4Q22

# United States Office Market Overview

# Market Observations

## What We Know

- The Federal Reserve's efforts to combat inflation have modestly slowed employment growth, but overall, labor markets remain in expansion and national GDP growth was healthy at 2.9% in the fourth quarter of 2022. National office-using employment is now 1.3% above December 2019 levels, led by technology, advertising, media and information companies. Accordingly, technology companies drove much of the leasing activity over the last two years; however, technology firms have also been strongly reactive to the worsening economic outlook and many major employers have undertaken strategic layoffs and hiring freezes.

- Net absorption continued to contract in the fourth quarter of 2022, driven most strongly by the West. Both major gateway and secondary markets shed a comparable amount of occupancy in the quarter. The South and Sunbelt regions continue to perform well relative to the nation, though occupancy losses did accelerate in the fourth quarter of 2022. Leasing activity was again sluggish in most markets in the fourth quarter of 2022, decelerating nationally to 0.8% of inventory. Leasing activity as a percent of inventory was relatively ubiquitous across most regions and market sizes, indicating a slowdown in the momentum that had been gained in 2021 in some secondary and Sunbelt markets.

- Quality office assets continue to command the majority share of the market's limited activity. While Class A leasing activity as a percentage of inventory is pointing downward in the fourth quarter of 2022, it exceeds the national average by 30 basis points. Additionally, Class A vacancy growth is slightly less aggressive than the overall market, increase 30 basis points relative to the market average of 40 basis points. Despite this flight to quality, Downtown markets continue to struggle. NCREIF suburban office vacancy was 10.7% compared with 18.3% for Central Business District office. With national office vacancy at 18.0%, institutional core assets are outperforming.

- Office investment activity decelerated once again in the fourth quarter of 2022, down 35.0% quarter over quarter and 66.0% year over year. Full-year volume was down 24.0% compared with 2021. Office loan originations declined 4.0% in 2022 compared with 2021 and are still down 20.0% compared with 2019. No market segment has been spared from the slowdown in transaction activity, though on the margin nonmajor markets, Suburban assets, as well as Midwestern and Sunbelt markets, has been more resilient.

- Transaction cap rates increased by 70 basis points in the fourth quarter of 2022 after months of puzzling stability in the face of rising rates and uncertainty. Further adjustments are likely, given the continued elevated cost of capital. The increase in transaction cap rates has been driven by CBD asset trades, with the result that CBD yields exceed suburban. The same is true when looking at market tiers, as major metro yields would now appear to be higher than in nonmajor metros. All of these movements have been confirmed by the debt markets, with the cost of capital for CBD assets above that of Suburban. Furthermore, the market is now showing an elevated spread between the cost of funding noncore assets.

- REIT-implied cap rates remain elevated as a result of continued pressure from higher debt costs. The REIT sector performed well in January. Even so, office REIT values are down 27.0% in the last 12 months. While the truth of valuation typically lies somewhere between the public and private markets, it seems this time that it is private markets that are starting to capitulate. According to NCREIF, office properties returned negative 18.0% in the fourth quarter of 2022, making it the worst quarter since the second quarter of 2009.

# Market Observations

## What We Expect

– The economic conditions in 2023 are expected to remain turbulent as some sectors of the market experience stronger headwinds than others. Macroeconomic indicators are beginning to suggest that the Federal Reserve may be successful in achieving a soft landing from the runaway inflation experienced in 2022. While annualized inflation is still above the Fed's targets, a shorter-term view of prices indicates cooling in many sectors. Still, further interest rate hikes are anticipated in early 2023, even if modest cooling continues.

– Return-to-office momentum is expected to slowly improve, but the impact of hybrid work arrangements will have a lasting impact on in-office occupancy rates and need for office space. It will be debated whether potential weakness in the labor market could incentivize employees' return to offices, but as financially challenged firms assess cost savings options, reducing real estate obligations might be easier than risking talent loss. Overall, Newmark Research expects hybrid work adaptations and rightsizing to continue to exert downward pressure on office demand, exhibited by the steadily climbing sublease availability rate.

– Flight to quality will drive tenancy for the foreseeable future, both inside the urban core and in the suburbs. High-quality assets in dynamic Suburban markets may hold an advantage over traditionally stable Downtown assets. Oversupply in the Class A market and relatively high nationwide availability may apply downward pressure on Class A rents, providing opportunities for occupiers looking to upgrade office space. Still, overall leasing activity is anticipated to remain modest, which suggests that further occupancy losses could be anticipated in early 2023.

– This extended period of soft market conditions and limited demand could provide significant headwinds to asset owners of financially challenged assets. In some cases, building values could compress enough to fall below the buildings' debt, creating conditions which will require lenders to renegotiate terms or take ownership of assets. For investors with greater risk appetite, capitalizing on low pricing for Class B+/Class A- buildings with plans to modernize could be attractive, along with build-to-core in markets structurally lacking in top-tier office space.

– Overall investment activity is likely to remain muted, particularly during the first half of the year. The cost of debt is expected remain elevated, but volatility already appears to be decreased as the contours of inflation's and, by extension, the Fed's rate path come into focus. The market has been pricing a rapid Fed pivot, but this appears unlikely and at odds with the Fed's repeated assertions to the contrary. The result is that absent a sharp fall into recession, rates will remain over 4.0% for an extended period, which in turn creates a floor under the cost of capital. As a result, debt costs will not rapidly retrace but remain higher and rangebound. This environment will continue to place upward pressure on cap rates and downward pressure on valuations, but reduced volatility should encourage price discovery and the return of liquidity.

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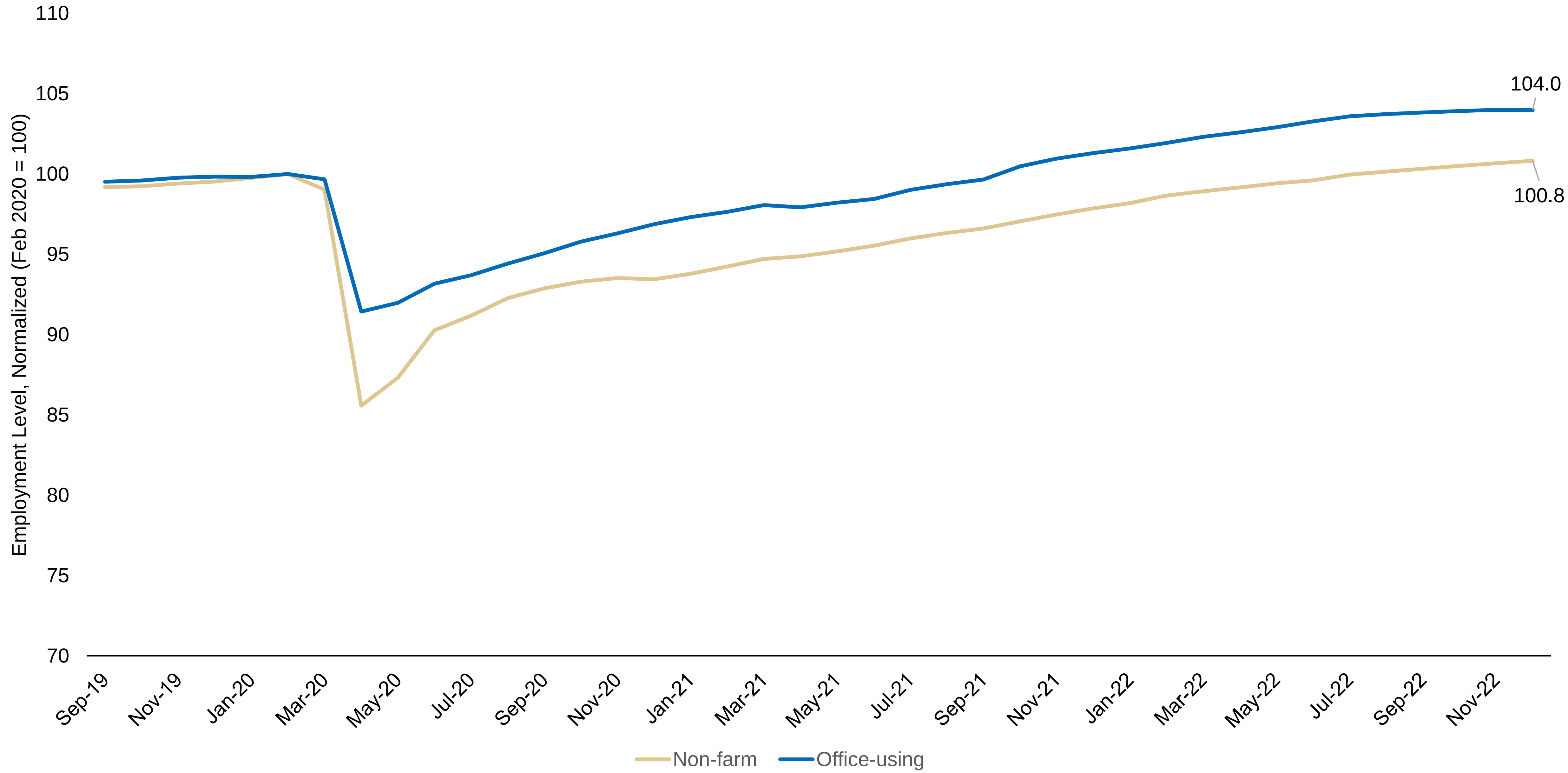
# Office Drivers

# Office-Using Employment Has Outpaced the Overall Labor Recovery

National nonfarm employment recovered to pre-pandemic levels in July 2022 and is up 17.8% from the pandemic low in April 2020. Office-using employment was less impacted during the pandemic and has maintained a consistent pace of recovery over 2022, measuring 1.3 million jobs above pre-pandemic levels. This is significant because net-new jobs can provide a counterweight to the negative demand effects from remote work. *Conservatively assuming 120 feet of office space for each of these workers suggests that <u>new jobs have added or replaced 158.2 million square feet of office demand.</u>*

## Employment Recovery Comparison – Normalized to February 2020

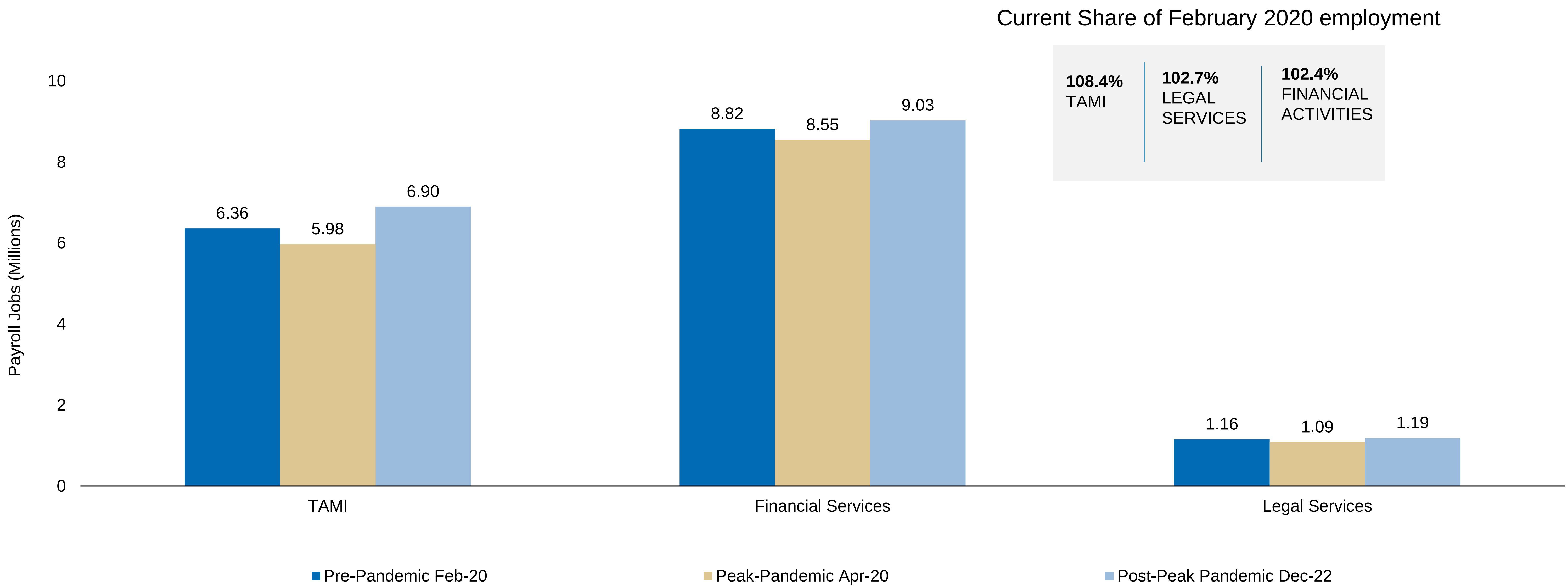



Sources: U.S. Bureau of Labor Statistics, Newmark Research
Seasonally Adjusted

# Employment Growth across Office-Using Industries

Employment now exceeds pre-pandemic levels across office-using industries. The recovery in TAMI has been particularly strong, with employment 8.4% above February 2020 levels. Impressive gains have been made across a range of professional and business services, which in the aggregate are up 4.8% from February 2020. Financial services have more than fully recovered as well, but less than these other categories.

## Employment by Industry

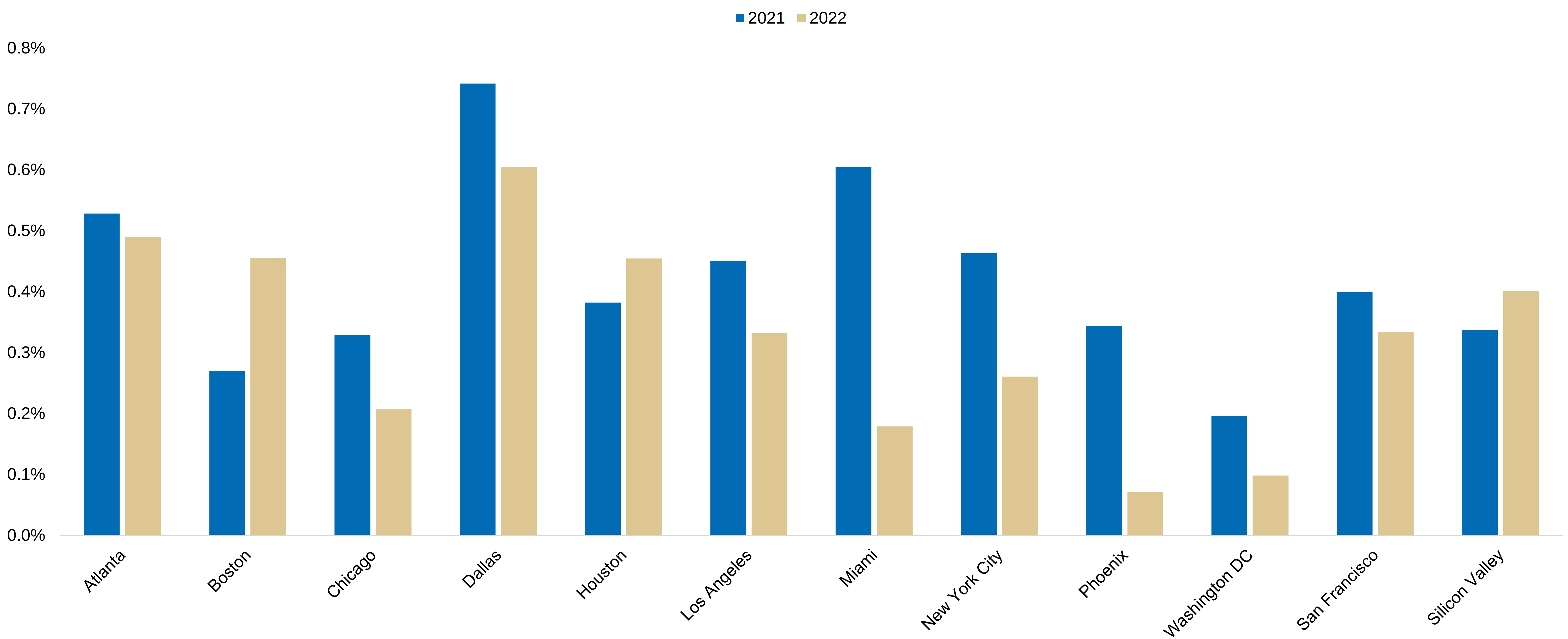



Sources: United States Department of Labor, Newmark Research

# Office-Using Employment Expanding but Its Pace Has Slowed in 2022

Office-using employment continues to expand nationally, though the growth rate has slowed in most large U.S. markets. Relative to the healthy office-using job gains experienced in 2021, annual monthly employment growth in 2022 has fallen notably in the largest gateway markets, with the exceptions of Boston, Houston, and Silicon Valley.

**Compounded Average Monthly Office-Using Employment Growth, Select Large U.S. Metro Markets**

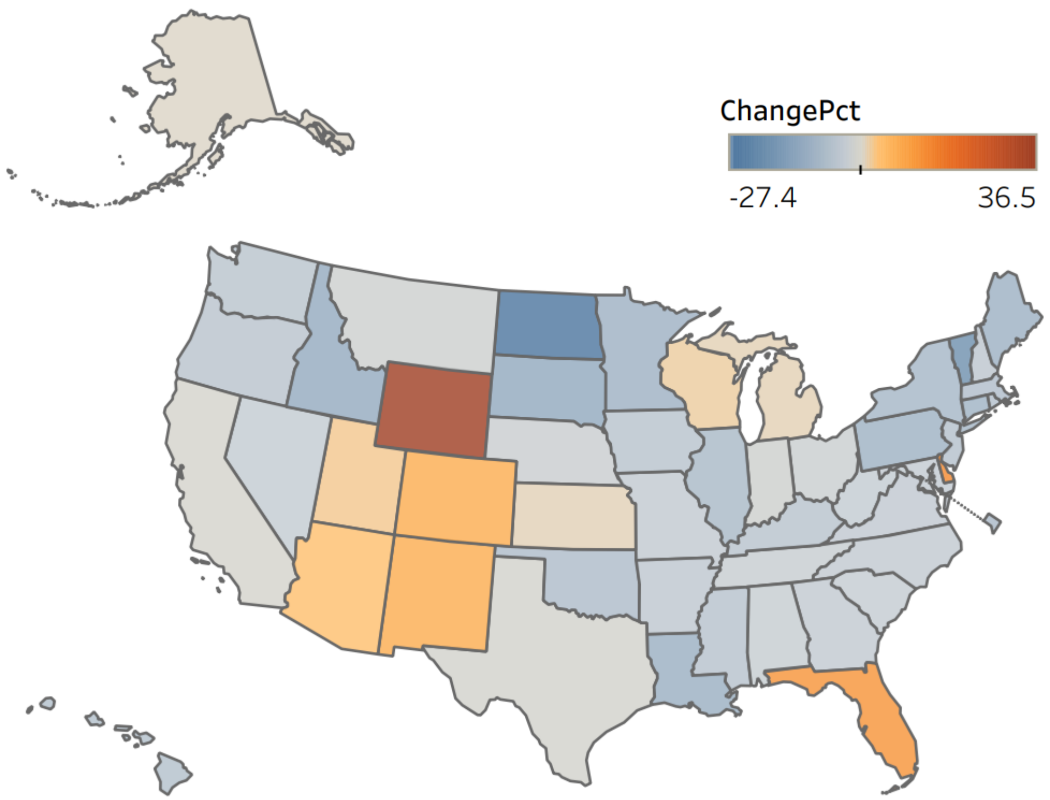


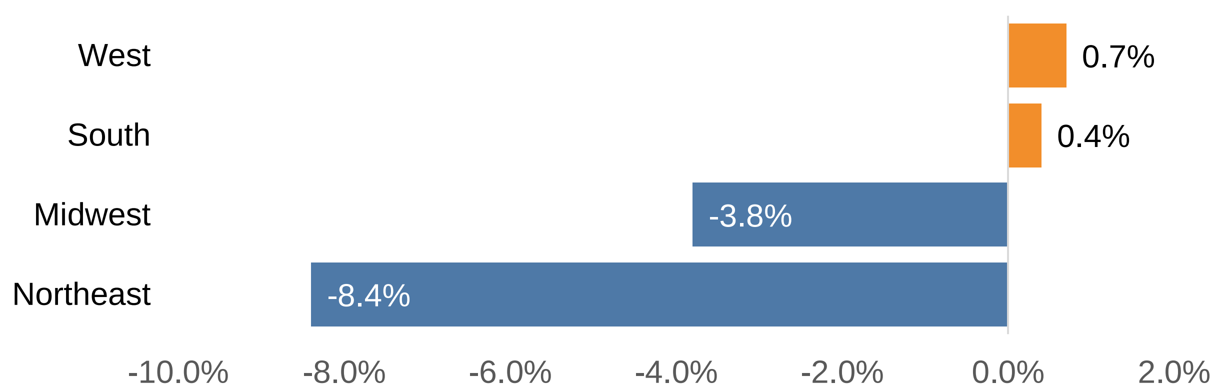

Source: Bureau of Labor Statistics, Newmark Research

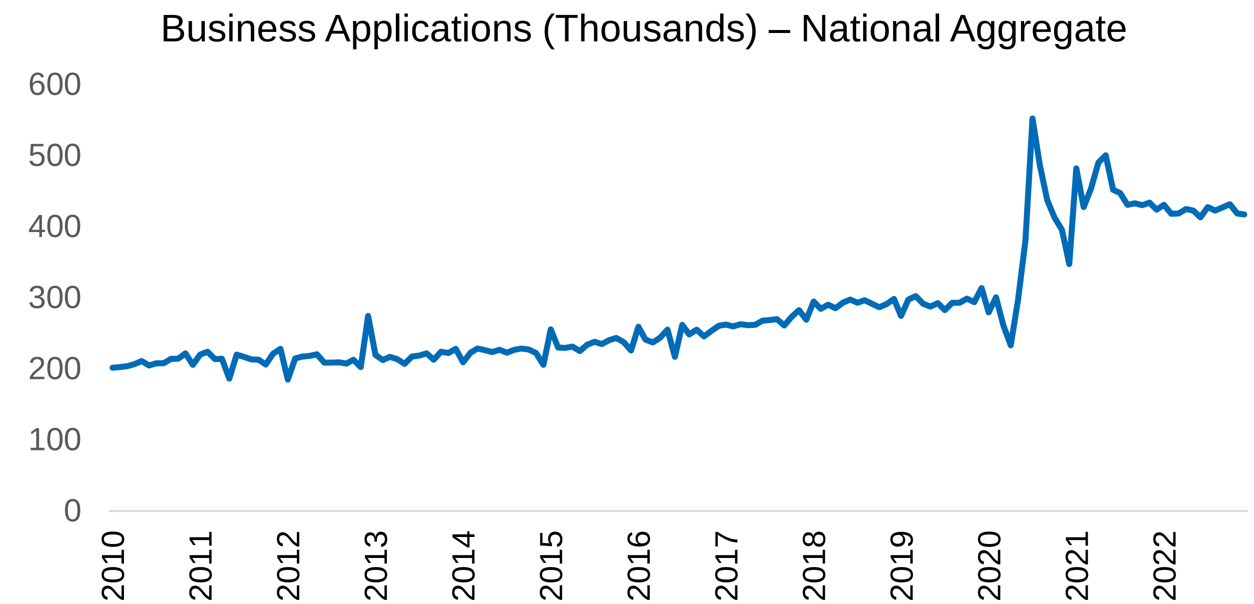
# New Business Formation Maintains Momentum

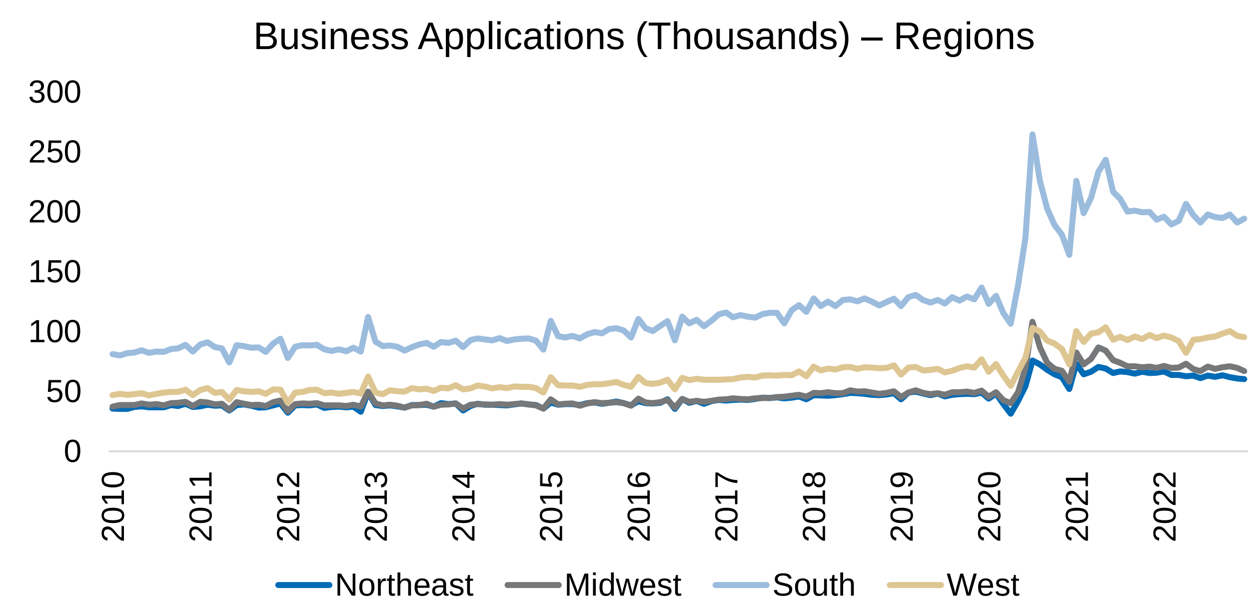
Business formation decelerated slightly in December 2022; 417,055 new business applications were filed, which is down 1.6% from December 2021. This modest deceleration was attributable to the Northeast and Midwest regions, although the West and South recorded annualized growth of 0.7% and 0.4% respectively. Overall business creation remains notably higher than pre-pandemic levels in all geographic regions.

**Business Applications: Change from December 2021 to December 2022 (Seasonally Adjusted)**



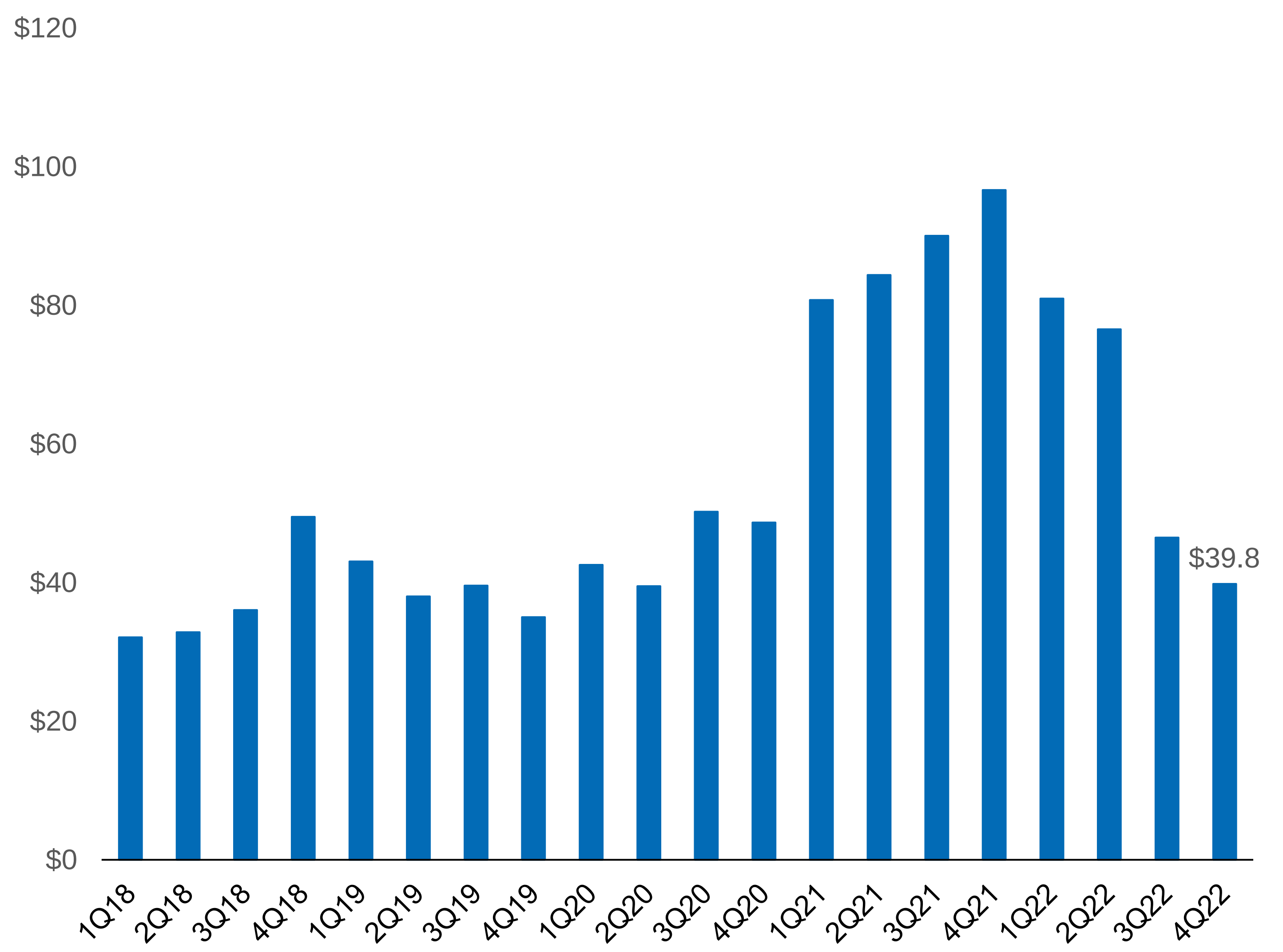




Source: United States Census Bureau, Newmark Research

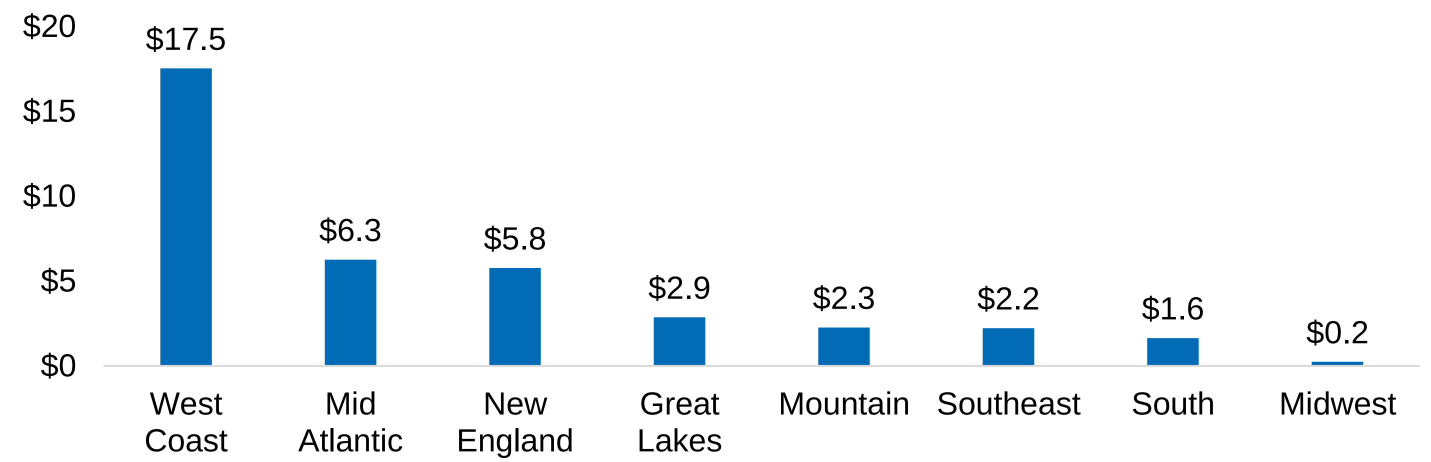
# Venture Capital Investment Activity

Overall venture capital investment activity slowed in the fourth quarter of 2022 as investors remain cautious. Although total investments are down from the cycle's recent peak in 2021, activity overall for 2022 is elevated from a historic perspective. Investment activity trended down across all industries in the fourth quarter of 2022, save for the materials and resources sector, which secured $1.8 billion in funding, marking a 169.0% annual increase. The market's largest funds are likely to experience the greatest contraction in activity, but high levels of dry powder should continue to support investment activity among smaller funds.

