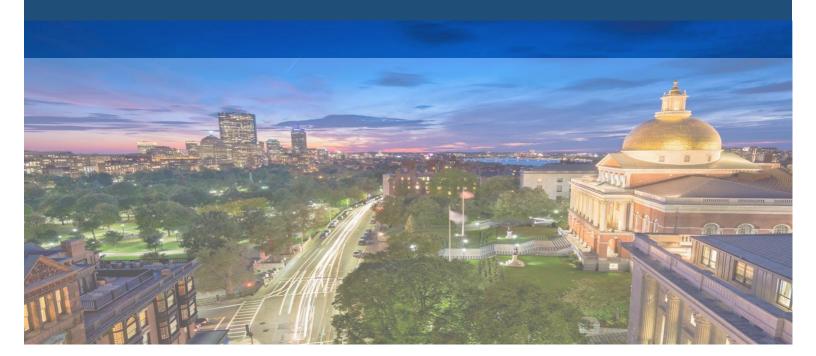


The Future of Downtown Boston & Commercial Real Estate

Implications of Post-Covid Changes in Work-Life Patterns for Downtown Boston's Economic Vibrancy

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By EBP for the Massachusetts Taxpayers Foundation



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1. Introduction

The confluence of the COVID-19 pandemic and the emergence of technology enabling effective remote work has caused a dramatic drop in demand for office space and a shift in what employers need from their physical spaces. This places the city in a precarious position as the district's main source of economic vibrancy has seemingly evaporated, and new sources of economic vibrancy are yet to be established.

This shift in how and where work is performed has far-ranging implications for the vibrancy of downtown commercial centers such as Downtown Boston and the Financial District. Cities across the country and world are grappling with how to adapt to the rapid changes in where people choose to live, work, and shop. But some cities – and neighborhoods within cities - are experiencing the more acute effects.

Land use in Boston's downtown Financial District is almost entirely commercial office space interspersed with a small amount of restaurant and retail space, primarily supported by daytime office workers. The factors that drive demand for commercial office space are fluid, driven by global economic conditions and the performance and needs of local employers. In contrast, the supply of commercial office space responds slowly to such changes. In a typical real estate market cycle, imbalances work themselves out over the course of a few quarters. Fluctuations in demand for commercial real estate - even in the face of dramatic economic shocks such as the post-9/11 period or 2008 financial crisis – was traditionally closely tied to the number officeworker jobs at downtown Boston firms. These office workers created a vibrant hustle and bustle of economic activity and human interaction throughout Downtown streets and sidewalks and in Downtown restaurants and retail stores.

This report aims to:

- 1) Document current conditions in Downtown Boston's commercial real estate market;
- 2) Illustrate the dramatic increase in remote work since 2020;
- 3) Identify factors associated with higher levels of remote work¹ vs. in-person work;
- 4) Describe changes in office-utilization patterns that affect Downtown Boston; and
- 5) Underscore the implications of these dramatic changes for Boston's commercial real estate market and overall downtown economic vibrancy.

This report and the accompanying visual presentation provide a common ground for understanding the factors driving current conditions and future trends as a starting point for a productive conversation around potential policy interventions.

¹ The terms "remote work" and "work from home" are used interchangeably in this report to refer to work performed outside of a traditional, consolidated office setting. The terms "in-person work" and "in-office work" are also used interchangeably to refer to work performed by workers at their employer's office location.

2. Downtown Boston Today

This section presents current conditions and trends in Downtown Boston's commercial real estate market, illustrates the significant concentration of commercial properties in downtown and the absence of other uses, and discusses implications for continued downtown vibrancy and the stakes for Boston as the center of a thriving economic region.

Downtown Boston Commercial Real Estate Market Conditions and Trends

This section presents current conditions and trends in Downtown Boston's commercial real estate market, illustrating the drastic change in demand for commercial office space prior to the 2020 pandemic and today, and the difference between the enduring impacts of new work-life patterns compared with earlier, more traditional market disruptions.

Vacancy Rate

As of the first quarter of 2024, the Downtown Boston commercial market encompassed more than 39.9 million sq.ft. of office space. This represents nearly 60% of all office space in the City of Boston, three times the size of the next largest submarket, Back Bay (12.5 million sq.ft.), and nearly four times the size of the Seaport District (10.0 million sq.ft.). Including both space available for direct lease and sublease, more than 11.8 million sq.ft. sits vacant for a vacancy rate of more than 25%.

This stands in stark contrast to the situation in the last quarter of 2019 before the onset of the COVID-19 pandemic, when several years of strong demand and little new supply had driven the vacancy rate to just 7%, representing just 6.0 million square feet of vacant space. Figure 1 illustrates the steep climb in vacancy since that time.

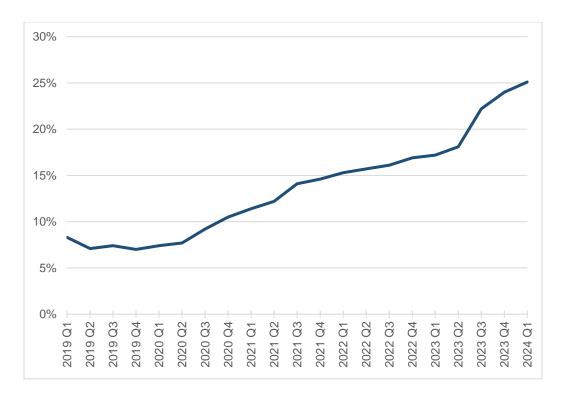


Figure 1. Downtown Boston Submarket Office Vacancy Rate, Q1 2019-Q1 2024

Source: Analysis by EBP with data provided by JLL, Inc.

As a historical point of reference, narratives from the Federal Reserve Beige Book, a semi-monthly economic report of major metropolitan areas indicate that vacancy rates in downtown Boston hovered between 5 and 6% throughout the late 1990s, and between 11% and 16% throughout the 2000s and 2010s. Several major economic shocks occurred during this period, such as the post-9/11 economic downturn and the 2007-08 financial crisis. Not only did those significant disruptions have less of an impact on the Downtown Boston office market than the post-COVID change in work-life patterns, but those disruptions were relatively temporary whereas current conditions are the result of a "new normal".

Flight to Quality

Vacant office space is not distributed evenly throughout Downtown. Over the course of the past five years, tenants have shown a strong preference for high-quality space including space in newer, trophy class, and high-rise Class A buildings - particularly on the upper floors of these flagship buildings. Approximately two-thirds of downtown office space is considered Class A, including the highest quality, trophy class buildings.²

Class A buildings typically offer shared amenities such as fitness facilities, cafes or restaurants, vehicle and/or bicycle parking, and additional conference rooms for larger firm gatherings. Class

² JLL Research Report, "Office Insight Q2 2023".

A space is also characterized by high-quality, visually appealing construction, and well-lit and well-ventilated workspaces. Employers seek these features to help attract employees back to the office. A 2022 study by CBRE Research found that workers are increasingly motivated to improve their sense of wellbeing, and they value their wellbeing more than consumption and more than saving money. In evaluating their workplace, workers consider factors such as flexibility, location, space design, technology, services, amenities, and health and wellness factors such as ventilation and natural light.

