

FY 2017

RPIE 2014 Income and Expense Distributions

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Special Thanks to the Property Modeling and Research Group

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RPIE 2014

Citywide by Property Type

Income, Expense, and Year-Year Change Distribution

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	Count	Variable	25th Pctl	50th Pctl	75th Pctl	Mean
INDUSTRIAL	2,692	Income	\$8.52	\$11.75	\$15.49	\$13.74
		Income % change	-0.33%	2.54%	9.75%	3.54%
		Expense	\$1.35	\$2.41	\$4.24	\$3.44
		Expense % change	-19.13%	0.96%	21.52%	5.18%
LOFTS	288	Income	\$19.38	\$27.79	\$40.48	\$33.98
		Income % change	-0.42%	5.42%	11.59%	5.56%
		Expense	\$5.17	\$8.47	\$13.59	\$10.36
		Expense % change	-11.77%	3.23%	17.03%	5.25%
OFFICE	2,390	Income	\$19.12	\$31.77	\$51.77	\$47.32
		Income % change	-1.92%	2.00%	8.10%	1.76%
		Expense	\$4.15	\$8.56	\$15.78	\$14.02
		Expense % change	-12.56%	2.08%	15.37%	2.45%
RENTAL APARTMENTS	12,966	Income	\$13.04	\$17.23	\$31.06	\$24.14
		Income % change	0.81%	3.57%	6.70%	3.25%
		Expense	\$6.84	\$8.80	\$11.87	\$10.17
		Expense % change	-5.28%	3.27%	12.53%	3.04%
RETAIL	8,188	Income	\$18.70	\$29.88	\$49.23	\$48.02
		Income % change	-1.78%	2.00%	7.82%	1.83%
		Expense	\$3.35	\$6.41	\$11.74	\$10.68
		Expense % change	-14.97%	1.66%	18.40%	3.74%

Notes:

Income = Gross Income per square foot

Expense = Total Expense per square foot

Income and Expense % changes based on information filed in RPIE 2014 and RPIE 2013

Rental Apartments with greater than 10 units

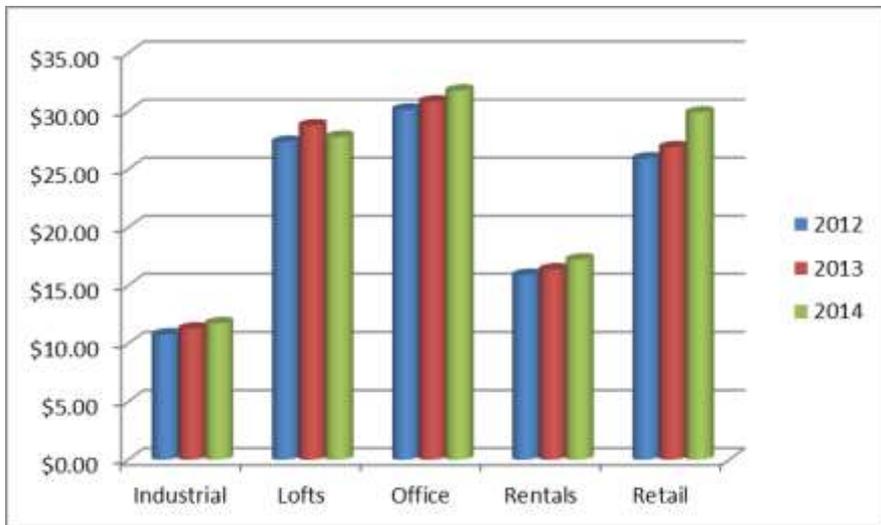
Does not include outlier filers and /or partial year filers

RPIE 2012 - 2014

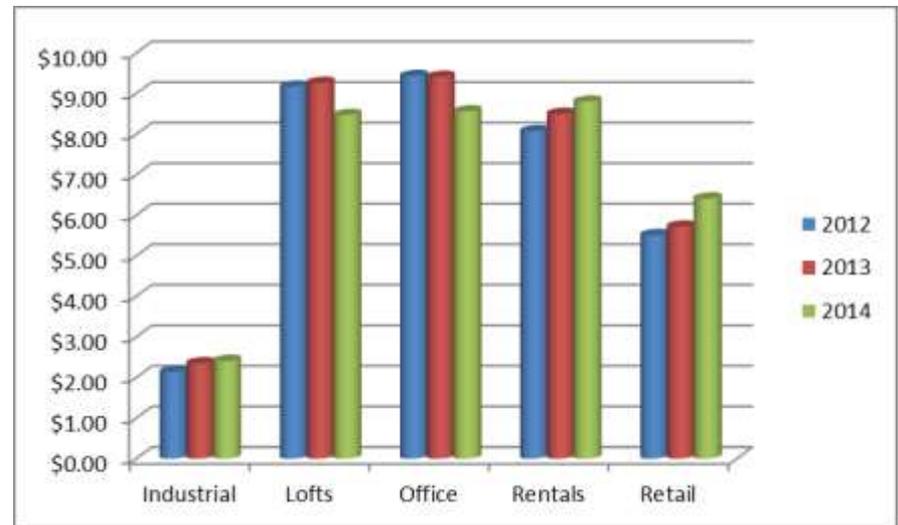
Citywide by Property Type

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Median Income Per Square Foot