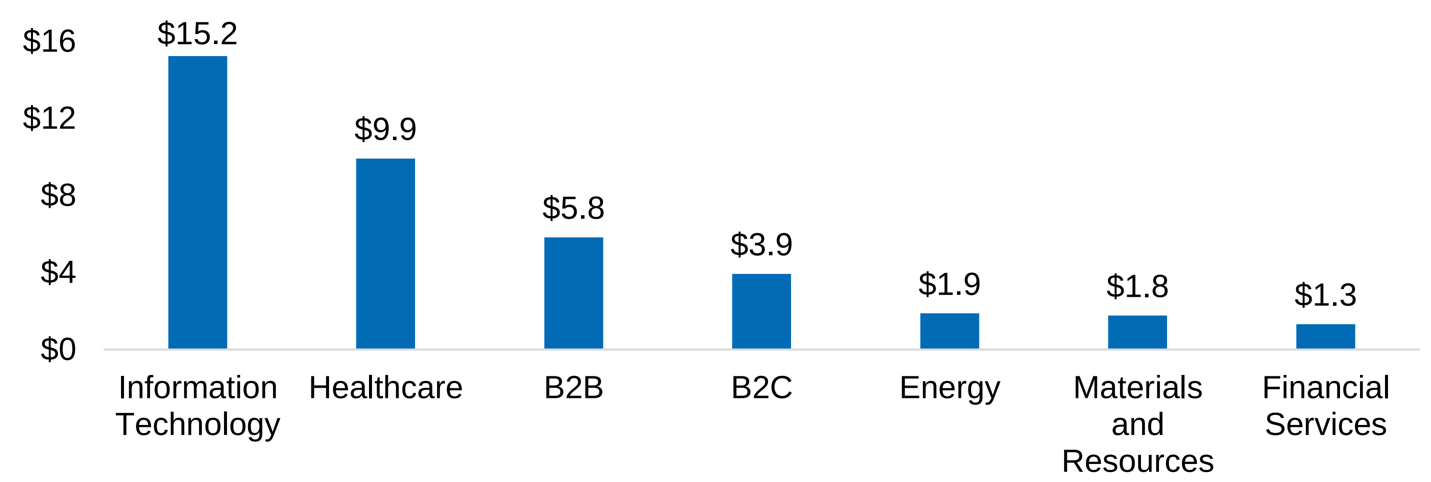
### Venture Capital Deal Value ($ billions)




### 4Q22 VC Funding by Region ($ billions)




### 4Q22 VC Funding by Industry Sector ($ billions)

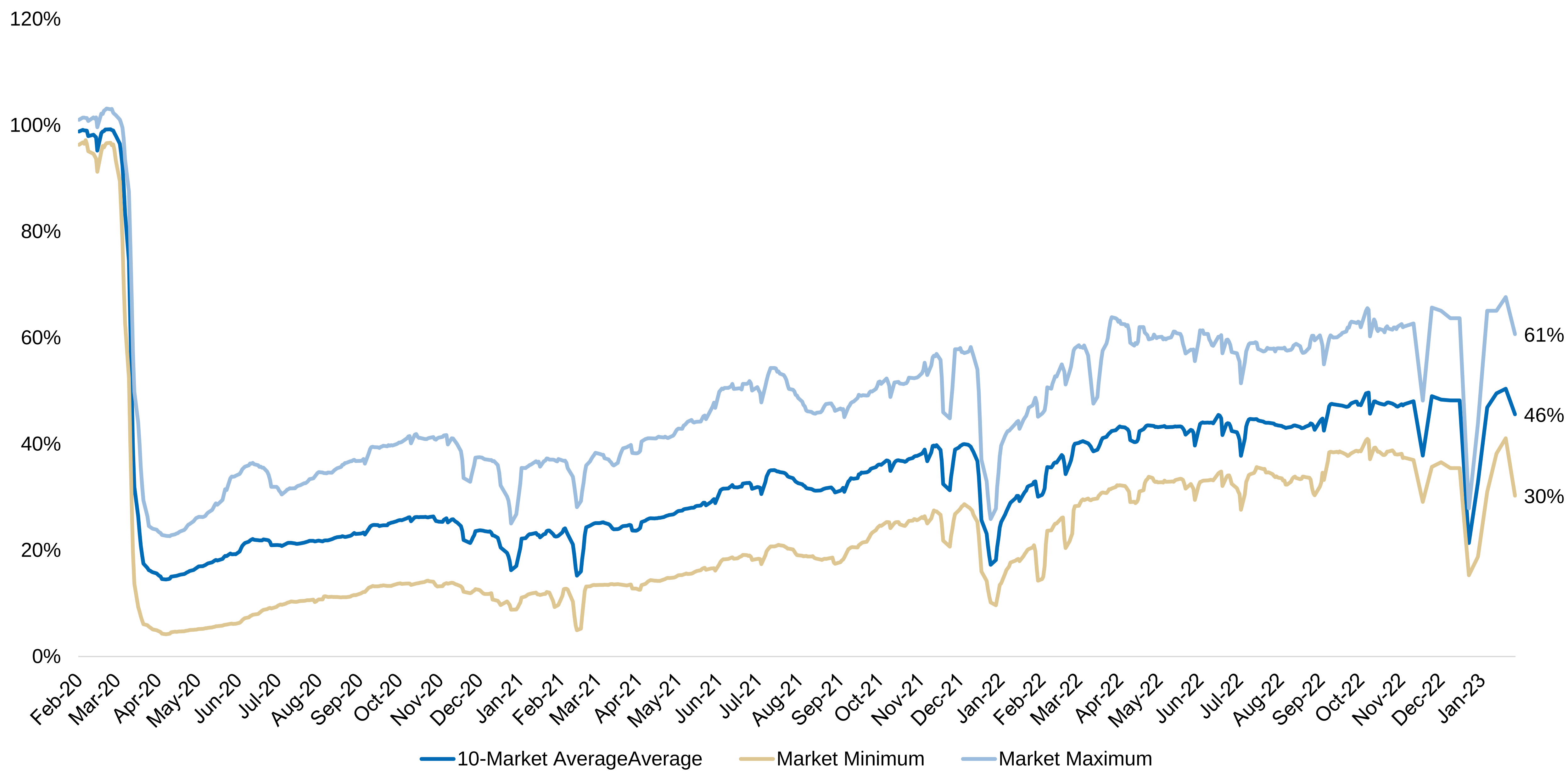



Sources: PitchBook, Newmark Research

# A Robust Return to Offices Could Change Expectations

Kastle Systems' office utilization data has continued to grind higher in early 2023. The 10-market average set a new record of 50.0% of pre-pandemic occupancy in January. There continues to be significant variation in office attendance during a given week, suggesting that peak office attendance may have been as high as 70% and pushing 80% in the markets with the most robust return to office. As the recent pullback in office attendance shows, there continues to be volatility in the context of the subtle upward march.

**Kastle Systems Daily Office Physical Occupancy Index – 5-Day Trailing Average (Baseline = February 2020)**

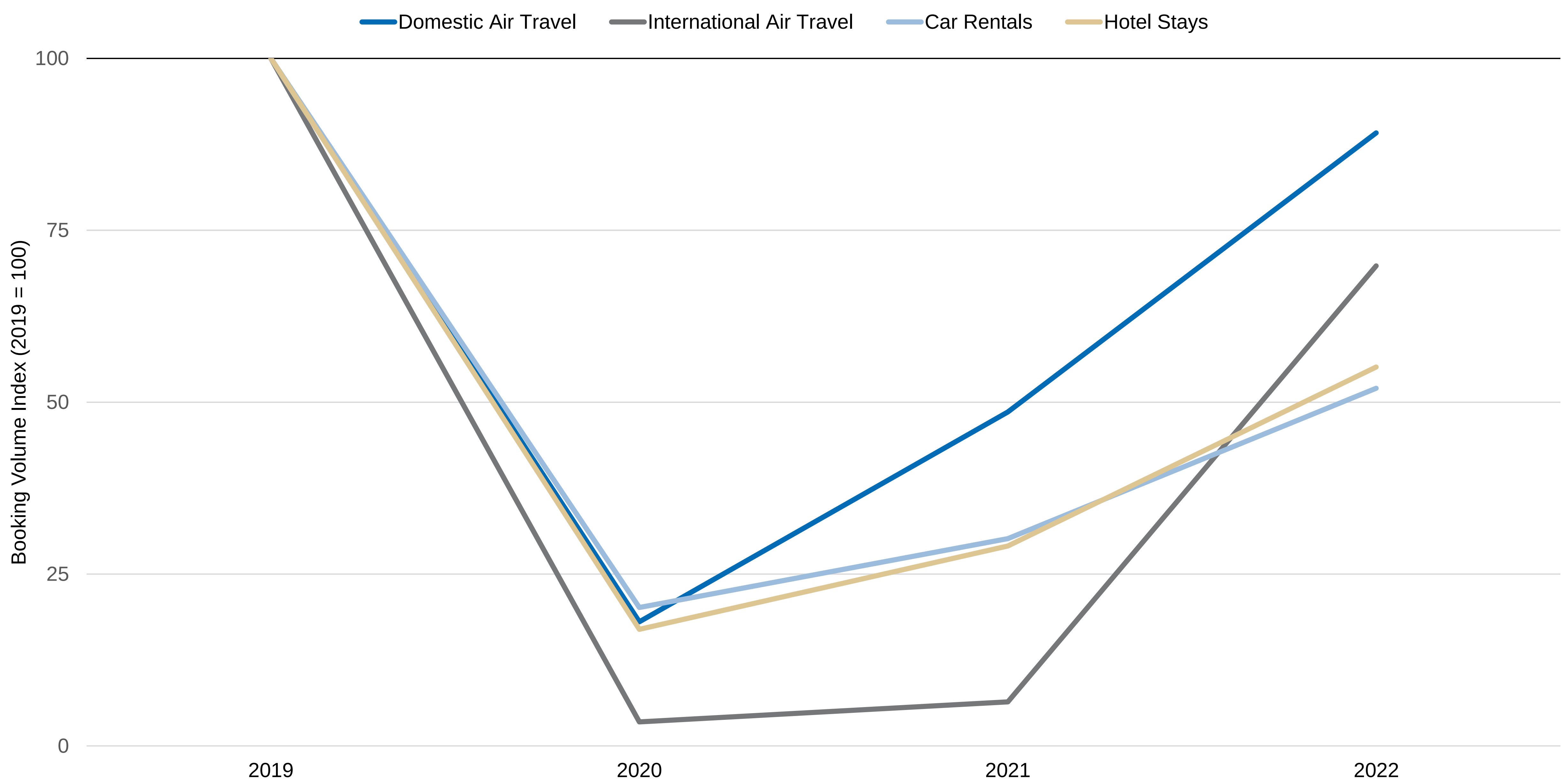



Source: Kastle Systems, Newmark Research

# Business Travel Recovering Well in 2022

Business travel accelerated significantly in 2022, as fewer public health restrictions permitted the return of in-person business meetings, conventions and tradeshows both in the United States and abroad. The return of business gatherings is an encouraging indicator for the utility of office space in the period ahead. According to data from Emburse, a global leader in spend optimization for businesses, booking volume for international air travel increased dramatically and outpaced hotel and rental car booking volume growth at year-end.

**Booking Volume Indexed to 2019 Baseline**

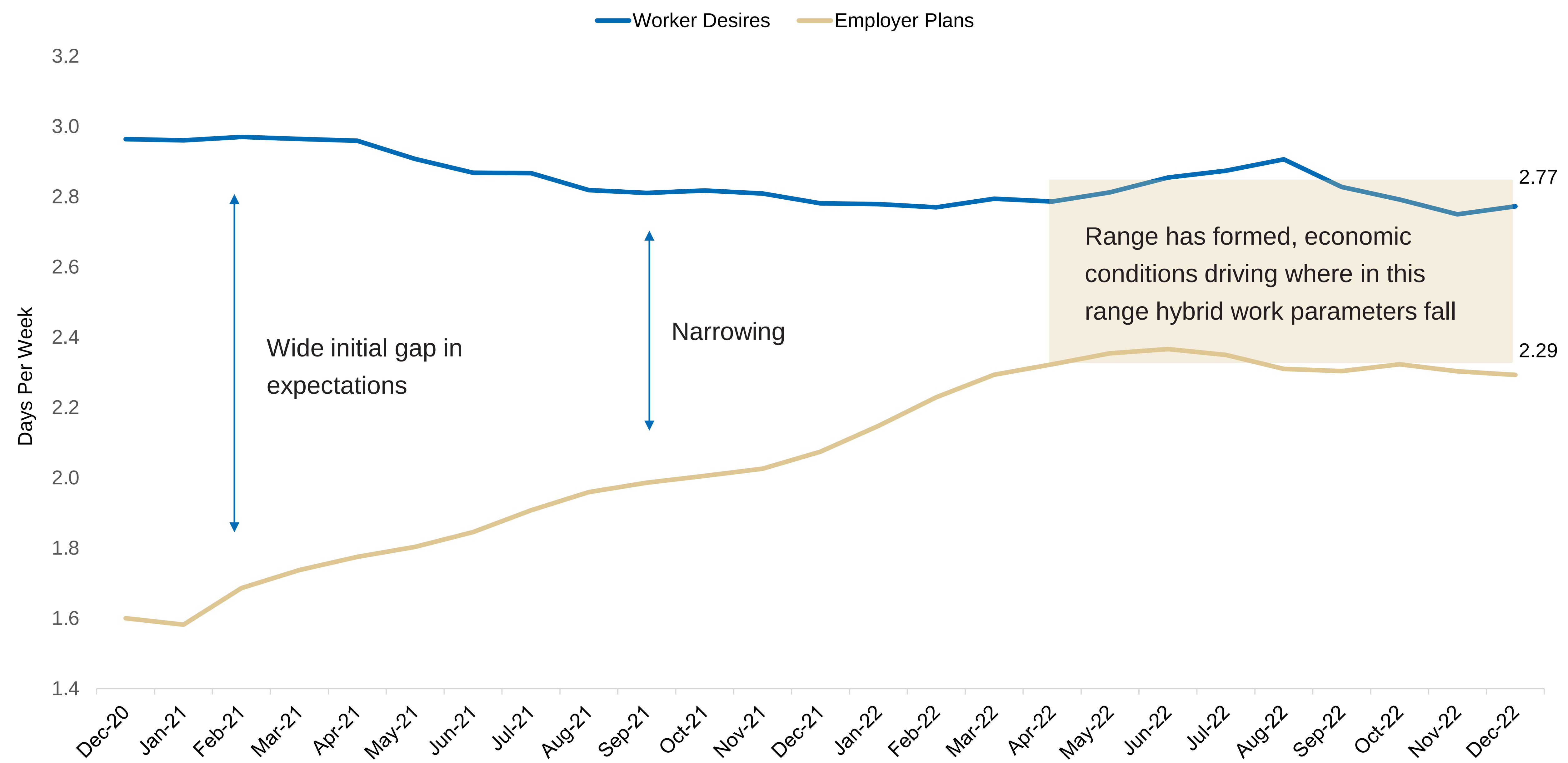



Source: Emburse Travel Trends, Newmark Research

# Worker and Manager Expectations Differ; Recession Could Close the Gap

Many employers are considering long-term adoption of hybrid work schedules, given the experiences learned in the pandemic. Overall expectations for remote privileges widened slightly in December 2022, as workers broke a three-month trend of decreasing remote expectations. As recessionary headwinds strengthen, some employers have begun tightening expectations of in-office work. Conversely, others have been less aggressive and more strongly favor maintaining the status quo to preserve the current workforce.

**Average Days per Week Working From Home After the Pandemic Ends: Workers Able to Work From Home**

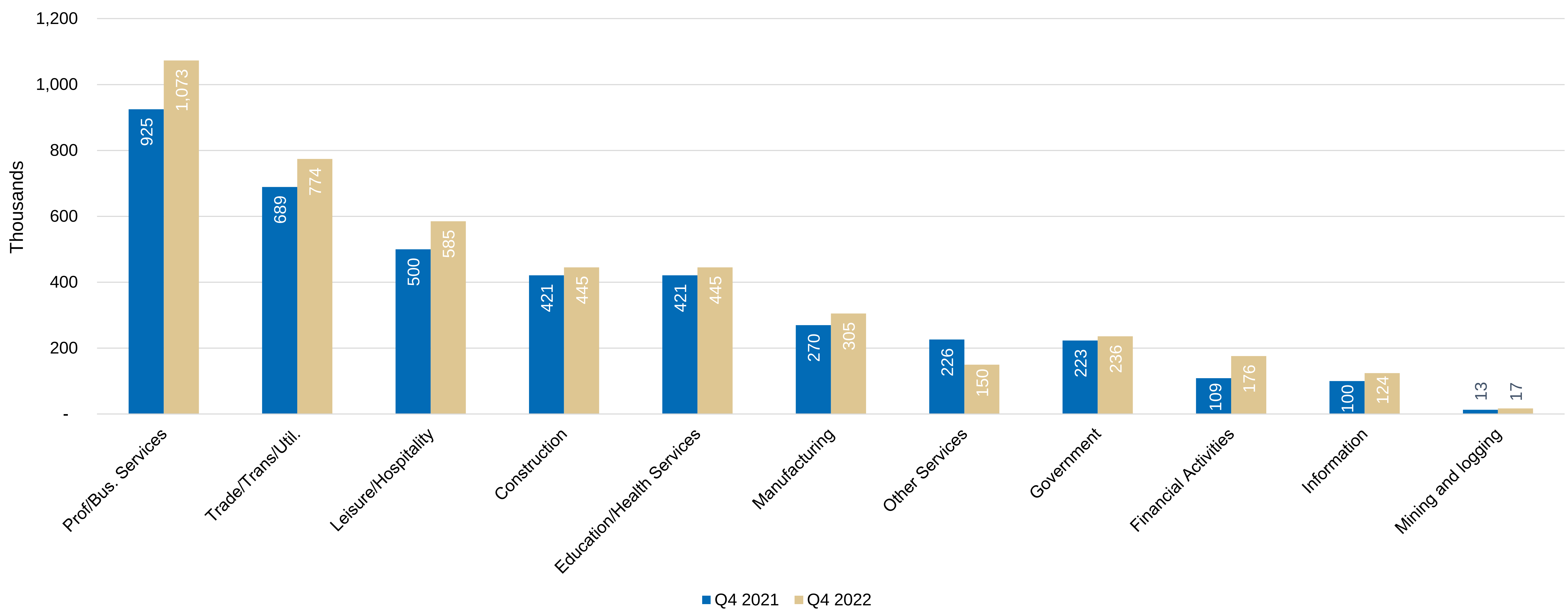



Source: Barrero, Jose Maria, Nicholas Bloom, and Steven J. Davis, 2021. "Why working from home will stick," National Bureau of Economic Research Working Paper 28731.

# Concerns about Job Security Support Return to Office

Occupations in the professional and business services sector saw the greatest rise in layoffs, with 148,000 more layoffs in the fourth quarter of 2022 than the fourth quarter of 2021, representing a 16.0% annual increase.

**Fourth Quarter Layoffs by Industry**

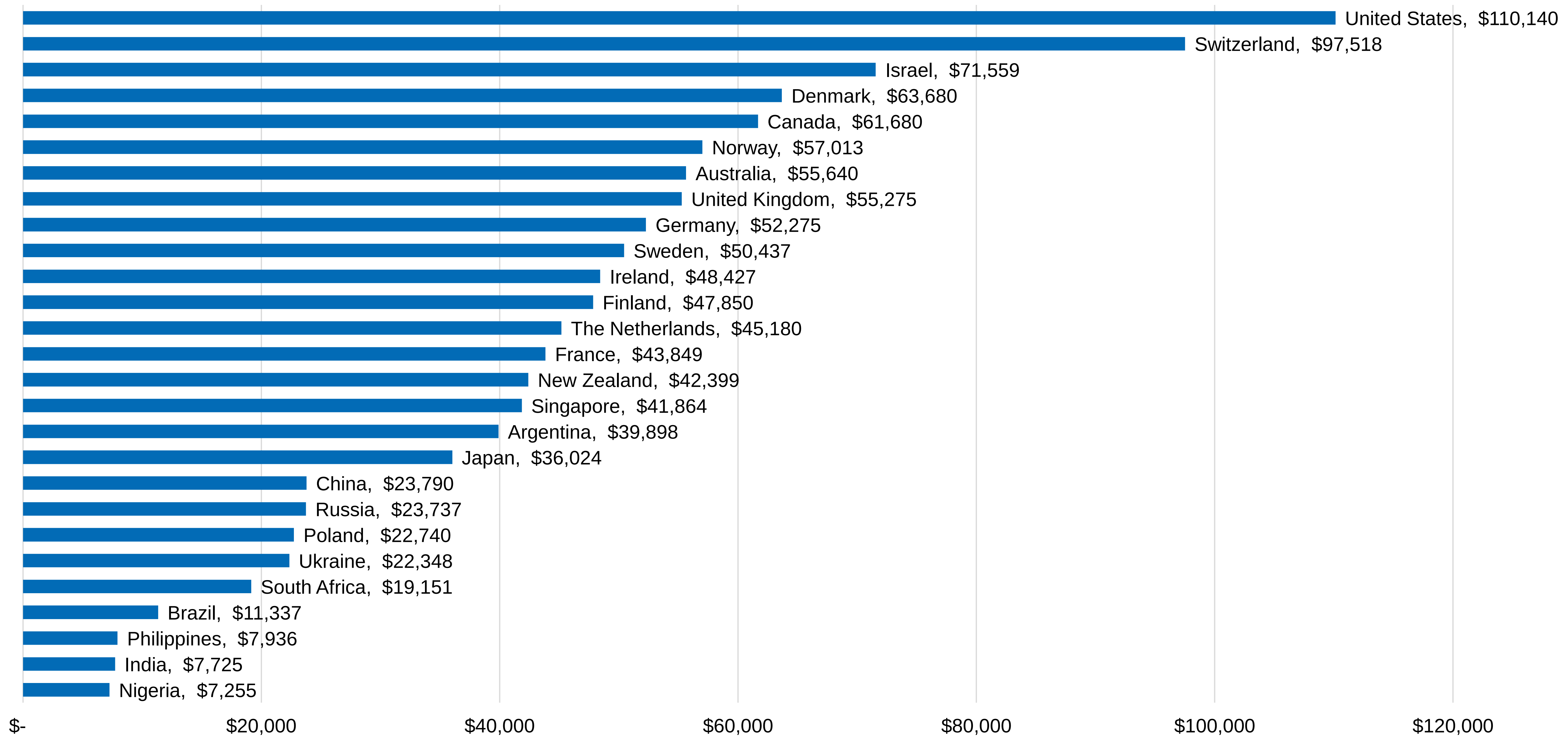



*Source: Bureau of Labor Statistics, Newmark Research*
*Note: seasonally adjusted*

# Labor Cost Arbitrage

Fully remote workers reap the benefits of geographic flexibility, permitting them to work anywhere, regardless of their employer's office locations; however, employers also can reap the same benefits by expanding the geographic boundaries upon which they can recruit talent. For many technology and developer roles, including software engineers, fully remote arrangements are becoming increasingly common. With firms' newfound ability to recruit from less expensive international labor pools, it could come at the cost of some domestic jobs.

**Average Annual Salaries for Software Engineers by Select Countries**



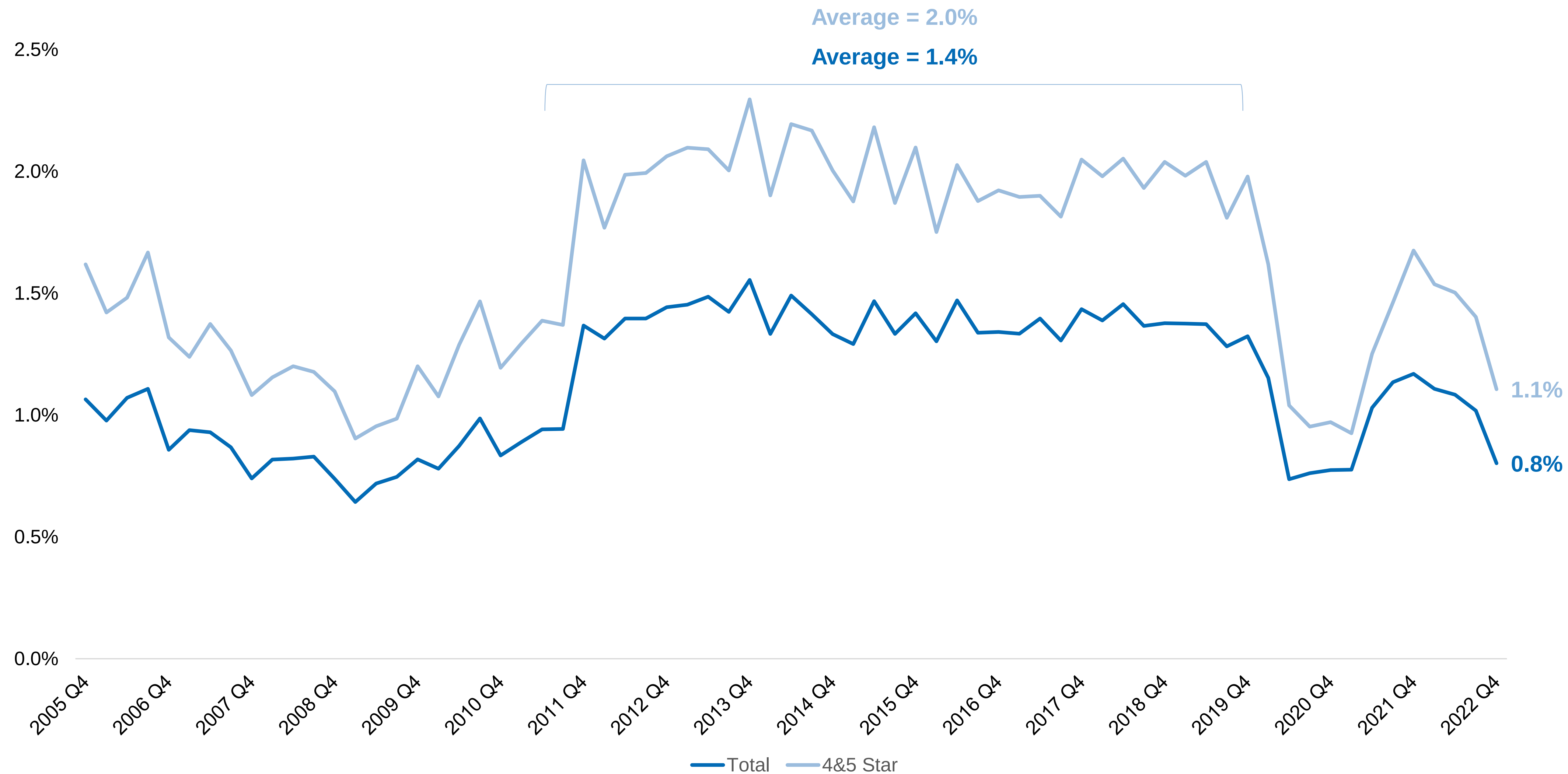

Source: CodeSubmit, Newmark Research

# Office Leasing Market

# Office Leasing Activity Continued to Slow in 4Q22

Higher-quality buildings are outperforming the overall market and driving a larger share of leasing activity. Although four- and five-star buildings only account for 38.3% of inventory, these assets have captured 52.8% of leasing activity. However, leasing activity has been trending downward over the last year and is approaching levels not seen since 2020.

## Leasing Activity as a Share of Inventory

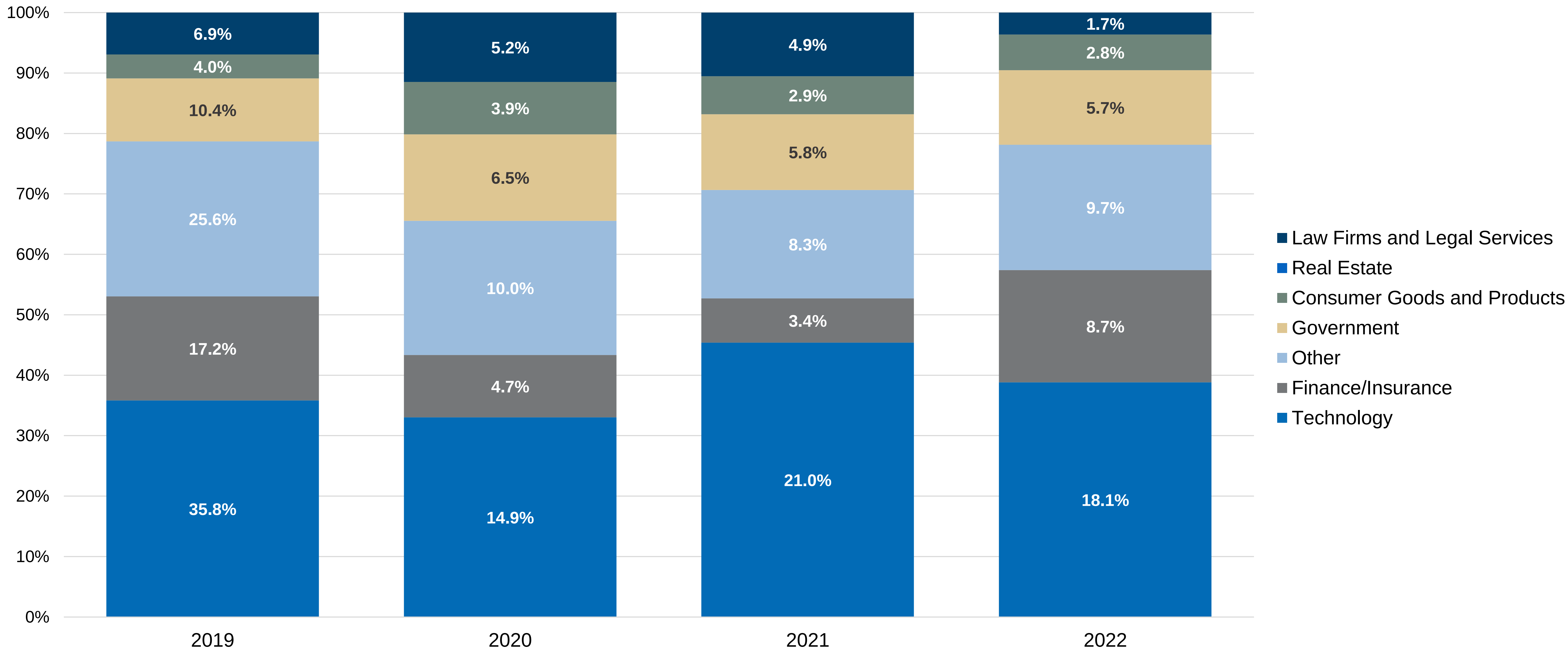



Source: CoStar, Newmark Research

# Leasing Activity by Year

Leasing activity growth slowed nationwide in 2022 as economic pressures led firms to again delay real estate planning initiatives. This was particularly true in the technology industry. Although the technology and biotech industries account for the majority share of large-block leasing activity, economic hardships are causing many of these firms to closely examine expenses and trim costs. Finance/insurance has seen an increase in its share of leasing activity among large-block users in 2022.

