RESEARCH Q4 2022

Boston Office Market

Office Fundamentals Displayed Continued Weakness as Year Ends

Conditions failed to improve in Greater Boston's office market during the fourth quarter of 2022. Metro area vacancies increased for a third consecutive quarter, and occupancy losses surpassed 2.3 million square feet over the last year. Sublease inventories are still rising across the board, with TAMI firms such as Akamai, Akebia, Bullhorn, iRobot and Spotify contributing to the recent uptick in availabilities. At 5.0% of existing inventory, available sublease space across the metro has reached the highest rate since the dot-com recession of the early 2000s. Leasing velocity is 35.0% below pre-pandemic activity and office demand has contracted, with smaller users dominating tenant requirements. Development remains concentrated in the CBD, where close to 80% of metro area office construction is located. Volatility in the region's life science sector has dampened recent enthusiasm for new laboratory space, resulting in the potential for shadow office supply from shelved or delayed conversion projects. While landlords have been holding steady on quoted office rates, growth is decelerating and overall asking rents fell slightly over the quarter. Investment activity also slowed significantly in the latter part of 2022 in the face of four consecutive 0.75-point interest rate hikes. While Greater Boston's near-term outlook remains challenged, the area's underlying economic drivers and concentration of intellectual capital are a boon for future growth and investment, and put the city in a better position than most.

Current Conditions

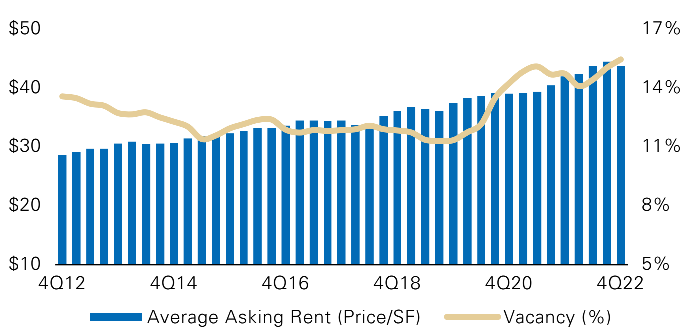
- Since 2019, office vacancies have increased by more than 400 basis points and ended 2022 at an 11-year high of 15.5%.
- Rising sublease inventories have been a key driver of these shifting fundamentals, with availabilities more than doubling in three years.
- Rent growth continues to slow as landlords have begun to lower quoted rates.
- Investment sales slowed to a near crawl in late-2022 as interest rate volatility and recessionary pressures weighed on activity.

Market Summary

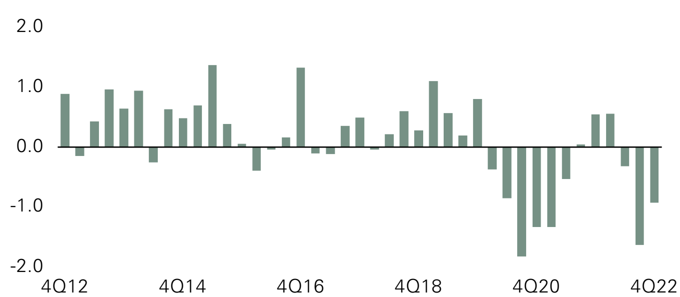
	Current Quarter	Prior Quarter	Year Ago Period	12-Month Forecast
Total Inventory (SF)	173.2M	173.2M	176.0M	↑
Vacancy Rate	15.5%	15.0%	14.7%	↑
Quarterly Net Absorption (SF)	-930,979	-1,636,212	546,880	←→
Average Asking Rent/SF	$43.77	$44.49	$42.05	↓
Under Construction (SF)	4.8M	4.6M	4.7M	↓

Market Analysis

ASKING RENT AND VACANCY RATE



NET ABSORPTION (SF, MILLIONS)