This trend is evident in national surveys of workplace attitudes as well as quantitative indicators present in Downtown Boston's commercial real estate market. CBRE's Spring 2023 U.S. Office Occupier Sentiment Survey of more than 200 corporate real estate executives across the country found that 32% of respondents had relocated to better-quality space and an additional 25% were exploring the option. The CBRE's 2024 study indicates that nearly 60% of 2024 respondents are considering a move to higher quality space. Nationally, CBRE anticipates that this preference to return vacancy rates for high quality space to pre-pandemic levels by 2027.³

Downtown Boston vacancy rates are consistent with this trend. In 2019, the Class A vacancy rate in Boston's Central Business District (CBD) was 7% and Class B was slightly higher at 8.3%⁴. Current vacancy rates show a much wider gap. As of the second quarter of 2023, the vacancy rate for Class A space was 16% compared to nearly 22% for Class B.

Another indicator is net absorption, which refers to the amount of space that leases or becomes vacant during the period (e.g. month, quarter, year, etc.). Absorption in all classes of Downtown office space has been largely negative for the past several years, meaning that more space is coming available than going under lease. However, Class B and C space accounts for a significant share of this negative absorption. For example, though it accounts for only one-third of total Downtown office space, as of the second quarter of 2023, it accounted for nearly half of Downtown negative absorption.

This concentration of activity in newer, higher quality buildings has left many Class B and C buildings largely vacant and, in some cases, completely empty. Figure 2 presents the location of Class B, C, and D buildings in Downtown Boston, based on building size (sq.ft.). Though this map does not reflect the vacancy rate of individual buildings, these clusters of Class B/C/D buildings represent areas of Downtown that are particularly vulnerable. High vacancy reduces property values, which has economic implications for building owners, investors, lenders and the City property tax coffers. It also has broader implications for vibrancy. High vacancy means fewer people on the streets, which in turn means less support for neighborhood restaurants and shops that depend on downtown worker expenditures. It can also create a sense of reduced physical security with fewer "eyes on the street", so to speak.

³ CBRE, "Prime Office Buildings Benefit from New Working Patterns & Tenant Preferences", 19 Jun 2024.

⁴ Newmark Knight Frank, "Research 4Q 2019 Boston Office Market".

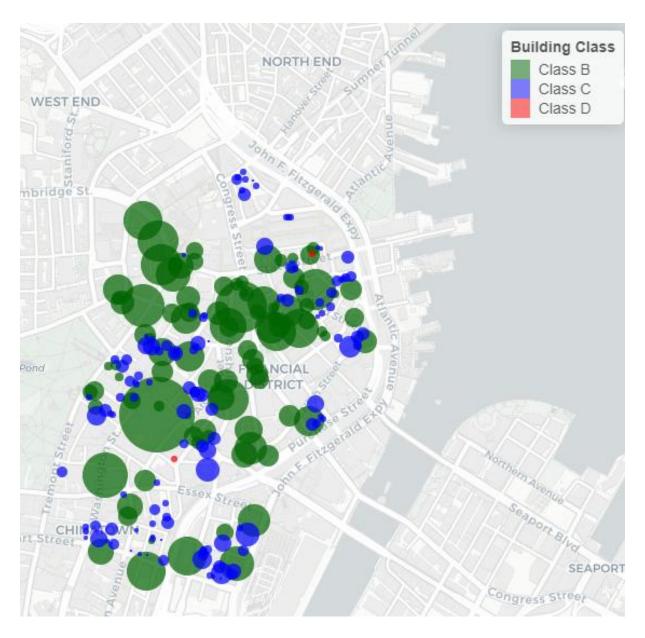


Figure 2. Class B/C/D Commercial Space in Downtown Boston Source: EBP analysis of BPDA Building Inventory.

Rents & Building Values

Figure 3 presents the average direct rent in Downtown Boston for all classes of office space from 2019 through the first quarter of 2024, adjusted for inflation to reflect 2024 dollars. The graph shows that in real terms, average rents have declined by more than \$24/per sq.ft. (28%) since the third quarter of 2019 (which was the highest point in the last 5 years). Yet this change in direct rents obscures the true cost of the post-COVID drop in demand for commercial office space.

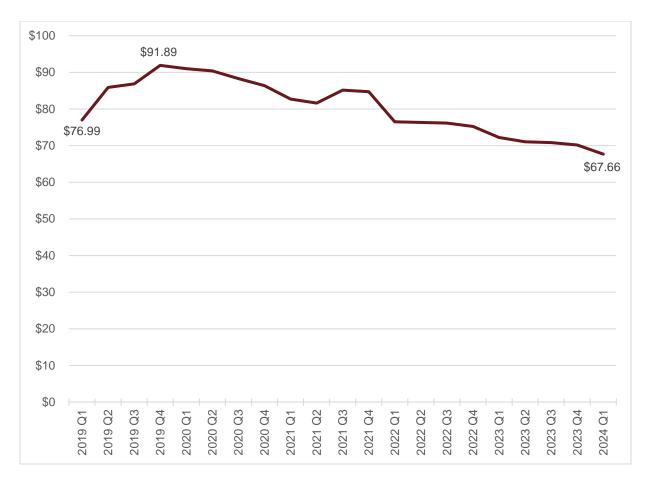


Figure 3. Downtown Boston Submarket Direct Rent Average per Sq.ft. (in inflation adjusted 2024 \$)

Source: JLL data adjusted for inflation using the BLS CPI-U for Boston-Cambridge-Newton, MA-NH.

Building managers have worked to retain existing tenants and maintain rent levels by increasing tenant concessions, incentives that landlords incorporate into lease agreements, such tenant improvement allowances and flexible lease terms. Figure 4 presents the percent difference between average asking rent and average net effective rent as a measure of tenant concessions from 2019-2024. As the figure illustrates, in 2019 and 2020, before leases were significantly affected by the pandemic, concessions represented less than 10% of the rent price. By 2022, that skyrocketed to more than \$15 per sq.ft., representing nearly one-quarter of the price, with leases signed in 2023 and 2024 moderating somewhat but remaining well above previous levels. This represents a significantly increased cost borne by building owners and property managers that is not offset by rents collected from tenants.

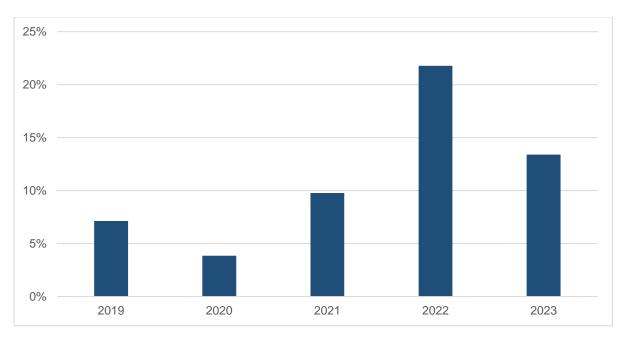


Figure 4. Tenant Concessions as a % of Total Rent, 2019-2024

Source: CBRE Figures Boston Downtown Office Q1 2024 (Based on new deal activity only, over 5,000 sq. ft., term longer than 5-years, gross basis).

In addition to the increased cost of tenant concessions, the strong preference for high-quality new and updated space underscores the importance of new construction and renovations to retain and attract tenants. At the same time, reduced income streams due to high vacancy and high tenant concessions, paired with high interest rates make these more attractive spaces more difficult for property owners and developers to provide.

In broad strokes, the value of an office building is determined by income (rent) potential, net of operating and maintenance costs. Declining direct rents and increasing costs of tenant concessions significantly reduce the value of Downtown commercial buildings. Building sales prices are the best indicator of market value, and the extent of the impact on building values is not yet fully apparent as sales volume has drastically slowed.

