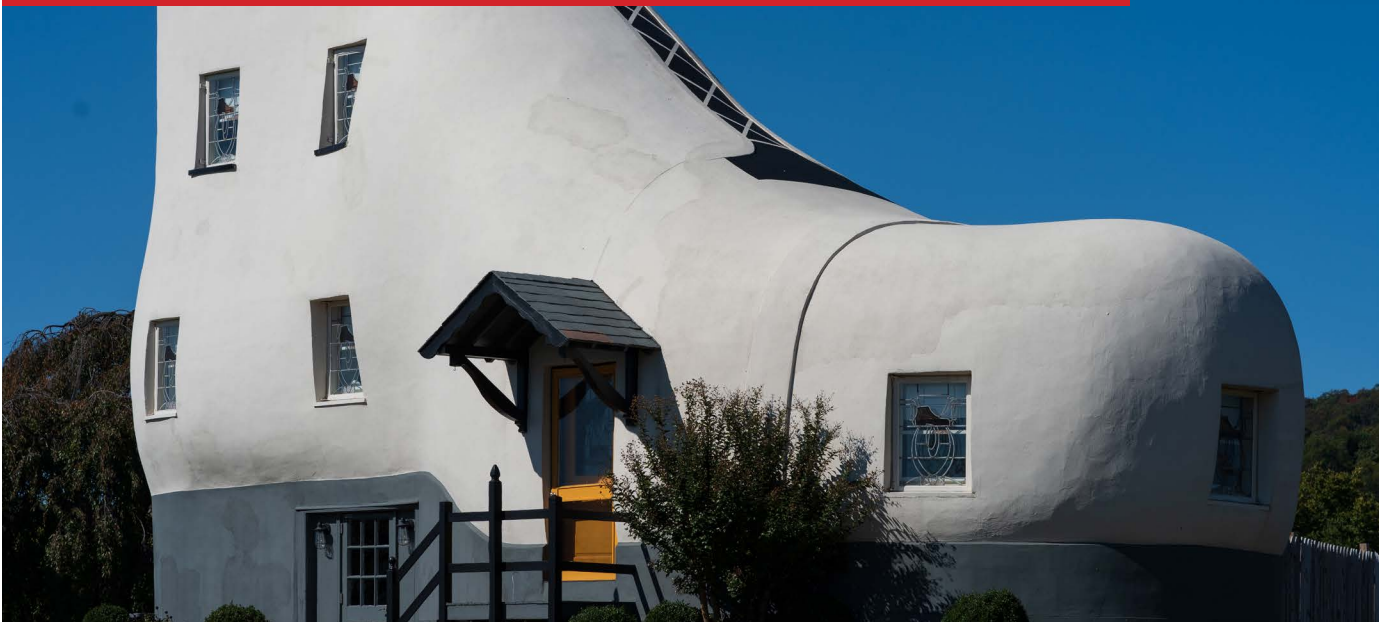


ZONING PRACTICE

Unique Insights | Innovative Approaches | Practical Solutions

Opening the Door to Unconventional Homes



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Opening the Door to Unconventional Homes

By Charlie Nichols, AICP, and Benjamin Schmidt

While housing underproduction remains a problem nationwide, demand for new housing has risen disproportionately in rural areas since the onset of the COVID-19 pandemic (Park 2024). Furthermore, a growing number of rural homeseekers seem to be investing in nontraditional homes that rely on alternative construction methods or unconventional building materials. From shouses and barndominiums to 3D-printed houses and shipping-container, grain-bin, Quonset, and earth-shelter homes, these dwellings represent a departure from the standard stick-built playbook, offering builders and occupants a chance to embrace creativity and sustainability.

Because these housing types break the conventional single-family detached residence mold, they can face a variety of regulatory barriers, including explicit prohibitions and an uncertain relationship

to specific zoning and building code provisions. The housing industry is often a step ahead of zoning and building regulations, producing new product types to address the demands, constraints, and preferences of today's buyer. Consequently, it is important for planners and local officials to periodically reevaluate existing barriers to new and unconventional housing types.

This issue of *Zoning Practice* explores the rise of unconventional housing types and their potential to address housing shortages and diversify the housing market. It begins with a guide to different types of nontraditional housing before examining common regulatory barriers and potential regulatory reforms planners and local officials may be able to use to foster housing innovation and advance sustainable, resilient, and inclusive housing solutions.



