



The Role of Single-Family Housing Production and Preservation in Addressing the Affordable Housing Supply Shortage

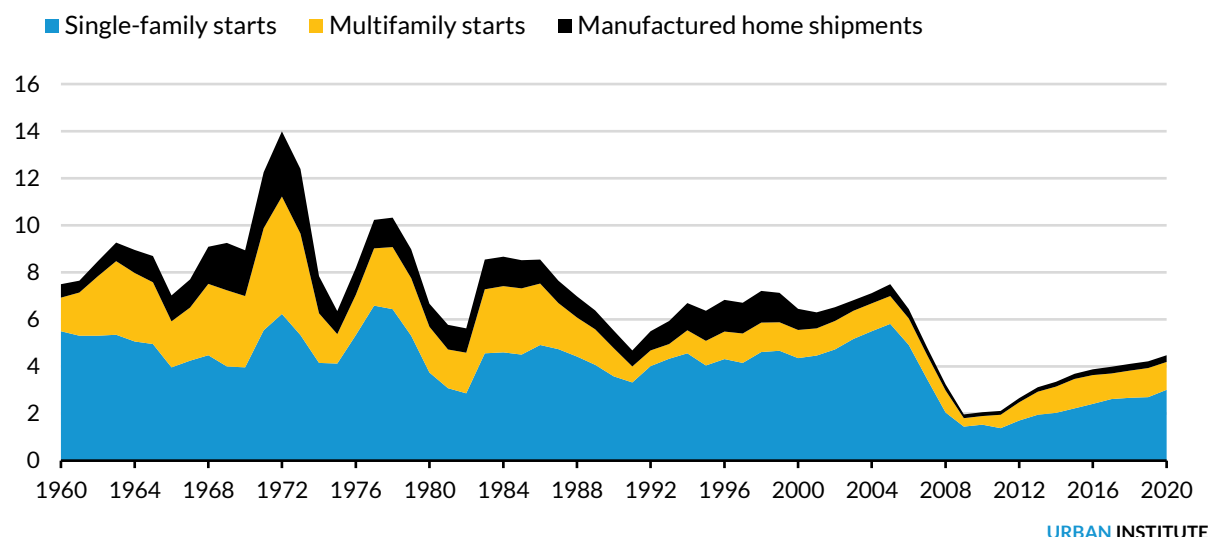
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The US housing market is facing a shortage of millions of homes, an outcome that has pushed homes out of reach for most low- and middle-income households. Underbuilding of single-family and multifamily housing has resulted in a shortage of 3.8 million units relative to demand, according to Freddie Mac (Khater, Kiefer, and Yanamandra 2021). The National Association of Realtors estimates that a slower annual pace of residential completions from 2001 to 2020 relative to the annual pace during the three decades preceding 2001 has resulted in at least 5.5 million fewer units being built from 2001 to 2020 (Rosen et al. 2021). Population-adjusted housing production—which measures the number of new single-family starts, multifamily starts, and manufactured housing shipments per 1,000 people per year—stood at a multidecade low of 4.4 units in 2020 (figure 1). Production averaged 3.2 units from 2009 to 2020, less than half of the 7.7 units per year on average from 1959 to 2008, with single-family starts recovering very slowly and running well below levels witnessed during the 1990s and the early 2000s.

FIGURE 1

Population-Adjusted Housing Production



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Source: Urban Institute calculations of US Census Bureau data.

The housing supply shortage is broad based, encompassing single-family homes (structures with one to four units) and multifamily homes (structures with five or more units). There has been a great deal of emphasis on obstacles that limit the supply of multifamily housing, including zoning restrictions (which hit multifamily housing harder than single-family housing, as multifamily zoning laws are more restrictive than single-family zoning laws), impact fees, and complex permitting processes (Glaeser and Gyourko 2018; Hoyt and Schuetz 2020). There has also been a chorus of support to increase the low-income housing tax credit, the primary government program available to address the shortage of affordable rental housing through the creation and preservation of affordable units in underserved areas.¹ And, more recently, there have been efforts to use the space vacated by underutilized malls, hotels, and commercial properties to build residential housing—or to convert existing structures to housing.² But single-family housing has received relatively less attention, even though it plays the dominant role in housing Americans and is likely to do so for the foreseeable future. Per the 2019 American Community Survey, 75 percent of the nation’s housing stock, or 104.7 million of the total 139 million units, is in one-to-four-unit single-family structures; 27 percent is in multifamily structures with five or more units; and only 6 percent is manufactured homes. Out of the 104.7 million one-to-four-unit structures, 85.6 million units are detached single-family homes, 8.1 million units are attached single-family homes, and 10.9 million units are in two-to-four-unit structures. Despite recovering slowly since 2010, single-family starts compose roughly two-thirds of new housing starts. Accordingly, this brief focuses predominantly on increasing the supply of single-family housing, particularly affordable housing for low- and middle-income households.