NEWMARK

Boston CBD

Boston's office market is facing significant headwinds. On the heels of another 340,000 square feet of negative net absorption, vacancies climbed to nearly a 20-year high at the end of 2022. CBD and suburban office vacancies now maintain only a 140-basis-point delta, which is well below historic norms. Office demand is wavering, with smaller, shorter-term leases dominating recent activity. Not only have total office requirements declined by 54.0% since the end of 2019, when tenants were seeking 6.3 million square feet of space, but the average size has fallen by more than 50.0%, to 14,100 square feet. Today, there are almost no large active tenant requirements, compared with three years ago when 21 users were seeking more than 100,000 square feet of office space; however, sizeable requirements are expected to return to the market in early 2023. Medtronic's expansion at 10-20 Channel Center represents one of the largest leases of the year in the CBD and is indicative of growth within the region's "tough" technology sector. American Tower, and T.EN Stone & Webster Process Technology executed lease extensions during the fourth quarter of 2022, as well. New sublets are still concentrated in the CBD's technology industry, with Verily, Akebia and Bullhorn all contributing to additional sublease availabilities in recent months. With more than 7 million square feet of office leases set to expire between 2023 and 2026, Boston's demand outlook remains uncertain, given that many tenants are contemplating downsizing. With that, the bifurcation in office asset performance and the expected expansion in availabilities within Class B and older Class A ("commodity") towers are risks that market experts are watching closely. Tenant preferences will remain focused on best-in-class space and amenities for now.

While landlords have been holding strong on face rents in the CBD, growth is slowing. Asking rents ended 2022 1.1% below the previous quarter, with above-average losses reported among Boston's Class B assets. More softness has been reported in effective rents primarily because concession packages across all buildings have continued to grow. Tenant improvement allowances in the CBD are up 20% to 25% over the last three years, which is in line with the metrowide average. The average months of free rent given by landlords have also expanded by 16.0% since 2019 in the CBD office market. Given Boston's precarious near-term outlook, expectations are for a steeper asking rent correction in future quarters.

Cambridge

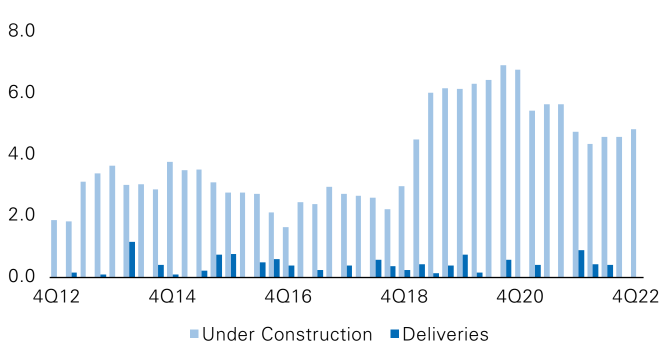
Cambridge office fundamentals have been particularly impacted by its concentration of tech-related companies as vacancies ended 2022 more than five times higher than the 2019 trough of 2.5%. As of the fourth quarter of 2022, 13.0% of this 10.1-million-square-foot office market is vacant. Negative net absorption reached 517,000 square feet for the year, driven largely by occupancy losses from TAMI firms in East Cambridge. Sublease inventories have risen to historically high levels, with firms like Akamai and Wistia listing space during the fourth quarter of 2022. Cambridge's Class A vacancy rate remains elevated, but well below historical peaks experienced during the last two market corrections. Vacancies in the Class B market, however, ended 2022 at a historic high of 25.9%. With that, Kendall Square is still the epicenter of innovation within Greater Boston and office users within the TAMI sectors will continue to cluster here. Following several years of restructuring, General Electric is decamping from Boston's Seaport submarket and plans to locate its energy business (GE Vernova) headquarters in 47,000 square feet at 58 Charles St. Downside risks will persist as Cambridge's technology and life science sectors remain challenged and the likelihood of further space reductions from both small and large office users remains high. Upcoming relocations to Boston from Amazon, InterSystems and CarGurus also present significant headwinds for near-term office fundamentals. Cambridge office rents have been trending downward for several quarters and have declined by 9.7% since peaking in early 2022, which represents the steepest loss among Greater Boston's major office markets. Despite current market conditions, Cambridge's innovative culture and access to young talent will bolster office fundamentals in the long term.

