

A low-angle, upward-looking photograph of several tall skyscrapers in a city, creating a sense of height and urban density. The image is overlaid with a dark blue tint.

Trepp[®]

2024 VAAO Annual Conference

October 15, 2024

Presentation Agenda & Speaker Information

Trepp®



CRE Headlines & News



National Market Overview



Office Property Sector



Hotel Property Sector



Self Storage Property Sector



Multi-Family Property Sector



Matt Gersemehl, AAS
Head of Valuation & Advisory

- Designated Member of International Association of Assessing Officers
- Assessment Administration Specialist (AAS), 2022
- Certified General Real Estate Appraiser
- Licensed Real Estate Broker
- Senior Accredited Minnesota Assessor
- Former City of Bloomington, MN Assessor 2009-2022
- Former Chair of the State Board of Assessors, MN 2022
- Qualified Expert Witness, MN
- Commercial Real Estate Degree, Saint Cloud State University, 2002

CRE Headlines & News

Commercial Property Stress Forces Blackstone Mortgage REIT to Cut Dividend

- BXMT to repurchase \$150 million shares to blunt dividend news
- Muddy Waters' Carson Block shorted the trust in December

Downtown Offices Are Toxic. Suburban Ones Are Surviving.

By Carol Ryan

A Real-Estate Fund Industry Is Bleeding Billions After Starwood Capped Withdrawals

By Peter Grant

The D.C. Office Market Is in Trouble—No Matter Who Wins the Election

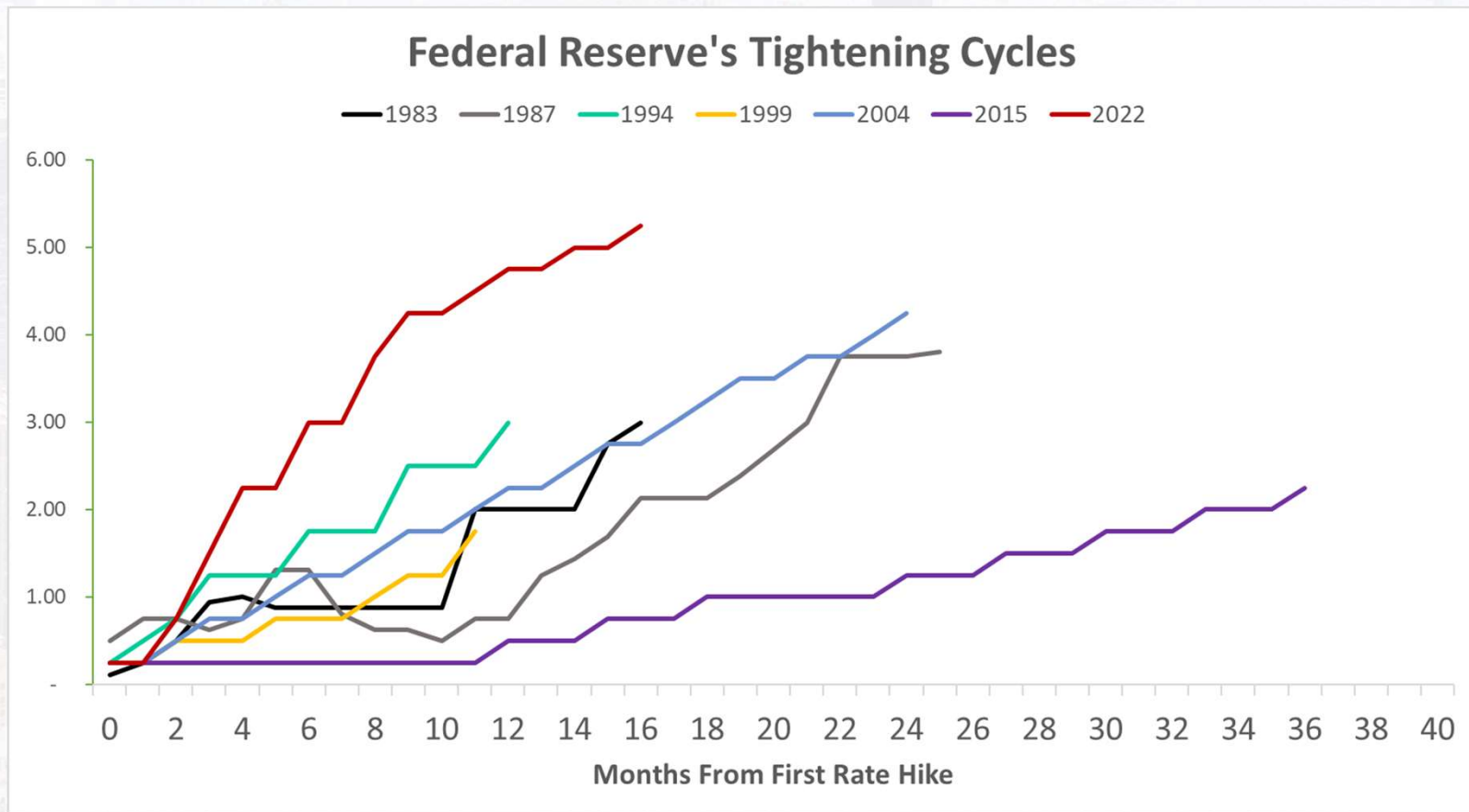
The Biden administration has struggled to get members of the federal workforce back to the office on a more regular basis.

By Peter Grant

Have Not Yet Lent To 'Regular' US Office Buildings: BGO Co-CEO

BGO Co-CEO Sonny Kalsi says "Office has been decimated and it continues to suffer." In an interview with Bloomberg's Abigail Doolittle, he said his company has not yet lent to "regular" office buildings in the US. (Source: Bloomberg)

CRE Headlines & News



National CRE Market Overview

CMBS Delinquency Rates – Sept 2024

	SEP-24	AUG-24	JUL-24	3 MO	6 MO	12 MO
Overall	5.70	5.44	5.43	5.35	4.67	4.39
Industrial	0.32	0.50	0.64	0.62	0.47	0.30
Lodging	6.23	5.91	6.17	6.32	5.45	5.27
Multifamily	3.33	3.30	2.63	2.36	1.84	1.85
Office	8.36	7.97	8.09	7.55	6.58	5.58
Retail	7.07	6.21	6.14	6.42	5.56	6.92

Source: Trepp

Delinquency Trends



10.34%

Peak Delinquency Rate (July 2012)



5.70%

Overall Delinquency Rate (September 2024)



4.39%

Overall Delinquency Rate (September 2023)

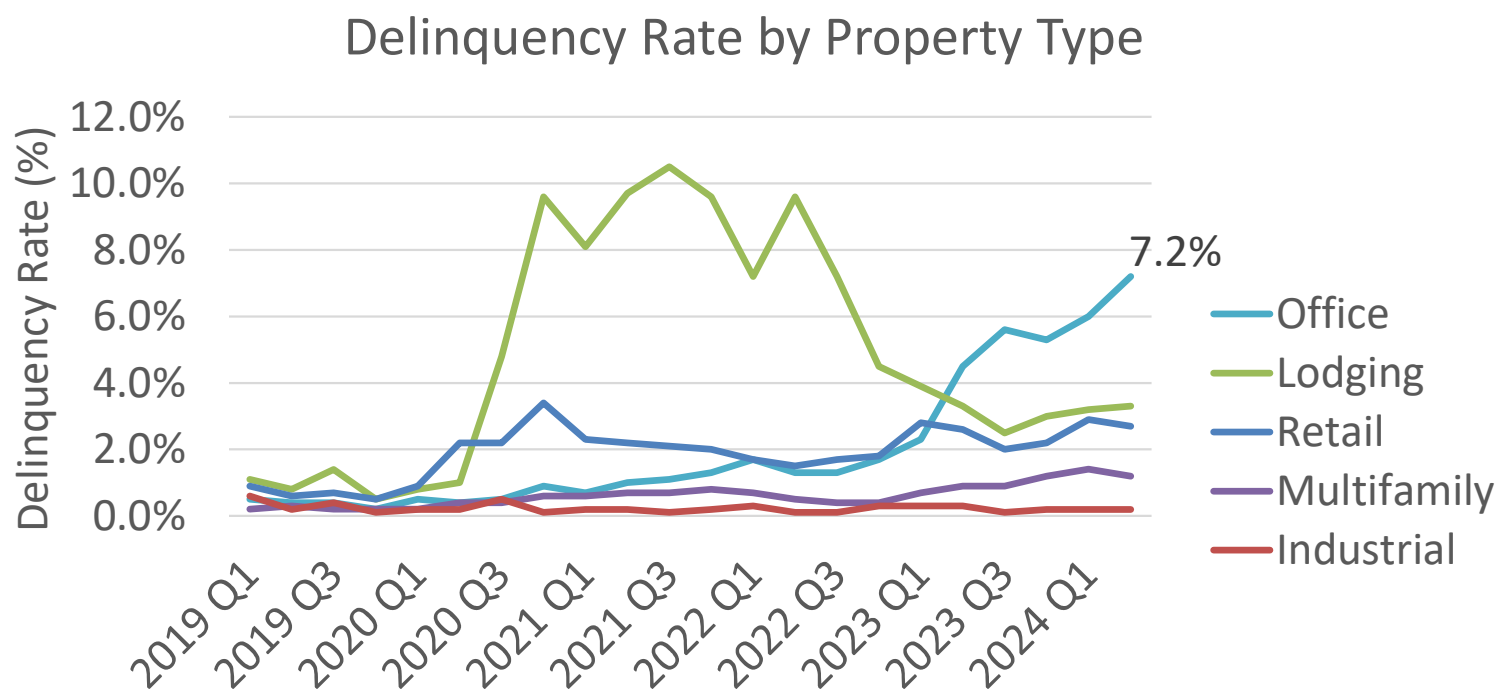


8.36%

Office Delinquency Rate (September 2024)

National CRE Market Overview

- Bank Loan Delinquency Rates

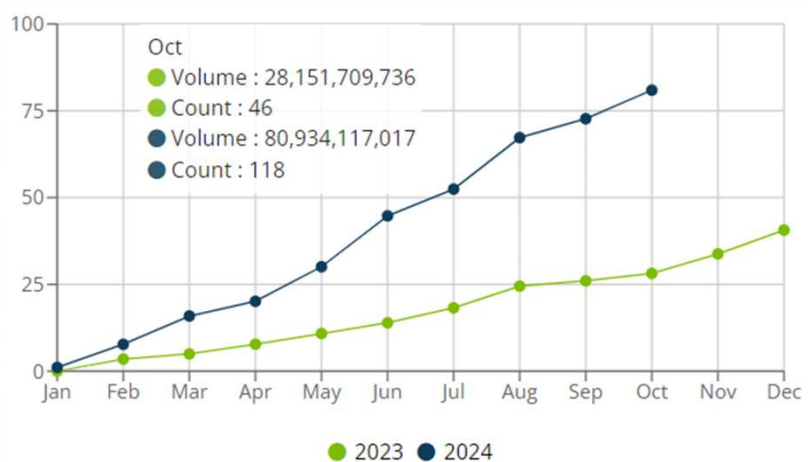


Source: Trepp T-ALLR

National CRE Market Overview

- CMBS Issuance (Conduit, Large Loan, Single-Asset, Single Borrower)

Yearly Volume Comparison



CMBS Issuance 2024 YTD	Count	Amount	WA % Office
Single Borrower	83	\$52.41bn	7.9
Conduit	24	\$24.43bn	15.9
Large Loan	7	\$4.09bn	0.0

National CRE Market Overview

- Agency Issuance (Fannie Mae, Freddie Mac & Ginnie Mae)

