

Factory-Built Housing in Maryland

National Center for Smart Growth

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Introduction and Background

Factory-built housing is an important and growing source of lower-cost housing in the United States. The primary focus of this report is manufactured and modular housing - thereby jointly referred to as factory-built housing. These housing types are produced fully or substantially completed in a factory setting and transported to a site for installation (Construction Revolution, 2020).

Prior to the National Manufactured Housing Construction and Safety Standards Act of 1974, manufactured homes were commonly referred to as mobile homes, but the Act defined manufactured housing and provided regulatory consistency through a nationwide code that preempts local building codes (Dawkins, 2025). Modular homes are similar to manufactured homes, except that they are subject to state and local building codes. Further, modular homes can be developed as multifamily and multistory structures, whereas manufactured homes are almost exclusively single-family detached units. There are subtypes of modular homes, such as panelized or prefabricated construction or kit homes, which are produced as components in a factory setting and are constructed onsite (Ghosh et al., 2021). However, this report is focused on homes that are substantially constructed and complete when they reach the site (also called “volumetric”).

Factory-built housing offers a promising strategy to address the housing affordability crisis. For one, factory-built housing tends to be more cost effective to produce and place than traditional stick-built housing, in many cases, due to repeatability of design and construction approaches and time savings recouped during the production process (Dawkins, 2025; Kaul and Pang, 2022). Further, industrialized production offers favorable economies of scale in production and tends to be less impacted by construction labor shortages (Dawkins, 2025; Rumbach et al., 2025). While the HUD Code offers regulatory uniformity across the country (Dawkins, 2025),

modular housing also benefits from time savings and economies of scale, since many producers tend to be regional and/or oriented towards particular state markets (Personal correspondence, Nov. 25, 2025).

Building homes in a factory setting can ensure that they are built to high-quality and energy efficiency standards. Protected from outside conditions, factory-built housing approaches offer protection from weather delays and conditions, as well as theft (Dawkins, 2025). According to Manufactured Housing Institute data, around 25.6% of manufactured homes shipped in 2021 were Energy Star certified, as opposed to only 7.9% of single-family site-built homes completed in 2020 (Kaul and Pang, 2022). In one of the interviews, a developer highlighted how the insulated conditions of the factory, as well as time savings, helped them produce modular homes to higher efficiency standards, including Net Zero Ready and potentially Passive House (Personal correspondence, Dec. 15, 2025).

While customization like this is possible for modular housing, a niche, one-off housing product tends to limit some of the potential cost savings offered by offsite industrialized processes. Offsite manufacturing companies seek profitability through repetitive, assembly-line processes and efficiencies of scale (Personal correspondence, Feb. 9, 2026). The unique dynamics of a project site and a customized design program for a small number of factory-built units can directly conflict with standardization, introducing additional costs and barriers to scalability (Personal communication, Dec. 5, 2025). For this reason, studies have shown that modular housing does not tend to achieve the same cost efficiencies as manufactured housing, but still offer lower production costs than traditional site-built (Herbert et al., 2023).

Factory-built homes also encounter additional regulations and policies, such as factory controls, design specifications, and restrictive zoning classifications, that deter both the manufacture, construction, and placement of these homes. Manufactured housing must meet the Manufactured Home Construction and Safety Standards (or the HUD Code), which pre-empts state and local building codes (Manufactured Housing Institute, 2025). Like state and local building codes, the HUD Code establishes a minimum set of building standards for the manufacture and installation of manufactured homes. Modular housing, conversely, is built in a factory to state standards, and enforced by state laws and regulations (Maryland Department of Labor, n.d.). However, other state and local rules, such as zoning, historic designation, and

environmental conditions, come into play once the manufactured and modular homes are in the development phase.

In Maryland, the state needs approximately 590,186 new units to accommodate the projected growth through 2045, but the pace of traditional construction over the last two decades has been too slow to accommodate this many households (National Center for Smart Growth, 2025). Accelerating the production and development of factory-built housing is an important strategy to address this housing gap. However, local jurisdictions may have further county-level or localized site-scale zoning and/or permitting conditions that affect the design and sale of factory-built housing. In many jurisdictions, zoning regulations may outright ban manufactured housing, whether in manufactured housing communities or on privately owned lots (Kaul and Pang, 2022). Maryland's 2024 Housing Expansion and Affordability Act (HB 538) seeks to address these challenges by requiring that legislative bodies (e.g. county and city governments) not prohibit the placement of a new manufactured home or modular dwelling in a zone that allows single family residential uses (Maryland Department of Housing and Community Development, 2025). The Act presents an opportunity to produce more housing units by streamlining localized land use controls around the placement of factory-built housing. Most localities are still in the process of revising their codes; the Policy Audit section identifies some of the current barriers written into the codes that need to be addressed.

Further complicating this issue is the issue of land ownership, title, and financing. Manufactured homes can be owned as real or personal property, and these ownership structures allow for different financing options. Traditional mortgage financing is only available for real property, which means that the homeowner must own the land and the home must be fixed to a permanent foundation (Park, 2022). For these situations, conventional mortgage lending can still be more difficult to obtain, and even when available, it tends to come with higher interest rates, resulting in a financial burden for owners (Dawkins, 2025). However, manufactured homes are more generally considered personal property, or "chattel", rather than real property (Dawkins, 2025; Herbert et al., 2024). Less than one half of households in manufactured homes own both the housing unit and the underlying land (Park, 2022). For those who don't own the land and seek personal property or chattel loans for their units, they are more likely to be denied applications for loans than for traditional site-built homes and are more likely to encounter higher interest rates (Russell et al., 2021; Park, 2022). Scholars have found the average annual

percentage rate (APR) on personal property manufactured housing is 3.6% higher than the APR for manufactured home mortgages, and the APR for manufactured home mortgages is 1.2% higher than the APR for site-built home mortgages (Park, 2022; Russell et al., 2021). Thus, these studies provide evidence that there is a significant financing delta between site-built housing and manufactured housing, resulting in an additional financial burden for residents of the latter.

Developers of modular housing can also encounter financing challenges. Many institutional lenders are unfamiliar with modular construction projects; unfamiliarity tends to be associated with greater risk, resulting in higher interest rates. This unfamiliarity can be attributed to a range of conditions, including the pacing of financing, as well as differential risks associated with shipping, installation, and permitting. A fundamental challenge in modular project financing results from the “timing misalignment” between capital needed for the manufacturing process and collateral available for the lender (Slowey, 2020). Modular projects tend to have greater up-front costs and deposits, due to the production process (Personal communication, Dec. 5, 2025). Comparatively, in traditional site-built construction, lenders provide smaller capital infusions (“draws”) as construction progresses, allowing for more incremental collateral accrual (Slowey, 2020). Further, ambiguities in local codes that group modular homes with manufactured/mobile homes further confuse lenders and financial institutions (Personal correspondence, Feb. 9, 2026).

This report addresses the current land use policies, regulatory processes, knowledge gaps, and industry dynamics that create barriers to the manufacture and development of factory-built housing in the state. After detailing my methodological approach, I describe the regulatory landscape for factory-built housing in Maryland and investigate the prevalence of manufacturing facilities within and near the state. Next, I discuss how the development and sales of factory-built housing is impacted by state-specific market dynamics, policy frameworks, and demand factors. These sections utilize both publicly available data, as well as qualitative interviews with industry groups, manufacturers, and developers, to contextualize and expand the discourse on these challenges and opportunities. The next section is a policy audit analysis of county ordinances and zoning codes in seven counties in Maryland, in which I used thematic coding to identify comparable and recurrent or singular planning policy and zoning approaches to manufactured/mobile and modular homes in the state of Maryland. The paper concludes with a discussion of notable practices and lessons learned from other states.

Methodological Approach

This report relies primarily on publicly accessible data sources, like census micro-data via the Census Integrated Public Use Microdata Series (IPUMS), Census American Community Survey (ACS) data, and Census American Housing Survey (AHS) data. It also utilizes the US Census Bureau's Manufactured Housing Survey and Maryland Department of Planning's Maryland Residential Housing Sales Data. In each case, I used the most recently available public data set (2024) unless noted otherwise.

Given the lack of consistent data for modular housing, this study also utilized qualitative interviews with representatives from industry groups, manufacturers, and developers to better understand the landscape for producing, selling, shipping, and siting modular homes in Maryland. In all, the researchers had seven interviews with eight total stakeholders. The interviews were recorded, transcribed, and coded thematically to identify barriers and opportunities on the modular landscape in Maryland. Quotes from these interviews appear throughout the study.

Regulatory Landscape for Factory-Built Housing

While both manufactured and modular homes are produced in-part or fully in a factory setting and transported to a site for installation, they are defined and consequently regulated by different levels of government. The primary difference is that manufactured housing is subject to federal definitions and regulations that are administered and enforced by the US Department of Housing and Urban Development; these standards, referred to as the HUD Code, pre-empt state and local building codes and standards (Maryland Department of Labor, n.d.). There is no national modular building code, and an estimated 38 states, including Maryland, have state-specific modular building standards and programs (Modular Building Institute, n.d.; ICC NTA, 2025). The differing level of government at which modular housing is regulated stems in part from the fact that modular construction is typically considered a *method* of building, as opposed to a type of construction or a classification of occupancy, which means that it is typically built to the same building code as traditional site-built construction (ICC NTA, 2025). Thus, modular homes/housing is defined and regulated by the state of Maryland, while manufactured housing adheres to the HUD Code (ICC NTA, 2025).