We begin by identifying the main drivers of the single-family supply shortage and make several recommendations for how to increase affordable supply through a combination of higher-density construction, allowing accessory dwelling units (ADUs) on existing lots, permitting and facilitating more

factory-built housing, and preservation and rehabilitation of older homes. New construction, while essential, needs to be combined with actions to preserve older homes—which tend to be more affordable—to keep them from deteriorating and falling out of the stock.

There is no single reason single-family production remains low. Broadly speaking, the supply shortage is rooted in five reasons: local and state zoning restrictions that favor detached single-family construction,³ stringent building codes that increase housing costs, chronic labor shortages in the construction sector, the high costs of building materials, and financing difficulties for affordable options, such as manufactured homes, ADUs, and home preservation. These issues are deeply structural, multipronged, and, to a large extent, localized. This makes it difficult to develop and implement solutions that apply nationwide.

Given this reality, in this brief, we attempt to break down the supply problem into smaller chunks that can be addressed individually. Each individual action may seem to have a small impact, but that reflects the enormity of the problem. Table 1 summarizes these problems and our recommended actions. Note that our focus is on affordable single-family supply, including both owner-occupied and rental housing and both new construction and preservation and rehabilitation.

TABLE 1
Single-Family Housing Supply Problems and Recommended Actions

Problem	Recommended actions
Restrictive zoning regulations	Permit higher-density options (upzoning), more manufactured homes, and ADUs on single-family lots as a matter of right
Excessively stringent and divergent building codes	Subject modular, prefab, and panelized homes to federal standards rather than state standards
High costs of materials	Permit or provide incentives for low-cost options such as manufactured, modular, prefab, and panelized housing, as well as less expensive but high-performing building materials
Construction labor shortage	Subsidize the costs of attending trade schools, expand apprenticeship programs, and provide incentives for less labor-intensive factory-built housing
Financing constraints for affordable housing construction and preservation	Improve chattel financing via the GSE Duty to Serve rule, and address home preservation and ADU financing roadblocks

Note: ADU = accessory dwelling unit; GSE = government-sponsored enterprise.

The White House recently released a fact sheet⁴ on administrative steps that will be implemented to increase affordable supply; the Biden administration estimates this will create and preserve 100,000 housing units over the next three years. Although it is a step in the right direction, the problem’s enormity necessitates a bigger response. The housing provisions of the proposed Build Back Better bill are likely to include funding for a wide range of housing priorities, such as home construction, renovation, home preservation, low-income housing tax credits, and public housing; it is more multifamily focused than single-family focused, though. The actions we suggest in this brief, each a series of steps, are complimentary and targeted at the single-family supply problem.

Restrictive Zoning Regulations

Zoning ordinances in states and localities prioritize detached single-family construction over higher-density housing. Many localities outright prohibit multifamily housing. Even when permitted, high-density housing often faces additional requirements concerning open spaces, parking, and other characteristics. And even certain types of affordable single-family housing, such as manufactured homes (and, to a lesser extent, modular, panelized, and precut homes), are either banned or disincentivized to the point where they are effectively banned. That is, jurisdictions that permit these types of homes often add restrictions such as minimum lot size, square footage, or special permits that add costs and delay, if not effectively prohibit, their use.

The best solution to the overall housing shortage, and especially the shortage of affordable housing, would be to permit more multifamily housing in urban and suburban areas close to employment and transit centers. This is especially needed in large metropolitan areas where the affordability crisis is particularly acute. In these areas, multifamily construction could be further incentivized through subsidy dollars tied to such metrics as the density of newly constructed units or proximity to transit and employment opportunities.

But more multifamily construction needs to be accompanied by increasing the density of new single-family units and pivoting to lower-cost alternatives to site-built housing. This is likely to work better in suburban areas and small towns with more buildable land than in urban areas. In the past two to three years, even small cities, towns, and rural areas have experienced skyrocketing home price increases and falling inventory levels. Consistent with the administration's fact sheet⁵ calling for broad-based zoning reforms encouraging greater density, we recommend prioritizing the easing of zoning and land-use restrictions that limit affordable housing construction. We stress a renewed focus on manufactured, modular, panelized, and precut homes, as well as permitting ADUs on existing single-family lots as a matter of right.

The rationale is straightforward. The average sales price for manufactured homes in 2020 was \$87,000, excluding land, according to the Census Bureau's Survey of Construction and Manufactured Housing Survey. This compares with an average 2020 price of \$308,600, excluding land, for new site-built homes.⁶ Modular and panelized homes are also less expensive than site-built homes (table 2).