Concentration of Commercial Real Estate in Downtown Boston

While the dramatic increase in WFH and reduction in demand for commercial office space have occurred everywhere, the impacts on Boston's commercial real estate market are particularly acute because so much of the region's office space is concentrated in the downtown financial district. Moreover, in terms of land use, Downtown Boston is almost entirely commercial office, with a small amount of retail/restaurant and mixed use, and virtually no residential use. The figure below presents commercial land use in downtown Boston. The dark red areas are commercial office, which dominates the landscape. A remnant of mono-culture zoning popular in between the 1950s and 1990s, the lack of housing and complementary uses was already a disadvantage prior to the advent of remote work, as office workers primarily create vibrancy on weekdays during working hours. However, now, a significant share of that weekday, daytime

activity has disappeared. While parts of the region with a more heterogeneous mix of land uses bustle at weekday lunch hour, in the evenings and on weekends, Downtown Boston lacks a critical mass of foot traffic.

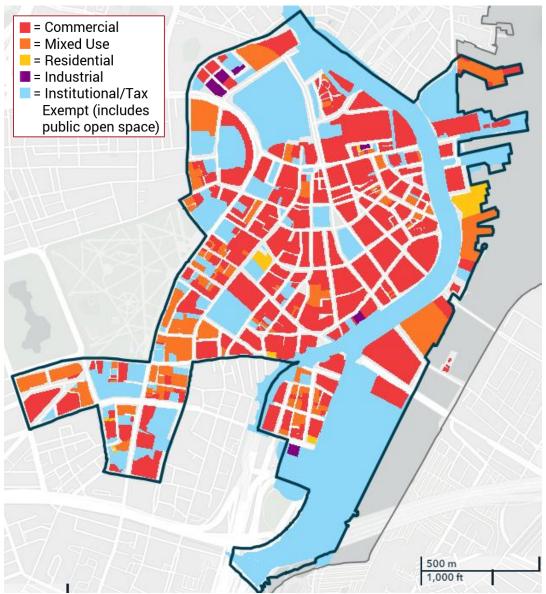


Figure 5. Downtown Boston Land Use

Source: City of Boston Planning Department Research Division Land Use Explorer.

Opportunities for Land Use Conversions in Downtown Boston

Decreased demand for commercial rental spaces has spurred interest in the conversion of offices into residential spaces, particularly in Massachusetts as it experiences an acute housing shortage, and high average rents and home prices. Prior to the pandemic, a primary concern for economic development in the region was that the high cost of housing was slowing business

growth and driving up the cost of doing business, as companies struggled to find workers willing or able to live in the region, and paid higher wages to attract and keep them.

A shortage of housing and high commercial vacancy is not unique to Boston. According to the Council of Economic Advisers, nationwide, the commercial office vacancy rate has reached a 30-year high, while the national housing market has a shortfall of 3.8 million units. In October 2023, the Federal government introduced a collection of policy actions aimed at supporting local efforts for office-to-residential conversion through a combination of Federal agencies including the U.S. Department of Transportation, the U.S. Economic Development Administration, U.S. Department of Housing and Urban Development, Federal Housing Finance Agency, and U.S. Department of Agriculture. Commercial-to-residential conversion initiatives are also being investigated and implemented at the municipal level, including Washington D.C., New York, and San Francisco. Philadelphia converted commercial space to over 1,800 residential units between 2020 and 2022.

However, such conversions are not without significant practical and financial challenges. Unlike offices, residential floors are most commonly rectangular to maximize natural light and meet sanitary code. Mechanical and plumbing rerouting and compliance with residential fire codes can be costly and reduce leasable floor space. In 2022, the City of Boston retained a consultant to investigate the potential for conversion of underused commercial space. The study investigated the potential to convert unused commercial space in Boston's Financial District to residential use, hotels, and laboratory space. Though the study determined that hotel and lab conversions were not likely to be feasible, it identified opportunities for residential conversion for buildings with certain physical attributes (footplate size and shape) under certain market conditions (high vacancy as an office building, in a submarket with high enough residential prices), construction costs, and regulatory requirements. The study also indicated that incentives would be necessary to make conversions financially feasible for developers.

In July 2023, Boston Mayor Michelle Wu announced a residential conversion pilot program for Boston's downtown office space with the dual purpose of creating much needed housing units and creating more consistent foot traffic downtown to support local businesses. The program was officially launched and began accepting applications in October and the Boston Planning and Development Agency (BPDA) approved the first project in March which proposes to convert a 6-story, 11,000 square foot building into 15 studio and 1-bedroom apartments with ground floor retail.8 Four additional applications are under consideration, the largest of which would deliver

⁵ "Commercial-to-residential Conversion: Addressing Office Vacancies", White House press briefing, 27 Oct 2023.

⁶ "Biden-Harris Administration Takes Action to Create More Affordable Housing by Converting Commercial Properties to Residential Use", White House press briefing, 27 Oct 2023.

⁷ "Revive and Reimagine: A Strategy to Revitalize Boston's Downtown", City of Boston, October 2022.

⁸ Boston Planning & Development Agency website.

150 new residential units downtown. CBRE predicts that older buildings without modern amenities will be the most incentivized to convert as they struggle to attract renters.⁹

Commercial-to-residential conversion reduces the amount of underutilized office space in the market and diversifies Downtown land use, introducing a residential population that off-sets some of the loss of Downtown workers and creates social and economic activity beyond the typical workday to include evenings and weekends. It is a strategy that has been successfully used to revitalize downtowns affected by other economic shocks. In the wake of the 2000 dotcom bubble, the City of Los Angeles mitigated a severe oversupply of office space by easing zoning restrictions for older commercial buildings, which supported the development of 12,000 housing units over the following two decades. And after 9/11, the City of New York implemented zoning reforms and offered tax incentives to convert some 20 million sq.ft. of Lower Manhattan office space to housing.¹⁰

While commercial-to-residential conversion provides some important benefits, it cannot fully replace the economic activity and vibrancy that office workers once brought Downtown. The most recent data available from BPDA indicates that approximately 253,260 workers are based in Downtown Boston. If those workers now work from home between 20 and 30% of the time (discussed in greater detail later in this report), that represents a loss of 50,000 to 75,000 people in Downtown each weekday.

Boston's Place at the Center of an Economic Region

Ultimately, the focus of this report is impacts and implications for the City of Boston and Boston's downtown financial district, but conditions in the larger economic region are important in several respects. First and foremost, labor markets do not observe municipal boundaries but instead are largely defined by transportation access between jobs, housing and regional activity centers. Throughout history, cities around the world have typically grown up around a 30-minute one way commute time (or one hour round trip), and the distribution of people and businesses has been shaped by changes in travel times.¹¹ The ability to work from home has loosened this connection for some of the workforce, but it has not eliminated the role of regional labor markets.

⁹ CBRE.

¹⁰ "Commercial-to-residential Conversion: Addressing Office Vacancies", The White House, 27 Oct 2023.

¹¹ See: English, Jonathan, "CityLab: The Commuting Principle That Shaped Urban History", *Bloomberg*, 29 Aug 2019; Bruce, Oliver, "Marchetti's Constant and the Power-Network-Intelligence Matrix of Micromobility" the Micromobility Podcast, 17 Sept 2018.

Office-user businesses concentrate in central cities to gain access to the largest labor force, and for knowledge-industries in particular to access employees with specialized skills and experience. This concentration of businesses creates economic vibrancy both through the exchange of ideas among co-located businesses and also by drawing large numbers of people into the central business district who support downtown restaurants, personal services and retail stores.

Increased remote work allows a much greater share of the workforce to access jobs well beyond the

"City centers historically have been places for innovation, collaboration, the generation of new ideas, technologies and industries that create new opportunities for work and rising standards of living. The sooner they fully rebound, the more they restore their role in providing opportunities for workers at all skill levels."

