016 - 2019

Citywide by Property Type

Median Income Per Square Foot



Median Expense Per Square Foot



Number of Filings

Number of Filings	2016	2017	2018	2019
Industrial	2,591	2,466	2,763	2,840
Office	2,502	2,424	2,785	2,890
Rentals	13,202	13,225	14,213	13,865
Retail	8,600	8,465	9,335	8,983

Does not include outlier filers and /or partial year filers

RPIE 2019

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	8,545	Income	\$28.16	\$46.26	\$66.97	\$72.53
		Income % change	-1.35%	2.19%	6.08%	1.26%
		Expense	\$9.51	\$13.67	\$19.74	\$20.87
		Expense % change	-10.01%	0.96%	12.16%	1.56%
Bronx	4,865	Income	\$13.00	\$16.12	\$22.19	\$21.76
		Income % change	-0.53%	2.09%	5.49%	1.56%
		Expense	\$5.84	\$7.74	\$9.92	\$8.68
		Expense % change	-7.61%	2.26%	12.17%	2.73%
Brooklyn	7,851	Income	\$14.77	\$19.93	\$30.55	\$28.09
		Income % change	-0.71%	2.04%	5.88%	1.47%
		Expense	\$4.16	\$6.80	\$9.67	\$8.62
		Expense % change	-12.07%	0.87%	12.72%	1.71%
Queens	6,394	Income	\$17.60	\$23.71	\$36.68	\$32.88
		Income % change	-0.76%	2.14%	6.06%	1.39%
		Expense	\$3.74	\$6.91	\$10.55	\$8.67
		Expense % change	-12.52%	0.99%	15.28%	2.76%
Staten Island	923	Income	\$14.14	\$21.39	\$32.61	\$31.47
		Income % change	-2.97%	0.68%	5.39%	0.40%
		Expense	\$2.73	\$5.12	\$8.94	\$7.56
		Expense % change	-19.54%	0.00%	13.44%	-1.06%

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 2019

Rental Apartments with greater than 10 units

Does not include outlier filers and /or partial year filers

RPIE 2019

Industrial Properties by Borough

Income, Expenses, and Year-Year Change Distribution

Major Building Category	Borough	Count	Variable	25th Pctl	50th Pctl	75th Pctl	Mean
INDUSTRIAL	Manhattan	44	Income	\$14.67	\$33.15	\$52.18	\$148.80
			Income % change	0.00%	3.60%	8.33%	-0.17%
			Expense	\$2.27	\$4.85	\$11.25	\$92.19
			Expense % change	-38.87%	1.61%	20.85%	0.26%
	Bronx	363	Income	\$9.62	\$13.33	\$17.67	\$16.80
			Income % change	-1.99%	2.37%	7.20%	1.81%
			Expense	\$1.59	\$2.76	\$4.78	\$3.92
			Expense % change	-20.73%	0.52%	26.11%	6.44%
	Brooklyn	1,178	Income	\$11.40	\$15.40	\$20.55	\$18.08
			Income % change	-0.63%	2.44%	8.86%	3.07%
			Expense	\$1.63	\$3.05	\$5.15	\$4.26
			Expense % change	-17.94%	0.34%	17.22%	3.42%
	Queens	1,132	Income	\$12.09	\$17.02	\$22.41	\$19.60
			Income % change	-1.41%	2.78%	8.08%	2.03%
			Expense	\$1.51	\$2.93	\$5.00	\$4.09
			Expense % change	-19.42%	1.16%	24.58%	5.54%
Staten Island	123	Income	\$9.29	\$11.56	\$15.71	\$13.39	
		Income % change	-5.45%	0.00%	8.83%	1.04%	
		Expense	\$1.16	\$1.89	\$3.79	\$2.86	
		Expense % change	-31.70%	0.00%	10.86%	-5.58%	

Notes:

Income = Gross Income per square foot

Expense = Total Expense per square foot

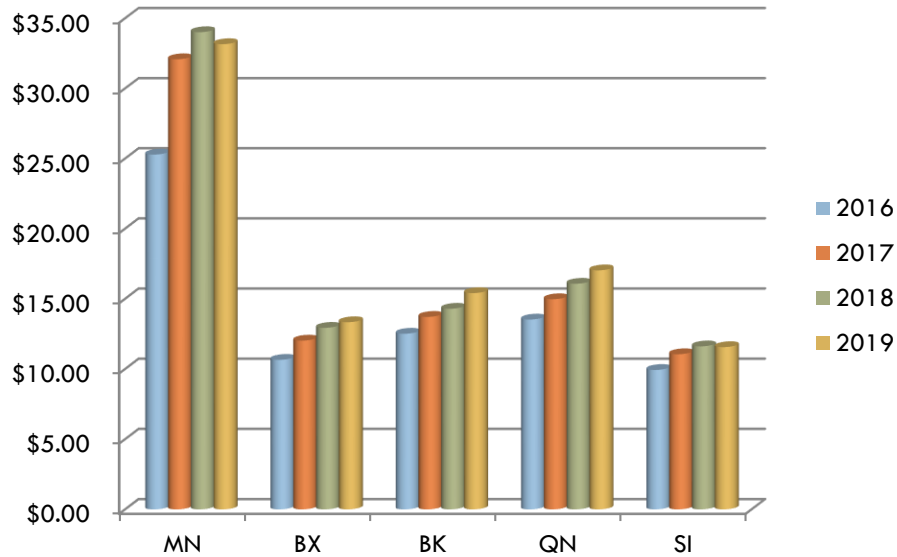
Income and Expense % changes based on information filed in RPIE 2018 and RPIE 2019

Does not include outlier filers and or partial year filers

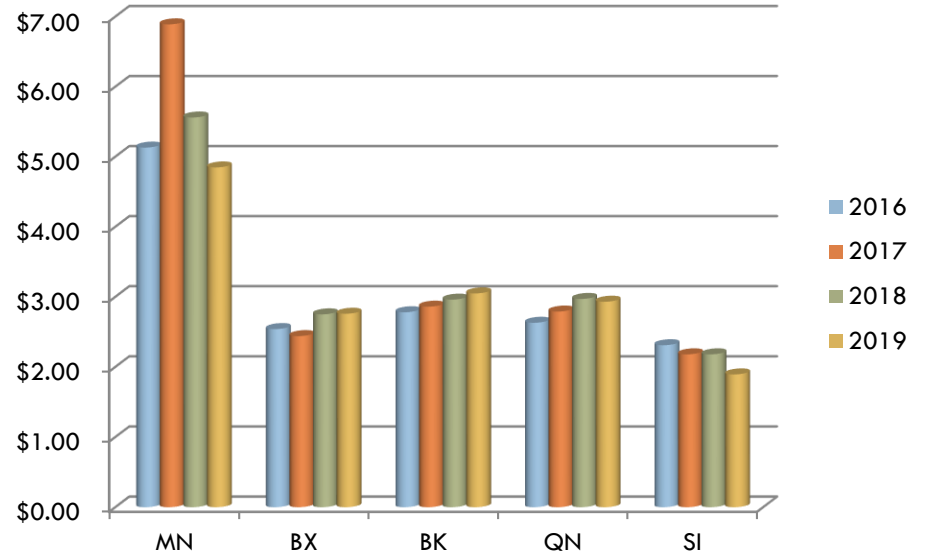
RPIE 2016 - 2019

Industrial Properties by Borough

Median Income Per Square Foot



Median Expense Per Square Foot



Number of Filings

	2016	2017	2018	2019
Manhattan (MN)	35	32	46	44
Bronx (BX)	333	312	334	363
Brooklyn (BK)	1,096	1,026	1,167	1,178
Queens (QN)	1,036	998	1,100	1,132
Staten Island (SI)	91	98	115	123