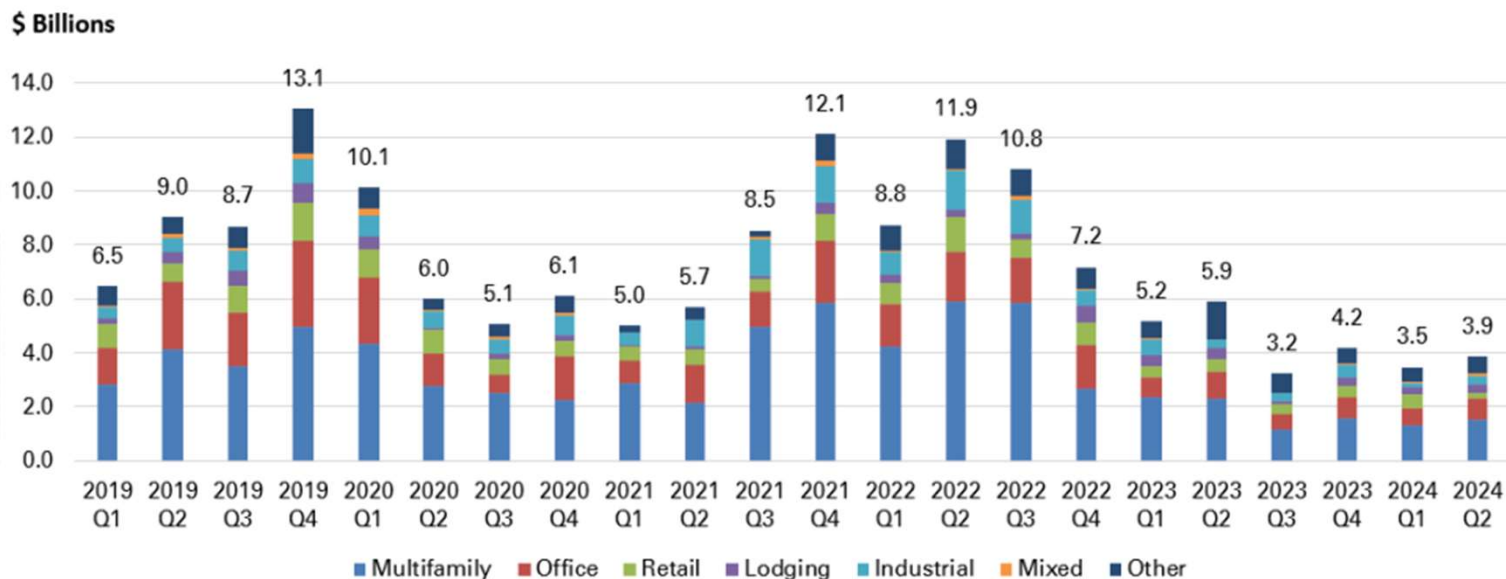
Yearly Volume Comparison



CMBS Issuance 2024 YTD	Count	Amount	WA % LTV
Fannie Mae	4	\$1.74bn	59.2%
Freddie Mac	30	\$20.57bn	59.8%
Ginnie Mae	53	\$6.92bn	--

National CRE Market Overview

Bank CRE Loan Originations

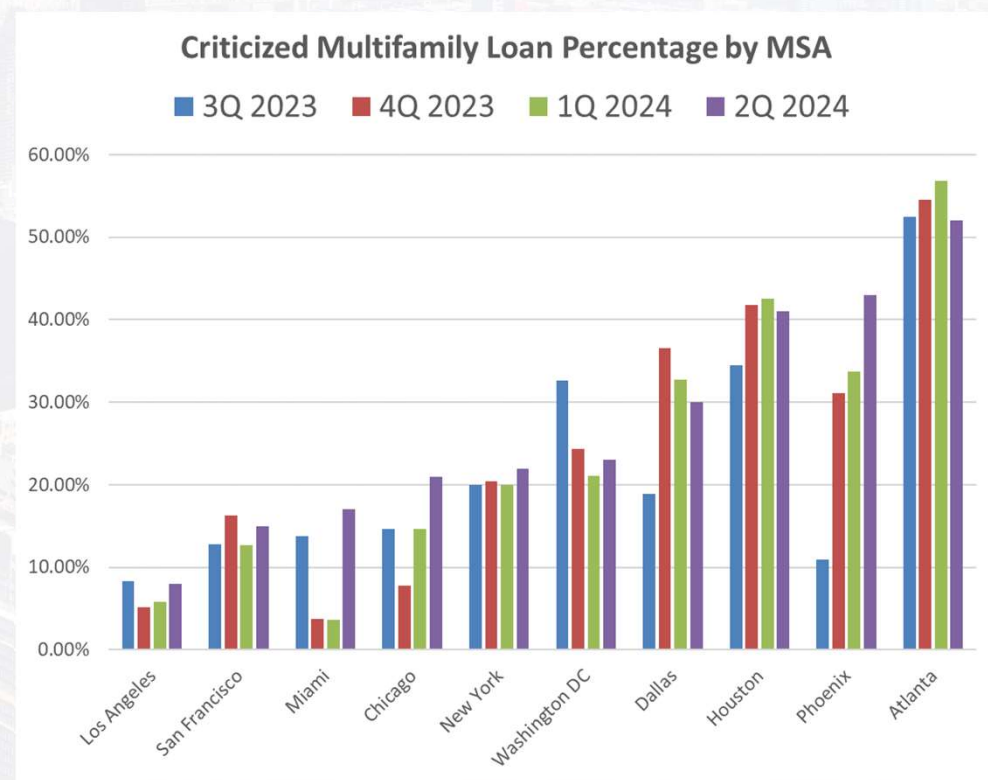
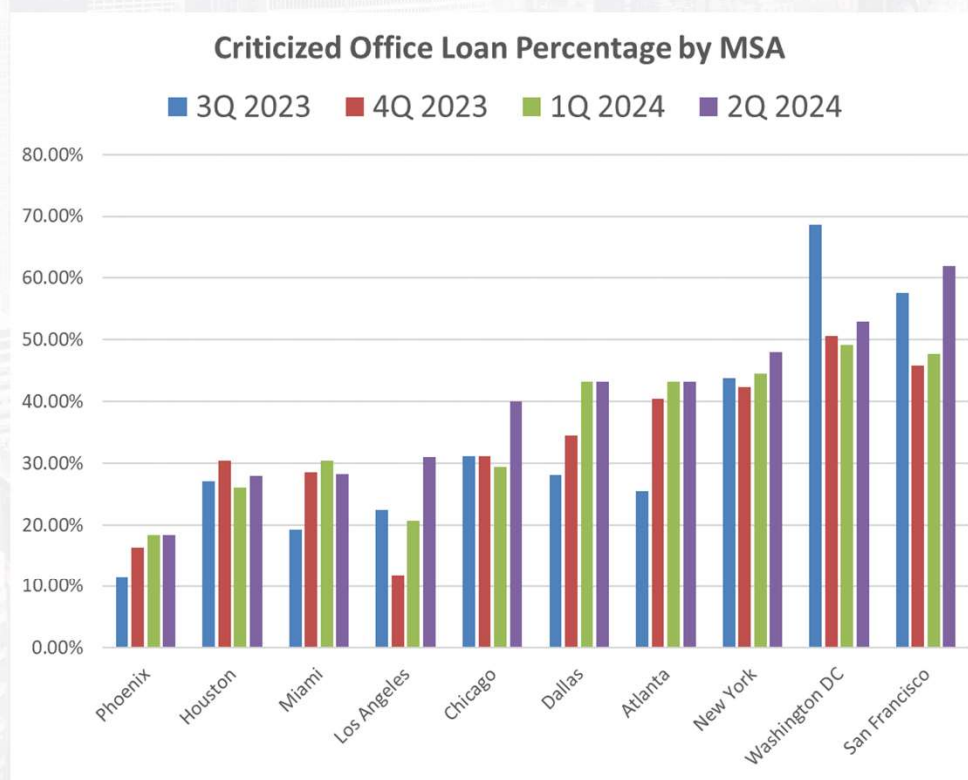


	Q2 '24 relative to 2019 Average
Multifamily	-61%
Office	-65%
Retail	-78%
Lodging	-39%
Industrial	-52%
Total	-58%

Source: Trepp T-ALLR

National CRE Market Overview

- Criticized Bank CRE Loans



National CRE Market Overview

- 100 Largest Bank Holding Companies by CRE Exposure

Bank	Office Exposure as of 2Q'24 (% of CRE Portfolio)	Office ACL Coverage Ratio as of 2Q'24	CRE Loans as of 1Q 2024 (billions)	Total Assets as of 1Q 2024 (billions)	CRE Portfolio Size	Average Office Exposure (% of CRE Portfolio)
Wells Fargo	20.7%	11.1%	\$135.13	\$1,959.16	\$30+bn	19%
Bank of America	23.0%		\$78.46	\$3,273.80	\$15bn to \$30bn	14%
Truist	15.0%	9.7%	\$51.97	\$534.96	\$10bn to \$15bn	14%
U.S. Bancorp	13.0%	10+%	\$50.19	\$683.61	up to \$10bn	15%
PNC	29.3%	10.3%	\$45.16	\$566.18		
Citizens Financial Group	19.8%	11.1%	\$31.90	\$220.86		
TD Bank Group	11.0%		\$30.75	\$530.32		
BMO	10.9%		\$28.54	\$295.58		
First Horizon	19.0%		\$23.01	\$81.80		
Webster Financial Corporation	8.9%		\$21.85	\$76.16		

National CRE Market Overview

CMBS Losses by Vintage

Deal Losses by Vintage and Original Rating Bucket (% of Vintage by Number of Bonds)											
	AAA	AA	A	BBB	BB	B	CCC	CC	C	D	na
1999				2%	20%	34%	2%				22%
2000			5%	10%	48%	24%					2%
2001			2%	22%	30%	16%	2%				10%
2002			2%	17%	19%	27%	4%				13%
2003				12%	28%	18%					22%
2004		5%	4%	31%	21%	12%					9%
2005	5%	7%	12%	47%	7%	3%					1%
2006	24%	18%	25%	16%	5%	1%					1%
2007	36%	18%	17%	14%	9%						
2008	56%	22%	11%	11%							
2009				50%							
2010				18%	6%						24%
2011				17%		3%					45%
2012			2%	4%	7%	4%					35%
2013			1%		2%	2%					36%
2014				5%	7%	10%					34%
2015	1%			2%		5%					40%
2016				1%	2%	3%					38%
2017				2%	2%	9%					19%
2018				3%	3%	5%					21%
2019				1%	4%	7%					10%
2020					1%						6%
2021					1%	1%					3%
2022											1%
2023					2%						

National CRE Market Overview

CMBS Losses by Vintage

Origination Year	Balance Current	# of Loans Current	Delinquency %			Delinquency + Perf. SS %		
			Jun-2024	Dec-2023	Change ('24 - '23)	Jun-2024	Dec-2023	Change ('24 - '23)
2023	\$34.86bn	688	0.87	0.18	0.69	0.9	0.18	0.72
2022	\$52.71bn	1,040	0.3	0.2	0.1	1.35	0.59	0.76
2021	\$112.89bn	2,076	2.15	1.92	0.23	3.65	3.4	0.25
2020	\$36.95bn	1,124	1.87	2.38	-0.51	2.05	2.56	-0.51
2019	\$75.63bn	2,654	4.38	3.21	1.17	9.66	4.83	4.83
2018	\$51.71bn	2,019	7.51	6.38	1.13	10.52	11.66	-1.14
2017	\$51.18bn	2,068	4.7	3	1.7	10.5	5.73	4.77
2016	\$38.88bn	1,779	9.19	7.68	1.51	9.93	9.42	0.51
2015	\$48.46bn	2,847	5.97	5.01	0.96	7.97	7.77	0.2
2014	\$31.82bn	1,308	14.96	7.79	7.17	28.23	16.28	11.95
2013	\$10.55bn	181	27.9	32.97	-5.07	45.54	40.44	5.1
2012	\$5.44bn	64	20.45	19.49	0.96	25.57	29.3	-3.73
2011	\$1.63bn	24	39.51	32.74	6.77	75.42	40.53	34.89
2010	\$0.32bn	8	31.3	35.85	-4.55	57.49	57.72	-0.23

