

HOUSING SUPPLY SOLUTIONS FOR CITY LEADERS
CONSTRUCTION AND DEVELOPMENT

Off-Site Construction

The acute housing supply shortage of almost [4 million](#) units in the United States demands urgent action. Barriers to increasing housing supply exist across multiple sectors, including finance, construction, land use and regulations, infrastructure and workforce. In this series of fact sheets, NLC offers context, solutions and case studies for city leaders seeking to address these barriers and create more housing more efficiently and at lower costs. This Housing Supply Accelerator Fact Sheet series explores solutions in three critical areas: construction and development; land use and regulations; and finance.

Key Takeaways

- ◆ Off-site construction of modular, manufactured and panelized housing reduces time, cost, and labor needs compared to traditional building methods.
- ◆ Modular, manufactured and panelized housing types provide flexible, scalable options for cities seeking to expand housing supply.
- ◆ Off-site construction of housing can offer considerable cost savings and streamline the delivery of housing.

Background

Cities face an array of barriers when it comes to developing new and affordable housing to meet market needs. Some of the most [persistent challenges within the construction process](#) include rising material costs, financing constraints, slow permitting processes and a shortage of construction workers.

Off-site construction — which refers to the planning, design, fabrication and assembly of a home in a factory or other location separate from the final building site — offers a promising solution. Once complete, the components of the home are transported for final assembly on-site. This approach allows for a higher degree of quality control, faster construction times and reduced costs.

In the United States, off-site construction is used for three main types of homes:

- ◆ **Manufactured homes** are factory-built homes that are moved to their installation sites in one unit or a few sections. These homes are federally regulated by the U.S. Department of Housing and Urban Development (HUD), meaning that the

HUD code takes precedence over local building codes. Manufactured homes may be placed on private property or within a manufactured home community. Manufactured homes are placed on a permanent foundation and cannot be moved.

- ◆ **Modular homes**, unlike manufactured homes, are built in modules before being transported and assembled at the home site. Once assembled and placed on their foundation, these homes cannot be relocated. Unlike manufactured homes, modular homes must comply with local and state building codes rather than the HUD code. Therefore, each home must be inspected and approved by a local inspector on site as well as in the factory during production.
- ◆ **Panelized homes** are built from factory-produced walls and floor and roof panels and then transported to a construction site for quick assembly. Unlike manufactured and modular homes, panelized homes require more on-site construction, including interior finishing and system installations. They are also not designed to be moved once they are placed on a foundation.



SITE BUILT
100% ON-SITE



PANELIZED



MODULAR



MANUFACTURED
100% IN FACTORY

The Benefits for Cities and Their Residents

Cost and time savings.

Off-site construction offers cities a powerful solution to two of the most persistent challenges in the housing construction process: cost and time. A single-family home that might take [eight to 13 months](#) on average to build through traditional methods can be completed in just four to eight months using [panelized construction](#) or [modular construction](#) and less than four months for [manufactured housing](#), delivering greater cost predictability and project efficiency.

Efficiency and quality control.

Building in a controlled factory environment offers greater accuracy in cutting and assembling materials, improving construction efficiency. Unlike traditional construction sites, off-site processes are not subject to interruptions from weather-related delays, such as freezing temperatures, extreme heat or snow, or heavy rain. With fewer disruptions, more automation and a more predictable process, cities benefit from tighter budgets and more consistent housing delivery timelines.

Labor-related benefits.

Off-site construction can also address the growing challenge of labor shortages in the construction industry. These methods often require fewer specialized trades and can attract a broader, more [tech-savvy workforce](#), providing an entry point for workers interested in advanced manufacturing or digital design. Construction in a controlled indoor setting also

reduces exposure to physical hazards, improving [worker safety](#) and productivity.

Less waste and emissions.

From an environmental and sustainability perspective, off-site construction typically generates less [material waste and emissions](#). With fewer deliveries to the building site and more accurate inventory control, fewer materials go unused. This reduces both environmental impact and project costs.

