

How the 2024 CEBC Update Enables California Office Conversions

Navigating the California Existing Building Code (CEBC) to highlight recent updates that make office-to-residential conversions more feasible.

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Introduction

Over the last couple of years, there has been a growing drumbeat of interest in converting vacant or under-utilized office buildings into residential uses. The pandemic was a reorganizing force in the CRE industry, and the landscape has forever changed. Thus, opportunity presents itself.

Where to find that opportunity is the question. As the CRE industry evolves and foreclosures grow, the opportunities have become more numerous. The key to taking advantage is understanding the unique characteristics that make an asset a candidate for a conversion.

Mogavero Architects is committed to improving the communities we serve. We have spent decades building deep relationships with people who can exact change. From our leadership on boards, active involvement in community workshops, advocacy in land-use planning and environmental legislation we create a more sustainable future by smart growth, urban infill, and humanizing city cores. Office Conversion projects check each of these boxes and add texture and diversity to the existing urban fabric.

However, despite high vacancies in office buildings and a growing number of distressed assets, not every office building is appropriate for conversion.

Through our firm's research and engagement in this space, we have identified a few key updates to the California Energy Building Code (CEBC), detailed herein, that are helping developers make these types of conversion projects more feasible or "pencil." We hope to inform others, cut the red tape, a crucial step to alleviating the burden of housing affordability.



Diagram by Mogavero Architects

Buildings that Work with Light and Air

Office-to-residential conversions often encounter significant challenges stemming from the features of older office buildings. These structures typically possess deep floor plates, small windows, and outdated HVAC systems, all of which pose obstacles to introducing adequate light and fresh air without extensive renovations. This inherent design limitation complicates the conversion process, as the traditional layout of these buildings is not conducive to residential living standards. Retrofitting such spaces to meet modern housing requirements often requires substantial investment and architectural innovation to overcome these constraints. Thus, there are certain traits that are considered more advantageous when evaluating conversion opportunities. Those are:

- Existing light-wells, atriums and similar features which bring daylighting to the center of the building
- Smaller floor plates with shallow bay depths
- Flexible layouts that allow for carving out spaces for daylighting, and making layout changes in a cost-effective manner
- High floor-to-floor heights, ideally 10 feet or more
- Operable windows, or even large expanses of windows
- Centrally located circulation cores and support spaces that leave exterior surfaces available for residential square footage

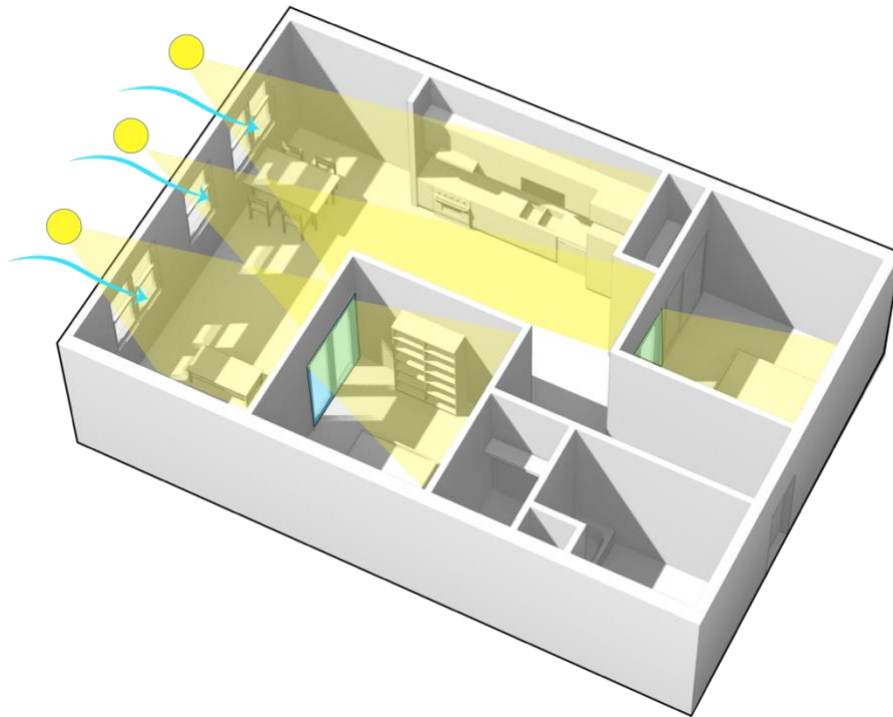


Diagram by Mogavero Architects

Additionally, since 2010, the California Building Code (CBC) has permitted the use of artificial light and HVAC systems to compensate for the lack of natural light and ventilation in enclosed spaces. While this regulatory shift has broadened the scope of possibilities for repurposing office buildings into residential units, it also underscores the importance of innovative design solutions. Leveraging these code modifications through intelligent design strategies, such as making residential units deeper by incorporating borrowed light and air from adjoining spaces or utilizing creative spatial arrangements, can help mitigate the challenges associated with converting windowless rooms into habitable living spaces. For more information on light and air requirements, refer to CBC 1204.1 and 1202.1.

