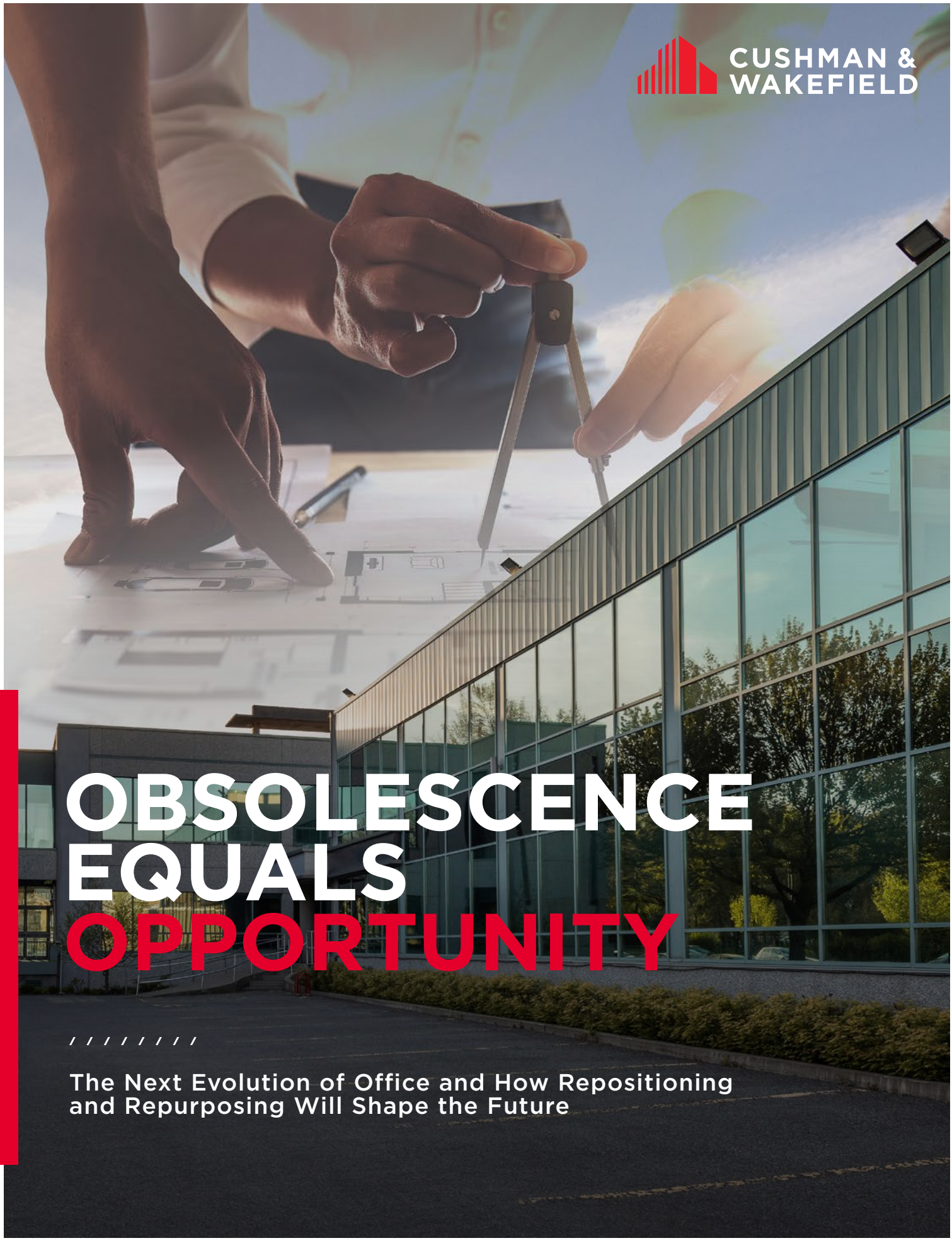


# OBSOLESCENCE EQUALS OPPORTUNITY

The Next Evolution of Office and How Repositioning and Repurposing Will Shape the Future

**The U.S. office sector is facing an unprecedented imbalance in supply and demand—one that will result in an excess of 330 million square feet (msf) of vacant space by the end of the decade brought on by the impacts of the hybrid work environment.**

Demand for office product that can accommodate modern-era tenant preferences and sustainability features, and provide a high-quality, strong in-person experience has shifted dramatically higher, while demand for mediocre, lower-quality, older commodity office product has shifted dramatically lower. This imbalance in demand is further exacerbated by the supply side, where upwards of 70% of the nation's office stock was built prior to 1990 and does not match the preferences of today's occupiers.[1] Further, as leases expire, the office product that has not adapted to changing demand is at risk of competitive obsolescence. These shifting demand dynamics have accelerated the bifurcation between the office building that works for today's economy and the office building that doesn't work. The data bears this out and demonstrates the degree to which vacancy is highly concentrated: buildings with more than 50% vacancy make up just over 7% of total inventory in the United States today. In other words, if this portion of high-vacancy buildings were to be removed from the total inventory, then the office vacancy rate in the U.S. today would stand at 12%, as opposed to the all-in rate of 18.2%.[2]

Most studies and conversations end there, by highlighting the conclusions for the most appealing, premier product or with hyperbolic pronouncements that the office market is "dead."

In this study, however, Cushman & Wakefield aims to illuminate the degree to which existing office inventory fails to meet occupiers' needs for engaging, efficient and sustainable office space. In doing so, we directly acknowledge the bifurcated existing demand-supply imbalance, while also evaluating how much office product could be rendered undesirable by the changing needs of a hybrid workforce.

With that collective recognition, the study then delves into options that both the CRE and broader macroeconomic industry can consider, ensuring that both individual office assets and communities as a whole can evolve and remain relevant, either through repositioning or repurposing.

[1] Estimates for European markets such as London and Paris range between 50-60%. Average age estimates measure much younger in Asia Pacific, with considerable difference noticed between mature markets and emerging economies.

[2] This calculation was provided to demonstrate the point that vacancy is highly concentrated. Not all buildings facing more than 50% vacancy are necessarily obsolete; some may be in lease-up, while others may simply have seen a large tenant move out even though the space may still have strong prospects to secure another tenant.

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# Key Findings

## SHIFTING DEMAND TIDES

The relationship between job growth and office demand has fractured. While elements of this relationship are likely to resolidify as the impact of remote working strategies on office demand stabilizes, the office sector is nevertheless facing a period of structural change that will pressure operating fundamentals and property income. Hybrid and remote work are not solely responsible for this dynamic, and some of these flight-to-quality forces were underway several years ago; the pandemic simply accentuated these occupier trends.

- Only about a third of office leases scheduled to expire in the 2020-2029 decade have done so. The impacts of office densification caused by increased remote work and hybrid workplace ecosystems will continue to filter through the market for the rest of this decade.
- Office worker density will decline from 190 square feet (sf) per employee pre-pandemic to 165 sf over the next eight years.

## IMPENDING DEMAND-SUPPLY IMBALANCE

The United States has 5.56 billion sf (bsf) of office space and inventory will likely reach over 5.68 bsf by the end of the decade. However, the flexible workforce will only require 4.61 bsf to accommodate its needs.

- The U.S. will end the decade with 1.1 bsf of vacant office space, 740 msf of which qualifies as normal or natural vacancy and 330 msf of which qualifies as excess vacancy attributable to remote and hybrid strategies. The overall level of vacancy will therefore be 55% higher than was observed prior to the pandemic.*
- Softness in the market will not be equally distributed. Currently, buildings with greater than 50% vacancy comprise 7.5% of total inventory.

## THE DATA CONCLUSIVELY SHOWS THAT DEMAND FOR OFFICE SPACE IS HIGHLY TRIFURCATED.

### THE TOP

Newly built office buildings that offer trophy building experiences have registered over 100 msf of positive absorption since 2020. By 2030, ***only*** 15% of the 5.68 bsf office product will classify within this highly desired category.

### THE MIDDLE

A large slice of office product (upwards of 60% of stock) classifies within a middle-ground commodity office product category and is facing competitive obsolescence—upwards of approximately 3.4 bsf of classified commodity or discount office space today. Portions of this product will require significant investment to compete for the most attractive tenants. We further divide this middle segment into sub-categories: **Good Enough, Value Play, and Potentially Obsolete** space requiring some form of upgrade or repurposing to overcome competitive obsolescence.

### THE BOTTOM

Upwards of 25% of office stock throughout the country is growing increasingly undesirable and will need to be reimagined and made relevant for the future.

**Vacant space = traditional vacancy + excess space created by the increase in remote work strategies. We estimate traditional vacancy to be 13% of inventory (and equivalent of 739 msf) with an additional 330 msf of excess space from hybrid for a total of 1.067 msf. The 55% increase in overall vacancy is calculated from Q4 2019 vacant space (689,452,963 sf) relative to Q4 2030 vacant space (1,067,738,045 sf).*

## THE OFFICE SECTOR IS FACING A CRITICAL CHAPTER OF NECESSARY ADAPTATION, EVOLUTION AND RECALIBRATION.

Just as retail didn't die in the years following the e-commerce boom, the office sector is not in danger of demise. Recognizing the challenges and opportunities head-on and with a proactive, creative and strategic approach will help both existing ownership and the prospective investment community ensure the viability of millions of square feet of commercial real estate space.

**REIMAGINATION STRATEGIES** that have preserved income and capital value growth include both repositioning and repurposing options.

- Repositioning spans a variety of project scopes, including improving asset amenities, building out sustainability offerings as well as improving a property's sense of place by creating community-oriented offerings and events.
- Repurposing extends across increasingly varied and creative project scopes, including everything from repurposing the property into multifamily (or repurposing a small portion of the property to multifamily), or repurposing properties into mixed-use options or industrial, life sciences or healthcare uses.

**ALL STRATEGIES REQUIRE CAREFUL EVALUATION** of not only asset-specific qualities (such as property infrastructure and architecture, etc.), but also thorough understanding of the demand-side characteristics of the market and submarket and the competitive landscape in which the target tenants are operating within.

These secular changes are unfolding across the globe, though the changing dynamics of hybrid workforces are currently having larger impacts in North America, particularly in the U.S., more than other parts of the world. As a result, many of the trends in this report focus on the U.S. This is not to say that these trends and strategies don't apply in Europe or Asia, but the scale of the challenges and opportunities is more acute in North America.

Future phases of this study will focus on how these trends and opportunities apply in EMEA and Asia Pacific.

# How much office product is needed to support the post-pandemic workforce based on prevailing office utilization patterns?

# 01

In assessing the risk of functional or competitive obsolescence in the office sector, we need to understand contemporary U.S. office workforce requirements.

Drawing from a detailed analysis of prevailing office density shifts and employment growth forecasts, Cushman & Wakefield estimates that U.S. office space demand will measure at 4.6 bsf by the end of the decade, just slightly above current levels. This assumes a projected 6% growth in office-using employment by the end of the decade.[3]

Overlaying current inventory, projected deliveries and a natural rate of vacancy of 13%, **the U.S. market is on track to have 1.1 bsf of vacant office space by the end of the decade**, 55% more than prior to the pandemic (Q4 2019). Of this 1.1 bsf of vacant space, 740 msf is considered "normal or natural vacancy" given that a certain percentage of office stock is always vacant to accommodate future growth. Therefore, netting out natural vacancy space from the 1.1 bsf of excess space, 330 msf of excess space will be attributable to the increase in hybrid and remote work strategies.

*[3] The 6% growth from today to Q4 2030 reflects an additional 2.1 million office-using jobs (from 34.6 to 36.7 million).*

To arrive at these estimates, we evaluated several factors:

- Prevailing space use per employee trends
- Past, current and future relationships between office employment and demand
- Prevailing portfolio rightsizing trends among occupiers
- Current inventory and supply-side forecasts
- Consultations with Cushman & Wakefield's Total Workplace practice

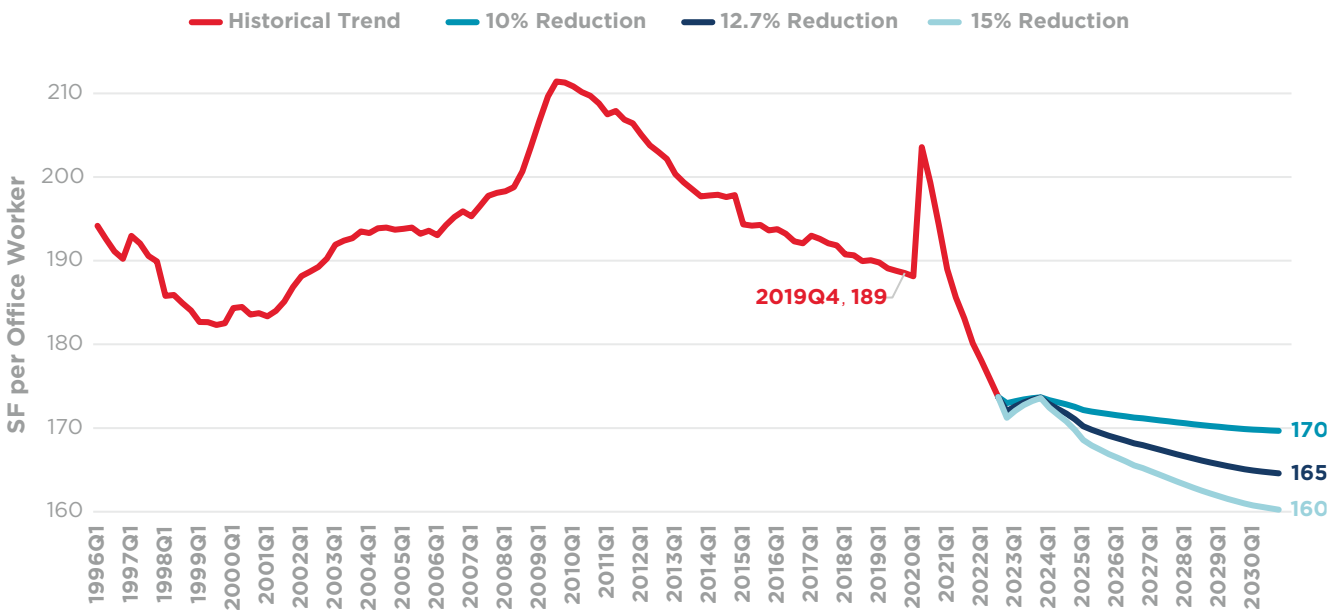
## ANALYSIS OF DEMAND: SPACE PER OFFICE EMPLOYEE

Prior to the pandemic (Q4 2019), average office employee density measured at 190 sf per employee.[4] The ratio declined by 7.9% over the last three years and is expected to tighten further as remote and hybrid work ecosystems evolve.[5]

The scenarios outlined in Chart 1 provide a range of outcomes for projected office space density. If, for example, hybrid and remote work generate a 10% reduction of occupiers' space-use requirements, space per employee will drop to 170 sf. Either way, the trend is downward, though the magnitude of the downward shift is still in flux.