Median Expense Per Square Foot



Number of Filings	2012	2013	2014
Industrial	3,142	2,452	2,692
Lofts	597	437	288
Office	2,685	2,043	2,390
Rentals	16,778	12,591	12,966
Retail	8,689	6,519	8,188

Does not include outlier filers and /or partial year filers

RPIE 2014

Citywide by Borough

Income, Expense, and Year-Year Change Distribution

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	Count	Variable	25th Pctl	50th Pctl	75th Pctl	Mean
MANHATTAN	8,552	Income	\$24.13	\$39.01	\$54.50	\$53.74
		Income % change	0.03%	3.75%	7.85%	3.33%
		Expense	\$8.71	\$12.11	\$16.79	\$15.77
		Expense % change	-7.33%	3.48%	14.30%	3.65%
BRONX	4,251	Income	\$11.08	\$13.68	\$18.50	\$18.34
		Income % change	-0.01%	2.67%	6.53%	2.57%
		Expense	\$5.30	\$7.24	\$9.09	\$7.71
		Expense % change	-6.45%	2.76%	12.87%	3.92%
BROOKLYN	7,103	Income	\$11.77	\$15.62	\$24.00	\$21.37
		Income % change	0.00%	2.88%	7.24%	2.76%
		Expense	\$3.37	\$5.93	\$8.32	\$6.82
		Expense % change	-10.34%	1.98%	14.77%	3.09%
QUEENS	5,778	Income	\$14.15	\$19.51	\$29.81	\$27.11
		Income % change	-0.19%	2.56%	7.01%	2.38%
		Expense	\$3.21	\$6.12	\$9.22	\$7.58
		Expense % change	-11.59%	2.30%	15.66%	3.68%
STATEN ISLAND	840	Income	\$12.29	\$18.66	\$28.32	\$23.90
		Income % change	-2.65%	0.28%	5.12%	-0.45%
		Expense	\$2.50	\$4.99	\$8.18	\$6.26
		Expense % change	-19.47%	0.00%	17.58%	0.31%

Notes:

Income = Gross Income per square foot

Expense = Total Expense per square foot

Income and Expense % changes based on information filed in RPIE 2014 and RPIE 2013

Rental Apartments with greater than 10 units

Does not include outlier filers and /or partial year filers

RPIE 2014

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	48	Income	\$10.82	\$26.94	\$48.29	\$34.32
			Income % Change	0.00%	3.18%	11.36%	4.99%
			Expense	\$2.31	\$6.12	\$11.90	\$8.26
			Expense % change	-8.73%	6.87%	49.68%	14.51%
	Bronx	308	Income	\$7.06	\$10.16	\$13.46	\$13.86
			Income % Change	-1.27%	2.25%	10.83%	3.90%
			Expense	\$1.38	\$2.25	\$3.47	\$3.27
			Expense % change	-15.44%	1.78%	23.91%	8.17%
	Brooklyn	1,174	Income	\$8.22	\$11.37	\$15.00	\$12.61
			Income % Change	-0.02%	2.53%	10.42%	3.49%
			Expense	\$1.33	\$2.44	\$4.17	\$3.22
			Expense % change	-19.20%	0.28%	19.34%	4.02%
Queens	1,065	Income	\$9.55	\$12.67	\$16.23	\$14.01	
		Income % Change	-0.50%	2.75%	9.09%	3.69%	
		Expense	\$1.40	\$2.49	\$4.45	\$3.58	
		Expense % change	-19.27%	2.34%	22.29%	5.98%	
Staten Island	97	Income	\$6.30	\$9.47	\$12.52	\$13.77	
		Income % Change	-1.07%	0.00%	4.98%	0.54%	
		Expense	\$0.86	\$1.77	\$3.26	\$2.71	

Notes:

Income = Gross Income per square foot

Expense = Total Expense per square foot

Income and Expense % changes based on information filed in RPIE 2014 and RPIE 2013