The state of Maryland’s building codes, called the Maryland Building Performance Standards (MBPS), require each jurisdiction in the state to use the same edition of the International Building Code (IBC), the International Residential Code (IRC), and the International Energy Conservation Code (IECC) (Maryland Department of Labor, n.d.). Each local jurisdiction may modify these codes to suit local conditions, with the exception of the IECC and Maryland Accessibility Code. In Maryland, modular housing must meet all requirements set by the MBPS, as well as the Model Performance Code, which are its standards for construction for industrialized/modular buildings (Maryland Department of Labor, n.d.).

The table below further illustrates the primary distinctions between manufactured and modular housing within a Maryland context.

	Manufactured Housing	Modular Housing
Definitions and regs	Homes are built in a factory setting with federal standards enforced by HUD (Maryland Department of Labor, n.d.) HUD regulates the home’s design and construction, strength and durability, transportability, fire resistance, energy efficiency, and quality control (Maryland Department of Labor, n.d.)	Homes are built entirely, or in substantial part, in a factory to state standards. Maryland Department of Labor regulates the home’s design and construction, strength and durability, transportability, fire resistance, energy efficiency, and quality control (Maryland Department of Labor, n.d.)
Factory and building conditions	Built in factories and shipped to home sites (Dawkins, 2025). <ul style="list-style-type: none"> ● Built on a permanent chassis ● Transported and delivered to home sites in one or more sections ● Can be built on a permanent or non-permanent foundation ● Minimal work completed by installer ● Almost exclusively single-family detached; single-wide or double-wide design 	Built in entirety, or in substantial part, offsite and shipped to home sites. <ul style="list-style-type: none"> ● Can be built with or without a permanent chassis ● Transported and delivered to home sites in one or more sections ● Not designed to move from site to site once set on a permanent foundation ● Allows for density; can be single-family or multifamily, multistory, etc.
Building Codes	HUD code pre-empts state and/or local building codes.	Maryland’s BPS and state standards pre-empt local building codes and standards for modular homes.

Manufacturing Factory-Built Homes in Maryland and the Region

Maryland is served by a regional market of factory-built manufacturers. The Manufactured Housing Institute, a national trade organization representing the factory-built housing industry, compiles a list of all factories producing manufactured housing in the US. This data is likely the most comprehensive on the location of plants producing manufactured homes. As of July 2024, there were 149 documented manufactured housing plants in the US. Maryland does not have any plants, but nearby Pennsylvania and Virginia have 12 and 1 plants, respectively (Manufactured Housing Institute, 2024). This data is reinforced by the US Bureau of Labor Statistics data, which shows no/missing data on employment metrics related to manufactured building and mobile home installation in Maryland (US Bureau of Labor Statistics, 2023).

State	Number of Plants
Alabama	19
Arizona	4
California	8
Florida	10
Georgia	9
Idaho	3
Indiana	9
Kansas	1
Kentucky	1
Louisiana	1
Michigan	1
Minnesota	4
North Carolina	7
Nebraska	2
New Mexico	2
New York	1
Ohio	3
Oklahoma	2
Oregon	7
Pennsylvania	12
South Dakota	1
Tennessee	10
Texas	27
Virginia	1
Washington	2
Wisconsin	2
Total	149

Figure 1: Plant Count by State, as of July 2024. Credit: NCSG analysis of the Manufactured Housing Institute's Manufactured Home Plant List.

For modular housing, a manufacturer must be licensed in the state to produce and ship housing units (Personal communication, Nov. 25, 2025). This study found a very limited supply of modular manufacturing facilities in the state that provide full-service modular home construction. Blueprint Robotics (Baltimore), for example, produces a mix of single-family and multifamily modular housing products. But the state does also have manufacturers that provide prefabricated components and/or services, albeit not necessarily for residential uses solely. These include, but are not limited to: Modular Genius (Joppa), US Modular Group East, Inc. (Middle River), and Wilmot Modular Structures, Inc. (White Marsh) (Modular Building Institute, n.d.). According to one interviewee, this supply chain of offsite industrialized components is limited at this time, but training up and fostering an ecosystem of manufacturing in the state will bring multiple co-benefits: “let’s think of our supply chain as something that reinforces our state... let’s think of it as something that is sustaining for our state and our residents and our businesses.”

Nearby states have a variety of modular housing facilities, as well as facilities producing prefabricated parts and/or trade-related services. Part of the reason for this clustering is due to lower land costs, as well as real and perceived market demand, which is an important dimension for manufactured and modular manufacturing pipelines. According to an industry interviewee, “it becomes a chicken and egg situation. It’s tough to have a commitment of units if you don’t have a facility [in place], and it’s tough to get financing in place for a facility and be credible if you don’t have a pipeline of unit commitments.” To manage this challenge, industry experts seemed to indicate that the modular manufacturers tend to cluster in areas where they have greater access to known markets. Pennsylvania and Delaware, for example, have a sizable concentration of manufacturers, in no small part because they have greater access to Philadelphia, New York, and Maryland housing markets (Personal communication, Nov. 25, 2025).

Transportation and shipping are important dimensions of this regionalized manufacturing ecosystem. While most of the developers and industry interviewees did not raise regional transportation logistics and costs as a significant barrier, one manufacturer interviewee discussed how regional demand and proximity to more local markets results in savings in shipping and transportation costs. Based in Delaware, the manufacturer described their increased focus on the Delaware, Maryland, and Virginia housing markets; shipping to the Eastern Shore in Virginia is a “few thousand dollars per box” versus a cargo ship down to Florida, which resulted in costs of

more than \$10,000 per unit. More localized transport results in downstream savings for the developer, which ultimately factors into the final price for the resident.

Sufficient demand is also essential to meet the required economies of scale to ensure the manufacturing facility is appropriately staffed and productive. Manufacturers need a pipeline of orders to keep critical trades – such as plumbing and electrical – employed year-round (Personal communication, Nov. 25, 2025; Personal correspondence, Feb. 9, 2026). In some cases, a slowdown in demand can lead to lay offs and/or the contracting of employees, which can add premiums into the overall costs of the production process.

In addition to labor costs, high land costs in Maryland was another cited reason behind the relatively limited number of firms in this space. Factory-built housing manufacturing facilities range a wide spectrum, from smaller scale facilities able to produce 1-5 units on a monthly basis, versus others that build 10+ units/month. Understandably, these different outputs have different sizing needs, in terms of factory and storage square footage. The cost per square foot for land for industrialized operations has led some manufacturers opting to develop in areas with lower land values.

Given these dynamics, as well as the long-term opportunities with increasing jobs and material outputs, Maryland will ultimately be served in the long term by fostering an ecosystem of producers of industrialized construction. In the meantime, Maryland can and should take a regional perspective. This encompasses both planning for greater production opportunities, as well as encouraging a greater uptake of factory-built housing. This can include an analysis of regional demand, competitors, and distribution networks (Personal correspondence, Feb. 9, 2026).

In the intermediate term, the state could take a concerted approach to educate and address concerns within the Maryland construction industry about the perceived loss of jobs. According to one interviewee: “The concern, I think, from local folks is that if we’re not going to open a modular factory in Maryland soon, a home you’re building in Maryland that’s modular is coming from Pennsylvania, or North Carolina, or Virginia - that’s a loss of jobs.”

However, many of the interviews highlighted that this is not a binary trade off. Depending on the project, there is typically a spectrum of site work and finishing that takes place onsite, which requires specialized construction trades. One interviewee spoke about a modular

project in Prince George's County, where they used a General Contractor to do the site work, the finishes, and other exterior elements like the siding, the front porches, and landscaping. Several interviewees also highlighted the high level of coordination that needed to occur between the general contractor and manufacturer, especially in regards to the design specifications and pay schedule. As more developers pursue offsite construction technologies and conditions, general contractors will have greater exposure to and capacity building around these potential project management and coordination hurdles.

Further, there is a growing network of organizations, academic institutions, and industry partners supporting the incubation of industrialized construction facilities, services, and jobs in Baltimore. This network, Baltimore Modular (BMOD), was founded in 2024 (Baltimore Modular, n.d.). In addition to working to advance the offsite industrialized residential construction ecosystem in Baltimore, the group is also focused on mass retrofit solutions for Baltimore's vacant homes (Personal communication, Dec. 2, 2025; Baltimore Modular, n.d.). This is a unique and important mission, since most modular and manufactured producers singularly produce new construction for greenfield or infill development.

This study shed light on the nascent and growing sector of manufacturers, emerging developers, architects, and designers that are advancing factory-built housing in Maryland. The set of stakeholders, contributors, and reviewers that are collectively required to produce even one factory-built housing unit is often referred to as the "factory-built housing ecosystem." The emergence of skills and expertise across the entire ecosystem is critical because deploying factory-built housing in a development project necessitates a divergent approach from traditional construction approaches, from design and financing to permitting. Real estate is largely "relationship based," and "doing an effective modular project is very different than doing an effective stick-built project" (Personal communication, Dec. 5, 2025). The learning curve from an experienced developer in stick- or concrete projects to offsite construction can be challenging. As such, an interviewee noted that there is often alignment between modular and/or offsite construction approaches and emerging developers; since emerging developers are new to the development sector, they learn the patterns and processes of offsite construction and build relationships with manufacturers from the start.