3D-printed homes under construction near Austin, Texas (Credit: Roschetzky/stockPhoto/iStock/Getty Images Plus)

Field Guide to Unconventional Housing

Builders and occupants are increasingly drawn to various types of unconventional housing for reasons ranging from cost-effectiveness to sustainability and energy efficiency. To facilitate the development of different forms of unconventional housing, planners must first understand the specific needs, benefits, and challenges associated with each type. By identifying how these housing options align with broader community goals—such as sustainability, affordability, or resilience—planners can begin addressing regulatory barriers, updating zoning codes, and engaging communities in conversations about innovative housing solutions.

Barndominiums and Shouses

Shouses and barndominiums combine residential living spaces with areas traditionally used for storage, workshops, or agricultural purposes. A shouse (short for shop + house) typically integrates a workshop with living quarters. A barndominium (or *barndo*) entails either the conversion or renovation of an old barn or the construction of a new barn structure to include a dwelling unit (with or without a dedicated workshop). Despite the “condominium”

reference in the name, most barndominiums are fee-simple properties, meaning the owner holds the land and structure outright. The name is simply a playful nod to their dual-purpose nature.

These are, typically, post-frame construction buildings with a metal exterior, which reduces the need for load-bearing walls throughout the building. This allows for complete customization of internal layout and design to meet the needs of a hobbyist, small business owner, or rural homeowner.

In a recent survey of single-family homebuilders, seven percent of respondents said they had built a barndominium in 2023 (Emrath 2024). Shouses and barndominiums are most common in rural and exurban areas, where larger plots of land are available for integrating these mixed-use structures. They are particularly popular in agricultural regions of the Midwest and South, where ranchers and farmers appreciate the functional design.

Prefabricated metal building kits can streamline the construction process and offer increased durability over a traditional home. Costs vary widely but are generally lower per square foot than conventional homes, with estimates ranging from \$65 to \$160 per square foot (Runkle 2024).

A new construction
barndominium in
La Crosse County,
Wisconsin (Credit:

[Wikideas1/](#)
[Wikimedia](#)
[Commons](#))



A 3D-printed house under construction in Riverhead, New York (Credit: futurewalk/iStock Unreleased)



3D-Printed Houses

3D-printed houses are structures where home builders create a computer design and then use a robot to lay (or “print”) a concrete blend in layers to create a foundation and walls (Peavey et al. 2023). These homes often feature customizable designs, reduced construction waste, and efficient use of materials. 3D-printed houses can be “printed” onsite or as individual sections to be assembled later. However, certain components—such as roofs, windows, wiring, and plumbing—still require conventional construction methods.

While the concept of 3D-printed homes originated in the early 2010s, the technology remains in its infancy, with ongoing challenges related to durability, cost, and scalability. These homes appeal to early adopters, eco-conscious buyers, and those seeking innovative housing solutions. Additionally, some nonprofits and developers are experimenting with it for disaster relief and low-income housing.

Although 3D printing simplifies certain aspects of building, it complicates others. Builders must carefully plan for proper installation of essential systems like plumbing, electrical wiring, and HVAC during the design stage. Post-construction modifications are difficult due to the permanence of printed walls. Environmental factors, such

as temperature and humidity, also impact the printing process. For instance, a 3D-printed home in Iowa was demolished after excessive cracking compromised its structural integrity (Feldman 2023).

3D-printed homes can be built in days or weeks, depending on the design complexity and finishing requirements. However, this efficiency is offset by high technology costs and the relative scarcity of experienced 3D homebuilders. For example, 3D-printed homes in the Wolf Ranch development near Austin, Texas, start at \$450,000, comparable to the median home price in the area (Westfall 2024).

Shipping-Container Homes

Shipping-container homes, also known as cargo-container homes, repurpose intermodal shipping containers as building materials for dwelling units. These rigid metal containers are designed for transportation but can be modified with architectural elements, such as windows, doors, and insulation, to create habitable structures. Shipping containers provide a modular framework that allows for creative and flexible designs, including multi-story or stacked configurations. However, they require significant modifications to address challenges like ventilation, insulation, and climate control.



