



Guidehouse
INSIGHTS

White Paper

Prospects for Adaptive Reuse of Office Buildings

Converting Vacant Offices to Residential Buildings

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Introduction

In the last year, a growing number of local governments across the US have proposed initiatives to convert vacant commercial office buildings to multifamily buildings. These policies are in response to 30-year high vacancy rates for office buildings as a result of companies maintaining COVID-19 work-from-home policies. At the same time, cities are facing affordable housing crises that worsen each year, leading many governments to consider whether converting offices to residential buildings may be an opportunity to address both issues simultaneously. While adaptive reuse initiatives may seem like a silver-bullet to save dying downtowns and provide more affordable housing, the reality of retrofitting offices to residential uses is far more complicated than updating zoning laws. This white paper explores opportunities for office building conversions and considers the extent to which these transformations would be feasible and reasonable.

The Opportunity

Adaptive reuse of buildings is a well-established practice. Cities are constantly evolving, creating new demand for some building types while demand diminishes for others. For example, New York City's SoHo neighborhood was primarily farmland in the 1800s, warehouses in the late 1800s, and then had been vacant for decades before artists began occupying the buildings in the 1960s, eventually leading to their conversion to the current form as residences and multiuse properties. Many cities are facing a similar transition as the COVID-19 pandemic has led to decreased demand for office spaces, leaving many stakeholders wondering what should become of the increasingly vacant office buildings.

COVID-19 Pandemic

The COVID-19 pandemic had a major impact on the demand for office buildings as many companies adopted work-from-home policies to protect employees and curb the spread of the disease. While most governments have declared the public health emergency over, many organizations are maintaining remote work or instituting hybrid work arrangements, leading to record-high office vacancy rates across the country. Kastle, a building security company, reported that office occupancy rates fell to 15% during the height of the pandemic, and have only risen to the 45%-50% range as of early 2023.¹

Sustained high vacancy rates are putting economic pressure on key stakeholders, such as local governments, developers, and building owners, to consider adaptive reuse of office buildings. In the US, more than 90% of office buildings are leased and most leases signed before the pandemic have yet to expire. As these leases begin expiring, one-third of which will happen by 2026, building owners are expecting many of their occupants to reduce the amount of space leased or end their leases outright.² Some landlords are considering defaulting on their bank loans due to their inability to recoup their investments from rental income, with several property companies already defaulting on billions of dollars

¹ Kastle, "Getting America Back to Work", *Kastle Systems - Data Assisting in Return to Office Plans* (Accessed August 25, 2023), <https://www.kastle.com/safety-wellness/getting-america-back-to-work/>.

² Dror Poleg, "The Next Crisis Will Start With Empty Office Buildings," *The Atlantic*, June 7, 2023, <https://www.theatlantic.com/ideas/archive/2023/06/commercial-real-estate-crisis-empty-offices/674310/>.

in loans.³ This, coupled with high interest rates, makes the future of the office real estate market look grim, and has many owners, developers, and banks considering adaptive reuse as a potential solution for recouping their investments.

Local governments are also feeling pressure from vacant office buildings. Vacancies directly impact property tax revenue, which can leave large gaps in city budgets. For example, office property taxes in New York City account for 16% of tax revenue. Vacancies can also reduce other tax revenue like public transportation fares and sales tax. Deserted office districts also threaten the economic livelihood of local businesses that rely on heavy foot traffic, like restaurants and cafes. At the same time, rising housing costs and declining affordability are putting pressure on local policymakers to develop new housing units. All of these forces are leading local governments to consider whether adaptive reuse of office buildings can revitalize their commercial districts.

The Great Idea

Freddie Mac estimated a shortfall in the US housing stock of 3.8 million units in 2020—a 52% increase from two years prior.⁴ This growing shortage is particularly acute for smaller and more affordable homes and is associated with increasing housing costs and homelessness. In the last year, several local governments across the country have dedicated resources to exploring opportunities to convert office buildings to multifamily buildings in their cities. While most of these initiatives are still in the scoping and research phase, officials have publicly stated that they are considering a variety of measures including updating zoning policies, relaxing residential building requirements, providing tax breaks for developers, and offering financial incentive programs. Figure 1 summarizes recent activities in three US cities to encourage office-to-multifamily building conversions.

