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FEATURED

What happened to modular in San Mateo County?

Factory-built housing saw a venture-backed funding surge, but San Mateo County still waiting to reap all the benefits

By Alyse DiNapoli, Daily Journal staff
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On the surface, the San Mateo County Navigation Center in Redwood City is an example of how much-needed, multiunit housing for the area's most vulnerable communities can see a quick turnaround using innovative technology.

unit navigation center

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The center used prefabricated modular construction — manufacturing entire rooms or housing components in a factory setting — to build the 240-unit temporary living facility, a decision made on account of a state grant with a one-year building deadline.

"In order to achieve this one-year time frame, we said that prefab is the most readily available to meet that schedule," Sam Lin, director of the San Mateo County Project Development Unit, said. "Typically for three stories or two stories, you would require at least two years to finish."

Even though the units are far smaller than a standard apartment, the per-unit cost to build was still a fraction of the $912,000 average cost per affordable housing unit, according to recent county estimates. And building such a project in that short of a time period further reinforced modular construction's promising potential.

But shortly after building and delivering the units for the center, prefab company Silver Creek filed for bankruptcy.

Such financial struggles have become commonplace among prefab manufacturers, souring the increasingly popular hope that the industry could, within just a few years, reverse the long-standing trend of painfully slow building schedules and ever-increasing construction costs. Whoever could solve that problem seemingly held the keys to fixing the region's and state's most pressing issue — a lack of affordable housing.

Venture-backed Veev was valued at $1 billion not long before liquidating its assets last year. And Katerra made headlines several years ago when it raised more than $2 billion from investment juggernaut SoftBank before folding soon after.

While this area is the epicenter of venture capital and technological innovation, it can also come with downsides. Steve Glenn, founder and CEO of Plant Prefab, said the VC model used to fund technology startups doesn't always lend itself well to this kind of industry.

"Venture capital has a very specific profile, and it may not be patient enough for this industry," he said.

And even though hubris has paid off in some tech endeavors, the construction industry may not be one of them.

"A lot of tech companies were trying to get into this sphere," Nick Gomez, principal director of modular design and construction at AO, an architecture firm, said. "They saw a McKinsey article that the construction industry was an inefficient industry, and it is, but they didn't understand … how long it takes to get projects through."

Challenges of modular construction

The unavoidable bureaucracy dealings — from permitting and inspection to planning commission and council meetings — is often a wake-up call for those accustomed to a "move-fast-and-break-things" mentality. For Bay Area prefab manufacturers, not having a steady backlog of projects presents a more existential problem than it does for traditional contractors.

Developers must also make a lot of upfront decisions with modular projects — both financial and architectural — which they're not typically accustomed to, Gomez said.

"You're having to put a lot of money down with factories to make deposits, you have to pay your [architecture and engineering] team a little bit more money, because the drawings need to be a little bit more advanced," Gomez said. "And there are so few players, so there's just limited options."

Where it works

Modular's shipping costs may negate the potential construction savings, but the accelerated timeline is an undisputed advantage, potentially shaving 20% or 30% off a traditional schedule.

Developers start seeing more direct savings after completing a few projects and could see up to 15% on total costs, Gomez said.

“Your first time out the gate, if you’re a developer or contractor that hasn’t done it before, you’re probably going to be cost neutral,” he said. “If you get some repetition … by the third, fourth and fifth project you should start to see cost savings, because we’re designing faster, and there is more cost certainty.”

While on-site construction is a more linear process, multiunit modular construction allows you to build the foundation at the same time you’re constructing units, Gomez said.

Doug Shoemaker, president of Mercy Housing California — which has built two multifamily modular projects in San Francisco and two in Los Angeles — said he has seen the approach cut as much as six months off a project, and the decreased time-to-build is especially appealing when building below-market-rate units in high-crime areas.

“We just built a building in L.A. in the middle of a tough neighborhood. It made it better to put it up very quickly,” he said.