Does not include outlier filers and /or partial year filers

RPIE 2019

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	1,177	Income	\$41.87	\$61.31	\$86.47	\$95.22
			Income % change	-3.28%	1.87%	6.82%	1.00%
			Expense	\$10.88	\$17.97	\$26.70	\$27.90
			Expense % change	-6.65%	2.53%	15.64%	5.27%
	Bronx	196	Income	\$17.69	\$27.74	\$37.89	\$31.80
			Income % change	-1.51%	2.43%	7.70%	2.45%
			Expense	\$3.44	\$6.18	\$9.62	\$8.61
			Expense % change	-16.79%	1.03%	17.91%	1.64%
	Brooklyn	646	Income	\$18.85	\$27.53	\$39.32	\$36.22
			Income % change	-3.33%	1.78%	6.48%	0.72%
			Expense	\$3.45	\$6.06	\$10.73	\$9.70
			Expense % change	-14.13%	1.43%	18.60%	3.52%
Queens	689	Income	\$20.93	\$31.82	\$47.77	\$45.37	
		Income % change	-2.77%	1.49%	7.04%	0.15%	
		Expense	\$3.93	\$7.52	\$12.76	\$11.25	
		Expense % change	-16.21%	0.00%	15.47%	0.24%	
Staten Island	182	Income	\$17.75	\$25.56	\$34.51	\$28.49	
		Income % change	-5.25%	0.00%	4.65%	-0.33%	
		Expense	\$3.41	\$6.52	\$11.49	\$8.40	
		Expense % change	-16.81%	0.00%	18.51%	-0.15%	

Notes:

Income = Gross Income per square foot

Expense = Total Expense per square foot

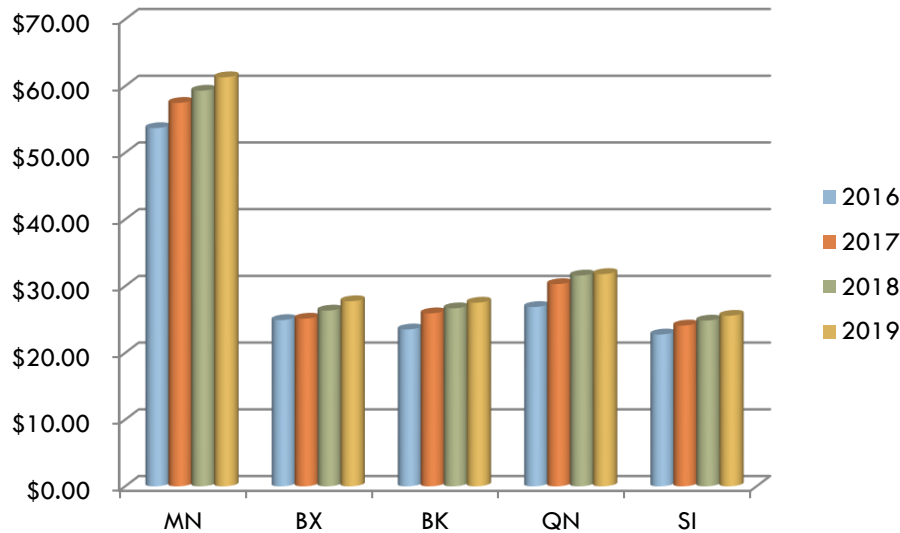
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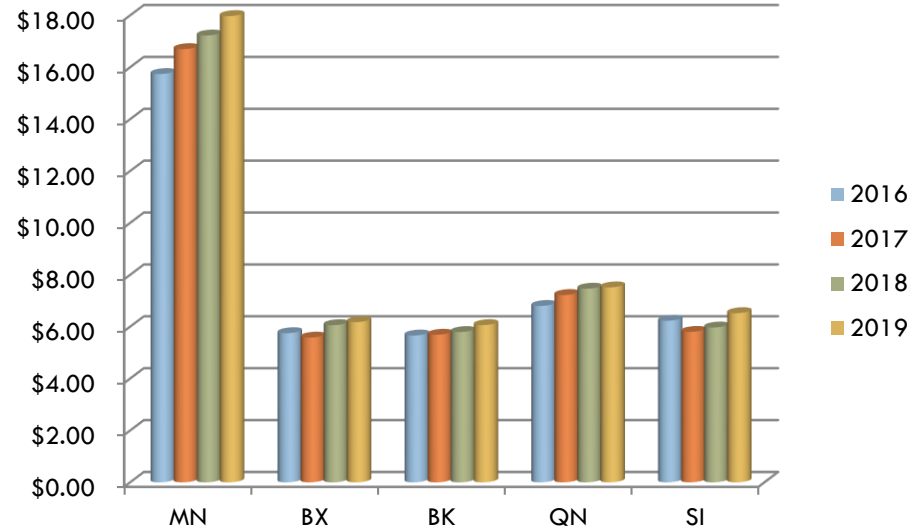
RPIE 2016 - 2019