**Percentage of Total SF Leases Among Leases Greater than 100,000 SF**

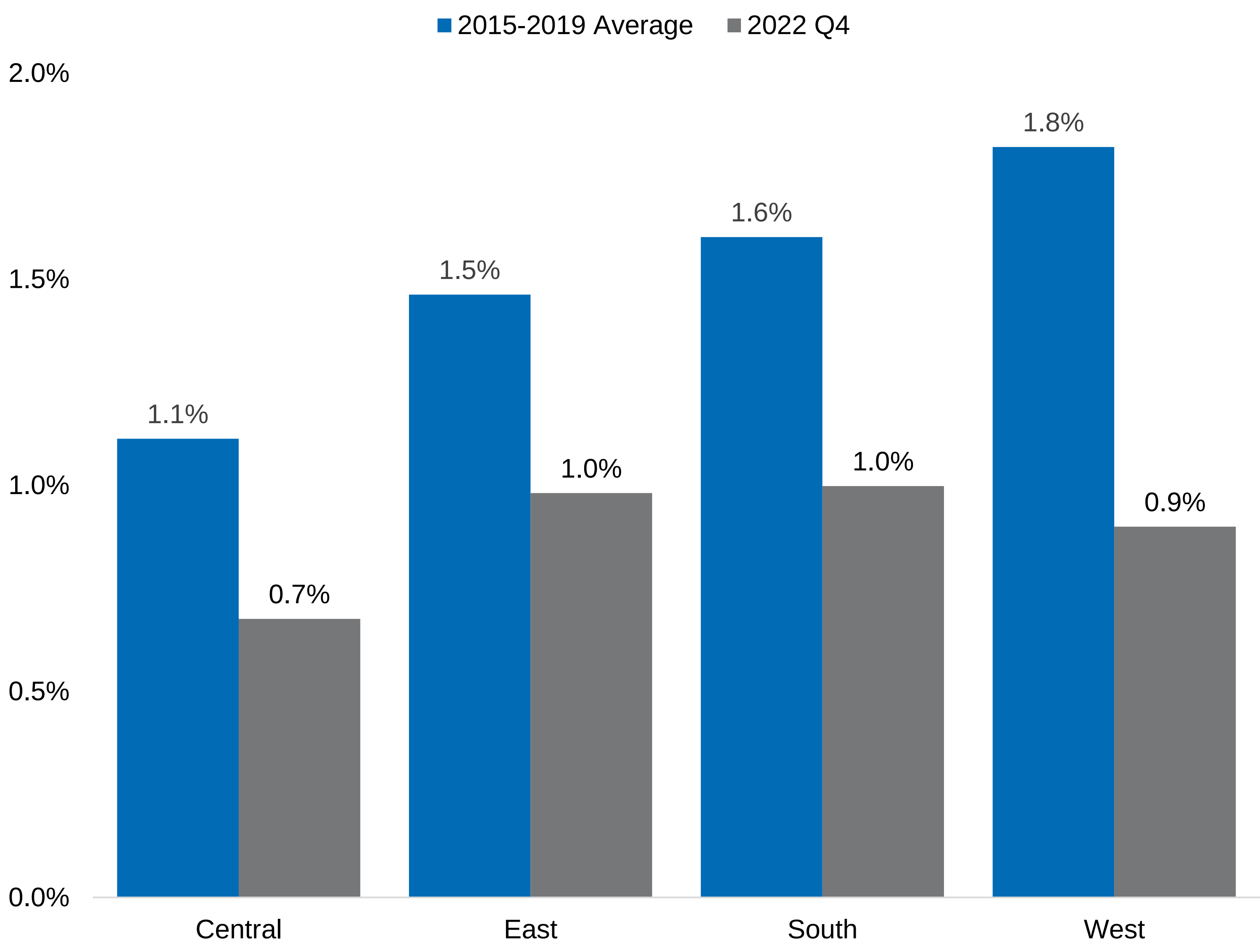



Sources: Newmark Research

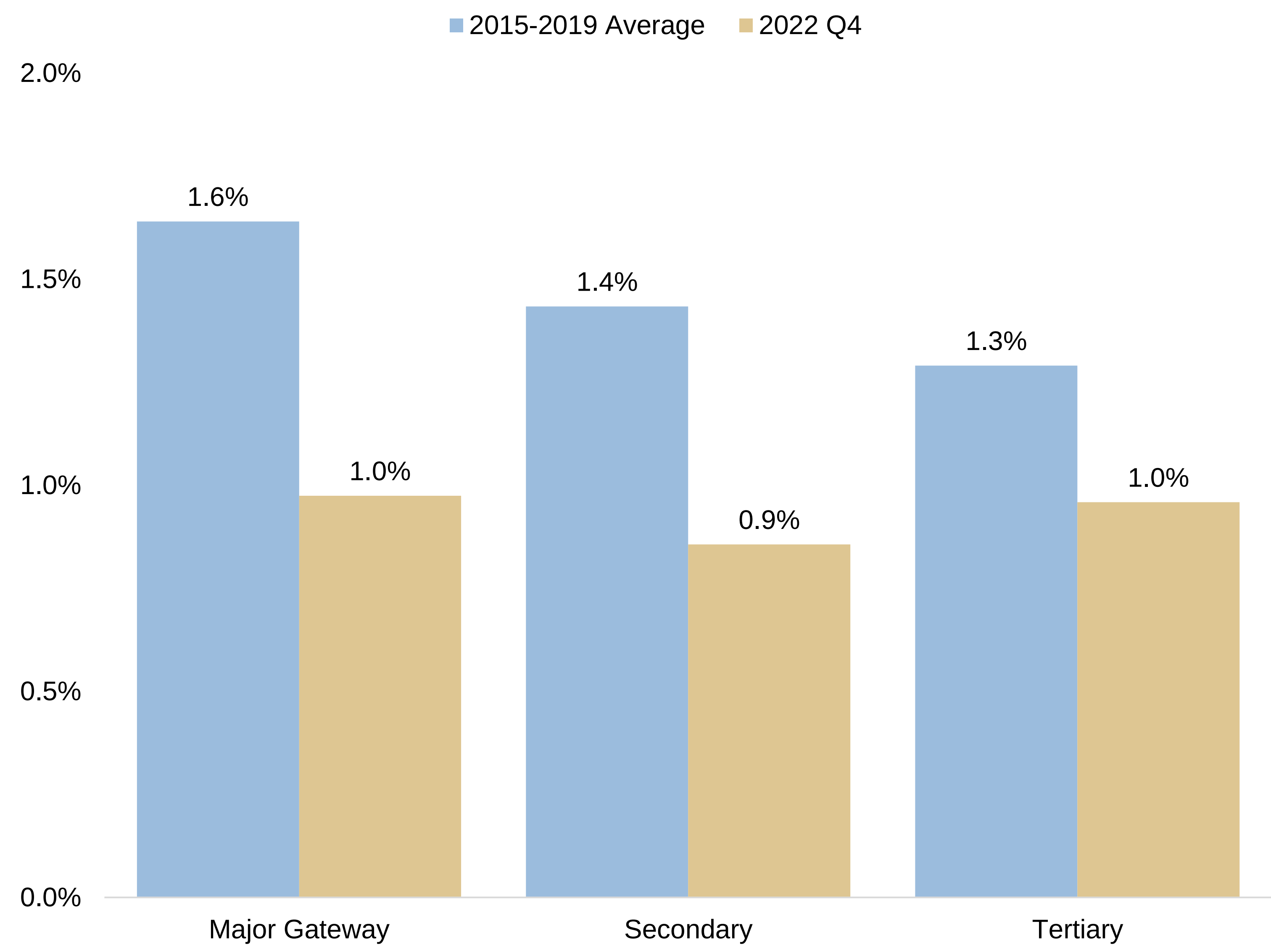
# Leasing Activity Lags Pre-Pandemic Baseline

Leasing activity was again sluggish in most markets in the fourth quarter of 2022. Leasing momentum had been more varied prior to the onset of the pandemic, with Western and major gateway markets commanding a large share of leasing relative to inventory. In the fourth quarter of 2022, leasing activity as a percent of inventory was relatively even across most regions and market sizes, indicating a slowdown in the momentum that had been gained in 2021 in some secondary and Sunbelt markets.

**Regional Leasing Activity as a Percent of Inventory**




**Market Size Leasing Activity as a Percent of Inventory**

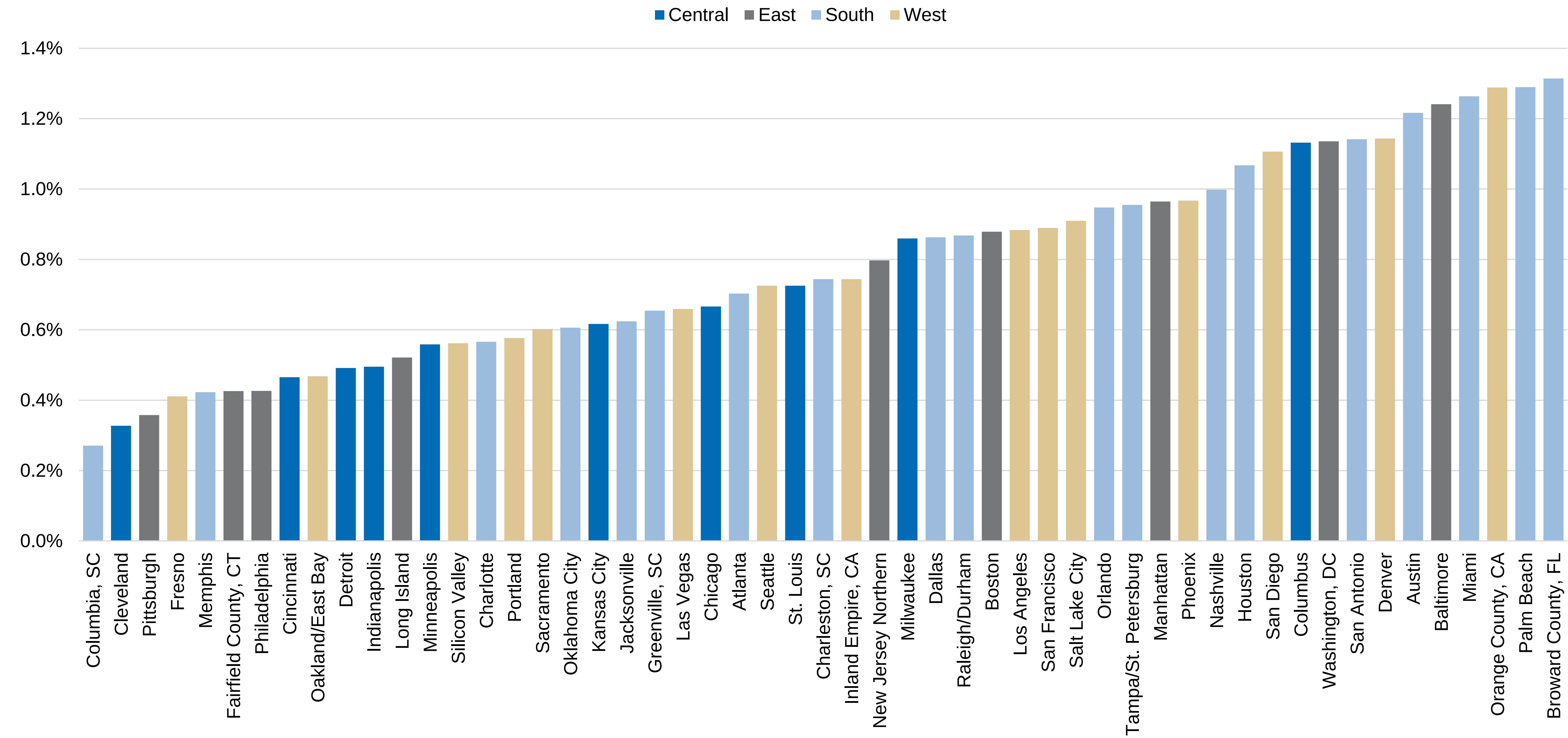



Source: CoStar, Newmark Research

# Leasing Activity by Market

Quarterly leasing activity by Newmark-tracked markets ranges from 0.3% of inventory in Columbia, SC to 1.3% in Broward County, FL. Variations are anticipated among smaller inventory markets, but it should be noted that major gateway markets, including Washington, Manhattan, San Francisco and Los Angeles, are largely in the upper half of this distribution.

## Leasing Activity as a Percent of Inventory

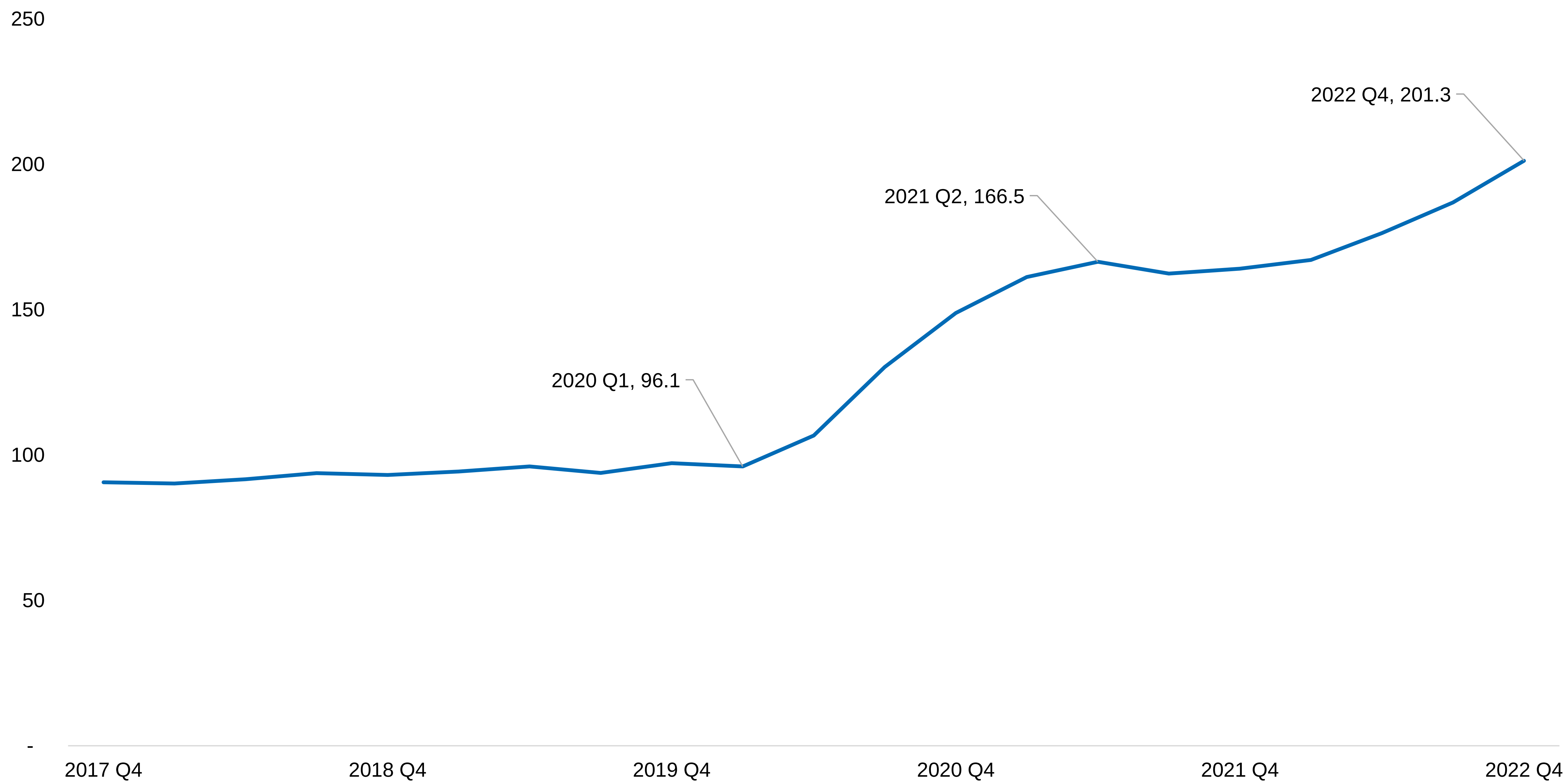



Source: CoStar, Newmark Research

# Sublease Availability Steadily Accelerates through 2022

Sublease availability has risen at an increasing rate throughout 2022, measuring 7.7% growth between the third and fourth quarters of 2022. National square footage available for sublet is currently at an all-time high of 201.3 million square feet.

**National Sublease Availability (msf)**

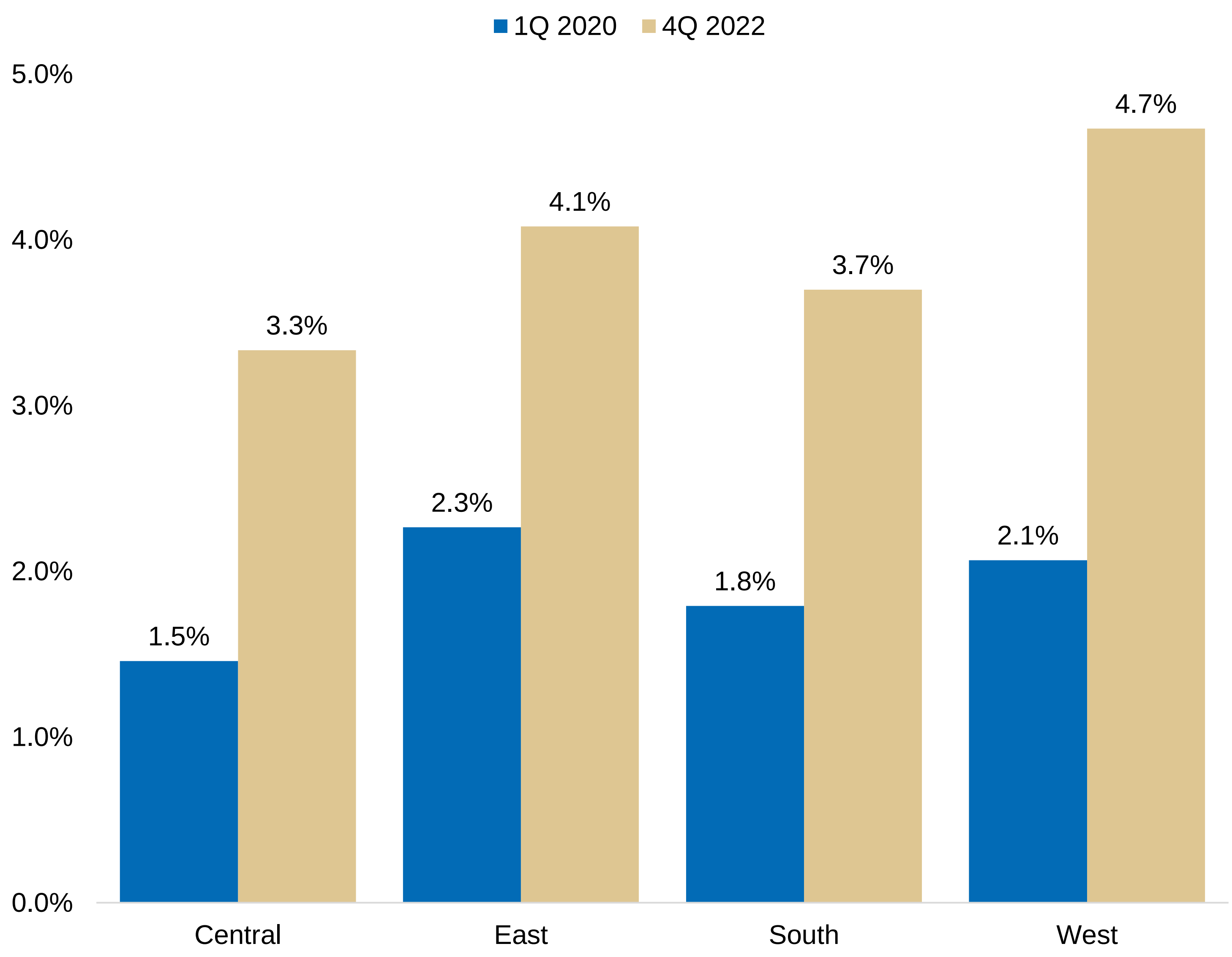



Source: CoStar, Newmark Research

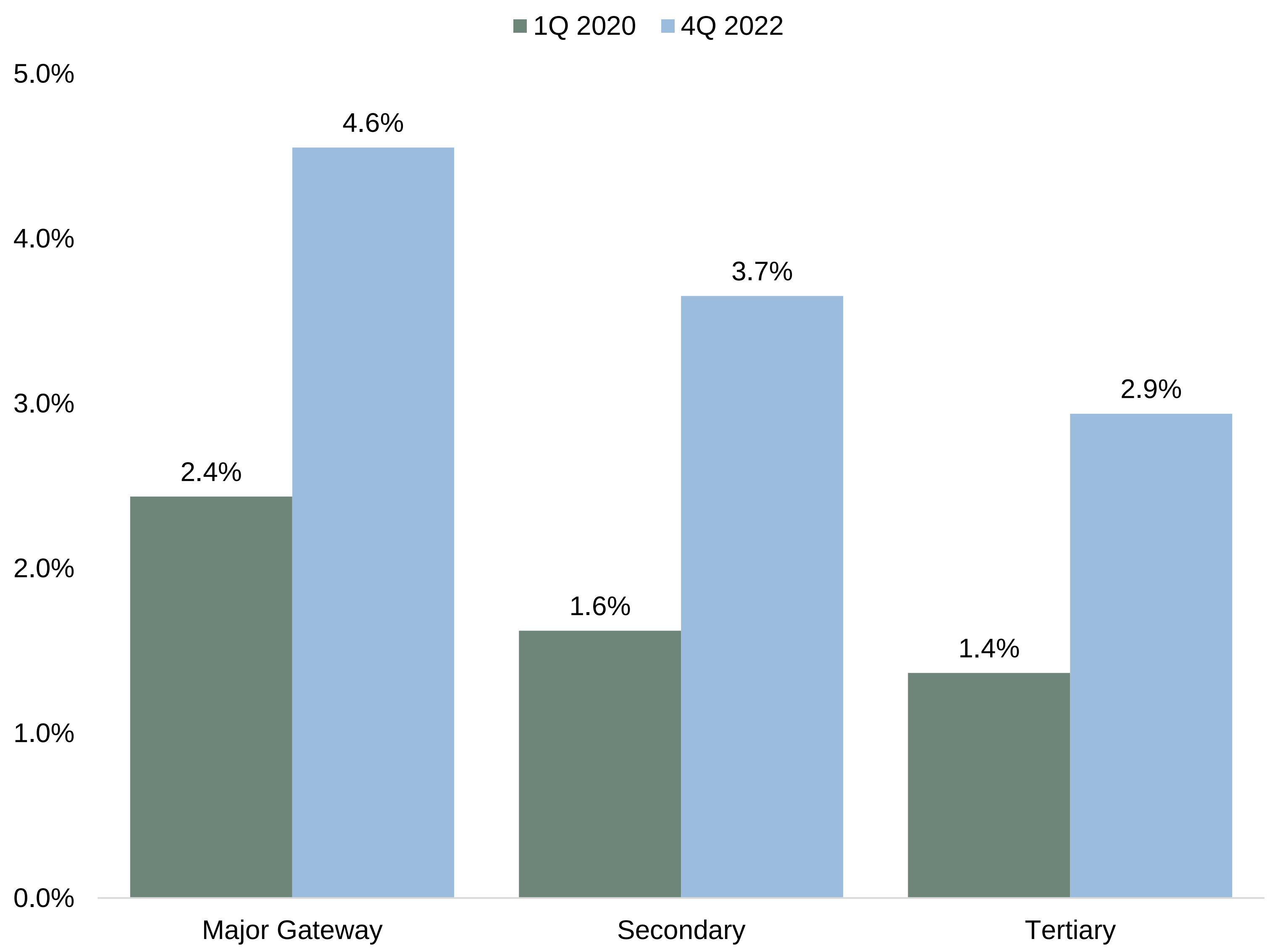
# Sublease Availability Significantly Elevated above Pre-Pandemic Baseline

Sublease availability has been steadily rising across nearly all segments of the national office market in 2022. Although public health conditions have improved to the point that most firms and employees could return to offices, the long-term adoption of remote and hybrid schedules, as well as rising concern for recessionary pressures, are encouraging some firms to again reassess the utility of their current real estate. As economic headwinds grow, particularly in tech-focused markets, sublease availability rates could continue to rise in 2023.

## Regional Sublease Availability Rate




## Market Size Sublease Availability Rate

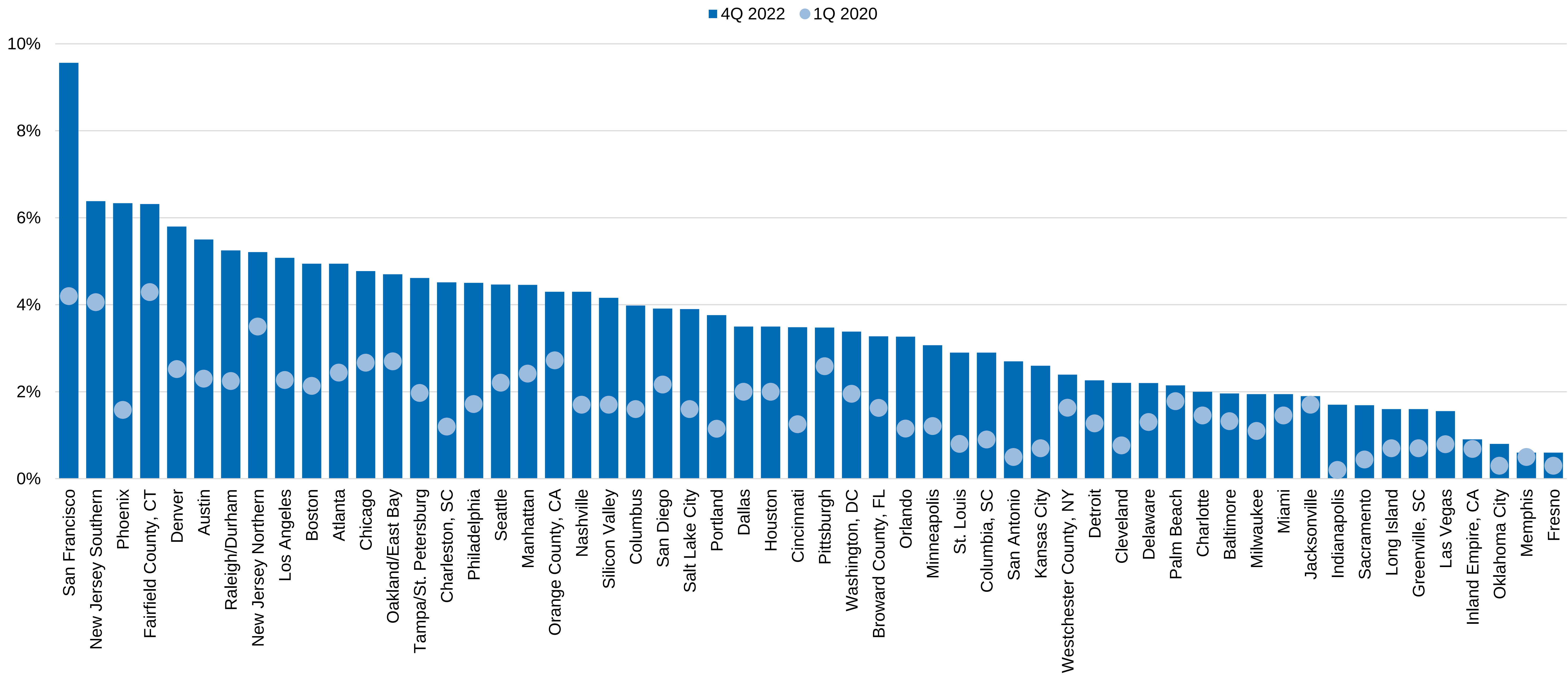



Source: CoStar, Newmark Research

# Sublease Availability by Market

Sublease availability remains elevated above pre-pandemic baseline levels in most U.S. markets. Larger markets exhibiting particularly challenging sublease environments include San Francisco, Phoenix, Denver and Austin. Instability in the tech industry, evidenced by layoffs in late 2022 and early 2023, indicate these markets could experience greater increases in sublease availability, further softening fundamentals.