TABLE 2

Key Housing Characteristics, by Construction Method, 2020

	Modular and panelized homes	Manufactured homes	Site-built single-family homes
Average sale price	\$319,555	\$87,000 (without land)	\$391,900
Average square footage	2,470 square feet	1,450 square feet	2,473 square feet
Number of units completed	28,000	94,000	912,000

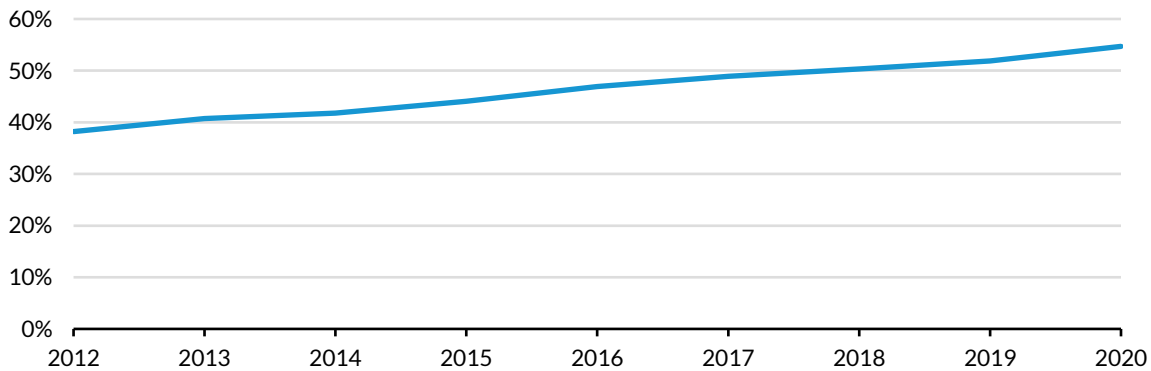
Source: US Census Bureau’s Survey of Construction.

ADUs tend to be inherently affordable, in part because they share a lot with an existing dwelling and in part because of their generally small size. ADUs could play a major role in easing the rental shortage in urban and suburban areas. Several states now permit ADUs as a matter of right (e.g., California, New Hampshire, Oregon, and Connecticut), as do many localities; we recommend all states do this. Even so, as we discuss later, financing ADU construction is difficult.

When thinking about affordability, it is critical to realize that land prices have gone up far more than structure prices. So only bringing down minimum lot size requirements could have a significant positive impact on affordability. Figures 2 and 3 show that land prices have appreciated far more than structure prices since 2012; the result is that land constitutes a larger share of total costs. The obvious solution is to permit more higher-density housing to reduce the land share of total costs.

FIGURE 2

Land Prices as a Share of Home Prices

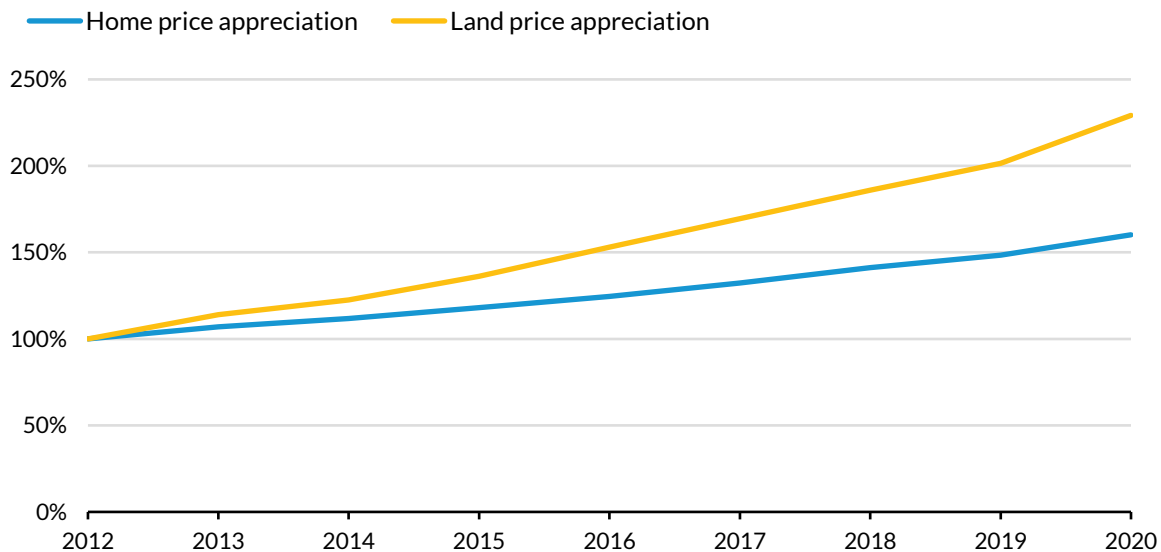


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Source: American Enterprise Institute.