Factory-built housing, but especially modular housing, also requires notable conceptual changes in the design space, as well. This affects important parts of the design and development processes, including the consistent coordination between the architect/designer and manufacturer. Offsite manufacturing companies seek profitability through economies of scale and repetitive motions to achieve these efficiencies (Personal correspondence, Feb. 9, 2026). These are achieved by mass repetition and productification of housing (Personal correspondence, Dec. 16, 2025).

However, “every site shape is different, every financing structure is different... every market study is different” (Personal communication, Dec. 16, 2025). The unique needs of the site and design program can directly conflict with standardization that is inherent to most factory-built housing manufacturing. As a result, manufacturers tend to offer efficiencies through repeatability, or they offer a more one-off, customized product. The consensus from the industry interviewees was that the true cost savings in manufacturing factory-built housing tend to materialize through speed and repeatability – through “batches” of units (5+ units) – rather than one-off units (Personal communication, Nov. 26, 2025). These approaches introduce unique manufacturing challenges when confronted with market demand, cost (in)efficiencies, and scalability (Personal communication, Dec. 5, 2025).

Developing Factory-Built Homes in Maryland

Traditional site-built housing remains the dominant building approach across the country. According to the Manufactured Housing Institute, 9.3% of all the new single-family homes construction starts in 2024 in the US were manufactured homes (Manufactured Housing Institute, 2025). Conversely, the US Census Bureau considers construction completions annually. In 2024, only 1% of single-family and 2% of multifamily construction completions were modular construction (US Census Bureau, 2024). However, factory-built housing offers a promising alternative to boost production and cost efficiencies. Manufactured homes tend to have more consistently available and reported data than modular housing. For example, the Census of Manufactured Housing is a survey conducted annually by the US Census Bureau and

provides a high-level picture in regards to the number of new HUD-inspected manufactured housing shipments a state receives annually to be sold in that state.¹

Over the last 10 years, Maryland saw an unusual peak of 851 manufactured housing shipments in 2017, but otherwise the manufactured housing shipments have remained relatively static. No data or information was uncovered to account for this unusual spike of manufactured housing shipments in 2017.

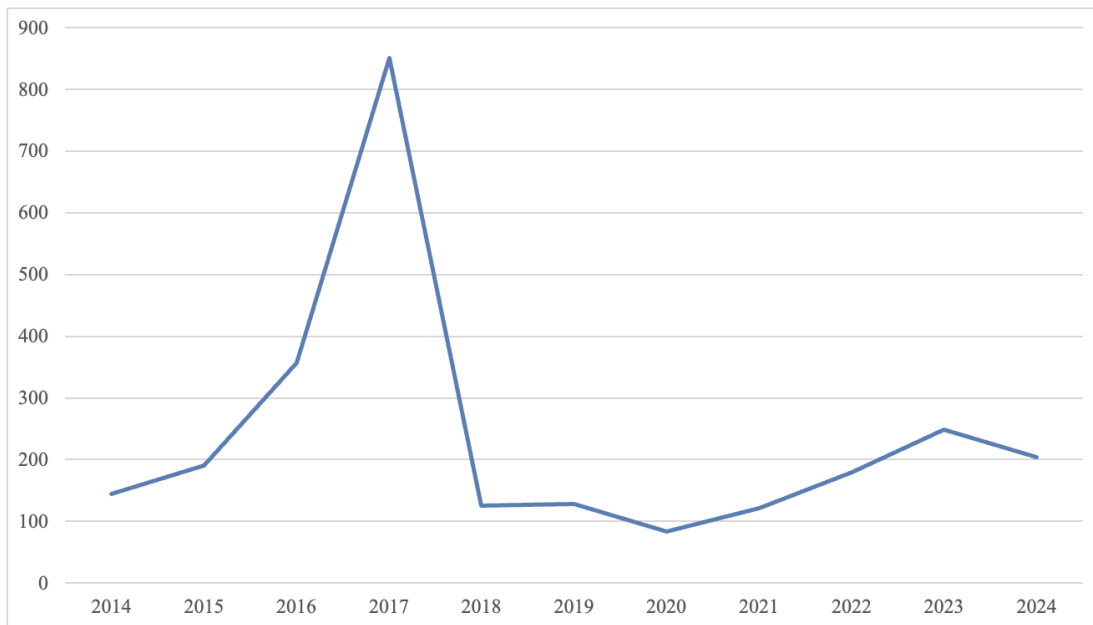


Figure 2: Annual Shipments of Manufactured Housing Units to Maryland, from 2014-2024. Credit: NCSG analysis of the US Census Bureau’s Annual Manufactured Housing Survey.

When looking at the manufactured housing shipments to nearby states, one can observe that Maryland trails far below Pennsylvania, Virginia, Delaware, and West Virginia. Pennsylvania has consistently had the highest number of shipments, which may be attributed to the fact that there are at least 12 manufacturing housing facilities in the state. Virginia and West Virginia have comparable numbers of shipments and saw a growth in 2023-2024. Beyond the spike in 2017, Maryland has tended to have some of the lowest numbers of shipments within the

¹ The Manufactured Housing Survey does not provide an origination point, so it does not paint a full picture of where these housing units are produced, but is a helpful metric of the movement of manufactured housing units into states.

region, except for the District of Columbia, which has received zero shipments, according to the survey.

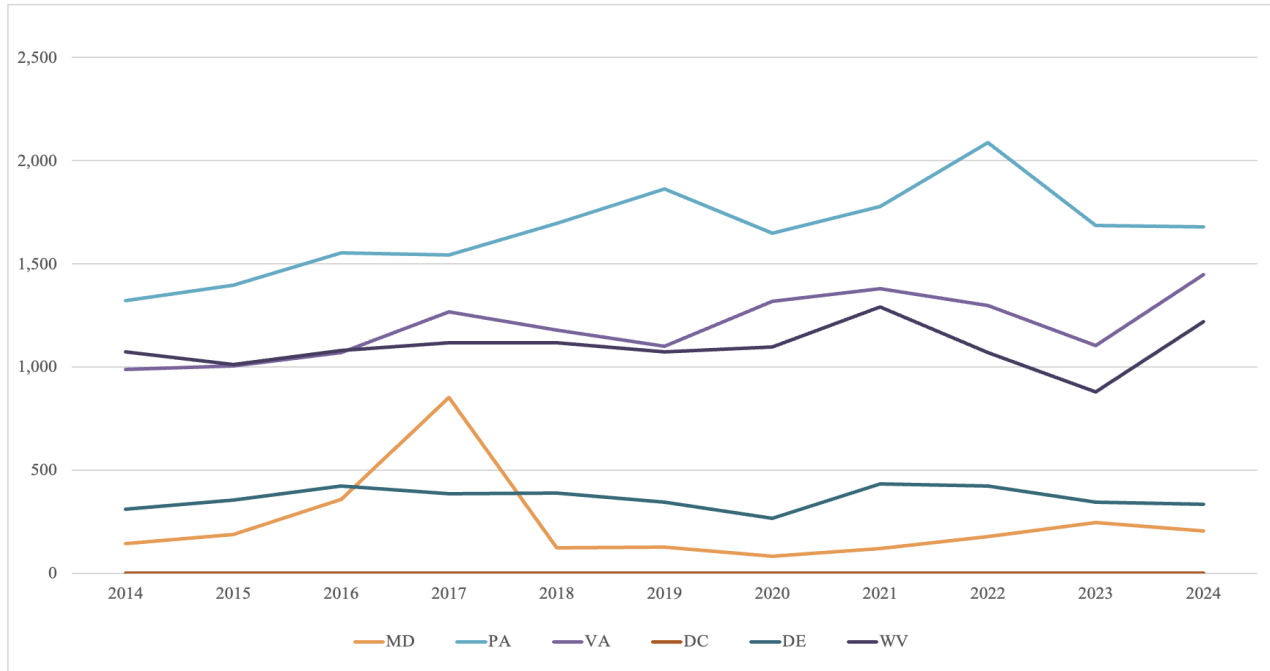


Figure 3: Annual Shipments of Manufactured Housing Units to Maryland and Nearby States, 2014-2024. Credit: NCSG analysis of the US Census Bureau’s Annual Manufactured Housing Survey.

Year	MD	PA	VA	DC	DE	WV
2014	145	1,322	989	0	310	1,073
2015	190	1,397	1,006	0	356	1,013
2016	357	1,552	1,070	0	422	1,082
2017	851	1,545	1,266	0	387	1,119
2018	125	1,695	1,179	0	390	1,119
2019	128	1,862	1,101	0	345	1,074
2020	84	1,648	1,317	0	266	1,098
2021	121	1,779	1,380	0	432	1,290
2022	179	2,088	1,297	0	424	1,070
2023	248	1,685	1,103	0	344	881
2024	204	1,681	1,447	0	336	1,221
Total shipments since 2014	2,632	18,254	13,155	0	4,012	12,040

Figure 4: Annual Shipments of Manufactured Housing Units to Maryland and Nearby States, 2014-2025. Credit: NCSG analysis of the US Census Bureau’s Annual Manufactured Housing Survey.

As shown on Figure 5, the 2023 ACS 5-Year estimates that only 161 mobile homes have been constructed in Maryland since 2020.² This equates to 0.3% of the housing built in Maryland since 2020. However, this data notably differs from the US Census Bureau’s Annual Manufactured Housing Survey, which estimates 836 manufactured homes *shipped* to Maryland from 2020 to 2024, not necessarily constructed and sold in the state. Even so, the 2023 ACS data does provide more granularity on the construction of mobile homes within Maryland counties, which is why it is featured here, despite the gap between the data. The 2023 ACS data also indicates that the overwhelming number of mobile homes built in the state are owner-occupied units.