**Sublease Availability Rate**

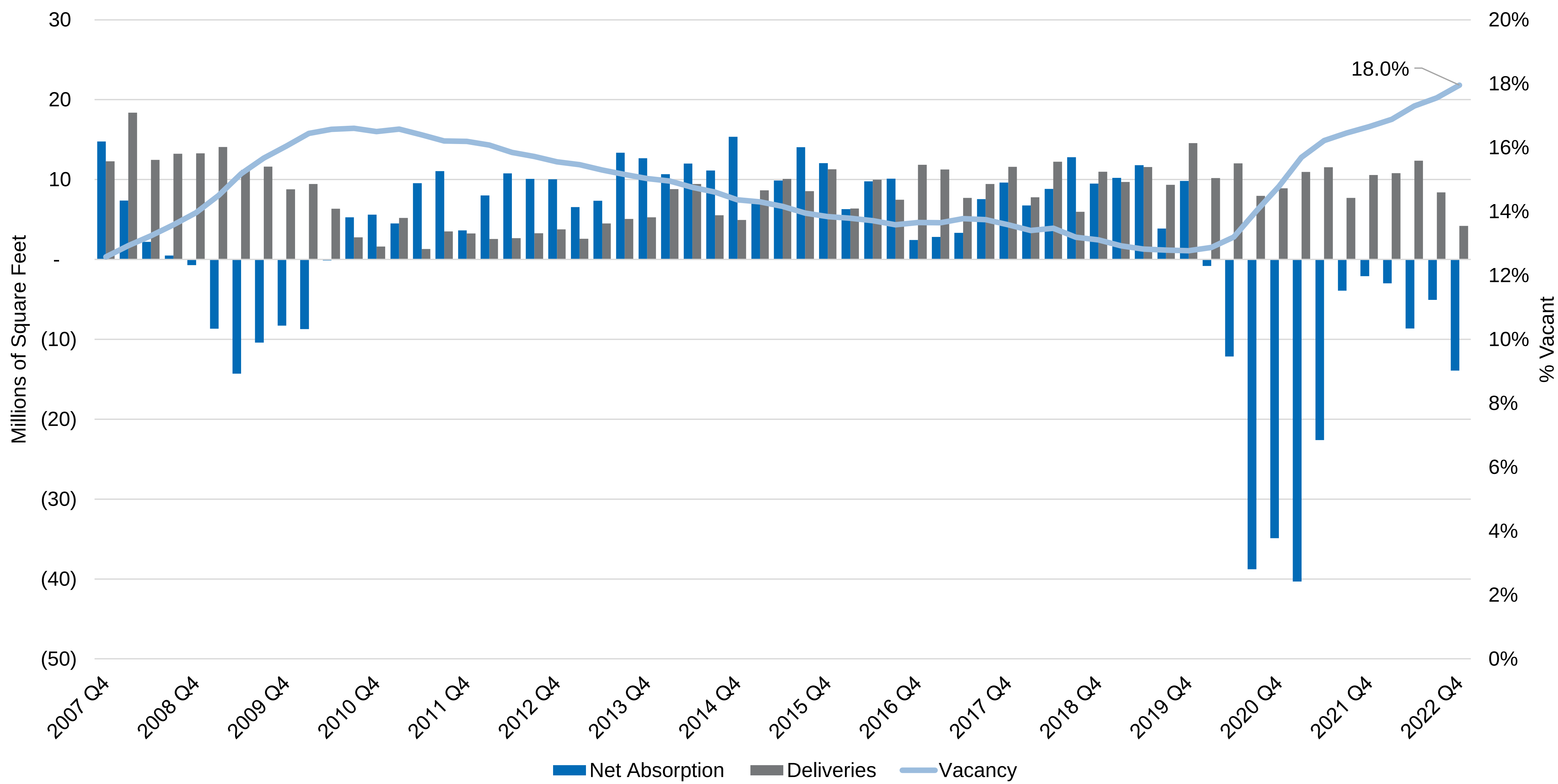



Source: CoStar, Newmark Research

# Continued Vacancy Growth Driven by Greater Occupancy Losses

Net absorption contracted more strongly in the fourth quarter of 2022, resulting in year-end net occupancy of negative 30.6 million square feet. Since the first quarter of 2020, net absorption has totaled negative 186.2 million square feet, significantly worse than either the Great Recession (negative 51.6 million square feet) or dot-com (negative 75.7 million square feet) market downturns. While the national construction pipeline has slowed significantly, the noteworthy reduction in demand has driven vacancy to its highest levels in the cycle, reaching 18.0%

**Supply and Demand: Net Absorption, New Construction Deliveries, and Vacancy**

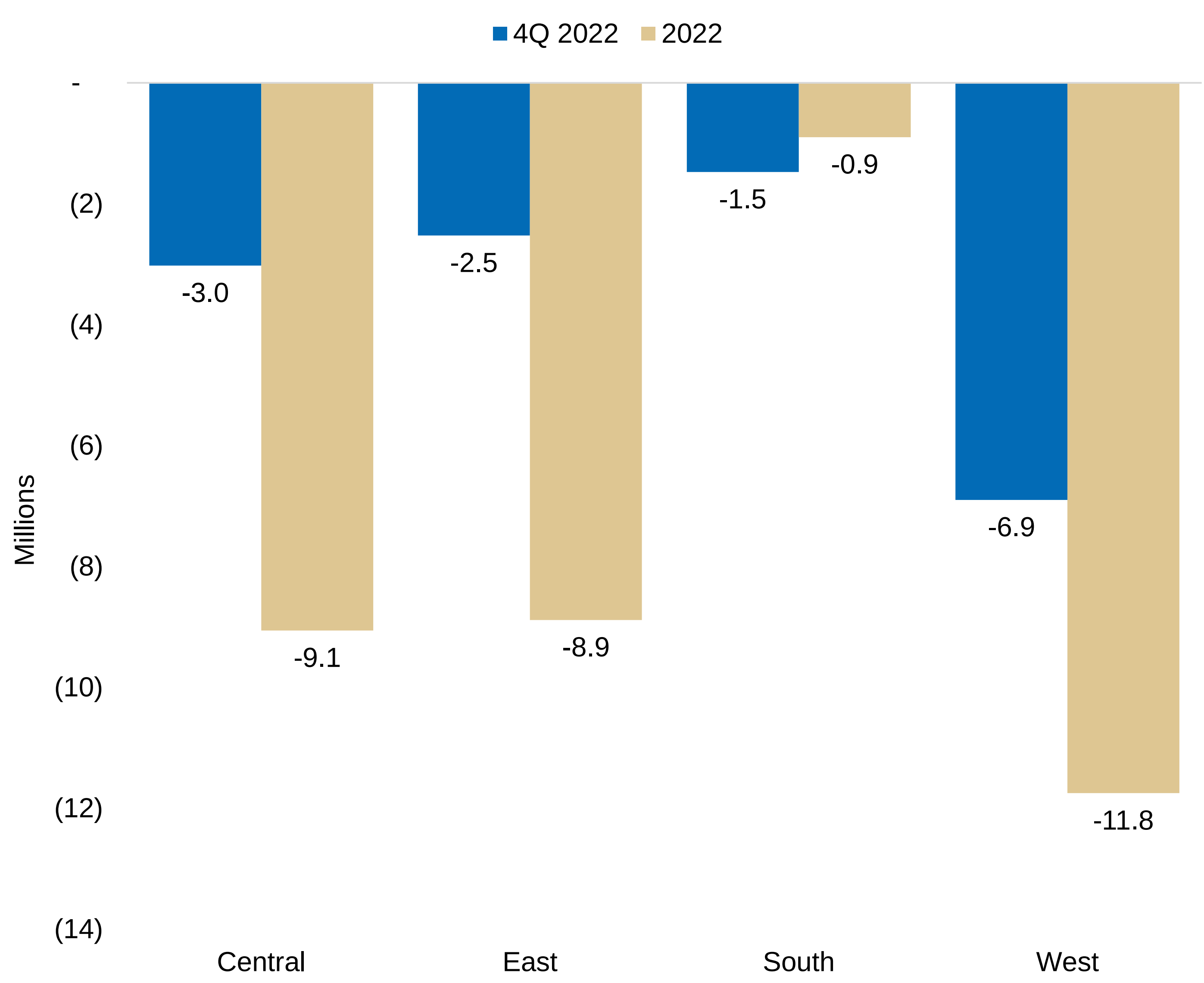



Source: CoStar, Newmark Research

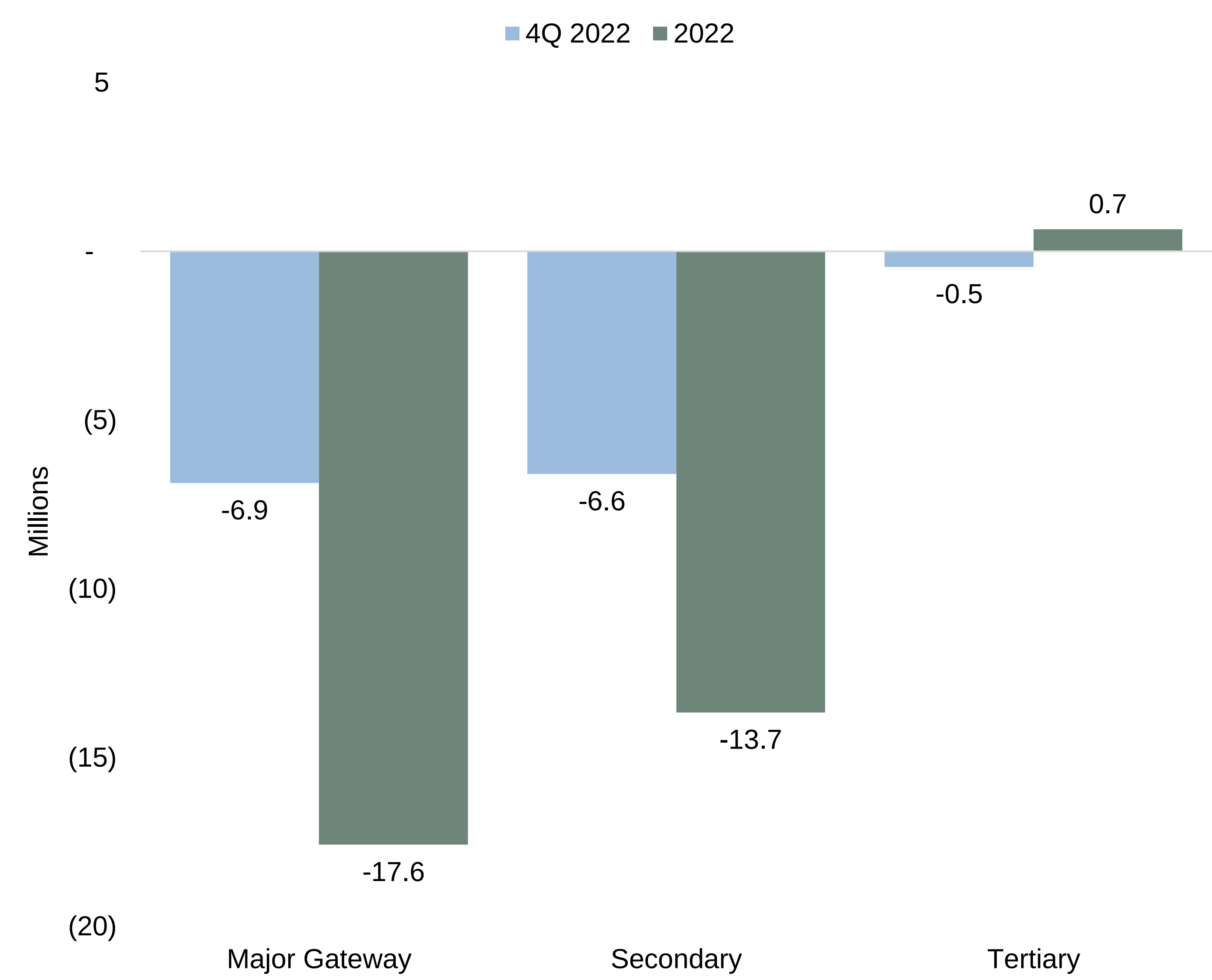
# Net Absorption Contracts in Fourth Quarter; Strong Year-End Losses Measured

Occupancy losses continued to mount in the fourth quarter of 2022, driven most strongly by the Western region. Significantly negative net absorption in San Francisco, Phoenix, Los Angeles and Silicon Valley drove annual net absorption to negative 11.8 million square feet. Both major gateway and secondary markets shed a comparable amount of occupancy in the quarter. The South and Sunbelt continues to perform well relative to the nation, though occupancy losses did accelerate in the fourth quarter of 2022 within this region, as well.

## Regional Net Absorption




## Market Size Net Absorption

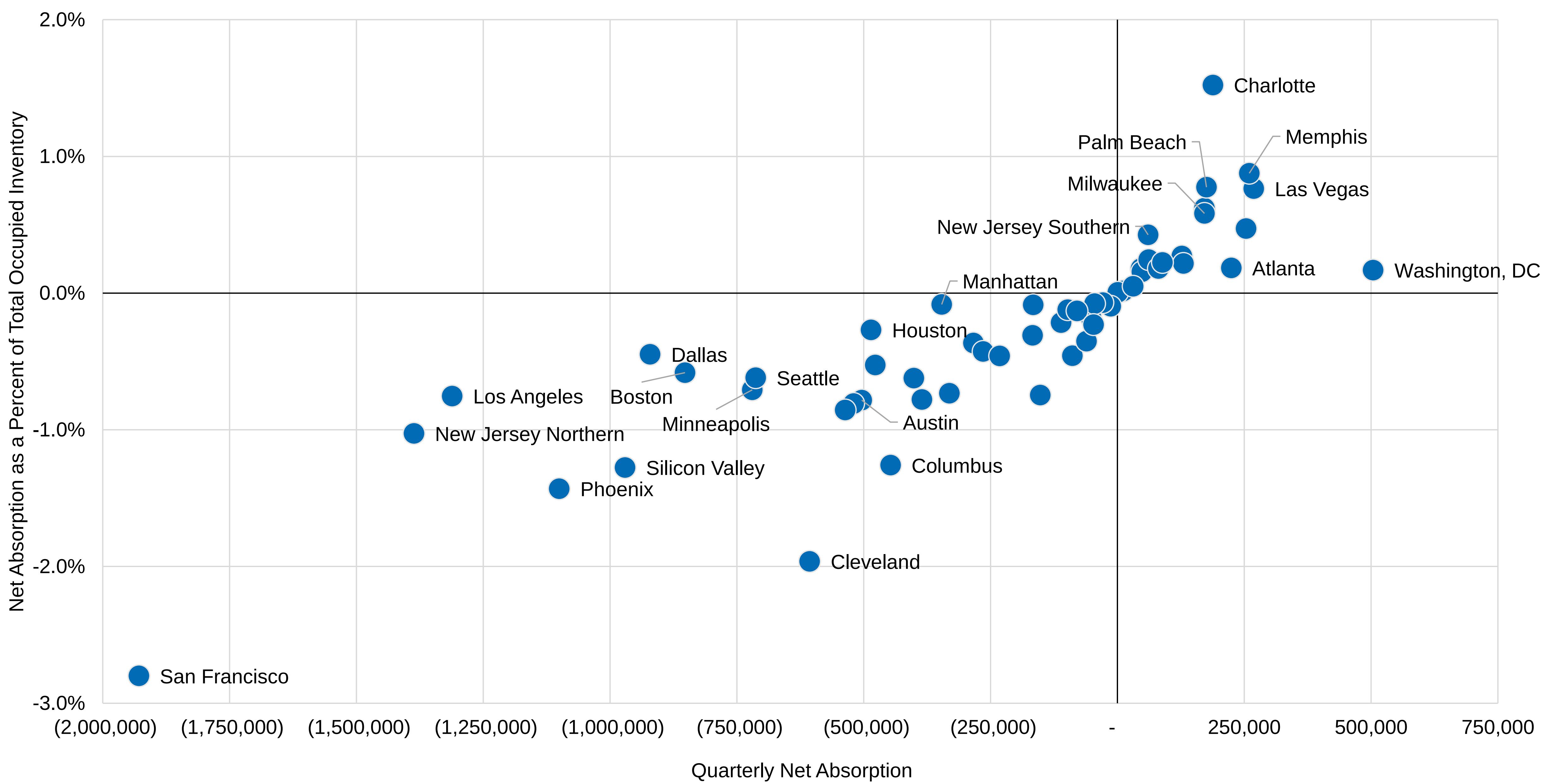



Source: CoStar, Newmark Research

# Occupied Space Contracted in 36 out 56 Markets in 4Q22

Net absorption in the fourth quarter of 2022 was notably negative, driven by significant losses in a variety of large and midsized markets. Few markets recorded positive absorption in the quarter, and sizeable losses elsewhere offset what few success stories there were. Noteworthy losses in San Francisco, Los Angeles, Phoenix and Silicon Valley drove the Western region to underperform.

**Fourth Quarter 2022 Net Absorption Comparison**

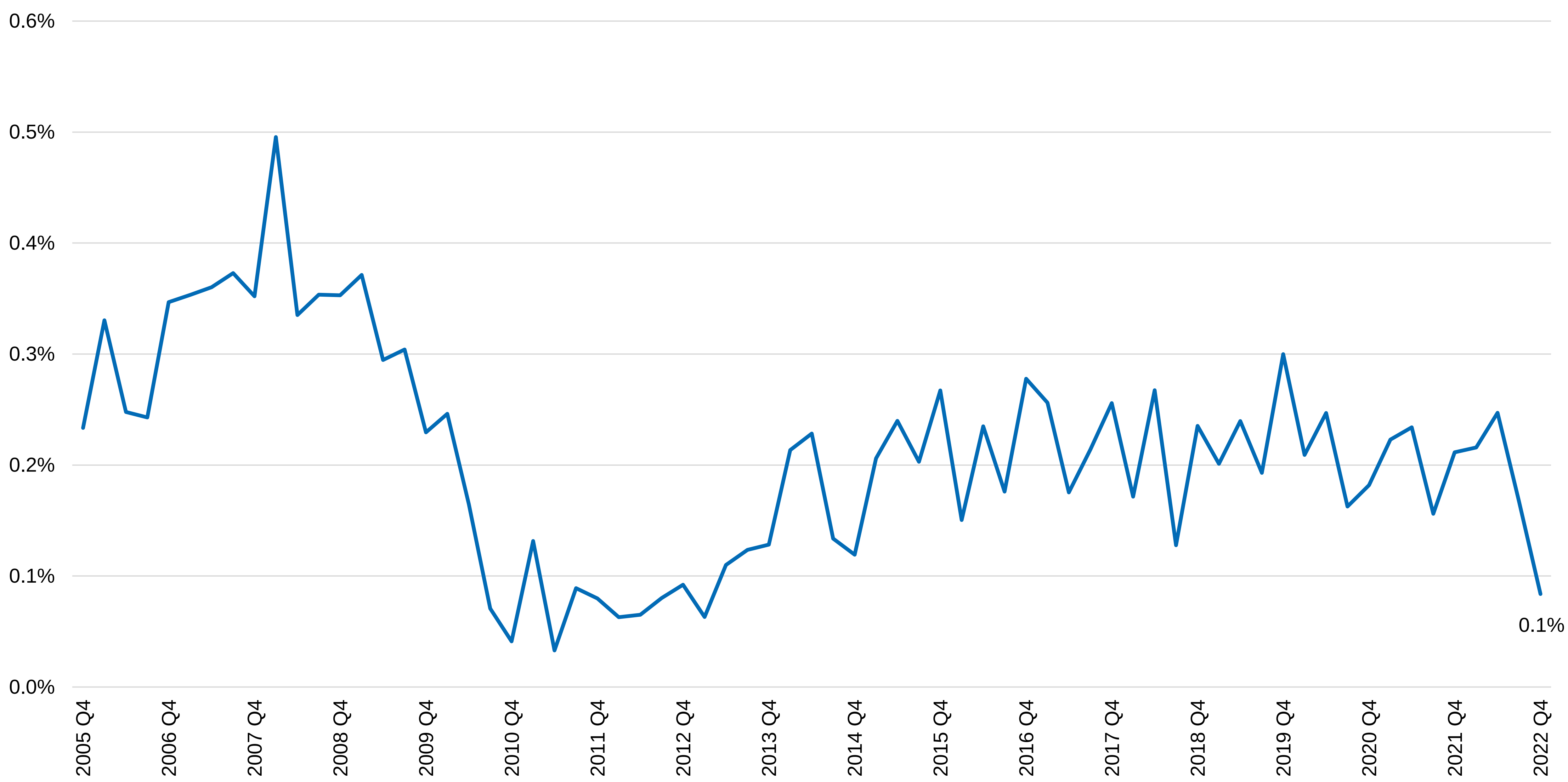



Source: CoStar, Newmark Research

# Office Deliveries Declined Sharply in Q4 2022 to Lowest Level Since 2013

The pace of deliveries has decreased notably in 2022 and reflects the slowdown in new office groundbreaking activity, which began in mid-2020. The pace of future deliveries is likely to remain low; however, the national construction pipeline is experiencing some upward pressure as moderation in construction costs and demand for top-quality office space encourages some developers to break ground on build-to-suit projects in select markets.

**Office Deliveries as Percent of Inventory**

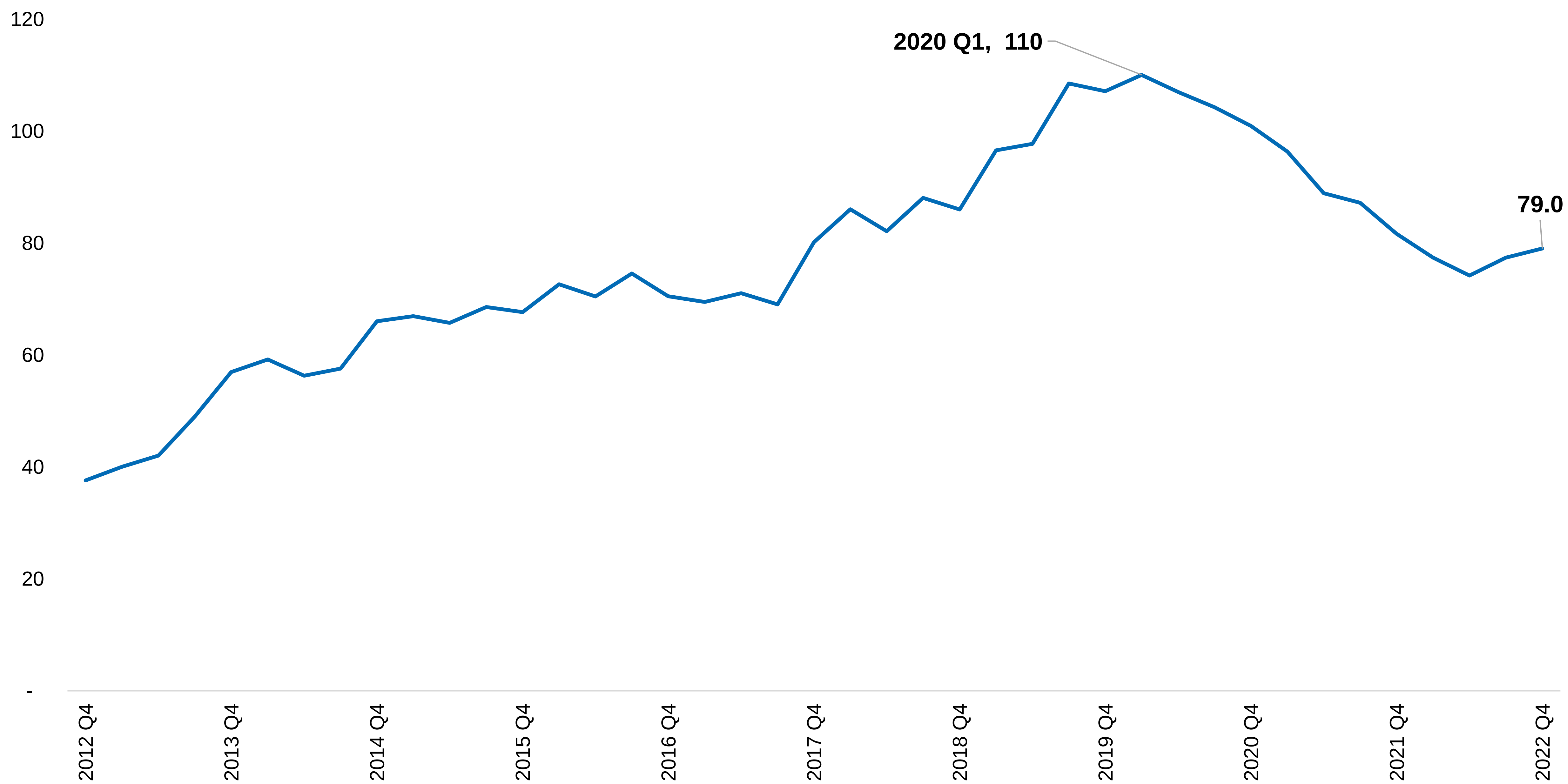



Sources: CoStar, Newmark Research

# Office Construction Pipeline Increased for a Second Consecutive Quarter

Office space under construction peaked in early 2020 at over 110 million square feet but has slowed as the pandemic influenced office demand in the years since. Construction activity has inched upward in late 2022 as optimism among some developers in inventory-constrained markets encouraged new groundbreaking activity. Though the pipeline modestly increased in the fourth quarter of 2022, it is expected to at best remain stable in the near term due to decreased overall demand for office space and increased economic uncertainty.

**Total Square Footage Under Construction In Millions**

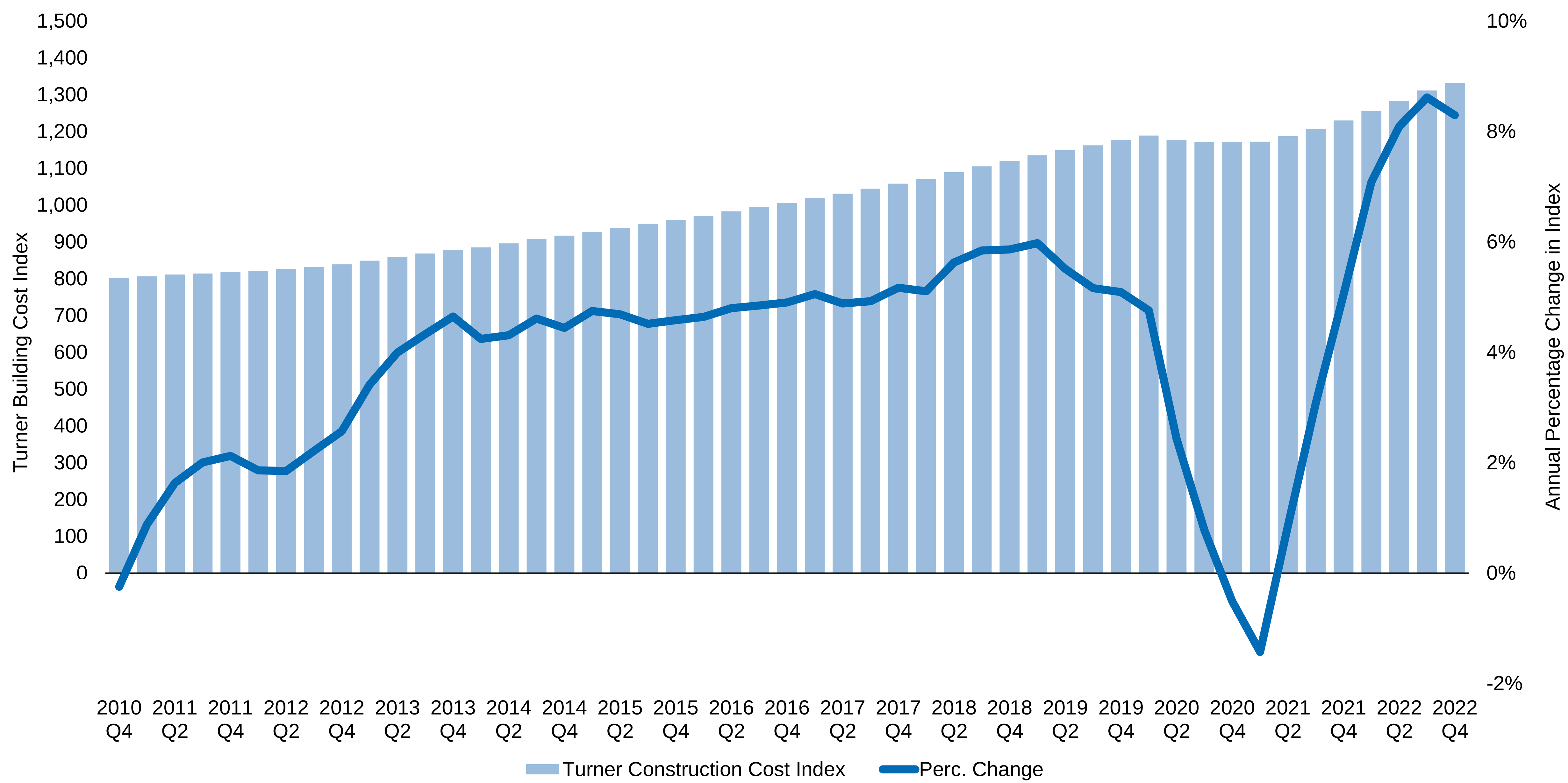



Sources: CoStar, Newmark Research

# Office Construction Costs Increase in 2022

Overall inflationary pressures have begun to slightly ease in the fourth quarter of 2022, but construction pricing continued to rise unabated. Construction pricing generally increased from 4.0% to 5.0% through much of the mid-2010s. While the annual growth rate of the Turner Building Cost Index tipped down in the fourth quarter of 2022, it remains high at 8.3%.

## Turner Building Cost Index

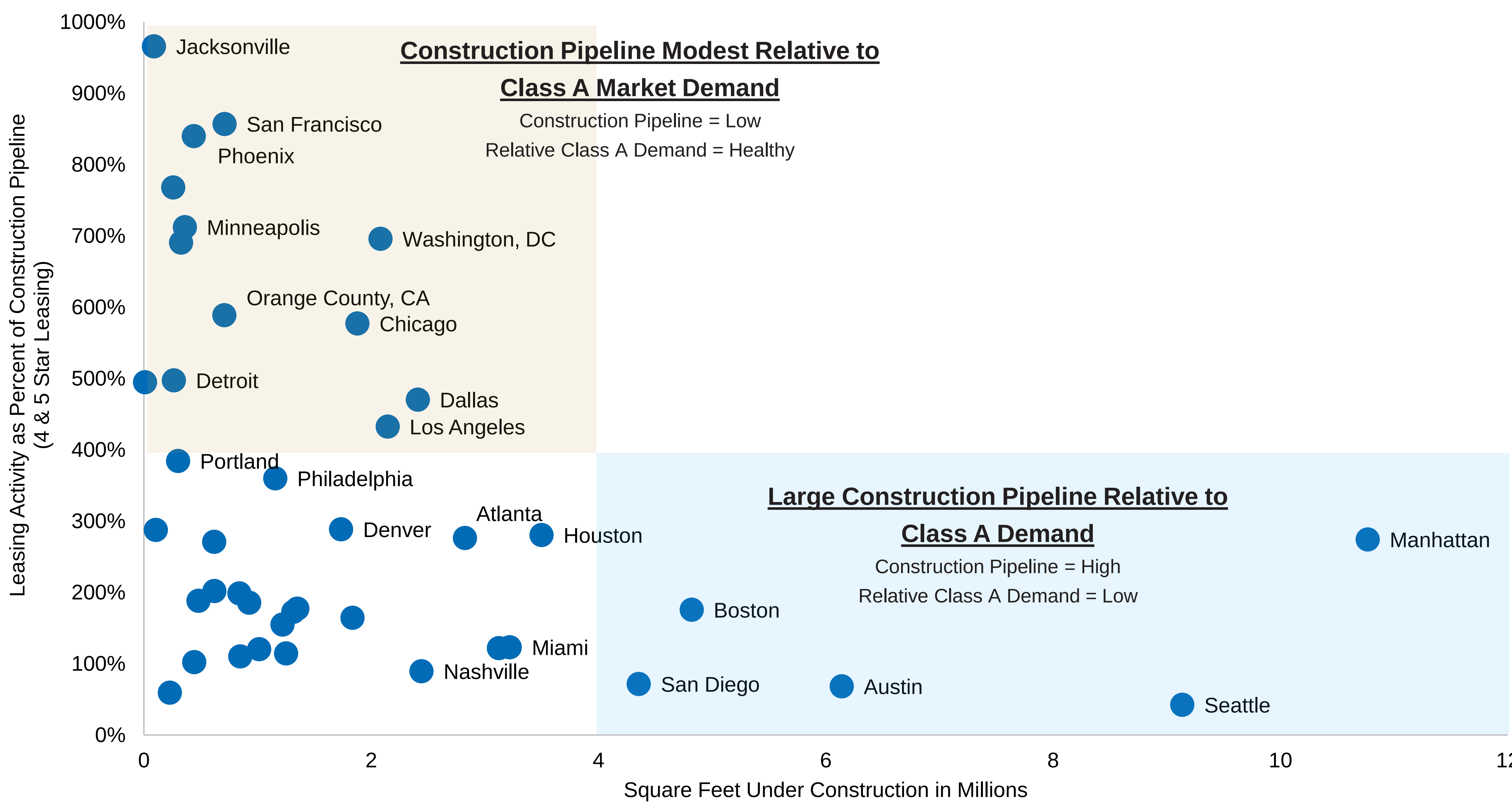



Source: Bureau of Labor Statistics, Newmark Research

# Low Construction Pipelines May Help Moderate Supply and Demand Imbalances

The national construction cycle is slowing from its peak reached in 2020. Although most markets have seen a slowdown in construction activity, some developers are optimistic about long-term demand for high-quality space. Demand for high-quality office space is a relative bright spot in the market, but some metro areas may still be overbuilding. Among markets with the largest total construction pipelines, including Manhattan, Seattle and Austin, relative Class A leasing is low, posing challenges for potential vacancy and availability growth. Conversely markets such as San Francisco, Phoenix and Washington have modest construction pipelines and may be better positioned to achieve more balanced supply and demand.