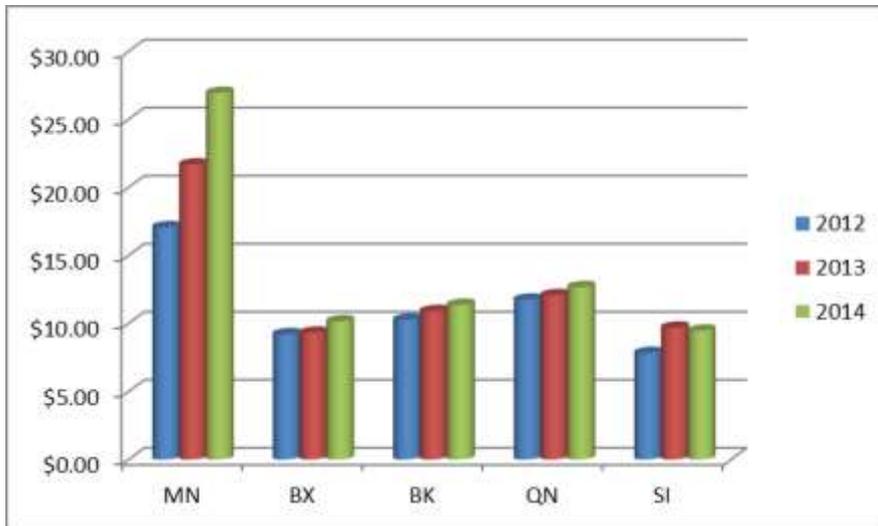
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RPIE 2012 - 2014

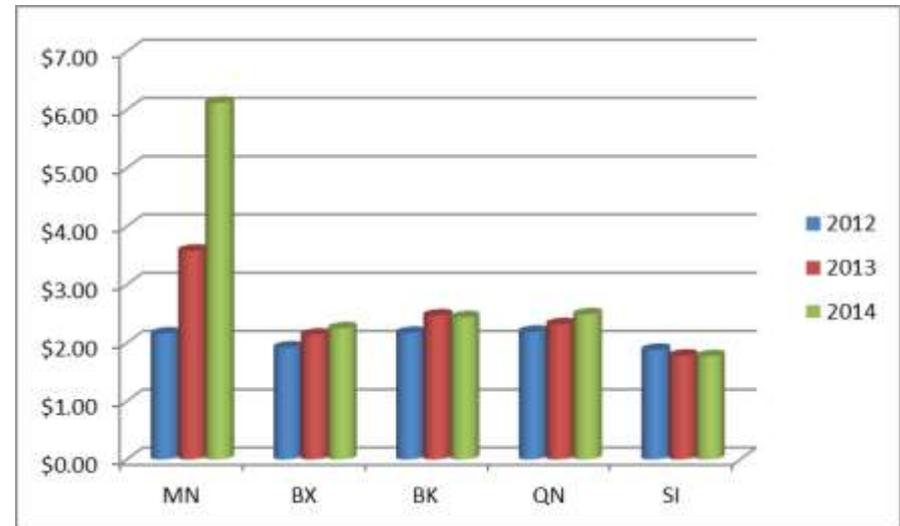
Industrial Properties by Borough

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Median Income Per Square Foot



Median Expense Per Square Foot



Number of Filings	2012	2013	2014
Manhattan (MN)	37	26	48
Bronx (BX)	363	302	308
Brooklyn (BK)	1,363	1,066	1,174
Queens (QN)	1,289	987	1,065
Staten Island (SI)	90	71	97

Does not include outlier filers and /or partial year filers

RPIE 2014

Loft Properties 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
LOFT	Manhattan	248	Income	\$22.38	\$30.16	\$42.19	\$36.54
			Income % Change	-0.38%	5.42%	11.71%	5.72%
			Expense	\$5.39	\$9.21	\$14.52	\$10.89
			Expense % change	-11.96%	3.39%	17.81%	5.83%
	Bronx	1	Income	\$16.21	\$16.21	\$16.21	\$16.21
			Income % Change	26.09%	26.09%	26.09%	26.09%
			Expense	\$5.99	\$5.99	\$5.99	\$5.99
			Expense % change	4.44%	4.44%	4.44%	4.44%
	Brooklyn	33	Income	\$11.23	\$14.92	\$19.97	\$19.01
			Income % Change	-1.89%	1.82%	8.41%	2.41%
			Expense	\$3.43	\$6.07	\$8.48	\$7.40
			Expense % change	-9.94%	0.56%	15.38%	1.58%
	Queens	6	Income	\$10.42	\$12.12	\$20.22	\$13.84
			Income % Change	3.02%	11.94%	20.39%	12.95%
			Expense	\$5.29	\$5.42	\$5.80	\$5.51
			Expense % change	-7.79%	1.50%	8.92%	1.47%

Notes:

