



Fulfilling Cities with Infill Architecture

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The good, the bad, the ugly and the beautiful in developing in high-density areas, as seen by several architects.

Infill architecture is a highly debated topic, more so these days, in the aftermath of a pandemic that had many pay the density cost. But what is [high density](#)? Isn't it the result of a string of desired opportunities and functionalities, offered by some cities more than others? As with everything else in life, high density, too, is both good and bad. It depends on who you ask and what times we are living.

In high-density areas such as New York, infill development is basically any “new” development—to make room for the new one must, most of the times, replace the old. Hence, its materialization is not always met with anticipation and exaltation, even though the need and desire for new development exists. To understand why and learn more about this, *Multi-Housing News* got in touch with several reputable architects, highly prepared on the topic.

The good neighbor

Peter Bafitis, Managing Principal, RKTB Architects. Image courtesy of RKTB Architects
The debate on infill projects usually begins with opinions on openness and daylight, and whom it serves, according to Rockland Berg, principal & director of business development at **three**, an architecture firm headquartered in Dallas. He

told *MHN* that “it’s non-stakeholders who object to construction that represents progress and change,” but such projects should proceed unhindered as long as the proposed use is considerate and appropriate for the context.

It’s what Peter Bafitis, managing principal with New York-based **RKTB Architects** calls “a good neighbor,” and this is another topic for debate, as not all developers think about how to make their project a good neighbor. Not everyone considers introducing tangible benefits such as affordable housing, increased street life and activity, economic growth, as well as retail options, amenities and community-use spaces when bringing in a new neighbor.

“A lot of infill development is neighborhood development in the sense that it promotes rebuilding the communities that suffered from disinvestment and population loss during the 1960s, 70s and 80s,” explained Bafitis, because every part of New York is already so dense and developed that everything that happens here is infill.

Other kinds of infill development typically start with the demolition of an existing building to make way for a new one. With all due respect to history and its real estate, demolition is a natural part of the development cycle, Bafitis believes. Reinventing also means taking down structures that are low performers or no longer serve the purpose of the area’s residents. That is not to say that architects and urban planners should not focus first on looking for ways to adapt an existing building to new uses before tearing it down. This is true, especially these days when [adaptive-reuse strategies are gaining traction](#) due to their highly sustainable results that can help preserve iconic sites and our architectural heritage.



700 Manida Street, NY. Photo courtesy of Albert Vecerka via RKTB Architects



Affordable Prototype by RKTB Architects. Photo courtesy of Albert Vecerka via RKTB Architects



Affordable Prototype by RKTB Architects. Photo courtesy of Albert Vecerka via RKTB Architects



Prototype Cross Section. Rendering by RKTB Architects



Affordable Prototype by RKTB Architects. Photo courtesy of Albert Vecerka via RKTB Architects



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Representing Boston's **The Architectural Team** (TAT), Principal Gary Kane sees infill development as "one of the most positive means of sustainably addressing our country's housing crisis." Even though it's not easy to add new residential options in already dense, walkable areas, infill development contributes to the cohesion of streetscapes and reinvesting in existing communities by reknitting them with thoughtfully designed contextual buildings and public space. The binding agent is those empty buildings, unused parcels and empty parking lots close to amenities, transit, employment and local services.



Victor Body-Lawson, Principal, Body Lawson Associates Architects and Planners. Image courtesy of Body Lawson Associates

Debate is also sparked by the zoning and the appeals processes, which limit developers in terms of what they can build—scale and architectural-wise—according

to Victor Body-Lawson, principal of **Body Lawson Associates Architects and Planners** in New York. Often, developers need to show reasons for why their proposed designs break from the existing context.

The conclusion is that cities want and need more housing as this would help them expand their tax base and make housing availability more equitable. This is a strong reason to support infill development, as it helps create affordable and attainable housing, as well as amenities and resources for local populations.

RKTB Architects developed an Affordable Infill Prototype for bringing much-needed low-cost housing units to medium-density neighborhoods, which is environmentally sustainable, energy efficient and adaptable to any architectural context to harmonize with the neighboring buildings. In addition, it places a well-lit, glass-enclosed stairwell facing the street in front of each module, activating the street and contributing to neighborhood safety.