FIGURE 3

Land Price and Home Price Appreciation



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Source: American Enterprise Institute.

Excessively Stringent and Divergent Building Code Requirements

Building code requirements have been enhanced significantly over time, adding to the costs of newly built homes. According to the National Association of Home Builders, 6.1 percent of the price of newly built homes can be attributed to code changes made in the past 10 years (Emrath 2021). This represents roughly \$24,000 on a \$400,000 home. Building code enhancements can be driven by a need for improved energy efficiency or better resiliency against weather. In other cases, code changes are aesthetic and involve prohibitions on vinyl siding or the materials used in window shutters, fences, and so on.

Although code enhancements may be desirable, they can come with significant added costs that lock many low- and moderate-income households out of homeownership. According to the National Association of Home Builders, total regulatory costs (during lot development and structure construction phases) account for 23.8 percent of the price of a finished home, or almost \$94,000 on a \$400,000 home.⁷ This cost includes such items as obtaining zoning approvals, compliance and delay costs, environmental reviews, and the cost of land left unbuilt.

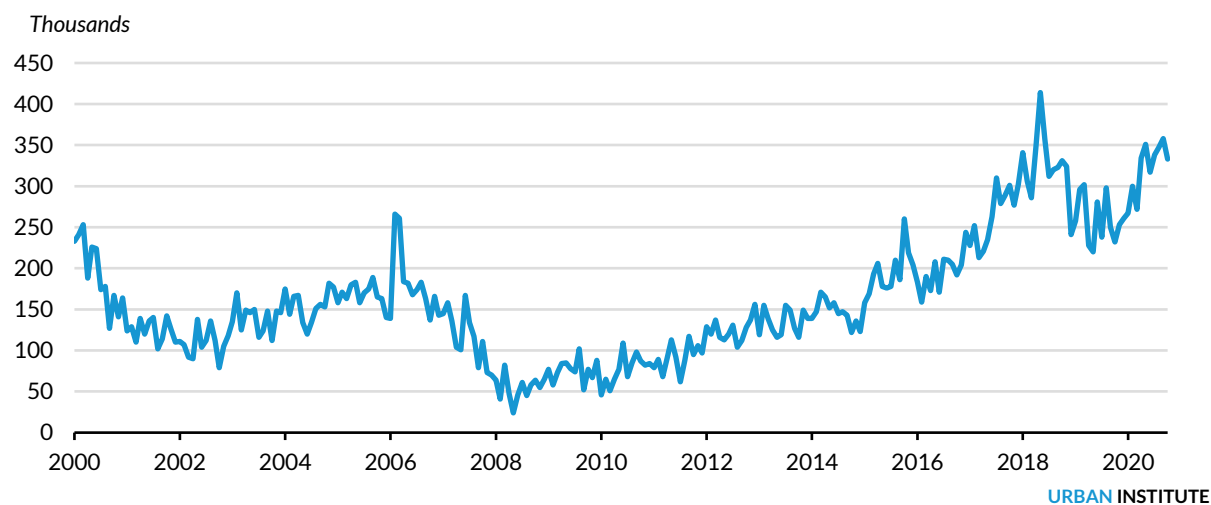
There is no easy solution to this aspect of the supply problem. Rolling back building code enhancements is likely to be seen as weakening building safety and resilience. It may be time, however, to consider the extent to which new performance goals (e.g., more wind-resistant roofs) can be met with lower-cost materials, products, and practices, rather than through continued accretions to codes.

Another solution that would help at the margin would be to permit modular, panelized, and precut housing to be built to federal code standards—as is the case for manufactured homes—rather than to state and local standards. This would remove a major obstacle to the expansion of these lower-cost and often more energy- and environmentally efficient alternatives, allowing these homes to be shipped to homebuyers across states. To the extent certain localities do not permit these types of housing, zoning changes would be required too.

The High Costs of Construction Labor and Materials

While restrictive zoning curtails the number and type of units that can be built, a shortage of construction labor and the rising costs of materials increase the costs of building new homes and rehabilitating and preserving existing homes, further exacerbating affordability pressures. After the 2008 housing bust, construction job openings fell sharply, and workers left the industry in large numbers. Additionally, the building industry historically had a high share of non-native-born employees. Curbs on immigration in the past several years have reduced the labor supply, adding to the shortage. Job openings in the construction sector remain near historically high levels (figure 4). Two possible solutions are to subsidize the costs of attending trade schools to provide incentives for more people to join this profession and to expand apprenticeship programs in the building trades.