Income = Gross Income per square foot

Expense = Total Expense per square foot

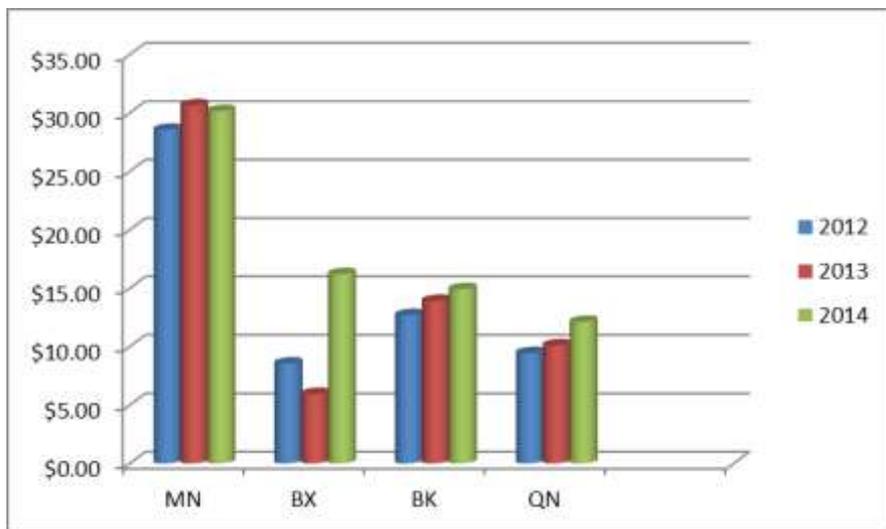
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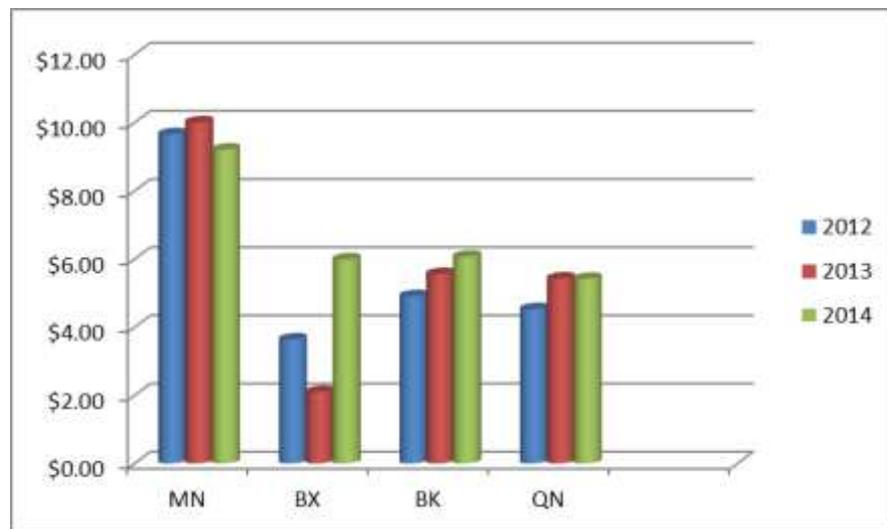
RPIE 2012 - 2014

Loft Properties by Borough

Median Income Per Square Foot



Median Expense Per Square Foot



Number of Filings	2012	2013	2014
Manhattan (MN)	548	393	248
Bronx (BX)	3	4	1
Brooklyn (BK)	40	35	33
Queens (QN)	6	5	6

Does not include outlier filers and /or partial year filers

RPIE 2014

Office Properties by Borough

Income, Expenses, and Year-Year Change Distribution

Major Building Category	Borough	Count	Variable	25th Pctl	50th Pctl	75th Pctl	Mean
OFFICE	Manhattan	946	Income	\$35.43	\$50.90	\$69.99	\$71.74
			Income % Change	-1.05%	3.08%	8.79%	3.14%
			Expense	\$8.97	\$15.20	\$22.78	\$21.94
			Expense % change	-8.54%	2.93%	13.22%	2.91%
	Bronx	171	Income	\$16.10	\$22.34	\$31.30	\$27.86
			Income % Change	-3.17%	1.25%	8.10%	1.86%
			Expense	\$2.88	\$5.44	\$8.23	\$7.43
			Expense % change	-13.39%	1.17%	13.55%	1.17%
	Brooklyn	533	Income	\$15.54	\$22.92	\$34.43	\$29.85
			Income % Change	-1.36%	1.75%	8.21%	1.80%
			Expense	\$2.72	\$5.36	\$9.21	\$7.71
			Expense % change	-18.74%	0.00%	16.61%	1.75%
	Queens	553	Income	\$16.99	\$24.45	\$37.23	\$35.97
			Income % Change	-4.25%	0.99%	7.50%	0.27%
			Expense	\$3.58	\$6.70	\$11.70	\$10.88
			Expense % change	-11.52%	3.30%	16.76%	3.74%
	Staten Island	187	Income	\$13.60	\$21.00	\$30.54	\$24.95
			Income % Change	-3.74%	0.00%	5.57%	-1.05%
			Expense	\$2.73	\$5.40	\$9.05	\$7.24
			Expense % change	-22.61%	-0.98%	18.39%	-0.59%