**CHART 1: ANALYSIS OF DEMAND: SPACE PER OFFICE EMPLOYEE**

Square footage per office worker




*Source: U.S. Bureau of Labor Statistics (BLS): Moody's Analytics Estimated; Cushman & Wakefield Research*

*[4] In 2019, Cushman & Wakefield Research estimated that the average density across all office users was approximately 190 sf per employee, which had declined from just over 210 sf per office worker in 2009. The 9% decline occurred as occupiers pursued more efficiency. Higher density had emerged as part of a workplace environments where 6% of workers were fully remote and approximately 30% were agile or hybrid.*

*[5] Taking 20 top U.S. metropolitan statistical areas (MSA) and metropolitan divisions (MD) as a proxy for the larger market, densities have declined over the past three years—after an initial bump up driven by job losses in March and April 2020. At the end of 2022, 174 sf is occupied for each office employee, which is a 7.9% decline from the 190 sf in Q4 2019.*

Recent lease expirations can also provide a lens into future density assumptions. Cushman & Wakefield estimates that one-third of office leases scheduled to expire between 2020 and through 2030 have occurred as of the end of 2022, implying two-thirds of a shift in space usage is yet to come.[6] If so, office space per employee would decline by another 23.7% (i.e., the current observed downshift of 7.9% multiplied by three), ultimately settling in around 144 sf per employee. However, there are reasons to believe that the total amount of densification will be considerably less, likely between 10% and 15%.

**First, cost cutting measures for large and medium portfolios have largely already occurred.** The most sophisticated occupiers—which are also those with the largest owned and leased portfolios—have already implemented much of their portfolio right-sizing. Many saw the writing on the wall and began reducing space needs as early as Q2 2020.

**Second, many occupiers took advantage of beneficial terms in the last two years and doubled down on space they need for the long term.** As a result, an increase in blend-and-extends will push expiration dates on this space out into the 2030s. These occupiers have planned for less growth space in these deals than in the past, so additional demand will occur for those organizations that do end up growing headcount in the second half of the decade.

**Third, the path of reduced space per employee is not likely to be linear and the impact is front-loaded.** In 2021, the median lease size dropped 7% below the 2010-2019 average but has since recovered. Short-term leases (sub-one-year leases) are 48% larger than during the previous economic expansion. While long-term leases remain smaller by 12%, this is nearly half the trend from mid-2021, and nowhere near the 24% cut implied by simply tripling the density increase to-date.

**Fourth, estimates of space reduction are often skewed to the high-end by anecdotal evidence and the emphasis on larger occupiers.** There are certainly occupiers that have reduced their portfolio footprints by 30%, 40% or even 50% since the beginning of 2020. In most cases, these changes are at least partially driven by oversubscription and efficiencies in the portfolio. Large occupiers have more capacity for the HR requirements associated with hybrid workforces and tend to have lower office usage currently.[7] They also have greater opportunity to shed space by reducing individual workstations, increasing hoteling and leveraging flexibility in space usages.

**Summary of Office Density Assumptions**

Our projected space per employee assumption is informed by pre-2020 density trends, space changes associated with expiring leases since 2020, as well as other portfolio footprint shifts made as part of pre-lease expiration negotiations. Synthesizing these assumptions, we estimate that the average square footage per office employee will settle around 165 over the next few years. As it does, and as office job growth recovers in 2024 from an anticipated mild recession in 2023, net absorption for office space in the United States will turn modestly positive again starting in 2024 following a year of negative net absorption in 2023.

It is worth noting that office densities have and will continue to vary across various cities, countries and global regions. For example, average densities across Europe are approximately 155 sf per office worker. Density is tighter in the UK at 110 sf per employee.[8] Australia has a similar metric, while India's density of approximately 80 sf per employee is incredibly tight. The pandemic-driven densification trend in North America is also not yet apparent to the same degree in other global regions.In some cases, the amount of office

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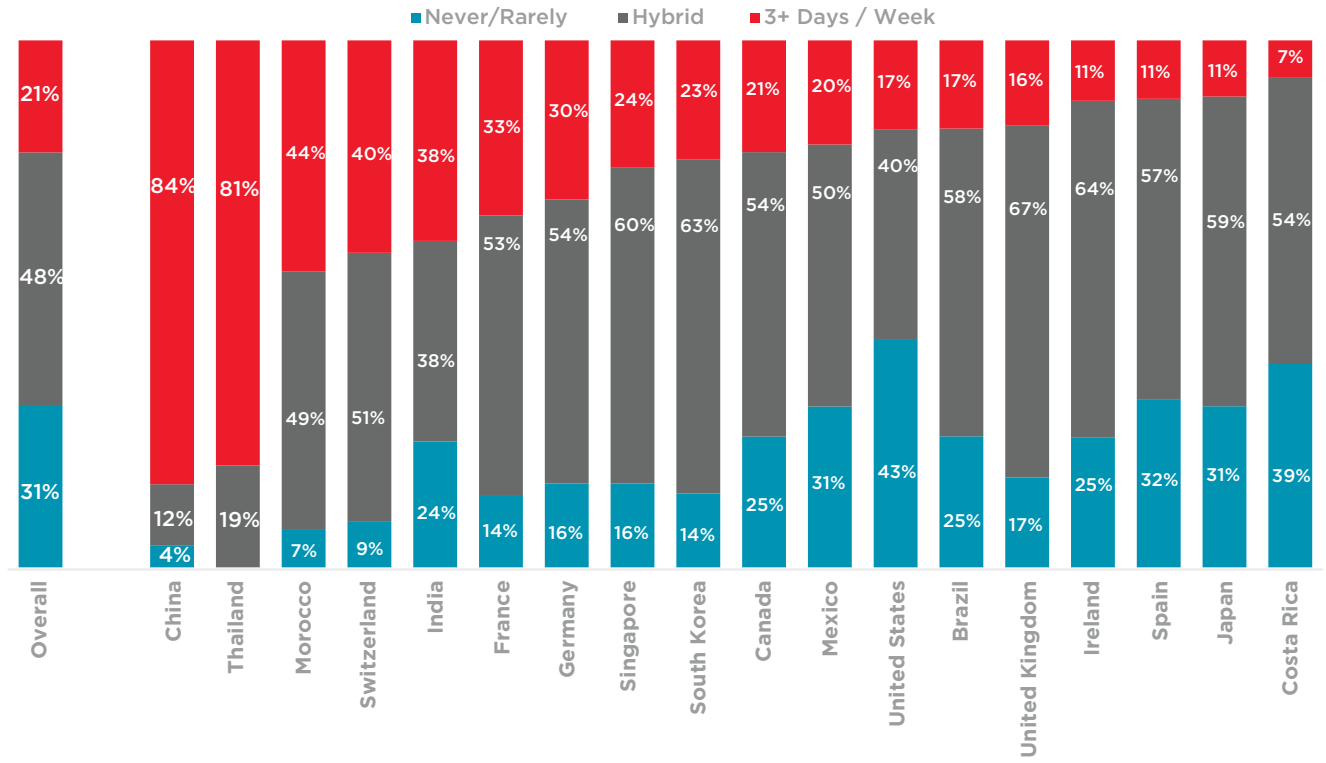
*[6] When examining office leases with expiration dates between 2020 and 2030, 32% were scheduled to expire by the end of 2022. Over the next four years, 38% of office leases are expected to expire, with current lease end dates for the remaining 30% set to occur in 2027 or later.*

*[7] Partnership for New York City,* https://pfnyc.org/research/return-to-office-survey-results-may-2022/.

*[8] British Council for Offices, "The Future of UK Office Densities." https://www.bco.org.uk/Research/Publications/The_Future_of_UK_Office_Densities.aspx*

**CHART 2: HOW FREQUENTLY WORKERS WOULD CHOOSE TO BE IN THE OFFICE**

Preferred office frequency by geography




*Source: Cushman & Wakefield Experience per Square Foot™ (XSF) Total Workplace Survey*

space per employee is ***increasing***, partially because remote work is less of a drag on demand outside of the Americas. According to Cushman & Wakefield Total Workplace's analysis of data collected directly from office workers around the world, employee preferences for remote and in-office work vary broadly (as shown in Chart 2). For example, over 80% of office workers in China and Thailand prefer to be in the office three-to-five days per week. A third or more of workers share the same preferences in Morocco, Switzerland, India and France. Workers in the Americas are currently more likely to indicate they rarely prefer to work in the office, led by the U.S. (43%), Costa Rica (39%) and Mexico (31%).[9]

Notably, outside of North America, office demand has fared better. In 2022, absorption was positive in Asia Pacific (+13.8 msf), EMEA (+4.5 msf), Greater China (+4.2 msf) and Latin America (+0.5 msf). The impacts of increased hybrid workforces will influence demand trends across the globe, even if in a more muted fashion in countries where in-office work remains more intransigent.

## ANALYSIS OF THE RELATIONSHIPS BETWEEN OFFICE EMPLOYMENT AND DEMAND

In addition to density considerations, formulating a view of projected office demand also requires an acknowledgement of historic office-use demand drivers, particularly office-using employment.

[9] *Cushman & Wakefield Experience per Square Foot™ (XSF) Survey*

Historically, office demand maintained a strong correlation to office-using employment growth. In fact, between 2000 and 2019, office demand held an 85% correlation to office-using employment growth.[10] Over those two decades, approximately 130 sf of net absorption registered for every office job added to the economy.

However, the rise of pandemic-era hybrid and remote work strategies fractured the relationship between employment and office demand. This dynamic is further evidenced in the recent 7.9% employee density reduction trend.

Accordingly, despite strong job growth throughout the pandemic-recovery, office absorption only partially rebounded and recovered.[11] While the broad-based relationship between office-using employment and office demand grew disjointed throughout the recovery, the statistical relationship still holds in select circumstances. Indeed, markets witnessing relatively strong outperformance in employment have experienced slightly stronger office demand. For example, the five markets registering strongest office-using employment growth since February 2020—Dallas, Atlanta, Austin, Miami and Boston—also all registered positive office absorption in 2022.

## LOOKING AHEAD

Although the relationship between job growth and office demand has weakened, it will normalize. Eventually, the remote working dynamic will flow completely through the marketplace as pre-pandemic leases expire and as firms shed the space to meet new-era, hybrid work requirements.

From that point of "reset" forward, once leases roll and occupiers have had a chance to recalibrate their space utilization to meet post-pandemic needs, each office job created will, on average, once again generate at least some demand for office space.

*[10] As measured by the U.S. Bureau of Labor Statistics (BLS).*
*[11] Nationally, the office market shed 180 msf since Q2 2020. Over the same period, U.S. office-using employment increased by nearly 1.4 million workers.*

# Chapter 1 Findings

**Demand-side Summary:** By synthesizing the analysis of prevailing density trends, lease expirations and portfolio recalibrations, Cushman & Wakefield forecasts that office demand per employee will fall. ***Assuming office-using densities experience a 12.7% reduction from 2019 levels to 165 sf per office worker, occupancy will trend down by 5.4.% before beginning to recover in Q2 2024.***[12]

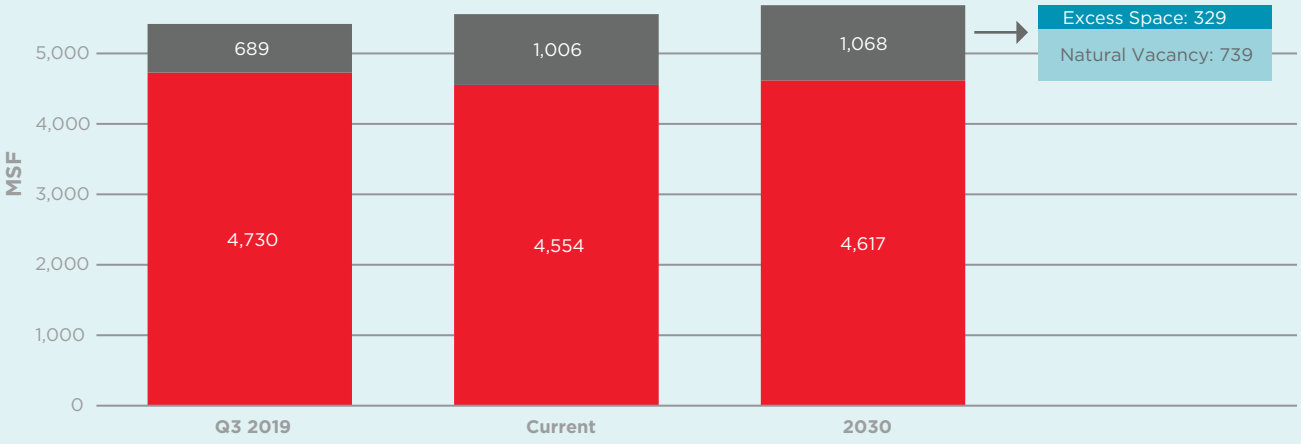
**Supply-side Considerations:** Office construction has remained strong despite cost, labor and supply chain challenges, with over 13 msf of new completions being added quarterly on average since 2020. This is expected to slow down with 60 msf delivered over the next two years and a total of 125 msf of completions between now and the end of 2030. At these trajectories, total U.S. office inventory would be just shy of 5.7 bsf by the end of the decade.[13]

**Tying it Together:** Given Moody's baseline office employment forecast and the office worker density trend, the U.S. office market would require 4.6 bsf, leaving 1.1 bsf of vacant office space and an overall vacancy rate of 19%. Given a natural vacancy rate of 13%, the office market would end the decade with an excess of 330 msf.