- Downtown Rebound: The Data
Driven Path to Recovery

traditional labor market catchment area and companies can now access those hard-to-find specialized workers virtually anywhere. Downtown Boston remains the epicenter of the regional labor market, which is why businesses that employ office workers are still heavily concentrated in Downtown Boston, but more than ever, Downtown vitality depends on people's ability to live in and easily travel to it. Regional job creation and labor market trends still drive demand for downtown office space. The question is how has the relationship between the two changed?

As noted above, the concentration of workers in a downtown business district creates an economic vibrancy of its own which is greater than the sum of each individual business and worker. This creates a reciprocal relationship where the regional economy benefits the downtown commercial district, and the downtown commercial district creates something larger that contributes to the region as a whole, from Rhode Island, to Western Massachusetts, to New Hampshire. The challenge today, as it has been at other critical points in history, is to figure out how to retain that vibrancy in a new context. Retaining that vibrancy is critical for not only the city but also for the health and viability of the broader economic region.

3. Changes in Work-Life Patterns

Higher rates of remote work have become a permanent feature of US and global work life. Increased work from home (WFH) has reshaped work-life patterns with significant implications for downtown real estate, economic development, and overall economic vibrancy across the US.

National Trends in Work from Home / Remote Work

Rates of remote work, including work from home (WFH), surged amid pandemic-related restrictions on in-person work and then stabilized in the following years. Figure 6 illustrates just how dramatically the rate of WFH has changed. The American Heritage Time Use Study first began to track home-based work as early as 1965, when just a tiny fraction – less than half of 1% - of work was done from home. By 1980, this had increased significantly, but was still below 5%. Over the next 20 years, little changed until the 2010s when technology

"The pandemic has basically accelerated 25 years' worth of telework growth into one year"

 Nicholas Bloom, Stanford University, co-creator of the Survey of Working Arrangements and Attitudes (Sablik, 2021)

improvements began to drive a slow uptick. According to the 2018 American Time Use Survey, less than a quarter of U.S. full-time workers *ever* worked, even partially, from home. And in 2019, the national average rate of <u>full days</u> worked from home was just 7.2%. This rate shot up to more than 60% in 2020¹² with the onset of the covid-19 pandemic.

The WFH rate quickly declined over the course of 2020 and throughout 2021, as populations became vaccinated and the pace of the pandemic began to subside. The rate further declined throughout 2022 and 2023, but at a much slower pace. As of April, 2024, the national average WFH rate was approximately 27%. Same month comparisons between 2021 and 2022 indicate that WFH rates were still in decline, but same month comparisons between 2022 and 2023 and 2023 to 2024 show very little change, suggesting that the current rate represents the "new normal" for the time being.

¹² Prior to the pandemic, work behavior pattern surveys such as the American Time Use Survey, collected only limited, general information related to WFH behavior, on an annual basis at best. In 2020, a group of researchers launched the Survey of Working Arrangements and Attitudes, a nationwide survey administered monthly to track changes more closely.

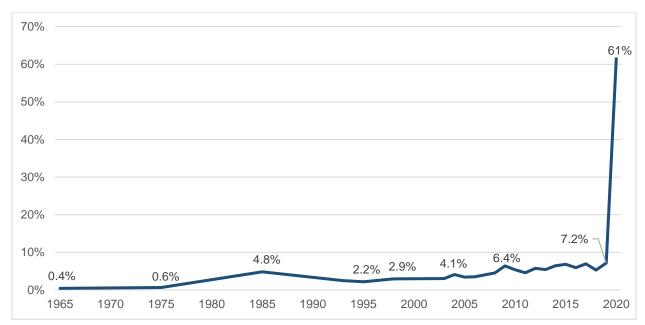


Figure 6. % of Full, Paid Workdays Worked from Home, U.S., 1956-2020

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

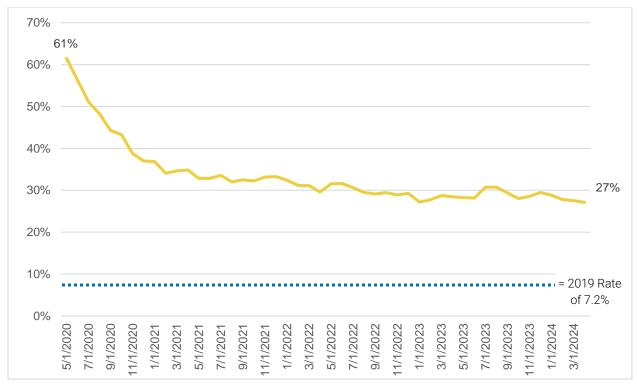


Figure 7.% of Full, Paid Workdays Worked from Home, U.S. 2020-2024 (Monthly)

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

One way to conceptualize this new normal is that while in 2019, one in every 14 working days was worked from home, now it is more like one in every three working days. Figure 8 illustrates this in terms of days per week in person versus remote. While half the workforce works fully in-person, nearly one-third works remotely three or more days per week and 43% work remotely at least two days a week. But even this stark change doesn't fully capture the impact on the downtowns of major cities such as Boston's.

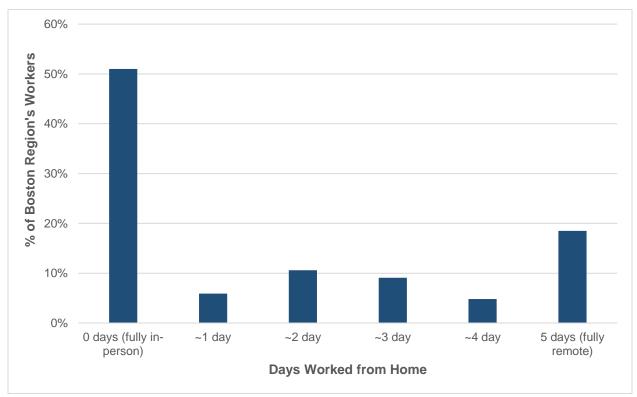


Figure 8. Number of Days Per Week WFH in the Boston Region.

Source: EBP analysis of US Survey of Working Arrangements and Attitudes (SWAA), May 2020 – Apr 2024; Jose Maria, Nicholas Bloom, and Steven J. Davis, 2021. "Why working from home will stick," National Bureau of Economic Research Working Paper 28731.

Many Workers are Satisfied with Remote Work

Among workers, there appears very little motivation to increase their in-person presence, suggesting that the level of remote work has stabilized. For example, while a desire for increased productivity might encourage workers to work in the office, workers in the Boston region make a favorable assessment of their productivity when working from home. As shown in Figure 9, around 85% of the region's workers view their productivity as the same or better when working from home, while just 15% view their productivity as lower when working from home.

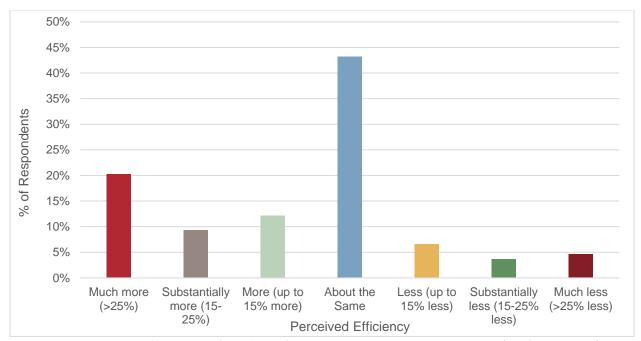


Figure 9. Perceived Efficiency of Working from Home in the Boston Region (Self-Reported)
Source: EBP analysis of US Survey of Working Arrangements and Attitudes (SWAA) data.