Figure 1 Recent Policy Action to Support Office-to-Multifamily Conversion Projects

| San Francisco, CA | New York City, NY | Chicago, IL |
|--|---|---|
| <p>Roadmap to Downtown San Francisco's Future</p> <ul style="list-style-type: none"> • Updated planning codes to relax rules for multifamily conversions • Tasked Urban Land Institute to provide policy recommendations to support office to housing conversions • Released formal <i>Request for Interest</i> for office to housing conversion projects | <p>Adaptive Reuse Taskforce</p> <ul style="list-style-type: none"> • Established taskforce dedicated to exploring opportunities for converting office space to other uses, with a focus on housing • Taskforce published "Office Adaptive Reuse Study" in January 2023, which outlines 11 regulatory reforms that support office conversions projects | <p>LaSalle Street Reimagined</p> <ul style="list-style-type: none"> • Approved three adaptive reuse projects that will introduce more than 1,000 apartment units, of which 300 are affordable housing units • Offers Tax Increment Financing for conversion projects; includes affordable housing requirements • Provides grants for retail spaces like grocery stores, cafes, and restaurants |

(Source: Guidehouse Insights)

³ Andria Cheng, "Columbia Property Trust Defaults on \$1.72 Billion Loan Backed by Big-City Office Towers," *CoStar News*, February 23, 2023, <https://www.costar.com/article/2019256472/columbia-property-trust-defaults-on-172-billion-loan-backed-by-big-city-office-towers>.

⁴ Freddie Mac, "Housing Supply: A Growing Deficit," *Economic & Housing Research Note*, May, 2021, https://www.freddiemac.com/fmac-resources/research/pdf/202105-Note-Housing_Supply-08.pdf.

The Reality

Historical and Recent Trends

Data on office-to-multifamily building conversions shows that they are occurring on a significantly smaller scale than overall construction. Data from CBRE, a commercial real estate company, shows that over the last decade, 20 to 40 buildings per year have been converted from office buildings to multifamily buildings. These projects are estimated to account for only around 1% of new multifamily units constructed during that time.⁵

While data on completed conversions is helpful for understanding the historical context of office-to-multifamily conversions, it does not reflect the impact of the pandemic and recent policies on prospective projects or those currently underway. At a minimum, conversion projects take four years to complete due to lengthy design, approval, and construction processes, creating a four-to-six-year lag in the data. The earliest the data will reflect the impact of the pandemic is likely to be between 2026 to 2028, and 2029 to 2031 for policies and initiatives implemented in the last year.

Due to the growing interest in office-to-multifamily conversions, many organizations and researchers have analyzed the number of buildings in certain cities that would be good candidates for such conversions. Avison Young, a global real estate firm, identified 8,996 office buildings in 10 US cities that are good candidates for residential conversions.⁶ Gensler, a global architecture firm active in adaptive reuse, found that about 30% of office buildings are suitable candidates for such conversions.⁷ Many experts suggest that the structural changes necessary for these conversions are often so extensive and costly that most buildings will not make great candidates for this type of adaptive reuse.

Adaptive Reuse Actually Reuses Very Little

The arrangements of building systems in commercial buildings tend to be vastly different than those in residential buildings, requiring such extensive renovations that any advantages of working with an existing building are typically negated. For instance, the plumbing needs of a multifamily building are generally far more complex than those for an office building. While offices often have several centralized bathrooms and some additional sinks in office kitchens, break rooms, and custodial facilities, building codes in the US require each apartment to have at least one bathroom with a sink, toilet, and shower or bathtub, as well as a kitchen sink. Accommodating the plumbing needs of a residential building requires not only the addition of water supply lines, but also drains and their associated vents. Similarly comprehensive overhauls of electrical and HVAC systems are required when converting office buildings to housing.

⁵ CBRE, "The Rise and Fall of Office to Multifamily Conversions: A Real Estate Investigation," March 14, 2023, <https://www.cbre.com/insights/viewpoints/the-rise-and-fall-of-office-to-multifamily-conversions-a-real-estate-investigation>.

⁶ Avison Young Press Release, "Up to one third of office buildings across 14 major North American markets could provide housing potential, through adaptive reuse," April 24, 2023, <https://www.avisonyoung.us/press-release/-/article/2023/04/24/up-to-one-third-of-office-buildings-across-14-major-north-american-markets-could-provide-housing-potential-through-adaptive-reuse/in/global>.