Notes:

Income = Gross Income per square foot

Expense = Total Expense per square foot

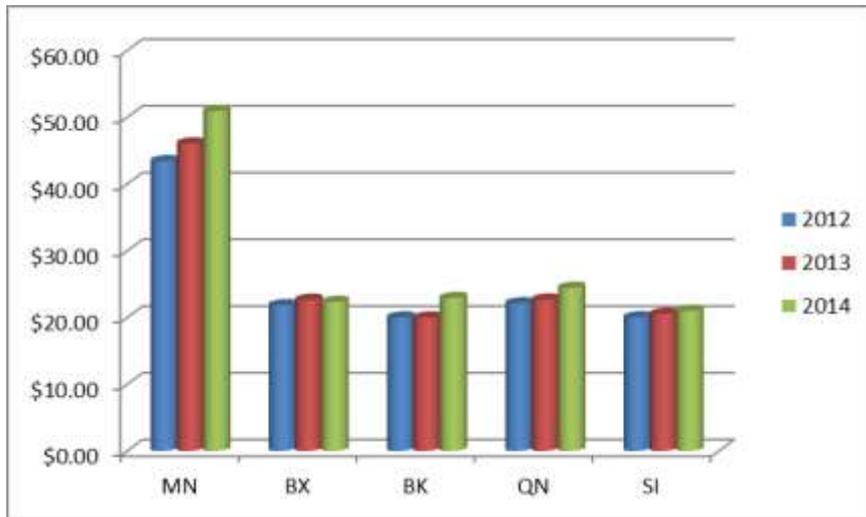
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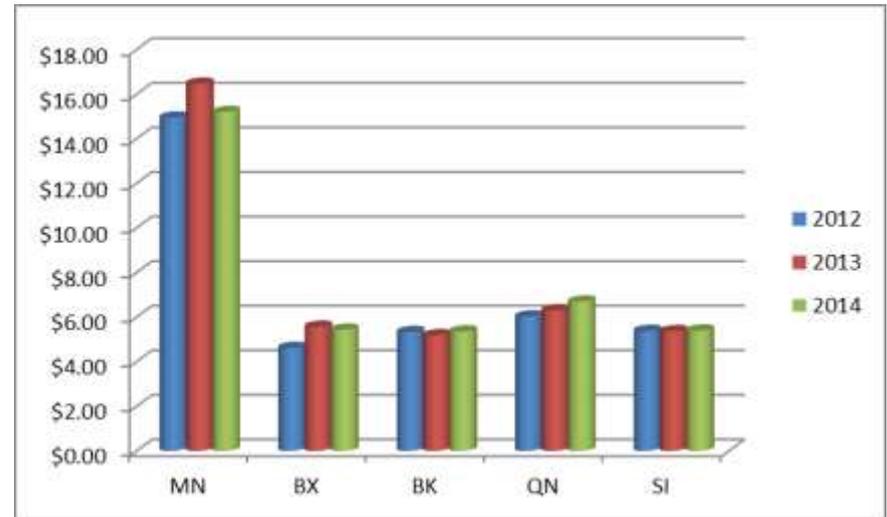
RPIE 2012 - 2014

Office Properties by Borough

Median Income Per Square Foot



Median Expense Per Square Foot



Number of Filings	2012	2013	2014
Manhattan (MN)	1,314	941	946
Bronx (BX)	200	151	171
Brooklyn (BK)	482	396	533
Queens (QN)	476	377	553
Staten Island (SI)	213	178	187