County	Owner Occupied	Renter Occupied	Total
	Mobile Homes ²	Mobile Homes ²	
	Built	Built	
Allegany County	0	0	0
Anne Arundel County	5	0	5
Baltimore County	0	0	0
Baltimore City	0	0	0
Calvert County	0	0	0
Caroline County	0	0	0
Carroll County	0	0	0
Cecil County	0	0	0
Charles County	0	0	0
Dorchester County	0	0	0
Frederick County	23	0	23
Garrett County	0	0	0
Harford County	52	9	61
Howard County	0	0	0
Kent County	0	0	0
Montgomery County	17	0	17
Prince George's County	18	0	18
Queen Anne's County	10	0	10
St. Mary's County	0	0	0
Somerset County	6	0	6
Talbot County	0	0	0
Washington County	0	0	0
Wicomico County	21	0	21
Worcester County	0	0	0
Total	152	9	161

Figure 5: Mobile Homes (and boat, RV, van, etc.) Built in 2020 or Later, by Maryland Counties. Credit: NCSG analysis of 2023 ACS 5-Year estimates.

² ACS uses “mobile homes” as the term for this property type. Notably, the data combines several other structure types with this category, including RVs, boats, vans, etc. Therefore, these numbers shown are likely higher than the actual number of mobile homes in Maryland counties.

Harford County saw the largest number of owner-occupied mobile homes constructed since 2020, with 52 owner-occupied mobile homes placed. Frederick and Wicomico counties had the next highest for this category at 23 and 21 homes, respectively. Harford County was the only county that saw renter-occupied mobile homes placed since 2020.

ACS data also indicate that most mobile homes in Maryland tend to skew older.³ As shown on Figure 6, the majority of mobile homes in Maryland counties tend to have been constructed in 1999 or prior years. For all Maryland counties, more than 50% of mobile homes were built between 1980 and 2000, which suggests an aging housing stock. However, studies have found that the quality differences are minimal between the HUD Code and local site-built codes, and the two also have comparable average useful lifespans (Herbert et al., 2023; Genz, 2001; Vermeer & Louie, 1997). In Maryland, more than 5,000 units (21%) were built in 1979 or earlier, which suggests that there are some mobile homes built prior to the National Manufactured Housing Construction and Safety Standards Act of 1974. Since the HUD Code provided consistent standards for structural design, fire safety, and quality control, among other improvements, this raises some concerns about the long-term quality of these units.

³ This table utilizes the same ACS data as Figure 6, which uses “mobile homes” as the term for this property type, combined with RVs, boats, vans, etc. Therefore, these numbers shown are higher than the actual number of mobile homes in Maryland counties.

County	2020 or Later		2000-2019		1980-1999		1979 or Earlier		Total
	Total	Proportion in 2020 or Later	Total	Proportion in 2000-2019	Total	Proportion in 1980-1999	Total	Proportion in 1979 or Earlier	
Allegany County	0	0.0%	118	16%	422	59%	176	25%	716
Anne Arundel County	5	0.2%	1005	40%	1001	40%	472	19%	2,483
Baltimore County	0	0.0%	687	28%	1402	57%	385	16%	2,474
Baltimore City	0	0.0%	288	49%	95	16%	203	35%	586
Calvert County	0	0.0%	29	11%	140	54%	89	34%	258
Caroline County	0	0.0%	66	8%	636	74%	158	18%	860
Carroll County	0	0.0%	87	17%	229	46%	182	37%	498
Cecil County	0	0.0%	870	46%	820	44%	194	10%	1,884
Charles County	0	0.0%	68	14%	282	59%	130	27%	480
Dorchester County	0	0.0%	169	25%	377	56%	126	19%	672
Frederick County	23	4.2%	92	17%	249	45%	186	34%	550
Garrett County	0	0.0%	236	25%	491	51%	230	24%	957
Harford County	61	2.5%	514	21%	1443	59%	408	17%	2,426
Howard County	0	0.0%	274	24%	752	66%	109	10%	1,135
Kent County	0	0.0%	27	12%	61	28%	133	60%	221
Montgomery County	17	2.5%	224	32%	317	46%	132	19%	690
Prince George's County	18	1.0%	376	20%	905	48%	584	31%	1,883
Queen Anne's County	10	2.0%	115	22%	290	57%	97	19%	512
St. Mary's County	0	0.0%	351	35%	355	36%	291	29%	997
Somerset County	6	0.9%	203	32%	365	57%	67	10%	641
Talbot County	0	0.0%	94	24%	111	28%	191	48%	396
Washington County	0	0.0%	221	23%	499	51%	262	27%	982
Wicomico County	21	1.5%	463	34%	718	52%	169	12%	1,371
Worcester County	0	0.0%	188	21%	503	57%	184	21%	875
Total	161	0.7%	6,765	27.6%	12,463	50.8%	5,158	21.0%	24,547

Figure 6: Mobile Homes (and boat, RV, van, etc.) by Age and Maryland Counties. Credit: NCSG analysis of 2023 ACS 5-Year estimates.

The development of factory-built housing in Maryland is driven by market dynamics and influenced by state and local policy frameworks. From a market perspective, high land costs create major barriers to developing more factory-built housing at scale. According to one modular manufacturer, “there’s really a kind of push to build smaller [factory-built] houses... but there’s just not a lot of market incentive to do it.” In Maryland, land use controls like lot sizes, setbacks, and lot coverage ratios all serve to make it harder to find appropriate sites for factory-built units. In other words, while supportive policy can help create that “push” to build more homes, the cost of land in Maryland largely remains prohibitively expensive to support the market for factory-built housing. This same sentiment also speaks to some of the larger challenges limiting the construction of smaller, starter homes in the state. However, the characteristics unique to the factory-built housing production and transportation timeline, when compounded with high land values and land use and zoning challenges, make it harder for developers to deploy factory-built units.

Most of the interviewees expressed that nearby states were more collaborative on fostering factory-built housing industries. Virginia, in particular, was discussed as a strong partner in multiple interviews. According to one manufacturer, “We’ve built some [modular homes] in Maryland, but Virginia has been a lot more open to working with us on zoning restrictions than Maryland, where it’s just difficult.” Even so, many of the interviewees expressed enthusiasm about the state-level action and support from the Governor Moore administration, as well as state agencies, to encourage the production and development of factory-built housing.

One interviewee was complimentary of the “big step” of the Housing Affordability and Expansion Act of 2024, but noted, “now we’re going to see how that actually plays out in practice because... counties can still dictate certain style requirements and other things.” In other words, state policy can be supportive, but local level land use, zoning, and permitting practices present real challenges to its widespread implementation. Across the board, most industry interviewees highlighted that local policies and processes can make the development of factory-built housing unpredictable and more expensive.

A significant reason for that is that many local ordinances and zoning codes create barriers for the development of manufactured and modular housing. As discussed in the Maryland Localities Policy Scan section, counties across the state have wildly different definitions and approaches for modular housing. Some have defined rules around modular homes, whereas others don’t address it. Comparatively, several interviewees noted that the maturity of the HUD Code and greater awareness of manufactured housing offered more transparency around those development processes. According to one interviewee, “We’re trying to fit our concept [of modular housing] into a regulatory framework that doesn’t really exist, so it takes some changing. Whereas with manufactured housing, the framework’s there... each county has kind of different requirements for manufactured housing, but at least it exists, and it’s fairly mature at this point.”

Another interviewee remarked, “In a lot of places, [zoning] doesn’t contemplate small modular homes... It’s sort of like you’re going to have to create that along the way. But [zoning for] manufactured housing exists pretty much in every county.” The novelty of the development process for modular housing highlights key knowledge and procedural gaps among

planning/zoning, permitting, and inspections staff. These two quotes highlight how local governments are a lot less familiar with modular construction approaches but have set processes and expectations around manufactured homes.

This inconsistency also highlights a clear need for capacity and understanding in Maryland counties around factory-built housing. One developer interviewee who worked on a modular housing development in Prince George's County said, "I would say from a modular perspective, we are still challenged, and - I think you will hear this from other jurisdictions - where the county doesn't really understand modular even though modular has happened before in the county."

As a result, many of the interviewees working in the modular space had only pursued by-right single-family homes in Maryland, citing that this approach tended to result in less entitlements, permitting, and inspections risks. According to one developer, "If we had to go through the entitlement process, we could not have done that because it's too timely, expensive. There's no way we could have if we had to do that, we never could have created those homes."

One significant reason commonly cited for time delays, particularly for modular housing, was due to a tension between state and local permitting and inspection processes. For traditional stick-built housing, these processes are conducted by the county or local jurisdiction, which allows for some degree of consistency. However, these processes diverge for offsite construction because the state of Maryland reviews the home plans and inspects the offsite construction facilities (typically through third-party review); counties also review site plans, conduct site inspections, and issue the final Certificate of Occupancy. In practice, these processes get muddled between layers of governance, which can create confusion and delays. Anecdotally, some interviewees noted that Virginia, especially, has a more consistent and streamlined approach for regulating factory-built housing (see Best Practices and Models section).

From a building plan perspective, it should be more of a "rubber stamp," since the state reviews them; however, once this progresses to the stage of county-level inspections, "there was a lot of confusion about how to do inspections... we had to keep asking about what are these inspections we're responsible for [for third-party state reviews] versus you [the county]. And it was all very convoluted."