Furthermore, as shown in Figure 10, any perceived stigma associated with working from home is either unchanged (35%) or improving among some, most, or almost all people SWAA survey respondents know (60%). Just 5% of respondents indicated that the stigma was increasing among people they know.



Figure 10. Stigma Associated with WFH in the Boston Region Source: EBP analysis of US Survey of Working Arrangements and Attitudes (SWAA) data.

The Level of Remote Work Among Downtown Boston Workers is Likely Much Higher than National and Regional Levels

The levels of remote work discussed above reflect the average for all U.S. geographies or for the Boston Consolidated Statistical Area (CSA). The U.S. as a whole, and even the Boston CSA Region include urban, suburban, and rural areas that have very different labor market, housing, and transportation characteristics from those affecting Downtown Boston. It includes all occupations, lumping surgeons and janitors together with bookkeepers and computer programmers, despite the fact that these occupations have widely different requirements for work done in-person. And it includes workers in all industries, though we know that industry patterns are not uniform across the country or even within a region. All these differences influence the actual WFH rates experienced at the local level.

Figure 11 illustrates differences in WFH rates between the ten largest cities, mid-sized cities (11-50th largest) and small cities, between October 2020 and April 2024. City size captures some of these differences in labor market, housing, transportation, and industry and occupational patterns, and the data indicate that larger cities started with higher WFH rates than the two other categories, that rate declined with much greater fluctuation than the other two groups, and that the current WFH rate remains several percentage points above those of mid-sized and smaller cities.

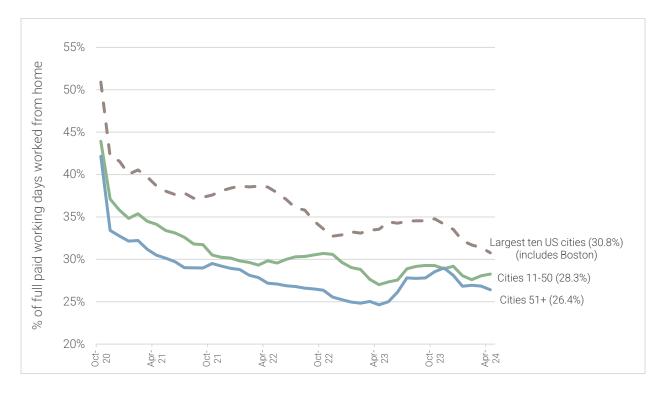


Figure 11 WFH Rates by City Size

Source: EBP analysis of US Survey of Working Arrangements and Attitudes (SWAA), May 2020 – Apr 2024; Jose Maria, Nicholas Bloom, and Steven J. Davis, 2021. "Why working from home will stick," National Bureau of Economic Research Working Paper 28731.

The SWAA defines the Boston Region reflected in Figure 8 and comparison cities shown in Figure 11 by their CSAs, which include geographies with very different characteristics than their downtown central business districts. For example, the Boston-Cambridge-Newton, MA-NH CSA includes eastern Massachusetts as well as Rhode Island and parts of New Hampshire and Connecticut. The industry and occupational mix in this larger region is significantly more varied than that of downtown Boston and includes industries and occupations associated with high levels of in-person work that are not (or minimally) present downtown such as manufacturing, health care, and education (note that these latter two are found adjacent to downtown, but are minimally present in the downtown financial district itself). This suggests that the number of workers in downtown Boston on any given weekday is likely lower - and could be much lower than regional patterns might suggest. The SWAA captures WFH behavior at the national, state and Combined Statistical Area (CSA) level but does not track data at the sub-regional level (e.g. municipal, zip code, neighborhood, or census tract). Nonetheless, we know that certain characteristics of downtown business districts make them likely to have higher WFH rates than their surrounding metropolitan regions. This next section illustrates differences in WFH patterns by key characteristics that can help us better understand the factors that affect the WFH rate specifically within Downtown Boston.

Differences in WFH Rate by Occupation and Industry

Figure 12 illustrates differences in WFH rates across occupations nationally. In the U.S. as a whole, recent data indicates that Management, Business, and Financial occupations have the highest WFH rate at around 39.5%, meaning that workers in this occupation work from home about 2 days a week, assuming a conventional 5-day work week. Office and Administrative Support (34.1%), Professional (33.0%), and Sales occupations round out the top four (32.7%), with workers in these occupations working from home about 1.5 days per week.

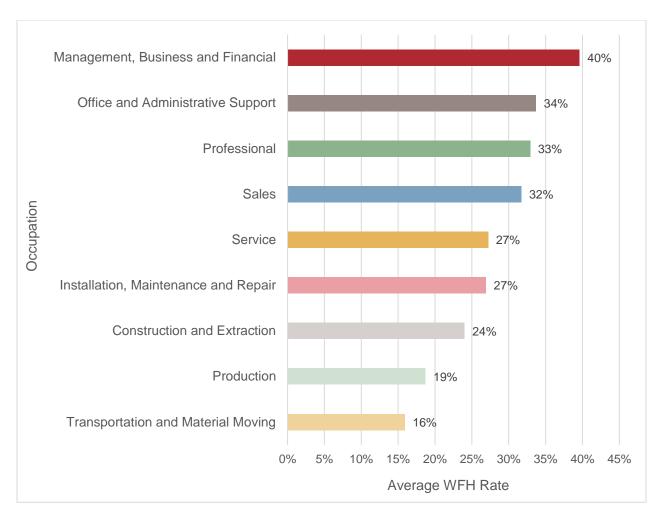


Figure 12. U.S. WFH Rate by Occupation

Source: EBP analysis of US Survey of Working Arrangements and Attitudes (SWAA), May 2020 – Apr 2024; Jose Maria, Nicholas Bloom, and Steven J. Davis, 2021. "Why working from home will stick," National Bureau of Economic Research Working Paper 28731.

Not only are these the occupations for which work traditionally takes place in a downtown business district, they are also over-represented in the Boston region compared with the nation as a whole. The top occupation for WFH, Management, Business and Financial, represents 36% more of the Boston region's employment relative to the U.S. as a whole (19% vs. 14% respectively), while Professional and Related occupations represent nearly 60% greater share of the Boston region's economy than the nation's (11% vs. 7% respectively). These differences are likely to be even more acute in Downtown Boston.¹³

¹³ Employment by occupation data is not available for Downtown Boston. BPDA provides employment by industry vintage 2019 which may not reflect current levels/proportions and does not directly correspond to occupations.

Table 1. Proportion of Boston Regional Employment Compared with the U.S.

Occupation	WFH Rank	% of Boston CSA Employment	% of U.S. Employment	Difference
Management, Business and Financial	1	19%	14%	5%
Office and Administrative Support	2	11%	12%	-1%
Professional and Related	3	11%	7%	4%
Sales and related	4	8%	9%	-1%
Farming, Fishing, and Forestry	5	0%	0%	0%
Construction	6	4%	4%	-1%
Service	7	32%	32%	1%
Installation, Maintenance and Repair	8	3%	4%	-1%
Production	9	4%	6%	-2%
Transportation and material moving	10	6%	9%	-3%
Other	11	4%	4%	0%

Source: U.S. Bureau of Labor Statistics State and Area Employment, Hours and Earnings (2023).

WFH rates by industry show similar patterns. As (Figure 13) demonstrates, industries with the most jobs in Downtown Boston also have higher rates of remote work.