National CRE Market Overview

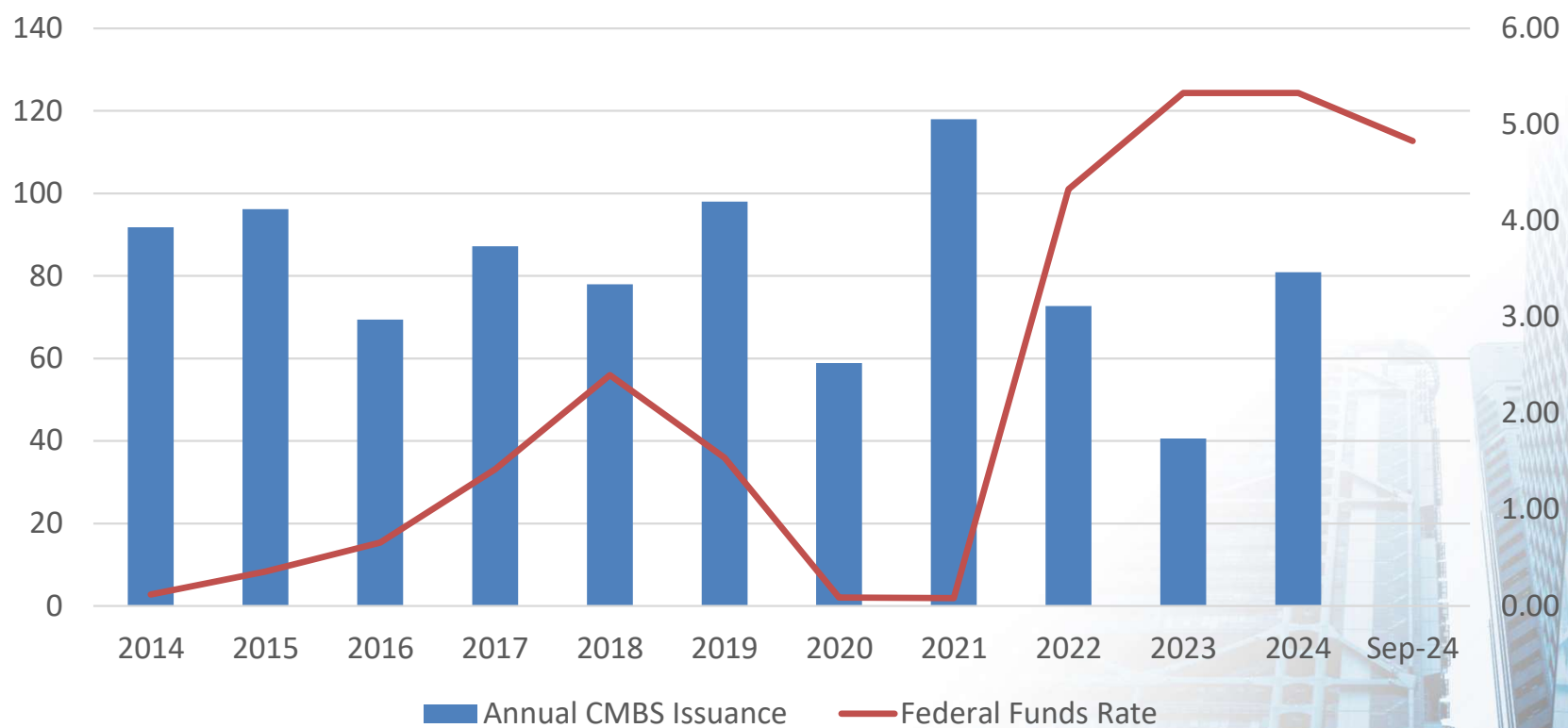
Modifications

Property Type	June Extended Debt
Mixed Use	\$497,222,919
Office	\$220,219,165
Retail	\$56,971,959
Multifamily	\$3,023,383
Total	\$777,437,425

Cure

Property Type	\$ June Cured Debt
Office	\$744,000,757
Retail	\$319,875,747
Multifamily	\$147,423,269
Mixed Use	\$235,639,392
Lodging	\$121,379,301
Industrial	\$13,751,693
Other	\$4,324,555
Mobile Homes	\$2,654,370
Total	\$1,589,049,084

CMBS Issuances Impacted by Higher Interest Rates



T-ALLR Mortgage Underwriting Terms

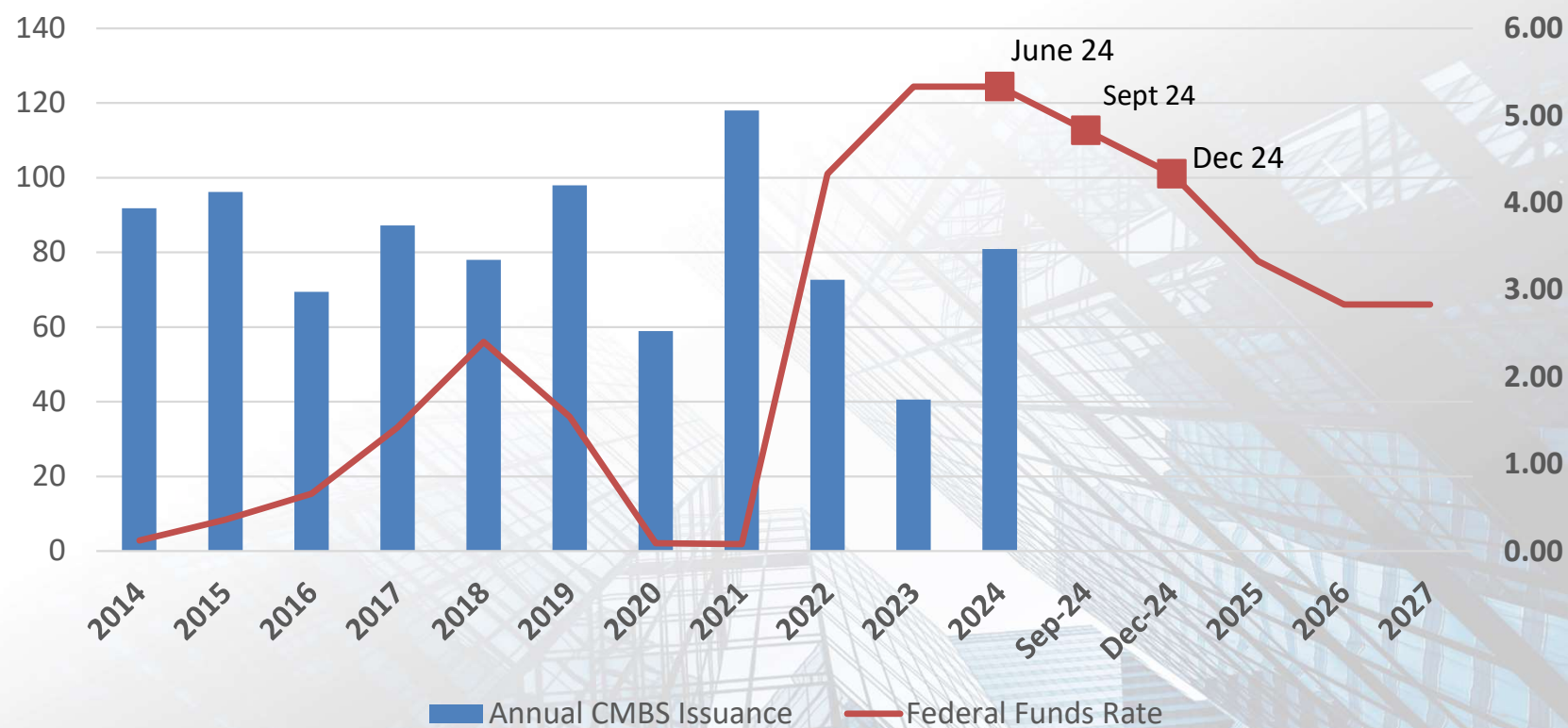
**Mortgage Underwriting Terms by Property Type
(4Q 2021 vs 3Q 2023)**

	Then - 4Q 2021				Now - 3Q 2023				
	LTV	DSCR	Rate	Term (Yrs)	LTV	DSCR	Rate	Term (Yrs)	
Multifamily	64.8	1.49	3.05%	10	Multifamily	56.6	1.26	6.51%	5
Office	65.2	1.99	2.70%	5	Office	47	1.42	7.57%	3
Retail	59.5	1.83	3.25%	5	Retail	44.2	1.54	7.20%	5
Industrial	55.9	1.95	3.05%	5	Industrial	44.6	1.17	6.95%	5
Lodging	54.1	3.15	3.38%	3	Lodging	26	2.24	7.83%	3
Mixed Use	39.1	2.2	2.70%	4	Mixed Use	23.8	---	3.50%	2

Source: Trepp T-ALLR

Underwriting has become more conservative, with lower loan-to-value ratios than at the end of 2021. But higher interest rates have resulted in lower underwritten debt-service coverage ratios. In some cases, particularly for retail, office and hotel loans, median rates have more than doubled. And lenders generally have reduced the terms of loans they wrote.

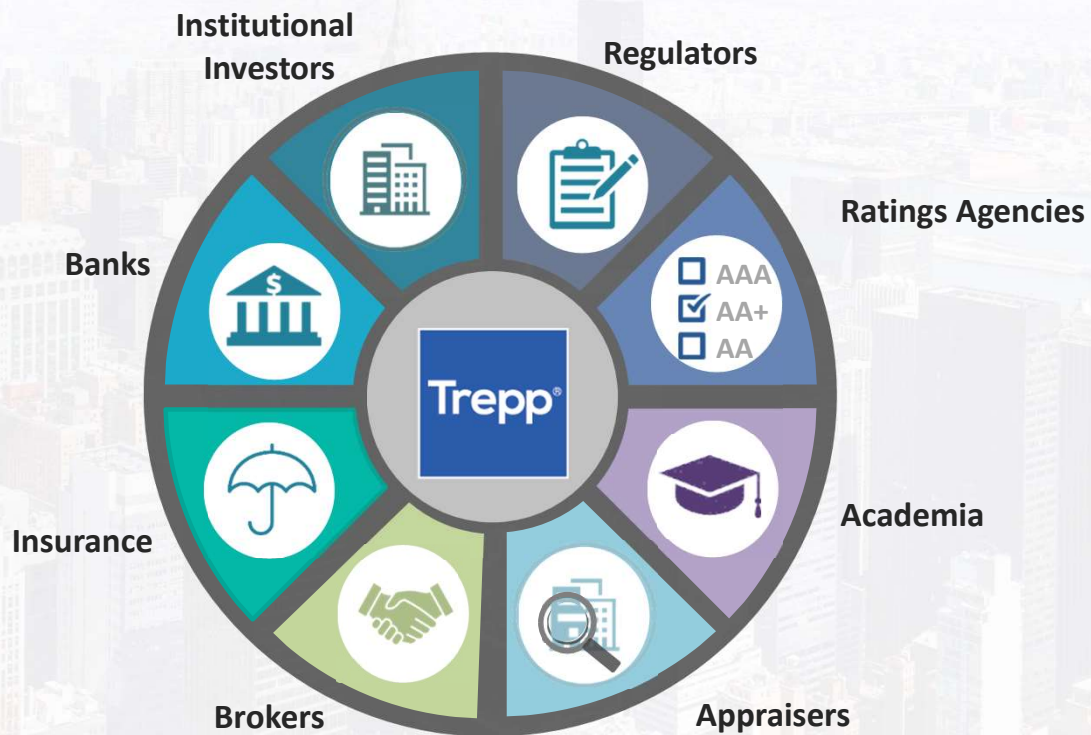
CMBS Issuances Impacted by Higher Interest Rates



What does Trepp do?