**2022 Leasing Activity as a Percentage of Construction Pipeline**

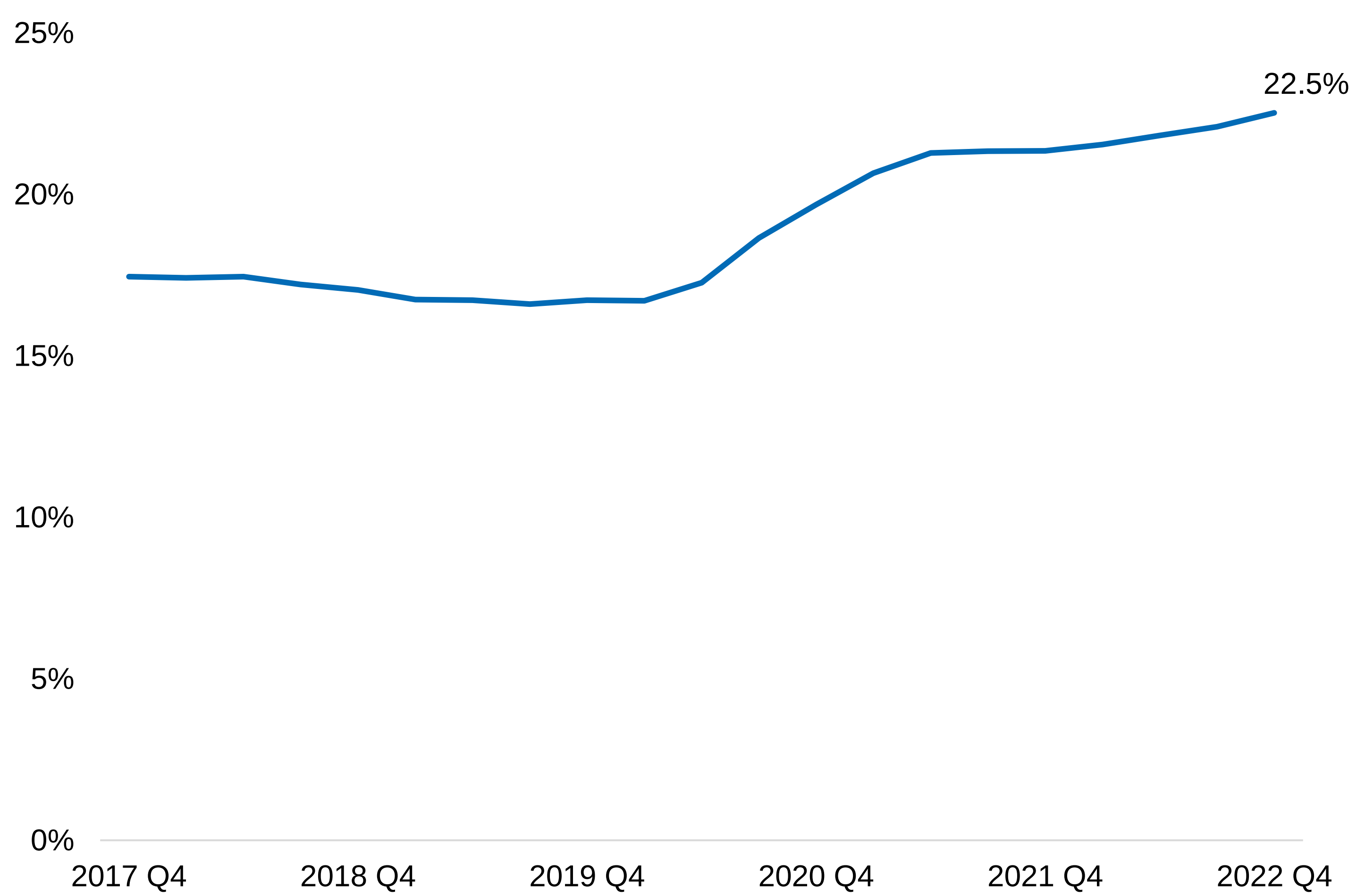



Source: Costar, Newmark Research

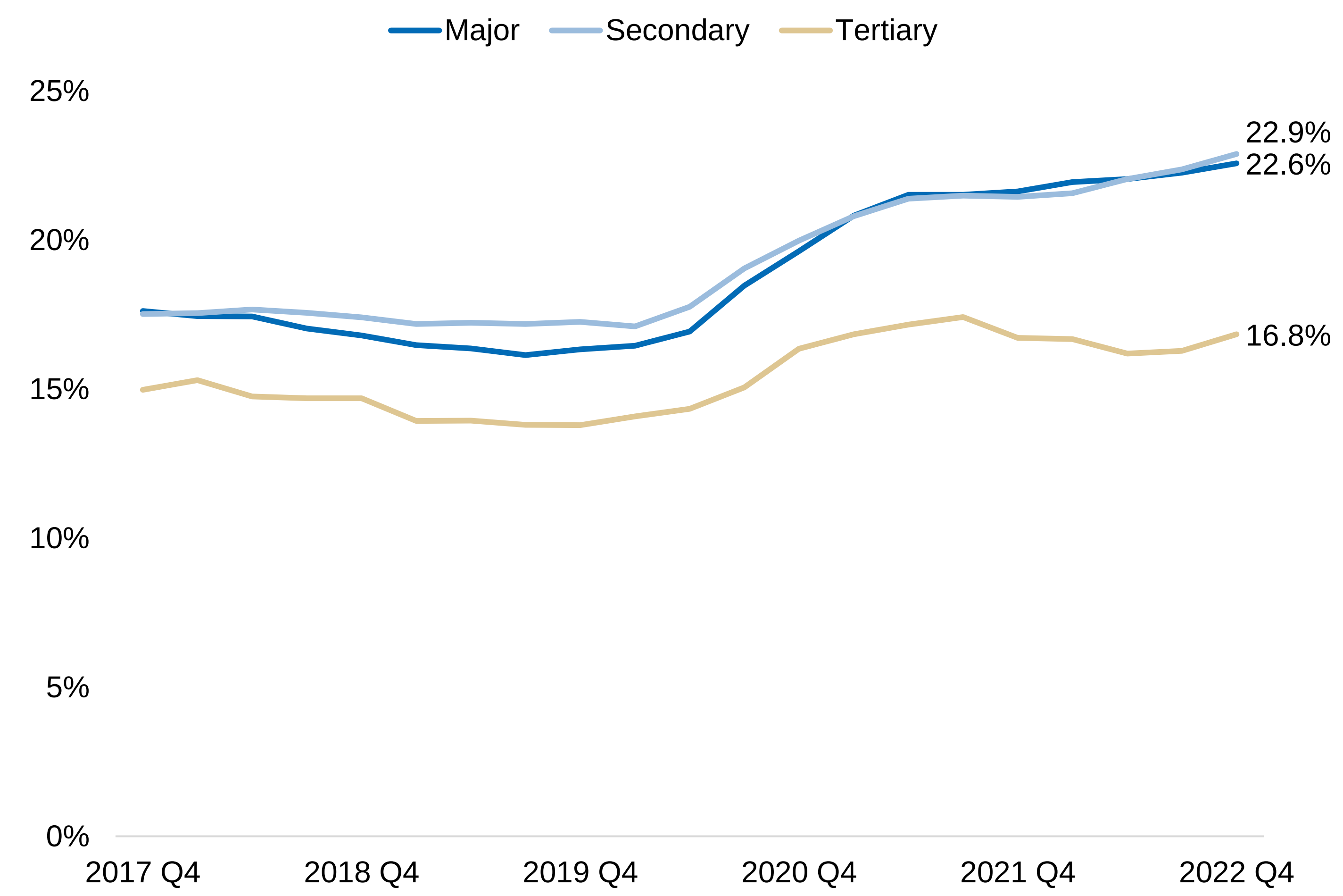
# Availability Rates Have Not Yet Peaked

Availability rates increased in the fourth quarter of 2022, equitably supported by most market segments. Prior to the fourth quarter of 2022, tertiary markets had recorded stabilizing availability levels, but renewed uncertainty has driven up availability rates alongside other fundamentals, including sublease space and vacancy.

### National Office Market Availability Rate




### Availability Rate Comparison By Market Size

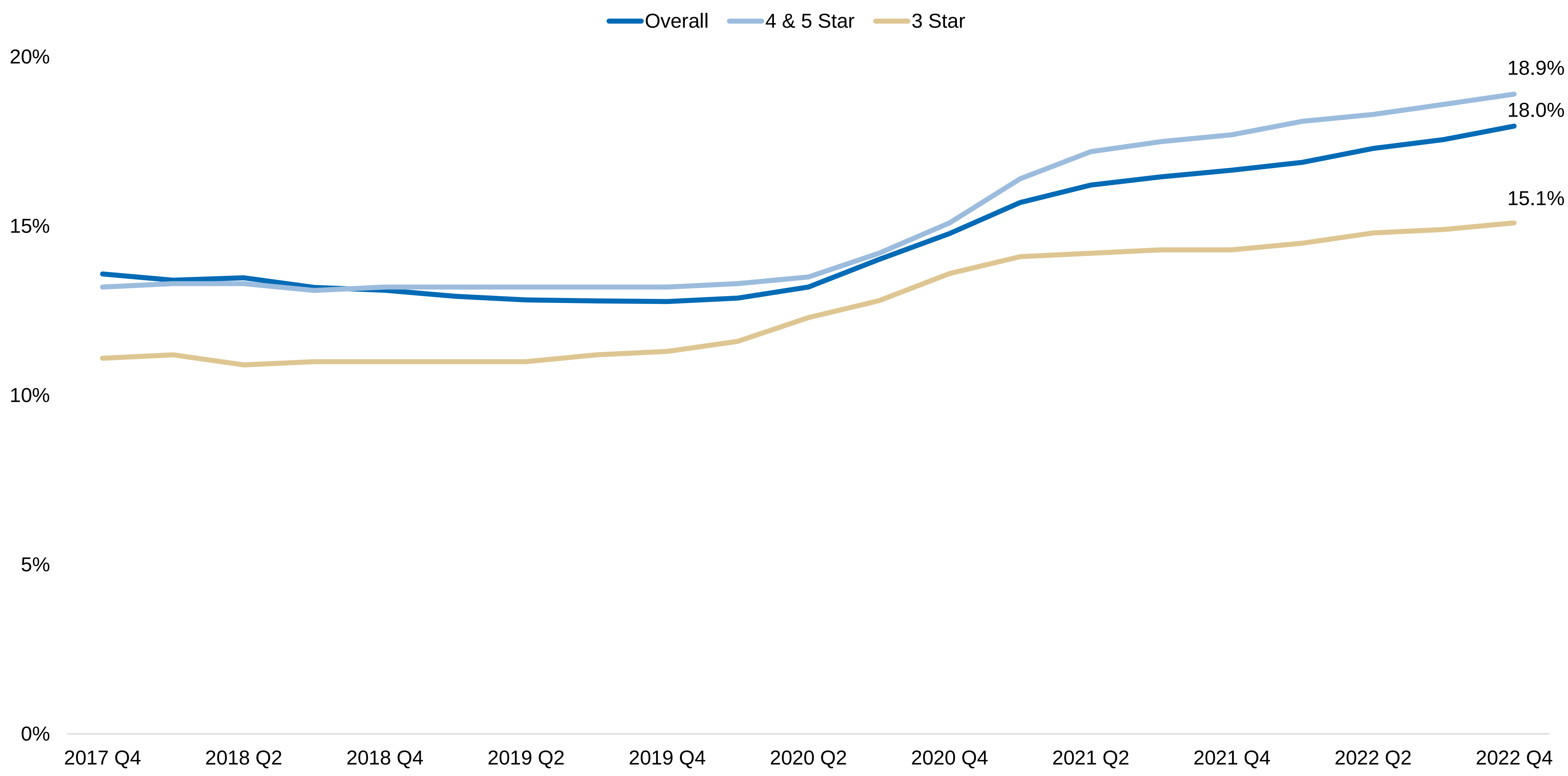



Sources: CoStar, Newmark Research

# Continued Occupancy Losses and Slow but Steady Deliveries Drive Vacancy

Vacancy rates rose most notably in the quarters immediately following the onset of the COVID-19 pandemic but continues to marginally grow as overall demand for office space remains soft. Commodity-grade Class A space is generally the most oversupplied segment of the market.

## National Office Market Vacancy Rate By Class

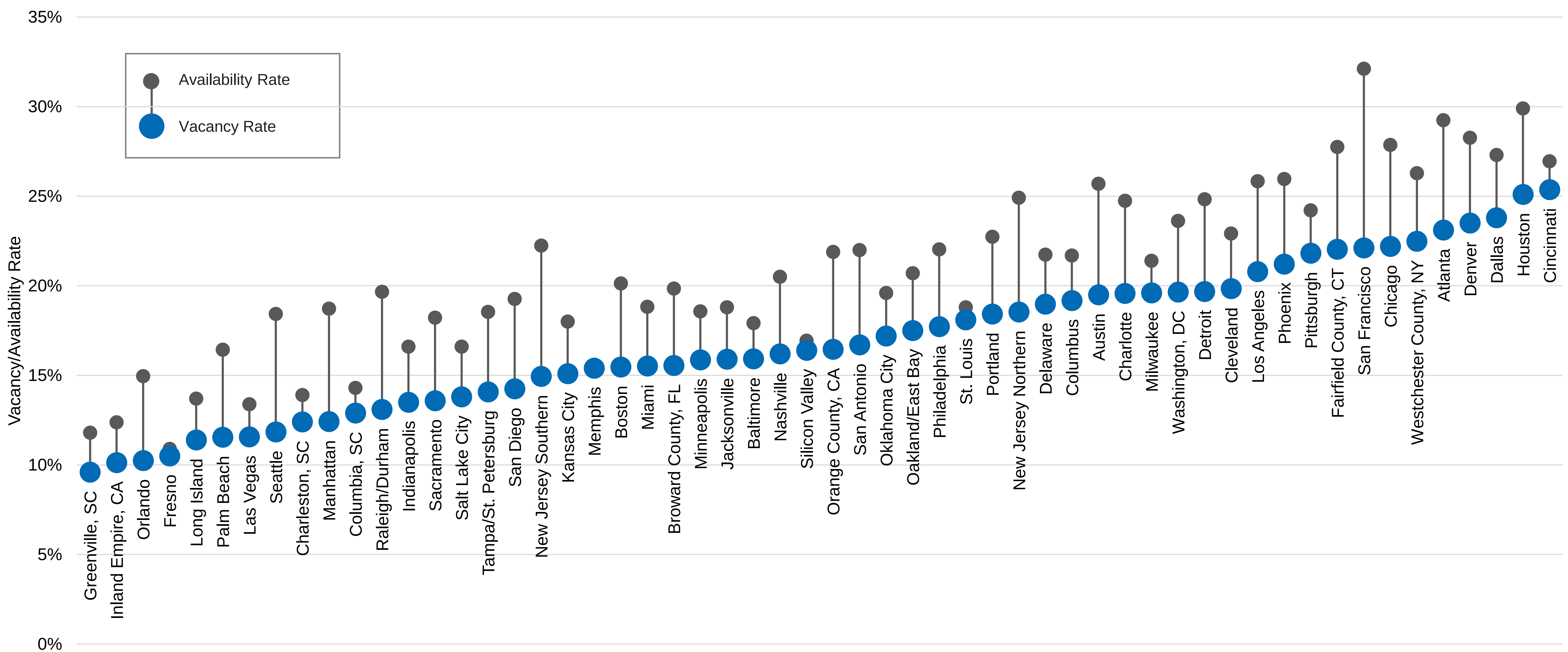



Source: CoStar, Newmark Research

# Vacancy and Availability by Market

Both vacancy and availability have largely been trending up over the last two years, but the degree to which markets have experienced these increases has varied. Generally, the healthiest and most stable markets are those with low vacancy and a narrow spread with availability. Although markets like Seattle, Manhattan and Raleigh/Durham exhibit relatively low vacancy, availability is increasing and masking some weaknesses. Conversely, challenged markets like San Francisco, Chicago and Atlanta exhibit both high vacancy and availability.

## Vacancy and Availability Rate by Market




Source: CoStar, Newmark Research

# Institutional Properties More Resilient, Especially in the Suburbs

Overall institutional office vacancy increased by 3 bps quarter-over-quarter/13 bps year over year, to 13.0% in the third quarter of 2022. This marks a cumulative 3.1% increase from December 2019. In the past two office market downturns, institutional vacancy rose 5.1% (2008 to 2009) and 10.4% (2000 to 2001). Employment has recovered more quickly than in either of those episodes, while the supply overhang is less severe compared with 2000 to 2001. On the other hand, the secular challenge of hybrid work is at play today and will continue to drive the adjustment. Even so, the institutional segment has been less impacted thus far, compared with the overall market. Vacancies have risen acutely for CBD assets (+8.7%), as compared with institutional suburban assets (+0.7%).

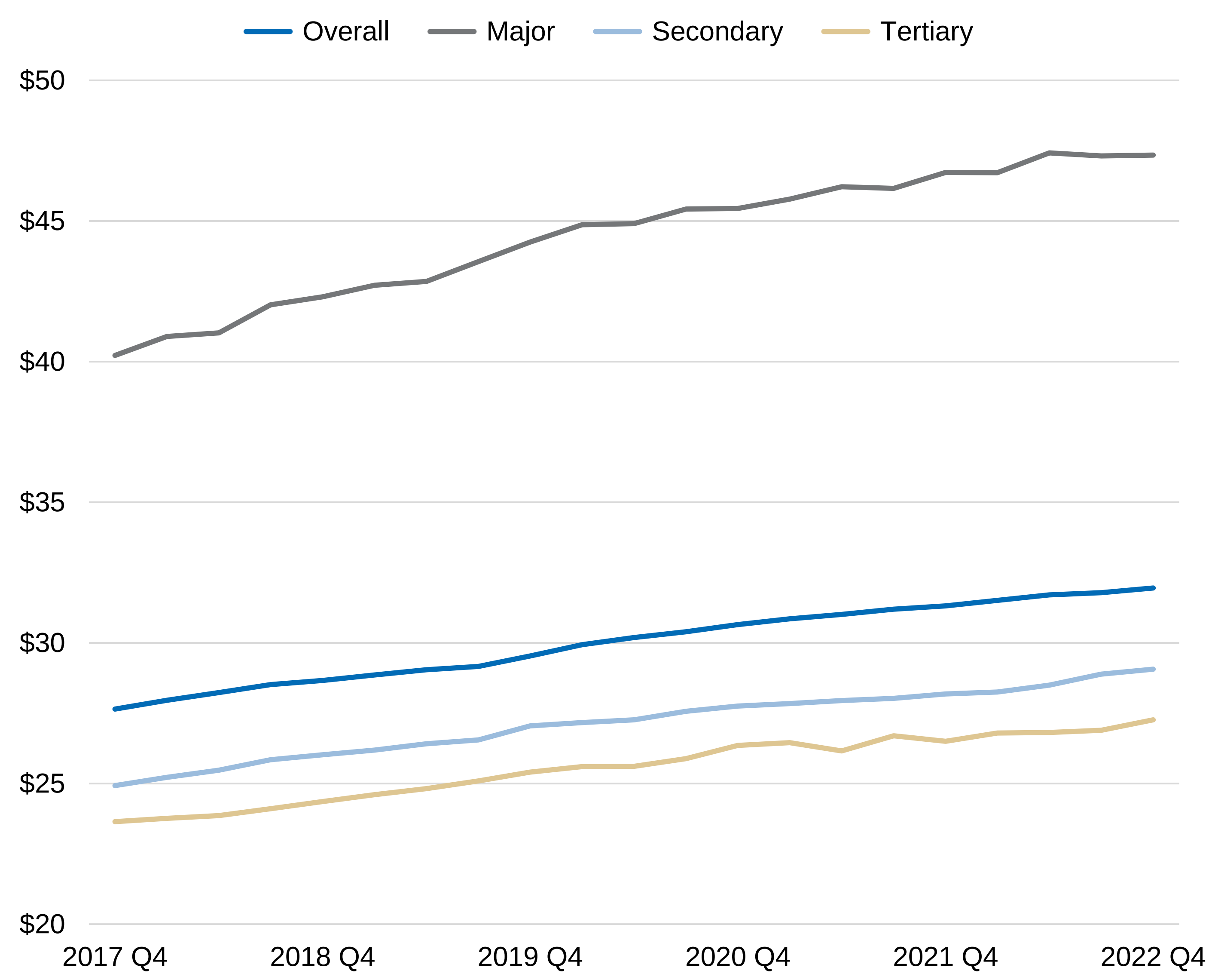
**NCREIF National Property Index Office Vacancy Rate**


Sources: NCREIF, Newmark Research
*We use the NCREIF National Property Index as a proxy for the national institutional grade office market.

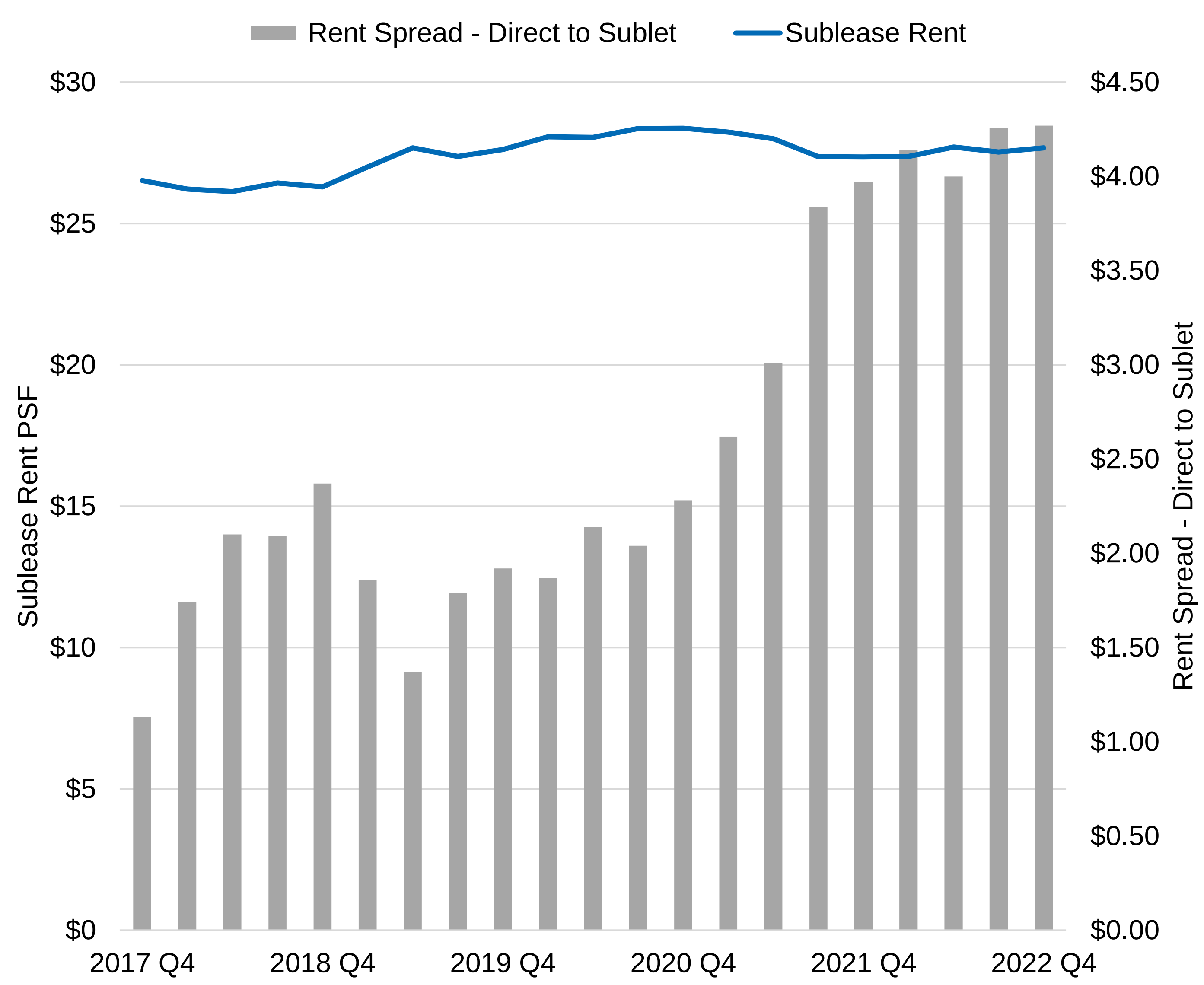
# Asking Rents March On

In past cycles, asking rents have adjusted downward to account for depressed demand; however, asking rents have largely held value since the onset of the pandemic. Some rent compression is being experienced among major markets, but secondary and tertiary markets continue to appreciate. Sublease rents have been holding relatively flat for much of the last three years, which more visibly exhibits the impact of low demand. As a result, the spread between sublease space and direct space has widened to near all-time highs.

**Overall Asking Rents Up 2.0% YoY in Q4, Led by Secondary Markets**




**Sublet Rents Stabilized; Rent Spread Relative to Direct Rates Near All-Time High**

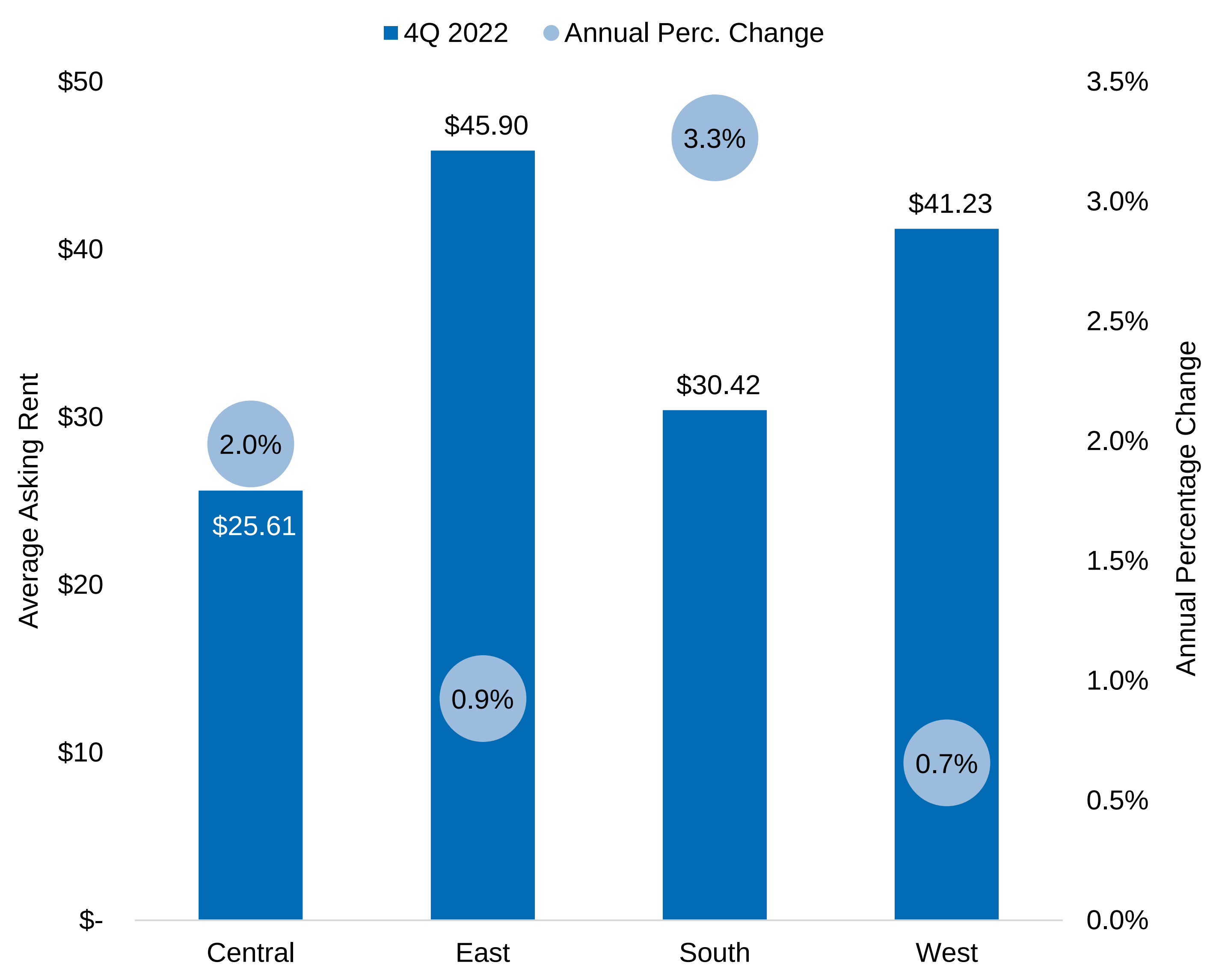



Source: CoStar, Newmark Research

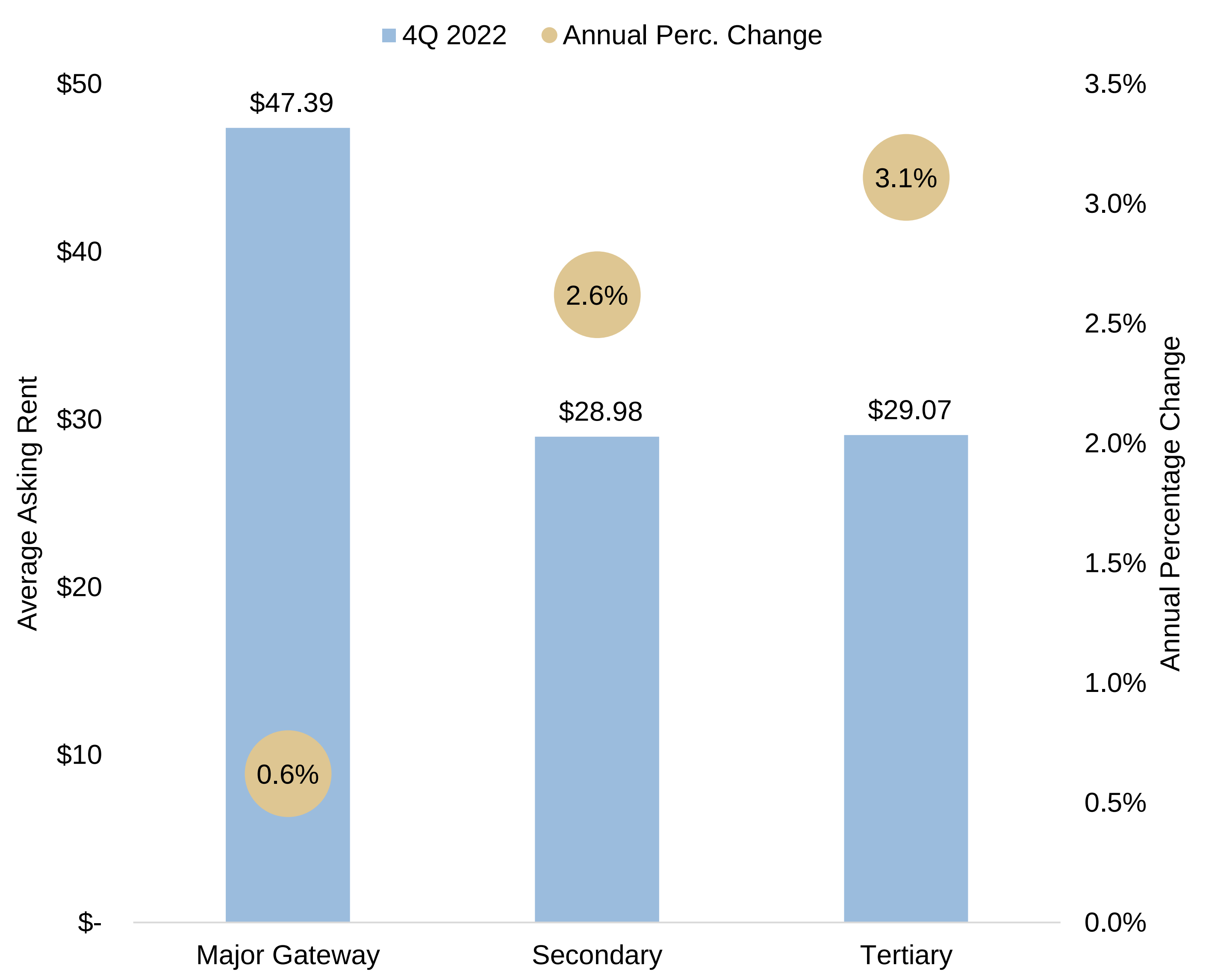
# Rent Growth Varies by Market

Overall asking rents are most elevated in major coastal Eastern and Western markets, including San Francisco, Manhattan and Silicon Valley. While the nation's largest markets command some of the highest rents, annualized rent growth is relatively low. The Sunbelt continues to experience the most aggressive rent appreciation among the four key regions, driven partly by inventory expansion and the success of secondary markets in attracting office demand in an otherwise challenging time. Effective rents are under downward pressure, and modest rent compression is being felt in some markets.

## Asking Rents Growing Fastest in the South and Central Regions




## Non-Major Markets Experiencing the Most Rent Growth

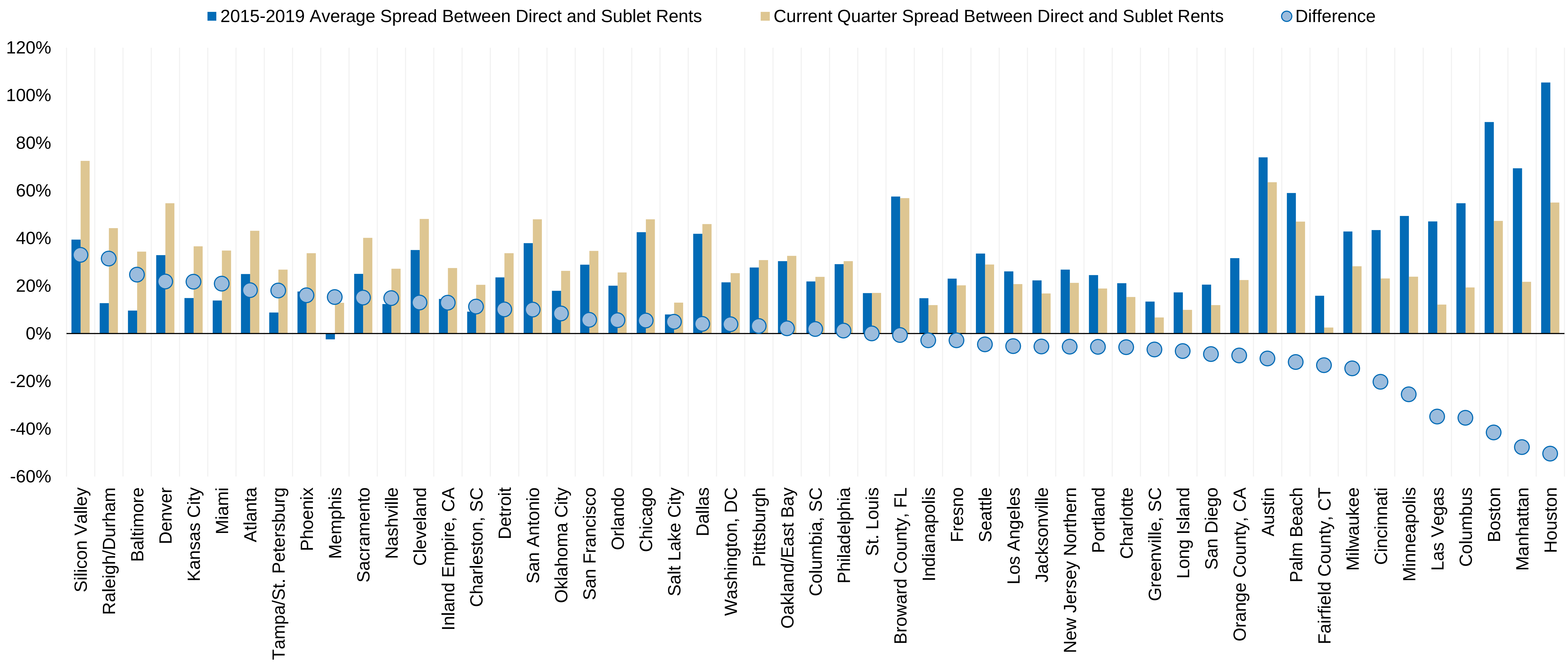



Source: CoStar, Newmark Research

# Spread Between Sublet and Direct Rents Rising in Most Markets

The spread between average direct and sublet asking rents has been on the rise nationally, but variations exist within markets. In most cases, this rising spread has been perpetuated by steadily increasing asking rents and stability in sublet rates.