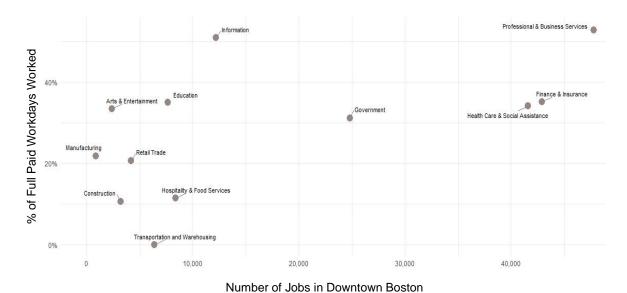


Figure 13. U.S. WFH Rate and Number of Jobs in Downtown Boston by Industry

Source: EBP analysis of ES-202 data provided by the BPDA Research Department and US Survey of Working Arrangements and Attitudes (SWAA), May 2020 – Apr 2024; Jose Maria, Nicholas Bloom, and Steven J. Davis, 2021. "Why working from home will stick," National Bureau of Economic Research Working Paper 28731.

WFH Rates for Different Income Levels

WFH rates are higher for higher income levels, which are associated with a large share of the jobs based in Downtown Boston (Figure 14). While the average WFH rate for all income levels is 25%, workers earning between \$50,000-99,999 per year work remotely 5% more than average, workers earning \$100,000-149,999 per year work remotely 12% more than average, and workers making \$150,000 per year or more work from home 15% more. Conversely, workers making less than

% of Full Paid Days Worked from Home by Income 42.8% 39.6% 40 Level in the Boston Metro Area 32.6% 30 Average for all income levels (27%)22.1% 20 10 \$100,000-\$20,000-\$50,000-\$100.000-150,000 49.999 99.999 150,000

Annual Income Range

\$50,000 per year work from home approximately 5% less than average.

Figure 14. WFH Rates by Income Level in the Boston Region

Source: EBP analysis of US Survey of Working Arrangements and Attitudes (SWAA) data.

This does not indicate a causal relationship between income and propensity to work from home, but instead reflects the correlation between higher wages and the types of jobs most likely to be performed from home. The largest industries in Downtown Boston also pay much higher than average wages. Wages in the Professional, Scientific and Technical Services industry, the largest industry in Downtown Boston accounting for about 20% of Downtown jobs, are 72% higher than the average for all industries. Wages in the next largest industry, Finance and Insurance which accounts for about 18% of Downtown jobs, pays wages about twice the average for all industries. This suggests that the WFH rate in Downtown Boston is higher than the regional average. Furthermore, it means that workers with the most disposable income that could be spent supporting downtown restaurants and retail stores during the workday spend the greatest amount of time working from home.

The Connection Between Commute Time and WFH

Remote workers tend to live farther from their workplaces as measured by commute times. Working one more full day remotely in a 5-day work is associated with a 12-minute increase in

commute time. This means that each day per week an employer allows an employee to work from home expands that employer's labor market by a 12-minute drive time. However, this also implies that each additional 12 minutes of commute time decreases an employee's in-office time by one weekday. Though the causal relationship is unclear – that is, whether remote workers choose to live farther from their workplace or whether people who live farther from their workplaces choose to work remotely – the result is the same: Longer drive times result in fewer in-office days. The fact that remote workers live farther from their jobs and more people than ever are working remotely has significant implications for downtown vibrancy.

A 2022 CBRE poll of 20,000 people worldwide found that tolerance of long commutes has dropped sharply (Figure 15). Commute time is now the second most important factor in selecting a job and 40% of office workers surveyed indicated that it was among their top three priorities. The survey asked workers to state their preferred maximum commute travel time (one direction) as well as their current travel time. Seventy-five percent of respondents expressed a preference for a travel time of less than 30 minutes. Only 24% expressed a preference for a 30-60-minute commute. Though these are the results of a worldwide survey, it must be acknowledged that Boston companies attract top talent from across the country and around the world and that highly skilled workers living in Boston now have a choice to work anywhere in the world.

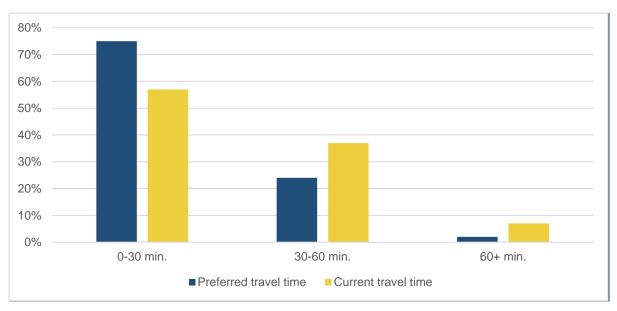


Figure 15. Preferred Commute Travel Time vs. Actual Commute Travel Time (Global Survey Respondents)

Source: CBRE Research Global Live-Work-Shop Report.

The distribution of commute times in Boston's regional workforce illustrates this relationship in another way. As Figure 16 illustrates, among Boston workers with a 1-30 minute commute, there is a significant difference between in-person workers – 75% of whom fall into this commute time range, versus just 60% of hybrid workers and less than half of fully remote workers. Though again, the data does not demonstrate causality, it certainly supports the assertion that **workers**

living within a 30-minute commute of their place of work have a much higher propensity to work fully-in person. The 31-60 minute commute category reinforces this relationship, as among workers with this commute time, just 20% are in-person, compared with a little over 30% who are hybrid and just under 30% who are fully remote. The drop in percentage of in-person workers from 75% among those with a 1-30 minute commute to just 20% with a 31-60 minute commute underscores the importance of the 30-minute upper limit commute time for in-person workers.

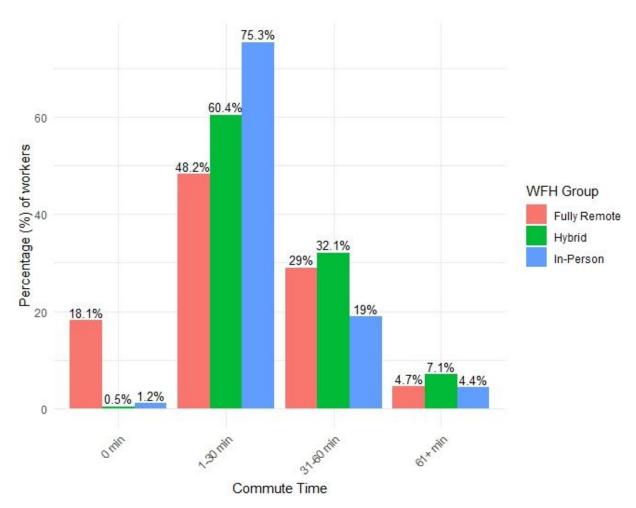


Figure 16. Distribution of Commute Times by WFH Group in the Boston Region

Source: EBP analysis of US Survey of Working Arrangements and Attitudes (SWAA) data.

Figure 17 uses data from the American Community Survey to compare commute times¹⁴ for workers in the Boston region with other major metropolitan areas. The importance of the 30-minute upper limit commute time is evident in this comparison as well. Note that around half of workers in Boston as well as the comparison areas, fall within this limit, though New York City's share is notably lower at just 44% and Dallas and Philadelphia's shares are a bit higher at 57% and

¹⁴ Includes all modes of commuting.

56% respectively. With 36% of commuters in the 30 to 59-minute range, Boston is more or less among its peers (the difference between the highest share, Houston at 39% and lowest share, Philadelphia with 34% is very small). The Boston region is also more or less among its peers in terms of share of workers with a commute time of 60 minutes or more (12%). However, this still places approximately 48% of workers in commute categories associated with higher levels of WFH. Also, as noted above the most recent CBRE survey of U.S. office users indicates that nearly 60% of respondents are considering a move to higher quality space. Respondents identified proximity to public transit stations as the most sought-after feature. Commute times have always been a consideration for workers choosing where to work and proximity to transit has always been a consideration for companies deciding where to locate. Now that a significant portion of the workforce can avoid a long commute by simply working from home, congestion and transit delays present an even greater risk to Downtown commercial real estate and overall Downtown vibrancy.