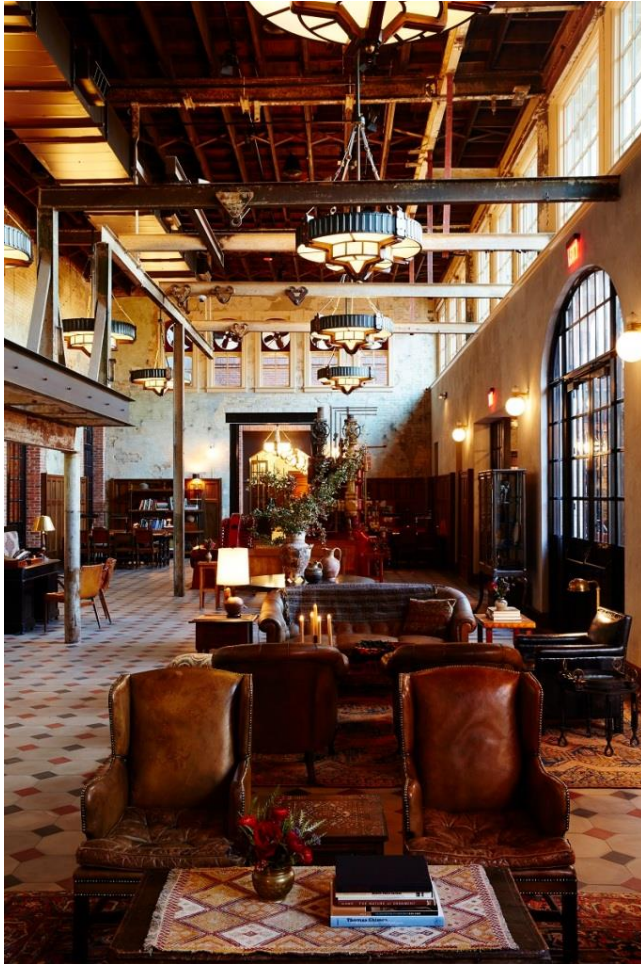
Infill development vs. gentrification

Gentrification is one of infill development's shadowing factors. It's easy to understand why as infill development is a broad descriptor that can include both supportive housing for the homeless, as well as luxury residential community—anything that could fit on the proposed site.

Infill and gentrification are very different concepts but they are related. The former means developing on a site that is adjacent to existing ones, while the latter is a socioeconomic phenomenon typically applied to replacing or repurposing undervalued properties into properties that will house residents with higher incomes and higher expenditures than is standard for the neighborhood. In other words, infill development is ideally created as a “good neighbor”—new buildings that are more energy efficient, perhaps even [built to Passive House standards](#), which offer net-zero operations, at much more affordable prices, but can produce gentrification as an effect. It all depends on the purpose.

“Infill projects are additive—they're contributing new housing assets that did not exist before, and are often designated, in part, to affordable or workforce housing while utilizing existing infrastructure, facilitating active transportation such as walking and biking, and slowing urban sprawl,” said Kane. “Infill—sometimes referred to as land recycling—is critical for accommodating growth, and helps to redesign cities to be more environmentally friendly and socially sustainable.”

Kane pointed out another pro for infill development—the reduction of redevelopment pressure on sites occupied by older buildings. “Reactivating an empty lot as housing may result in the preservation of nearby low-rise historic structures that are important to the community, but not landmarked, and could be demolished in favor of larger developments,” he said.



Hotel Emma Lobby by Nicole Franzen. Image courtesy of three



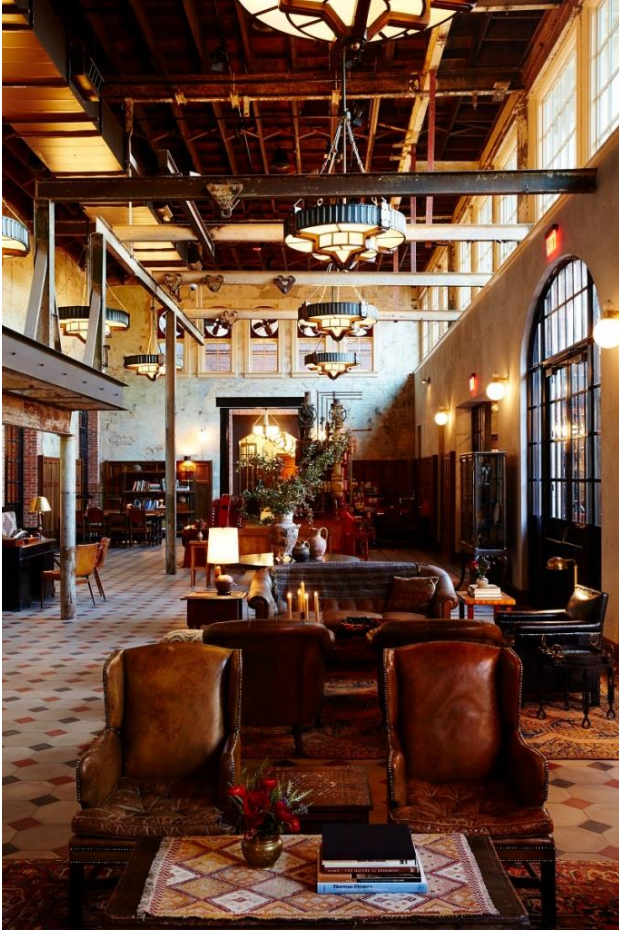
Hotel Emma New Building Facade by Jason Risner. Image courtesy of three