Before exploring avenues for improving and repurposing such excess space, we must also understand how much of current inventory and projected deliveries are truly "desirable" to the occupier of today and tomorrow.

**CHART 3: U.S. OCCUPIED INVENTORY & VACANT OFFICE SPACE**

Comparison of pre-pandemic, current and 2030 office inventories




*Source: Cushman & Wakefield Research*

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[12] *Relative to year-end 2022 levels, and even accounting for an 6% increase in office-using employment.*
[13] *Across the 90 U.S. office markets tracked by Cushman & Wakefield Research.*

# Categorizing and Evaluating Demand by Quality Segment

# 02

As established in Chapter 1, the U.S. economy will require 4.6 bsf of office space to house all of its office workers even if they are only going to the office some of the time. The office market is over-supplied in general, but the amount of highly desirable office space does not meet current or future demand. As such, the market is trifurcated into three categories 1) the "Top" most attractive space, 2) the "Middle" quality commodity product that will do well enough, and 3) the "Bottom" excess space that will need to be renovated or repurposed in the coming decade. The representative shares of these categories are featured in Chart 4.

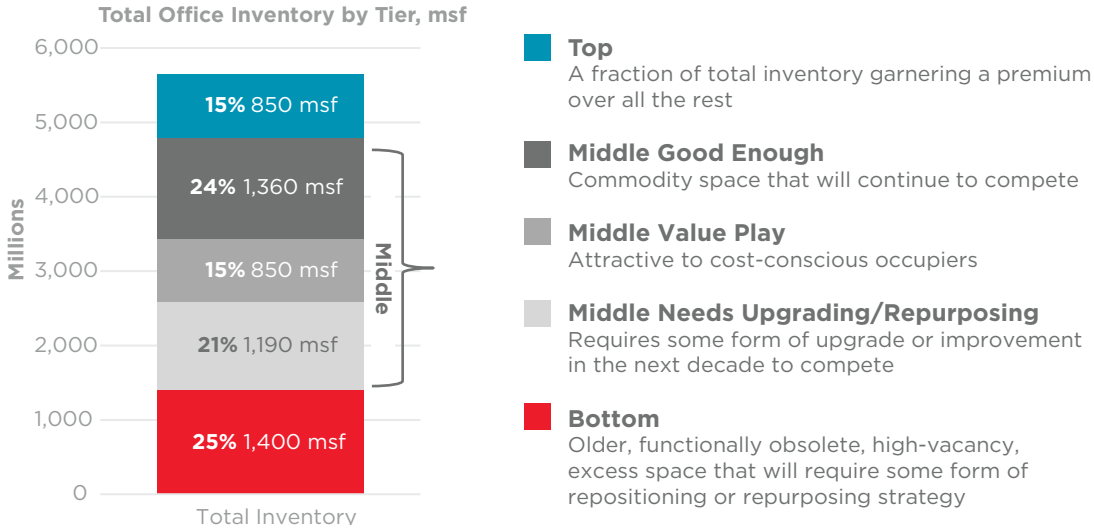
**The Top:** Demand has been relatively targeted towards the cream of the crop, as 100 msf of positive absorption recorded since 2020 has occurred in just 9% of existing office stock (during a period when the office market in the aggregate witnessed negative net absorption). Taking into account construction underway and new projects expected to be delivered in this decade, ***approximately 15% of office inventory will qualify as highly desirable.*** The best, most experiential, quality space will receive the highest premiums and attract attention from the strongest occupier brands.

**Middle (Quality Commodity and everything else):** The Middle, which is an operationally serviceable portion of stock, accounts for approximately 60% of total inventory and is further classified into three groups:

- **Good Enough:** Space that is considered 'good enough,' and will be able to capture some demand without significant investment. This group does not represent the highest-quality office product, yet it will not need significant investment to compete for some amount of office demand over the next 5-7 years. This group will not receive the premiums commanded by the top office product, but it also will not face 20%+ vacancy rates as experienced in lower-tier product.
- **Value Play:** Represents space that will capture leasing activity given its relatively competitive and cost-effective optionality, attractive to certain cost-sensitive tenants. This group will not require an upgrade because its target

**CHART 4: SEGMENTING FUTURE RISK BY SPACE SEGMENT**

Defining the Top, Middle and Bottom Office Tiers




*Source: Cushman & Wakefield Research*

occupier audience will seek the cheapest (or near the cheapest) option that is functional for their purposes.

- **Potentially Obsolete - Requiring Upgrading or Repurposing:** The remaining group within the Middle will require some level of investment—varying by its current state, location and rent roll—to continue to compete for the second tier of office demand or to move into the top tier. This segment of competitively obsolete stock measures at upwards of 20% of total office inventory (1.19 bsf) and will either need to be repositioned up the value curve or repurposed to maximize investor value (more about that in Chapter 4).

**The Bottom:** The bottom end of the spectrum comprises the most dated and challenged of existing inventory excess that requires repositioning or repurposing.

## DEFINING & CATEGORIZING DEMAND BY QUALITY

Categorizing the office market into the Top, Middle and Bottom categories ultimately emerged as the final step in our demand-side analysis.

Yet, first, we evaluated overall demand conditions to distinguish what factors were fueling occupier demand and what themes were common among them, which ultimately helped to arrive at the conclusions surrounding product segmentation. As part our analysis, we also evaluated:

- Common themes fueling demand by quality
- Performance trends by quality
- Supply and inventory by quality

### Common themes fueling demand by quality:

Disproportionate demand trends have emerged. Broadly, Class A office product accounts for half of national office inventory, while it receives a disproportionate share of demand. During and following the pandemic, leasing activity skewed towards Class A even more.

- For example, in the five years leading up to the pandemic, 55.9% of new leasing was in Class A office space. Since the last quarter of 2020, that share has increased 205 basis points (bps) to 57.9%.
- The flight-to-quality trend is even greater in urban submarkets and Central Business Districts (CBD). Class A office assets in the CBD have garnered 71.9% of leasing activity since Q4 2020, which is a 340 bps increase from the 68.5% from 2015-2019.

Yet, reducing the flight-to-quality analysis to purely a Class A vs. Class B/C discussion is no longer appropriate. These designations are too broad given the hyper-specific demands of occupiers. Evidence of this ongoing divergence is underscored throughout the following analyses:

- **Absorption:** For example, while positive absorption is not yet occurring across all of class A office, the newest and best assets continue to perform strongly. Office buildings built in the past eight years offering trophy-building experiences have registered over 100 msf of positive absorption since 2020 (all as the market in aggregate registered negative net absorption).
- **Consolidation:** As occupiers decrease their footprints, they are often looking to move into better space that upgrades the quality and their space-use efficiency. For example, the Washington, DC Metro recorded 142 recent relocations among large (i.e., 50,000+ sf) private sector users; and two-thirds of those relocations were moves into either new construction (35%) or renovated construction (34%).

- **Vacancy:** Shown in Charts 5 and 6, CoStar data depicts a similar flight to quality over the past few years. Office buildings designated as 5-Star represent essentially the same share of total inventory (12%) as pre-pandemic, but account for a decreasing portion of overall vacancy—from 10.4% in Q4 2019 to 9.1% in Q4 2022 (see Chart 5). Moreover, the gap between 4-Star and 5-Star vacancy has widened, more than doubling from 410 bps in Q4 2019 to 970 in Q4 2022 (see Chart 6).

### Further context on the Middle

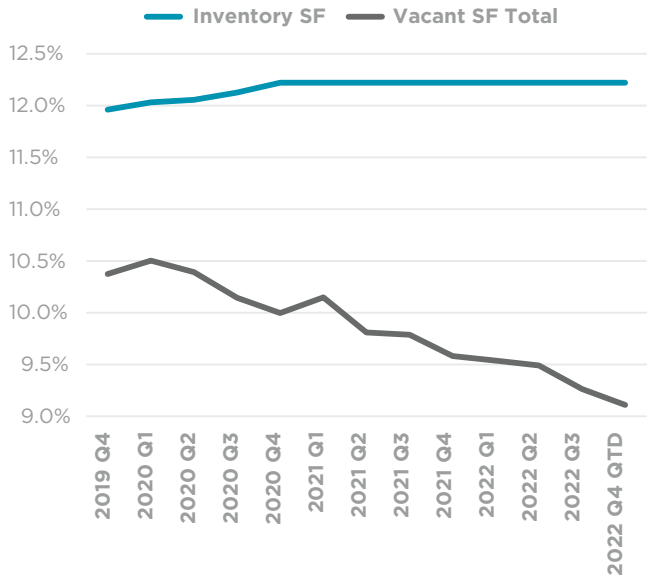
Extending from the analysis on the Top segment, which comprises 15% of all Class A product, the remaining 85% of Class A space—not to mention all of Class B and C space—has not garnered positive absorption since the pandemic began.

As occupier demand recovers, some of it will shift down the value chain towards the next level of Class A space, but a significant portion of what was considered Class A prior to the pandemic will remain. The bulk of the "next layer" of demanded space is not highly differentiated, and it will need to evolve to meet the growing demand for experiential office.

This process will be similar to the period of adaptation and evolution that unfolded throughout the retail sector (both throughout the built environment and among occupiers and retailers' strategies) over the past 15 years. The shift most certainly caused short-term pain, but it ultimately improved the market, leaving it stronger (albeit very different) than it had been prior to the Great Financial Crisis and the rise of e-commerce.

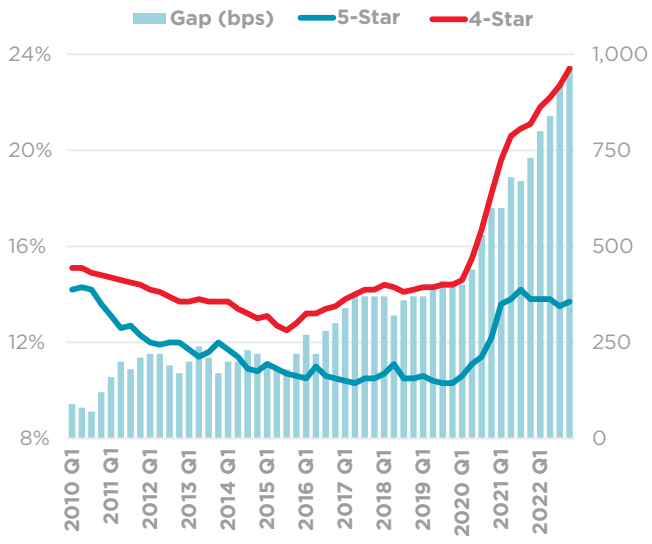
A similar dynamic also exists across Europe. The European Commission reports that 42% of non-residential buildings throughout Europe were built before 1970, with only 9% of that stock having been renovated. As a result, a significant percentage of office inventory needs to be renovated or repurposed to fit what the market needs.

**CHART 5: 5-STAR OFFICE BUILDINGS' SHARE OF INVENTORY & VACANCY**




*Source: Cushman & Wakefield Research analysis of CoStar Group data*

**CHART 6: VACANCY RATES FOR 4-STAR & 5-STAR OFFICE BUILDINGS**




*Source: Cushman & Wakefield Research analysis of CoStar Group data*

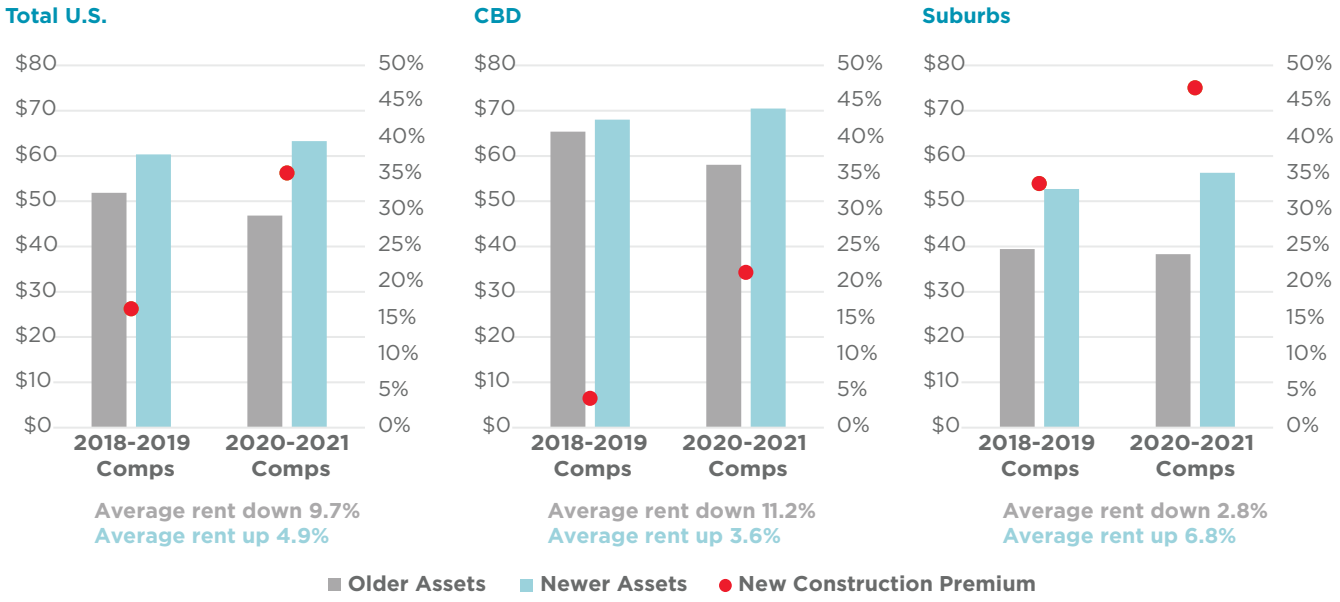
**Evaluating Performance by Quality:**

The benefits of garnered by the highest-quality, best assets are clear.