FIGURE 4
Construction-Sector Job Openings

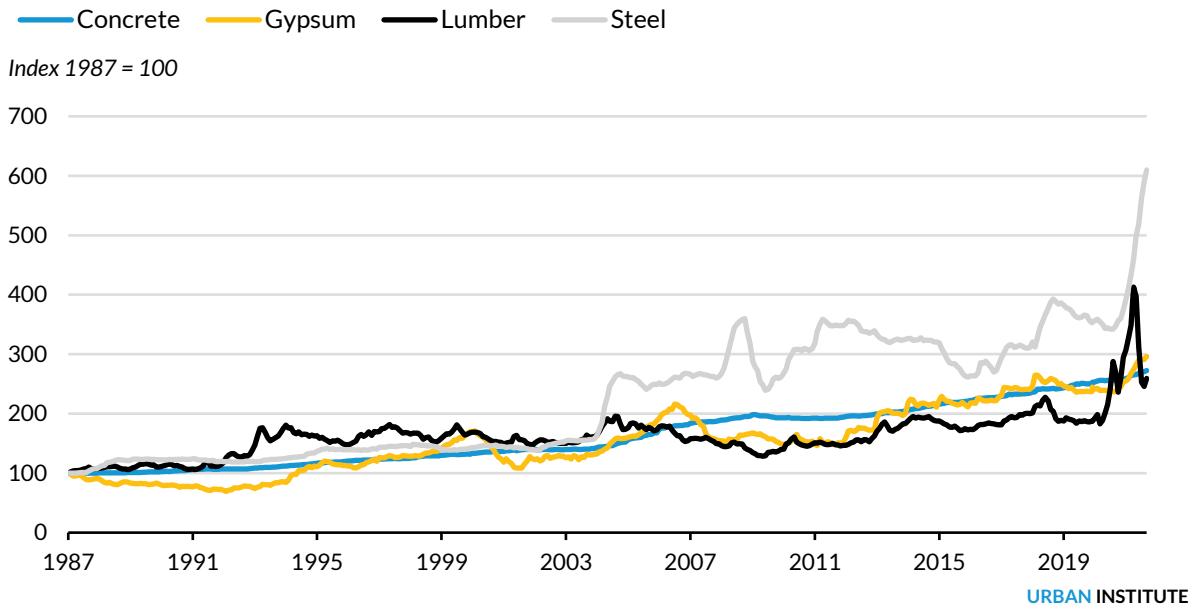


Source: Bureau of Labor Statistics.

Figure 5 shows trends in the costs of key materials that go into homebuilding. Lumber prices had increased 50 percent from 2009 to just before the start of the pandemic in March 2020. After skyrocketing during the pandemic, prices have come down substantially but remain elevated compared with pre-pandemic levels. The costs of other key materials have also gone up over the past 10 years, with concrete prices up 27 percent, gypsum prices up 63 percent, and steel prices up 18 percent.

FIGURE 5

Selected Building Material Prices



Source: Bureau of Labor Statistics.

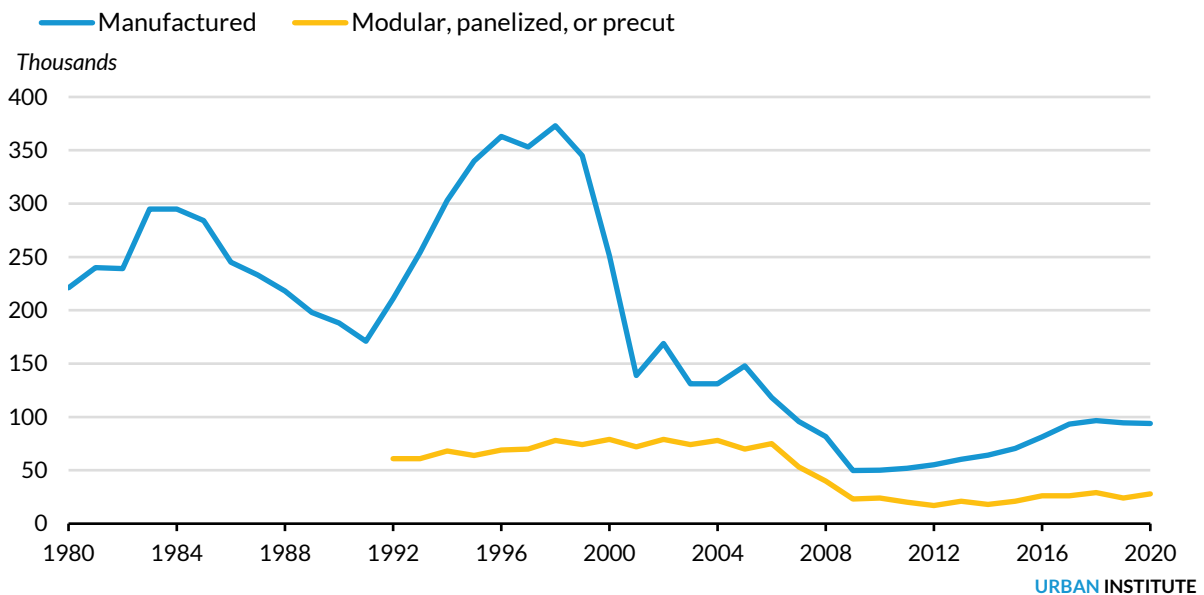
There is no easy way to bring down material costs, which are dictated by broader supply-demand dynamics, government policy, and commodity prices. But we could provide incentives for increased use of manufactured, modular, panelized, or precut homes.