■ A shipping-container home in Flagstaff, Arizona (Credit: [Tom Check/Flickr](#))

The concept of shipping-container homes emerged in the early 21st century as a response to the surplus of unused containers worldwide. Early adopters embraced the idea as a sustainable, cost-effective alternative to traditional construction methods. While shipping containers are structurally robust, builders must address issues such as ventilation, insulation, and moisture control to ensure a livable environment. Improper modifications can lead to problems with climate control and condensation, particularly in extreme climates.

Shipping-container homes offer both financial and time savings. Prefabricated containers can be delivered and assembled quickly, reducing framing time. These homes typically cost less than traditional construction, averaging \$150–\$350 per square foot, with additional savings in materials and labor (Sullivan 2024). Additionally, container homes have a smaller environmental footprint, with studies showing significant reductions in timber

usage (1.98 tons) and CO₂ emissions (14.7 tons) compared to conventional housing (Islam et al. 2016).

Shipping-container homes are popular in urban and suburban areas, especially among eco-conscious homeowners. Their appeal lies in their creative reuse of existing materials, flexibility in design, and rapid construction timeline.

Grain-Bin Homes

Grain-bin homes are a form of upcycled housing that repurposes large cylindrical grain storage bins into residential units. These structures typically feature a conical roof and a large, round, steel frame that is modified to include doors, windows, insulation, and necessary interior components. The absence of load-bearing walls makes it easier to customize the interior space. Grain-bin homes are typically placed on a foundation, and owners may choose to attach multiple bins together to create larger living spaces.

A grain-bin home
in Alder, Montana
(Credit: [E.L.
Mulvaney/Flickr](#))



However, not all grain bins are designed with the same level of engineering, and many lack the strength to withstand extreme weather conditions without reinforcement. For example, the 2020 derecho in Iowa demonstrated the vulnerability of grain bins to high winds (Wittich and Praeuner 2022).

The conversion of a grain bin into a home is generally a more affordable option than traditional home construction, due to the low-cost availability of used grain bins. Grain-bin homes can be constructed relatively quickly, depending on the complexity of modifications.

Grain-bin homes are especially prevalent in the Midwest, including states like Iowa, where farming is central to the local economy. They appeal to those seeking unique, sustainable, and cost-effective housing solutions and attract individuals

interested in rural living or those who want to integrate a farm aesthetic into their lifestyle.

Quonset Homes

Quonset homes are constructed from the distinctive Quonset hut design, which consists of a metal, arch-shaped structure typically made from galvanized steel. These simple, durable buildings do not require interior load-bearing walls, allowing for flexible interior layouts. Although they are generally low-maintenance structures, Quonset homes can be prone to issues like condensation and extreme temperature fluctuations.

The Quonset hut design was originally developed during World War II by the U.S. military to create a portable, durable shelter for soldiers (Arsenault 2022). After the war, surplus Quonset huts became

available for civilian use, and over the years, many people adapted these buildings into homes, garages, and storage spaces.

Quonset homes are relatively easy and fast to build, especially because the steel structure is prefabricated and often requires minimal labor to assemble. Once the frame is in place, interior walls and finishes can be added to meet the specific needs of the owner. Depending on the level of customization and the inclusion of amenities, the construction timeline can range from a few weeks to several months, and total costs are often \$81–\$102 per square foot (BuildingsGuide 2024).

Quonset homes are most common in rural and exurban areas. While their distinctive appearance may be considered unattractive by some, the ruggedness and affordability of Quonset homes continue to appeal to individuals looking for unique, cost-effective housing options. Additionally, the sustainability of the materials and the potential for recycling make Quonset homes attractive to environmentally conscious buyers.

Earth-Shelter Homes

Earth-shelter homes can take several forms, ranging from earth-covered roofs to fully underground or bermed structures built into the hillside. The defining feature of earth-shelter homes is their natural insulation provided by the earth surrounding them, which helps maintain a constant internal temperature and reduces energy consumption.

Earth sheltering has ancient roots, with many early civilizations building homes into hillsides or using natural materials like stone and earth to construct dwellings. In modern times, the concept gained popularity in the mid-20th century with the rise of eco-conscious movements and increased interest in energy efficiency and environmental conservation.

Building an earth-shelter home typically requires careful planning, due to the unique construction methods and land preparation needed. Without proper ventilation, these structures are prone to moisture buildup and poor air quality. Another consideration is ensuring that the structure can handle environmental

*Quonset homes
in the True North
Quonset village
in Detroit (Credit:
[SteelMaster
Buildings/Flickr](#))*



pressures, such as rainwater runoff or potential soil shifts.