Office Properties by Borough

Median Income Per Square Foot



Median Expense Per Square Foot



Number of Filings

	2016	2017	2018	2019
Manhattan (MN)	973	971	1,173	1,177
Bronx (BX)	186	172	179	196
Brooklyn (BK)	587	577	633	646
Queens (QN)	572	520	613	689
Staten Island (SI)	184	184	187	182

Does not include outlier filers and /or partial year filers

RPIE 2019

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	5,167	Income	\$23.05	\$38.70	\$52.27	\$41.04
			Income % change	-0.66%	2.16%	5.58%	1.72%
			Expense	\$9.55	\$12.74	\$17.02	\$14.36
			Expense % change	-9.86%	0.31%	10.04%	-0.38%
	Bronx	3,116	Income	\$12.62	\$14.89	\$17.66	\$16.34
			Income % change	-0.09%	2.11%	4.87%	1.63%
			Expense	\$6.74	\$8.13	\$9.86	\$9.02
			Expense % change	-5.24%	2.63%	10.35%	2.01%
	Brooklyn	3,578	Income	\$14.20	\$17.58	\$23.39	\$20.84
			Income % change	-0.10%	2.16%	5.09%	1.79%
			Expense	\$6.27	\$7.98	\$10.22	\$8.94
			Expense % change	-7.95%	1.18%	9.12%	0.14%
	Queens	1,894	Income	\$17.58	\$21.07	\$25.05	\$22.53
			Income % change	0.43%	2.32%	4.98%	2.35%
			Expense	\$6.74	\$8.51	\$10.93	\$9.44
			Expense % change	-7.51%	1.49%	9.85%	1.11%
Staten Island	110	Income	\$14.34	\$16.30	\$20.35	\$20.92	
		Income % change	-1.14%	1.03%	3.93%	0.53%	
		Expense	\$5.95	\$7.85	\$9.76	\$9.32	
		Expense % change	-9.16%	1.03%	9.74%	-2.20%	

Notes:

Income = Gross Income per square foot

Expense = Total Expense per square foot

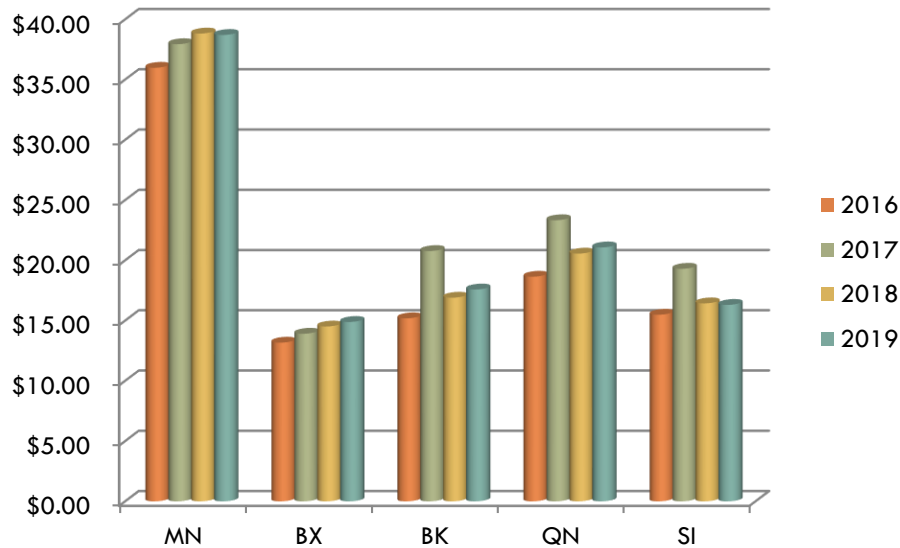
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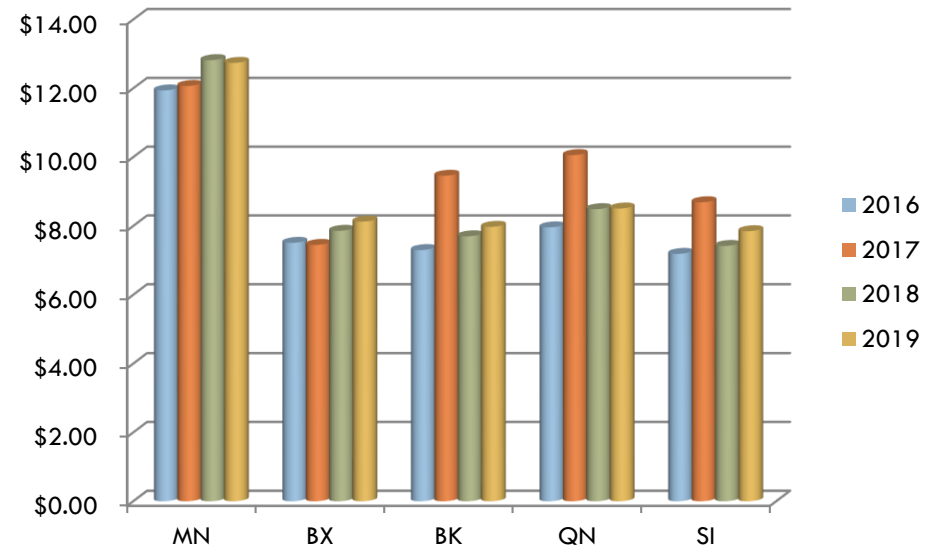
RPIE 2016 - 2019

Rental Properties by Borough

Median Income Per Square Foot



Median Expense Per Square Foot



Number of Filings

	2016	2017	2018	2019
Manhattan (MN)	5,362	5,423	5,342	5,167
Bronx (BX)	2,675	2,747	2,652	3,116
Brooklyn (BK)	3,288	3,210	3,222	3,578
Queens (QN)	1,773	1,732	1,643	1,894
Staten Island (SI)	104	113	107	110

Does not include outlier filers and /or partial year filers

RPIE 2019

Retail Properties By Borough

Income, Expenses, and Year-Year Change Distribution

Major Building Category	Borough	Count	Variable	25th Pctl	50th Pctl	75th Pctl	Mean
RETAIL	Manhattan	2,157	Income	\$44.75	\$68.19	\$114.98	\$134.00
			Income % change	-3.67%	2.47%	7.42%	0.33%
			Expense	\$8.82	\$15.86	\$25.19	\$31.16
			Expense % change	-12.37%	2.28%	17.70%	4.21%
	Bronx	1,190	Income	\$19.72	\$29.19	\$42.57	\$35.80
			Income % change	-3.06%	1.83%	7.76%	1.16%
			Expense	\$4.05	\$7.07	\$11.38	\$9.26
			Expense % change	-14.88%	1.28%	19.47%	3.64%
	Brooklyn	2,449	Income	\$19.72	\$28.54	\$43.34	\$41.37
			Income % change	-2.85%	1.77%	6.81%	0.44%
			Expense	\$3.40	\$5.94	\$9.72	\$9.95
			Expense % change	-17.99%	0.37%	18.81%	2.69%
	Queens	2,679	Income	\$21.91	\$33.33	\$50.83	\$42.60
			Income % change	-3.13%	1.66%	6.64%	0.76%
			Expense	\$3.70	\$6.73	\$11.37	\$9.39
			Expense % change	-15.90%	0.73%	18.75%	3.41%
Staten Island	508	Income	\$16.59	\$24.95	\$36.88	\$39.21	
		Income % change	-2.42%	1.00%	6.30%	0.49%	
		Expense	\$2.95	\$5.05	\$8.60	\$8.02	
		Expense % change	-20.02%	0.00%	14.53%	-0.05%	