- As shown in Chart 7, the rent premium on Class A leases of seven years or longer has doubled over the past two years from 16.4% to 35.2%.
- In the suburbs, new assets outperform other Class A buildings by even more: 46.9%.
- Additionally, as illustrated in Chart 8, vacancy rates are significantly lower in buildings built since 2015, even compared to legacy trophy assets. These premiums are evident across a wide variety of markets, including Manhattan and Midtown Atlanta. In both cases, new development vacancy is approximately 700 basis points below legacy trophy vacancy rates.[14]

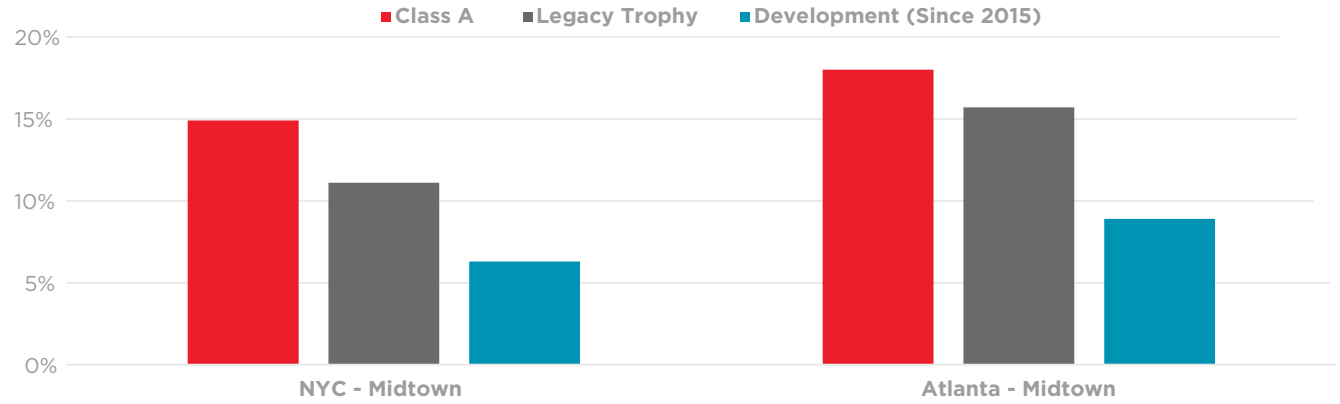
**CHART 7: RENT PREMIUMS FOR NEW OFFICE ASSETS**

Class A direct new leases with 7+ years of term




*Source: Cushman & Wakefield Research*

**CHART 8: VACANCY SUB-10% IN BEST, NEWEST BUILDINGS**




*Source: Cushman & Wakefield Research*

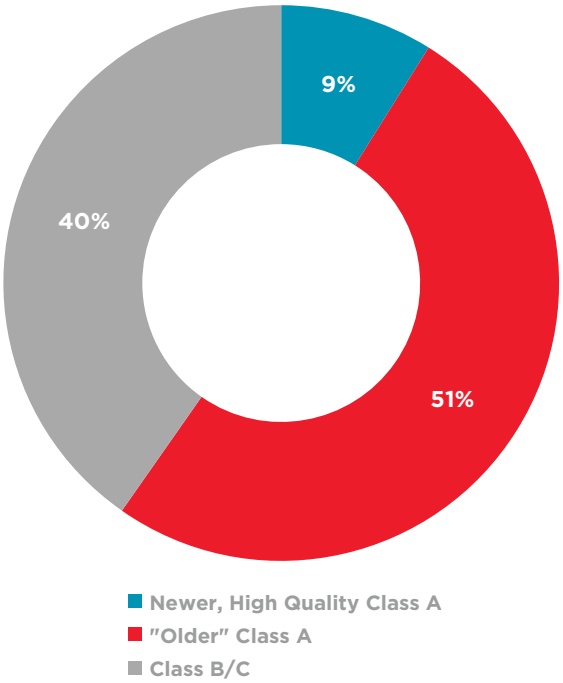
[14] *Data as of Q3 2022.*

**Evaluating Supply by Quality:**

Despite the increased demand driving price premiums, there isn't enough new product to meet the needs of occupiers increasingly focused on quality, location, amenities and experience.

- Shown in Chart 9, about 9% of U.S. office product classifies as the "best" category.
- Canada is in a similar range with 11% of inventory currently under construction or delivered since 2015.
- The rest of the world, however, has much higher share of newer product. Over half of office inventory in Greater China and the rest of APAC is currently under construction or was delivered in the past eight years. LATAM (24%) and EMEA (18%) also have higher proportions of new office construction than North America, but still likely not enough to meet the coming demand for this type of space.

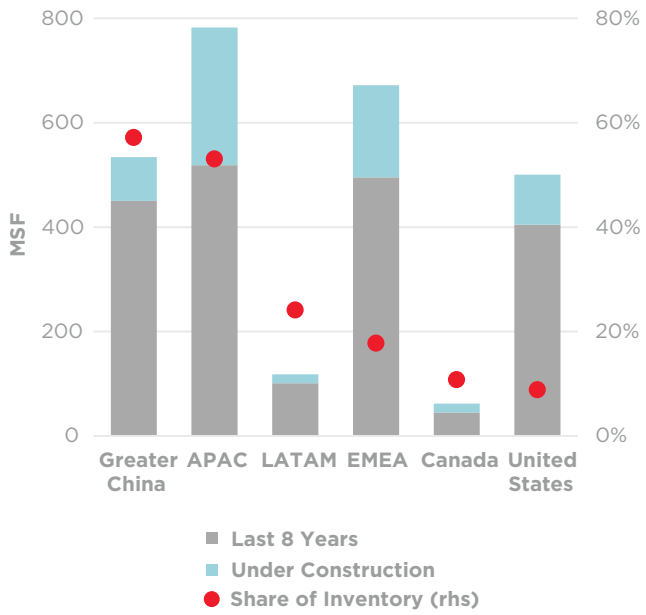
**CHART 9: CURRENT SHARE OF U.S. OFFICE INVENTORY BY "CLASS"**




*Source: Cushman & Wakefield Research*

**CHART 10: CONSTRUCTION ACTIVITY BY GLOBAL REGION**

New deliveries Since 2015 & Currently Under Construction, Global Regions




*Source: Cushman & Wakefield Research*

# Defining What is Considered Highly Desirable Space

In many ways, occupiers continue to search for most of the same things in their space as they did pre-pandemic. In a 2019 analysis of several hundred buildings, Cushman & Wakefield found that highly amenitized buildings experienced 18% rent premiums over the surrounding submarket. Many of the trends in these buildings have grown over the past three years: moving from property management to community building (i.e., activation), multiple modes of access, dedicated tenant-only amenity spaces, hospitalization of lobbies and public spaces, green or other outdoor space, and a variety of food options.

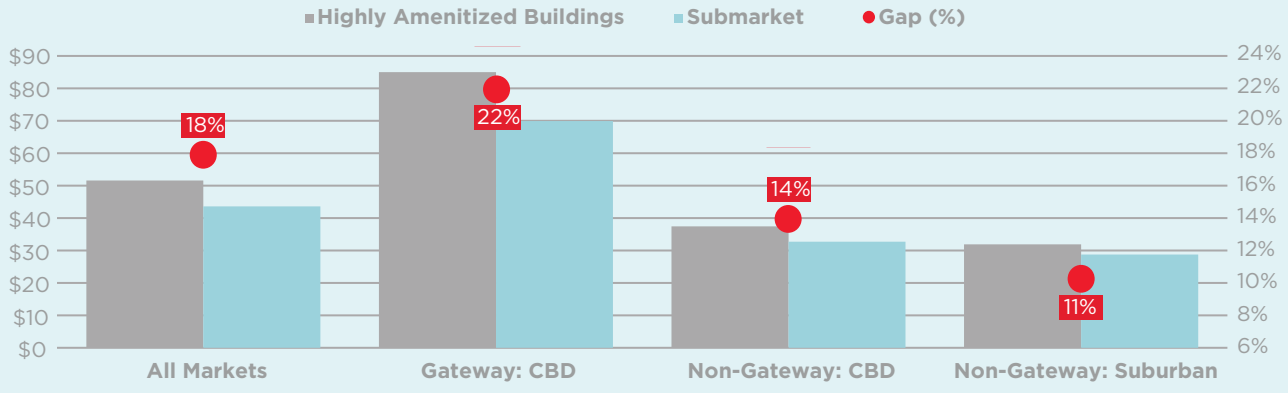
**High quality office space has many, if not all, of these features:**

- **Location:** Easily accessible, multiple transportation options
- **Amenity-rich neighborhoods:** Walkable access to experiential retail, coffee shops, restaurants across the price spectrum
- **Versatility of space:** Dynamic meeting areas, conference spaces, flexible office / coworking, public spaces that allow for formal and informal meetings
- **Modernity:** Large floorplates, efficient mechanical systems, sustainability ratings, sound attenuation, air filtration, large window lines and access to light through full-height glass
- **Wellness and lifestyle amenities:** Gyms, childcare, amenity floors, personal services
- **Outdoor space:** Plazas equipped with Wi-Fi, terraces, rooftop, greenways, immersive art installations
- **Activation:** Events, group activities, hospitality services, hotel-like lobbies

This is not solely an urban renewal conversation, nor is there an ongoing flight out of cities. Office demand was weakened in both CBD and suburban submarkets, and it is currently recovering on a similar trajectory. Office product in both suburban and CBD environments will be attractive if it can satisfy occupier demand. The driving forces may be different, but the underlying focus on sustainability, convenience, quality, experience and lifestyle will be the same.

Investors and occupiers must have a strong understanding of the space that is going to be in high demand (and why), which space needs investment to be competitive (and how to judiciously upgrade), and which space needs to find a better and more valuable use for the marketplace.

**CHART 11: HIGHLY AMENITIZED BUILDINGS OUTPERFORM**
Average rent for highly amenitized building set vs. submarkets




*Source: Cushman & Wakefield Research; CoStar Group*

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# How big is the supply of potentially troubled stock as leases expire?

# 03

Since the onset of the pandemic, office vacancy has increased across the globe. Since Q4 2019, the overall office vacancy rate is up the most in Canada (+600 bps), the U.S. (+510 bps) and APAC (+487 bps), while Latin America (+226 bps) and EMEA (+157 bps) have seen less than half the increase. Greater China is the one outlier, where after increases in 2020, overall vacancy rates have returned to Q4 2019 levels.[15] In many markets, Cushman & Wakefield expects that vacancy will continue to increase in 2023 before absorption turns positive in 2024.

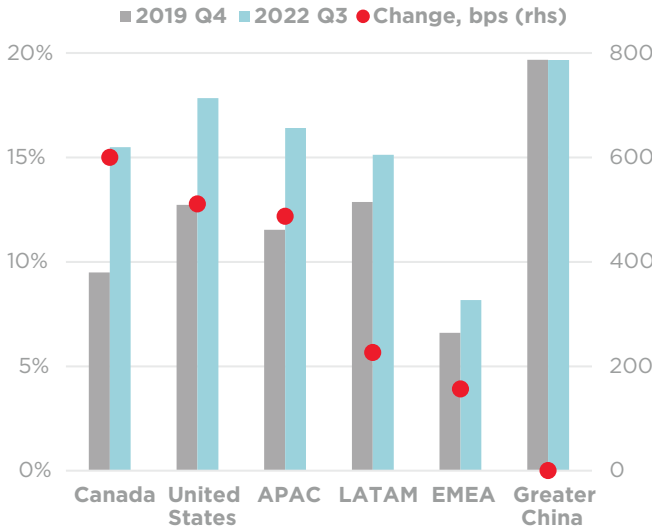
Upcoming lease expirations are poised to place additional upward pressure on vacancy: as noted in Chapter 1, only approximately one-third of U.S. office leases scheduled to expire between 2020 and 2030 have occurred as of the end of 2022, and the office densification trend likely will lead to a reduction of 10%-15%. We expect the vacancy rate in the U.S. to reach 20% by 2024, up from 13% prior to the pandemic.

While vacancy mounts, the profile of assets facing trouble will continue to bifurcate as occupiers' overwhelming preference shifts towards higher quality options. Demand has been targeting an increasingly smaller portion of current supply, and a mounting portion of current office stock is at risk of becoming ***competitively*** obsolete because there isn't sufficient demand for it.

**Quantifying the Trouble:** Existing and future vacancy is not equally distributed and will disproportionally impact some assets more than others. While vacancy has risen, it tends to be isolated in a smaller portion of buildings.

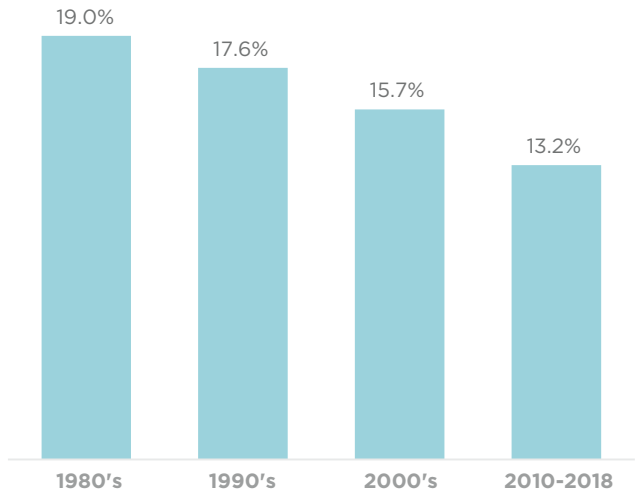
- In fact, buildings with greater than 50% vacancy comprise 7.5% of existing inventory.
- In other words, if this portion of high-vacancy buildings were to be removed from the total inventory, then the office vacancy rate in the U.S. today would stand at 12%, as opposed to the all-in rate of 18.2%
- As mentioned in Chapter 2, nearly 3.4 msf (60% of existing stock) is in the "middle" group facing competitive obsolescence, while 1.1 to 1.4 bsf (25% of stock) is in the "bottom" group requiring some form of repositioning or repurposing.