Consequently, many earth-shelter homes take longer to build than conventional homes. Because they are more labor intensive and require specialized materials, construction costs can be 20 percent higher than for traditional homes, especially for fully underground dwellings (USDOE n.d.). Furthermore, obtaining financing for these types of homes can be more difficult, as they are less common and may require more complex assessments of the land and structure.

Earth-shelter homes are typically found in rural or remote areas, where homeowners are more likely to prioritize sustainability and privacy over traditional architectural designs. These homes can be particularly appealing in regions with challenging climates, where the earth's natural insulation can offer protection from extreme weather conditions. However, the higher construction costs, potential financing difficulties, and specialized land requirements mean these homes are often out of reach for the average homebuyer.

Common Regulatory Barriers

Unconventional housing offers consumers greater flexibility and creative solutions to meet their housing needs. These options, however, have distinct features that may lead to zoning and building code compliance challenges. While some jurisdictions define and explicitly prohibit certain housing types, more commonly, barriers arise because local codes do not explicitly acknowledge unconventional housing.

Restrictive or Ambiguous Dimensional Standards

For the most part, unconventional housing types do not face special barriers related to district-based dimensional standards, such as minimum lot sizes, setbacks, height limits, and maximum lot coverage ratios. These types of housing can often meet traditional zoning criteria, provided the homes fit within typical residential envelopes. However, challenges can arise when zoning administrators struggle to interpret how these standards apply to these housing types.



An earth-shelter home in Hawley, Massachusetts
(Credit: Formworks Building)

For example, earth-shelter homes, which may be partially built into the ground or covered with earth, present a challenge for zoning administrators when it comes to setbacks, lot coverage, and minimum floor area requirements. These homes often don't conform neatly to the usual definitions of what constitutes a "building," as their earth-covered roofs or bermed designs complicate measurements for lot coverage and setbacks. Zoning codes may not account for such designs, resulting in uncertainty about whether these standards apply or how staff should interpret them for a structure that is not fully visible.

Similarly, adaptive reuse of grain bins can present issues related to height limits. While many zoning codes exempt agricultural structures such as grain bins from height restrictions, they often do not specify how to address these structures once they are converted into residential dwellings. As a result, zoning administrators may struggle to apply maximum height limits to taller grain-bin homes that may exceed the typical residential height. In these cases, the ambiguity or lack of specificity in zoning codes can lead to inconsistent interpretation and application of specific standards.

*A Quonset home
in Asheboro, North
Carolina (Credit:
[SteelMaster
Buildings/Flickr](#))*



Residential Design, Appearance, or Form Standards

Some cities, towns, and counties require all residential development in specific zoning districts to comply with design guidelines or standards. While these regulations are often intended to maintain a cohesive visual character or preserve community heritage, they can pose a significant challenge for unconventional housing types.

Many of the housing types discussed above cannot comply with guidelines and standards that require adherence to traditional architectural styles or building materials (Islam et al. 2016; Lomholt 2022). Zoning codes that restrict the use of steel, metal, or other industrial materials can severely limit the ability to incorporate such materials into the construction of these housing types, even though these materials are often chosen for their durability, cost-effectiveness, and sustainability.

Unconventional housing types also encounter challenges when attempting to meet standards or guidelines that specify compatibility with the architectural features of nearby homes. Many zoning codes are designed with the assumption that new construction will mirror the appearance of surrounding residences, which can be difficult for many unconventional homes. For example, a Quonset hut's distinctive

arched steel structure may be at odds with the angular, traditional homes in suburban neighborhoods. Similarly, earth-shelter homes, with their natural roofs and earth-covered exteriors, may not align with the expectations of residential design codes that prioritize visible, exterior-facing façades. As a result, the unique architectural forms of alternative homes can clash with zoning regulations designed to preserve neighborhood aesthetics, making it harder for these projects to gain approval.