Notes:

Income = Gross Income per square foot

Expense = Total Expense per square foot

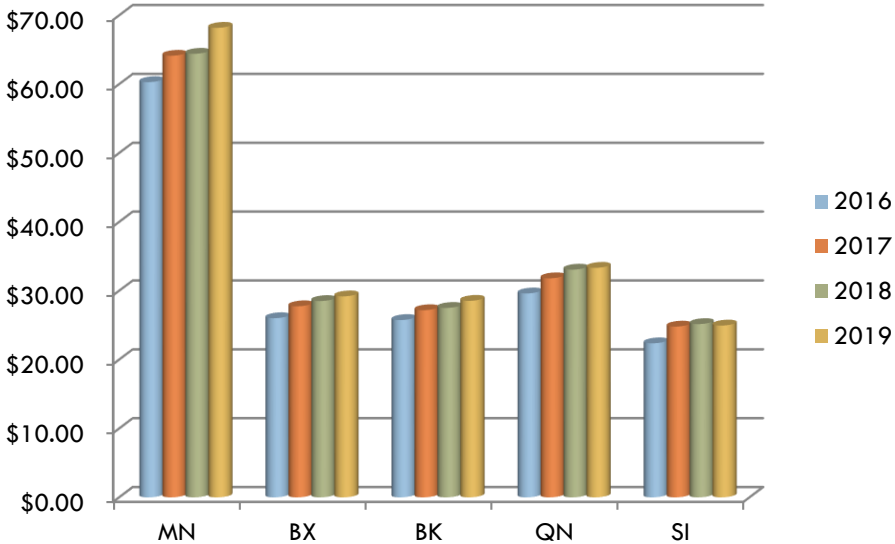
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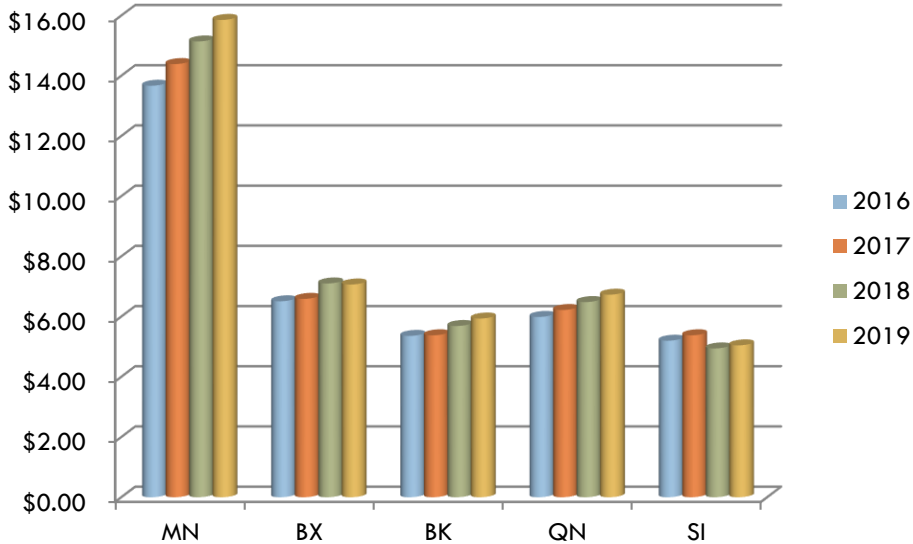
RPIE 2016 - 2019

