Commercial-to-Residential Conversions: A Review of Existing Research

Historically high home prices and rents, coupled with historically high vacancy rates in office buildings and other commercial property types, have ignited interest in whether the large-scale conversion of commercial properties to residential could help rebalance both markets. Numerous adaptive reuse projects have taken place or are in progress, and the details of those projects can suggest that conversion is a relatively efficient means to shift large quantities of vacant commercial space to occupied residential units.

Some projects have involved extensive structural work to the building, some were acquired at little or no discount from their pre-pandemic value, some were fully leased before conversion, and some were developed into affordable housing. Per-unit construction costs were low in some projects. For example, in California, thousands of hotel rooms have been converted into apartments at about 35% of the cost of new construction.

Policymakers from the federal to the local level are examining ways that the public sector can facilitate conversions. However, the enthusiasm for conversions often obscures the actual pace of conversion activity, the potential for conversions to contribute to the housing stock, and the drivers that affect this potential. In this commentary we review recent studies of conversions activity, defining "conversion" as the construction of residential units on commercially zoned land. This can take the form of adaptive reuse or redevelopment.

Conversion Drivers and Impediments: Markets and Policy

Conversions can occur when the project-level economics of multifamily development outperform the economics of a building's originally intended commercial use, and the current owner of the property is willing to sell at a price feasible for a multifamily conversion to pencil. This requires adequate multifamily demand but can be facilitated by weak commercial demand, which can make owners more willing to sell and lower the sales price. While multifamily demand generally remains strong and commercial real estate demand is relatively weak, deals arise not only because of current market conditions, but on market expectations, and this future landscape appears less conducive to large-scale conversion activity.

Nationwide, the multifamily market faces several headwinds that will likely dampen the demand that could spur conversion activity. Although rents rose rapidly in 2021 and 2022, they were nearly flat in 2023, and fell in some markets. Multifamily production surged over the past five years, and the pipeline of new projects underway remains historically large. Over the next four years, many existing properties will face financial challenges as nearly $1 trillion of multifamily mortgage debt will need to be refinanced in a much higher interest rate environment, potentially stressing multifamily debt markets. Gains in net operating income have been eroded by rapidly rising operating expenses. However, it is important to note that these trends are not evenly spread across the US, and some metros will likely see strong multifamily demand in the future.

The office real estate sector has seen a sharp decline in demand, though this decline has hit parts of the market harder than others. Office vacancy rates reached nearly 20% by the end of 2023, and work-from-home policies have proven durable, with some estimating that about one-in-five workdays will be from home in the long run.

The decline in demand for office space has led to a "flight-to-quality," with class A and newly constructed buildings seeing less of a decline in performance relative to lower-end class B and C properties. Data from CoStar show that there is also variation between the sharp rises in vacancy rates in metros like New York City and San Francisco, and milder or near-zero declines in many Florida metros, and in many markets with long-term weakness in office demand.

Overall, the long-term strength of office real estate is unclear. Office construction has slowed rapidly, while employment in office-using industries, like finance, insurance, and real estate, remains strong. During past crises in the office market, owners and property managers have shifted leasing strategies, and there is potential for them to shift strategies again by, for example, reducing continuous-use leased space but also providing supplemental flexible-use space, which could potentially be leased to multiple tenants. Although aggregate office occupancy is still well below pre-pandemic levels, foot traffic in offices continues to rise.

Retail and hospitality real estate have also suffered since the pandemic and hold potential for conversion activity, though the likely level of future demand is similarly unclear. E-commerce, which rose rapidly during the pandemic, has been shown to be both a substitute and a complement to physical retail demand. While values have the potential to drop dramatically in the sector (which could spur conversions to residential uses), it is also possible that retailers will shift, not abandon, their use of retail space to complement their e-commerce, such as using space to "showroom" products sold online.

The long-term decline in regional mall values (some of which have lost 50% to 70% of their value) provides an example of a market where sharp value losses have led to some conversions (about 150), but where distressed sales often go to other mall operators that continue to use the space for retail.

The outlook for hospitality real estate does not appear as dire as it does for office and retail. Revenue per available room (RevPAR) saw growth in the years after 2020 and continued to show growth in 2023, though demand from travelling businesspeople remained below pandemic levels. Data from CoStar show that RevPAR growth after the pandemic was strong in most markets over this period, with declines limited to the San Francisco Bay area. Overall, the hotel sector is expected to outperform the US economy in 2024.

The state and local policy environment, and to a lesser degree federal programs, have a powerful impact on the feasibility of conversions. The vast amount of commercially zoned land in the US, on much of which residential development is prohibited, shows that there is at least theoretical potential for policy changes to substantially contribute to housing supply. In California, many urban counties have over 200 square feet of commercially zoned land per capita and some, like Riverside County, have over 1,000. Until recently 40% of this property explicitly prohibited residential development.