Furthermore, form-based zoning ordinances, which are designed to regulate the physical form of buildings rather than their use, can impose additional restrictions. These ordinances often specify permitted building types for each zoning district, which can create challenges for alternative housing solutions that do not conform to the predefined building forms. For instance, form-based codes may not have provisions for adaptive reuse structures, like grain-bin homes or container homes, that are not explicitly listed as permissible building types (Battaglia and Lee 2020). As a result, these housing types may not be allowed or may require special approvals or variances to comply with form-based regulations, even if they meet all other functional requirements for residential use.

Limits on Home Occupations

Some of the housing types above can also face zoning barriers related to the usage of the structure. Barndominiums and shouses, for instance, typically offer ample space for inhabitants to engage in home occupations. However, residential zoning standards often restrict the total floor area devoted to a home occupation to 10 percent of a home.

Additionally, the mixed-use nature of these structures may preclude their construction in certain zones and require a rezoning request from the applicant. This request may be at odds with neighboring properties or community plans.

Furthermore, many communities impose limitations based on stereotypes, rather than actual neighborhood impact. Restrictions such as prohibiting the use of accessory buildings for home businesses or requiring additional off-street parking further hinder the ability to run a home occupation. These barriers make it harder for homeowners to fully utilize their properties for both residential and business purposes.

Outdated building codes pose obvious barriers to unconventional housing in instances where those codes narrowly define permissible construction methods or building materials

Outdated or Incomplete Building Codes

Once a proposed home clears the zoning hurdles, it still must meet the jurisdiction's building codes. Outdated building codes pose obvious barriers to unconventional housing in instances where those codes narrowly define permissible construction methods or building materials. However, many local jurisdictions have adopted or are compelled to use residential building codes based on the most recent version of the International Residential Code (IRC). For these jurisdictions, specific housing types may have trouble

satisfying standards, without local addendums or modifications.

The 2021 version of the IRC states that its provisions are “not intended to prevent the installation of any material or to prohibit any design or method of construction” ([§R104.11](#)). But the base code does not explicitly address most of the unconventional housing types discussed above. In many states, it is the jurisdiction's responsibility and prerogative to adopt supplemental sections of the building code that may apply to nontraditional construction methods or materials. For instance, [Appendix AW](#) of the 2021 IRC addresses the requirements for 3D printed structures.

The 2021 IRC also states intermodal shipping containers must meet the more rigorous structural requirements of the International Building Code (IBC) if they are to be used as a structure ([§R301.1.4](#)). Additionally, these structures may have trouble meeting room height requirements. The minimum room height requirement in the 2021 IRC is seven feet ([§R305.1](#)) and the standard shipping container has a height of 8.5 feet. This 1.5-foot difference can easily be taken up with heating, ventilation, and air conditioning systems.

While barndominiums and shouses may not have trouble complying with the IRC, they may have features, like large attached garages or workshops, that trigger stricter fire safety standards (MDLI n.d.). Additional challenges related to energy efficiency, structural security, and ventilation code requirements may impact design and hinder the construction of such homes.

Earth-shelter homes bring forth other challenges for zoning and building officials. There are no authoritative building codes that explicitly address these homes; consequently, building officials are often on their own to interpret whether a proposed structure satisfies local requirements.

Potential Regulatory Reforms

Planners and local officials have various tools at their disposal to address and remove regulatory barriers to

unconventional housing types. Some of these approaches, such as flexible zoning regulations or more adaptable building codes, can be broadly applied across multiple housing types. Other strategies may be more specific to certain housing types, such as unique considerations for shipping containers or earth-sheltered homes. By identifying the right mix of reforms, communities can foster more inclusive and forward-thinking housing solutions.

Remove Ambiguity Through New Use Definitions and Permissions

Clarifying zoning codes by defining unconventional housing types as distinct uses can help remove regulatory uncertainty and streamline their development. Several jurisdictions have taken this approach, creating specific definitions for housing types like barndominiums, shipping container homes, or earth-sheltered dwellings within their codes (Table 1).