Another developer interviewee remarked that the permitting process had taken double the amount of time they had anticipated. Anticipating permits in June 2025, the developer put a deposit down for the modular home in March, and as the end of the year approaches, with no permits in hand, the developer is holding onto that financial loss. They remarked, “How we address regulatory challenges to housing development, in general, will also help things like the off-site work happen better in Maryland. When you expect permitting to take a certain amount of time, and it takes double the time, that pushes across your entire schedule, including some of what you thought you’d save on the modular front.”

To reiterate, these delays create real risks and financial burdens for developers, which cause them to opt out of pursuing factory-built housing - or even opt out of developing housing on that site at all. A key strategy to address this issue will be for local jurisdictions to continue to train their staff on factory-built housing approaches, particularly for modular housing developments. State- or partner-led technical assistance and training on the permitting and inspections process could help resolve some of these knowledge gaps. Further, increased coordination between the state and local jurisdictions, particularly around permitting and site-level inspections, would also help to address some of these challenges.

Community engagement is an important dimension of the land use planning process. One developer said that these community conversations allow for great, collaborative opportunities to get local buy-in, while other interviewees noted how this process can stifle, slow down, and/or stop development altogether. For manufactured and modular housing, there are often strong local concerns around the aesthetics and quality of the homes. Even when trying to create a more supportive policy framework for these types of housing, many municipalities confront these entrenched perceptions and biases. One manufacturer noted that some community members have negative perceptions of affordable housing that are projected onto factory-built housing types: “people hear affordable and workforce [housing] and starter [homes] and immediately think subsidized and Section 8 housing, and they don’t want that in their community.”

Manufactured/Mobile Home Sales

The Maryland Department of Planning’s Maryland Residential Sales Data identifies the number and distribution of sales of manufactured homes across the state. Notably, this data uses

the term “mobile homes” and relies on information from the Maryland State Department of Assessments and Taxation (SDAT).⁴

In 2024, there were 68,507 total home sales in Maryland. Of those, only 252 (0.4%) were mobile homes. This proportion has seen steady growth in the past 8 years, but overall, the proportion of mobile home sales to overall housing sales has remained under 1%. This indicates that, without policy intervention, manufactured housing has and will likely continue to constitute a very small percentage of housing units sold in the state (Figure 7).

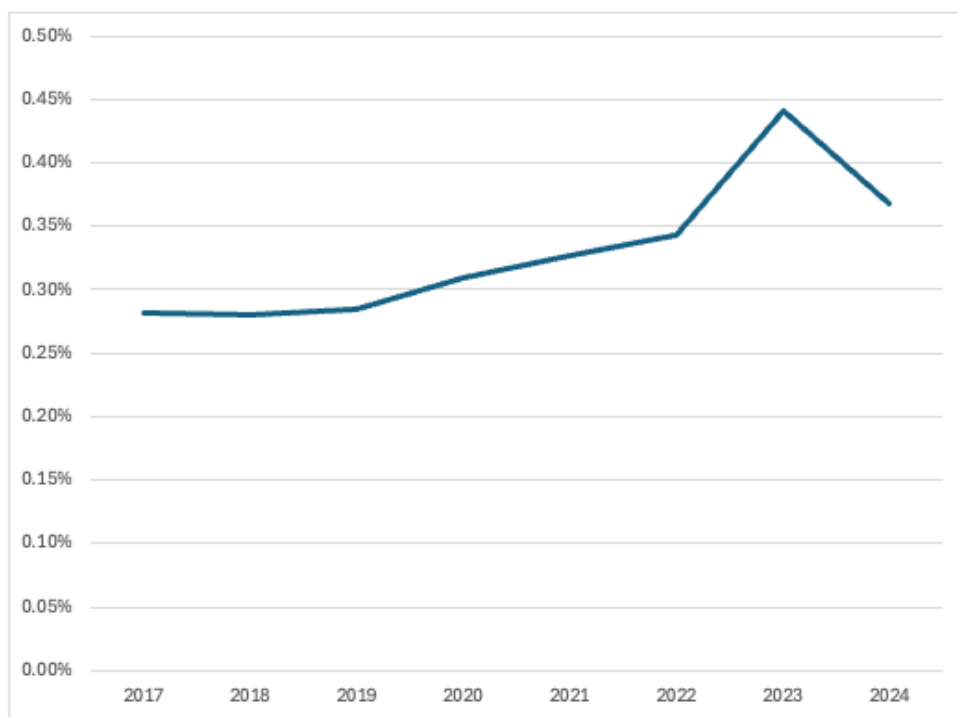


Figure 7: Proportion of Mobile Homes Sold of all Housing Units, from 2017-2024. Credit: NCSG analysis of Maryland Residential Sales Data, Maryland Department of Planning, Planning Data Services.

Figure 8 shows that certain regions of the state see much higher levels of mobile home sales than others. The Lower Eastern Shore region has significantly more than other parts of the state, largely due to the greater prevalence of mobile home parks. Western Maryland and the Upper Eastern Shore region have seen comparable numbers of mobile home sales since 2017.

⁴ The SDAT primarily uses two codes (“MH1” and “006”) to identify individual mobile homes. However, any additional criteria used to classify manufactured or modular home structures depends on local SDAT offices, and therefore is subject to some local variability on what constitutes a “mobile” home, but generally these are likely HUD-certified manufactured homes.

Despite their greater density, the Baltimore region and the Washington Suburban region have seen much lower rates than the more rural parts of the state.

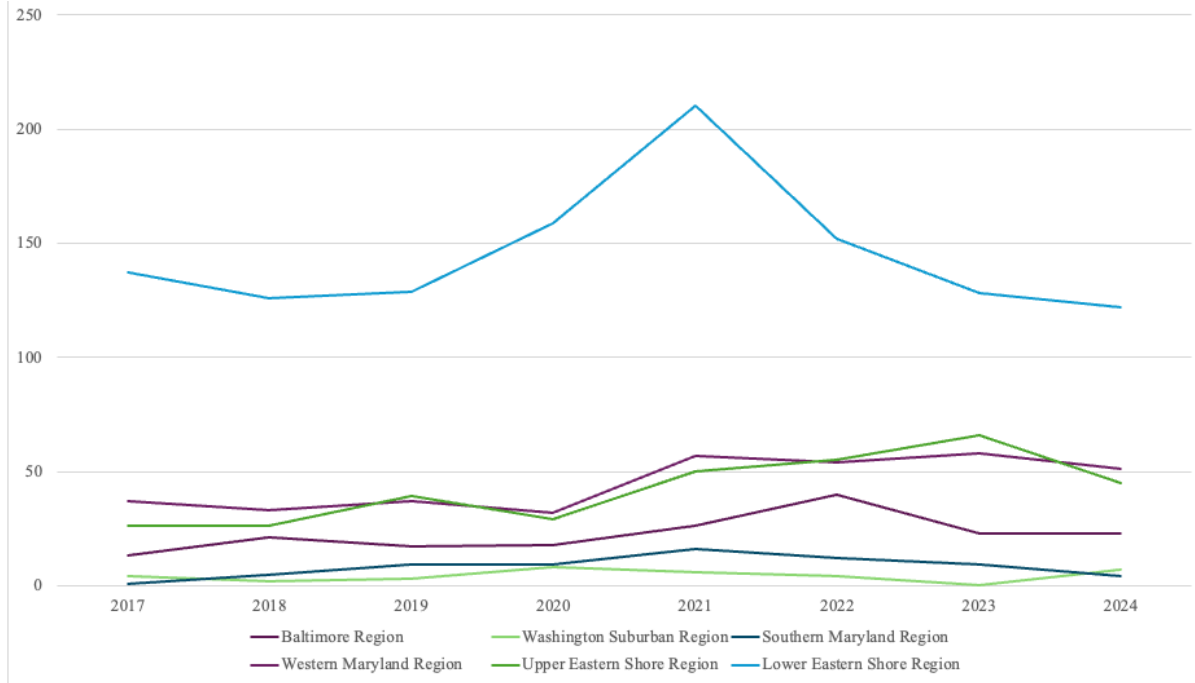


Figure 8: Number of Mobile Home Sales by Maryland Region, from 2017-2024. Credit: NCSG analysis of Maryland Residential Sales Data, Maryland Department of Planning, Planning Data Services.

The map in Figure 9 is consistent with these regional representations, except that it shows total mobile home sales by county in 2024. The highest number of sales occurred in Worcester and Garrett counties. Worcester had the highest number of mobile home sales at 73 total in 2024, while Garrett had the next highest at 27 total sales in 2024.