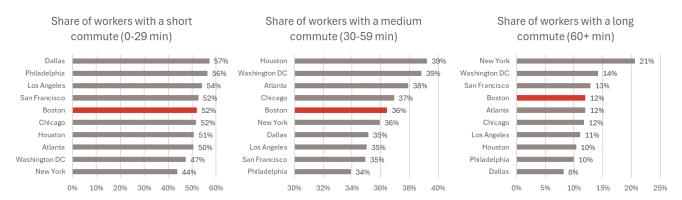


Figure 17. Distribution of commute times among workers in MSAs.

Source: EBP analysis of 2022 1-year American Community Survey data for all travel modes.

For commuters driving to work, the INRIX 2024 Global Traffic Scorecard ranks Boston 12th out of nearly 950 urban areas analyzed worldwide for hours of congestion delay, and 4th among U.S. cities. In 2024, Boston drivers lost an average of 79 hours per driver to congestion delay, a decrease of 10% over the region's 2022 delay of 88 hours. INRIX estimates that in 2024, congestion delay cost Boston drivers an average of more than \$1,414 each for a total economic loss of \$2.7 billion.

Seventy-nine hours is 4,740 minutes, or nearly 20 minutes per working day, assuming 260 workdays per year. Recall the correlation discussed above that each additional 12 minutes of commute time is associated with a decrease of in-office time by one weekday. This implies about 1.6 days per week worked from home that otherwise would be worked in person.

The Housing and Affordable Housing Connection

As discussed above, an increase in downtown housing would bring a residential population capable of generating a 24/7 activity and a more diversified source of downtown economic activity. This is critical for the ongoing vibrancy of downtown, but alone cannot replace the

activity of scores of office workers. Adding housing anywhere within a 30-minute one way commute from Downtown increases the size of the workforce most likely to choose in person work, which helps increase the number of workers downtown. Furthermore, the closer new housing is to Downtown employers, the less impact these residents will have on roadways and the transit system and the less their commutes contribute to congestion delays.

A persistent shortage of housing and affordable housing has long been recognized as an economic development barrier for the region. In 2017, the Metropolitan Area Planning Commission (MAPC)'s Mayor's Coalition, a group of officials from 16 Boston-area municipalities that collaborate regarding the region's top challenges, convened a Regional Housing Partnership Task Force. Figure 18 shows the location of these jurisdictions within the region (gold shaded area) superimposed over the area within a 30-minute average commute time of Downtown Boston, illustrating that nearly all areas of the Coalition are within this commute distance (only the Boston Harbor Islands and very small portions of Braintree are beyond this distance).

The Task Force found that from 2010 to 2018, the cities that comprise the Metro Mayors Coalition added 110,000 new residents and 148,000 new jobs but permitted only 32,500 new housing units. Furthermore, for various reasons, not all permitted units are ultimately built, leaving an even greater shortfall. In 2018, the Coalition established the goal of producing 185,000 new housing units in their jurisdictions between 2015 and 2030 to meet current needs and future population and job growth. However actual production has fallen well short of this target every year since it was established. By the end of 2021, the most recent year the Coalition reported, only 50,400 units had been permitted. The annual average of 7,190 units produced is only 58% of the pro rata number of units needed to remain on target to meet the 2030 goal. To make up for the shortfall, member municipalities would need to produce nearly 15,000 units per year through 2030. To date, the most units produced in a single year was 8,640 (2017)¹⁵, underscoring the persistent difficulties in producing sufficient housing in the region.

¹⁵ MAPC Metro Mayors Coalition Housing Task Force Phase 2 Tracking Progress Update (April 6, 2023).

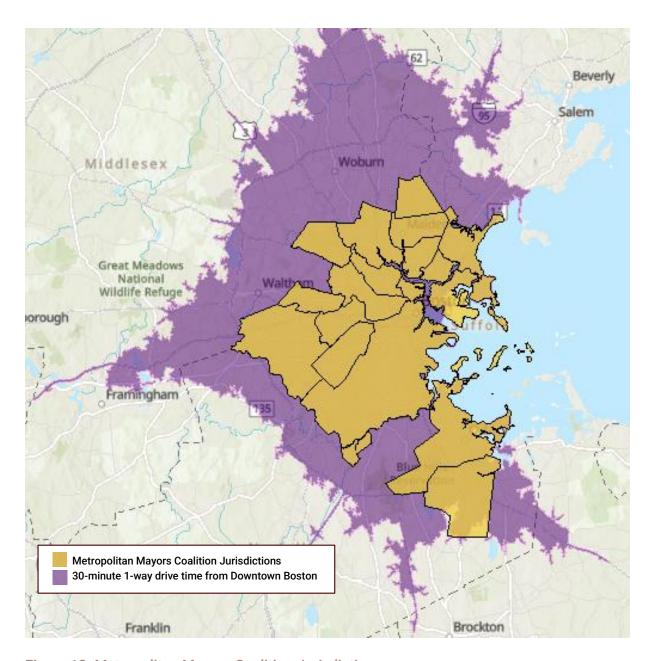


Figure 18. Metropolitan Mayors Coalition Jurisdictions

Source: MAPC Metro Mayors Coalition webpage and ESRI Business Analyst 30-minute drive time from Post Office Square.

4. Changes in Office Utilization Patterns

Up to this point, the discussion has focused on WFH trends among workers, including those whose work does not typically take place in an office. This section focuses on trends specifically

among office users. Though this information is based primarily on national surveys and is not Boston-specific, it does reflect conditions and issues shaping trends in Downtown Boston's office market.

The dramatic increase in WFH has significantly changed office utilization patterns. Traditionally, demand for office space was driven by business requirements and headcount forecasts Post-covid, business requirements still

"Demand for office space is no longer driven by headcount but by a combination of business requirements, workplace policy and employee behaviors, which can be understood by examining office attendance and space-use patterns."

> -- 2023-2024 CBRE Global Workplace & Occupancy Insights

play a prominent role, but headcount forecasts have fallen by the wayside, replaced by **workplace policy**, **employee behavior**, and **demand planning**. This section provides an overview of post-covid changes in office utilization nationally. These trends help us understand existing conditions in downtown Boston's commercial space and anticipate future changes and the pace of change.

Office Utilization Rates

Reducing underutilized space, which increases cost and operational inefficiencies, has become a top concern for businesses and the commercial real estate industry. ¹⁶ Employers can improve utilization by increasing in-office attendance or they can reduce their own supply of space, or a combination of both. Clearly, the former is advantageous from a downtown vibrancy standpoint, while the latter presents challenges for the viability of downtown office space and overall downtown vibrancy. The trends and implications of each are discussed below.

Prior to the pandemic, the U.S. average office utilization rate was about 64%. Post-covid, utilization has dropped to just 31%, less than half of previous levels. Peak utilization is approximately 45%, which means that even on days of relatively high in-office attendance, more than half of leased space is unused.¹⁷ Figure 19 illustrates what this level of utilization looks like in terms of in-office days per week. While the SWAA survey reported in Figure 8, which covers all types of workers, indicates that more than 50% of workers are fully in-person, this survey of office

¹⁶ CBRE Workplace & Occupancy Benchmarking Program, 2023.