Adherence to CBC standards regarding minimum room dimensions and other requirements is essential to ensuring the safety and livability of converted residential units. Per CBC 1208.1, rooms, considered “habitable space” must meet the minimum 7-foot dimension in each direction. Refer also to CBC 1202.5.1.1 for adjoining spaces requirements.



AI Generated Model by Mogavero Architects

Buildings that Work with Egress

The California Building Code (CBC) sets forth stringent requirements for emergency escape and rescue openings for R-2 occupancies. According to CBC 1031.2, these spaces must feature either a window of egress size or a second door that provides direct access to a public way or an exterior egress balcony. This requirement can complicate conversion projects, unless code exceptions are turned into opportunities.

One such exception is that only residential bedrooms situated below the fourth story of a building are subject to the egress requirement. Given that many conversion opportunities are in taller mid-rise and high-rise buildings, one possibility is to place all residential units on or above the fourth floor. This requires an appropriate program that can take advantage of floors 1-3 for nonresidential spaces, but often those floors can be used for ground floor retail, entry lobbies, leasing, storage and other amenity spaces such as co-working, fitness centers and lounge areas. Moreover, situating residential

units on or above the fourth floor offers additional benefits for residents, such as better views, reduced noise pollution, and increased privacy, which can further enhance the desirability of the converted spaces for prospective tenants.

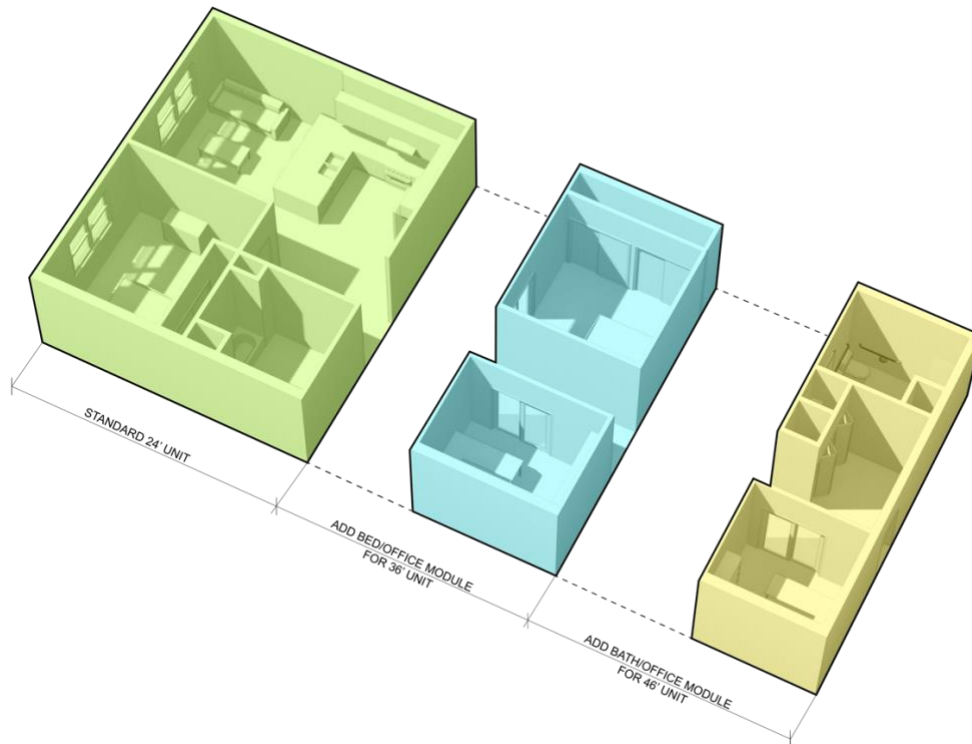


Diagram by Mogavero Architects

It's also worth noting that certain construction types, including Types I, II, IIIA, and IV, when fully sprinklered, are exempt from egress window provisions. Identifying a property built of one of these construction types immediately simplifies the Egress analysis for individual units and the building as a whole. This is a great benefit to the project as window replacement and/or re-sizing can be one of the most significant items in a renovation budget.

In addition to window sizing and placement, there are additional elements to consider in regard to egress: stairs, travel distance, and door sizing all need to comply with egress requirements. The good news for residential exiting and load calculations is that office occupancies are more stringent than residential, and occupant counts will be lower for residential use. This reduces the likelihood of having to make significant changes to stairwells and exit doors.

However, there may be challenges with travel distance requirements. Per Table 1017.2, non-sprinklered buildings of either B or R occupancies have the same travel distance of 200 feet. However, with a sprinkler system, Business occupancies can increase travel distance to 300' whereas residential can only go up to 250', so a building that was designed with travel distances for 300' would need thoughtful layout consideration to achieve travel distance compliance as a residential building.