- Combines many information streams into a single interface
- Tracks the securitized debt market including:
 - CMBS, Fannie Mae, Freddie Mac, CRE-CLO
 - Also tracks – FHA, Ginnie Mae
- Identifies patterns and trends within the CRE landscape
- Tracks individual property-level financial performance

Our Clients



More than 1,000 firms are *powered by Trepp.*

A Trusted Name

<p>Market Clarity</p> <p>Largest commercially available CRE database containing detailed, historical information on deals, loans, and properties. Detailed bank ratings, loan scores, and market trends.</p>	<p>Thought Leadership</p> <p>Widely cited and quoted as the industry standard for information and analytics in the structured finance, commercial real estate, and banking sectors.</p>	<p>Proven Solutions</p> <p>Trepp has built forward-looking models and analytics to assess, measure and forecast capital performance. Our data and models cover multiple financial cycles.</p>	<p>Comprehensive Data</p> <p>Data coverage includes: Global CMBS deals, Agency deals, Commercial Real Estate backed CLOs; European and U.S. CLOs; U.S. bank-contributed data, bank ratings and call reports.</p>
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When reporting on the structured finance, banking, or CRE industries, the press relies on Trepp...

WALL STREET JOURNAL

AMERICAN BANKER

REUTERS

Bloomberg

The New York Times

20+

Years of Research

\$1 Trillion

in Securities Data

140,000+

CRE Loans Tracked

6,000

Bank Ratings & Rankings

1,000

Firms Powered by Trepp

Public Perception of the Assessment Process

Public Perception:

- Assessor's values are error prone
- Assessors don't understand the real nuance of property valuation
- There is no way property tax assessments can be accurate & uniform especially when facing a changing market conditions

Real Challenges Assessors Face:

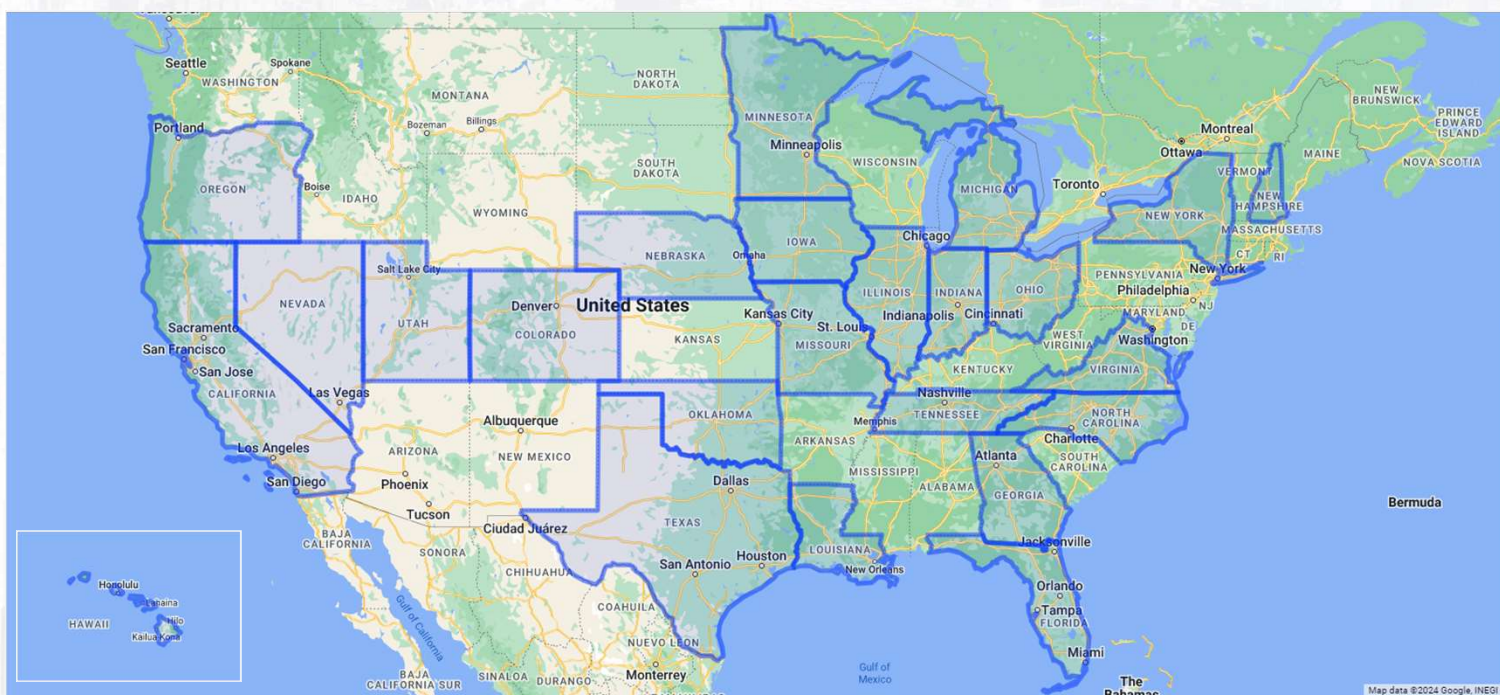
- Limited (verified) commercial property income and expense data
- Challenges with technology, preventing assessor's from using third party data side by side with their own data
- Never having enough time or staff
- Not being able to quantify the impacts of changing market conditions on assessed values from a macro and individual property perspective
- Property owners/tax agents/attorneys supplying actual income/expense data for properties that have a case of "bad actuals" with no way to refute with actual stabilized income and expense data



Trepp & Assessors

Trepp's expansion in this sector over the past 7 years.

24 states coast to coast clients in very diverse assessment regulations.



CMBS Definition

- Commercial Mortgage-Backed Securities
 - Financial instruments backed by commercial real estate loans, pooled together and sold to investors.
 - Bonds or securities backed by income-producing real estate loans.
 - Investors receive payments from underlying loans (e.g., business or property owner payments).
 - Enables participation in the real estate market without direct property ownership.

FINANCIAL INSTITUTIONS REFORM, RECOVERY AND ENFORCEMENT ACT OF 1989

SEC. 1101. PURPOSE

The purpose of this title is to provide that Federal financial and public policy interests in real estate related transactions will be protected by requiring that real estate appraisals utilized in connection with federally related transactions are performed in writing, in accordance with uniform standards, by individuals whose competency has been demonstrated and whose professional conduct will be subject to effective supervision.

(4) **FEDERALLY RELATED TRANSACTION** - The term 'federally related transaction' means any real estate-related financial transaction which -

- (A) a federal financial institutions regulatory agency or the Resolution Trust Corporation engages in, contracts for, or regulates; and
- (B) requires the services of an appraiser.

(5) **REAL ESTATE RELATED FINANCIAL TRANSACTION** - The term 'real estate-related financial transaction' means any transaction involving--

- (A) the sale, lease, purchase, investment in or exchange of real property, including interests in property, or the financing thereof;
- (B) the refinancing of real property or interests in real property; and
- (C) the use of real property or interests in property as security for a loan or investment, including mortgage-backed securities.

Commercial Real Estate Finance Council – Investor Reporting Package

CREFC Investor Reporting Package
Master Coding Matrix

	Multi Family Single Family	Multi Family Multi Family	Multi Family Mobile Home Co-op	Commercial Office	Commercial Retail	Commercial Industrial Warehouse	Commercial Mixed Use	Commercial Self Storage	Lodging Lodging	Health Care Health Care
Revenue Legend										
GPR	x	x	x	x	x	x	x	x		x
VAC	x	x	x	x	x	x	x	x		x
BR	x	x	x	x	x	x	x	x		
ER				x	x	x	x			
PR					x		x			
LV	x	x	x							
PI	x	x		x	x		x			
OI	x	x	x	x	x	x	x	x	x	x
RMRV									x	
FBV									x	
TLRV									x	
ODR									x	
PRI										x
MED										x
NUR										x
MLS										x

State of the CRE Market - Virginia



Data Center News

Amazon snags largest Fairfax County data center campus yet



Starwood's planned Renaissance Tech Park on Redskin Drive in Herndon. PENNONI ASSOCIATES INC. / FAIRFAX COUNTY

This data center hyperscaler is looking for 'runway' in Virginia – but not necessarily Northern Virginia



By Dan Brendel – Staff Reporter, Washington Business Journal
Sep 25, 2024 Updated Sep 25, 2024 9:39am EDT

Google investing \$1B in Va. data center campuses

Tech giant has two sites in Loudoun, one in Prince William

PUBLISHED APRIL 26, 2024 BY KATHERINE SCHULTE

Peterson Cos. wins approval for huge data center campus in Stafford County



By Dan Brendel – Staff Reporter, Washington Business Journal
Sep 18, 2024 Updated Sep 19, 2024 9:34am EDT

Amazon acquires part of controversial data center development site in Manassas



By Dan Brendel – Staff Reporter, Washington Business Journal
Sep 3, 2024 Updated Sep 3, 2024 5:25pm EDT

Joint venture to build CoreWeave data center in Chesterfield

By Drew Hansen - Assistant Managing Editor
September 04, 2024, 09:33am EDT

Dominion connected 15 data centers totaling 933MW in Virginia in 2023, 15 more expected in 2024

Utilities and transmission networks across the US seeing growth in capacity demand from data centers

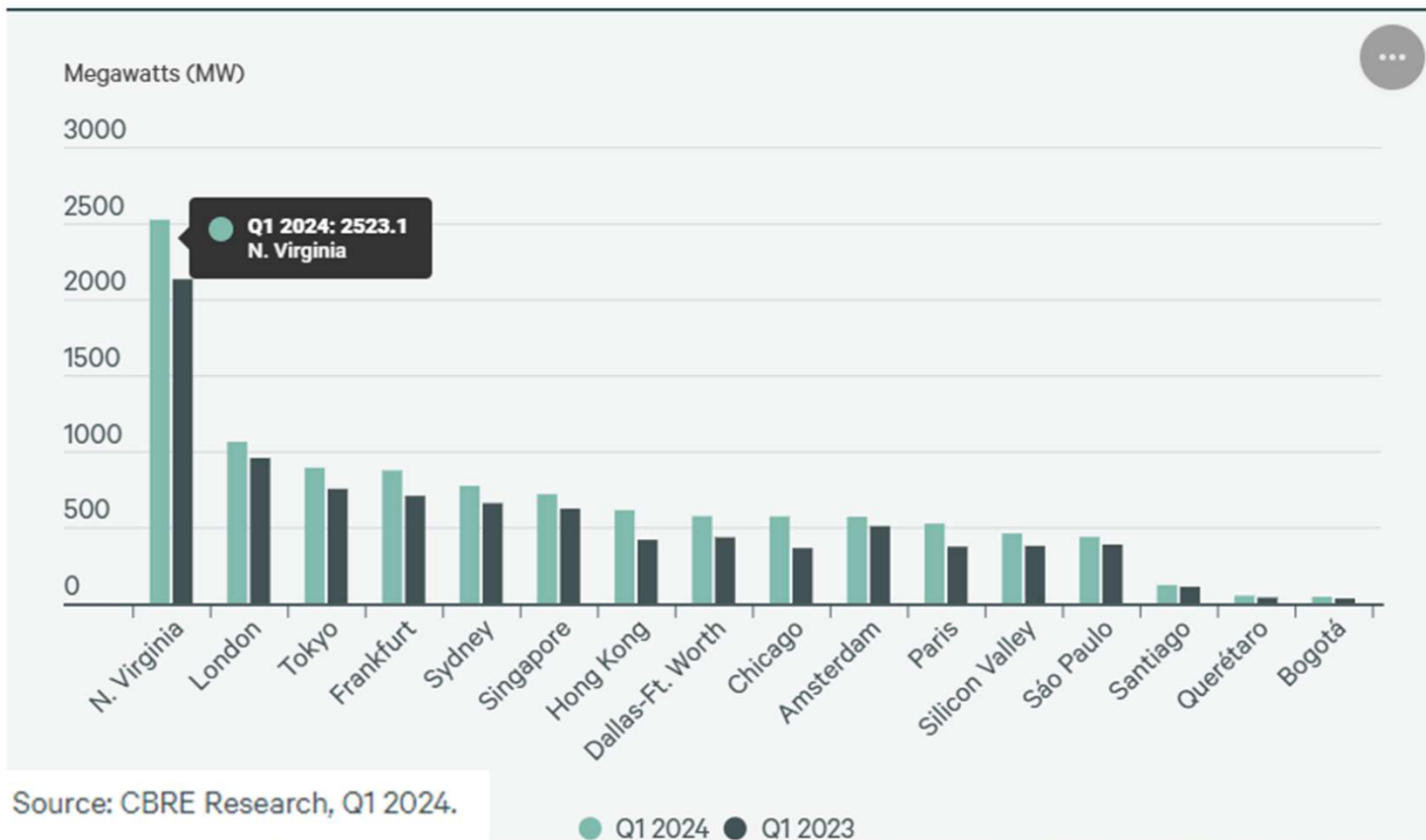
May 03, 2024 By: Dan Swinhoe 1 Comment



By Michael Neibauer – Managing Editor, Washington Business Journal
Sep 27, 2024 Updated Sep 27, 2024 2:58pm EDT