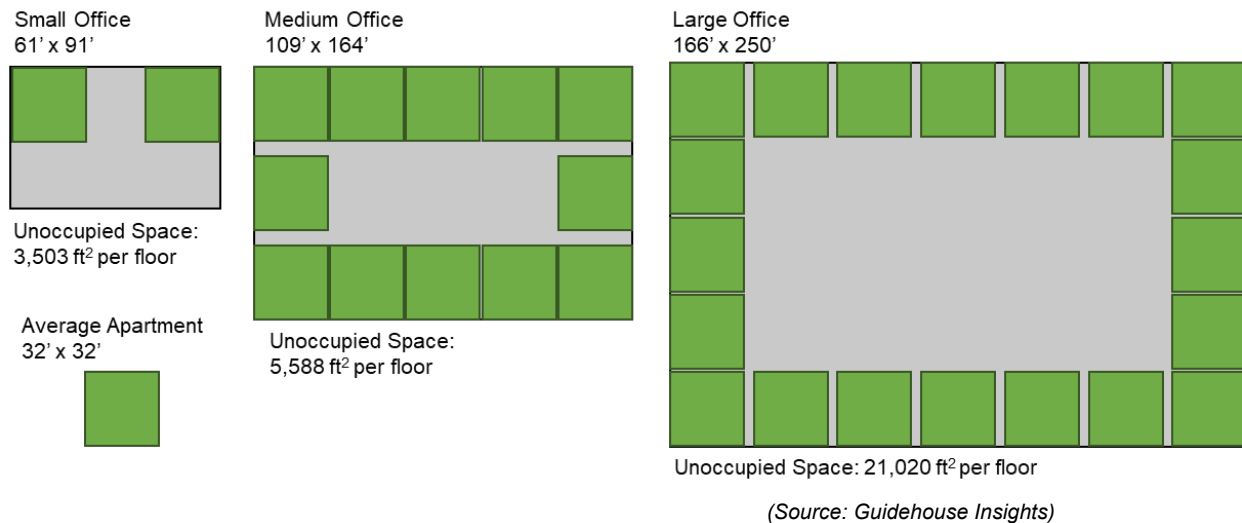
⁷ Steven Paynter, "What We've Learned by Assessing More Than 300 Potential Office-to-Residential Conversions," *Gensler dialogue* BLOG, June 16, 2022, <https://www.gensler.com/blog/what-we-learned-assessing-office-to-residential-conversions>.

Windows Are a Major Limitation

To prevent deaths from fires, bedrooms in the US are required to have what the relevant building codes refer to as an “operable emergency escape and rescue opening,” which is an opening that leads directly outdoors. This requirement is usually met with low windows that can be opened to produce a large enough space for a person to pass through during an emergency. This requirement alone is problematic for buildings with historic preservation restrictions preventing changes to the building’s façade. Further, people expect most of the rooms in their homes to have windows. Depending on the layout, a bathroom or kitchen could be windowless, but even this is usually undesirable.

In most cases, the footprints of office buildings do not lend themselves to the types of window arrangements expected in homes. To illustrate this, Figure 2 shows the dimensions of the U.S. Department of Energy’s commercial reference buildings and the average apartment unit in the US.^{8,9}

Figure 2 *Impact of Commercial Window Arrangements on Usable Space for Multifamily Units*



Even if the internal area is assumed to be converted to non-apartment spaces that do not need windows—in many cases, massively reducing the benefit of the conversion, and occupiable space—the efficient arrangement of apartments along the perimeter would yield many units with windows along only one of the four sides, though corner units could have windows along two sides. By necessity, bedrooms would be placed along the exterior walls, leaving most of the remaining rooms in the apartment windowless. While it is surely possible to live in these conditions and skilled architects can undoubtedly develop innovative solutions to the challenges associated with converting office buildings to housing, the constraints imposed on these types of projects are severe.

⁸ Michael Deru, Kristin Field, Daniel Studer, et al, “U.S. Department of Energy Commercial Reference Building Models of the National Building Stock,” National Renewable Energy Laboratory, NREL/TP-5500-46861, February 2011, <https://www.nrel.gov/docs/fy11osti/46861.pdf>.