Suburbs

Though the suburban office landscape continues to reflect broader trends observed throughout Greater Boston, market fundamentals are faring comparatively better. Following three consecutive quarters of negative net absorption, vacancies climbed 80 basis points to 16.2% at the end of 2022. Unlike Boston and Cambridge, suburban vacancies have not surpassed cyclically high rates experienced during the previous two recessionary periods. Bright spots include expansions from flexible office operators, as well as growth from select TAMI firms, including SmartBear in Somerville and

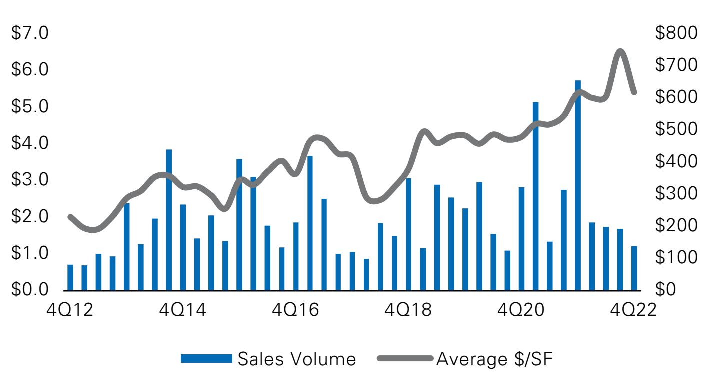
Construction and Deliveries

SQUARE FEET, MILLIONS



Office / Lab Investment

SALES VOLUME (BILLIONS AND AVERAGE PRICE/SF)



Workhuman in Framingham. Industrious recently opened a 35,000-square-foot facility at Legacy Place in Dedham, and Workbar is opening new locations in Framingham and Quincy. A Somerville-based "tough" technology firm, Altaeros Energies, is considering a relocation to a former-EMC building at 80 South St. in Hopkinton. Vacancies in the Route 495 loop have vacillated between 20% to 25% for the better part of the last 15 years, and recent improvements have been modest. Vacancies in the Route 128 office markets, while still elevated, are more than 500 basis points below the previously recorded peak in 2010. With that, leasing has slowed as recessionary pressures mount and tenant activity is concentrated on smaller deals in the best spaces. Life science developers and investors remain active in the suburbs; however, uncertainty within this sector is limiting new developments. Select space originally slated for laboratory conversion will find its way back into the office market as landlords reevaluate projects, ultimately putting further pressure on office vacancies in the near term. The suburban office market will not remain immune to a larger market correction, and downside risks will likely prevail.

Capital Markets

Interest rate volatility, the rising cost of debt and growing recessionary pressures continue to depress capital flows in Greater Boston. The typical year-end acquisitions push was limited as many buyers have put new investments on hold, anticipating potential challenges or opportunities in the coming year. The pace of investment abated further during the fourth quarter of 2022 as a result. In 2022, roughly $6.5 billion in office and laboratory assets changed hands throughout the metro area, which is less than half of the total investment during 2021. Comparatively, annual investment averaged $7.0 to 8.0 billion from 2011-2020 in Greater Boston. Pricing has slid due to the relative lack of laboratory and office assets transacting compared with recent history. In one of the largest office transactions of the quarter, Beacon Capital Partners acquired One Brattle Square in Mid Cambridge for $81.0 million. Despite recent trends, there is still investor appetite for life science investments. MetLife Real Estate acquired 4 Burlington Woods, a stabilized laboratory conversion in Burlington, for $103.0, million and Investcorp purchased 20 Maguire Rd. in Lexington for $89.0 million. Greatland Realty Partners and Long Wharf Capital also expanded its suburban office and laboratory portfolio with the sale of 25 and 40 Hartwell Ave. in Lexington for $34.2 million. The long-term outlook is more positive, as Greater Boston's favorable demographics, world-renowned hospitals and universities and maturing technology and biotech sectors make the metro a desirable location for investment activity.