Data Center Market Overview

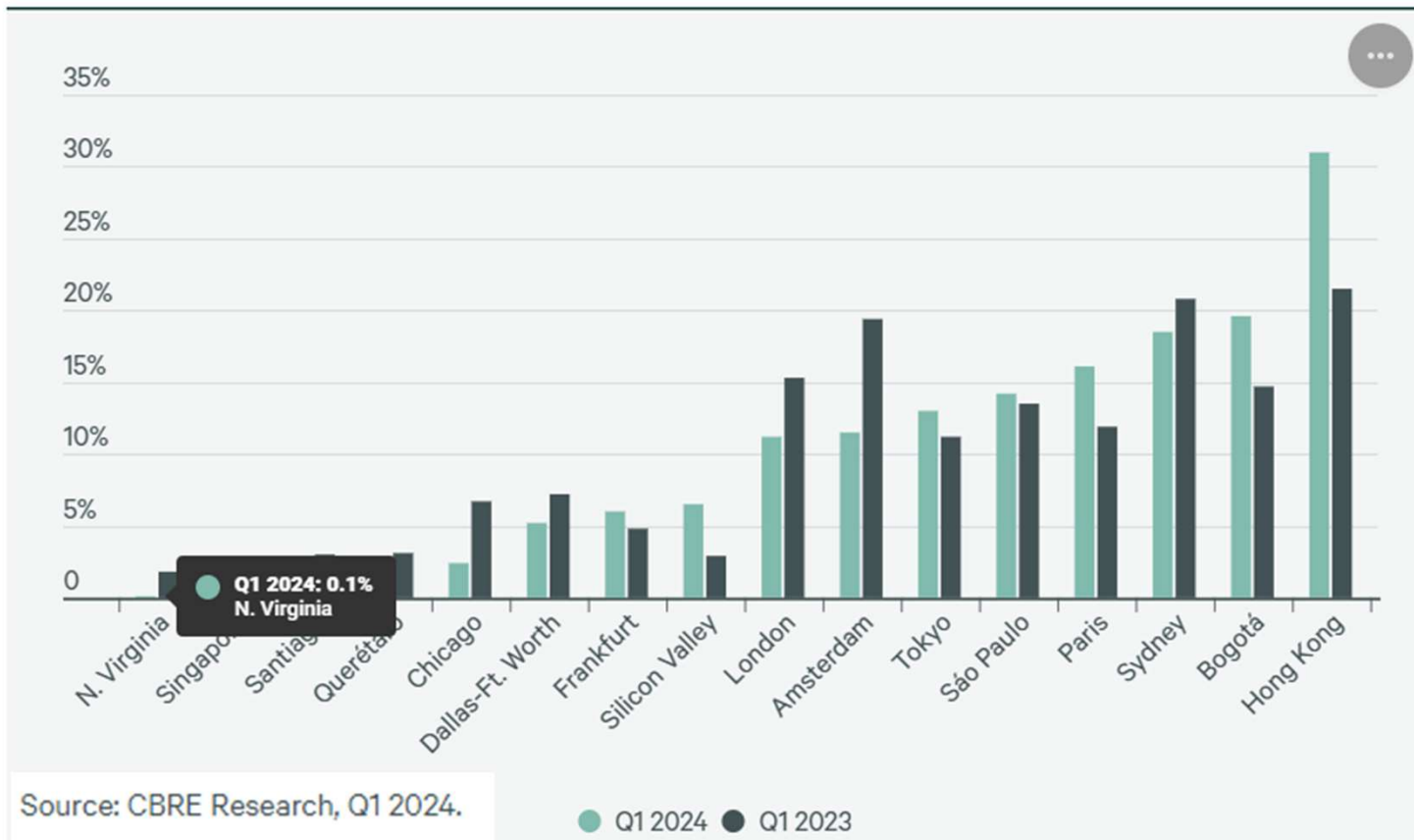
Figure 1: Data Center Inventory by Market



Source: CBRE Research, Q1 2024.

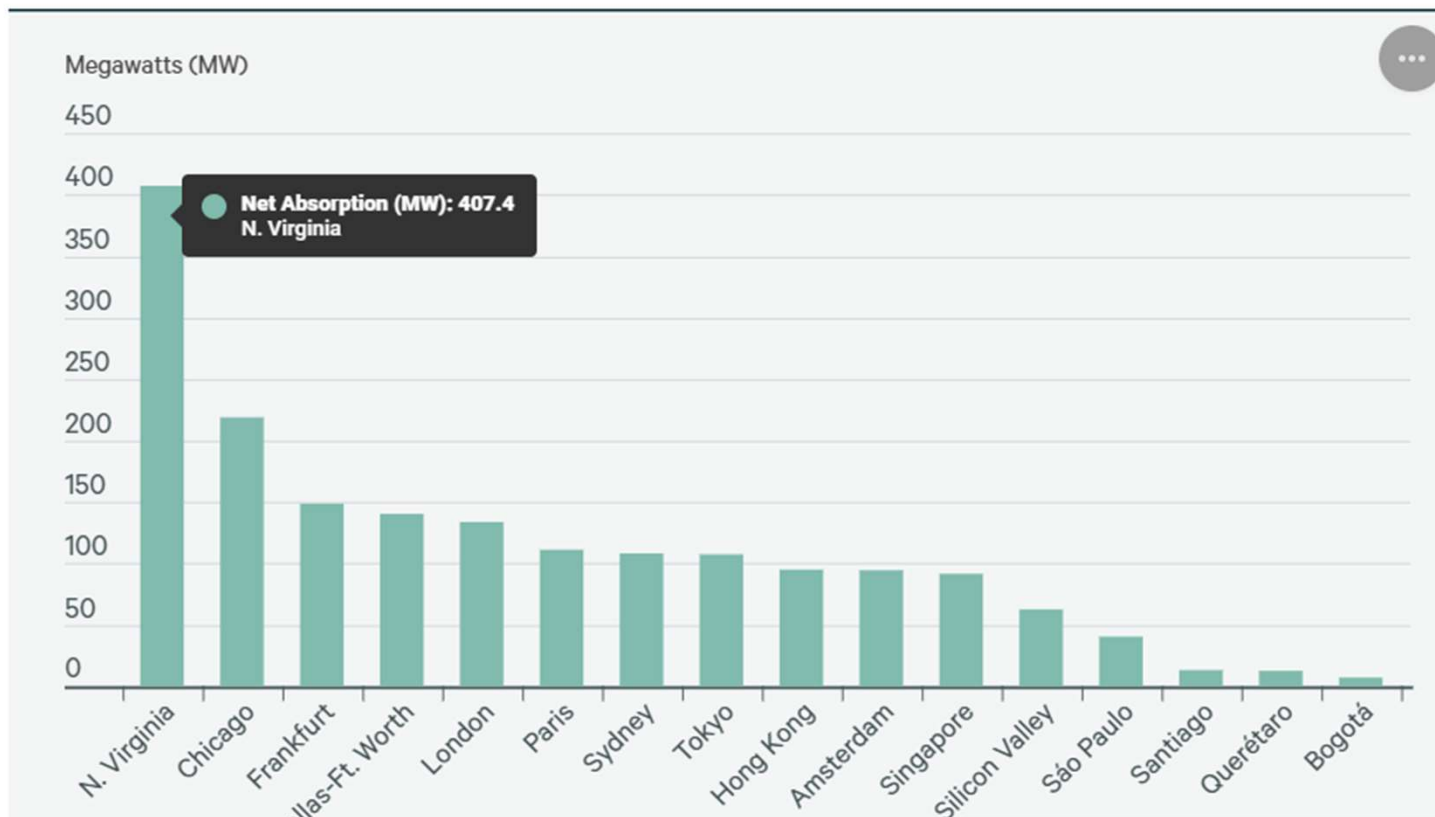
Data Center Market Overview

Figure 2: Data Center Vacancy Rate by Market



Data Center Market Overview

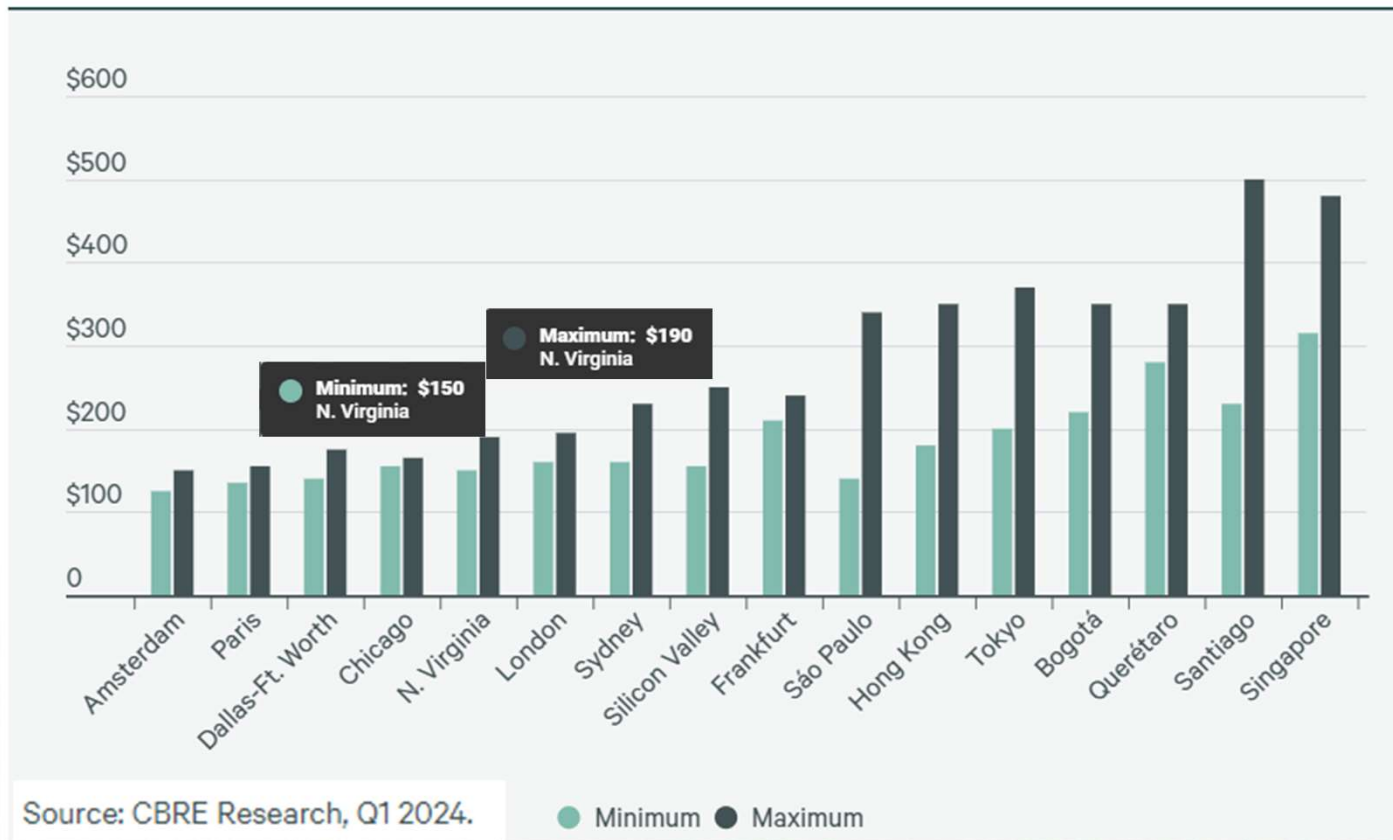
Figure 3: Data Center Net Absorption by Market, Q1 2023 to Q1 2024



Source: CBRE Research, Q1 2024.