## Direct-to-Sublet Rent Spread Comparison Between Pre-Pandemic and Current Period

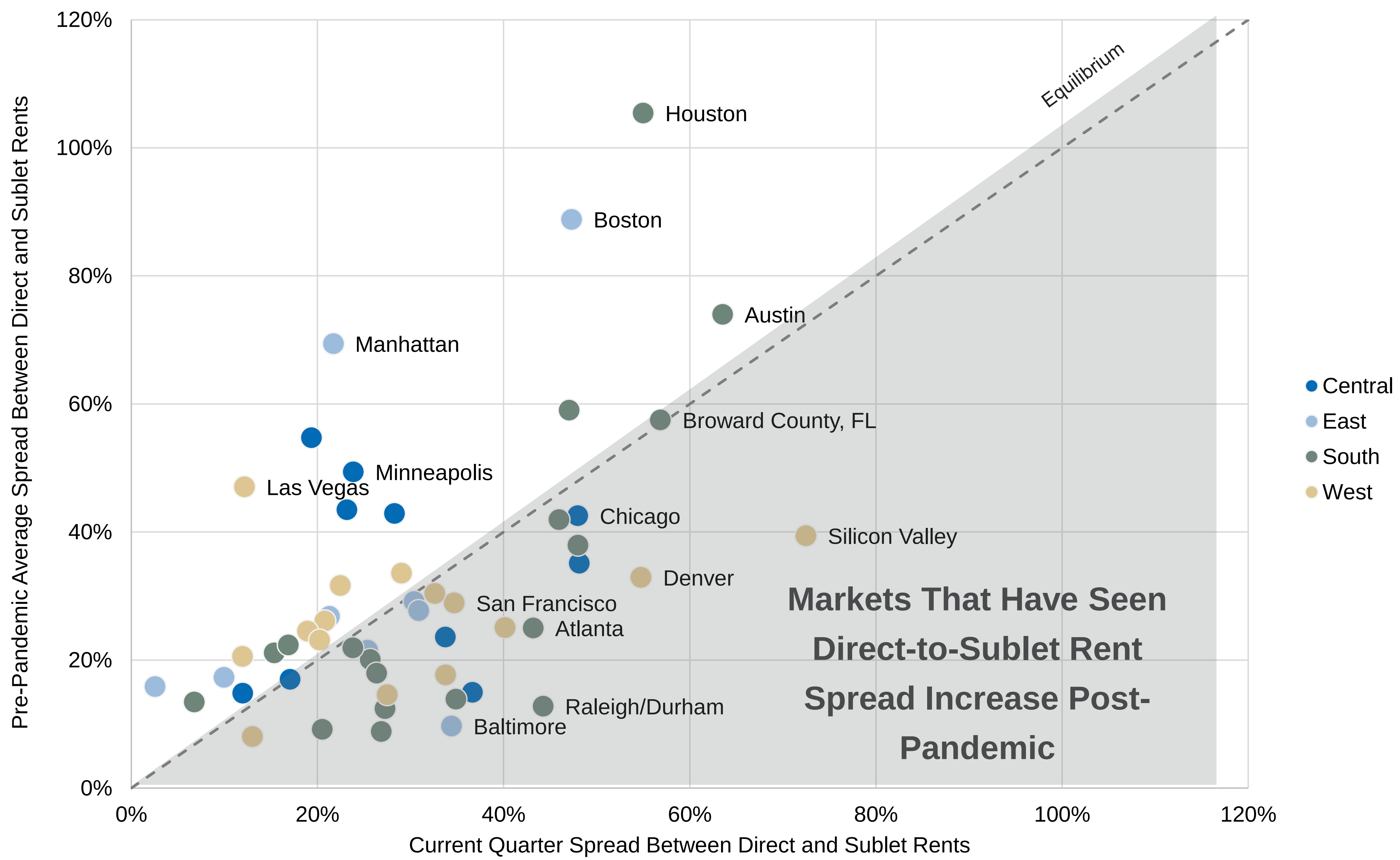



Source: CoStar, Newmark Research

# Spread Between Sublet and Direct Rents Rising in Most Markets

The spread between average sublet and direct asking rents has been on the rise nationally, but variations exist within markets. Among markets that had a pre-pandemic direct-to-sublet rent spread of less than about 40%, the majority have recorded noteworthy increases in their respective spreads by the fourth quarter of 2022. Markets like Silicon Valley, Denver and Raleigh/Durham have registered noteworthy increases in the spread between sublet and direct spaces relative to the pre-pandemic average.

**Direct-to-Sublet Rent Spread Comparison Between Pre-Pandemic and Current Period**

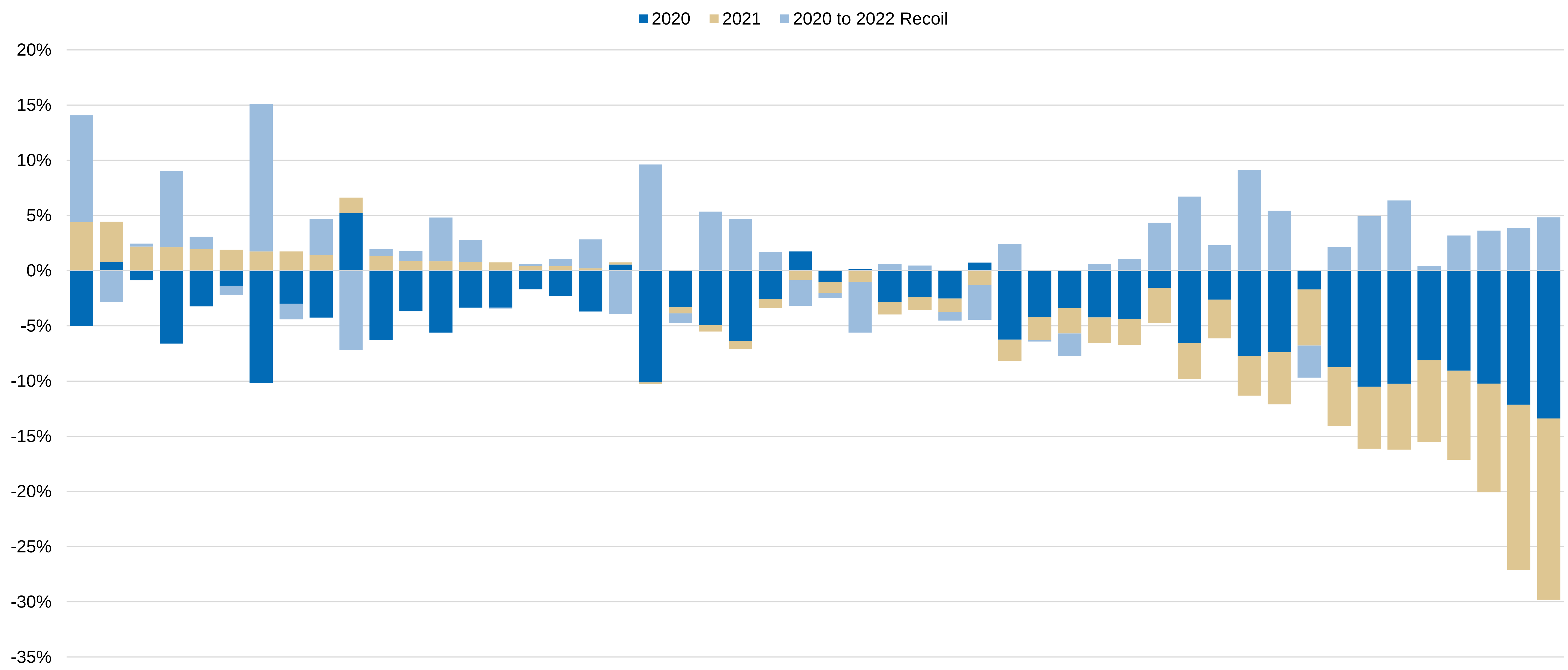



Source: CoStar, Newmark Research

# Secondary Markets Outperforming in Sunbelt

Market revenue per available foot combines the impact of changes in effective rents and occupancy to produce a measure of overall leasing market performance. Year-over-year declines were experienced in many markets between 2021 and 2022. In a relative sense, Secondary markets in the Sun Belt have continued to outperform the overall market, but losses in 2022 were felt nationwide. Forecasted M-RevPAF growth is anticipated to remain contractionary in most markets into 2023, but more modest than in years past.

## M-RevPAF Growth (2021 – Q3 2022)

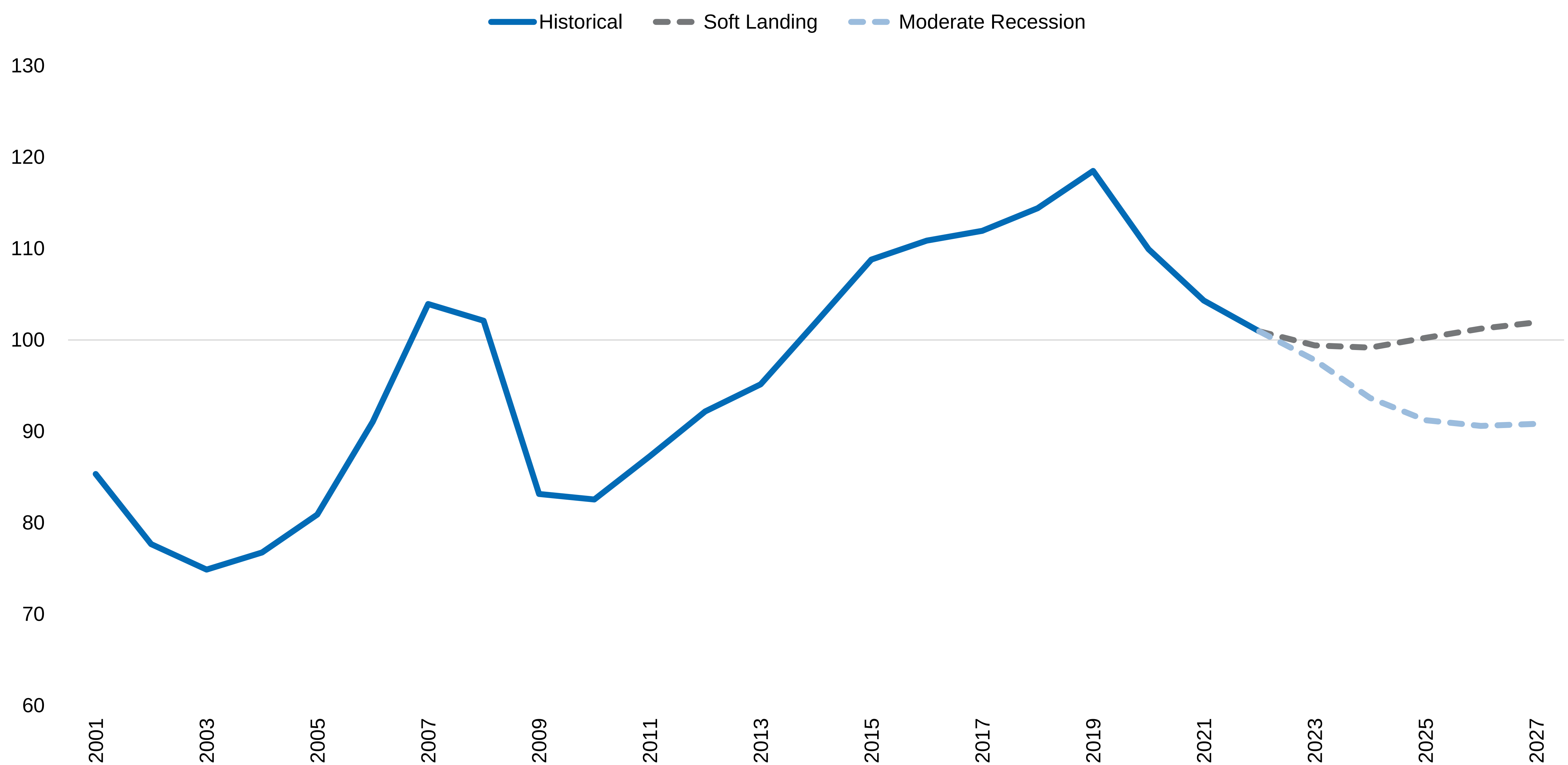



Source: Green Street, Newmark Research

# Office Fundamentals Likely to Remain under Pressure across Economic Scenarios

Market revenue per available foot has been trending downward since 2019, and its recovery will be impacted by the depth of the recessionary pressures in the coming year. Under a soft-landing economic scenario, M-RevPAF is expected to settle around the baseline growth set in 2000; however, a moderate recession could result in continued contraction in M-RevPAF into 2027.

**Green Street M-RevPAF (December 2000 = 100)**

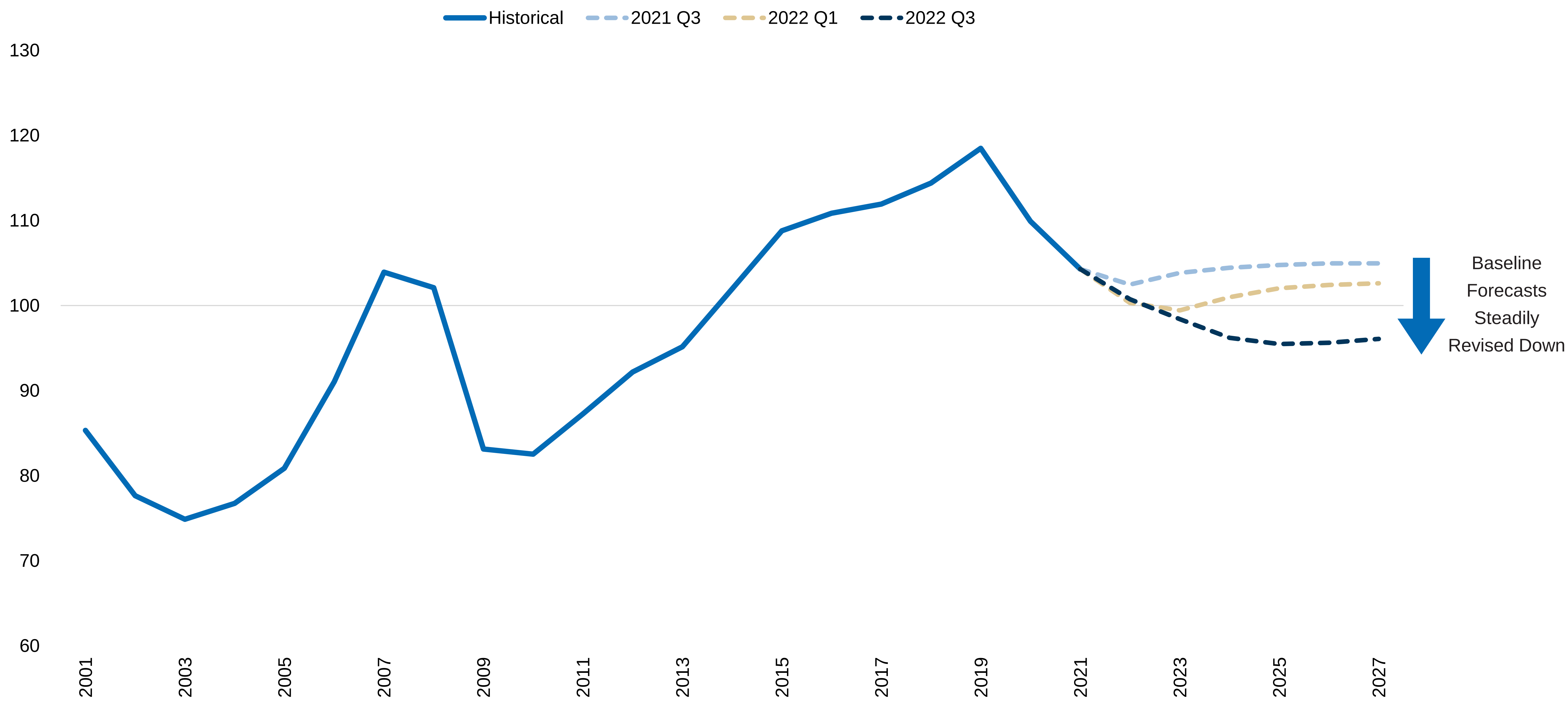



Sources: Green Street, Newmark Research

# Impact of Economic Downturn Causes More Pessimistic Base Case Forecasts

Economic headwinds are strong and directly influencing office market projections. Conditions have become more tumultuous in 2022, resulting in steady downward revisions to Green Street's expected revenue per available foot (M-RevPAF) over the last 12 months.

**Green Street M-RevPAF Forecast Revisions (December 2000 = 100)**




Sources: Green Street, Newmark Research

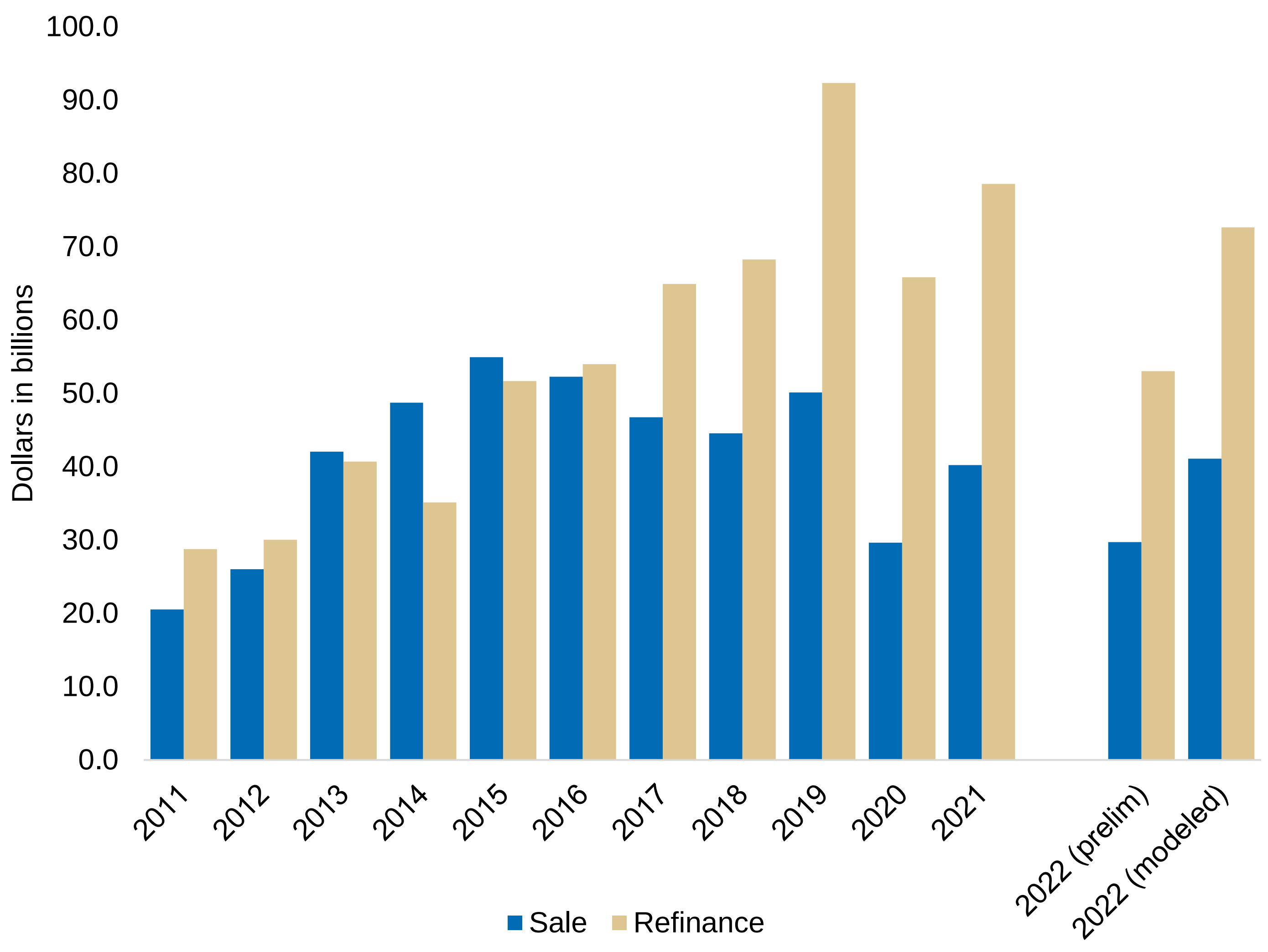
4Q22 US OFFICE MARKET OVERVIEW

# Office Capital Markets

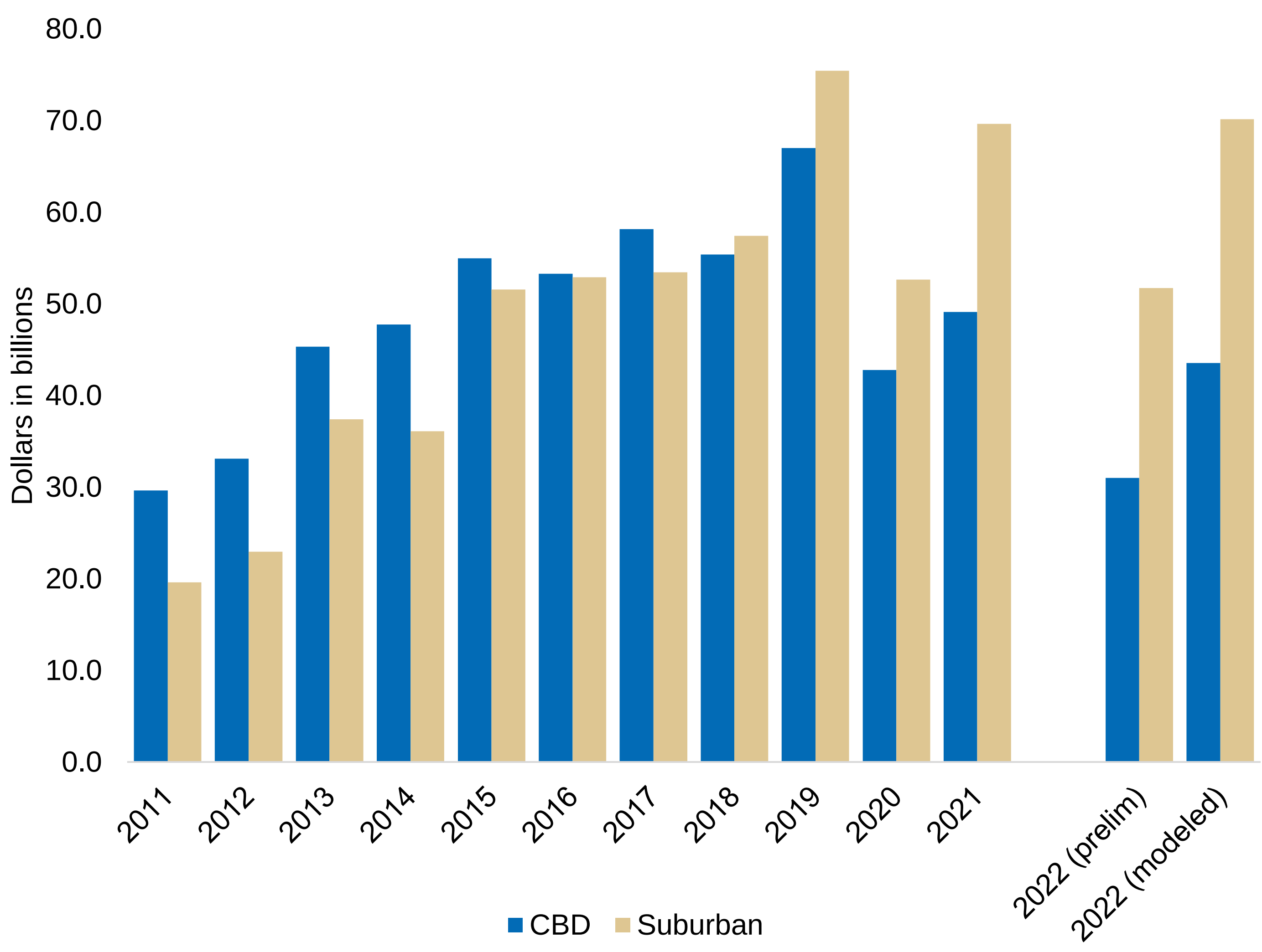
# Projected Office Loan Originations Down 4.0% Year over Year in 2022

If the historical pattern for upward revisions to loan volumes holds true, then office loan originations declined modestly for the year, with relative underperformance for refinancings and CBD office properties. Total originations volumes are certainly down from their 2019 peak, but at $114.0 billion, 2022 was still the fourth best year on record in nominal terms, however much this feels at odds with market sentiment.

## Refinancing Volume Down 8.0% YoY Amid Rising Rates, Thinner Lender Pool




## CBD Originations Down 11.0% YoY vs. Up 1.0% in Suburbs

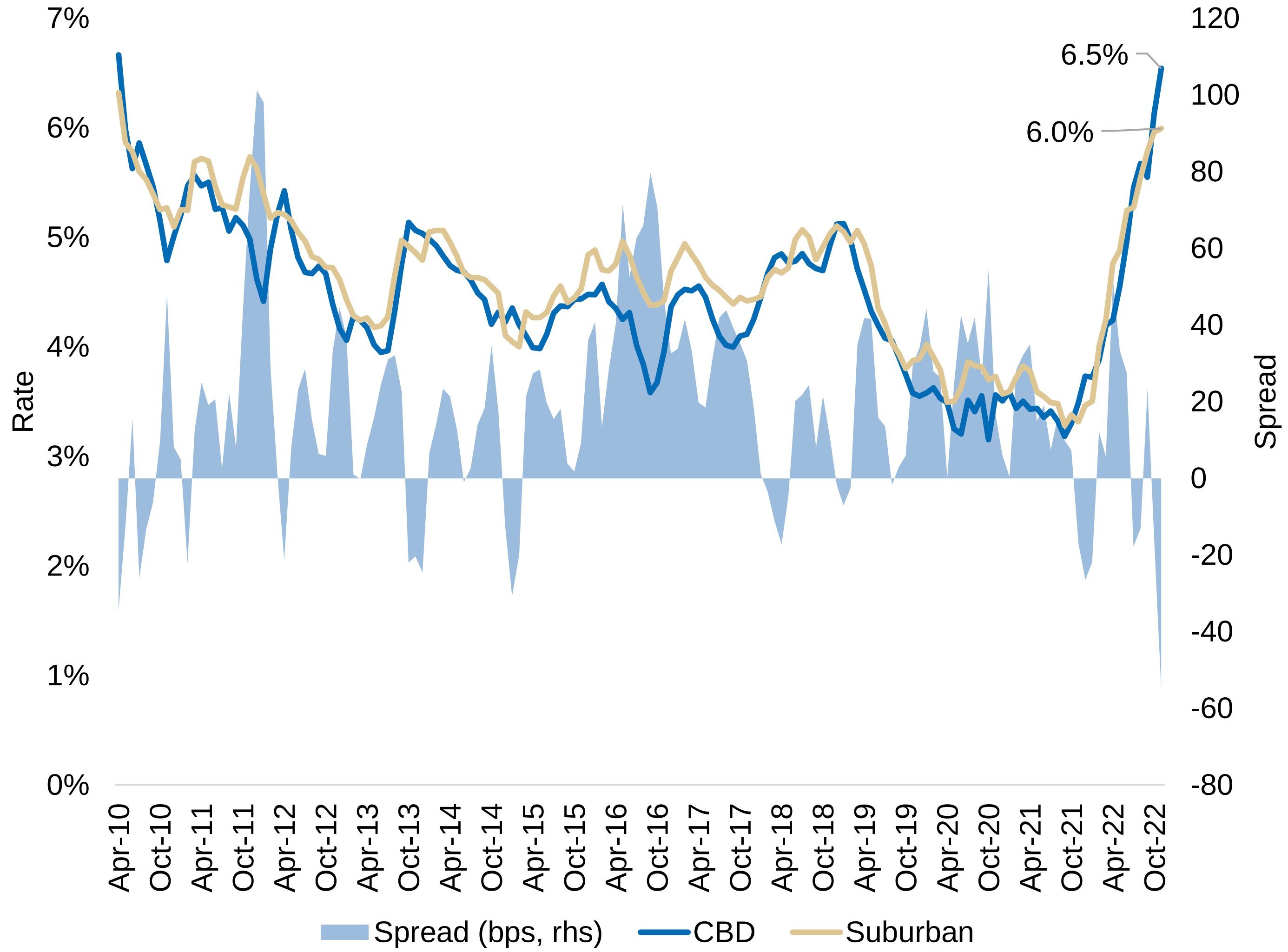



Source: RCA, Newmark Research as of 1/18/2022
Excludes construction financing. *Preliminary volumes are based on loans identified as of the date the data was pulled. Modeled origination volumes are adjusted for expected future revisions to originations volumes based on patterns observed in the 2020 Q1 to 2021 Q4 quarterly periods. The revision factors were calculated based on total quarterly origination volumes but for simplicity applied equally to different debt origination categories.