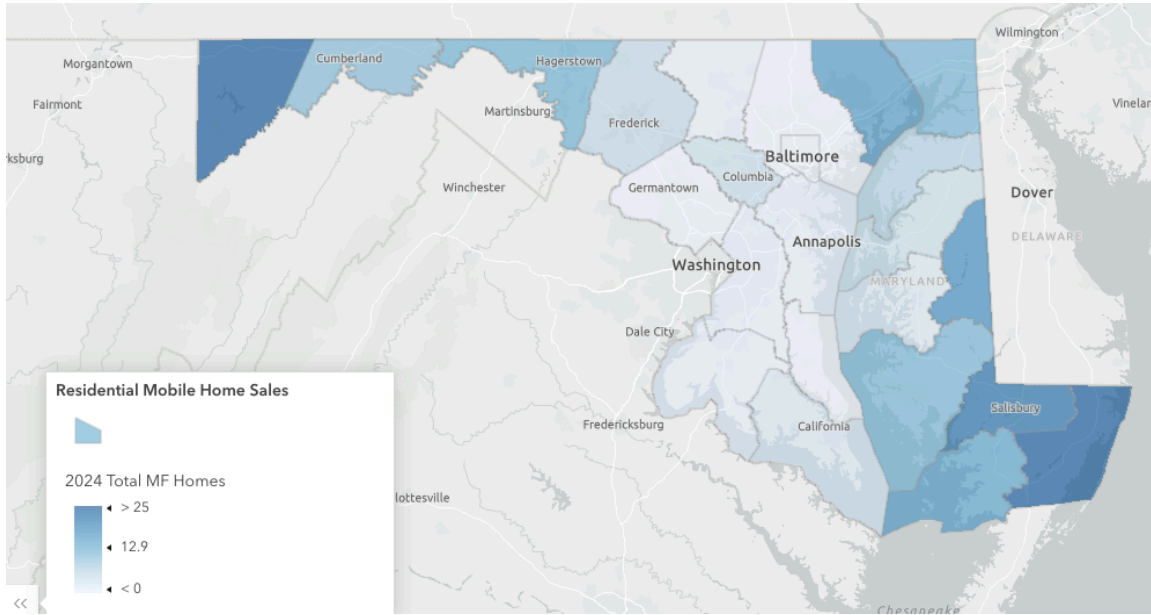


Figure 9: Total Mobile Home Sales by Maryland County in 2024. Credit: NCSG analysis of Maryland Residential Sales Data, Maryland Department of Planning, Planning Data Services.

Even though Western Maryland sees higher numbers of mobile home sales, they remain a very low proportion of that region’s overall home sales - only 1.84% in 2024. Likewise in other Maryland regions, the overall proportion of home sales that were for mobile homes are very low, ranging from a high of 3.02% in the Upper Eastern Shore Region to a low of 0.03% in the Washington Suburban Region in 2024. This is unsurprising, considering the small numbers of manufactured/mobile homes that are both shipped to and placed within the state on an annual basis.

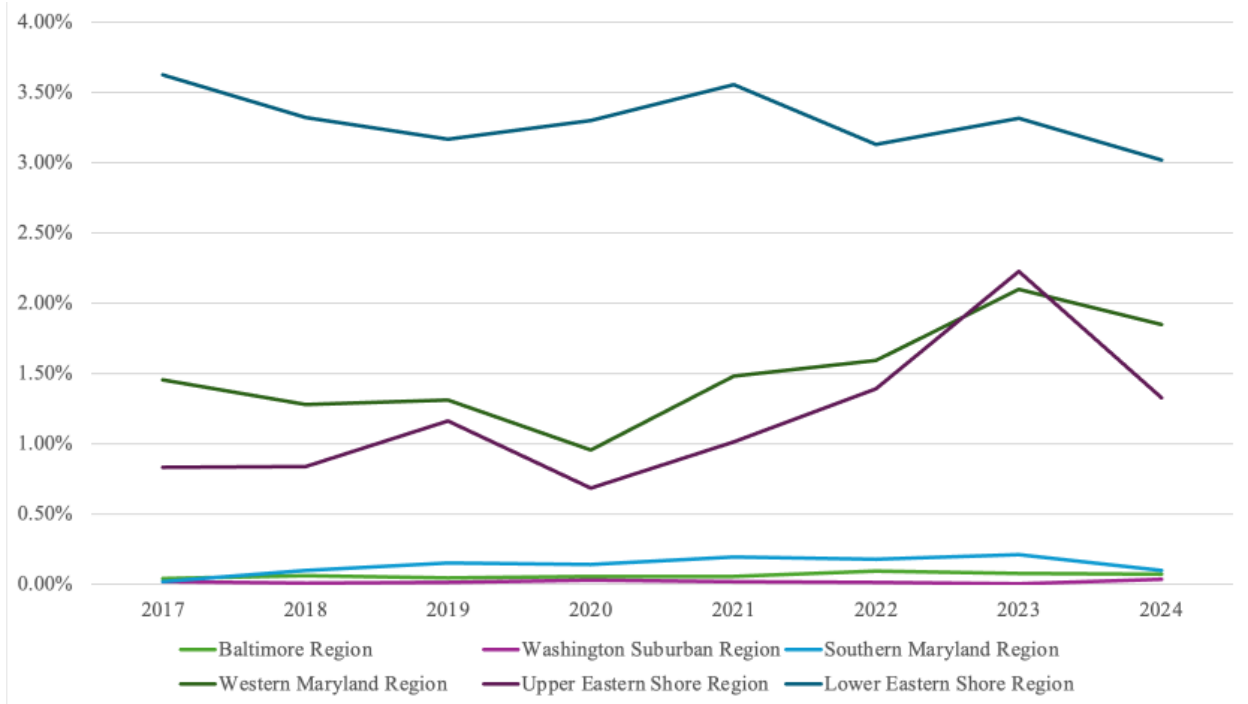


Figure 10: Proportion of Mobile Home Sales to Overall Home Sales by Maryland Region, from 2017-2024. Credit: NCSG analysis of Maryland Residential Sales Data, Maryland Department of Planning, Planning Data Services.

From a modular sales perspective, many of the interviewees noted that the customization features of modular housing translates into high market demand, although as previously noted, this customization or small-scale production can reduce some of the efficiencies of factory-built housing. This is even more pronounced when there was an affordable homeownership opportunity. One developer discussed how they could work closely with a modular manufacturer to produce a home design that fit well within community in Prince George’s County, resulting in high market demand for an affordable home: “It’s historic in that area... and I feel really good because they [the community] felt very positive about what we were doing... We were very careful and thoughtful about how the homes blended with the community... Everyone seems really pleased with the design.”

While the design and layout of the home is an important element for sales, location is also critical. For greenfield development of factory-built homes, the zoning can also play an essential part in creating a marketable community. One manufacturer discussed a project on the Virginia Eastern Shore, in which their developer worked closely with county staff to adjust the

zoning and density on a 20-acre parcel to create a more walkable, community-oriented community layout, with parks/open space: “they [the county] were very open and receptive to being creative and saying, ‘all right, we understand what our current zoning is but it doesn’t really work for this kind of starter home or smaller-type environment.’ So they’ve really been great in that respect because they’re willing to go and do that.”

Maryland Localities Policy Audit

In 2024, the Maryland legislature passed the Housing Expansion and Affordability Act of 2024. Amongst other provisions, this law prohibits jurisdictions from denying the construction of factory-built homes in single-family zones (Maryland DHCD, 2025).

In October and November 2025, I investigated a sampling of county codes and zoning ordinances from seven counties.⁵ This particular sample of counties was selected to account for both regional dispersion and a spectrum of population densities. This analysis entailed searching for statutory language around the following keywords: *manufactured homes and housing; mobile housing and homes; modular; prefabricated; and factory(-)built*. These references were evaluated for their housing applications (e.g. if they were more industrial/commercial applications, then they were deleted from the coding list) and then coded iteratively to better understand emergent themes, focusing on potential opportunities and barriers as related to factory built housing.

The analysis revealed that the counties sampled had not yet revised county codes to reflect the Housing Expansion and Affordability Act of 2024 provisions regarding factory built housing. This is unsurprising, since it only went into effect on January 1, 2025, and revisions processes take time.

Manufactured housing was generally considered a distinct housing typology (compared to single-family dwellings, multifamily, etc.), with its own unique restrictions on where they could be located. These were typically defined to be in alignment with the HUD code. In many counties, the terms “manufactured homes” and “mobile homes” were typically interchangeable. In Montgomery, Prince George’s, and Howard counties, the term “mobile home” was used

⁵ These included Montgomery, Prince George’s, Howard, Garrett, Allegany, Worcester, and Wicomico counties.

almost exclusively. This terminology is somewhat dated; Congress changed the definition to “manufactured homes,” rather than “mobile homes,” under the National Manufactured Housing Construction and Safety Standards Act of 1974 (Dawkins, 2025).

Modular housing, on the other hand, had inconsistent applications across codes. Modular housing was either not robustly featured in the code, affiliated with manufactured/mobile homes, grouped and defined with single-family and multi-family categorizations, or had varying associations across different sections. Notably, however, when it was featured and discussed in the codes, modular housing typically did not have the same set of restrictions around placement that manufactured housing did.

In Montgomery County, modular homes had a more varied set of applications and affiliations, which is likely attributed to the building diversity that modular homes can take. They were often called out in both Residential Single-Family use categories and Multifamily uses. Conversely, mobile homes were only grouped with multifamily use categories. To these authors, the code seems to only allow for manufactured units in a “mobile home park” type development, which is why they are typically affiliated with multifamily. This is reflected in the Zoning Ordinance, where the previous R-MH (residential mobile home district) was eliminated and re-assigned to R-60 (e.g. a dense multifamily district).

In Prince George’s County, manufactured housing was generally included with traditional single-family categories, with some discrete distinctions in taxation and floodplain ordinance. Like Montgomery County, Prince George’s had strict restrictions against manufactured housing units being allowed to be placed in the floodplain, even for replacement units. There did not appear to be any discussions of modular (or similar) housing in the code, except for in a section that described electric vehicle charging infrastructure. Generally, the code uses the “mobile home” naming, as opposed to manufactured housing.