Does not include outlier filers and /or partial year filers

RPIE 2014

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	5,342	Income	\$20.31	\$34.17	\$46.28	\$35.95
			Income % Change	0.86%	3.91%	7.28%	3.36%
			Expense	\$9.09	\$11.80	\$15.37	\$13.08
			Expense % change	-6.45%	3.59%	13.72%	2.99%
	Bronx	2,652	Income	\$10.85	\$12.71	\$14.80	\$13.38
			Income % Change	0.36%	3.00%	5.89%	2.67%
			Expense	\$6.54	\$7.75	\$9.18	\$8.23
			Expense % change	-4.31%	3.02%	11.02%	2.99%
	Brooklyn	3,222	Income	\$11.84	\$14.30	\$18.07	\$16.68
			Income % Change	0.94%	3.60%	6.78%	3.38%
			Expense	\$5.69	\$7.11	\$9.03	\$7.98
			Expense % change	-4.98%	3.23%	12.87%	3.38%
Queens	1,643	Income	\$14.98	\$17.72	\$20.87	\$18.32	
		Income % Change	1.31%	3.54%	6.16%	3.62%	
		Expense	\$6.28	\$7.83	\$9.75	\$8.36	
		Expense % change	-5.32%	3.08%	11.15%	2.71%	
Staten Island	107	Income	\$12.82	\$14.57	\$17.32	\$15.19	
		Income % Change	-0.64%	2.23%	5.27%	1.99%	
		Expense	\$5.47	\$6.75	\$8.39	\$7.23	
		Expense % change	-10.49%	2.19%	12.98%	1.62%	

Notes:

Income = Gross Income per square foot

Expense = Total Expense per square foot

Income and Expense % changes based on information filed in RPIE 2014 and RPIE 2013

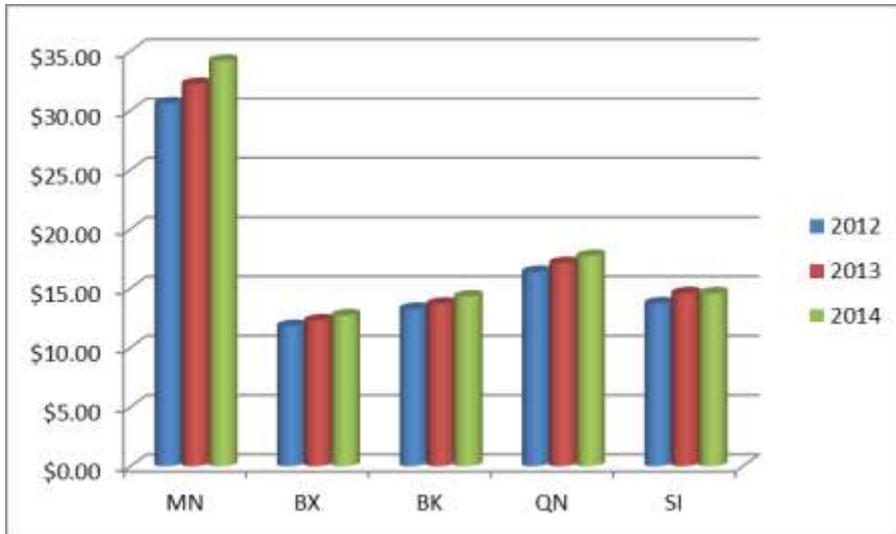
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RPIE 2012 - 2014

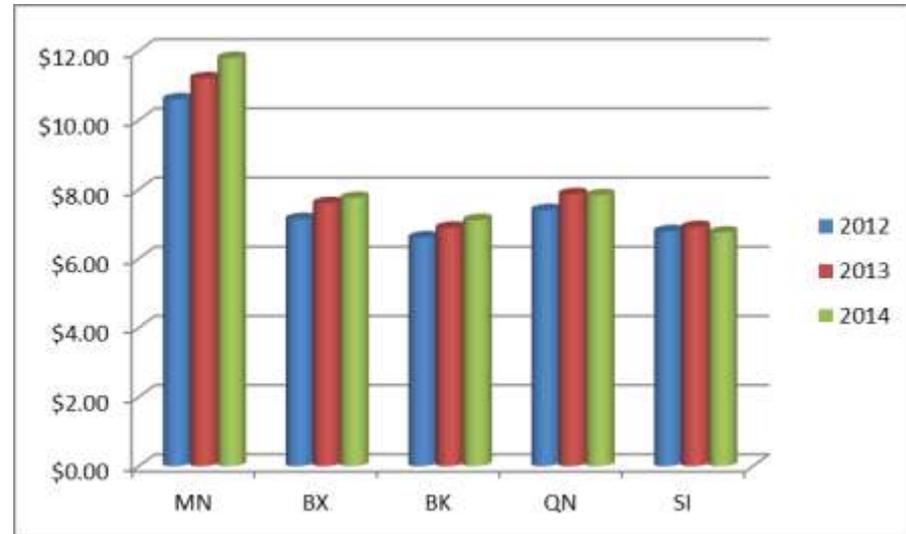
Rental Properties by Borough

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Median Income Per Square Foot



Median Expense Per Square Foot



Number of Filings	2012	2013	2014
Manhattan (MN)	6,963	5,128	5,342
Bronx (BX)	3,421	2,600	2,652
Brooklyn (BK)	4,144	3,175	3,222
Queens (QN)	2,118	1,585	1,643
Staten Island (SI)	132	103	107