Outlook

As is the case with many major U.S. cities, market conditions remain tenuous within Greater Boston. Persistent strength has characterized the local labor market as layoffs are concentrated in the TAMI and biotech industries. However, the metro area's economic recovery has been complicated by rising inflation, international conflict, changing consumer behavior and shifts in monetary policy. Protracted work-from-home schemes are impacting office demand, and recessionary pressures are weighing on business decisions. The next several quarters will be pivotal for the metro's recovery as vacancy and rents will remain challenged by the flight to quality, potential corporate consolidations and generous landlord concession packages. Nevertheless, the metro's long-term outlook for recovery is quite encouraging due to the region's underlying drivers.

Select Lease Transactions

Tenant	Building / Address	Submarket	Type	Square Feet
Workhuman	100 Staples Drive, Framingham	Framingham/Natick	Direct Lease	157,133
Medtronic	10-20 Channel Center, Boston	CBD – Seaport	Lease Expansion	112,952
Indigo Ag	500 Rutherford Avenue, Charlestown	Urban Edge North	Lease Extension	64,846
SmartBear Software	450 Artisan Way, Somerville	Urban Edge North	Lease Expansion	52,000
American Tower Co.	116 Huntington Avenue, Boston	CBD – Back Bay	Lease Extension	40,000
FreightPlus	108 Myrtle Street, Quincy	South – Route 128	Sublease	29,000

Select Sale Transactions

Building / Address	Submarket	Sale Price	Price/SF	Square Feet
4 Burlington Woods, Burlington	North – Route 128	$103.0M	$944	109,085
20 Maguire Road, Lexington	West – Route 128	$89.0M	$878	101,310
One Brattle Square, Cambridge	Mid Cambridge	$81.0M	$834	97,115
25 & 40 Hartwell Avenue, Lexington	West – Route 128	$34.2M	$537	63,739
880 Technology Park Drive, Billerica	North – Route 495	$18.2M	$120	151,564

Submarket Statistics

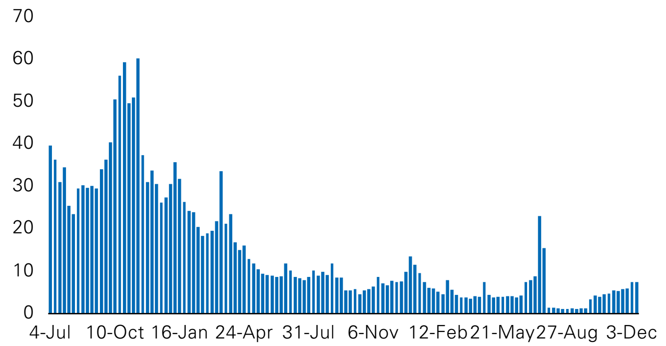
	Total Inventory (SF)	Under Construction (SF)	Total Vacancy Rate	Qtr Absorption (SF)	YTD Absorption (SF)	Class A Asking Rent (Price/SF)	Class B Asking Rent (Price/SF)	Total Asking Rent (Price/SF)
CBD Total	**66,296,289**	**3,847,805**	**14.8%**	**-340,617**	**-1,023,530**	**$75.29**	**$52.52**	**$66.21**
Back Bay	13,346,522	508,136	11.9%	-123,415	-548,957	$77.44	$57.10	$69.94
Downtown	33,074,387	1,072,420	16.7%	-126,638	-619,569	$74.85	$49.75	$68.91
Government Center	1,509,457	977,249	15.6%	13,146	-65,119	$70.00	$58.68	$62.37
Midtown	2,385,193	-	20.5%	-31,322	-187,508	-	$51.55	$50.44
North Station	3,026,427	-	18.0%	-83,800	-97,822	$90.00	$51.33	$53.89
Seaport District	10,177,894	630,000	10.9%	-41,633	476,542	$75.49	$56.39	$62.22
South Station	2,776,409	660,000	11.3%	53,045	18,903	-	$52.43	$47.58
Cambridge Total	**10,110,382**	**792,000**	**13.0%**	**-143,320**	**-517,119**	**$83.87**	**$76.59**	**$77.86**
East Cambridge	6,500,458	792,000	13.7%	32,758	-328,255	$86.99	$84.60	$85.90
Mid Cambridge	2,567,773	-	12.0%	-115,224	-105,136	$77.58	$65.30	$69.89
West Cambridge	1,042,151	-	11.1%	-60,854	-83,728	-	$39.25	$33.80
Suburban Total	**96,758,816**	**179,564**	**16.2%**	**-447,042**	**-784,884**	**$32.15**	**$23.64**	**$28.45**
Urban Edge	12,174,639	179,564	11.2%	25,733	-135,015	$41.66	$33.21	$39.14
North – Route 128	18,371,903	-	15.2%	-296,100	-506,562	$35.14	$24.62	$31.91
South – Route 128	13,090,482	-	13.4%	79,967	143,533	$28.78	$25.85	$27.25
West – Route 128	19,558,353	-	14.0%	-49,974	143,391	$44.61	$32.87	$39.73
North – Route 495	17,629,199	-	21.5%	-434,334	-718,542	$25.47	$18.55	$22.85
South – Route 495	3,319,070	-	10.5%	-11,315	8,483	$21.80	$20.84	$21.27
West – Route 495	8,793,426	-	24.9%	253,987	269,852	$22.20	$20.01	$20.50
Framingham/Natick	3,821,744	-	18.5%	-15,006	9,976	$29.33	$21.28	$26.59
Market	**173,165,487**	**4,819,369**	**15.5%**	**-930,979**	**-2,325,533**	**$50.06**	**$35.08**	**$43.77**

