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Can these pre-fab modular apartments help house the homeless?

Some California cities are considering the Lego-like buildings constructed from these apartments, called MicroPads, as an easy way to provide shelter.

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1/6 [Image: Panoramic Interests]

[BY ADELE PETERS](#) 6 MINUTE READ

In late July, trucks pulled up to a vacant lot in Berkeley, California, carrying shipping-container-sized studio apartments, each already fully built inside. It took four days to stack the Lego-like apartments into a new building. In total, preparing the site and finishing the building took four months. With traditional construction, the same project might take a year.

The new 22-unit building will be leased to the University of California and used for grad student housing rented at market rates. But the design is a variation of the type of building that the developer, [Panoramic Interests](#), thinks could be used to build housing for the homeless more affordably and quickly than standard construction.



[Image: Panoramic Interests]A version of the design called the [MicroPad](#)—with even smaller studio apartments, at 160 square feet versus the 300-square-foot student apartments—is “the most efficient way to provide housing for the homeless,” says Patrick Kennedy, the owner of Panoramic Interests.

The MicroPad, like the student apartments, is designed to come fully furnished (in the case of the student apartments, even the coffeemaker was installed in the factory, and a built-in sofa converts to a bed at night). Nine-foot ceilings, large windows, and a layout inspired by capsule hotels make the space feel bigger than it actually is. Unlike a room at a homeless shelter, someone living inside would have full privacy, soundproofing, a private kitchenette, and bathroom. The steel body of the apartment is designed to provide protection from fire, flooding, and pests. The units are meant to be part of supportive housing complexes for homeless people, meaning that social services would also be available on-site.



[Image: Panoramic Interests]On a construction site, the developer would prepare a conventional foundation with all of the conventional utility connections. After all of the units are stacked in place, the water and electrical systems are connected, a “skin” and roof are added to cover the building, and stairwells and hallways are completed on location.

The solution has drawn interest from cities like San Francisco, which spends more than [\\$300 million](#) on homelessness a year. But it has been slow to progress. Kennedy first began pitching the design to the City of San Francisco a few years ago, suggesting that the city could lease land to keep costs low—for example, the apartments could be built on a city-owned parking lot, while keeping the parking underneath. The city considered the idea, but it faltered, Kennedy says, because unions wanted to preserve local construction labor. Right now, MicroPad units would be built in a factory in China because American factories couldn't handle the job—no American manufacturers make all-steel modules. The process uses the same technology as manufacturing shipping containers, and there are no container manufacturers in the U.S.

The apartments can be stacked as many as eight stories high, with the space on single parking lot providing homes for hundreds of people. In San Francisco, where more than 7,000 people are homeless, one building wouldn't house everyone, but a network of the buildings potentially could.

“Unions have fought tenaciously [against] any kind of prefab and especially prefab from China,” he says. “I think that the politicians, at least in San Francisco, have been intimidated by them.” (San Francisco's Department of Homelessness and Supportive Housing didn't respond to requests for comment.) A representative for the San Francisco Building and Construction Trades Council told *Fast Company* that the union is absolutely opposed to outsourcing work from the United States to any other country.

The company is also talking with cities like Los Angeles, but it has faced other challenges common to projects for housing homeless people. “Not many people want to have a permanent homeless housing development in their district or in their neighborhood,” Kennedy says. “So I think that's part of the problem as well.”

The first MicroPad development for homeless people may be built in Richmond, California, where the county government has federal funding for new supportive housing. The county has yet to choose a developer, but sees several advantages of a design like the MicroPad. “Prefabricated small units provide a smart and efficient way to spend one-time funds from HUD for housing our homeless population with dignity,” says John Gioia, vice chair of the Contra Costa Board of Supervisors. “They provide many living spaces within HUD's required timeframe for construction. Their compact footprint and stackable nature make them easier to site, and makes them flexible enough to provide on-site amenities and services that meet the needs of the residents.” The design could also potentially be quickly replicated in other parts of the county.



[Image: Panoramic Interests] Small units are a good solution for the many homeless people who are living individually, says Richmond Mayor Tom Butt, and the design is more economical than the type of [tiny house villages](#) that other cities have been piloting for the homeless. “It’s a lot more economic to build a multi-unit building, whether it’s MicroPads or something else, than it is to build little individual units,” he says. “So if you have a limited amount of money to spend—which everybody does—doing these tiny home villages just makes no sense.”

Because of the volume of construction happening in California now, including in areas that burned in wildfires and are now rebuilding, there is a shortage of construction workers. That’s another reason that prefab construction makes sense, Butt says. “It’s a challenge for [developers] to find construction companies and find and put together construction crews that can work on these things on any kind of a schedule.”

Berkeley’s new student apartment building was more expensive to build than Kennedy initially projected. Even though the apartments were finished in a factory, a large amount of work still had to happen on the site, including steps that wouldn’t happen in a normal construction project, like crane operators carefully lifting each apartment into place. The site, at a busy intersection, was also a difficult space to work. But Kennedy says that he viewed the project as research and development.



[Image: Panoramic Interests]

“The first time around is always more expensive, and we probably learned a dozen ways to do it better next time,” he says. “We also got a very good idea about the economies of scale we need to realize the economies in prefab construction.” Ideally, he says, a project would include a couple hundred apartments, and the site would be less constrained by heavy traffic. He believes that the method is still far less expensive than traditional construction. Compared to one building with studio apartments for the homeless currently under construction in San Francisco, he says, he expects that the MicroPad would cost less than half as much. Though the new building in Berkeley rents at market rate, the design could also be used to provide affordable housing for people who were not previously homeless.

The state government is working to support prefab housing like the MicroPad. “I think it’s pretty clear that factory-built housing can be produced more quickly, for sure, and often more cost-effectively than traditional stick-built housing,” says Ben Metcalf, director of the California Department of Housing and Community Development. “So if you’re talking about, for example, homeless populations, there’s a huge desire to move quickly in terms of creating those housing opportunities, and a real impatience with the traditional process, which might take two to three years.”

One challenge, he says, is producing units at a large scale when the industry is new, though Panoramic Interests has gotten around this by working with the Chinese factory. The state department is responsible for inspecting and certifying factory-built housing, and is currently training local building inspectors—many of whom are unfamiliar with the permitting process—to help projects run more smoothly. Metcalf believes that factory-built housing will grow in California, though manufacturers attempting similar work have failed in the past. “I think the difference maker today is actually just the real explosion in costs of construction,” he says. [Prefab housing is also increasingly being used for backyard cottages](#), a solution for affordable housing that is [quickly growing in cities like Los Angeles](#).

In Berkeley, Kennedy is hoping that when people see the new apartment building, it will build support for the buildings he wants to create for the homeless. “We think that once people get a chance to go through the [Berkeley] project and see the high quality of construction and the speed and the cost savings that they may decide that it’s worth challenging the opposition,” he says.