These types of housing (which are either partially or fully constructed in a factory) cost less because they require less labor, as the manufacturing process is largely automated. Indoor construction lends itself to more efficient production because of fewer weather-related delays, better precision, and less waste. Over time, the potential exists for productivity gains via innovation, which could further reduce costs. Factory-built homes may also benefit from upcoming technology such as 3D printing⁸ or fast-growing timber bamboo,⁹ and hence be less reliant on lumber.

Despite these advantages, modular, panelized, and precut homes have accounted for a dwindling share of total single-family completions (figure 6). In the 1990s and early 2000s, these homes accounted for 6 to 7 percent of annual single-family completions; today, they account for just 3 percent. Only 28,000 modular, panelized, and precut homes were completed in 2020 compared with 912,000 site-built homes. Manufactured housing shipments have suffered an even bigger decline, from 200,000 to 350,000 annual shipments in the 1990s to just 95,000 in 2020, even though product quality has drastically improved.

FIGURE 6

Annual Shipments of Modular, Panelized, Precut, and Manufactured Homes



Sources: US Census Bureau and the US Department of Housing and Urban Development.

Modular and panelized homes face hurdles with respect to inspection requirements. Traditional site-built homes are approved by inspectors every step of the way as they get constructed. Manufactured homes are covered by construction and safety standards from the US Department of Housing and Urban Development (HUD) and are not subject to state or local standards. Modular and panelized homes are not covered by the HUD standard. They are subject to state and local standards. Even when inspected and approved in a factory in a given state, the approval generally is not valid in other states. This makes it hard to export modular and panelized homes to other states and limits their potential. This problem could be remedied by expanding the scope of HUD’s standards to cover modular and panelized homes, with necessary adjustments.

Financial Challenges That Limit the Affordable Housing Supply

A final prong to the supply problem is the difficulty of financing the construction of affordable housing types and of home preservation. There is ample lending available for site-built single-family homes through federal agencies and the private sector, though this financing is subject to challenges with respect to underwriting, pricing, and other issues that keep some creditworthy potential borrowers out of the market (Goodman 2017). But beyond these problems, financing for manufactured homes, ADUs, home preservation, and renovation is much more difficult to obtain and is more expensive.

Manufactured homes may be titled as personal property (i.e., chattel) or real estate. In part because manufactured homes are often sold separately from the land on which they are sited, even when the same person owns both,¹⁰ 70 to 80 percent of new manufactured homes are titled as chattel (Russell et al. 2021). And loans to finance such homes carry higher interest rates¹¹ and shorter terms than loans to finance homes titled as real estate. But neither Freddie Mac nor Fannie Mae provide chattel financing. They finance only manufactured homes that are built to HUD standards and titled as real property. Government-sponsored enterprise (GSE) manufactured housing financing also carries a 50 basis-point loan-level pricing adjustment charge unless the home includes certain features commonly found in site-built homes, such as a covered front porch or garage.

The Federal Housing Finance Agency and the GSEs can mitigate the chattel financing issue by exploring ways to reduce the number of manufactured home borrowers who own their land yet obtain expensive chattel financing. Moreover, the GSEs could structure pilot programs that involve financing chattel loans and laying off some of the risk to the private market; some of these may be potentially scalable. More broadly, improving credit availability for buyers of manufactured homes could increase consumer demand and motivate builders to increase production.

Although HUD provides manufactured home chattel financing, it has very restrictive loan limits: \$69,678 for home-only financing and \$92,904 for home-plus-lot financing. This clearly does not work today, when the average sales price of a new manufactured home without land and transportation or setup costs is \$87,000. HUD should not only increase the loan limits to reflect market prices but institute a process for annual increases in line with home price appreciation, as is the case for Title II Federal Housing Administration (FHA) forward mortgages.