Economic Overview

Greater Boston faces a challenging year ahead in anticipation of a global economic slowdown. Uncertainty is characteristic of broader market conditions with persistently high inflation and rising interest rates. Hybrid work policies, lower venture capital funding and other macroeconomic headwinds have exacerbated demand for office space at a time when landlords are already facing high vacancies. Instability is expected to continue into 2023 as companies reevaluate their staffing and workspace needs; however, Greater Boston's robust labor force offers signs of relief in the weakened macroeconomic environment as the metro's unemployment rate sits at one of its lowest levels in the past decade. The region houses some of the nation's top educational and healthcare institutions, and its reputation as a leading life science hub places the metro area in a better position compared with many major U.S. cities. Greater Boston has been able to retain its wealth of intellectual capital and long-term growth prospects remain decidedly positive.

Weekly Initial MA Jobless Claims (2020-2022)

IN THOUSANDS (NSA), INCLUDES PUA* CLAIMS

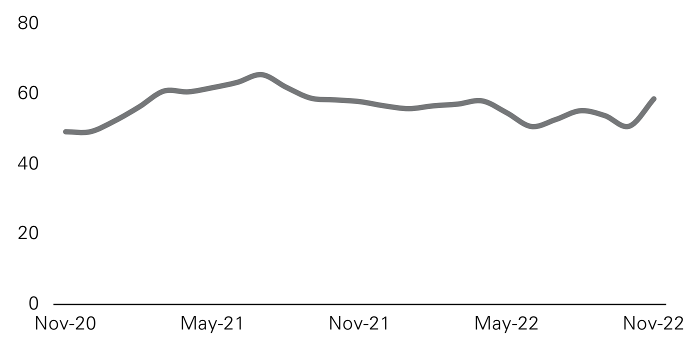


*Pandemic Unemployment Assistance

Source: U.S. Department of Labor, December 2022

Employer Confidence

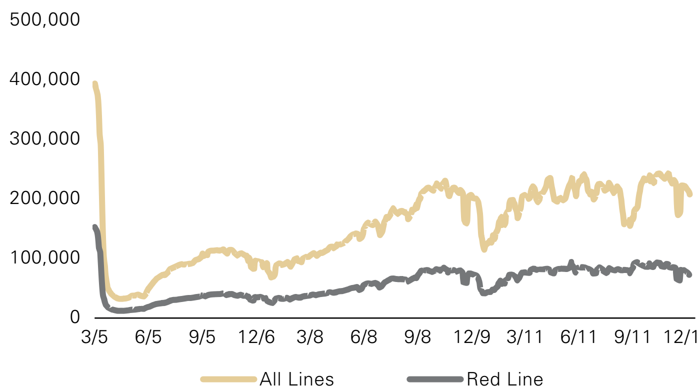
AIM, BUSINESS CONFIDENCE INDEX



Source: Associated Industries of Massachusetts, November 2022

MBTA Gated Validations by Line (2020-2022)