Benefits for rural, underserved areas.

Off-site construction can be especially valuable in rural or underserved areas where development capacity is limited. It enables cities to quickly add housing where builders are scarce or where market conditions don't attract traditional developers.

Did You Know?

Although pioneered in the U.S., off-site construction has seen wider adoption abroad, with Europe and in Asia leading the way. In Sweden, off-site construction accounts for [85 percent of the country's annual residential construction](#).

Manufactured housing, in particular, offers an important opportunity to expand affordability in the U.S., particularly for individuals and families priced out of the traditional housing market. The construction cost of a manufactured home is estimated to be between [35 percent to 73 percent](#) lower than that of a comparable site-built home. These cost differences vary by the type of manufactured home, with pricing influenced by size and design features.



Case Studies

Cleveland, Ohio (Population: 372,624)

Cleveland City Council awarded the Greater Cleveland Habitat for Humanity \$5 million in American Rescue Plan Act (ARPA) funding for its [400 Home Initiative](#). Under the initiative, Habitat for Humanity will build or rehabilitate 400 homes across the City of Cleveland and in Cuyahoga and Lorain counties. Of the Cleveland homes, 19 will be modular housing. Construction of these modular homes is supported by [\\$90,000 for each home](#) from the council's total award for the project.

In three years' time, the initiative will result in the construction, rehabilitation and repair of homes in five different wards in Cleveland. To qualify for these homes, families must volunteer at Habitat and enroll in home maintenance and financial literacy courses.

In a related effort, the City of Cleveland and the Site Readiness for Good Jobs Fund, a local nonprofit, issued a request for proposals (RFP) to modular home manufacturers across the United States to establish a manufacturing facility in Cleveland.

Harrisonburg, Virginia (Population: 51,814)

Harrisonburg City Council approved the [Bluestone Town Center](#), an affordable housing development that will bring 897 new units to the city within 8 to 10 years time. Proposed by the Harrisonburg Redevelopment and Housing Authority and EquityPlus, the project aims to address the city's housing shortage by offering a mix of 133 for-sale manufactured homes, 324 townhomes, and 440 apartments. Rental units will be available to households earning up to 80 percent of the city's median income, while for-sale homes will target those earning between 80 percent and 120 percent. The development will also accept housing vouchers and prioritize Harrisonburg residents. Construction will be phased, with 100 units built annually, and city officials expect the mix of housing types to help diversify the area's housing stock.

A portion of the project is also supported by \$9.5 million from Governor Glenn Youngkin's \$140 million statewide Affordable and Special Needs Loans. The project also received a \$1 million award from the Federal Home Loan Bank of Atlanta, and \$750,000 in predevelopment grant funds from Virginia housing.

Photo credit: City of Harrisburg online (<https://www.harrisonburgva.gov/about>)

Next Steps for Your City

Cities looking to explore off-site construction can begin by reviewing and addressing potential barriers in their zoning and permitting rules and processes. Offsite construction can be a powerful tool for expanding housing supply. Consider the following next steps for your city as you seek to create a more supportive environment for this housing solution:

1. Update land use and zoning regulations.

Ensure zoning regulations and building codes allow for adoption of offsite construction locally. Pursue interdepartmental coordination on regulations.

2. Educate the community.

Highlight the benefits of offsite construction and dispel misconceptions about the quality, aesthetics and community impact of these homes.

3. Partner with regional offsite construction companies.

Build relationships with local or regional providers of offsite construction housing. Look for opportunities to facilitate housing delivery and potentially attract new production to the region.

4. Forge partnerships with other stakeholders.

Partner with housing authorities, nonprofit developers or housing finance agencies to co-invest in modular or manufactured housing developments.

5. Encourage pilot programs.

Support small-scale pilot projects to demonstrate feasibility, test zoning/permitting pathways, and build community trust.

By taking these steps, cities can unlock the full potential of off-site construction, delivering housing more efficiently, more affordably, and more equitably in communities of all sizes.