Retail Properties by Borough

Median Income Per Square Foot



Median Expense Per Square Foot



Number of Filings

	2016	2017	2018	2019
Manhattan (MN)	2,010	2,000	2,343	2,157
Bronx (BX)	1,136	1,144	1,252	1,190
Brooklyn (BK)	2,368	2,318	2,466	2,449
Queens (QN)	2,592	2,539	2,769	2,679
Staten Island (SI)	494	464	505	508

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	\$12.71	\$15.21	\$18.30	\$16.44
	Expense	\$2.60	\$3.51	\$4.61	\$3.81
	Cap Rate	14.48%	14.50%	14.53%	14.37%
OFFICE	Income	\$24.43	\$30.27	\$42.44	\$37.03
	Expense	\$5.80	\$8.36	\$12.60	\$10.46
	Cap Rate	14.98%	15.17%	15.18%	14.82%
RENTAL	Income	\$15.44	\$20.61	\$34.37	\$27.05
	Expense	\$7.49	\$9.48	\$12.70	\$10.65
	Cap Rate	12.50%	12.93%	13.68%	13.21%
RETAIL	Income	\$24.12	\$31.41	\$44.59	\$39.98
	Expense	\$4.83	\$7.08	\$10.41	\$8.74
	Cap Rate	15.08%	15.47%	16.29%	15.34%

Notes:

Income = Gross Income per square foot

Expense = Total Expense per square foot

FY22 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

FY22 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 1985-2020 and sold from 2012-2020.

FY22 Capitalization Rate Methodology Tax Class 2

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

FY22 Market Cap Rate and Annual Growth Rate

Variable	25th Pctl	50th Pctl	75th Pctl	Mean
Ro	2.15%	3.74%	5.11%	3.80%
Δ	3.06%	3.66%	4.71%	3.90%

FY22 versus FY21 Capitalization Rate

Variable	25th Pctl	50th Pctl	75th Pctl	Mean
Cap Rate FY22	6.97%	7.41%	8.17%	7.70%
Cap Rate FY21	6.85%	7.17%	7.80%	7.43%
Cap Rate FY22-FY21	0.12%	0.24%	0.37%	0.27%

*Does not include effective tax rate portion of Capitalization Rate

FY22 Capitalization Rate Formulas and Example Tax Class 2

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- Capitalization Rate used reflects earnings-based return

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

$$R_o = \exp(-1.08833 * \ln(\text{income psf}))$$

$$\Delta_n^{(a_n)} = -0.025917 + 0.020696 * \ln(\text{income psf})$$

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

$$R_o = \exp(-1.08833 * \ln(22.64)) * 100 = 3.35\%$$

$$\Delta_n^{(a_n)} = (-0.025917 + 0.020696 * \ln(22.64)) * 100 = 3.86\%$$

$$Y_o = 3.35\% + 3.86\% = **7.22%**$$

* FY22 Guidelines Post-1973 Rental Elevator Building Outer Borough

FY22 Capitalization Rate Methodology Tax Class 4

Major Building Category	Flat Cap Rate Adjustment from FY21 (BPS)
OFFICE – MANHATTAN SOUTH OF 110TH STREET CLASS A/B/T AND DOWNTOWN BROOKLYN CLASS A	20
OFFICE – MANHATTAN SOUTH OF 110TH STREET Non CLASS A/B/T	20
OFFICE – MANHATTAN NORTH OF 110TH STREET AND OUTER BOROUGHES	20
RETAIL – MANHATTAN SOUTH OF 125TH STREET AND DOWNTOWN BROOKLYN	30
RETAIL – MANHATTAN NORTH OF 125TH STREET AND OUTER BOROUGHES	30
INDUSTRIAL	20
GARAGE	20

- Capitalization Rate are given a flat rate adjustment from FY21