Improving financing for ADUs and preservation represents another area of opportunity to ease the supply crisis. Financing for ADU construction is difficult to obtain because, for the most part, mortgage underwriting does not take expected rental income or the value of improvements into consideration. Cash-out refinancing and home equity loans typically lend no more than 80 percent of the current value of the home. This makes it difficult for households with existing mortgages to qualify for financing to build an ADU. For the value of the improvements to be considered, the borrower must take out a renovation loan, with the problems described below. And none of these loan types allow for a consideration of the income the ADU will generate if rented out. It seems reasonable to give partial credit for these cash flows in the underwriting decision. This takes on particular urgency because several states have changed zoning regulations to allow ADUs either as a matter of right or via special permits. Addressing ADU financing difficulties by exploring changes to underwriting should be the next logical step.

Home preservation is another key component of housing supply, but financing for renovations—especially renovation by individual owners—is very hard to obtain.¹² This is especially important given the aging housing stock. Over one-half of the US housing stock is more than 42 years old, and over a quarter is more than 62 years old (table 3). This suggests a dire need for efficient preservation and renovation financing options that can extend the useful life of older homes and keep them in the

housing stock longer. These homes tend to be naturally affordable and can play a large role in meeting the housing needs of low- and moderate-income families.

TABLE 3

US Housing Stock Distribution, by Year Built

	Number of units	Share of the housing stock
2010 or later	10,008,104	7.2%
2000 to 2009	18,434,989	13.2%
1980 to 1999	37,725,172	27.0%
1960 to 1979	35,536,349	25.4%
1940 to 1959	20,762,454	14.9%
1939 or earlier	17,219,141	12.3%
Total	139,686,209	100.0%

Source: 2019 American Community Survey.

Home preservation is likely to become an even larger issue in the years ahead. There are close to 140 million housing units in the United States. Although the historical obsolescence rate has been low, a small change in the rate can greatly exacerbate the housing supply shortage. If the obsolescence rate increases from 0.4 percent, suggesting 560,000 units go obsolete each year, to 0.5 percent, suggesting 700,000 units go obsolete each year, that increases the shortfall by an additional 1.4 million units over 10 years.

Although the GSEs and the FHA have rehabilitation and renovation lending programs, they are far from optimal. The FHA offers a 203(k) rehabilitation lending program for structural repairs. But it requires the borrower to hire a HUD consultant to oversee the renovation, increasing both costs and friction. Fannie Mae and Freddie Mac home renovation lending programs do not require the borrower to hire a consultant, but the GSEs have lender recourse for the risk of cost overruns and poor-quality repairs. Although this reduces the risk to the GSEs, it limits lender participation and keeps the program from reaching its potential.¹³ This issue could be mitigated by eliminating the recourse requirement and giving borrowers a limited menu of HUD- or GSE-approved contractors that have agreed to maintain a certain level of quality, efficiency, and cost control. The prospect of losing HUD- or GSE-approved status should give contractors a strong incentive to carry out the work on schedule and within budget.

How Much Can These Interventions Help?

We have made several suggestions to increase the housing supply. How much of a difference can each of them make? Although there is no way to estimate the number of units that may be created or preserved, what follows is a hypothetical exercise that illustrates the role the above recommendations could play in easing the shortage (table 4).

TABLE 4

Potential Number of New Affordable Units Created or Preserved

Recommendation	Additional units created per year	Thought process
Increased production of manufactured housing	70,000	From 1977, when the HUD manufactured housing code went into effect, until 1994, when the market began to overheat, 240,000 manufactured homes were shipped per year; today, that number is less than 100,000 homes. Increasing production to 170,000 homes (halfway between 100,000 and 240,000) in the face of a larger population and the fact that manufactured housing is now a better product is a conservative goal.
Increased production of modular, panelized, or precut homes	62,000	These categories make up about 3 percent of single-family completions today (28,000 out of 900,000) versus 7 percent in the 1990s. Raising production to 10 percent of completions, or 90,000 units, would create an additional 62,000 units.
Increased ADU construction	233,000	There are 1.4 million ^a ADUs and 85.6 million detached single-family homes in the US. That is, 1.6 percent of homes have an ADU. Increasing this share to 3 percent over the next five years will create an additional 1.17 million ADUs over five years, or 233,000 per year.
Increased home preservation	105,000	As the housing stock ages, obsolescence will become a bigger issue. If we slow obsolescence by 0.1 percent per year on the 104.7 million one-to-four-unit single-family stock, 105,000 units will be “saved” annually.
Additional affordable units preserved or created per year relative to today	470,000	

Source: Urban Institute calculations.

Note: ADU = accessory dwelling unit; HUD = US Department of Housing and Urban Development.

^aSam Khater and Kristine Yao, “Granny Flats, Garage Apartments, In-Law Suites: Identifying Accessory Dwelling Units from Real Estate Listing Descriptions Using Text Mining” (McLean, VA: Freddie Mac, 2020).