Buildings that Work with the Updated CEBC

Updates coming to the 2022 California Existing Building Code (CEBC) will introduce several new approaches to compliance, a new Performance Compliance method, a Work Area Compliance method, and a chapter for Change of Occupancy. These will provide additional compliance options for how design teams approach conversion projects, beyond what is already possible with the current Prescriptive Compliance path, outlined in CEBC chapter 5.

Work Area Compliance breaks a renovation project down into tiers: Repairs, Alterations, and Additions, which can help expedite both design and review on many conversion projects and will save time on smaller projects. A chapter for Change of Occupancy will also prove useful in this project type.

Likely the most useful of the new CEBC updates is the new Performance Compliance Method, particularly regarding safety measures within buildings. This innovative addition entails a point-based system that evaluates a building’s existing safety features alongside proposed enhancements, aligning efforts with the building’s inherent advantages and prioritizing areas of safety with high point values. This method, outlined in Chapter 13 Performance Compliance Methods, offers a flexible pathway towards compliance, allowing jurisdictions to opt-in based on their specific needs and priorities. It’s important to note that this chapter isn’t automatically adopted and requires individual jurisdictions to elect its implementation, which will hopefully be done broadly across the state.

Furthermore, buildings seeking to utilize this method must already demonstrate high performance in terms of fire safety and egress, as mere compliance with minimum requirements may not suffice to achieve the necessary points outlined in the Mandatory Safety Scores, as detailed by occupancy type in Table 1301.8.

OCCUPANCY	FIRE SAFETY (MFS)	MEANS OF EGRESS (MME)	GENERAL SAFETY (MGS)
A-1	20	31	31
A-2	21	32	31
A-3	22	33	33
A-4, E	29	40	40
B	30	40	40
F	24	34	34
I-2	19	34	34
M	23	40	40
R	21	38	38
S-1	19	29	29
S-2	29	39	39

MFS = Mandatory Fire Safety

MME = Mandatory Means of Egress

MGS = Mandatory General Safety

Table from The Performance Method

The Performance Compliance Method introduces a series of tables (see above table) which illustrate how different occupancy types are evaluated, emphasizing the nuanced safety requirements for various building uses. For instance, buildings designated as B occupancy, such as offices, are held to a higher standard in terms of fire safety, egress, and general safety measures compared to R-2 occupancy, which pertains to multifamily residential structures.

This distinction underscores the rationale behind the point system, where buildings with existing robust safety features, such as office buildings, would inherently score well for conversions into residential units.

Another big conversion topic, the existing structure, will get some support in the new CEBC update. The language regarding the building’s structure indicates that these types of conversions won’t result in a major structural overhaul. Design live loads for office buildings exceed what would be required for a residential use. For seismic concerns, a change from office to residential does not result in a change from structural risk category II, per CBC Table 1604.5, so no structural upgrades are triggered, unless by other project requirements.

The incorporation of the Performance Compliance Method into the CEBC reflects a forward-thinking approach to building regulation, balancing the imperative for safety with the need for flexibility and efficiency in urban development. This method not only facilitates the repurposing of underutilized office spaces into much-needed residential units but also encourages sustainable growth and revitalization within urban areas. By aligning compliance efforts with a building’s

inherent safety characteristics and prioritizing high-impact safety measures, the method promotes a more strategic allocation of resources and regulatory oversight.

Closing Comments

As California continues to grapple with housing affordability and urban development challenges, the importance of innovative solutions like office-to-residential conversions cannot be overstated. By repurposing these spaces, developers can leverage existing infrastructure and amenities, all while reducing the environmental impact associated with new construction and revitalizing existing urban neighborhoods.

However, the conversion process entails several challenges and considerations, such as the regulatory framework governing such transformations, which often involves zoning restrictions, building codes, and planning regulations. By leveraging the insights and recommendations outlined in this white paper, developers can navigate the requirements of the CEBC more effectively. Additionally, developers should factor in market demand, zoning regulations, and urban planning considerations to ensure the viability and sustainability of the conversion project.

Despite the complexities involved, office-to-residential conversions offer numerous benefits for developers, communities, and municipal governments alike. Beyond addressing housing shortages, these projects contribute to neighborhood revitalization, enhancing the overall livability and vibrancy for future and current inhabitants alike.

As cities continue to evolve and adapt to changing demographics and economic trends, office-to-residential conversions represent a strategic approach to meeting the evolving needs of urban communities while fostering sustainable growth. Our hope is that, together, we can unlock the potential of underutilized office buildings, contribute to accelerating housing production in California, and create vibrant, sustainable communities for future generations.



Google Image

Team

For further inquiries or to delve deeper into office to residential conversions, reach out to us.



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