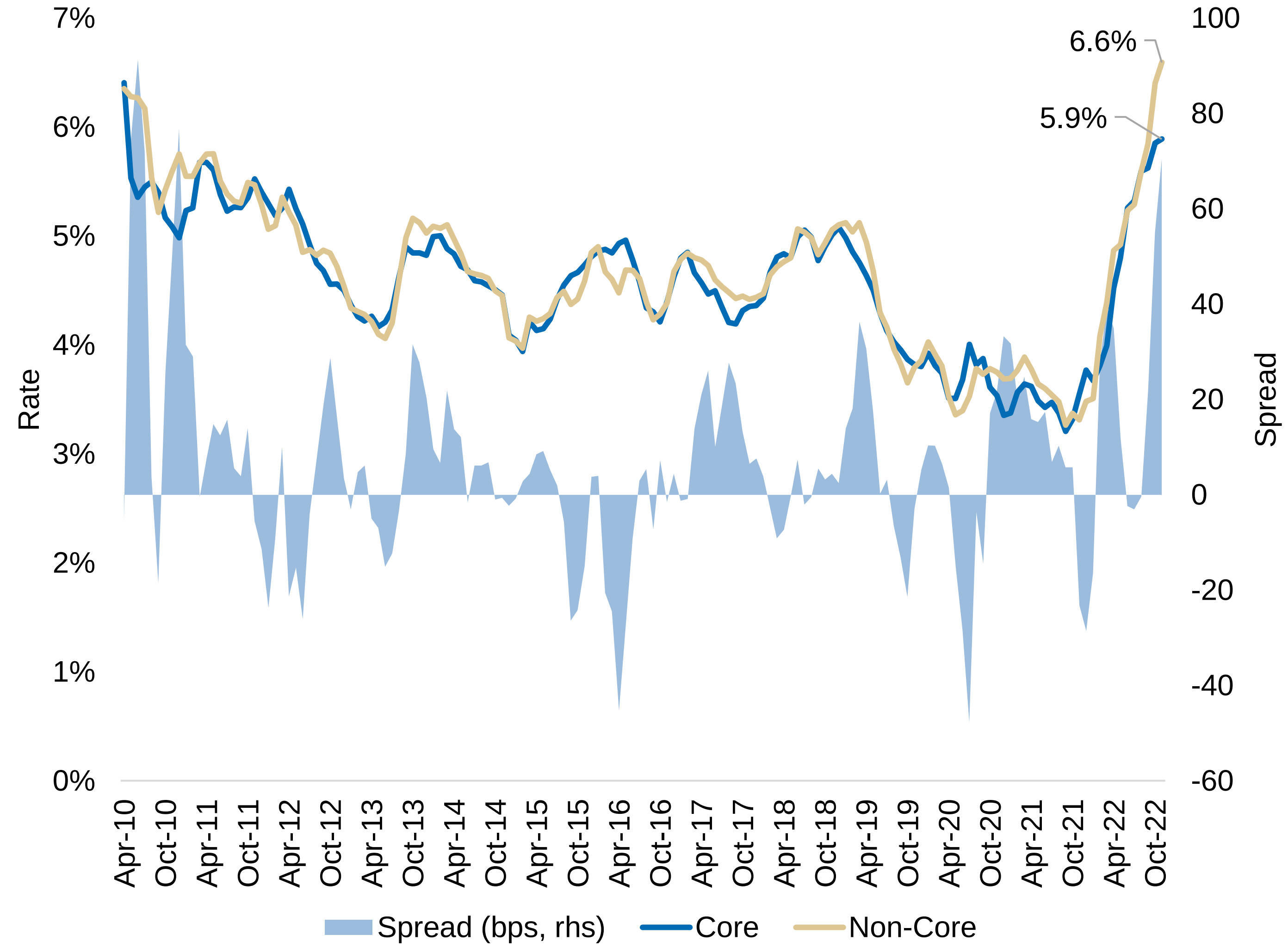
# Debt Costs Have Risen Sharply, Especially for Noncore Properties

Median Transaction Fixed Finance Rate; Rolling Three-Month

**Fixed Finance Costs Up 2.7% in '22, Suburban Debt Costs Below CBD**




**Spread Between Core/Non-Core is 70bps…Historical Average is 4bps**

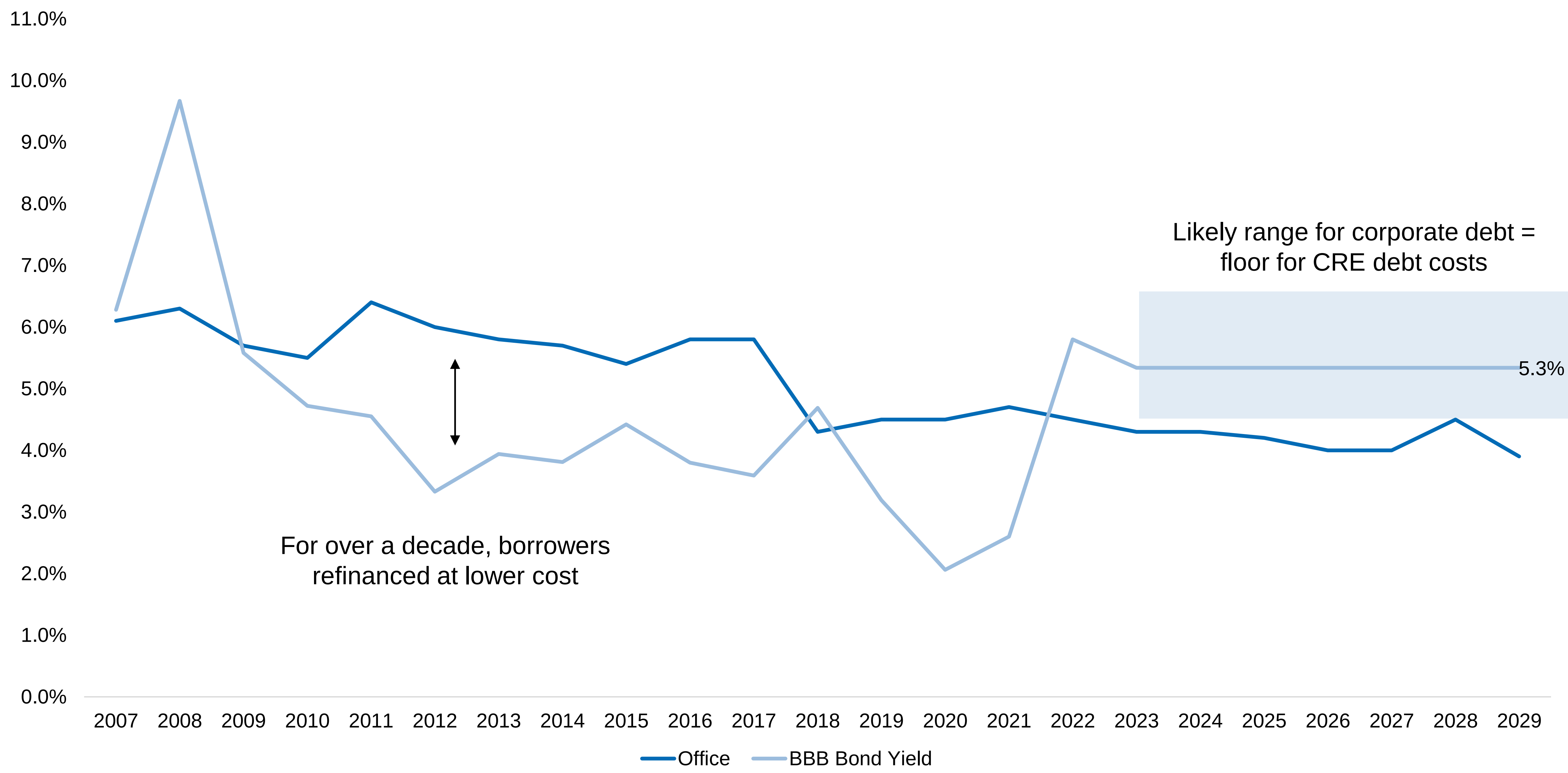



Source: RCA, Newmark Research
Note: Excludes construction financing

# Borrowers Will Face Starkly Higher Costs as Loans Mature

Higher debt costs on refinancing will lower return for all and will give rise to a range of reactions within the market. Some borrowers will choose to pay down their debt, especially if the asset has appreciated meaningfully. Others will refinance the principal or partially pay it down, whereas in a lower cost of capital environment, they would have re-levered. Still others will be unable to make the math work and will need to pursue a loan modification, return the keys and/or source rescue equity at an appropriate price point.

**Weighted Average Interest Rate on Maturing Debt vs. Prevailing Bond Yields**

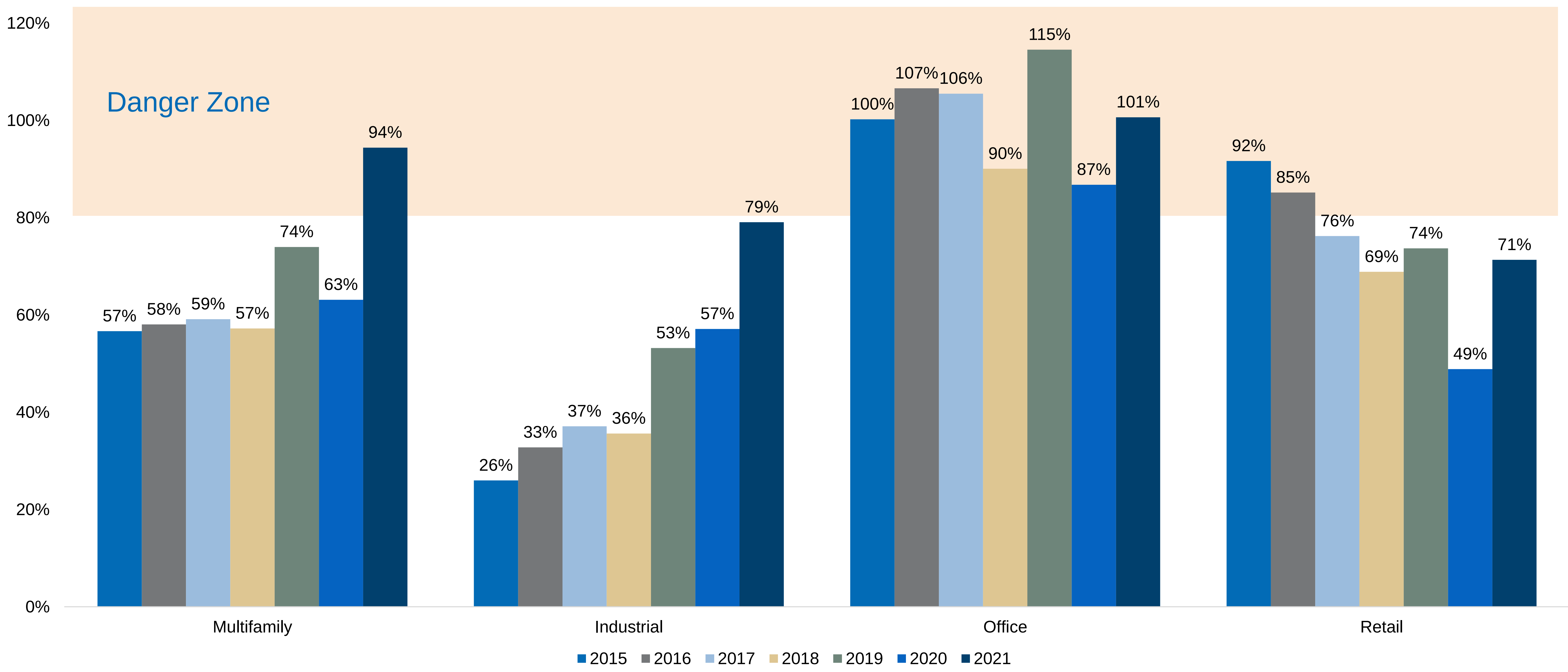



Source: RCA, ICE Data Indices, Newmark Research

# Falling Asset Values Means That Some Loans Are Underwater

Mark-to-market leverage levels are extremely elevated for recent vintages of office loan originations. Even if financing costs were better contained, this would imply a significant increase in distress, but combined with the doubling in debt costs, a wide range of property loans are likely to require some manner of restructuring or rescue capital.

**Mark-to-Market* Loan-to-Value Ratio by Year Debt Originated**

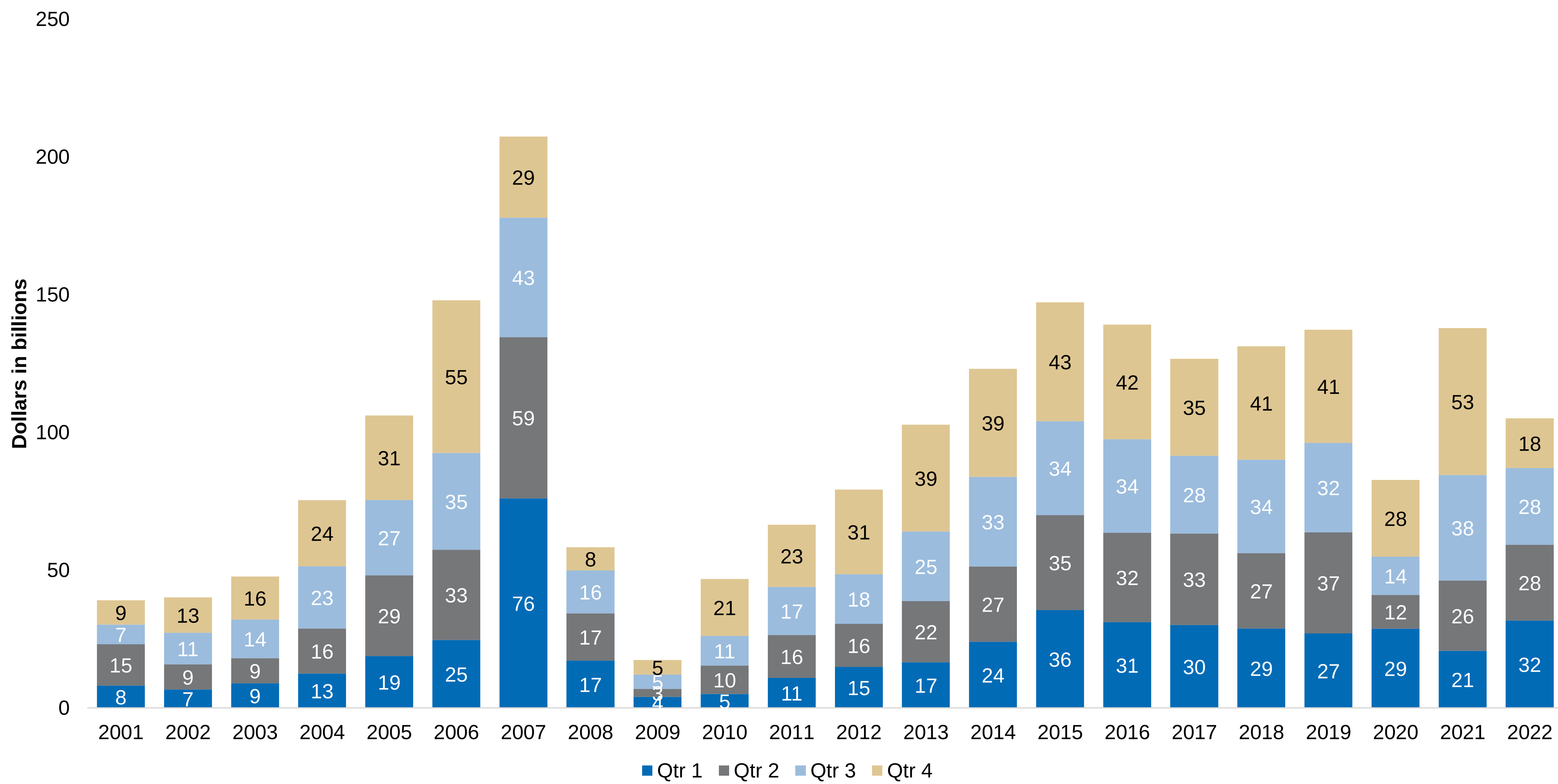



Source: RCA, NAREIT, S&P Capital IQ, Newmark Research
*We take the average LTV in a given year and then increase the value of the denominator by the cumulative price return of the corresponding NAREIT property sector index since the year the loan was originated. For example, apartment loans made in 2005 had an average LTV of 68%. We would then increase the denominator by the cumulative REIT price return from 2006-2022 YTD.

# Office Investment Sales Volumes Down 24.0% Year over Year in 2022

Office sales activity started the year at a frenetic pace, recording the best first quarter since 2015. This was not to last, as velocity declined in each successive quarter. Only $18.0 billion in sales closed in the fourth quarter of 2022, the worst performance since 2009.

## Office Investment Sales Volume

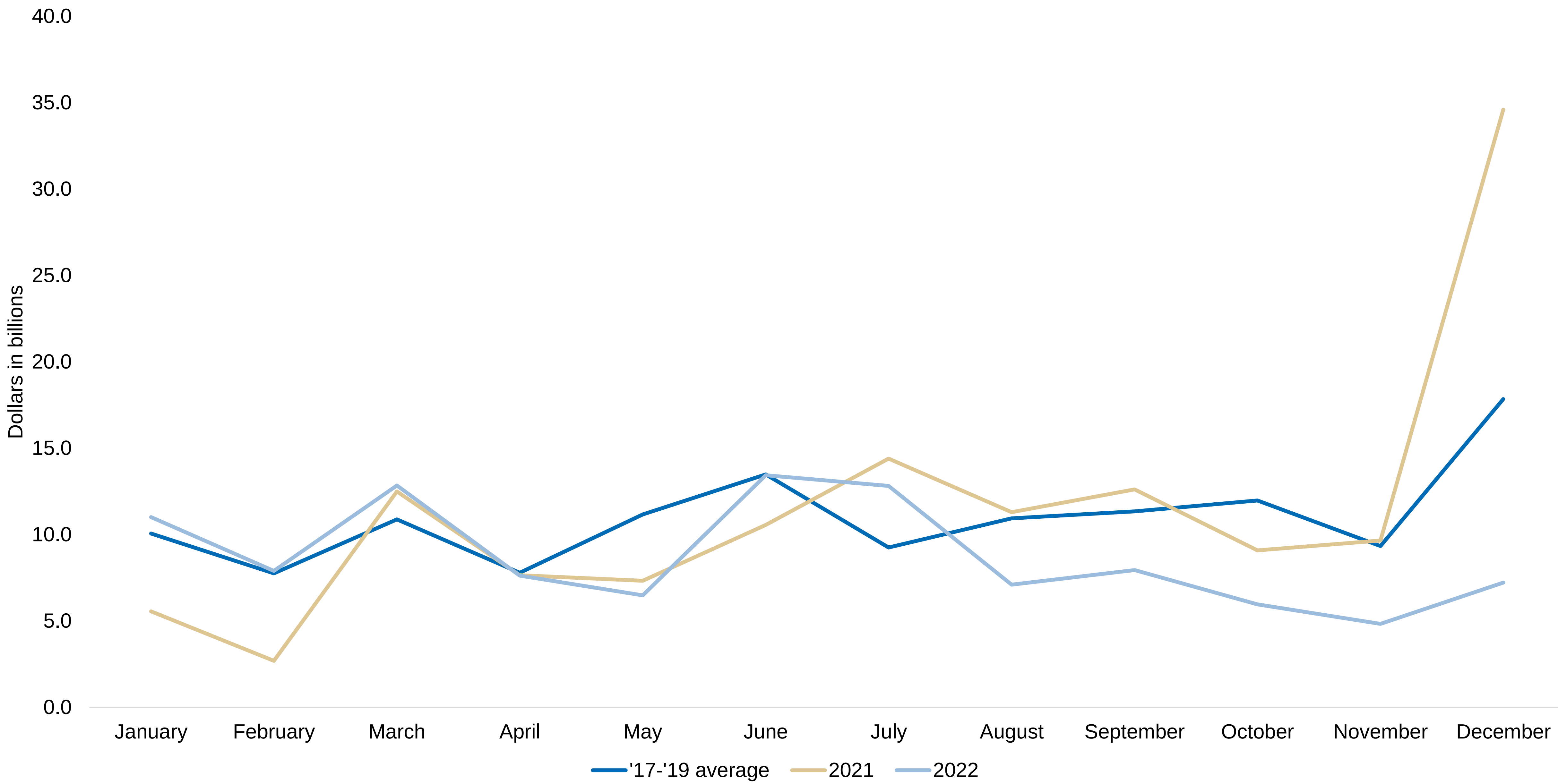



Source: Newmark Research, Real Capital Analytics

# Transaction Velocity Has Declined Sharply since July

There was the very slightest of seasonal accelerations in closings in December 2022, but volume was still down 60.0% versus the ’17 to ’19 average.

## National Office Investment Sales Volume

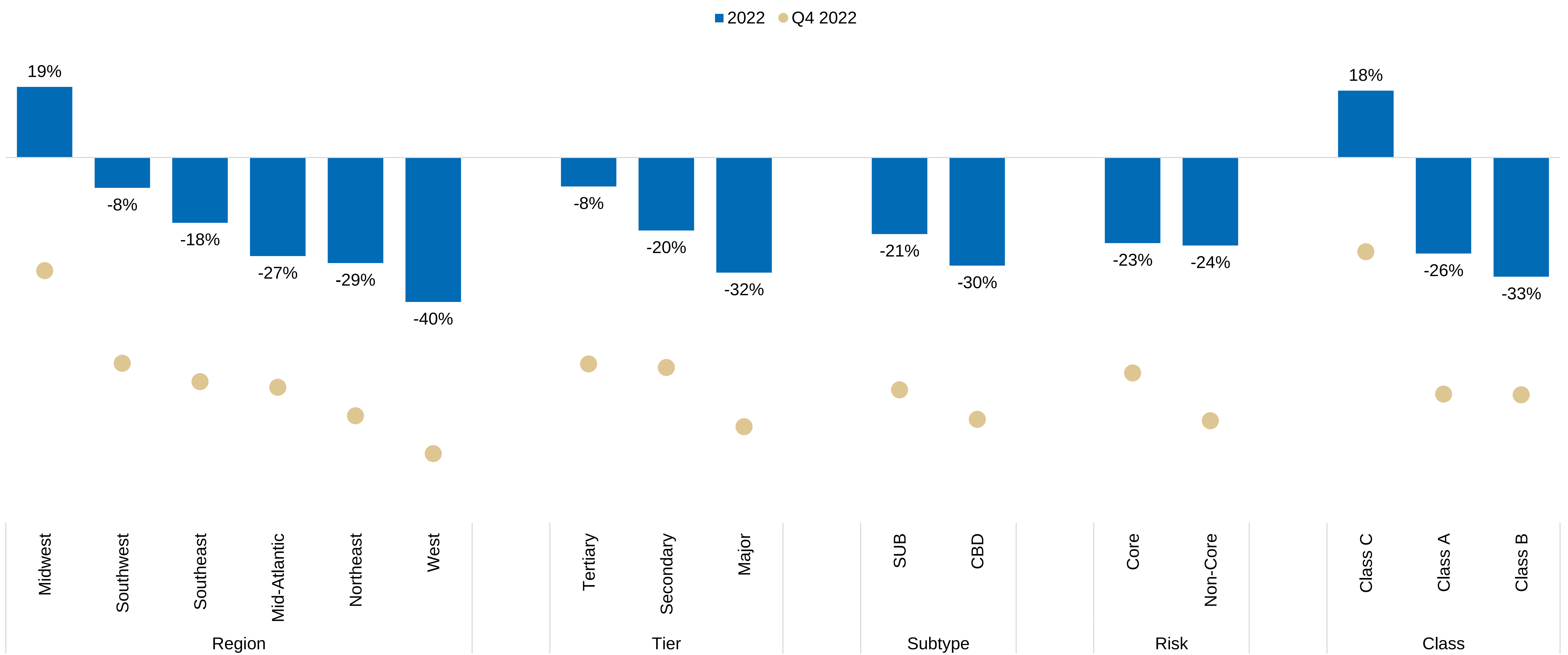



Source: Newmark Research, Real Capital Analytics

# Broad-Based Decline in Volumes in 2022

It was difficult to find a silver lining in 2022's full-year performance, particularly following a uniformly dismal fourth quarter of 2022. The same patterns held in the fourth quarter of 2022 as had prevailed earlier in the year. On the margin, the Midwest, nonmajor markets, Suburban office, core properties and Class C office experienced the smallest year-over-year declines in volume. Class C office performance seems counterintuitive but may reflect relatively greater activity by private capital compared with institutional.

**Q4 2022 Investment Sales Volume YoY Percent Change**

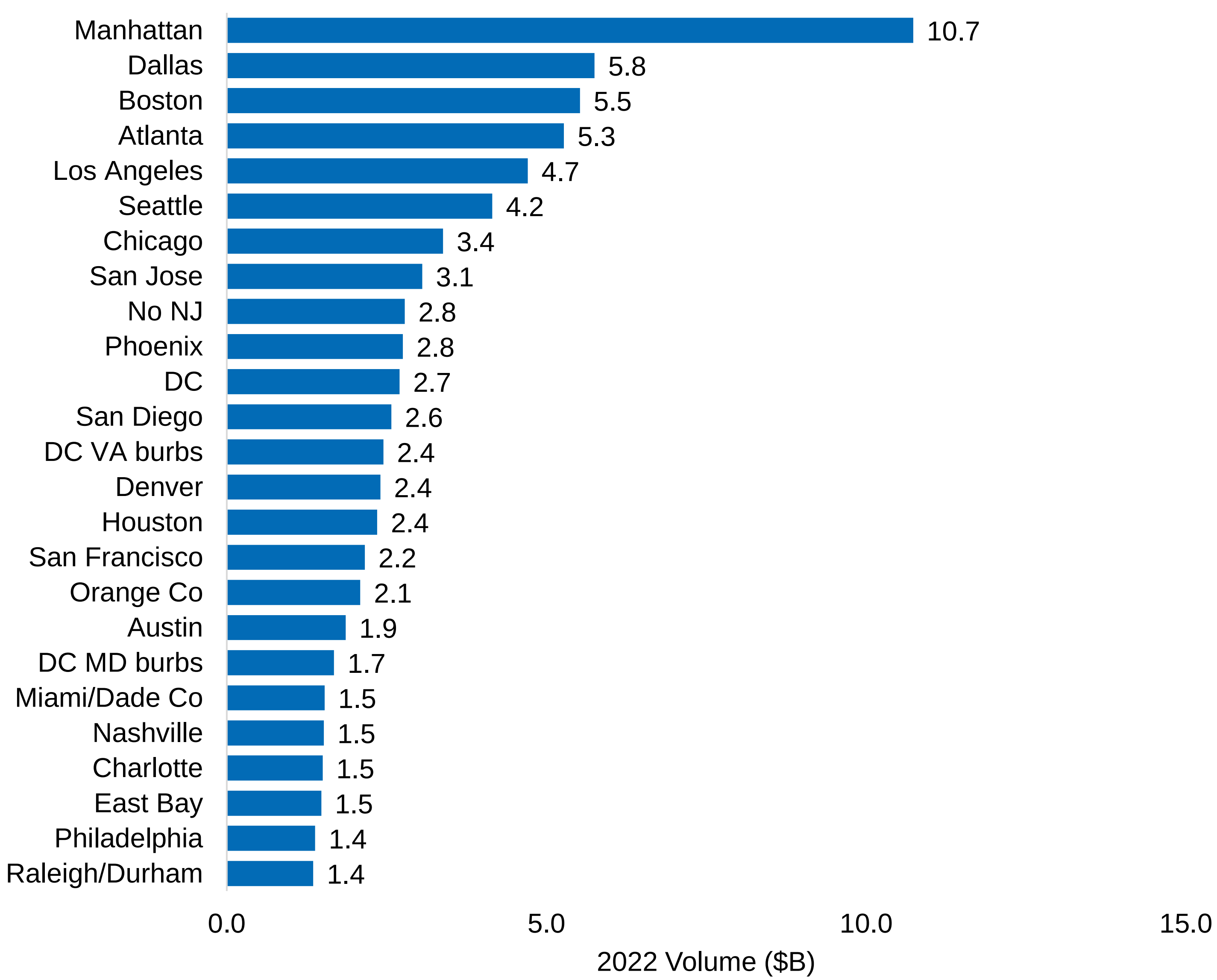



Source: Newmark Research, Real Capital Analytics

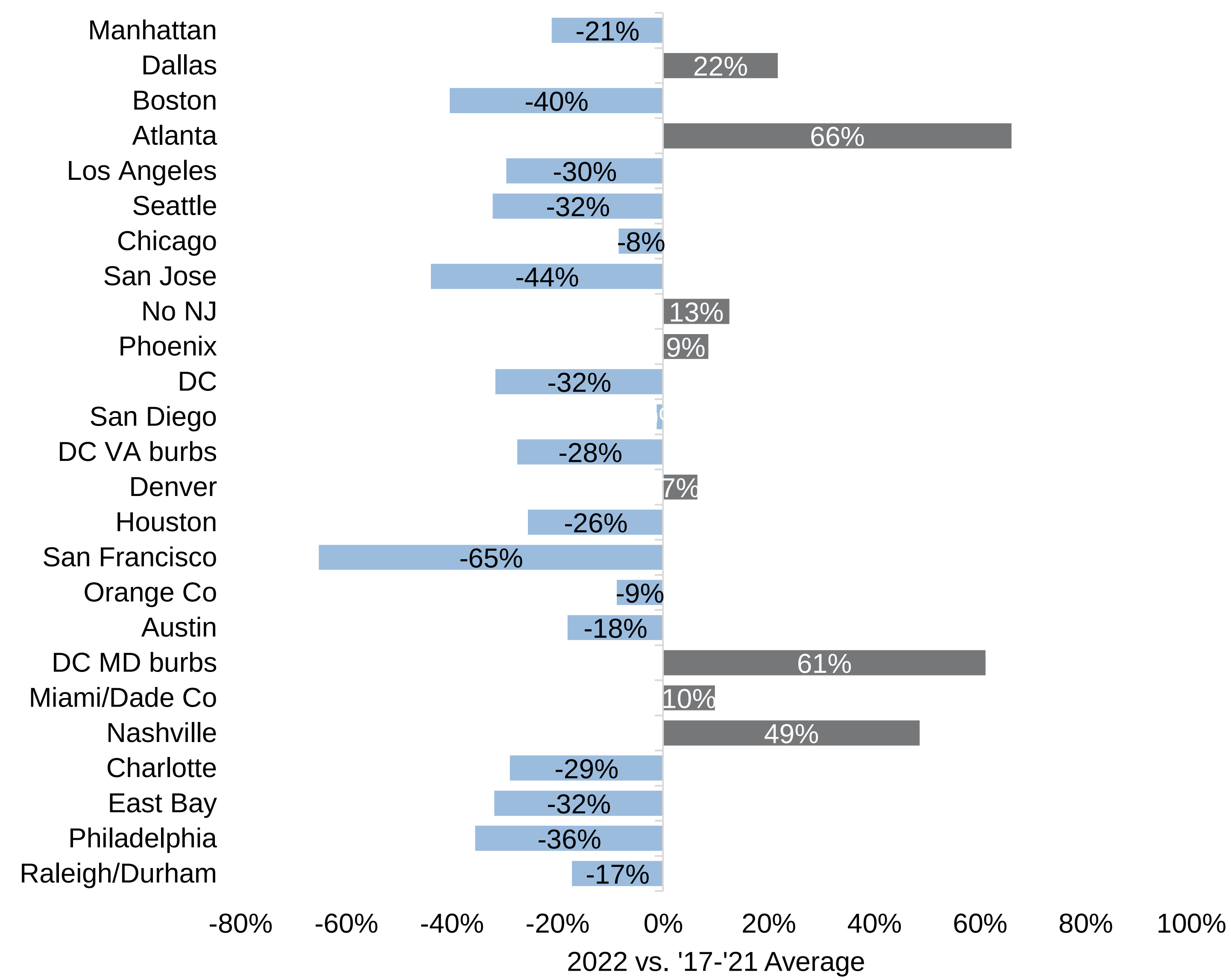
# Volumes up versus Five-Year Average in Eight out of 25 Top Markets

Manhattan remains the most liquid market. Leading sunbelt markets, including Dallas, Atlanta, Phoenix, Miami and Nashville, recorded sales volumes above their respective five-year averages.