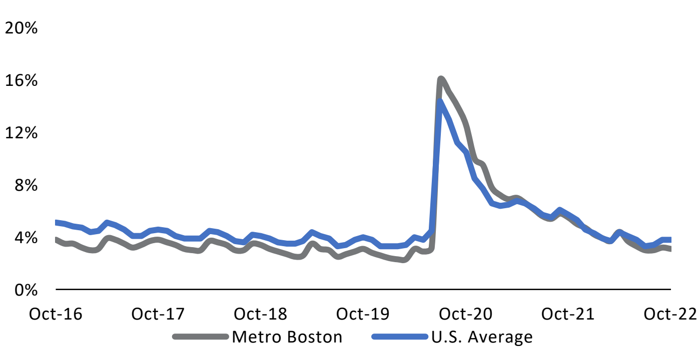
7-DAY AVERAGE



Source: MBTA, Newmark Research, December 2022

Unemployment Rate

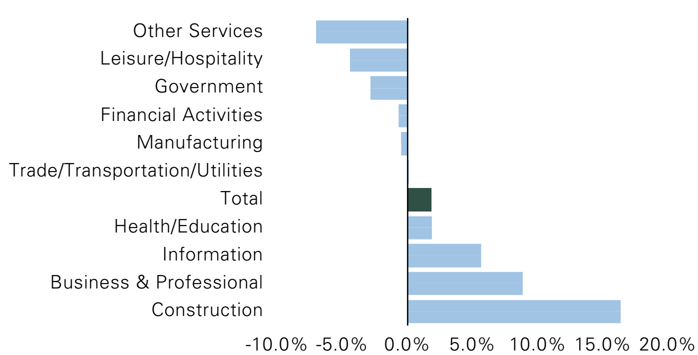
NOT SEASONALLY ADJUSTED



Source: Bureau of Labor Statistics, October 2022

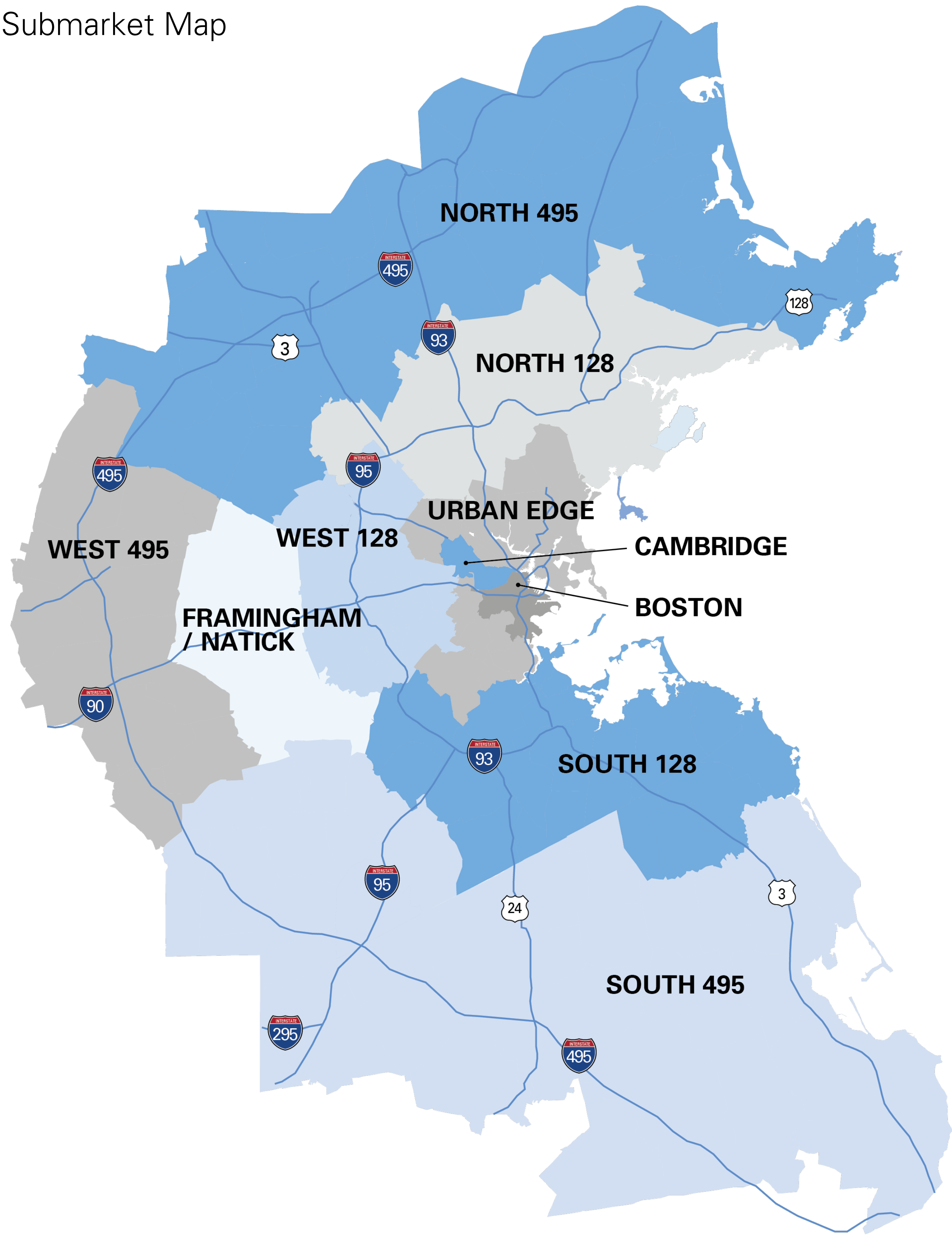
Employment by Industry

PERCENT CHANGE FROM FEBRUARY 2020 PEAK (NSA)



Source: Bureau of Labor Statistics, November 2022

Submarket Map



For more information:

Liz Berthelette
Director, Research
elizabeth.berthelette@nmrk.com

Jacinto Lemarroy
Senior Data Analyst
jacinto.lemarroy@nmrk.com

Connall Chamberlain
Research Analyst
connall.chamberlain@nmrk.com

Leslie Ruddy
Research Analyst
leslie.ruddy@nmrk.com

nmrk.com

ALABAMA
Birmingham

ARIZONA
Phoenix

ARKANSAS
Fayetteville
Little Rock

CALIFORNIA
El Segundo
Irvine
Los Angeles