**CHART 12: VACANCY CHANGE SINCE Q4 2019, GLOBAL REGIONS**




*Source: Cushman & Wakefield Research*

**CHART 13: VACANCY RATE BY VINTAGE (YEAR BUILT / LAST RENOVATION)**




*Source: Cushman & Wakefield Research*

[15] *It is worth noting that the pandemic impacted the Chinese economy earlier than the rest of the world and China's overall office vacancy is still 140 bps above where it was in mid-2019.*

**Putting the Challenge into Context:** The entire office market doesn't need to be overhauled to move toward greater health, but targeted improvements or repurposing by investors, municipalities and occupiers could pay dividends. Possibilities include upgrading office stock to be more competitive for today's occupier needs or shifting some portion of office space towards other in-demand uses such as multifamily, life sciences, health care or mixed-use properties.

Moreover, as vacancy rises and property income weakens, many obsolete office properties are likely to encounter greater difficulty in meeting their debt obligations, which will place greater emphasis and likelihood for such assets to be reimagined.

Potential Loan Distress is featured in Chart 14 and demonstrates that $40 billion in outstanding office loans currently face some form of trouble or distress, representing 1.7% of total outstanding loans.[16]

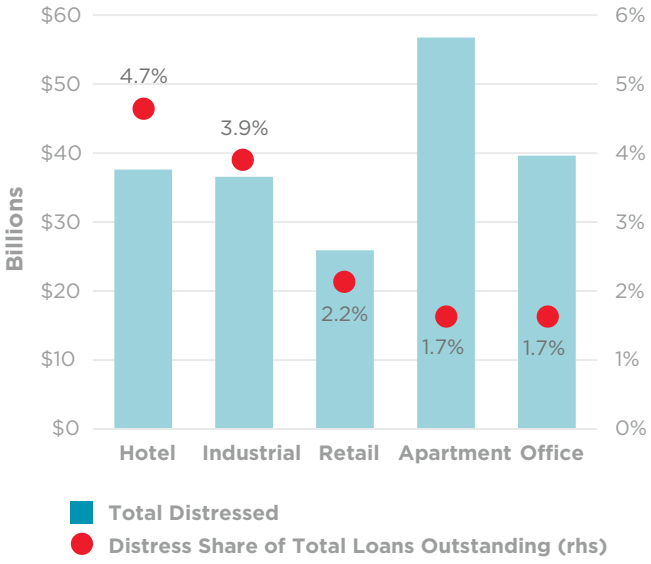
Loan trouble also varies considerably by market, as depicted in Chart 15, which features Potential Loan Distress by Market. For markets with greater than $10 billion in loans outstanding (capturing 27 markets nationwide), the range in troubled loans varies from 0.4% for Boston to nearly 5% for Orlando.[17] Most of the higher-risk markets are non-gateway markets, confirming that obsolete buildings are not just limited to the gateway markets which have seen outflows of tenants to more affordable Sunbelt metros.

In addition to the difficulty in meeting debt obligations, the office sector is also facing a wave of oncoming debt maturities representing more than $130 billion over the next two years (Chart 16). Over the same period, 20% of all office loans maturing are those with shorter-term debt structure (0-3 years).[18] Many of those recently originated loans haven't had enough time to accrue value appreciation, and they are also facing value losses due to both performance and cap rate escalation throughout the market. Therefore, depending on asset condition and performance, refinancing might not be an option, particularly given the degree to which debt costs have risen.

Collectively, mounting vacancy, loan distress and oncoming loan maturities will force many owners to evaluate their assets' strategies.

**CHART 14: DISTRESSED LOAN PERFORMANCE BY SECTOR**

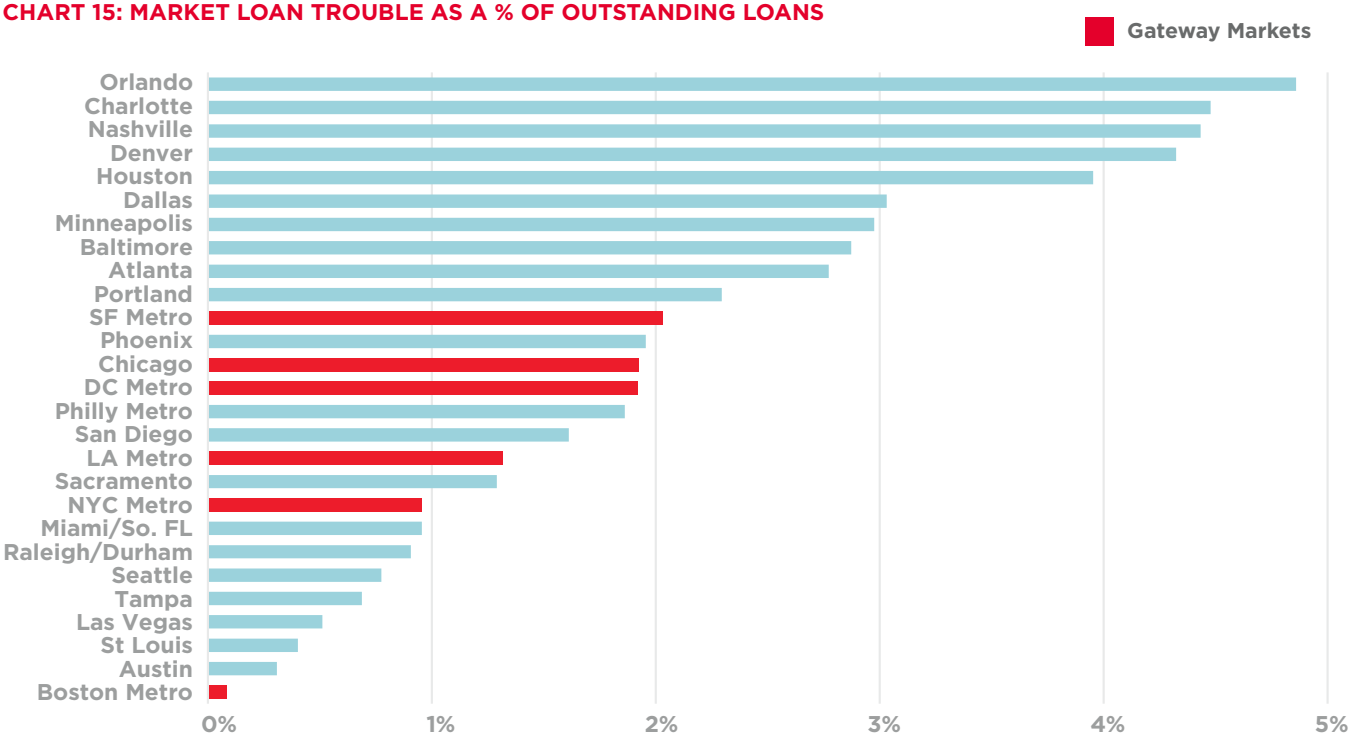
by outstanding loan amount ($B USD)




*Source: RCA; Cushman & Wakefield Research*
*"Trouble" includes Lender REO, Potentially Troubled and Troubled Loan Performance Status.*

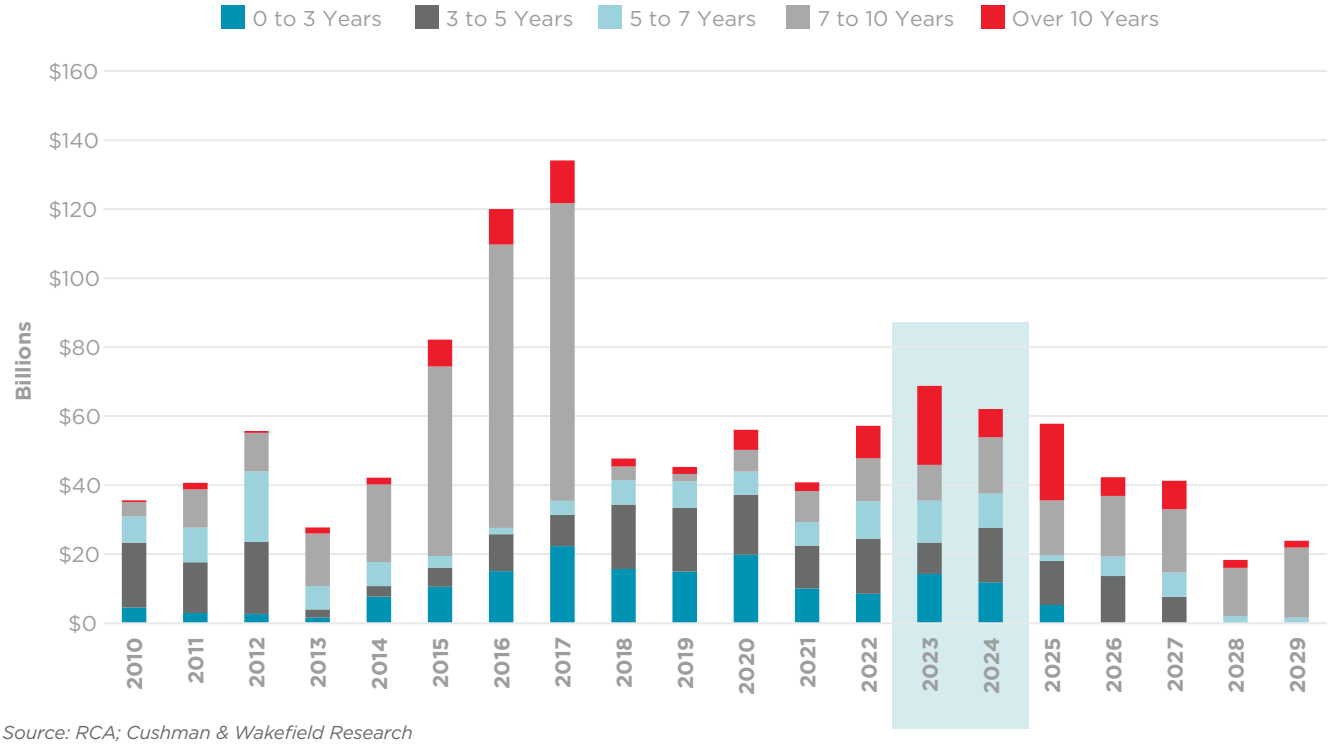
[16] *Source RCA and Cushman & Wakefield Research*
[17] *Source RCA and Cushman & Wakefield Research*
[18] *Source RCA and Cushman & Wakefield Research*

## CHART 15: MARKET LOAN TROUBLE AS A % OF OUTSTANDING LOANS




*Source: RCA; Cushman & Wakefield Research*
*Includes markets with >$10bn outstanding loans.*
*"Trouble" includes Lender REO, Potentially Troubled and Troubled Loan Performance Status.*

## CHART 16: OFFICE LOAN MATURITIES BY ORIGINAL LOAN TERM ($B)




*Source: RCA; Cushman & Wakefield Research*

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# Obsolescence Equals Opportunity

# 04

While the bulk of office space in the U.S. needs to consider its competitive positioning, not all is lost for those facing headwinds. Owners and investors focused on proactively addressing such challenges will be able to recover value and generate returns. By exploring opportunities to reposition or repurpose, no shortage of opportunity exists with the right partners for strategy, funding and execution.

## REPOSITIONING

Repositioning strategies are among the least costly and most efficient strategies for bringing an obsolete office property up the value and relevance curve.

An asset may be a good candidate for repositioning if tenants are still active in leasing space throughout the market and submarket—yet they are most attracted to highly-amenitized, higher-quality properties. In such a case, capital investments to improve and reposition the property can help to put the asset on the top of tenants' short list.

- **Improve the space:** Depending on the property and on the competitive landscape (i.e., the buildings, submarket, or market the asset competes with), repositioning strategies can involve physical renovations to add amenities or to modernize common area spaces such lobbies, cafeterias, parking lots, bathrooms, HVAC systems and elevators. Carefully looking at the competition throughout the submarket is critical when scoping a project that sets the building apart from the competition. As a result, every repositioning project is different and involves nuance at both the asset and submarket or market level.
- **Define the project:** Working with project development services teams to compile a detailed estimation of project costs is key, as is projecting what rent and occupancy can be achieved following the repositioning project. Ultimately, a full assessment of the cost of investment is overlaid with a view of achievable rents and asset valuation perspective.
- **Activate the experience:** In addition to improving physical building attributes, owners and investors can work with workplace strategy and property management experts to create a strong sense of place and to maximize opportunities for experience. Place-making and experience offerings can take many forms. For example, owners can consider creating outdoor patio space and alternative working areas.
- **Post-pandemic thematic shifts:** Repositioning strategies have also shifted following the pandemic. Between 2016-2020, much focus of repositioning was on building spa-like fitness center spaces, high-end tenant lounges and state-of-the-art conference centers. Indeed, much of those strategies hold today. Yet, over the last year or so, strategies have expanded focus to include rooftop expansions and upgrades, large conference centers that would allow tenants to shrink their leased space requirements, and spec suites (i.e., turn-key spaces ready to be occupied).

**Funding:** Any conversation on repositioning or repurposing an asset first starts with a recognition of the capital both available and required for such a strategy. Some assets might be distressed situations either held by the lender or in special servicing, and all strategies are dependent on owner resources, owner type and whether the owner is open to finding joint venture (JV) funding or outside capital. Existing owners and potential investors can partner with industry debt and capital placement experts to arrange funding strategies, as well as to consider whether it might make sense to sell a better-performing property within their portfolio to gain the liquidity necessary to reposition an underperforming asset. Regardless of whether outside capital is sought, the process involves holistic conversation of not only the asset, but also the capital required, the owner's existing portfolio as well as the market the asset will serve.

**Process-oriented, formulaic approach:** Taking a holistic view, owners or investors of obsolete office product can partner with industry specialists to undertake a formulaic, comprehensive process to determine what is best for each asset. Specialists involved in this consultative process can include property management expertise, occupier expertise, project and construction management expertise, appraisal and valuation teams, as well as capital markets experts, all of which coordinate closely to define the options and feasibility for a repositioning or repurposing project.

# CASE STUDIES


## $20 MILLION REPOSITIONING OF A VACANT BEHEMOTH

### International Plaza, Dallas, Texas

**Challenge:** Located in Farmers Branch, Texas, International Plaza is a two-building, 700,000 sf office asset. When purchased the fully vacant property was North Texas's largest vacancy and faced significant challenges attracting large tenants.