¹⁷ CBRE Workplace & Occupancy Benchmarking Program, 2023. Rates stated are for the Americas, global average utilization is slightly higher at 35% while average peak utilization is considerably higher at 53%. The program includes responses from 66 CBRE clients representing 360 million sq.ft. in the Americas, Asia-Pacific, and EMEA.

workers indicates that just 11% are fully-in person. However, the number of fully remote workers is similar at 17% (compared with 18%). According to the JLL survey of office workers, slightly less than half of workers are in the office more than two days per week.

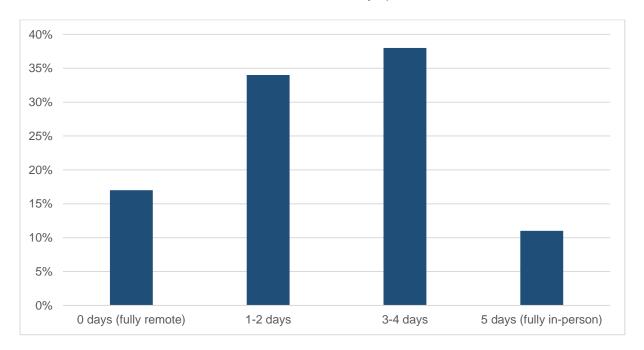


Figure 19. Days in Office – U.S. Office Workers

Source: JLL Global Occupancy Planning Benchmarking Report 2024.

The CBRE Spring 2023 U.S. Office Occupier Sentiment Survey administered to corporate real estate executives with U.S. portfolios found that 60% of respondents felt that the steady state for office utilization had been achieved, up from just 43% the previous year. Just 2% anticipated further decrease in utilization, down from 6% the previous year, which indicates that office space planners don't anticipate further decline in attendance. This is consistent with the leveling out of paid workdays worked from home presented above in Figure 7.

Approximately 38% of respondents expect to increase utilization, which is down from 51% in 2022 but still indicates that more than a third of respondents plan to either reduce their office footprint and/or increase attendance. Respondents with utilization above 60%, which represents pre-covid levels, are more likely to state that they have achieved steady state than those with utilization still at or below 60%.¹⁸

¹⁸ CBRE Spring 2023 U.S. Office Occupier Sentiment Survey.

When asked about the anticipated timeline for their firms to reach steady state utilization, more than 70% of respondents anticipated this would occur by the first half of 2024 while the remaining 29% anticipated it would occur in the second half of 2024 or later or were unsure.

CBRE administered their 2024 U.S. Office

Occupiers Sentiment Survey in May but has only released summary results at this time. The 2024 survey results should help further refine our understanding of how much longer changes in utilizations will be of interest and concern.

"As hybrid programs have matured globally, there is now greater certainty for CRE leaders considering long-term portfolio planning, optimization and investment in their office space."

- JLL Global Occupancy
Planning
Benchmarking Report 2024

Trends in Increasing Utilization of Existing Office Space

As discussed above, utilization of existing office space is driven by business requirements, workplace policy, employee behavior and demand planning. Notably, the 2023 CBRE survey cited above indicated that while 60% were tracking employee office attendance (typically through badge data), only 4% were enforcing attendance policies, indicating little pressure from employers to increase the in-office presence.¹⁹

Company goals for in-office presence shifted somewhat between 2022 and 2023, showing a move away from an equal mix of office and remote work. While this indicates a goal of increasing full and mostly in-office workers, it also indicates a slight increase in the share of mostly remote and fully remote workers. On balance, it likely spreads out the in-office presence to allow employers to maintain or decrease footprint for the same number of workers. While this may help spread downtown office worker activity more evenly throughout the week, it does not help reduce vacancy of downtown office space. Indeed, the advent of hybrid work programs has led to an increase in seat-sharing ratios. Prior to 2020, most organizations had at least one desk per office worker. By 2023, 69% of organizations reported having seat-sharing ratio of more than 1 (meaning more than one worker per desk), with 90% indicating they intend to implement a ratio of more than 1 in the future.

¹⁹ CBRE Workplace & Occupancy Benchmarking Program, 2023.

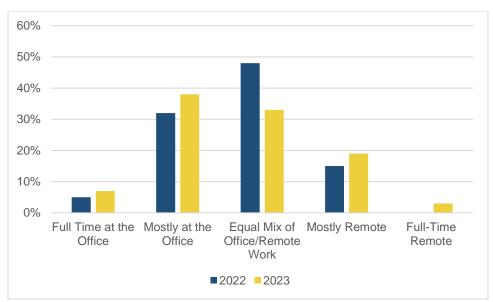


Figure 20. CBRE Office Occupiers Sentiment Survey: Company Goals for Office Utilization Source: CBRE Spring 2023 U.S. Office Occupier Sentiment Survey

Trends in Reducing Use of Office Space

Top strategies for reducing excess space are: 1) Consolidating multiple office locations, 2) Concentrate headcount growth in existing locations to absorb underutilized space, 3) Increase the use of flexible lease terms and "agile space". ²⁰

As noted above, in addition to measures to increase in-office attendance, many companies continue to look for ways to reduce their footprint and the amount of space they own or lease. In terms of decreasing use of office space, 62% of those surveyed reduced their portfolio size between 2020 and 2023. Sixty-three percent of respondents expect to continue reductions through 2026, while 29% plan expansion by 2026.²¹

For other approaches to increasing utilization, 82% of respondents plan to increase space sharing and 67% plan to accommodate headcount growth within their existing portfolio. Approximately 75% of companies plan to discontinue leases on underutilized space, and larger companies are particularly likely to reduce their footprints.

While disposing of unused space saves business costs, it increases vacancy rates in the commercial office real estate market.

²⁰ CBRE Workplace & Occupancy Benchmarking Program, 2023.

²¹ CBRE Workplace & Occupancy Benchmarking Program, 2023.

5. Conclusion

This report has illustrated that commercial real estate in Downtown Boston is experiencing historic high vacancy, declining rents, and increased costs of retaining tenants. Demand still exists for Trophy Class and Class A office space, but maintaining this demand requires providing high quality amenities and updated buildings in an environment of declining rents and a high cost of capital. Class B and lower quality buildings are experiencing very high vacancy that in some cases has left entire buildings vacant.

The dramatic increase in remote work, and an acceptance of current levels of in-office attendance among employers and employees alike indicates that demand from existing Downtown Boston employees is unlikely to return to previous levels. Though the majority of office space downsizing has already occurred, companies still experiencing inefficient levels of utilization are likely to continue to reduce the amount of office space under lease over the next few years.

Current levels of remote work for workers in all occupations and industries **imply an estimated loss of approximately 76,000 workers each day to Downtown Boston**, with a greater shortfall on Mondays and Fridays and somewhat more activity mid-week. However, **high concentration of office workers downtown and higher rates of remote work among these types of workers suggest that the absence could exceed 125,000 employee visits each weekday**.

The number of in-person workers visiting Boston each day is primarily driven by employee needs and preferences, employer needs and policies, and transportation and housing factors that determine worker commute times. Of these three elements, the first two are largely household and private-sector decisions. However, transportation and housing are squarely in the realm of public policy.

Opportunities exist to diversify Downtown land use to reduce dependency on a daily mass influx of office workers. Efforts are under way to convert some underutilized and vacant office buildings to residential use, which introduces 24/7 activity, a key component of successful urban communities. This effort is necessary, but fully offsetting the loss of Downtown Boston office workers now working from home will take a combination of strategies.

Furthermore, shortening commute times is an important piece of the puzzle as commute time correlates directly with workers' choices to work from home or in person. This can be approached through transit and transportation system improvements as well as increasing the housing/affordable housing supply within a 30-minute commute of Downtown Boston. Reducing congestion delay for drivers and improving transit travel times is more important than ever for fostering demand for Downtown commercial space and overall economic vibrancy.