Data Center Statistics

Figure 4: Monthly Pricing Range for 250-500kW (Min-Max) \$USD Without Electricity Cost



Data Center Recent Origination



PROPERTY OVERVIEWS – ASH3DC2: 22271 SHELLHORN ROAD

Origination Date	6/1/2024
Sponsor	Blackstone
Location	Ashburn 3DC2
Senior Loan Amount	436,200,000
Total Capacity (MW)	43.0
Leased Capacity (MW)	43.0
Leased % (MW)	100.0%
Loan Per MW	\$10,144,186
Number of Customers	6
% Investment Grade	82.3%
Appraisal Date	4/18/2024
Property Value (millions)	\$685
Property Value per MW	\$15.93
LTV	63.7%
WALT (Yrs)	5.9
UW Data Center Rent (millions)	\$45.10
UW Data Center Rent/kW/month	\$104.88
UW NOI (millions)	\$42.60
Cap Rate	6.22%
UW NOI Multiple	16.1

Data Center Valuation Metrics

	Cap Rates at Underwriting		NOI Multiple	
	Range	Average	Range	Average
2024	6.07% - 6.73%	6.34%	14.9 – 16.5	15.8
2023	5.96% - 7.28%	6.71%	13.7 – 16.8	15.2
2022	3.86% - 6.55%	5.09%	16.1 – 26.5	20.8
2021	5.36% - 6.81%	5.87%	14.7 – 18.7	15.0



Virginia Office Market Sector

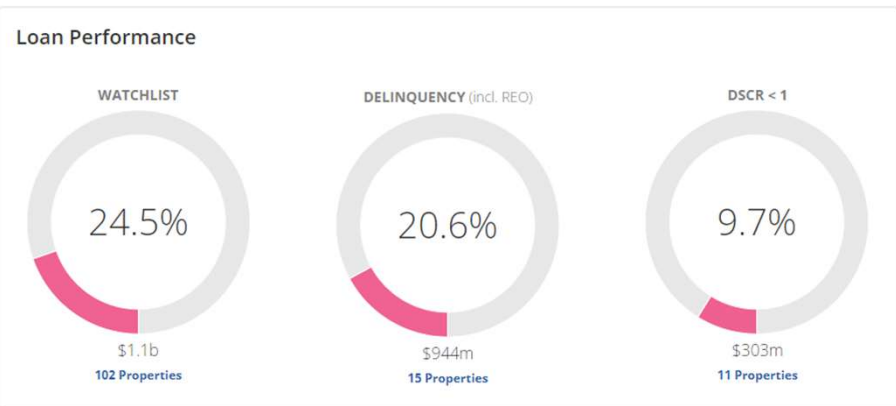
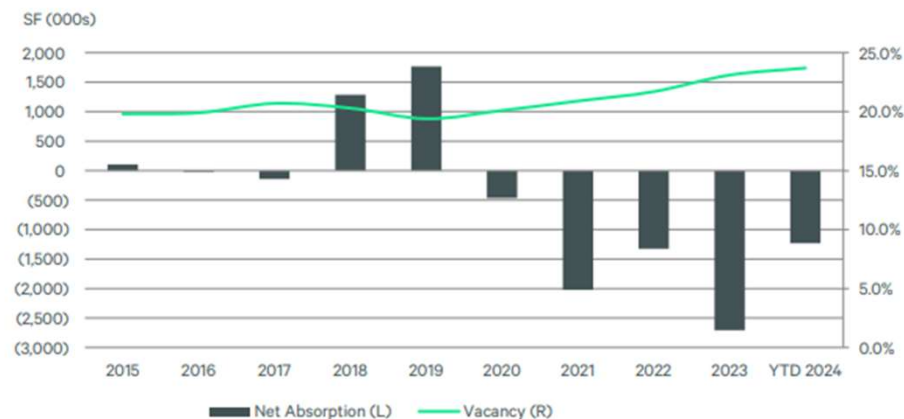


FIGURE 1: Historical Supply & Demand Dynamics



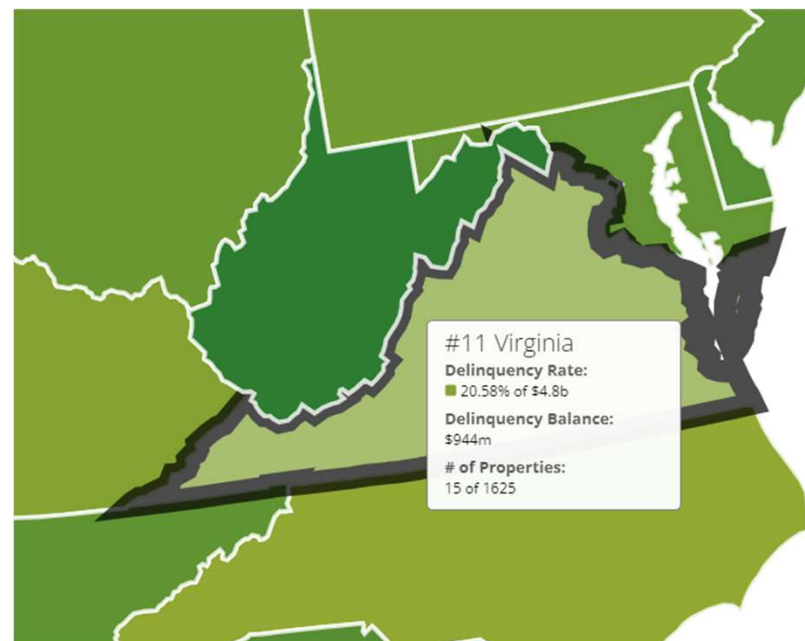
Source: CBRE

Income & Expense Benchmark	2022			2023		
	WAvg \$/Sq Ft	% Rev	# Prop	WAvg \$/Sq Ft	% Rev	# Prop
Total Revenues	38.33	100.00	137	42.13	100.00	125
Total Operating Expenses	13.05	34.05	137	14.90	35.35	125
NOI	25.28	65.95	137	27.24	64.65	125

MSA Office - Delinquency

MSA Ranking Filter results Top 10 Top 25 Top 50 All

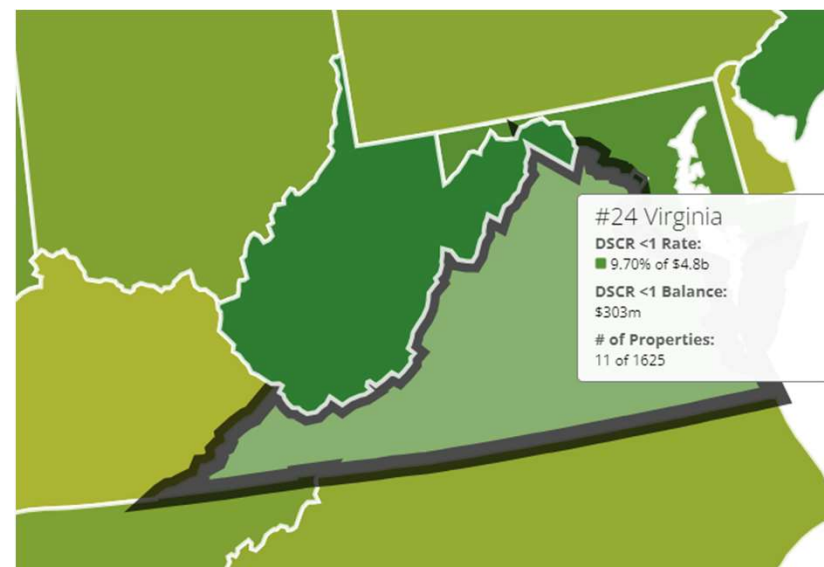
Rank	MSA	Delinquency ↓
42	Philadelphia-Camden-Wilmington, PA-NJ-DE-MD	18.82%
46	Washington-Arlington-Alexandria, DC-VA-MD-WV	16.34%
64	Raleigh, NC	5.11%
65	Charleston-North Charleston, SC	4.94%
66	New York-Newark-Jersey City, NY-NJ-PA	4.89%
95	Virginia Beach-Norfolk-Newport News, VA-NC	-
99	Richmond, VA	-
National (All)		8.58%



MSA Office - DSCR

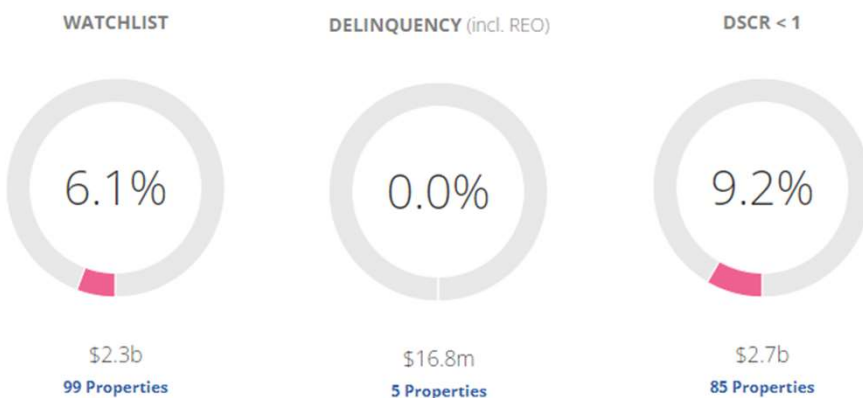
MSA Ranking ? Top 10 Top 25 Top 50 All

Rank	MSA	DSCR <1 ↓
13	Raleigh, NC	35.42%
22	Philadelphia-Camden-Wilmington, PA-NJ-DE-MD	26.64%
29	Charlotte-Concord-Gastonia, NC-SC	23.19%
47	New York-Newark-Jersey City, NY-NJ-PA	10.73%
51	Washington-Arlington-Alexandria, DC-VA-MD-WV	8.46%
54	Virginia Beach-Norfolk-Newport News, VA-NC	7.92%
73	Richmond, VA	2.53%
National (All)		12.73%



Virginia Multi-Family Sector

Loan Performance



Date	WA Cap Rate (NOI)	WA LTV
2022 Q2	4.318	61.08
2022 Q3	4.517	62.32
2022 Q4	4.633	58.42
2023 Q1	4.899	58.54
2023 Q2	5.228	65.01
2023 Q3	5.727	60.48
2023 Q4	6.121	63.31
2024 Q1	6.085	65.67
2024 Q2	5.501	61.63
2024 Q3	5.790	58.57

Income & Expense Benchmark	2022			2023		
	WAvg \$/Unit	% Rev	# Prop	WAvg \$/Unit	% Rev	# Prop
Total Revenues	17,167.70	100.00	363	18,620.25	100.00	346
Total Operating Expenses	7,178.57	41.81	363	7,768.74	41.72	346
NOI	9,989.12	58.19	363	10,851.51	58.28	346

Virginia Multi Family Insurance Costs

OPERATING EXPENSES	2022			2023		
	WAvg \$/Unit	% Rev	# Prop	WAvg \$/Unit	% Rev	# Prop
Real Estate Taxes	1,583.83	9.23	360	1,733.50	9.31	344
Property Insurance	424.94	2.48	360	558.97	3.00	345
Utilities	1,143.64	6.66	361	1,199.89	6.44	344
Repairs and Maintenance	1,018.86	5.93	361	1,106.80	5.94	344
Management Fees	591.31	3.44	359	639.03	3.43	345
Payroll & Benefits	1,629.67	9.49	334	1,750.52	9.40	313
Advertisement & Marketing	165.02	0.96	325	188.18	1.01	311
Professional Fee	67.99	0.40	319	92.33	0.50	309
General and Administrative	513.03	2.99	356	546.75	2.94	342
Other Expenses	187.07	1.09	143	73.61	0.40	85
Ground Rent	103.20	0.60	6	55.87	0.30	4
Total Operating Expenses	7,178.57	41.81	363	7,768.74	41.72	346