Adding all these items suggests we can create or preserve an additional 470,000 units per year, or 4.7 million units over 10 years, by making changes that encourage greater production of manufactured housing; modular, panelized, and precut housing; and ADUs, as well as enhancing home preservation to combat obsolescence. The biggest source, roughly half, of the increase in our illustration comes from ADUs, indicating the role they can play in helping overcome the shortage. More broadly, this example suggests there is the potential to alter the trajectory of the current supply crisis and ease affordability pressures in the coming years, provided we can put effective policies and incentives in place.

Conclusion

The housing supply crisis is a collection of disjointed problems with varied underlying causes: state and local zoning regulations and building code requirements, high material prices, a construction labor shortage, and financing challenges for low-cost housing. Each problem needs to be addressed

individually and locally. In this brief, we have evaluated the single-family supply crisis and provided recommendations that can move the needle in the right direction.

In some cases, we need supply-side interventions to increase supply through a combination of zoning and building code reforms that encourage high-density housing in lieu of detached single-family housing. We also need to provide incentives for low-cost options such as manufactured, modular, panelized, and precut homes that benefit from more cost-effective production. We should make it easier to finance home preservation and renovation to increase the useful life of older homes and minimize the number of homes lost to obsolescence, as well as incorporate expected ADU rental income into underwriting to spur ADU construction. None of these suggestions is the solution to the housing supply problem, but each helps at the margin. Taken together, this series of single solutions could ultimately be quite impactful.

Notes

- ¹ See, for example, Parrott and Zandi (2021). In recognition of this, the Federal Housing Finance Agency recently increased the cap that applies to equity investments in the low-income housing tax credit market. See Federal Housing Finance Agency, “FHFA Announces Increase in the Enterprises’ LIHTC Cap,” news release, September 1, 2021, <https://www.fhfa.gov/Media/PublicAffairs/Pages/FHFA-Announces-Increase-in-the-Enterprises-LIHTC-Cap.aspx>.
- ² New York State has recently passed legislation to encourage this. See Meghan C. Altidor and James Allen, “New York’s Honda Act Incentivizes Affordable Housing Conversions,” Nixon Peabody, August 17, 2021, <https://www.nixonpeabody.com/en/ideas/articles/2021/08/17/ny-honda-act-incentivizes-affordable-housing-conversions>.
- ³ About 91 percent of the single-family housing stock, or 85.6 million out of 93.8 million units, are detached structures.
- ⁴ White House, “Fact Sheet: Biden-Harris Administration Announces Immediate Steps to Increase Affordable Housing Supply,” press release, September 1, 2021, <https://www.whitehouse.gov/briefing-room/statements-releases/2021/09/01/fact-sheet-biden-harris-administration-announces-immediate-steps-to-increase-affordable-housing-supply/>.
- ⁵ White House, “Fact Sheet: Biden-Harris Administration Announces Immediate Steps.”
- ⁶ The average sale price for new site-built homes in 2020 was \$391,900, and the derived average land price was \$83,303, according to the Survey of Construction and Manufactured Housing Survey.
- ⁷ National Association of Home Builders, “Regulatory Costs Add a Whopping \$93,870 to New Home Prices,” news release, May 6, 2021, <https://www.nahb.org/news-and-economics/industry-news/press-releases/2021/05/regulatory-costs-add-a-whopping-93870-to-new-home-prices>.
- ⁸ Catherine Mesick, “The 3D-Printed Home Option,” *Realtor Magazine*, accessed December 11, 2021, <https://magazine.realtor/technology/feature/article/2021/07/the-3d-printed-home-option>.
- ⁹ Nigel F. Maynard, “Revolutionary Structural Wall System Eliminates Studs,” Residential Products Online, June 29, 2016, <https://www.residentialproductsonline.com/revolutionary-structural-wall-system-eliminates-studs>.
- ¹⁰ About 27 percent of manufactured home borrowers who received chattel financing in 2019 owned their land, per 2019 Home Mortgage Disclosure Act data.
- ¹¹ According to 2019 Home Mortgage Disclosure Act data, the median interest rate on manufactured housing chattel loans was 8.6 percent compared with 4.9 percent on manufactured housing nonchattel loans and 4.1 percent on mortgages on site-built homes.

- ¹² Laurie Goodman and Edward Golding, “Institutional Investors Have a Comparative Advantage in Purchasing Homes That Need Repair,” *Urban Wire* (blog), Urban Institute, October 20, 2021, <https://www.urban.org/urban-wire/institutional-investors-have-comparative-advantage-purchasing-homes-need-repair>.
- ¹³ Freddie Mac rolled out a program on November 1, 2021, that does not require lender recourse. But the renovation amount is limited to 10 percent of the home’s as-completed value (or 15 percent in certain rural regions with high-needs classification).

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