Does not include outlier filers and /or partial year filers

RPIE 2014

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	1,968	Income	\$36.56	\$54.75	\$98.40	\$96.01
			Income % Change	-1.21%	3.50%	9.23%	2.98%
			Expense	\$7.20	\$12.83	\$20.32	\$20.90
			Expense % change	-9.23%	3.38%	17.18%	5.26%
	Bronx	1,119	Income	\$15.80	\$24.56	\$36.18	\$29.88
			Income % Change	-2.97%	1.81%	8.50%	2.04%
			Expense	\$3.34	\$5.79	\$9.78	\$7.74
			Expense % change	-13.23%	1.91%	21.04%	5.37%
	Brooklyn	2,141	Income	\$15.64	\$24.24	\$35.76	\$31.15
			Income % Change	-0.95%	1.58%	6.69%	1.68%
			Expense	\$2.64	\$4.78	\$7.92	\$6.81
			Expense % change	-18.55%	0.93%	17.75%	2.50%
	Queens	2,511	Income	\$18.45	\$28.28	\$43.90	\$36.49
			Income % Change	-2.23%	1.47%	7.30%	1.46%
			Expense	\$3.09	\$5.70	\$9.84	\$8.04
			Expense % change	-16.36%	1.22%	18.42%	3.33%
	Staten Island	449	Income	\$15.19	\$23.26	\$31.92	\$27.73
			Income % Change	-3.37%	0.00%	4.77%	-0.98%
			Expense	\$2.68	\$4.95	\$8.09	\$6.38
			Expense % change	-19.77%	0.39%	19.67%	1.19%

Notes:

Income = Gross Income per square foot

Expense = Total Expense per square foot

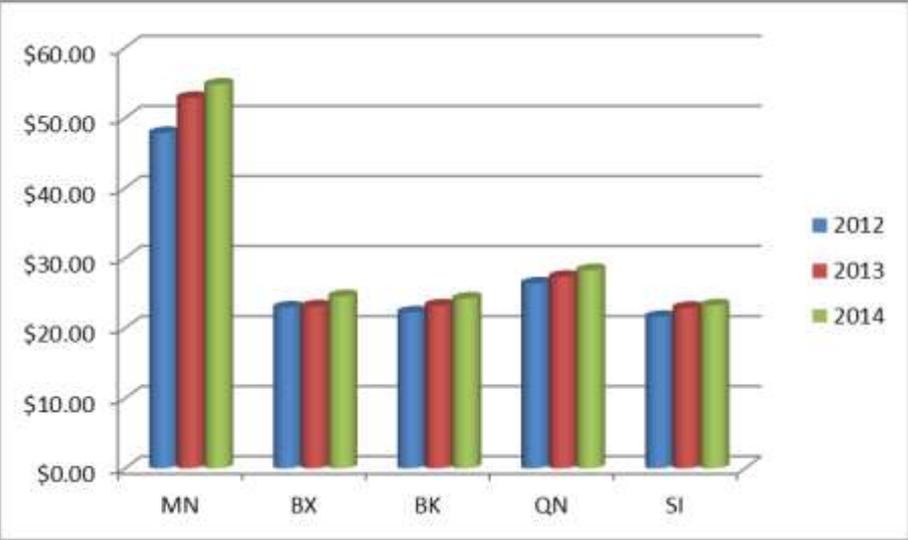
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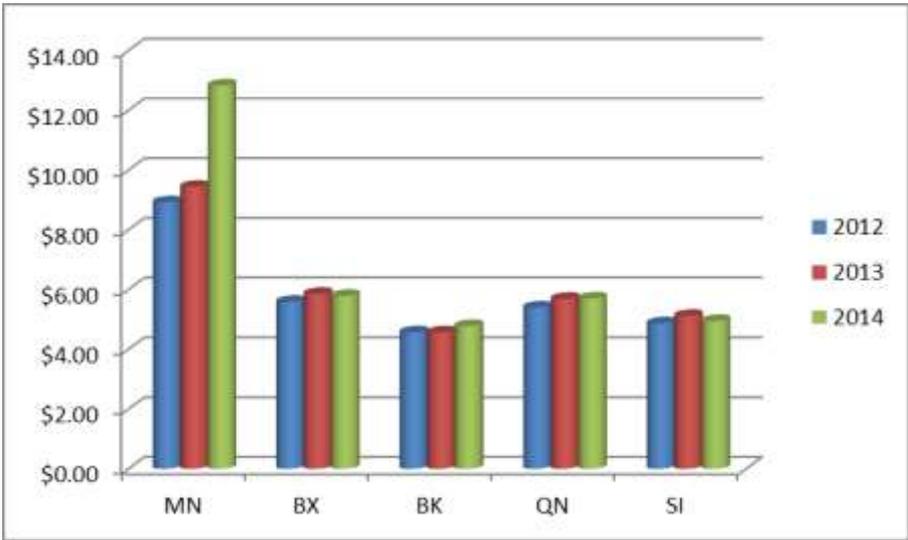
RPIE 2012 - 2014