Insurance Costs have increased 31.5% from 2022 to 2023

Insurance Costs Skyrocketing – Coastal Markets

Year Built	Number of Units	Financials Reporting Date	Trepp Subtype	Revenues	Rev/Unit	Property Insurance	Property Insurance % of Revenue	Property Insurance /Unit	2023 Property Insurance /Unit	2022 Property Insurance /Unit	2021 Property Insurance /Unit	2020 Property Insurance /Unit	2022 to 2023 % Chg	2021 to 2022 % Chg	2020 to 2021 % Chg
1972	10	12/31/2023	Garden / Low-Rise	\$214,531	\$21,453	\$45,844	21.37%	\$4,584	\$4,584	\$2,949	\$1,454		55.5%	102.8%	
1968	73	12/31/2023	Mid/High Rise	\$2,108,989	\$28,890	\$284,490	13.49%	\$3,897	\$3,897	\$1,711	\$1,121		127.7%	52.7%	
1964	102	12/31/2023	Garden / Low-Rise	\$2,213,817	\$21,704	\$362,590	16.38%	\$3,555	\$3,555	\$2,345	\$911	\$791	51.6%	157.5%	15.1%
1988	320	9/30/2023	Garden / Low-Rise	\$7,837,743	\$24,493	\$1,045,101	13.33%	\$3,266	\$3,266	\$2,840	\$1,950	\$1,712	15.0%	45.6%	13.9%
1971	144	12/31/2023	Garden / Low-Rise	\$3,802,610	\$26,407	\$445,551	11.72%	\$3,094	\$3,094		\$1,163				
1975	84	12/31/2023	Garden / Low-Rise	\$1,820,732	\$21,675	\$247,977	13.62%	\$2,952	\$2,952	\$2,394	\$1,605		23.3%	49.2%	
1990	101	12/31/2023	Senior Living	\$2,526,533	\$25,015	\$201,348	7.97%	\$1,994	\$1,994	\$1,772	\$1,804		12.5%	-1.7%	
1968	109	12/31/2023	Garden / Low-Rise	\$2,189,508	\$20,087	\$160,714	7.34%	\$1,474	\$1,474	\$873			68.9%		
1969	85	12/31/2023	Garden / Low-Rise	\$2,137,067	\$25,142	\$99,277	4.65%	\$1,168	\$1,168	\$824	\$839	\$851	41.8%	-1.8%	-1.5%
1988	191	12/31/2023	Garden / Low-Rise	\$4,927,122	\$25,796	\$172,671	3.50%	\$904	\$904	\$596	\$410	\$460	51.8%	45.3%	-10.9%
1983	180	12/31/2023	Garden / Low-Rise	\$4,806,620	\$26,703	\$156,316	3.25%	\$868	\$868	\$816	\$654	\$699	6.4%	24.8%	-6.5%
1989	180	12/31/2023	Garden / Low-Rise	\$4,468,372	\$24,824	\$155,903	3.49%	\$866	\$866	\$572	\$398	\$533	51.3%	43.7%	-25.3%
1988	448	12/31/2023	Garden / Low-Rise	\$12,406,823	\$27,694	\$344,281	2.77%	\$768	\$768	\$699	\$577		9.8%	21.3%	
1978	177			3,958,497	\$24,607	\$286,313	9.45%	\$2,261	\$2,261	\$1,533	\$1,074	\$841	43.0%	42.7%	-2.5%
1968	144			4,637,496	\$25,015	\$201,348	7.97%	\$1,994	\$1,994	\$1,292	\$1,016	\$745	46.5%	43.7%	-4.0%
1964	84			214,531	\$20,087	\$45,844	2.77%	\$768	\$768	\$572	\$398	\$460	6.4%	-1.8%	-25.3%
1990	448			12,406,823	\$28,890	\$1,045,101	21.37%	\$4,584	\$4,584	\$2,949	\$1,950	\$1,712	127.7%	157.5%	15.1%

Multifamily Case Study



500 Station Boulevard

Property Type	Multifamily
City	Aurora
State	IL
Number of Units	417
Year Built	2017
Origination Date	4/22/2022
Maturity Date	5/9/2024
Origination Coupon Rate	2.85%

Unit Mix Overview¹

Unit Type	# of Units	Avg. Unit Size (SF)	Occupancy %	Current Monthly Rent	Current Monthly Rental Rate Rent/SF	Appraiser Market Rent ²	Appraiser Market Rent/SF ²
One Bedroom	189	785	92.6%	\$1,713	\$2.18	\$1,960	\$2.50
Two Bedroom	177	1,083	89.8%	\$2,255	\$2.08	\$2,550	\$2.36
Three Bedroom	51	1,250	86.3%	\$2,636	\$2.11	\$2,900	\$2.32
Total/Weighted Average	417	968	90.6%	\$2,048	\$2.12	\$2,325	\$2.40

¹ Information obtained from the Borrower's rent roll dated April 6, 2022.

² Information obtained from the appraisal.

Multifamily Case Study

Business Plan. The Sponsor's business plan is to lease up the Property to 95% occupancy and continue to increase rents on new leases and renewals at the Property.

In 2013, the Sponsor acquired the land for the development of the Property for \$3,000,000. The Property finished construction in 2017, and the Sponsor began leasing up the Property at rental rates between \$2.00 and \$2.05 per square foot. At the time, the previous property manager of the Property was offering recurring concessions which were not in line with the market. In 2019, the Sponsor replaced this property manager with Pioneer Property Management, Inc., a property management firm with local leasing experience (see "Property Management" below for additional information). In early March 2020, occupancy at the Property rose to 94%, however soon after, occupancy at the Property decreased to as low as 67.5% as a result of the COVID 19 pandemic.

In 2021, the Aurora/Naperville market began to rebound. Rents at the Property increased approximately 11.9% and concessions offered in 2020 largely burned off. Occupancy at the Property increased from 68% in March 2021 to 92% in July 2021. In September 2021, the Sponsor leased 50 units to a local construction company ahead of the slower winter leasing season. These leases are on predominantly 12-month lease terms (with a landlord option to terminate with 30 days' notice) and are rented at a \$200 unit premium to other units at the Property.

Recently signed leases at the Property over the past 45 days from loan origination have averaged approximately \$2,336 (\$2.41 per square foot) versus the in-place rental average of approximately \$2,048 (\$2.12 per square foot), representing a \$280 or 14.1% premium. Further, the Property is now only offering a one-time concession of \$500 on select new, 12-month leases. Given the return of prime leasing season in the warmer months, the recent strong leasing momentum, and the rebound of the Aurora/Naperville submarket, the Sponsor intends to terminate the corporate leases with the local construction company and backfill those units with traditional renters to realize upside on these units. Further, on renewals, the Sponsor has been able to increase rents upwards of 20%, which is still 7% to 8% below market, with no concessions being offered. As of the April 6 2022 rent roll, the Property is 90.6% occupied. The Sponsor intends to continue to lease up the Property to market rents, raise renewal rental rates, and limit concessions being offered. According to the appraisal, stabilized rents at the Property will be on average \$2,325 or \$2.40 per square foot.

Multifamily Case Study

	2022	2024
	Origination (Underwritten)	Projected Stabilized
Occupancy	90.6%	94.7%
Revenue	9,739,322	11,673,158
Expenses	3,365,677	3,729,245
Operating Expense Ratio	34.6%	31.9%
NOI	6,373,646	8,667,660
Cap Rate	3.50%	4.31%
Market Value	\$182,100,000	\$201,300,000
Date of Appraisal	4/13/2022	4/13/2024
Current Balance	\$125,000,000	\$125,000,000
Future Funding	\$5,000,000	\$5,000,000
Fully Committed Balance	\$130,000,000	\$130,000,000
LTV of Current Balance	69%	62%
LTV of Fully Committed Balance	71%	65%
Annual Debt Service	\$3,564,225	
**Debt Yield Current Balance	5.10%	
Debt Service Coverage Ratio	1.79	

Multifamily Case Study

Property Name	Union West	The Grand Central	Eight Eleven Uptown	Imprint	444 Social	Two Old Town Park
Address	939 West Washington Boulevard	221 West Harrison Street	811 West Agatite Avenue	717 S Clark St	444 Parkway Drive	202 West Hill Street
City	Chicago	Chicago	Chicago	Chicago	Lincolnshire	Chicago
State	IL	IL	IL	IL	IL	IL
Year Built	2020	2020	2019	2020	2019	2020
Number of Units	357	346	381	349	302	428
Occupancy	97.0%	96.6%	91.3%	93.0%	97.4%	91.2%
Origination Date	12/20/2023	11/3/2023	6/29/2023	11/18/2021	11/1/2021	6/23/2021
Maturity Date	1/25/2029	12/1/2028	7/1/2028	12/1/2031	11/1/2031	7/1/2028
Loan Amount	76,710,000	56,746,000	88,827,000	96,894,000	92,300,000	135,000,000
Interest Rate	5.78%	6.29%	6.01%	3.05%	3.30%	3.08%
Interest Only Period	60	60	60	60	120	36
Original Term	60	60	60	120	120	84
Amortization Type	Interest Only	Interest Only	Interest Only	I/O then Amort	Interest Only	I/O then Amort
P&I Amount	369,487	287,529	415,651	238,063	245,364	334,950
Annual P&I	4,433,838	3,450,348	4,987,812	2,856,756	2,944,368	4,019,400
Mortgage Constant or Mortgage Cap Rate	5.78%	6.08%	5.62%	2.95%	3.19%	2.98%

Multifamily Case Study

Property Name	Union West	The Grand Central	Eight Eleven Uptown	Imprint	444 Social	Two Old Town Park
Appraisal Date	9/13/2023	9/15/2023	4/21/2023	9/22/2021	9/13/2021	2/12/2021
Property Value	130,300,000	81,900,000	155,700,000	160,000,000	142,000,000	206,000,000
Property Value/Unit	364,986	236,705	408,661	458,453	470,199	481,308
UW Base Rent	36,935	28,181	30,696	31,096	29,687	34,152
Loan to Value	58.87%	69.29%	57.05%	60.56%	65.00%	65.53%
Equity	41.13%	30.71%	42.95%	39.44%	35.00%	34.47%
Equity Amount	53,590,000	25,154,000	66,873,000	63,106,000	49,700,000	71,000,000
NOI As of:	Securitization	Securitization	Securitization	Securitization	Securitization	Securitization
Revenues	13,185,804	9,750,552	11,695,148	10,852,352	8,965,582	14,616,986
NOI	7,667,194	5,332,293	7,955,606	6,730,097	6,628,244	8,767,752
Net Income Ratio	58.1%	54.7%	68.0%	62.0%	73.9%	60.0%
Annual P&I	4,433,838	3,450,348	4,987,812	2,856,756	2,944,368	4,019,400
BTCF	3,233,356	1,881,945	2,967,794	3,873,341	3,683,876	4,748,352
Equity Cap Rate	6.03%	7.48%	4.44%	6.14%	7.41%	6.69%
Mortgage Component	3.40%	4.21%	3.20%	1.79%	2.07%	1.95%
Equity Component	2.48%	2.30%	1.91%	2.42%	2.59%	2.31%
OAR Band of Investment	5.88%	6.51%	5.11%	4.21%	4.67%	4.26%
Calculated Cap Rate	5.88%	6.51%	5.11%	4.21%	4.67%	4.26%

Multifamily Case Study

	2022	2024
	Origination (Underwritten)	Projected Stabilized
Occupancy	90.6%	94.7%
Revenue	9,739,322	11,673,158
Expenses	3,365,677	3,729,245
Operating Expense Ratio	34.6%	31.9%
NOI	6,373,646	8,667,660
Cap Rate	3.50%	4.31%
Market Value	\$182,100,000	\$201,300,000
Date of Appraisal	4/13/2022	4/13/2024
Current Balance	\$125,000,000	\$125,000,000
Future Funding	\$5,000,000	\$5,000,000
Fully Committed Balance	\$130,000,000	\$130,000,000
LTV of Current Balance	69%	62%
LTV of Fully Committed Balance	71%	65%
Annual Debt Service	\$3,564,225	
**Debt Yield Current Balance	5.10%	
Debt Service Coverage Ratio	1.79	