**Renovation investment:** $20 million

**Solution:** This project pushed the envelope, rededicating three floors to amenities with a focus on amenity quality as well as the physical space. An existing small pond between the buildings was activated by building a free standing "Lakehouse," with meeting space, an outdoor deck, fire pit, grill, outdoor seating, music full WIFI and landscape lighting for evening events. The lobby was fully demolished and renovated, and a monumental new staircase linked the lobby to new second-floor amenities. Large meeting rooms, phone rooms, executive conference room and a wine and coffee bar on the first floor were added to the first floor. Second floor updates included a state-of-the-art fitness center with equipment rivaling the best health clubs in the city. The third floor gained a food hall, gaming area and a makers' space for tenant events. The elevators, elevator lobbies and restrooms were all updated to reflect the new finishes. The restrooms were updated to country club style with wood louver doors and individual stalls.

**Results:** Tenants who toured the space were attracted to the property's alternative work areas both inside and outside. High resolution renderings of the space helped draw interest during early leasing phases and the final product delivered on that vision. Just two months into construction, the project secured a 385,000 sf healthcare tenant. One month following completion of the project, the property secured another 85,000 sf tenant.

# CASE STUDIES


## THE 1980s, 3-BUILDING FULL-REPOSITIONING PLAY

### Lincoln Centre, Dallas, Texas

**Challenge:** Comprised of three 1980s era buildings and encompassing 1.7 million sf, Lincoln Centre had never undergone a meaningful renovation since initial completion.

**Renovation investment:** $45 million

**Solution:** Owned by Nuveen Real Estate (TIAA-CREF) and managed by Cushman & Wakefield since 2006, the ownership committed to spending $45 million on renovations to fully reposition the property throughout the market in February 2022. Renovations included new lobbies in all three buildings, a food hall with six stations and full bar, upgraded fitness center that more than doubled in size to 15,000 sf, upgraded conference facilities, two coffee bars, grab-n-go markets, a new park with outdoor grill station, a patio with firepit overlooking park, a new grand entrance to the project, an interior-exterior wayfinding upgrade and a new lactation suite.

**Results:** Creativity and the ability to tap into the market's ongoing flight to quality emerged as key themes throughout the project's success. Amenitization was key to the property's leasing efforts, and features such as the multiple lounge areas, conferencing and lactation suites were well received by tenants. Focus of the project was also on activating the sense of place and creating community: rather than planning the customary once or twice annual tenant appreciation events with typical food or ice-cream social elements, the team focused on more targeted events that occupants would attend out of interest, rather than just for a free meal. The project also featured several ESG thematic tie-ins including receiving a Fitwel certification and several other creative elements. Honey harvested from the project's beehive is used in signature beverages in the food hall as well as given to tenants as gifts; the herb garden also provides fresh herbs to the food hall. This new, holistic focus on space and experience led to the extension of a 312,000 sf anchor tenant to 2035 as well as measurable increase in achievable rents. For example, prior to renovations, the property was executing leases at $27/sf gross (plus electric), with more recent leases now executing between $13.50/sf - $34/sf NNN.

## REPURPOSING

Depending on the market, submarket or property, some assets may not be a strong candidate for repositioning strategies, either due to its competitive landscape or due to the building's physical characteristics. From there, the evaluation process moves to the next phase, to explore whether the property could be repurposed into another use. A thorough estimation of project costs, demand-side potential, and exit value assumptions are all key to the repurposing evaluation phase.

### Office to Multifamily Repurpose Strategies

Converting undesirable office space to residential uses has arisen as a popular repurposing solution, particularly given the considerable tailwinds supporting the demand for residential housing. Capital continues to chase the strategy, with Silverstein Properties' $1.5 billion fund acting as the most recent example. The firm's CEO, Marty Burger was quoted as saying this could be the start of a $10 billion-plus opportunity.[19]

This isn't the first time office-to-residential conversions have come in vogue. After the stock market crash and the savings and loan recession of the late 1980s, New York saw office vacancies increase significantly, topping 15%. In response, the city enacted a package of economic and regulatory incentives, mostly centered around the 421-g program, to facilitate the conversion process.[20] As a result, more than 12,000 units were created across roughly 60 former office properties, representing about 40% of the units built in lower Manhattan since 1990, according to the Citizens Budget Commission of New York.[21] New York continues to be the epicenter of office-to-residential conversions, though the strategy is increasingly expanding to other markets as well.

Typically, office buildings set for conversion to residential are older assets in the urban core. These assets are prime for residential conversion given the office construction boom of the 1970s and 1980s in urban districts around the country. With changing workplace designs over the past 50 years, many of these buildings face significant leasing challenges, especially in the wake of the pandemic and rising remote work. This is evidenced in CBD office vacancy, shown in chart 17. Office vacancies have steadily risen and are now approaching 20% across U.S. CBDs, suggesting that there will be plenty of opportunity to repurpose these assets in the years to come.

**CHART 17: U.S. CBD OFFICE VACANCY (ANNUAL)**

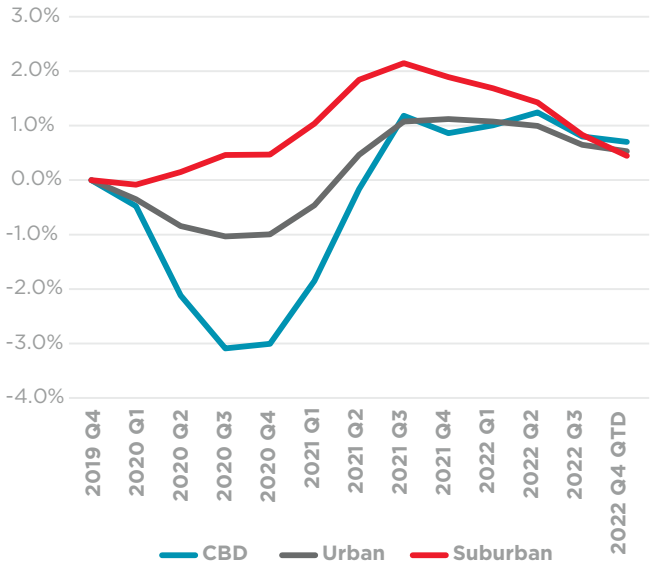

*Source: Cushman & Wakefield Research*

[19] *"One of New York's largest commercial landlords is spending $1.5 billion to convert office buildings into apartments as office vacancy rates remain elevated," Business Insider, December 10, 2022.*
[20] https://furmancenter.org/coredata/directory/entry/421-g-tax-incentive-program
[21] https://cbcny.org/research/potential-office-residential-conversions

Meanwhile, alongside the waning impact of COVID on urban cores nationally, market conditions have become more supportive of additional housing. As seen in chart 18, multifamily occupancies took a significant hit during the depths of the pandemic, falling by more than 300 basis points in the CBD and 100 basis points in urban locations, whereas the suburbs only saw occupancy increase throughout the pandemic. Since then, CBD and urban core occupancies have more than recovered, with today's occupancy relative to Q4 2019 ranking the highest in CBDs and urban locations, compared to that of suburban assets.[22]

**CHART 18: MULTIFAMILY OCCUPANCY**

2019Q4=0




*Source: Cushman & Wakefield Research*

### What to consider in an office to multifamily conversion

While building-level specifications are key to evaluating conversion candidates, market-level analyses come into play as well. Important property-level considerations for office-to-multifamily conversion include:

**Architectural Characteristics:** One of the most significant considerations for conversions is the degree of architectural intervention needed to attract residents. Office buildings typically have larger floorplates making it difficult to bring natural light into the core of a building. Other building characteristics such as the shape of the physical structure, façade, ceiling heights, window placement and more create a challenging environment to transform office buildings for residential use.

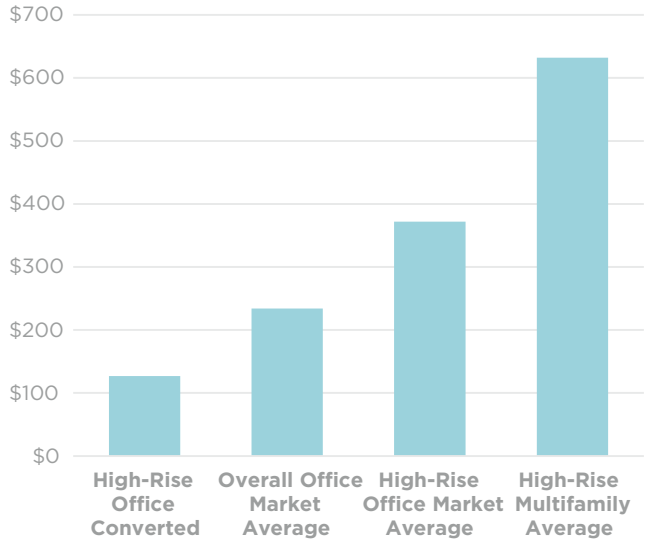
**Floorplate / Layout:** Loss factor, or the square footage lost to conversion, should be another consideration when evaluating potential assets for conversion. Office floorplates are generally larger and less efficient, and conversion may shrink the usable square footage considerably.

**Retrofit Costs:** Costs to retrofit office buildings for residential use vary widely and are often the biggest hurdle in identifying sensible conversions. Estimates from $100 per square foot up to nearly $700 per square foot are common and vary based on the scope of work. Assets that need entirely new façades, extensive plumbing and HVAC retrofits, asbestos remediation as well as other capital-intensive projects will face more challenges.

**Acquisition Basis:** If the basis for buying office space is low enough, conversions can remain competitive with ground-up construction. Chart 19 illustrates the cost basis for offices converted to high-rise multifamily ($127/sf) relative to high-rise multifamily property ($632/sf). The average price per sf paid for a high-rise office building to be converted since 2020 has been about 50% of the overall office market average ($234/sf) and 65% below the average multifamily high-rise price per sf. With high-rise Class A multifamily product selling for upwards of $630/sf office conversion product offers plenty of room for extensive conversion costs.

[22] *CoStar and Cushman & Wakefield Research.*

**CHART 19: ACQUISITION PRICING BY PRODUCT TYPE, P/SF**




*Source: Costar Group; Cushman & Wakefield Research*

If the basis for buying office space is low enough, conversions can remain competitive with ground-up construction. PMC Property Group's acquisition of Allegheny Building in Pittsburgh is an example of this. The firm, which has executed several repurpose conversions along the East Coast, purchased the asset for roughly $65 per square foot in August 2020. Last renovated in the late 1980s, the property was converted into 174 units by early 2022. Ownership was able to execute a quick lease-up by offering effectively new product at below-new build rents, all linked to the property's low initial basis.

**Adjust the Scope (Mix) of the Repurpose to Multifamily Project to Save on Costs:** Another strategy to offset costs is to dial back the amount of space converted to multifamily within the building. As a real-time example, one of Cushman & Wakefield's investment sales teams is working a project with this consideration in mind. By keeping about a third of the existing space as office and relocating tenants to those floors, they've been able to use existing windows. This allows the hard and soft costs to come down by an estimated 40% compared to other office-to-residential conversions within the same city.

### Office to Mixed-Use Strategies

Creativity in defining the scope and the outcome of the project is a key component of repurposing strategies. Often, the solution isn't purely a multifamily play, and expanding across property types can diversify the property income stream as well as potentially save on retrofit costs (as mentioned above).

- **High Rise Mixed-Use:** The proposal for One AT&T Center, one of St. Louis' tallest structures, utilizes this diversification and cost-saving strategy. The 1.4 million sf building represents the largest loan loss in the second quarter of 2022 at $107 million and was sold for just $4.5 million in April. According to CoStar News, the new owner is planning to add 318 apartments and a 150-key hotel among a host of other amenities.[23] Lower floors totaling about 20% of tower would remain office space, though the exact specifics of the redevelopment may shift in the months to come. With a reduced

*One AT&T Center, Photo credit: Costar Group*

[23] *"After Massive Loan Loss, Shift to Mixed-Use Envisioned for One of St. Louis' Tallest Buildings," CoStar News, December 12, 2022.*

office component, lease-up challenges would be much less significant, and the risk diversification may make the project more attractive for additional financing.

- **Tap-into Creative Mixed-Use Options:** Suburban office campuses with large floorplates offer ample redevelopment opportunities as well. Brandywine Realty Trust's project for IBM's Broadmoor campus in Austin, Texas offers an example of a suburban office conversion reimagined into a large mixed-use project by utilizing the space above the property's existing parking structure. The REIT purchased the campus in 2015, with plans to remake the early 1990s assets, calling the project Uptown ATX and capitalizing on the location adjacent to the Domain in North Austin. The first phase, which involves developing new office space along with multifamily, will remain adjacent to the existing IBM facilities until those offices are either converted or repositioned.[24]

Another suburban office repurpose example highlights the possibilities for suburban office product set on larger plots of land. In Aberdeen, MD, about 30 miles outside of Baltimore, a fully vacant, 120,000 sf office building is set to be transformed. Much like Uptown ATX, the excess land will primarily be leveraged to create more than 500 multifamily units spread across multiple phases based on proposals with the city. The existing office building is set to be converted into a self-storage facility.

*801 Long Dr Aberdeen MD, Photo credit: Costar Group*

*Uptown ATX, Photo credit: Costar Group*

[24] https://www.brandywinerealty.com/uptown-atx

## BEYOND THE BUILDING: THE NEED FOR PUBLIC-PRIVATE COORDINATION & COOPERATION:

As the scope of the challenges facing office markets comes into focus, local governments have started to develop incentive programs to facilitate residential conversions all to revitalize and activate their communities. Given the potential blight stemming from deserted office districts, municipalities will be pushed to recreate programs like 421-g, which transformed a formerly office-focused district into a thriving 24/7 micro market in Manhattan.

Municipal support can also expand beyond immediate financial considerations. Incentives could come in the form of modernizing zoning codes to allow for greater residential density, expediting the permitting and review process, as well as innovative public-private partnerships that activate space and enhance the livability and desirability of place. Much like the activation of experience highlighted earlier in the ***Repositioning*** section, local government can attract redevelopment by improving public infrastructure.