Weighing the risks

But that’s not enough of an incentive for market-rate developers. Mike Field, principal at Mecah Ventures, said time-to-market and construction costs haven’t been significant enough to pivot away from traditional methods, especially as modular still introduces risk.

“Who wants to be the first modular project built in San Mateo? I’d rather be the 15th,” he said. “We have so much risk as it is in our developments that it gets difficult when there’s additional risk being reduced.”

Gomez confirmed for-profit, market-rate developers see less reward on multiunit modular, in large part due to labor differences.

“For market-rate projects, it’s definitely a wash,” Gomez said. “Where we do see savings is affordable housing, and the reason for that is that on-site, you’re paying prevailing wage, so if you’re taking 40% of that project, and you're not paying prevailing wage, you're going to lower your costs."

Market-rate developers typically don't use union labor for multifamily residential projects because of its thin profit margins. But affordable housing developers typically rely on some form of public financing, which come with more stringent conditions, like hiring union workers and paying wages relative to the area's cost of living. However, those requirements don't apply to off-site construction, meaning affordable housing developers could save money on labor by partnering with prefab manufacturers, which, until recent years, didn't bring in union work to their factories. But the labor landscape with prefab has since shifted. Field said most of the prefab factories he's spoken with now have union contracts in place.

Edward Evans, senior field representative at the NorCal Carpenters Union, said they have been working with prefab companies like FactoryOS to adapt to changing construction trends.

"Multiunit in San Mateo is the present, and it's the future. There's nowhere to build outward. You just have to go up and so there has been an uptick in that over the years and an uptick in the factory-built housing," he said.

Uncertainty for affordable housing developers

While it's more enticing for affordable housing developers, the historically short lifespan of prefab firms still complicates matters. Lin said that, statewide, there were only about five suitable prefab candidates to choose from when selecting a firm to build the Navigation Center.

And it's risky to partner with many prefab companies knowing there is a decent chance they will fold in a few years.

"There've been some really exciting companies and then they don't exist in a year or two," Andrea Osgood, chief of real estate development and executive vice president at Eden Housing, said. "There's no universal design. It's all bespoke. … So if your producer doesn't exist when you're actually finally ready to start to break ground, that's a challenge."

Where does San Mateo County stand?

While the challenges of prefab construction impact the entire region and even state, some places within the Bay Area are realizing its benefits more than others. Plant Prefab is currently working on some multiunit projects in Santa Clara County, but both Glenn and Evans said they've seen less modular work come through on the Peninsula compared to other counties.

"There hasn't been a lot of it in San Mateo County. Most of the ones I've been aware of are in San Francisco and the East Bay," Evans said.

Both Gomez and Field said the South Bay is a hotbed for multiunit modular developments, partially due to land costs and building differences. The area's tendency toward lower height buildings, rather than high-rises, makes it more conducive to modular construction, Field said.

The county still has several multiunit residential successes beyond the Navigation Center. San Bruno is constructing a six-story affordable housing development, and Redwood City is in the early planning stages of a 176-unit affordable development. South City's Home2 Suites hotel was also built using modular and same with San Carlos' Walnut Street development. But those account for the vast majority of the area's multifamily modular projects.

Glenn said companies like his have had to experience the same growing pains that every nascent industry does.

"There's been a number of failures, and to some degree, you expect that in any new industry," Glen said. "The industry has been around for a while. It's just been doing lower cost, standardized homes. So the question is, is there a market for these customized, multifamily projects? The answer is, of course."

And Gomez estimates that the percentage of modular developments has increased from roughly 2% to about 15% of overall construction from when AO started working in the space.

Ultimately, though, the same forces driving up traditional building costs are also affecting the effectiveness of modular construction.

“Initially everyone thought, ‘This is going to be great because it could really bring our costs down,’” Field said. “As the time to market and the overall cost of construction comes down, modular is going to be a really important part of that, but it hasn’t happened yet.”

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