Retail Properties by Borough

Median Income Per Square Foot



Median Expense Per Square Foot



Number of Filings	2012	2013	2014
Manhattan (MN)	1,366	1,017	1,968
Bronx (BX)	1,382	1,059	1,119
Brooklyn (BK)	2,489	1,828	2,141
Queens (QN)	2,909	2,198	2,511
Staten Island (SI)	543	417	449

Does not include outlier filers and /or partial year filers

Guideline Income, Expense, and Cap Rate Distributions

Major Building Categories	Variable	25th Pctl	50th Pctl	75th Pctl	Mean
INDUSTRIAL	Income	\$11.96	\$15.01	\$18.34	\$15.31
	Expense	\$2.11	\$2.65	\$3.20	\$2.65
	Cap Rate	14.91%	14.96%	15.02%	14.96%
LOFTS	Income	\$25.01	\$33.59	\$36.53	\$32.71
	Expense	\$6.94	\$8.49	\$9.91	\$8.39
	Cap Rate	12.82%	13.18%	13.51%	13.58%
OFFICE	Income	\$27.19	\$31.45	\$45.64	\$38.44
	Expense	\$6.58	\$7.65	\$12.58	\$10.09
	Cap Rate	14.79%	15.31%	15.44%	14.95%
RENTAL APARTMENTS	Income	\$15.24	\$20.87	\$35.57	\$26.11
	Expense	\$9.37	\$11.98	\$16.22	\$12.94
	Cap Rate	11.50%	11.90%	12.94%	12.41%
RETAIL	Income	\$24.00	\$30.82	\$43.62	\$39.94
	Expense	\$4.65	\$6.09	\$7.97	\$7.12
	Cap Rate	14.84%	15.09%	15.54%	14.92%

Notes:

Income = Gross Income per square foot

Expense = Total Expense per square foot

FY17 Capitalization Rate Methodology Tax Class 2

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- Capitalization Rate based on Ellwood formula

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



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

FY17 Capitalization Rate Methodology Tax Class 2

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- R_0 and $\Delta_n^{(an)}$ are *not* estimated for each property but are guideline curves that reflect median relationships with income
- R_0 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 1985-2014 and sold from 2011-2015.

FY17 Capitalization Rate Methodology Tax Class 2

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

- For FY17: - the median Capitalization Rate R_o is centered on 4.68%*

Guidelines Rates

Variable	25th Pctl	50th Pctl	75th Pctl	Mean
R_o	2.74%	4.68%	6.43%	4.89%
$\Delta_n^{(an)}$	1.71%	2.42%	3.60%	2.60%

- FY17 versus FY16 Capitalization Rate *

Citywide

Variable	25th Pctl	50th Pctl	75th Pctl	Mean
Cap Rate FY17	6.70%	7.10%	8.14%	7.62%
Cap Rate FY16	6.90%	7.52%	8.46%	7.89%
Cap Rate FY17-FY16	-0.40%	-0.30%	-0.20%	-0.28%

*Does not include effective tax rate portion of Capitalization Rate

FY17 Capitalization Rate Formulas and Example Tax Class 2

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- Capitalization Rate used reflects earnings-based return

$$Y_o = R_o + \Delta_n^{(an)} - .0025$$

$$R_o = \exp(-1.1283 * \ln(\text{income psf}))$$

$$\Delta_n^{(an)} = .002682509 + .014006 * \ln(\text{income psf})$$

Example: income psf = **\$17.49***

$$R_o = \exp(-1.1283 * \ln(17.49)) * 100 = 3.96\%$$

$$\Delta_n^{(an)} = (.002682509 + .014006 * \ln(17.49)) * 100 = 4.28\%$$

$$Y_o = 3.96\% + 4.28\% - .25\% = \mathbf{7.99\%}$$

* FY17 Guidelines Post-1973 Rental Elevator Building Outer Borough

**FY17 Capitalization Rate Methodology
Tax Class 4**

Major Building Category	Flat Cap Rate Adjustment to FY16
INDUSTRIAL	-0.20%
LOFTS	-0.30%
OFFICE	-0.50%
RETAIL – Manhattan/Downtown Brooklyn	0.00%
RETAIL – Outer Boroughs	-0.50%

- Capitalization Rate are given a flat rate adjustment from FY16