For example, **New York's New Action Plan,** which debuted in December 2022, encompasses a variety of these strategies and represents a model for other cities to mirror.[25] In addition to calling for an updated zoning code to allow for more conversions, the plan calls for several improvements that would serve to further transform business-first districts into thriving, desirable mixed-use nodes that can support a range of businesses. Centered in the visioning process are plans to reimagine the corridor from Bryant Park to Central Park, including closing some streets permanently, adding new parks and plazas, widening sidewalks, and expanding bike lanes. As a testament to such strategies, Lower Manhattan saw similar improvements following 9/11, which resulted in the creation of more than 10,000 new housing units.

Desirable places attract private investment, and government investment in public space can have a significant impact in facilitating conversions, all while improving the day-to-day lives of its citizens.

**Other Municipal Support:** As a result of pandemic assistance, local municipalities have larger budgets to support redevelopment with financial incentives. The acute housing shortage, especially for affordable properties, grants cities leverage to make incentives contingent upon adding affordable housing for households earning well below the area's median income. The City of Chicago, for example, has announced plans to offer a variety of tax credits to repurpose office buildings in the Lasalle Street Corridor predicated on developers setting aside 30% of the units as affordable in any residential conversion.

The City of Calgary, meanwhile, provides another case study for local-level support for conversions. The city approved an initial investment of $200 million for downtown revitalization, with about $50 million tagged for the conversion of existing office space to alternate uses.[26] Calgary's office vacancy rate is north of 27%, the second highest North America. Gensler, which was tasked with the initial research, identified 10-12 assets that were prime for redevelopment, which would result in about 2,000 new units. Through phase one of the plan, five assets have been granted incentives for conversion, which would create an additional 700 units while reducing the vacant office stock by more than 650,000 square feet.

**Federal Support:** Support has also been proposed at the U.S. federal level. The Revitalizing Downtowns Act, presented in July 2022 by Senators Debbie Stabenow (MI), Gary Peters (MI), and Congressman

[25] *"Making New York Work for Everyone," City of New York, December 2022,* **https://s.wsj.net/public/resources/documents/New-NY-Action-Plan-Making-New-York-Work-for-Everyone.pdf**
[26] **https://www.calgary.ca/development/downtown-incentive.html**

Dan Kildee (MI-05), would establish a Qualified Office Conversion Tax Credit to incentivize the conversion of vacant office buildings into other uses. This would establish a 20% tax credit for costs associated with converting office buildings, with a requirement to incorporate affordable housing for any qualifying residential conversion.

## OFFICE TO LIFE SCIENCES REPURPOSE STRATEGIES

Taking a step up in degree of difficulty in execution, life sciences conversions have gained interest among owners and investors in recent years given strong fundamentals and prospects for consistent growth. Cushman & Wakefield's recently published **Life Sciences Sector Update** released in October 2022 highlights the underlying factors supporting life sciences strong tenant demand and record low vacancy near 3%.

The sector's outsized growth is even more evident in following rent growth, which has expanded by 67% nationwide since 2015. Similarly, UK rents have expanded by 63% over the same period.

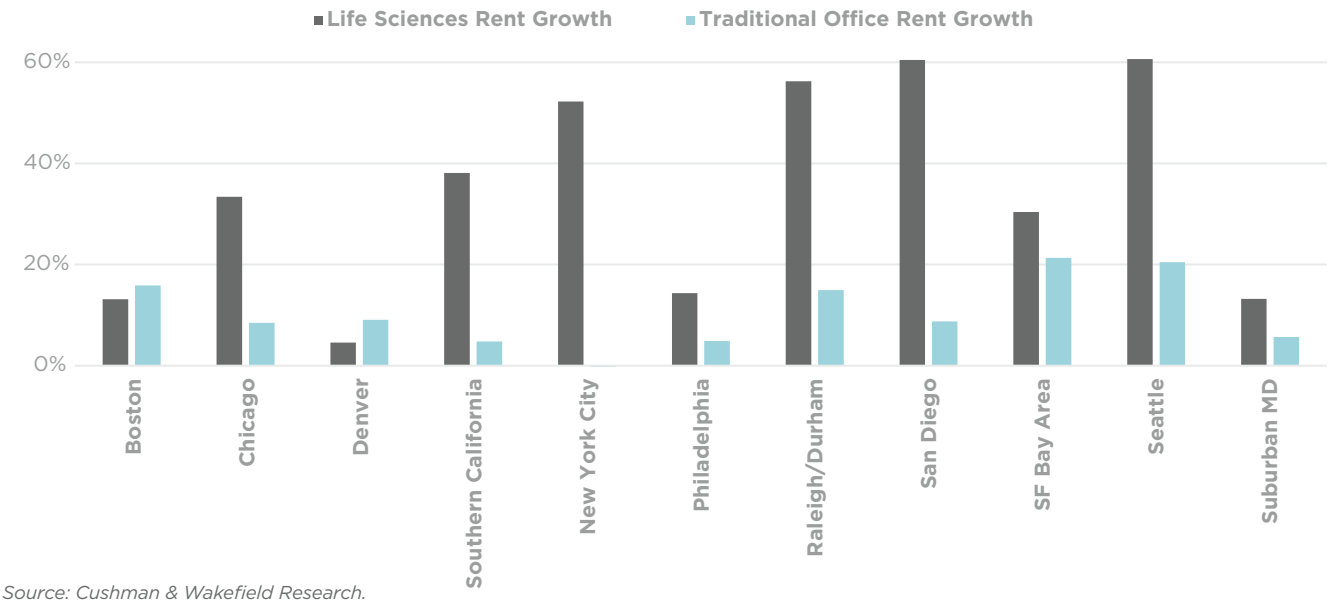
Repurposing a property to life sciences can not only increase occupancy, but also meaningfully increase property-level NOI given that life sciences rent levels ***and growth*** significantly outperform traditional office rent. Chart 20 features comparative rent growth figures for life sciences versus traditional office product across key markets. Life sciences rent growth in San Diego, for example, has surpassed 60% since just prior the pandemic, all as traditional office rent has expanded by a smaller margin of 8.7%.

Such conversions can not only generate more property income but can also significantly increase the property's attractiveness as a niche office investment. Life sciences properties are increasingly attracting institutional investor attention for acquisition.

Life sciences conversions are a complex endeavor and involve a careful analysis of both building specifications and market-level conditions. The need to simply consider building-level features arises as a common misconception among owners or investors considering a life sciences conversion. Before even turning to building features, a wide variety of factors must be taken into consideration, including:

- **Subtype Considerations:** While generally well-defined, life sciences properties span across a variety of subtypes, including bench

**CHART 20: CUMULATIVE RENT GROWTH Q4 2019 - Q2 2022**



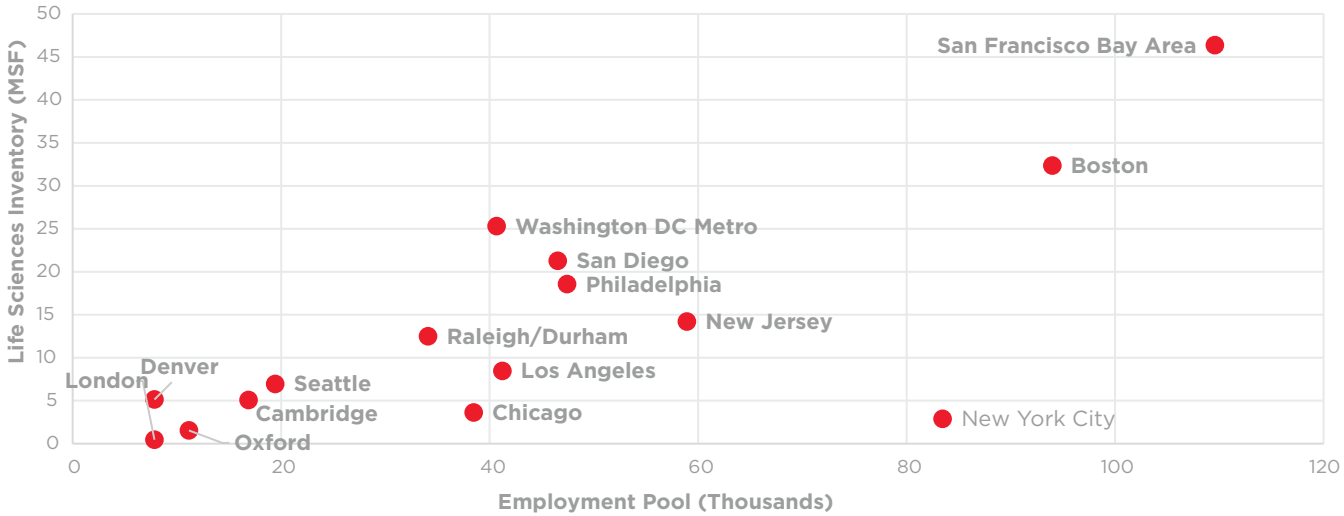

*Source: Cushman & Wakefield Research.*

research facilities, R&D and manufacturing (i.e., pharmaceutical production). Each subtype caters to a different segment of overall life science users, tenants and companies.

- **Transportation Infrastructure:** Logistical considerations come into play just as they would for a potential warehouse property. In many cases the tenant will look for a property along key transportation routes to support distribution access for their products. Properties with proximity to airports, university medical campuses and clinics will garner stronger interest from life sciences firms. Linking specifically to target clientele considerations, cell and gene pharma are very different from other bioscience and pharma companies. For example, the shelf life of cell gene drugs is quite short, and such products cannot be shipped all over the world. Accordingly, smaller regional life sciences hubs with strong access to distribution infrastructure are arising to service a regional area for cell and gene therapy.
- **Clusters & Talent:** Proximity to talent and location within a market and submarket also differentiates potentially successful life sciences conversion candidates. Access to highly specialized labor is often key for life sciences tenants, and not all markets or submarkets offer the pool of talent for a given life sciences cluster or specialty. For example, the San Francisco Bay area and Boston possess the largest employment bases and consequently the largest life sciences inventory, as shown in chart 21. New York City offers one of the largest life sciences employment bases because of its concentration of large research institutions. However, the resurgence in investment-grade lab and current good manufacturing practice (cGMP) space is still in the early stages there; the relatively tight market could be supportive of repurpose projects as a result.
- **Understanding and Defining the Target Clientele:** As part of the evaluation process, it is also critical to evaluate the target clientele for the given property. Startups, mid-caps and big-pharma companies each focus on vastly different space profiles, the former often underserved and looking for 7,500 – 12,000 sf while the latter tends to take larger blocks of space.

**CHART 21: CORRELATION BETWEEN TALENT & LAB SPACE**

Life Sciences Inventory & Employment Pool, Select Markets

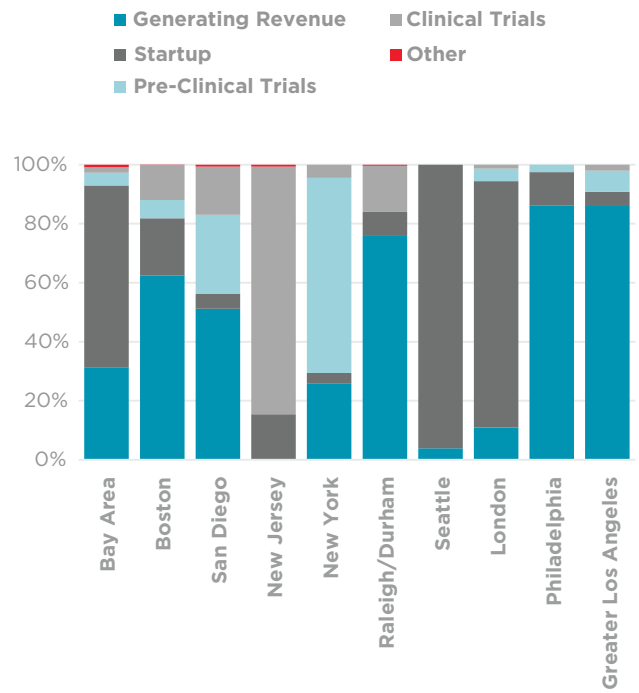



*Source: Lightcast, Cushman & Wakefield Research*

The issue of creditworthiness and tenant financials is also enormously important with life sciences tenants, because many of the early-stage firms have no or very little operating history. These firms can be run by scientists who may, or may not, have any training or experience in running a business, and may be dependent on outside funding sources that can fluctuate with political winds and federal, state or local budgets.

Chart 22 features the top 10 markets that have attracted the strongest inflow of VC funding, broken out by stage of company growth. In addition to demonstrating strong life-sciences markets from a growth perspective, the chart can provide indirect evidence of the types of firms gaining funding and likely seeking space. Each type of company seeks a different space profile. Boston, Raleigh-Durham, Philadelphia, and Greater Los Angeles, for example, have seen more capital focused on revenue-generating companies who will likely be able to seek longer lease terms and larger leases. This contrasts with the San Francisco Bay Area, Seattle and London, which are more focused on startups (likely targeting smaller, multi-tenant lease structures).

**CHART 22: TOP 10 MARKETS**




*Source: PitchBook Data, Inc.*
**Data has not been reviewed by PitchBook analysts.*

- **Considerations on mix of office and lab space:** Project scope can also vary based on target clientele and ideal office to lab mix. For example, spec labs of around 7,500 – 15,000 sf can often find companies that can work with a 50/50 mix, but larger life sciences companies increasingly want a 70/30 mix. Cushman & Wakefield's Life Sciences Project Development Services team continues to see spec labs and small labs (generally leased to startups or small size companies) shifting more towards the 60/40 to 70/30 ratios, whereas bigger companies are closer to the 50/50. Against the context of the slowing macroeconomy, the office/lab mix for larger companies is also shifting towards the 60/40 and 70/30 mix, as some companies try to consolidate and maximize their portfolio in the lab intensity direction.

## Highlights: Prominent global life sciences markets

**Boston:** Dominant center for life sciences with a big pharma presence (large leases); international audience with a strong pool of scientists. The Seaport District, Watertown, Waltham, Somerville and Lexington seeing growth as hotspots outside of Kendall Square.

**Chicago:** Relatively cost-competitive option with world-class research universities and talent pipeline.

**Denver/Boulder:** Emerging life sciences hub with leading research institutions, federal labs and nearly 600 life sciences companies. Strong STEM labor pool, favorable taxes and incentives and abundance of capital funding. Vibrant start-up community with expansion potential.