Multifamily Case Study

	2022	2022	2024
	Origination (TTM 2/28/2022)	Origination (Underwritten)	Projected Stabilized
Occupancy	86.4%	90.6%	94.7%
Revenue	8,768,884	9,739,322	11,673,158
Expenses	3,248,502	3,365,677	3,729,245
Operating Expense Ratio	37.0%	34.6%	31.9%
NOI	5,520,382	6,373,646	8,667,660
Cap Rate	3.03%	3.50%	4.31%
Market Value	\$182,100,000	\$182,100,000	\$201,300,000
Date of Appraisal	4/13/2022	4/13/2022	4/13/2024
Current Balance	\$125,000,000	\$125,000,000	\$125,000,000
Future Funding	\$5,000,000	\$5,000,000	\$5,000,000
Fully Committed Balance	\$130,000,000	\$130,000,000	\$130,000,000
LTV of Current Balance	69%	69%	62%
LTV of Fully Committed Balance	71%	71%	65%
Annual Debt Service	\$3,564,225	\$3,564,225	
**Debt Yield Current Balance	4.42%	5.10%	
Debt Service Coverage Ratio	1.55	1.79	

Multifamily Case Study

	2022	2022	2023	2024
	Origination (TTM 2/28/2022)	Origination (Underwritten)	12/31/2023	Projected Stabilized
Occupancy	86.4%	90.6%	89.0%	94.7%
Revenue	8,768,884	9,739,322	10,594,788	11,673,158
Expenses	3,248,502	3,365,677	4,190,785	3,729,245
Operating Expense Ratio	37.0%	34.6%	39.6%	31.9%
NOI	5,520,382	6,373,646	6,404,004	8,667,660
Cap Rate	3.03%	3.50%		4.31%
Market Value	\$182,100,000	\$182,100,000		\$201,300,000
Date of Appraisal	4/13/2022	4/13/2022		4/13/2024
Current Balance	\$125,000,000	\$125,000,000	\$125,000,000	\$125,000,000
Future Funding	\$5,000,000	\$5,000,000	\$5,000,000	\$5,000,000
Fully Committed Balance	\$130,000,000	\$130,000,000	\$130,000,000	\$130,000,000
LTV of Current Balance	69%	69%		62%
LTV of Fully Committed Balance	71%	71%		65%
Annual Debt Service	\$3,564,225	\$3,564,225	\$11,330,993	
**Debt Yield Current Balance	4.42%	5.10%	5.12%	
Debt Service Coverage Ratio	1.55	1.79	0.57	

Multifamily Case Study

	2022	2022	2023	2024	
	Origination (TTM 2/28/2022)	Origination (Underwritten)	12/31/2023	Projected Stabilized	Current Delta from Stabilized
Occupancy	86.4%	90.6%	89%	94.7%	
Revenue	8,768,884	9,739,322	10,594,788	11,673,158	-9.2%
Expenses	3,248,502	3,365,677	4,190,785	3,729,245	+12.4%
Operating Expense Ratio	37.0%	34.6%	39.6%	31.9%	+7.6%
NOI	5,520,382	6,373,646	6,404,004	8,667,660	-26.1%
Cap Rate	3.03%	3.50%	6.00%	4.31%	+169 bps
Market Value	\$182,100,000	\$182,100,000	\$106,733,400	\$201,300,000	-47.0%
Date of Appraisal	4/13/2022	4/13/2022	Trepp Estimate	4/13/2024	
Current Balance	\$125,000,000	\$125,000,000	\$125,000,000	\$125,000,000	
Future Funding	\$5,000,000	\$5,000,000	\$5,000,000	\$5,000,000	
Fully Committed Balance	\$130,000,000	\$130,000,000	\$130,000,000	\$130,000,000	
LTV of Current Balance	69%	69%	117%	62%	
LTV of Fully Committed Balance	71%	71%	122%	65%	
Annual Debt Service	\$3,564,225	\$3,564,225	\$11,330,993		
**Debt Yield Current Balance	4.42%	5.10%	5.12%		
Debt Service Coverage Ratio	1.55	1.79	0.57		
Refinance Loan @ 65% LTV			\$64,040,040	\$130,845,000	
Refinance Proceeds/Cash In			-\$65,959,960	\$845,000	
Sales Proceeds			-\$23,266,600	\$71,300,000	

Multifamily Case Study

Property Name	Union West	The Grand Central	Eight Eleven Uptown	500 Station
Address	939 West Washington Boulevard	221 West Harrison Street	811 West Agatite Avenue	500-770 Station Boulevard
City	Chicago	Chicago	Chicago	Aurora
State	IL	IL	IL	IL
Year Built	2020	2020	2019	2017
Number of Units	357	346	381	417
Occupancy	97.0%	96.6%	91.3%	89.0%
Origination Date	12/20/2023	11/3/2023	6/29/2023	4/5/2024
Maturity Date	1/25/2029	12/1/2028	7/1/2028	5/1/2029
Loan Amount	76,710,000	56,746,000	88,827,000	71,337,598
Interest Rate	5.78%	6.29%	6.01%	6.00%
Interest Only Period	60	60	60	60
Original Term	60	60	60	60
Amortization Type	Interest Only	Interest Only	Interest Only	Interest Only
P& I Amount	369,487	287,529	415,651	356,688
Annual P&I	4,433,838	3,450,348	4,987,812	4,280,256
Mortgage Constant or Mortgage Cap Rate	5.78%	6.08%	5.62%	6.00%

Multifamily Case Study

Property Name	Union West	The Grand Central	Eight Eleven Uptown	500 Station
Appraisal Date	9/13/2023	9/15/2023	4/21/2023	4/5/2024
Property Value	130,300,000	81,900,000	155,700,000	106,733,400
Property Value/Unit	364,986	236,705	408,661	255,955
UW Base Rent	36,935	28,181	30,696	25,407
Loan to Value	58.87%	69.29%	57.05%	65.00%
Equity	41.13%	30.71%	42.95%	35.00%
Equity Amount	53,590,000	25,154,000	66,873,000	37,356,690
NOI As of:	Securitization	Securitization	Securitization	12/31/2023
Revenues	13,185,804	9,750,552	11,695,148	10,594,788
NOI	7,667,194	5,332,293	7,955,606	6,404,004
Net Income Ratio	58.1%	54.7%	68.0%	60.4%
Annual P&I	4,433,838	3,450,348	4,987,812	4,280,256
BTCF	3,233,356	1,881,945	2,967,794	2,123,748
Equity Cap Rate	6.03%	7.48%	4.44%	5.69%
Mortgage Component	3.40%	4.21%	3.20%	4.01%
Equity Component	2.48%	2.30%	1.91%	1.99%
OAR Band of Investment	5.88%	6.51%	5.11%	6.00%
Calculated Cap Rate	5.88%	6.51%	5.11%	6.00%

Custom Income & Expense Models



Valuation Modeling

Model Name

Valuation Date*

Mon Jan 02

Income Model	Class A+ (2)	Class A (4)	Class B+ (6)	Class B (9)	Class C (4)
Gross Potential Rent	24,000	20,000	19,000	17,000	15,500
Vacancy & Collections	4.00%	4.00%	4.00%	4.00%	4.00%
Effective Gross Income	23,040	19,200	18,240	16,320	14,880
Expenses	38.00%	41.00%	41.00%	43.00%	48.00%
NOI	14,285	11,328	10,762	9,302	7,738
Cap Rate	4.50%	4.75%	5.25%	5.25%	5.25%
Value / Unit	317,440.00	238,484.21	204,982.86	177,188.57	147,382.86

	TT Appraisal Ratio
Weighted Mean	94.21%
Median	95.45%
COD	4.85



of Office Properties (2023 Reporting)

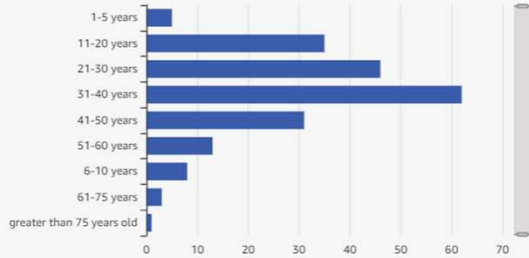
204

Average Appraisal Value (Excl. Portfolio Loans)

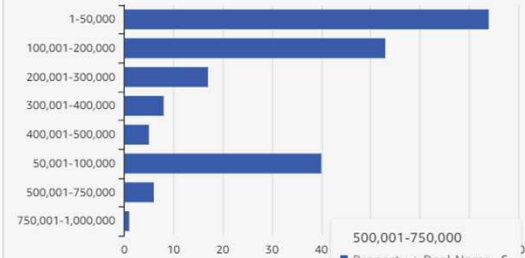
\$36.20M



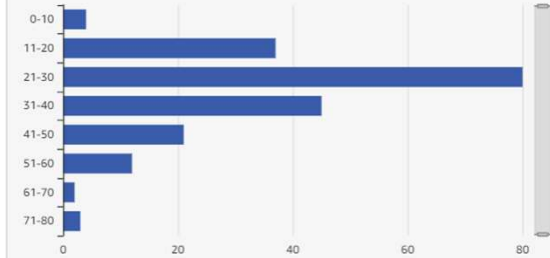
Property Age Stratification



Square Footage Stratification



Revenue PSF Stratification (2023 Rev)



Revenue Per Sq Ft Measures

Revenue PSF Bucket: All
 Property Age: All
 Square Footage: All
 Office Subtype: All
 County: All
 City: All

Reporting Year	2023
Property Count	204
Min Revenue Per Sq Ft	\$8.85
Lower Decile Revenue Per Sq Ft	\$16.91
Lower Quartile Revenue Per Sq Ft	\$21.72
Mean Revenue Per Sq Ft	\$30.25
Median Revenue Per Sq Ft	\$28.38
Upper Quartile Revenue Per Sq Ft	\$36.30
Upper Decile Revenue Per Sq Ft	\$47.76
Max Revenue Per Sq Ft	\$77.74

Expense Per Sq Ft Measures

Revenue PSF Bucket: All
 Property Age: All
 Square Footage: All
 Office Subtype: All
 County: All
 City: All

Reporting Year	2023
Property Count	204
Min Expense Per Sq Ft	\$0.09
Lower Decile Expense Per Sq Ft	\$5.08
Lower Quartile Expense Per Sq Ft	\$8.38
Mean Expense Per Sq Ft	\$12.26
Median Expense Per Sq Ft	\$12.11
Upper Quartile Expense Per Sq Ft	\$14.98
Upper Decile Expense Per Sq Ft	\$20.34
Max Expense Per Sq Ft	\$39.50

NOI Per Sq Ft Measures

Revenue PSF Bucket: All
 Property Age: All
 Square Footage: All
 Office Subtype: All
 County: All
 City: All

Reporting Year	2023
Property Count	204
Min NOI Per Sq Ft	\$1.98
Lower Decile NOI Per Sq Ft	\$8.12
Lower Quartile NOI Per Sq Ft	\$10.58
Mean NOI Per Sq Ft	\$17.99
Median NOI Per Sq Ft	\$16.94
Upper Quartile NOI Per Sq Ft	\$22.31
Upper Decile NOI Per Sq Ft	\$31.36
Max NOI Per Sq Ft	\$49.99

Expense Ratio Measures

Revenue PSF Bucket: All
 Property Age: All
 Square Footage: All
 Office Subtype: All
 County: All
 City: All

Reporting Year	2023
Property Count	204
Min Expense Ratio	0.7%
Lower Decile Expense Ratio	18.89%
Lower Quartile Expense Ratio	31.68%
Mean Expense Ratio	41.39%
Median Expense Ratio	41.84%
Upper Quartile Expense Ratio	51.72%
Upper Decile Expense Ratio	60.84%
Max Expense Ratio	83.02%

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