Exterior Porte Cochere Hotel Emma by Scott Martin. Image courtesy of three



Hotel Emma by Jason Risner. Image courtesy of three



Hotel Emma Lobby by Nicole Franzen. Image courtesy of three

Constructive, challenging allure



Rockland Berg, Principal & Director of Business Development, three. Image courtesy of three

For Berg, an infill development project must be architecturally tailored to the uses and context, designed to be operationally sustainable and to invigorate the

surrounding community. It does not have to mean expensive new construction, though.

“Rather, adaptive reuse is a powerful tool for sustainable development, retaining locally beloved structures and saving the carbon output associated with extracting resources for steel, concrete, wood, gypsum and more,” he said. “Also, simple replacement of old utilities and technologies with corresponding upgrades to infrastructure can go a long way.”

Sustainability is an undeniably alluring feature of infill developments. At a macro level, filling these gaps in the urban fabric is one of the best ways to add density in walkable urban or suburban centers, which is “by far the most sustainable pattern of development with a wide array of downstream benefits for the environment, including reducing the conversion of agricultural land,” according to Kane.

Jay Szymanski, principal at TAT, points out that infill sites are challenging as they come in all shapes and sizes, or are constrained in some way by the existing infrastructure, so it takes “a lot of finesse and being able to creatively experiment with form and massing.” Sites that have been developed previously have unique sets of challenges, from more touchpoints to navigate to a rich history to consider and, often, to a diverse contingency, said Berg.

In large, dense cities, architects must wrestle with considerable structural and logistical challenges, such as building up next to any existing structure without accidentally knocking down the adjacent building, or moving cranes and trucks carrying construction materials and other large-scale equipment through narrow streets. These are also some of the reasons why urban construction costs are always so much higher than in rural or less dense areas.

But architects reshape problems into opportunities, focusing on relating the project and designing to the neighboring context in terms of use, scale and materiality.



Bower in Boston. All photos by Ed Wonsek via TAT



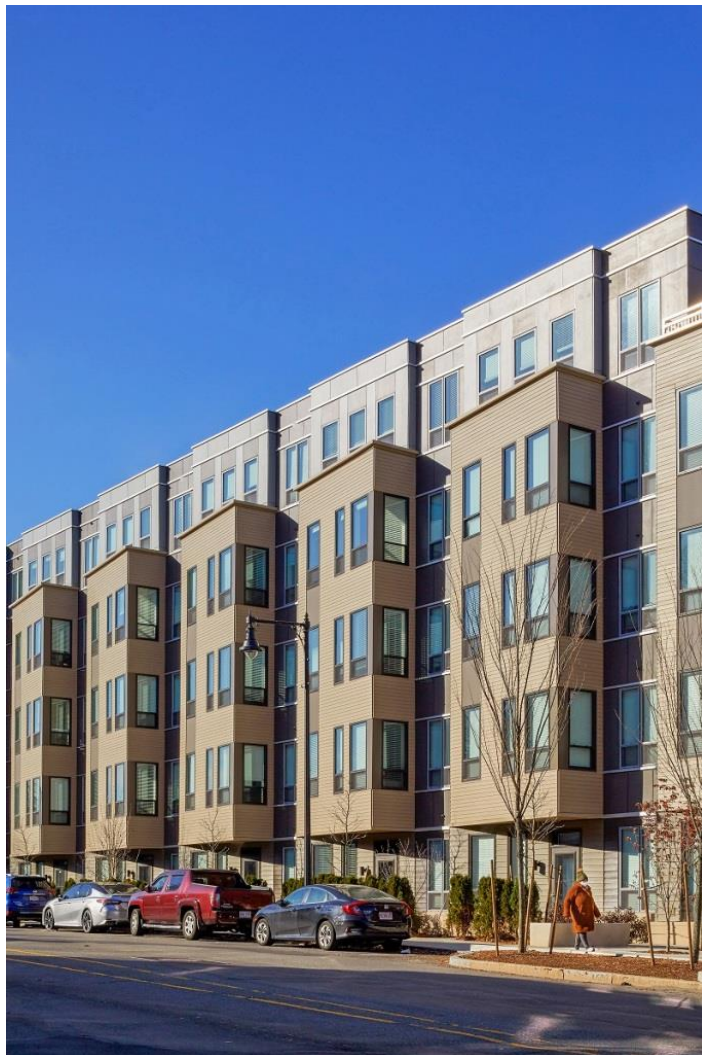
Bower in Boston. All photos by Ed Wonsek via TAT

A project presenting multiple challenges was the mixed-use infill complex **Bower**, located in Boston's Fenway neighborhood, and designed by TAT—the building's

foundation walls sit just inches away from a main municipal gas line and a few feet away from an active rail line, which also decks over for a pedestrian plaza and connection from Beacon Street to the station.