**Greater Los Angeles:** Strong workforce tailored to industry including clusters of talent throughout El Segundo, Thousand Oaks, Pasadena, Culver City, Santa Monica and Orange County. Low-rise/flex product seeing a lot of tenant interest and activity.

**New Jersey:** Strategic location in northeast corridor, supply chain infrastructure and strong workforce act as a draw for pharmaceutical and biotech companies. Tight conditions for space suitable for small and mid-sized firms.

**New York:** Educated and diverse labor pool and growing recipient of VC funding.

**Philadelphia:** Undersupplied market with tight vacancy and resilient venture capital market scene for seed and early-stage investments.

**Raleigh-Durham:** Robust talent pool and concentration of top-tier universities driving tenant demand and limited availability.

**San Diego:** Strong life sciences market with core anchored in Torrey Pines, home to UC San Diego. Limited supply has prompted developers to consider opportunities outside the traditional life sciences submarkets and to convert older buildings to lab.

**San Francisco Bay Area:** Elite and active life sciences cluster with proximity to research institutions including UCSF, Stanford and UC Berkeley.

**Seattle:** Strong biotechnology and drug discovery field presence throughout Puget Sound region. Focused throughout the Lake Union submarket, with low vacancy. Bellevue and Renton also poised for growth.

**Suburban Maryland:** Known as the I-270 Life Sciences Corridor, home to National Institutes of Health and a top cluster in the nation. Strong government and VC funding. Low vacancy and high leasing volume with competitive rates compared to other top markets.

**Montreal:** Leading hub in Canada for patents and R&D expenditures. Large talent pool and diversified industry. Lowest research and operational costs in North America.

**Toronto:** Steady flow of talent from world-class research institutions. Epicenter of the Ontario life sciences corridor anchored by the downtown MaRS Discovery District. Virtually no vacancy environment in the downtown core MaRS facility.

**Vancouver:** Highly skilled workforce, prime location and high quality of life. Top medical facilities and government incentives.

**Cambridge:** Exceptionally low vacancy, strong demand for turn-key solutions to help firms speed up.

**London:** Occupiers willing to pay for flexibility and potential for scale.

**Oxford:** Near 2% vacancy with demand focused on fully-fitted labs that allow firms deploy quickly.

In some cases, target market considerations can identify whether the potential conversion to life sciences is viable before even turning to building specifications. From there, life sciences conversions also require careful evaluation as to whether the building can support the unique needs of life sciences tenants, including floor size, loading capabilities, floor-to-floor heights, ability to ventilate and above-average power. A recent **Life Sciences Conversion report** published Cushman & Wakefield's Project & Development Services team offers a detailed list of building performance criteria based on minimum standards that life sciences companies would typically require. From a high-level they encompass the following:

- **Zoning considerations:** in particular, there should be a clear path to providing "Group B Occupancy."

- **Building layout:** whether the building can offer vertical circulation, and whether there is enough space for freight elevators, space for a generator, and access to loading bays.
- **Facility considerations:** whether the building can accommodate chemical storage areas, pH neutralization systems and general power requirements.
- **Structural considerations:** whether the building can provide a live load capacity at 100 psf+, whether the roof will need additional load capacity for mechanical equipment, as well as the building's floor-to-floor heights (13' + clearance is ideal, anything else is limiting).
- **Live load floor parameters:** given the potential for lab equipment to vibrate, floor live loads are targeting around a minimum of 100psf+. Most office properties, meanwhile, have live floor loading around 75 – 80psf. Such a constraint does not necessarily arise as a deal-breaker, but this factor can impact design layout and added costs to modify equipment location or stiffen floors. Live load parameters also arise as a consideration for mechanical space or roofs, as the larger and bigger equipment required to support labs also require higher live loads.
- **HVAC / Plumbing / Systems considerations**
- **Electrical considerations:** two considerations are important, relating to normal and standby power.[27]

Cushman & Wakefield's Project & Development Services team compiled a more detailed check list, as well as outlined the process for feasibility and early assessments **here**.

[27] *According to the NIH Design Requirements Manual and industry standards, lab power should be 16 to 30 VA/sf (roughly 14.4 W/sf to 27 W/sf) and standby power of 5 to 8 W/sf*

## OTHER OUT-OF-THE-BOX REPURPOSE STRATEGIES

In addition to repurpose strategies extending throughout multifamily, mixed-use, life sciences and healthcare opportunities, investors are increasingly executing on unique repurpose strategies for large suburban office campuses. Throughout such examples, the unifying theme is one of both creativity and place-making. Many of these legacy suburban office campuses are located in high-quality submarkets, whether that be through the lens of residential, retail or even industrial uses.

### THE CORPORATE OFFICE CAMPUS TO INDUSTRIAL

**The Hub@SV, Simi Valley, CA**

A compelling and successful office to warehouse-distribution repurpose project can be found in Simi Valley, located in the Ventura North area of suburban Los Angeles. The 290,000 sf property sprawls across 43+ acres. Built in 1984, it was purchased by institutional investment manager Westbrook Partners and private regional owner-developer Greenlaw Partners in May 2020 for $16 million, or $55/sf. Fifteen months later, Westbrook sold the property to an Oregon-based private investor for $128 million or $441/sf in an off-market transaction. Prior to the sale, an extensive renovation transformed it from a corporate office for Bank of America to serve as a distribution warehouse product for Amazon. At the time of sale in 2021, the property, now named "The Hub @ SV," was fully occupied by Amazon on a triple net basis through 2036 with 2% annual rent escalation. The first year proforma cap rate was reported at 3.35%.[28]

*400 National Way Simi Valley, Photo credit: Costar Group*

### REMAKING THE SUBURBAN OFFICE CAMPUS INTO A METROBURB

**Bell Works Chicagoland, Hoffman Estates, IL**

New Jersey-based developer Somerset Development continues to take steps towards revitalizing and transforming a former 1980s-era AT&T Corporate Campus into a thriving mixed-use center that it has been coined as a "metroburb."

Located in suburban Chicago, the 1.6 million sf property formerly housed over 3,000 AT&T employees. Purchased in 2019, Somerset Development initially encountered some leasing challenges as the pandemic set in.

*Bell Works Chicagoland, Photo credit: Costar Group*

[28] *CoStar, CoStar Property Notes and C&W Research*

*Bell Works Chicagoland, Photo credit: Costar Group*

The firm adapted its strategies to appeal to post-pandemic era tenant needs and has since leased approximately 150,000 sf by designing a suite of fully built-out offices called "Ready to Wear" offices designed for smaller firms and startups. [29]

Somerset has renovated approximately 400,000 sf along the eastern portion of the complex, while also adding a variety of new amenities including new public spaces, cafes, public walkways, a fitness center, a coworking area, and interior spaces used for hosting public events and galas.[30]

Somerset's Bell Works "metroburb" concept was initially borne from another redevelopment project the firm undertook in Holmdel, New Jersey.

The firm, which focuses on large-scale, transit-oriented and brownfield projects, transformed the former 2 million sf Bell Labs research facility into an experiential, urban downtown environment in the suburbs with a mix of office, housing, eateries, and retail.

Built in 1959, and purchased in 2013 for $27 million, the property is now 97.3% leased to over 74 tenants according to CoStar property records.

[29] *"As Former Toys R Us Campus Awaits New Use, New Jersey Embarks on Transforming the American Office Park," CoStar News, 8/11/2022.*
[30] *"Bell Works Chicagoland, former AT&T campus in Hoffman Estates, lands more tenants as transformation continues," Chicago Tribune, September 29, 2022.*

## OFFICE TO MEDICAL OFFICE REPURPOSE STRATEGIES

Cushman & Wakefield's Healthcare Advisory Practice continues to witness strong interest on the part of landlords to consider medical office conversions. This strategy requires a thorough understanding of not only market, submarket and property-level considerations, but also a specialized understanding of the operational and regulatory environments required to execute.

- **Regulatory Environment:** The healthcare sector is heavily regulated at the federal, state, and local level, and such regulations can vary dramatically. It is therefore critical to understand what those regulations are, and how they might impact the use of the space.

  The more clinical the use, the heavier the regulations. For instance, a surgery center will require specific facility components (a covered patient entrance in some states), several air change-outs via the HVAC system; a backup electrical generator, and perhaps an area where an ambulance can be located.

- **The Target Clientele / Service Offering:** Just as traditional CRE sectors feature their own unique demand drivers, the healthcare sector possesses unique demand-side considerations. An aging population nationwide does not translate into a sweeping demand-side thesis, and such demand doesn't necessarily translate to immediate demand for healthcare services everywhere. Given markets feature different profiles of demand. Market-level considerations can include whether the local population needs a particular type of surgery (hips, knees, brain surgery, transplants, etc.) and whether such surgeries require a hospital or outpatient center.

- **Healthcare Provider Competitive Landscape:** It is also important to consider the population of healthcare providers in a given market, how many physician practices there are in a given market, and whether those are part of an independent practice or a health care system (i.e., the health system will decide where they lease space, as the physician group will be one of its many corporate entities).

- **Prospects for Patient Referrals:** Successful medical office buildings most often feature a mix of clinical providers that can cross-refer to one another. Therefore, the specialty of target tenants arises as particular importance for medical office buildings. While dentists, optometrists, podiatrists, and medi-spa tenants are technically considered clinical healthcare providers, they tend to be viewed as less valuable in a medical office building tenant mix because they don't as frequently refer patients to other doctors in the building.

**Other important factors to consider in evaluating a medical office building conversion:**

- **Zoning considerations:** in particular, whether the local zoning code permits a healthcare use. If not permitted currently, focus shifts to whether it could, how long that process could take, and how costly the process could be.

- **Parking:** Healthcare tenants require a lot of parking, and the success of many healthcare conversions can succeed or fail purely based on parking ratios. A 5:1,000 ratio is standard among medical office buildings, and most clinical tenants cannot manage with less than the standard ratio. Urgent care centers, for example, will require an even higher ratio.

- **Co-tenancy Provisions:** Many office-using tenants may not prefer sharing entrances and exits and common areas with 'sick' people, and COVID only heightened this concern among tenants. Similarly, traditional office-using tenants are likely to have concerns over sharing space with unknown hazardous materials or microorganisms' potential found in healthcare or life sciences tenants, so owners must incorporate a plan to foster peaceful cohabitation or execute a full conversion over a specific period.

Similarly, healthcare tenants are also selective in co-tenancy considerations as well; many will consider other undesirable uses nearby, whether that CBD shops, plasma donation centers, a competitor or even a non-affiliated urgent care center.

- **Medical Waste:** Though generally the tenant's responsibility to contract for waste removal, owners should consider whether the building can accommodate a private, out-of-sight location for medical waste to dropped. The presence of biohazardous waste can unsettle other more traditional office tenants, and owners should develop an awareness of this factor to ensure other occupants' comfort and to ensure that biowaste does not get into the regular dumpsters.
- **Building Infrastructure:** Critical elements to a building's candidacy as a potential medical office building include whether the HVAC systems can support venting and air change-out requirements and whether it will be cost effective to do so; whether the building can accommodate proper electrical requirements; and whether physicians can enter or exit the building through a back door such that they can avoid the front waiting room. Heavier clinical uses, such as surgery centers, may also require stretcher-sized elevators or larger floor-to-ceiling heights given all the equipment used.

## HIGH-RISE OFFICE AT THE HANCOCK TOWER TURNED PARTIAL-CLINICAL OFFICE[31]:

**875 N Michigan Avenue, Chicago, IL**

The property owner, The Hearn Company, decided to convert four floors to healthcare uses, committing capital to reconfigure many components of the asset to accommodate a surgery center and other clinical uses. Based on Cushman & Wakefield's Healthcare Advisory Practice input, ownership invested capital to create a dedicated patient entrance with a lobby and two elevator banks (with capacity to add two more), a dedicated healthcare concierge to guide patients, a curb-cut to ease patient drop-off as well as valet parking for patients. The project also features an internal elevator to reach physician suites from the parking garage below the building, which includes a dedicated MOB parking floor, ceiling heights that can accommodate ambulatory surgery center equipment, and back-up generator locations already identified (also a requirement for an ambulatory surgery center).

*Hancock Tower*

The space, which can now accommodate a full surgery center, is now in lease-up witnessing strong tenant interest.[32] Hearn plans to invest more than $10 million into initially converting floors 28 -20 and 33, totaling 130,000 square feet, into medical office space within the property.

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[31] *Cushman & Wakefield Healthcare Advisory Practice, Americas.*
[32] https://magmilemedical.com

# Conclusion

**In an increasingly bifurcated office market, analysis must extend past simply an evaluation of the Class A+, premier segment. Office demand is slowing, lease expirations are mounting, all as tenant preferences are shifting. The confluence of these dynamics places commodity and Class B and C product at an increasing risk of obsolescence and underperformance.**

The office sector faces a challenge in defining, funding and delivering the right strategies for the portfolio of assets that are increasingly unwanted and facing mounting vacancy. This paper took the first step in identifying and understanding the risk the sector faces, while also highlighting strategies that have succeeded in aligning properties with modern-era tenant demand. The spectrum of opportunities spans across the budget spectrum, but all can help to preserve income and maximize asset value.

Cushman & Wakefield has formed a global, multi-disciplinary team to respond to the office sector's need for reimagination, repositioning and repurposing. Just as the retail sector has faced critical junctures of necessary adaptation and evolution, the office sector now faces a similar chapter. This chapter of necessary evolution and adaptation will fall on the shoulders of the entire ecosystem—whether that be through public-private partnerships at the government level or throughout the spectrum of ownership and investment community. Proactively addressing the need for transformation throughout the bulk of the commodity Class A, Class B and C segment will help to position the sector for long-term viability.

## About Cushman & Wakefield

Cushman & Wakefield (NYSE: CWK) is a leading global real estate services firm that delivers exceptional value for real estate occupiers and owners. Cushman & Wakefield is among the largest real estate services firms with approximately 50,000 employees in over 400 offices and approximately 60 countries. In 2021, the firm had revenue of $9.4 billion across core services of property, facilities and project management, leasing, capital markets, and valuation and other services. To learn more, visit www.cushmanwakefield.com or follow @CushWake on Twitter.