Many cities have passed or are considering legislation designed to facilitate conversions, and there are past examples of policy-induced bursts of conversion activity. Boston has passed a tax incentive to subsidize conversions, New York City plans to generate 25,000 units from hotel conversions through zoning changes, and Los Angeles recently updated a city ordinance to further conversions by liberalizing land use controls. The Los Angeles law amends a 1999 ordinance that also reduced regulatory barriers to conversion and generated between 12,000 to 14,000 units from conversions in the downtown neighborhood over 20 years, a third of all housing generation in the neighborhood. Jurisdictions across California that explicitly allowed residential development in commercial zones saw about twice as many conversions from 2014 to 2019. New York City's tax abatement for conversions in lower Manhattan generated 13,000 units of housing. While most of these policy changes have occurred at the local level, California's recent legislation allowing residential development in all commercial zones, and the large subsidies provided by the Inflation Reduction Act for substantial energy rehabilitation work (which often occurs at conversion), shows that state and federal policy has a key role in conversion activity as well.

Conversion Deal Volumes: Historical and Expected

Commercial to residential conversion is not new, and it has been an important source of new residential units, particularly in denser areas. While nationwide estimates are unavailable, conversions in California generated 38,000 units from 2014 to 2019, which was about 13% of multifamily production in the state. In some regions, conversions comprised a larger portion of development. Conversions in Los Angeles County, for example, comprised over 30% of total production. Most of these conversions were redevelopment, not adaptive reuse projects. While the pace of all conversion projects is not tracked nationally, adaptive reuse conversions appear to have increased since the pandemic. RentCafe, analyzing YardiMatrix data, found that 122,000 units of multifamily housing were in the pipeline from adaptive reuse conversions by the end of 2023. And data from Dodge Data & Analytics suggests that adaptive reuse conversions have generated about 15,000 units annually from 2015 to the present.

Barring major changes to the policy environment or the market, nationwide production due to conversion is unlikely to comprise a large portion of total production. The Terner Center, using assumptions based on recent conversions in California, project that only about 4% of future housing production in the state will come from conversions in the short-term future, similar to the proportion of generation from conversions that occurred in New York City over the last decade. Detailed feasibility studies of the potential magnitude of conversions to generate units in San Francisco and Washington, DC also suggested that large-scale conversion activity was unlikely, barring major changes to the market and policy conditions.

However, major upheavals in the commercial real estate market, including price losses of 60% or more, strengthening multifamily demand, and a conducive policy environment could lead to large-scale conversion activity. Nationwide Gupta, Martinez, & Van Nieuwerburgh (2023) estimate that adaptive reuse of older office buildings in downtown areas alone could generate about 400,000 units nationwide given these conditions. For comparison, the boom in multifamily construction from 2020 to 2023 has averaged 459,000 multifamily starts annually. Although the office market has not imploded, some properties are realizing losses of the magnitude that Gupta et al. modeled.

Lessons Learned: There is likely greater potential for generation from conversions from redevelopment, rather than adaptive reuse.

There is limited data on the volume of conversions in the US, but existing studies suggest that conversions from redevelopment have outpaced conversions from adaptive reuse. In California, most commercial-to-residential conversions have taken place with the redevelopment of obsolete or under-built buildings, or vacant commercially zoned land. Adaptive reuse of many commercial buildings is more expensive than their demolition and redevelopment. Even among the best candidates for adaptive reuse, total development costs often approach, and have sometimes exceeded, equivalent costs for demolition and redevelopment. There is likely much more commercial land that is amenable to redevelopment than there is adaptive re-use. Redeveloping the worst-performing 10% of strip mall space, for example, could generate 700,000 units.

There are often major design challenges to converting office buildings to apartments, and the adaptive reuse projects that have taken place have highlighted these challenges. Many of these challenges arise from very different code requirements between commercial and residential uses. Most building codes require natural light and ventilation for every habitable room. Practically this limits the depth of residential structures to about 60 feet for a double-loaded corridor. Most modern office buildings have much deeper plats, so conversion requires cutting airshafts, creating very deep units, or other design measures that negatively impact costs and potential revenue. Residential uses come with much greater utility requirements including greater water, sewer, gas, and electricity capacity. Conversion also typically entails relocating at least some vertical support elements, such as elevators, stairs, and mechanical shafts.

Adaptive reuse of any commercial property type raises issues that harm the feasibility of otherwise promising-looking conversion deals. Adaptive reuse usually requires properties to be brought up to current code standards. This can mean extensive renovations to make older properties ADA-compliant. In California, seismic improvements are often required, which can add considerable costs to construction. Adaptive reuse projects are also usually only attractive when the commercial site is at or near its zoning envelope, as inefficient use would better be redeveloped entirely.