“There was no margin for error, and we had to be incredibly precise with every design decision at every stage of the project,” said Szymanski.

Bower—which holds LEED Gold and Fitwel certifications—is nestled into a large site at the crossroads of multiple neighborhoods, which had all been cut off from one another by the construction of the Massachusetts Turnpike in the 1960s. It took TAT almost a decade to turn this series of underutilized parking lots and other city-owned plots of land into hundreds of units of housing, a new sequence of public open spaces that create fresh pedestrian connections between neighborhoods, as well as a more transit-oriented district.





A.O. Flats at Forest Hills. All images by Bruce T. Martin Photography via TAT







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Jay Szymanski, Principal, TAT. Image courtesy of TAT

Integrating an infill project with the surrounding community and its urban fabric, especially in residential neighborhoods with a distinctive architectural vernacular, can be a delicate operation, requiring a deft touch to find the right contextual approach.

For **A.O. Flats** at Forest Hills—a recent LEED Homes Platinum certifiable, 78-unit project in Boston’s Jamaica Plain neighborhood—an interesting challenge was that one stretch of the building site abutted a low-rise neighborhood of classic Boston

triple-decker apartment buildings. The other portion of the L-shaped site sat at a prominent corner on a commercial thoroughfare.

“The solution was to design the infill building with two distinct vocabularies: Along the residential street, the facade features sawtooth window bays, direct street entries and lap siding that echoes the area’s residential building stock,” detailed Szymanski. “The more commercial frontage is designed with a ground-level storefront system and a bulkier massing that feels appropriate for the livelier setting.”

While it’s generally good to create infill solutions that are contextual in style, one should also consider the times when those buildings were built, stated Body-Lawson, and what one wants to represent as an architectural statement in terms of how we live today.

If infill projects are, well, infill, then one of the questions that comes to mind is, how is privacy offered in such developments? The response stands in the size and location of windows, the use of building setbacks, where applicable, and thoughtful approaches to entry sequences, according to Szymanski.

Infill appeal

With the availability of public transportation, which means less car usage and smaller residential footprints for heating and cooling, infill developments increase affordability and appeal in a sustainable manner. Put simply, “density is directly proportional to energy savings and reductions in carbon output,” said Bafitis.

Infill opportunities easily translate into living in an environment that is more public than private, according to Body-Lawson. “Our lives are moving into that direction, also, if you consider the things we do on the internet and smartphones and social media—it’s all about connectivity and sharing,” he added. Similarly, infill buildings in urban settings work well if the street frontage and base of the building offer some transparency.



Chestnut Commons. All images by Bruce Martin via TAT



Chestnut Commons. All images by Bruce Martin via TAT



Gary Kane, Principal, TAT. Image courtesy of TAT

Infill projects fill gaps in the urban fabric, creating a more coherent streetscape. They also add value, not just to the developer's pockets, but to residents in the surrounding area, as an attractive new building—maybe even with some community-focused retail or service offerings—is a much better outcome than an underused parcel, Kane believes.

A telling example is TAT's recently completed **Chestnut Commons**, a mixed-use infill project on a former highway right-of-way in downtown Providence, R.I. Situated adjacent to historic buildings, within proximity to services and transit, Brown University leased space in the building as student residences. The university considered this solution because it reduces the strain on on-campus housing and allows students to live in a fully amenitized building with more than 5,800 square feet of street-level retail, at the crossroads of Providence's most exciting urban neighborhoods.

Infill architecture post-pandemic

COVID-19 is hopefully behind us, but its violent blows will forever remain in our collective memory. Following two years when social distancing measures were lifesaving, infill development seems rather risky and not a very good idea. How are architects responding?

They are becoming more thoughtful about proximity relationships along entrance professionals and service entries, said Berg. Receiving areas now have [package rooms](#) to reduce person-to-person contact, and cleaning stations for operational staff are more frequent and more robust. The materials selected in developing infill

projects are also more durable, able to withstand rigorous maintenance protocols. Accessibility, the mechanical systems, water and air infiltration of the envelopes and the spaces between units are also being reconsidered, said Body-Lawson.

“The pandemic has taught lessons about spatial relationships and common areas. We’re reinventing how one controls their own apartment in terms of heating and ventilation, rather than a central system, as many multifamily buildings are seeing more unitized systems so that apartments are more secluded from others,” he mentioned.