⁹ U.S Energy Information Administration, “Table HC10.7 Total square footage of apartment units, 2020,” 2020 Residential Energy Consumption Survey (RECS), March 2023, <https://www.eia.gov/consumption/residential/data/2020/hc/pdf/HC%2010.7.pdf>.

Adaptive Reuse Reduces Rental Income

In mid-2023, estimates of the average asking annual rent for office space across the US ranged from \$37.82 per square foot¹⁰ to \$39.29 per square foot.¹¹ Though office vacancy rates are currently high—with estimates ranging from 17.1%¹¹ to 20.6%¹²—vacancies are concentrated among a relatively small proportion of total office buildings. According to CBRE, 66% of US office buildings are at least 90% leased. Additionally, 80% of the occupancy losses from the beginning of 2020 through the end of 2022 were incurred in just 10% of all office buildings in the country.¹² In 2022, the average annual rent for apartments was reported to be \$23.54 per square foot¹³ in the US. While the average rent per square foot increased markedly in 2021 (15.3%) and 2022 (8.6%) for apartments, the compound annual growth rate (CAGR) from 2002 through 2022 was only 3.6%.¹⁴

These are not perfectly equivalent comparisons. Aside from reflecting slightly different times, the office rental rates indicate what building owners are asking for available spaces, whereas the apartment rental rates reflect what tenants actually paid. Further, the office rental figures correspond to full-service leases, which typically includes utilities. Nonetheless, these values suggest that office spaces command nearly 40% higher rents than residential apartments in the US. Even in the worst US markets for office buildings right now, a building owner would sacrifice rental income when converting an office building to residential apartments.

¹⁰ Evelyn Jozsa, “National Office Report July 2023,” CommercialEdge, <https://www.commercialedge.com/blog/national-office-report/> (Accessed August 15, 2023).

¹¹ JLL, *U.S. Office Outlook*, Q2 2023.

¹² CBRE, “Most U.S. Office Buildings More than 90% Leased,” August 1, 2023, <https://www.cbre.com/insights/briefs/most-us-office-buildings-more-than-90-percent-leased>.

¹³ National Multifamily Housing Council, “Prices and Annual Rents for Apartment Properties,” Real Capital Analytics, <https://www.nmhc.org/globalassets/research--insight/quick-facts/market-conditions/prices-and-rents.xlsx> (Accessed August 15, 2023).

¹⁴ CAGR refers to compound average annual growth rate, using the formula: $CAGR = (End\ Year\ Value \div Start\ Year\ Value)^{(1/steps)} - 1$.

Conclusions and Recommendations

While adaptive reuse of office buildings is technically feasible, many challenges exist to making these conversions happen at a meaningful scale. When evaluating the potential for office-to-multifamily conversions at either the building or city level, key stakeholders like building owners, local policymakers, developers, investors, and banks should consider the following:

- **Recognize that adaptive reuse policies and initiatives will account for only a small percentage of new housing units, and therefore should be one part of local government's broader efforts to grow their housing stock.** Historical trends suggest that office-to-multifamily conversions account for only 1% of new housing units. Even with robust policies and vacant buildings, adaptive reuse of office buildings is unlikely to add significant housing units to a city's building stock. Furthermore, office-to-multifamily conversions will likely occur on a one-off basis due to the unique set of circumstances that need to exist for a project to be viable. For a project to occur, a building must have a structure that can be converted within a budget that makes the project worthwhile, and the owner must have the funds and willingness to pursue a project that can take several years to complete.
- **Support policies that ensure converted buildings are located in areas that residents will want to live.** For example, Chicago's LaSalle Street Reimagined initiative provides incentives for retail businesses to occupy vacant retail space located in the area where the city is encouraging office-to-multifamily conversions. Future residents must have access to services and amenities that make a neighborhood desirable, including grocery stores, restaurants, public transit, and parks. Local policymakers should pursue complementary policies like these to ensure the overall success of their adaptive reuse initiatives, and building owners, developers, and investors should support these policies because they can improve the attractiveness, value, and overall longevity of their buildings, and therefore, of their investments.
- **Focus on the buildings that have structures that can more easily adapt to residential uses.** Buildings that have a high window to floor space ratio may be good candidates for conversion because they are more likely to have sufficient windows to meet residential requirements. Smaller buildings tend to be cheaper to convert, and in older buildings, required renovations could help justify the cost of the conversion.

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