Table 1. Examples of Use Definitions

Jurisdiction	Use Definitions
Ellsworth, KS	<i>Earth-sheltered dwelling.</i> A single-family dwelling constructed so that fifty (50) percent or more of the exterior surface area of the building, excluding garages and other accessory structures, is covered with earth. Such a dwelling is a complete structure that does not serve just as a foundation or substructure for above-grade construction. A partially completed building shall not be considered earth-sheltered. Bulk regulations shall be measured from the structural part of the dwelling as distinguished from the earth covering. (§17.08)
Haines Borough, AK	<i>Container home</i> means a shipping container or Conex-like container that has been converted into a dwelling. (§18.20.020)
Hickman, NE	<i>Cargo container dwelling:</i> a dwelling unit constructed of one or more new or used cargo containers used for multi-modal shipping. <i>Grain bin dwelling unit:</i> A dwelling unit constructed of one or more grain bins, new or used meeting the definition of dwelling unit above. <i>Quonset home:</i> A home constructed beneath and in a structure referred to as a Quonset. <i>Shouse:</i> A combination of a dwelling unit and machine shed under a common or connect roofing system. <i>Tree house:</i> A dwelling unit where the primary structure of the unit is based on one or more tree clusters. (§2.03)
Jamestown, ND	<i>Shouse (use definition)</i> means a structure that contains a dwelling unit within or attached to an oversized garage, storage space, or personal workshop. Shouses are generally constructed of seam metal, with residential-style doors and windows along the primary frontage. (§2.2)
Maupin, OR	<i>Barndominium</i> means a steel structure originally intended for agriculture, commercial or industrial use that is placed upon a lot or parcel and has living quarters constructed within it to serve as a single-family dwelling. <i>Cargo container conversion</i> means one or more cargo containers designed to ship cargo by land, sea and air that is converted into a single-family dwelling. Such cargo containers must be certified by the seller to have never been used to carry hazardous material. (§18.10.030)
Rabun County, GA	<i>Non-traditional dwelling</i> means a dwelling unit built using non-traditional methods of construction to include: Container homes, tree houses, yurts, sub-terranean homes, and quonset huts. Non-traditional dwelling units must meet minimum square footage requirements and be accompanied by a Georgia certified engineers set of stamped blueprints confirming said dwelling can be built to International Building Code (IBC). (§56-1)

By establishing these as distinct uses, planners can explicitly identify where these housing options are permissible or conditionally permissible, such as through discretionary use permits. This ensures that applicants and officials can navigate the approval process more effectively, reducing delays and disputes.

Authorize Unconventional Building Materials

Explicitly authorizing the use of unconventional building materials in zoning and building codes can significantly reduce regulatory barriers for nontraditional homes. For jurisdictions with appearance standards, specifying permissible materials—such as metal for barndominiums, shouses, grain-bin homes, and shipping container homes—can streamline approval processes and provide clarity for developers and homeowners.

This proactive approach allows communities to guide aesthetic and structural outcomes, while supporting creative housing solutions. By including these materials in local standards, planners can balance innovation with neighborhood compatibility, ensuring these homes meet safety and design expectations without unnecessary hurdles.

For example, Rancho Palos Verdes, California, explicitly authorizes the use of cargo containers as “integral structural elements” for residences ([§17.76.180.D](#)). Similarly, Franklin County, Florida, permits single-family *metal structures* and *pole barn dwellings*, subject to use-specific standards ([§5.5-2](#)).

Create Limited Exemptions from Zoning Standards

Limited exemptions from zoning standards can play a vital role in accommodating unconventional housing types. Adaptive reuse projects, such as converting grain bins or barns into residential spaces, often face challenges meeting strict dimensional or site development standards originally designed for traditional homes. Granting exemptions for elements like setback requirements or building height can make these projects feasible while maintaining compatibility with surrounding uses.

Similarly, earth-sheltered homes, which may not align with typical zoning

parameters due to their unique design, benefit from exemptions related to lot coverage or daylight access standards. These targeted adjustments ensure zoning flexibility without compromising broader planning objectives.

For example, Linwood Township, Minnesota, explicitly exempts earth-sheltered homes from roof pitch and overhang standards ([§30-994](#)). Similarly, Three Rivers, Michigan, exempts earth-sheltered homes from a prohibition on basement dwelling units ([§30-10](#)). Manchester, Georgia, establishes broad support for “emerging building and housing technologies,” clarifies that there is no minimum building height for residences, and exempts below-grade spaces from lot coverage calculations ([§466](#)).

Broader adaptive reuse authorizations can help unconventional homes that entail the reuse of a nonresidential structure, like a grain bin or barn. For instance, Luddington, Michigan, exempts the adaptive reuse of any structure that is at least 30 years old and over 3,000 square feet in size from dimensional standards ([§900.3:33](#)).