## Top 25 Office Markets by Year-to-Date Investment Sales Volume




## Gateway Markets Down; Sun Belt and Suburbs of Gateways Have Gained

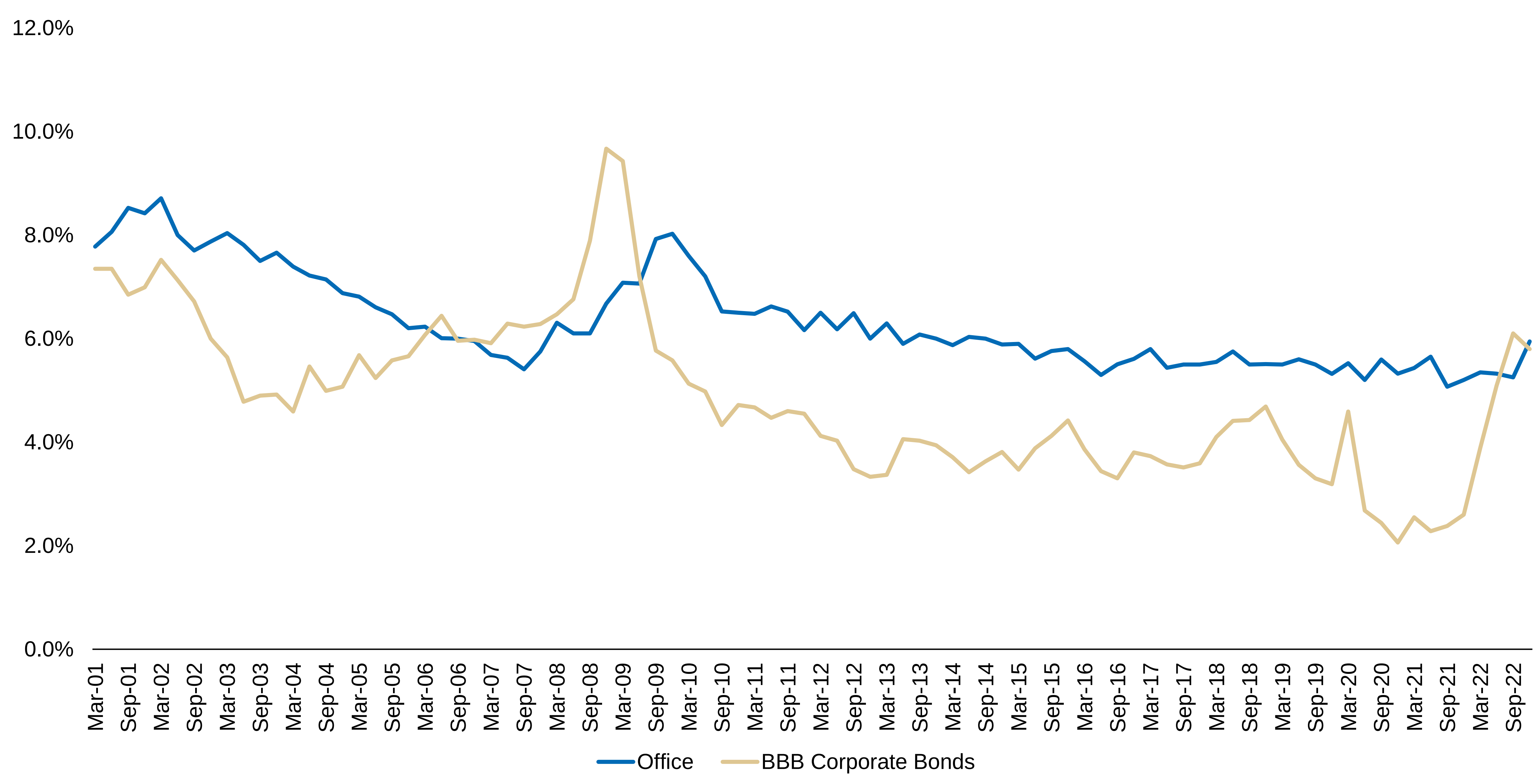



Source: Newmark Research, Real Capital Analytics

# Rising Cost of Debt Placing Pressure on Cap Rates

Transaction cap rates inflected upwards in the fourth quarter of 2022. Though the cost of debt has declined in recent weeks, it continues to place significant upward pressure on cap rates across sectors. Transaction cap rates can be misleading in a low liquidity environment, such as the one that prevailed in the fourth quarter of 2022 and is extending into early 2023. Expect cap rates to continue to trend upwards in 2023.

## Top Quartile Transaction Cap Rate*

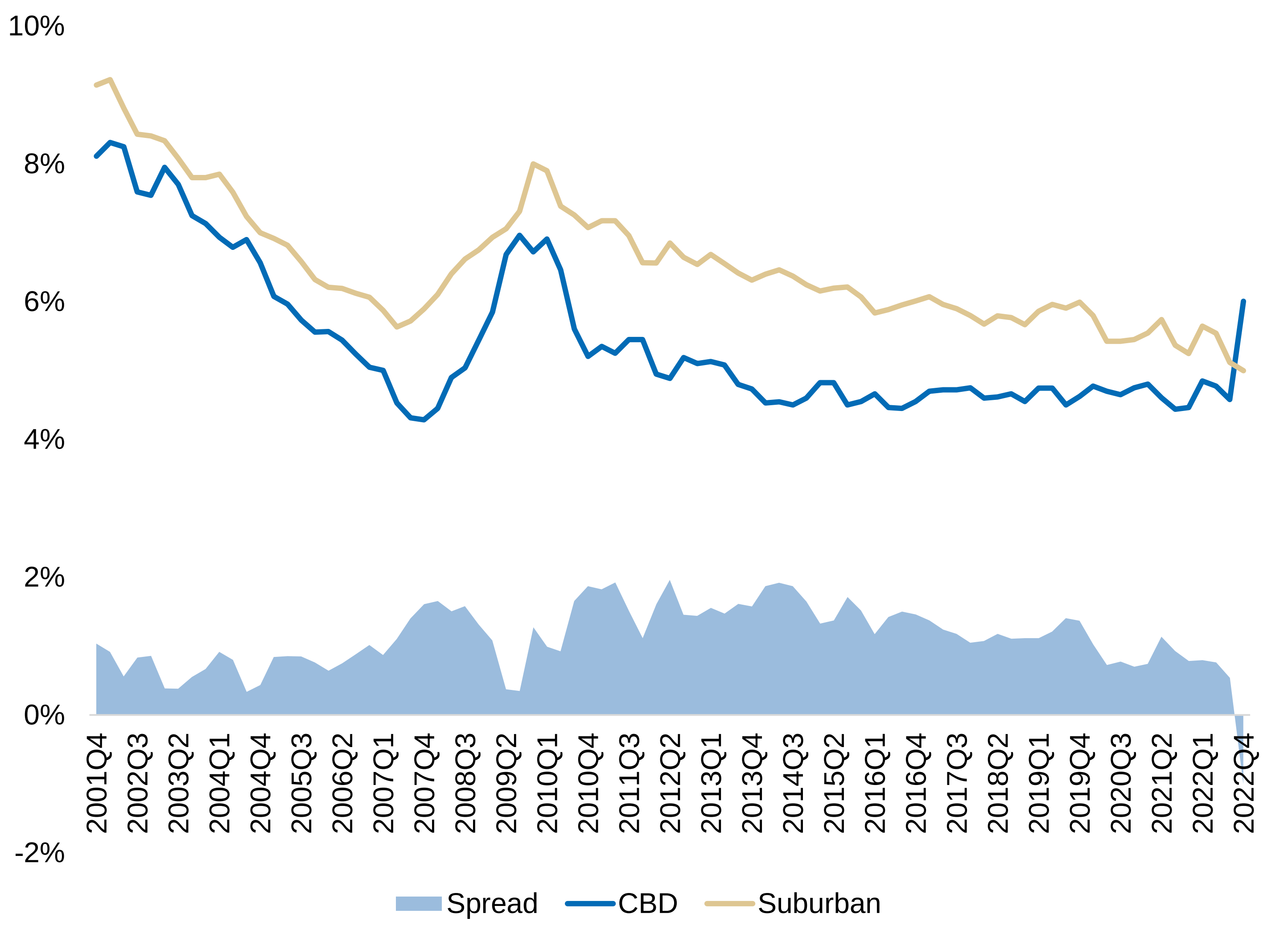


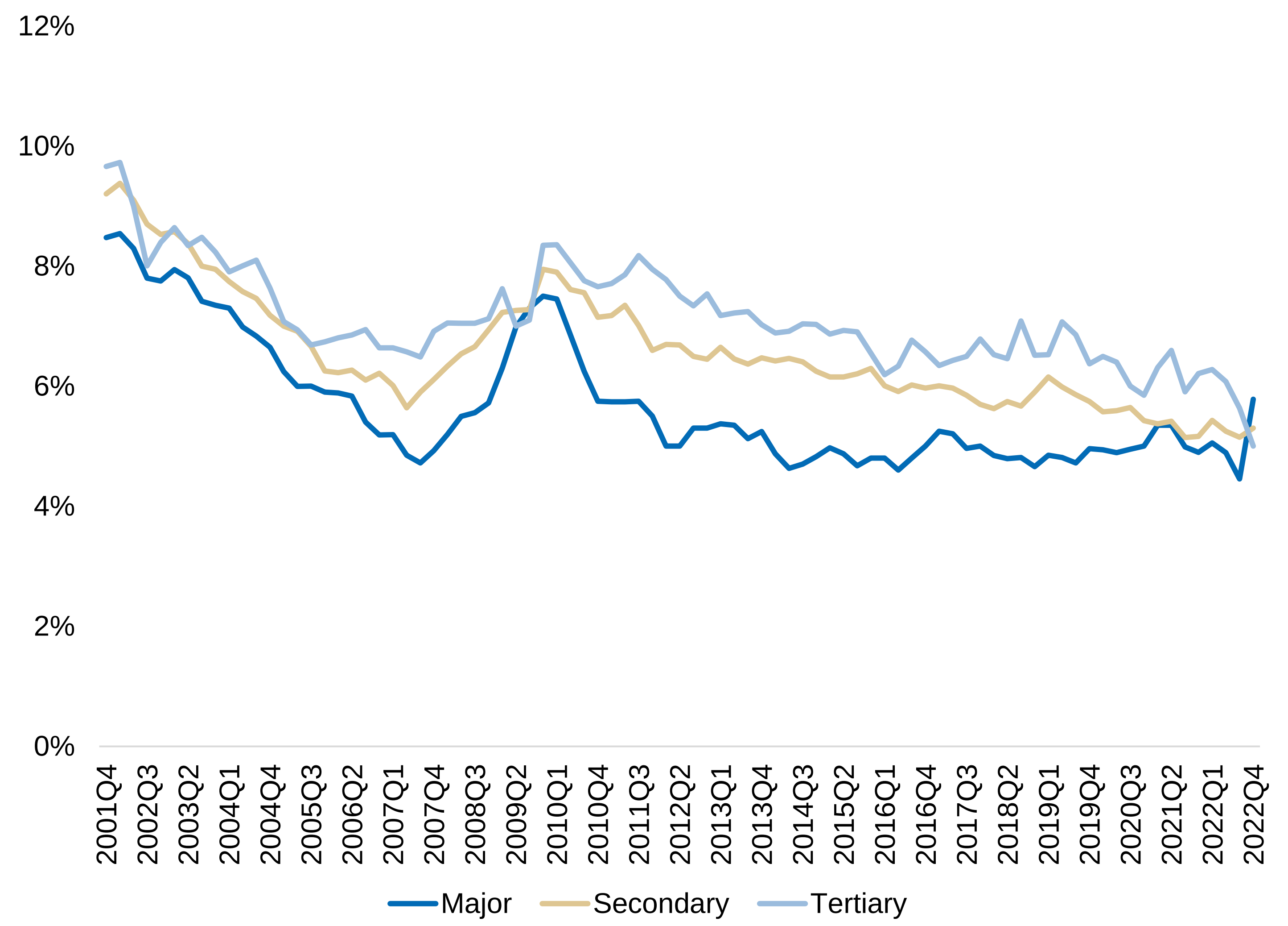

Source: Real Capital Analytics, Federal Reserve Bank of St. Louis, Moody's
*Quarterly

# CBD Assets, Major Markets First to Show Value Adjustments

Transaction cap rates spiked in the fourth quarter of 2022 for CBD assets and major markets, while they actually declined for suburban office properties and tertiary markets. Declines are likely artifacts of selective deal closings, rather than accurate representations of actual market conditions.

## Rolling 2Q Volume-Weighted Office Cap Rates



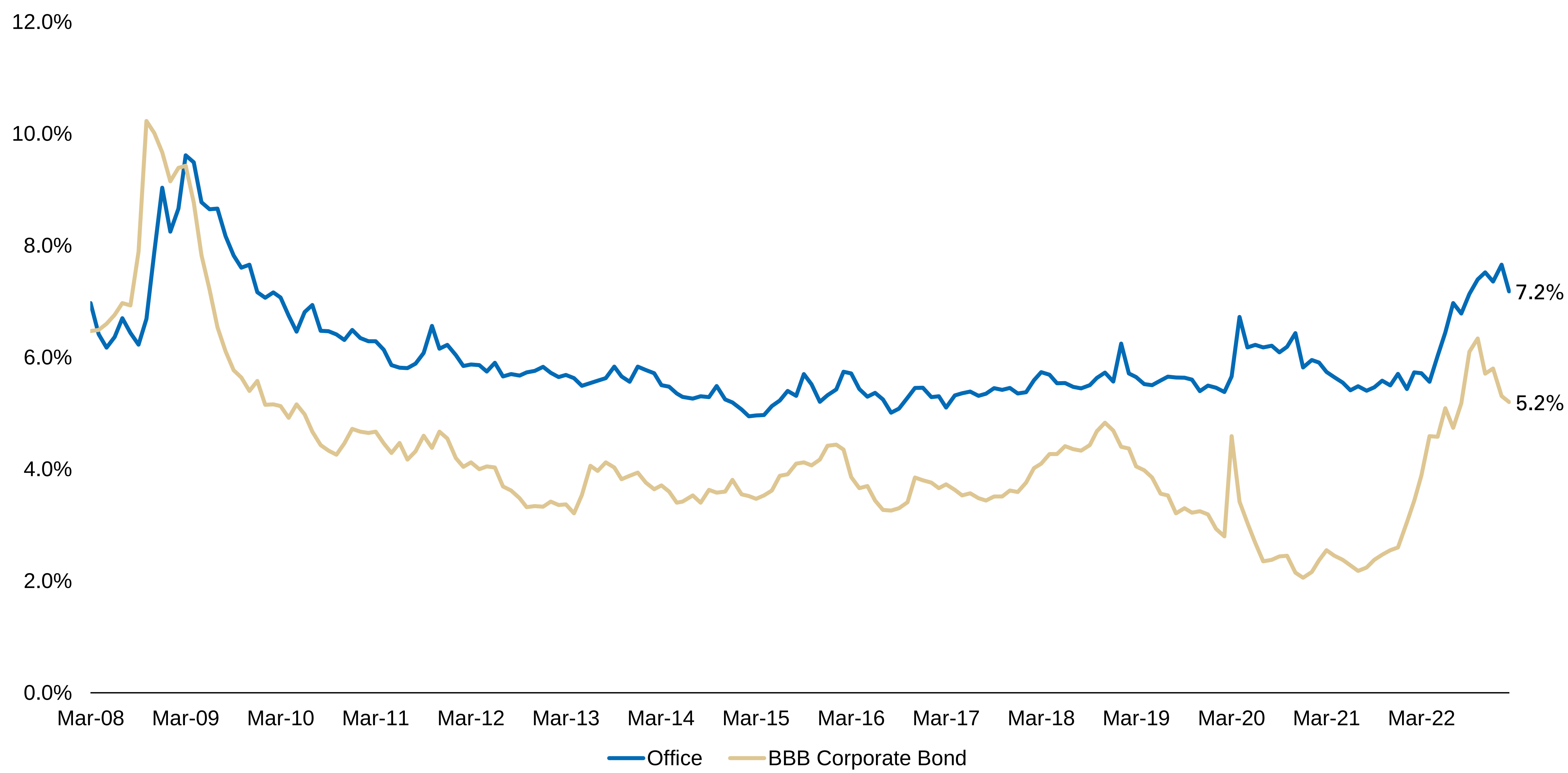




Source: RCA, Newmark Research

# Public Markets Presage Further Adjustment in Private Markets

Public markets have moved more quickly to reflect changing valuations. In general, office implied cap rates have increased alongside corporate bond rates, suggesting that most of the movement is due to financial conditions rather than property fundamentals, per se. This is not to say that fundamentals don't matter. Indeed, on a security-by-security basis, return dispersion is particularly wide for office REITs as compared with other sectors. With the recent decline in BBB yields, spreads have widened to 1.9% vs. a long-term average of 1.7%. This compares favorably with multifamily and industrial, but given broadly negative office fundamentals, investors may demand larger premia which would drive yields higher.

**REIT Implied Nominal Cap Rate**

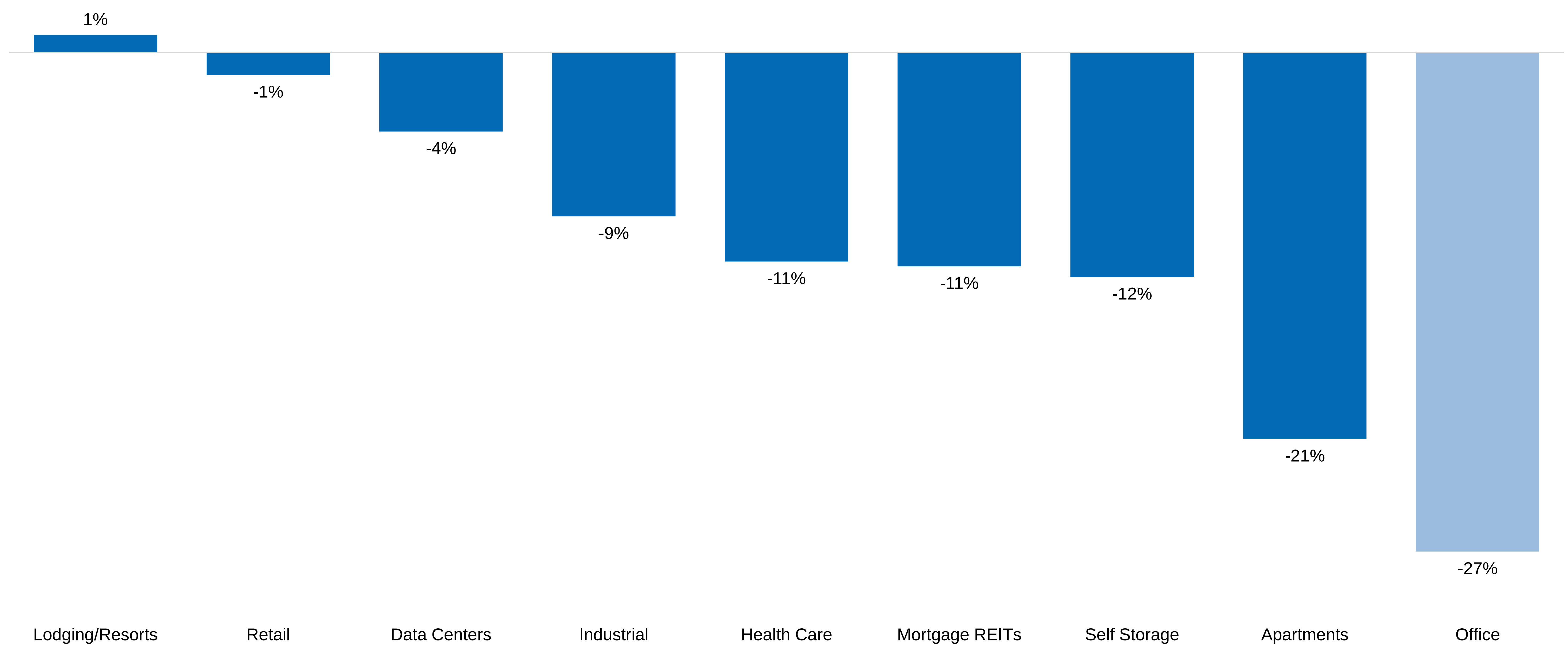



Source: Green Street, FRED, Moody's, Newmark Research as of 2/2/2023

# Office Most Impacted in REIT Bear Market

While substantially all office REITs have lost value in the last 12 months, the magnitude varies substantially—from down 7.0% (90th percentile) to down 48.0% (10th percentile). The best performing office REITs include OFC and ARE, while BDN, SLG/VNO and HPP have underperformed.

## LTM Total Return by NAREIT Sector

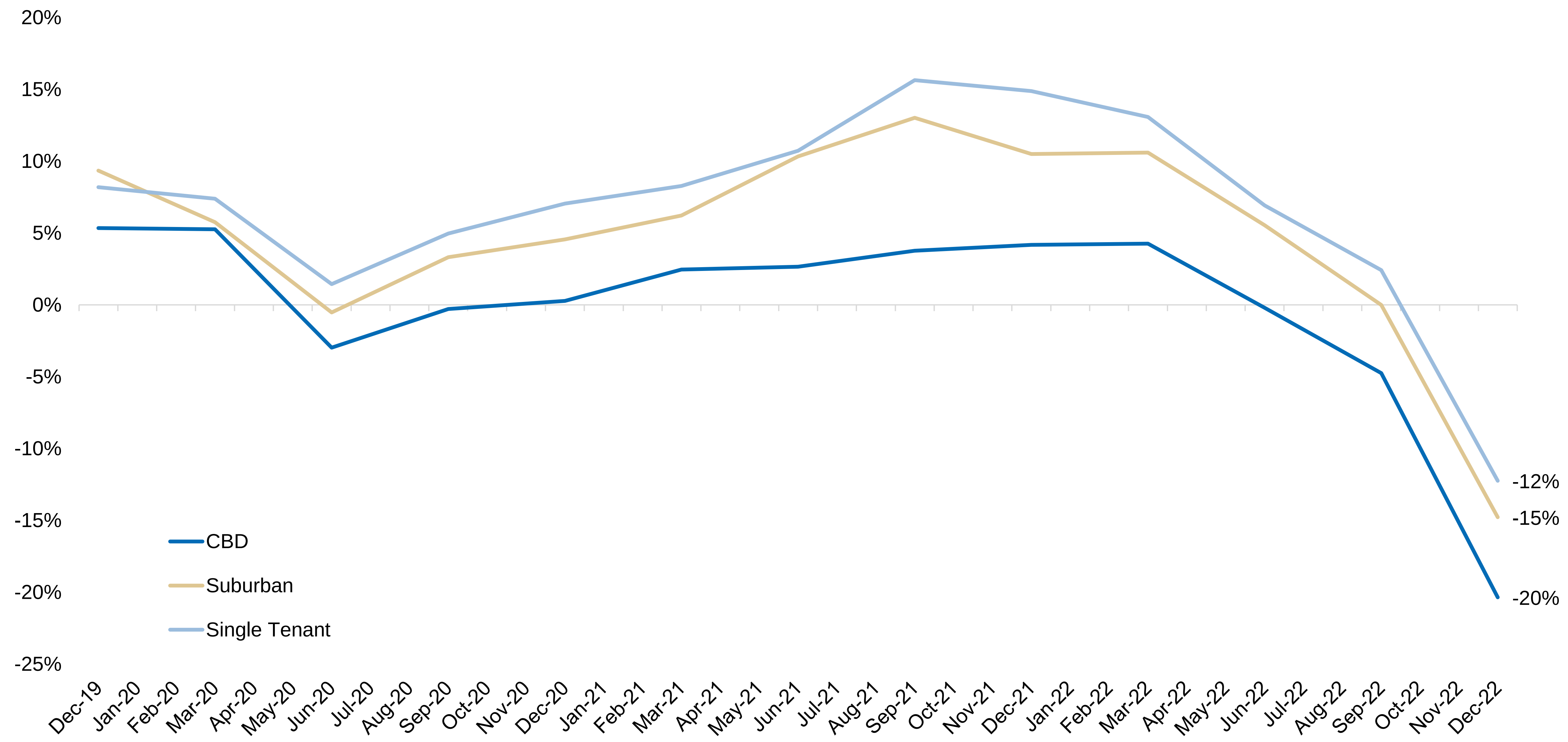



Sources: Newmark Research, NAREIT as of 2/2/2023

# Core Office Returns Turned Sharply Negative in 4Q22

The impact of the pandemic on office returns was muted, particularly when compared with the Great Recession. This was a result of: 1) extraordinary action by the Federal Reserve to drive discount rates lower; 2) lease terms mitigating near-term cash flow loss; and 3) lower leverage in the office sector enabling investors to avoid fire sales and catching the falling knife. CBD office was more impacted in the downturn, both because of its higher beta and construction pipeline and the particularities of the pandemic. The recovery, however, has departed from past experience, with suburban properties rebounding more strongly. Since mid-2021, returns have been slowing once more and indeed turned sharply negative in the fourth quarter of 2022. One way to think about these value adjustments is that it reflects the lagged effect of the pandemic and WFH factors, which had been obscured by low rates.

**NCREIF Quarterly Office Total Return (Annualized)**




Source: NCREIF, Newmark Research

# Office Market Statistics

# National Office Market Statistics

4Q22

## Market Statistics – All Classes

| | Total Inventory (SF) | Under Construction (SF) | 4Q 2022 Net Absorption (SF) | YTD 2022 Absorption (SF) | Overall Vacancy Rate | Average Asking Rent (Price/SF) |
|---|---|---|---|---|---|---|
| **National** | **5,022,615,394** | **79,041,104** | **-13,923,410** | **-30,592,025** | **18.0%** | **$31.51** |
| Atlanta‡ | 158,139,107 | 2,824,034 | 224,487 | 757,699 | 23.1% | $30.84 |
| Austin‡ | 79,877,178 | 6,139,814 | -503,829 | 119,901 | 19.5% | $40.49 |
| Baltimore‡ | 82,793,936 | 1,349,792 | 11,651 | -523,463 | 15.9% | $24.89 |
| Boston^ | 173,167,139 | 4,819,369 | -852,167 | -2,274,682 | 15.5% | $43.79 |
| Broward County, FL | 34,622,634 | 179,756 | -51,850 | -413,883 | 15.6% | $34.28 |
| Charleston, SC | 56,172,704 | 1,834,776 | -331,104 | 503,032 | 19.6% | $33.43 |
| Charlotte‡ | 14,113,292 | 0 | 188,232 | 71,808 | 12.4% | $30.65 |
| Chicago^ | 249,906,159 | 1,877,874 | -165,929 | -1,514,415 | 22.2% | $32.44 |
| Cincinnati‡ | 34,610,313 | 100,000 | 46,654 | -327,220 | 25.4% | $20.39 |
| Cleveland‡ | 38,546,970 | 256,900 | -606,389 | -648,046 | 19.8% | $18.82 |
| Columbia, SC | 16,525,455 | 0 | 750 | 98,439 | 12.9% | $19.20 |
| Columbus‡ | 43,930,875 | 1,250,309 | -447,023 | -764,153 | 19.2% | $21.34 |
| Dallas‡ | 269,731,781 | 2,409,509 | -920,927 | -108,961 | 23.8% | $29.12 |
| Delaware | 16,551,803 | 0 | -12,921 | -166,270 | 19.0% | $26.07 |
| Denver‡ | 101,675,985 | 1,734,244 | -283,664 | -1,453,882 | 23.5% | $30.96 |
| Detroit‡ | 80,132,815 | 263,000 | -519,785 | -1,310,579 | 19.7% | $20.29 |
| Fairfield County, CT^ | 39,563,340 | 0 | 48,357 | -432,651 | 22.0% | $37.38 |
| Fresno | 21,641,552 | 9,241 | -88,590 | -45,048 | 10.5% | $23.92 |
| Greenville, SC | 22,534,287 | 226,795 | -152,042 | 331,169 | 9.6% | $23.00 |

^ Major Market
‡ Secondary Market
Note: Absorption is the net change in occupied space over a period of time. Data may not match totals in some Newmark metro reports due to different local methodologies. Asking rents are quoted on a full-service basis.

# National Office Market Statistics

4Q22

## Market Statistics – All Classes

| | Total Inventory (SF) | Under Construction (SF) | 4Q 2022 Net Absorption (SF) | YTD 2022 Absorption (SF) | Overall Vacancy Rate | Average Asking Rent (Price/SF) |
|---|---|---|---|---|---|---|
| **National** | **5,022,615,394** | **79,041,104** | **-13,923,410** | **-30,592,025** | **18.0%** | **$31.51** |
| Houston‡ | 240,817,743 | 3,499,180 | -485,394 | 403,419 | 25.1% | $30.00 |
| Indianapolis‡ | 62,530,713 | 479,162 | -166,971 | -455,546 | 13.5% | $21.08 |
| Inland Empire, CA^ | 28,178,670 | 105,000 | 61,897 | 381,619 | 10.1% | $25.25 |
| Jacksonville‡ | 32,827,358 | 88,315 | 171,519 | -152,791 | 15.9% | $22.15 |
| Kansas City‡ | 73,834,453 | 839,887 | -536,561 | -965,693 | 15.1% | $21.52 |
| Las Vegas‡ | 39,768,638 | 443,155 | 268,717 | 800,335 | 11.6% | $25.38 |
| Long Island^ | 57,967,341 | 35,700 | -110,890 | -1,182,723 | 11.4% | $28.66 |
| Los Angeles^ | 219,943,956 | 2,144,554 | -1,311,103 | -1,918,192 | 20.8% | $45.80 |
| Manhattan^ | 474,241,253 | 10,768,924 | -346,347 | -1,638,348 | 12.4% | $74.29 |
| Memphis‡ | 35,042,547 | 0 | 260,042 | 437,317 | 15.4% | $20.02 |
| Miami‡ | 48,996,704 | 3,218,693 | -28,604 | -58,520 | 15.5% | $46.66 |
| Milwaukee‡ | 36,584,380 | 37,194 | 171,544 | -44,906 | 19.6% | $19.08 |
| Minneapolis‡ | 120,917,308 | 359,729 | -719,654 | -1,092,999 | 15.9% | $24.36 |
| Nashville‡ | 59,043,216 | 2,441,208 | -385,238 | -927,007 | 16.2% | $29.80 |
| New Jersey Northern^ | 165,760,284 | 119,350 | -1,386,469 | -1,568,777 | 18.5% | $30.67 |
| New Jersey Southern | 16,744,301 | 0 | 60,728 | 399,913 | 14.9% | $19.07 |
| Oakland/Greater East Bay^ | 75,231,535 | 110,145 | -264,599 | -852,145 | 17.5% | $39.47 |
| Oklahoma City | 20,824,894 | 0 | -60,610 | -109,062 | 17.2% | $18.84 |
| Orange County, CA^ | 96,678,861 | 707,714 | -97,830 | -315,940 | 16.5% | $33.41 |

^ Major Market
‡ Secondary Market
Note: Absorption is the net change in occupied space over a period of time. Data may not match totals in some Newmark metro reports due to different local methodologies. Asking rents are quoted on a full-service basis.

# National Office Market Statistics

4Q22

## Market Statistics – All Classes

| | Total Inventory (SF) | Under Construction (SF) | 4Q 2022 Net Absorption (SF) | YTD 2022 Absorption (SF) | Overall Vacancy Rate | Average Asking Rent (Price/SF) |
|---|---|---|---|---|---|---|
| **National** | **5,022,615,394** | **79,041,104** | **-13,923,410** | **-30,592,025** | **18.0%** | **$31.51** |
| Orlando‡ | 65,209,488 | 1,313,614 | -45,047 | -1,294,796 | 10.2% | $25.00 |
| Palm Beach | 25,632,958 | 617,903 | 175,820 | 56,994 | 11.6% | $39.77 |
| Philadelphia‡ | 110,346,050 | 1,156,000 | -477,127 | -149,117 | 17.7% | $30.63 |
| Phoenix‡ | 97,600,003 | 439,326 | -1,100,039 | -1,351,124 | 21.2% | $28.42 |
| Pittsburgh‡ | 57,444,565 | 926,000 | 80,909 | 9,608 | 21.8% | $25.84 |
| Portland‡ | 61,872,542 | 301,351 | -231,955 | -993,414 | 18.4% | $31.37 |
| Raleigh/Durham‡ | 53,967,104 | 1,218,402 | 127,299 | 1,316,152 | 13.1% | $29.94 |
| Sacramento‡ | 69,381,224 | 847,300 | 130,392 | -1,361,290 | 13.6% | $25.79 |
| Salt Lake City‡ | 74,910,790 | 1,013,217 | -401,002 | 213,436 | 13.8% | $24.94 |
| San Antonio‡ | 47,349,883 | 620,545 | 88,713 | -730,531 | 16.7% | $24.66 |
| San Diego‡ | 72,773,668 | 4,354,263 | 31,114 | 738,785 | 14.2% | $40.08 |
| San Francisco^ | 88,449,298 | 710,000 | -1,928,746 | -4,574,754 | 22.1% | $74.15 |
| Seattle‡ | 130,587,640 | 9,136,313 | -712,766 | -685,249 | 11.8% | $45.71 |
| Silicon Valley^ | 91,012,010 | 3,124,121 | -970,447 | -333,306 | 16.4% | $57.12 |
| St. Louis‡ | 75,011,135 | 326,250 | -79,685 | -1,935,429 | 18.1% | $22.80 |
| Tampa/St. Petersburg‡ | 62,393,166 | 182,000 | 253,590 | -1,198,240 | 14.1% | $27.73 |
| Washington, DC^ | 372,348,454 | 2,081,176 | 504,274 | -984,465 | 19.6% | $42.07 |
| Westchester County, NY^ | 26,153,936 | 0 | -46,795 | -374,034 | 22.5% | $28.67 |

^ Major Market
‡ Secondary Market
Note: Absorption is the net change in occupied space over a period of time. Data may not match totals in some Newmark metro reports due to different local methodologies. Asking rents are quoted on a full-service basis.

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Newmark has implemented a proprietary database and our tracking methodology has been revised. With this expansion and refinement in our data, there may be adjustments in historical statistics including availability, asking rents, absorption and effective rents. Newmark Research Reports are available at nmrk.com/insights.



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