Garrett County had some of the most flexible rules regarding manufactured and modular housing. This may be explained by the fact that it features a higher percentage of manufactured homes within its overall housing stock. In most zoning districts, double-wide manufactured homes and prefabricated modular homes were permitted by-right. Single-wide manufactured homes and mobile home parks are allowed by special exceptions. Interestingly, manufactured homes in Garrett County appeared to have more significant parking requirements than

single-family detached homes and multifamily dwellings, which may carry additional costs burdens.

Of all the codes reviewed, Allegany seemed the most aligned with the Housing Expansion and Affordability Act of 2024. In the zoning designations, for example, a single-family dwelling was defined as a detached dwelling unit, including manufactured double-wide and industrial modular homes. Single-family dwellings and mobile homes (their descriptor) had the same requirements for minimum lot area, width, setbacks, and height restrictions. Notably, however, the county code did preclude mobile homes from being accessory dwelling units.

Of the sampled counties, Howard and Worcester counties had some of the most restrictive zoning in regards to the placement of manufactured and modular homes. In Howard County, for example, mobile homes are in a distinct zoning category (R-MH) from residential single-family and multifamily zones. In all other residential districts, a permit for a mobile home may be issued only if it is a temporary residence “on a lot where a dwelling was destroyed by fire or natural calamity. The mobile home may be used for a period of time not to exceed one year” (Howard County Zoning Regulations, Sec. 128. Supplementary Zoning District Regulations).

Modular housing also has restrictive definitions in Howard County. It is defined as a dwelling unit that “has a minimum floor area of 900 square feet and a gabled roof, and is fabricated in an off-site manufacturing facility for installation or assembly at the building site” (Howard County Zoning Regulations, Sec. 103.0 Definitions). The county also requires that modular housing bears insignia certifying that it is built in compliance with the standards for industrialized buildings contained in the Industrialized Building and Mobile Homes Act of the Annotated Code of Maryland, Article 83B, Sections 6-201, et. seq. (Howard County Zoning Regulations, Sec. 103.0 Definitions). At time of writing, parameters around size, design, and certification are baked into the definition of modular housing in Howard County.

These barriers are seemingly reflected in recent attempts within the county to revise its Accessory Dwelling Unit (ADU) requirements. In theory, factory-built housing is a great option for homeowners to create ADUs, since they can be scaled, designed, and placed more nimbly than constructing an ADU in its entirety. However, restrictions around factory-built housing,

when combined with ADU restrictions, can lead to additional challenges and costs for homeowners. According to one interviewee, these new restrictions are extremely arduous and restrictive: “If anybody ever builds an ADU in Howard County, I’ll be shocked, frankly, because it’s going to be so difficult and so expensive to do.” However, in February 2026, the County Executive signed Zoning Regulation Amendment (ZRA) 218 to expand the construction of ADUs in various residential districts, allowing for them to be in attached, detached, or within an existing principal dwelling (Howard County Department of Planning, 2025). Although the County only saw 220 ADUs permitted since 2015, it remains to be seen if this new zoning amendment will unlock new ADU production, potentially with factory-built housing (Howard County Department of Planning, 2025).

Each of the codes reviewed had their own unique dimensions that would introduce complexity into the development process. Across the board, it appeared that developers of manufactured housing faced more rigorous land use and zoning barriers than modular housing developers. At the time of writing, HEAA was passed almost two years ago, but this analysis yielded little or no observed changes to the codes in response. Even despite HEAA, this study shed light on the fact that many counties have not revisited code language around manufactured/mobile and modular housing for quite some time. This suggests that Maryland counties may benefit from technical assistance or other supports, such as model codes, to help them update their codes to be in alignment with HEAA and localized housing affordability goals. State leadership in the Governor’s Office and in the Maryland Department of Housing and Community may be able to support in the effort of moving from policy to implementation.

Best Practices and Models

As discussed throughout this study, there are many state- and local-level barriers to creating more factory-built housing and utilizing more offsite construction methods in Maryland. This section includes a sampling of some best practices and models from other states and/or local municipalities that help encourage the production of single-family and multi-family factory-built housing.

Regionally, Virginia has taken steps to unlock the development of more factory built housing in the state, resulting in a series of policies actions and investments across multiple

layers of governance. In 2024, Virginia was the first state to adopt the International Code of Council and Modular Building Institute's 1200 and 1205 standards, which feature regulatory approaches for offsite construction (Phillips, 2024). They are also meant to create uniformity and consistency for the offsite construction process, rather than the current state-by-state spectrum of approaches (Phillips, 2024). This standards program is administered by the Virginia Department of Housing and Community Development (DHCD), promoting alignment between state housing development goals and the building code (National Housing Crisis Task Force, 2025).

Virginia is also leading the way in preserving existing factory-built communities, recognizing their important role as an affordable housing asset. In May 2025, the Virginia DHCD published guidelines for the Manufactured Home Park Acquisition Pilot. This program is designed to assist residents of a manufactured home park or 501(c)3 organizations with acquiring manufactured home parks in Virginia (Virginia DHCD, 2025). This policy document highlights how this initiative directly supports state policy goals of preserving affordable housing options, promoting resident ownership and cooperative management models, and leveraging local and state resources for sustainable community development (Virginia DHCD, 2025).

This policy has already resulted in some immediate successes. For example, in Buena Vista, residents of a 71-lot organized, supported by ROC USA, to purchase collective ownership of the land their homes sit on in late 2025 (Virginia Housing, 2025). While Virginia DHCD develops criteria and guidelines for the pilot, Virginia Housing, the Commonwealth's housing finance agency, provides low-interest loans and other financial resources. In the case of Crestview Cooperative, Virginia Housing provided both a low-interest loan for the purchase of the development, and provided a Community Impact Grant to ROC USA, for their work on Crestview's transition to being resident owned (Virginia Housing, 2025).

Minnesota is also building out its policy and procedural frameworks and capacity in the factory built housing space. Minnesota's Department of Labor and Industry regulates the modular housing industry under the Minnesota Administrative Rules Chapter 1361 Industrialized/Modular Buildings (Starling & Tracy, 2025; Minnesota Legislature, 2007). These rules were published in 2007, indicating the state was an early adopter of modular and industrialized offsite construction (Minnesota Legislature, 2007).

In 2018, state leaders set forth an ambitious goal to make Minnesota a hub for construction innovation (Construction Revolution, 2020). Minnesota Housing's (the state's housing finance agency) 2020-2023 and 2024-2027 Strategic Plans feature goals around modular housing. The Plans outlines goals to bolster partnerships, increase housing construction productivity through modular or panelized construction, and create more affordable homeownership options, including manufactured or modular housing (Minnesota Housing, 2024; Minnesota Housing, 2020).

These policy frameworks have been reflected in recent procedural improvements to streamline the production of modular housing. In 2020, the Minnesota Department of Labor launched a plan review system to enable the submission and review of modular plans and systems (Minnesota Department of Labor and Industry. n.d.). In 2025, the Minnesota State Legislature introduced legislation to reform the fee structure for plan review and inspection of industrialized modular and prefabricated buildings, in an effort to streamline approval processes (Citizen Portal, 2025). However, this legislation has not yet been adopted.

Conclusion

Compared to other states in the region, Maryland has seen little uptake of factory-built housing and faces challenges in building out an ecosystem of manufacturing, transportation, and development capacity. That also means that Maryland has a tremendous opportunity for significant growth in this sector, and additional deployment of factory-built housing has the potential to help reduce housing prices for new construction in a state that has been suffering from historically high housing costs.

Maryland is well-positioned to take advantage of expertise in adjacent states, including the network of factories in the region and best practice models for policies and regulations in neighboring states. Recent housing developments in Prince George's County and on the Eastern Shore also suggest that factory-built housing has gained something of a toehold in Maryland, and it may be possible to build on these successes to enhance the ecosystem required for more robust uptake of factory-built housing into Maryland's housing market.

Further, this study's qualitative findings, as well as the policy audit, highlighted that there is a tremendous opportunity for the state to support local governments in updating their codes to be in alignment with HEAA, as well as their own local housing affordability goals. Many county or town governments have limited staff; therefore, conducting the comprehensive reviews of their codes and zoning ordinances, as well as educating elected officials and the community on the required code changes and making the changes, can be a struggle. Further, this effort cannot be a one-and-done. Local governments will need ongoing training and support to facilitate these updates, which has a direct impact on timelines on site approvals and permitting for factory-built housing. State leadership in the Governor's Office and in the Maryland Department of Housing and Community may be able to support in the effort of moving from policy to implementation. and build capacity and knowledge to ease zoning and permitting challenges.