Newport Beach
Pasadena
Sacramento
San Francisco
San Jose
San Mateo
Santa Rosa

COLORADO
Denver

CONNECTICUT
Stamford

DELAWARE
Wilmington

DISTRICT OF COLUMBIA

FLORIDA
Boca Raton
Jupiter
Miami
Palm Beach
Tampa

GEORGIA
Atlanta

ILLINOIS
Chicago

INDIANA
Indianapolis

KENTUCKY
Louisville

LOUISIANA
New Orleans

MARYLAND
Baltimore
Salisbury

MASSACHUSETTS
Boston

MICHIGAN
Detroit

MINNESOTA
Minneapolis

MISSOURI
St. Louis

NEVADA
Las Vegas
Reno

NEW JERSEY
Rutherford
East Brunswick
Morristown

NEW YORK
Buffalo/Amherst
New York

NORTH CAROLINA
Charlotte

OHIO
Cincinnati
Cleveland
Columbus

OKLAHOMA
Oklahoma City

OREGON
Portland/Lake Oswego

PENNSYLVANIA
Allentown
Philadelphia
Pittsburgh

TEXAS
Austin
Dallas
Houston

UTAH
Salt Lake City

VIRGINIA
Tysons Corner

WASHINGTON
Seattle

WISCONSIN
Milwaukee

NEWMARK