Beyond these known risks, adaptive reuse has greater levels of un-anticipated risks relative to new construction. Performing substantial work on existing buildings means that unforeseen problems with building systems can be uncovered during the development process, resulting in the need to do additional work and incur additional expenses. Adaptive reuse projects have had to perform unanticipated work on foundations, mercury remediation, and unanticipated structural improvements, as when a developer discovered that one floor of an office building contained no rebar. Older buildings often have features that make them better candidates for conversion (thinner floor plates, open-able windows, interesting architectural details), but they also are more likely to have unanticipated constructions costs. A review of several of successful adaptive reuse conversions found that many developers learned that they needed a larger contingency budget than expected.

Lessons Learned: Some policy-driven conversions have generated volume with atypical multifamily deals, but most conversions appear to be typical from a financing perspective

Project HomeKey is an example of a policy-driven program that generated volume (6,000 units) in a short timeframe with adaptive reuse conversions during the pandemic. However, the program was able to achieve this success by allowing the projects to skip many of the typical entitlement requirements and function as permanent supportive housing units, not typical multifamily units. In general, conversions hold greater potential if building codes and other land-use regulations are liberalized to allow for the generation of housing types that are usually non-conforming, such as single-room occupancy units, or the conversion of former industrial properties into residential lofts. If, for example, cities or states waived many of the requirements that necessitated substantial improvements upon rehabilitation (e.g., by not requiring seismic upgrades or loosening requirements for natural light and ventilation), then conversion activity might increase in volume. The innovations that make these deals possible, however, raise questions about how they can be financed.

However, this does not imply that most conversions will be atypical from a financing perspective. Different kinds of conversions can result in different types of standard multifamily projects. Adaptive reuse of downtown office buildings, for example, because of the cost of construction and high land costs, is best suited to luxury units. Conversion of hotel properties are often subsidized housing, and these conversions can generate small, but otherwise standard, apartment units. It is possible that even HomeKey projects will be financed as typical supportive housing deals, as many are still arranging for permanent financing.

Lessons Learned: The forces affecting commercial and multifamily markets also drive changes in neighborhoods, which could complicate underwriting

The same forces that are expected to drive conversions in the future also may affect the character of downtown neighborhoods. If greater volumes of workers work from home, spending and commercial demand will shift. Some estimates suggest that spending in city centers will decline by at least 5% to 10% due to these shifts. This could result in a de-concentration of commercial uses, particularly restaurants, bars, gyms, and salons, which could make these areas less attractive for residents, though this is not a foregone conclusion.

Conversely, high levels of conversion activity could lead to a change in the neighborhood economies of downtown areas, potentially revitalizing them. Downtowns that remain attractive for residents *and* workers could rebound by attracting workers who benefit most from in-person interactions and end up being more productive than before. Some neighborhoods with high densities of commercial uses currently don't have the specific types of commercial uses that make them attractive for residents, such as grocery stores and childcare . For example, office space in New York City is disproportionately in midtown Manhattan, which is one of the least residential neighborhoods in the borough and lacks services that support residents. But booming conversion-driven residential development in the Financial District of Manhattan in the 2000s shows that neighborhoods can change over time into areas that support large supermarkets and other uses that were previously absent.

From a lending perspective, this could make underwriting deals more challenging. The feasibility of conversion deals in downtown neighborhoods are heavily dependent on assumptions of future rent levels. These rent levels are uncertain, both because some downtown areas have relatively few multifamily units, and because future rent trajectories could be driven upward by conversion-based revivals, or downward by continued vacancies and declines in neighborhood liveliness.

Lessons Learned: The next three to seven years will likely provide some indication of future conversion levels

Many market and policy drivers that are unclear now will likely become clearer within the next three to seven years. For example, the relatively large potential that Gupta et al. see in green conversions in the office sector are based on distressed sales in the sector, reducing acquisition costs for conversions. In the next three to seven years, many offices will need to roll over their debt and many leases will come up for renewal. If lenders are willing to foreclose and accept the losses that Gupta et al. anticipate, then their estimates, which seem optimistic now, may be realistic.

Lessons Learned: The politics of public policy changes to advance conversions can be challenging

Conversions avoid some of the political problems of housing generation, but the regulatory changes that could best unlock the potential of conversions do not align with other policy priorities. Unlike multifamily greenfield development, or multifamily development on residential parcels, residents more often view multifamily development of commercial properties, particularly if they are vacant, as a positive to their communities. Policy changes designed to facilitate housing generation through conversions, however, mostly take the form of liberalizing land use regulations to make it easier to build. Politically, this means providing benefits to developers, which is often unpopular unless it is coupled with specific requirements meant to address housing affordability.

Specific requirements for affordability, however, diminish the feasibility of conversions, by lowering rent revenue. This is one of the reasons why many conversions, particularly adaptive reuse conversions, have generated luxury units. There is some potential for mixed-income development, but even this measure will reduce the total generation potential of conversions. The impact that conversions will have on affordability through filtering are limited because even optimistic assumptions of conversion potential are not expected to have a measurable effect on affordability.

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April 2024

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