References

1. Baltimore Modular. (n.d.). The Baltimore Modular Initiative. Accessed at <https://www.baltimoremodular.org/baltimore-modular-initiative>
2. Citizen Portal. (2025). Minnesota sets new fees for modular building plan reviews and inspections. Accessed at <https://citizenportal.ai/articles/2674949/Minnesota/Minnesota-sets-new-fees-for-modular-building-plan-reviews-and-inspections?source=bluesky&loc=MN>
3. Construction Revolution. (2020). Summit Report and Action Plan for Minnesota: A Cross-Sector Collaboration to Reduce the Cost of Housing by Creating an Innovation Hub for Offsite Construction. Accessed at <https://constructionrevolution.io/action-plan>
4. Dawkins, C. J. (2025). Local land use regulations and new mobile home concentration. *Urban Studies (Edinburgh, Scotland)*. <https://doi.org/10.1177/00420980251335564>
5. Dawkins, C. J., Virginia Center for Housing Research., & United States. Department of Housing and Urban Development. Office of Policy Development and Research. (2011). *Regulatory barriers to manufactured housing placement in urban communities*. U.S. Dept. of Housing and Urban Development, Office of Policy Development and Research.
6. Genz, R. (2001). Why advocates need to rethink manufactured housing. *Housing Policy Debate*, 12(2), 393–414. <https://doi.org/10.1080/10511482.2001.9521411>
7. Ghosh, S.; Bigelow, B., & Patel, V. (2021). Panelization: A Step Toward Increased Efficiency in Homebuilding. *Cityscape (Washington, D.C.)* 23(3): 335–344. <https://www.huduser.gov/portal/periodicals/cityscpe/vol23num3/ch15.pdf>
8. Goodman, L. & Pruitt, M. (2024). Encouraging Modular Construction Could Help Address the Housing Shortage. *Urban Wire*. Accessed at <https://www.urban.org/urban-wire/encouraging-modular-construction-could-help-address-housing-shortage>
9. Herbert, C., & Reed, C. (2023). Overcoming Barriers to Manufactured Housing: Promising Approaches from Five Case Studies. *Harvard Joint Center for Housing Studies*. Accessed at https://www.jchs.harvard.edu/sites/default/files/research/files/harvard_jchs_pew_report_3_updated_2024.pdf
10. Herbert, C., Reed, C., & Shen, J. (2023). Comparison of the Costs of Manufactured and Site-Built Housing. *Harvard Joint Center for Housing Studies*. Accessed at https://www.jchs.harvard.edu/sites/default/files/research/files/harvard_jchs_pew_report_1_updated_0.pdf
11. Herbert, C., Hermann, A., McCue, D., & Reed, C. (2024). A Review of Barriers to Greater Use of Manufactured Housing for Entry-Level Homeownership. *Harvard Joint Center for Housing Studies*. Accessed at https://www.jchs.harvard.edu/sites/default/files/research/files/harvard_jchs_barriers_manufactured_housing_2024.pdf
12. Herbert, C. (2024). Five Barriers to Greater Use of Manufactured Housing for Entry-Level Homeownership. *Harvard Joint Center for Housing Studies*. Accessed at <https://www.jchs.harvard.edu/blog/five-barriers-greater-use-manufactured-housing-entry-level-homeownership>

13. Howard County Department of Planning. (2025). ZRA-218: Accessory Dwelling Units (ADU's) & Two-Family Dwellings. Howard County Department of Planning and Zoning. Accessed at <https://www.howardcountymd.gov/planning-zoning/resource/basics-adus>
14. Howard County. (2026). Howard County Executive Ball Signs Housing Bill Expanding Opportunities for Smaller Homes. *Howard County Maryland*. Accessed at <https://www.howardcountymd.gov/News022926>
15. ICC NTA. (2025). Ten Things to Know About Building with Modular/Off-Site Products. Accessed at <https://www.icc-nta.org/ten-things-to-know-about-building-with-modular-off-site-product/#:~:text=State%20modular%20programs%20exist%20in,to%20construction%20of%20any%20type.>
16. Kaul, K., & Pang, D. (2022). The Role of Manufactured Housing in Increasing the Supply of Affordable Housing. In *Policy File*. Urban Institute.
17. Manufactured Housing Institute. (2025). Monthly Economic Report: December 2025, Manufactured Housing Activity. *Manufactured Housing Institute*. Accessed at <https://www.manufacturedhousing.org/wp-content/uploads/2025/02/MHI-Economic-Report-December-2024.pdf>
18. Manufactured Housing Institute. (2024). Manufactured Home Plant List. Accessed at https://www.manufacturedhousing.org/wp-content/uploads/2024/09/Plant-List-7_3_24.pdf
19. Maryland Department of Housing and Community Development. (2025). Turning the Key: Unlocking Maryland's Potential. Accessed at <https://dhcd.maryland.gov/TurningTheKey/Documents/HB538-FAQ.pdf>
20. Maryland Department of Labor. (n.d.). Maryland Building Codes - Building Codes Administration. Accessed at <https://labor.maryland.gov/labor/build/buildcodes.shtml>
21. Maryland Department of Labor. (n.d.). Manufactured (Mobile) Homes and Modular Homes- Building Code Administration. Accessed at <https://labor.maryland.gov/labor/build/buildmobilehud.shtml>
22. Minnesota Department of Labor and Industry. (n.d.) Industrialized and Modular Buildings. Accessed at <https://www.dli.mn.gov/business/manufactured-structures/industrialized-and-modular-buildings>
23. Minnesota Department of Labor and Industry. (n.d.). Modular Building Plan Review. Accessed at <https://www.dli.mn.gov/business/manufactured-structures/modular-building-plan-review>
24. Minnesota Housing. (2024). Going Big: Minnesota Housing's Path Forward, 2024-2027 Strategic Plan. *Minnesota Housing*. Accessed at https://www.mnhousing.gov/documents/36655/2024-2027_strategic_plan/view
25. Minnesota Housing. (2020). Go Big so Everyone Can Go home: 2020-2023 Strategic Plan. *Minnesota Housing*. Accessed at https://www.mnhousing.gov/documents/36433/mhfa_269597/view
26. Minnesota Housing. N.d. Strategic Plan. *Minnesota Housing*. Accessed at <https://www.mnhousing.gov/home/policy-and-research/agency-plans/strategic-plan>
27. Minnesota Legislature. (2007). Minnesota Administrative Rules. *Minnesota Legislature Office of Revisor of Statutes*. Accessed at <https://www.revisor.mn.gov/rules/1361.0100/>

28. Modular Building Institute. (n.d.). Breaking Down the “Modular Building Code.” Accessed at <https://www.modular.org/2020/02/03/breaking-down-the-modular-building-code/>
29. National Center for Smart Growth. (2025). Maryland Housing Needs Assessment Update Accessed A shared framework for the Maryland Department of Housing and Community Development and local partners. Accessed at <https://dhcd.maryland.gov/Documents/Research/Compiled-Report-SHNA-2025.pdf>
30. National Housing Crisis Task Force. (2025). Virginia - Acceleration through Regulatory Harmonization Case Study. Accessed at <https://nationalhousingcrisis.org/case-study/virginia-acceleration-through-regulatory-harmonization/>
31. Park, K. A. (2022). Real and Personal: The Effect of Land in Manufactured Housing Loan Default Risk. *Cityscape (Washington, D.C.)*, 24(3), 339–362.
32. Phillips, Z. (2024). Virginia pioneers adoption of offsite construction code. *Construction Dive*. Accessed at <https://www.constructiondive.com/news/virginia-modular-offsite-code-standard-adopt/708283/#:~:text=Offsite%20in%20general%20needs%20to,there's%20not%20a%20huge%20difference.>
33. Rumbach, A., Sullivan, E., Curran-Groome, W., Rosenow, A., & Cohen O. (2025). Building a Climate-Resilient Manufactured Housing Stock. *The Urban Institute*. Accessed at <https://www.urban.org/research/publication/building-climate-resilient-manufactured-housing-stock>
34. Russell, J., O’Reilly, N., Schneider, K., Melton, N., Schwartz, N., & Leitner, S. (2021). Manufactured Housing Finance: New Insights from the Home Mortgage Disclosure Act Data. *Consumer Financial Protection Bureau’s Offices of Research and Mortgage Markets*. Accessed at https://files.consumerfinance.gov/f/documents/cfpb_manufactured-housing-finance-new-insights-hmda_report_2021-05.pdf
35. Slowey, K. (2020). CFO in the Know: Tapping working capital lines to finance modular construction. *CFO Dive*. Accessed at <https://www.cfodive.com/news/cfo-in-the-know-modular-construction-working-capital/575619/>
36. Starling, L. & Tracy, E. (2025). Delivering housing innovation on a flatbed trailer. *Federal Reserve Bank of Minneapolis*. Accessed at <https://www.minneapolisfed.org/article/2025/delivering-housing-innovation-on-a-flatbed-trailer>
37. US Bureau of Labor Statistics. (2023). Occupational Employment and Wages, May 2023. 49-9095 Manufactured Building and Mobile Home Installers. Accessed at <https://www.bls.gov/oes/2023/may/oes499095.htm>
38. US Census Bureau. (2023.) MHS Latest Data. Accessed at <https://www.census.gov/data/tables/time-series/econ/mhs/latest-data.html>
39. US Census Bureau. (2024). Characteristics of New Housing: Current Data. Accessed at <https://www.census.gov/construction/chars/current.html>

40. Vermeer, K. & Louie, J. (1997). The Future of Manufactured Housing. *Joint Center for Housing Studies at Harvard University*. Accessed at https://www.jchs.harvard.edu/sites/default/files/r97-1_vermeer_louie_futmanhousing.pdf
41. Virginia Department of Housing and Community Development. (2025). Commonwealth of Virginia Manufactured Home Park Acquisitions Pilot (MHPAP). *Virginia Department of Housing and Community Development, Division of Community Development and Housing*. Accessed <https://www.dhcd.virginia.gov/sites/default/files/DocX/manufactured-housing/mhpap/mhpap-guidelines.pdf>
42. Virginia Housing. (2025). Virginia Housing Finances Virginia's First Resident-Owned Manufactured Home Community. *NCSHA*. Accessed at <https://www.ncsha.org/hfa-news/virginia-housing-finances-virginias-first-resident-owned-manufactured-home-community/>