Liberalize Home Occupation Standards

Liberalizing home occupation standards can facilitate the development of barn-dominiums and shouses, which naturally lend themselves to more extensive and intensive home-based businesses due to their size and layout. Adopting flexible



An accessory dwelling unit constructed from a shipping container
(Credit: Kubed Living)



A barndominium under construction in Trempealeau County, Wisconsin
(Credit: [Wikideas1/Wikimedia Commons](https://www.wikideas1.com/Wikimedia Commons))

regulations allows residents to maximize the utility of these mixed-use spaces.

Planners and local officials can balance flexibility and oversight by using objective, use-specific standards or discretionary use permits. These approaches, particularly in suburban residential districts, help accommodate a wider range of home occupations while addressing potential impacts on surrounding neighborhoods, fostering both innovation and community compatibility (see “[Equitable Zoning for Home Occupations](#)” in the September 2023 issue of *Zoning Practice*).

Address Compatibility Concerns Through Objective Use-Specific Standards

Community concerns about unconventional housing types often revolve around specific characteristics, such as aesthetics, height, or site layout. Objective use-specific standards provide a practical way to address these concerns, without an overreliance on discretionary permits.

By establishing clear, measurable requirements—such as setbacks, façade treatments, or noise limitations—planners can ensure compatibility while giving developers greater certainty about project outcomes. This approach not only reduces administrative burden but also

fosters community trust by demonstrating that potential impacts are being addressed in a consistent and transparent manner.

For example, Antelope County, Nebraska, has established detailed use-specific standards for *grain bin homes*, *cargo container homes*, *Quonset homes*, *shouses*, and other “special types” of dwelling units ([§8.15](#)). Similarly, Sandy, Utah, has special development standards for *earth-sheltered dwellings* ([§21-11-4](#)).

Create a Planned Development Option or Zoning Overlay

Another possible innovative solution is the creation of overlay zones specifically designed for unique housing types. Overlay zones can provide tailored regulations that address the distinct characteristics and needs of these homes, such as shipping-container homes or earth-shelter houses. By establishing these zones, planners can facilitate the approval process and ensure that these housing options are compatible with existing communities.

Update Building Codes

As new technologies and materials emerge, it is crucial for building codes to evolve accordingly. Planners should advocate for updating building codes to

integrate these innovations, ensuring that unique housing types meet safety and performance standards. For instance, 3D-printed homes and modular constructions often use advanced materials and construction techniques that traditional codes may not cover. Updating these codes can help streamline the permitting process and promote the adoption of cutting-edge construction methods.

Additionally, establishing guidelines for sustainable and resilient construction can encourage the development of environmentally friendly and disaster-resistant homes. Planners can collaborate with industry experts to create standards that promote the use of renewable materials, energy-efficient designs, and construction practices that enhance the durability and sustainability of unique housing types.

To illustrate, Valley Center, Kansas, includes special requirements for *3D printed concrete buildings* in its building code ([§14.04.040](#)). And Cleveland, Wisconsin, establishes distinct building code requirements for *earth sheltered homes* ([§10-7-13](#)).



An earth-shelter home under construction in Hawley, Massachusetts
(Credit: Formworks Building)

Conclusions

Unconventional homes are gaining traction as innovative alternatives to traditional housing. Each of the types discussed above offers unique benefits and challenges, underscoring the need for adaptable zoning and building codes. Modernizing regulations to accommodate these structures can encourage their integration into communities while ensuring safety and sustainability.

Engaging the community is essential for understanding what unique housing types residents are interested in and the barriers they are encountering. Planners should actively seek input on the specific challenges and preferences of their community. By listening to residents, planners can identify the obstacles that prevent the construction or occupancy of unconventional housing types and work collaboratively to address these concerns. This approach not only ensures that planning decisions reflect community needs but also fosters a sense of shared responsibility in shaping the future of housing in the area.

About the Authors



Charlie Nichols, AICP, is the Director of Planning and Development for Linn County, Iowa. He received his master's degree in urban and regional planning

from the University of Iowa and has been working in the field of planning for 10 years. Outside of work, he enjoys tending to his backyard chickens and working on home renovation projects with his wife and three children.



Benjamin Schmidt is a planning intern for Linn County, Iowa. He is currently pursuing a master's degree in urban and regional planning from the University of Iowa.

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