

Innovating infill: Evaluating a city's moveable tiny homes and RV pilot program to expand housing affordability on residential lots

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Abstract

Cities across the globe are grappling with complex challenges at the intersection of housing affordability and land-use regulation. Solutions such as infill housing and innovative dwelling types such as accessory dwelling units or tiny homes are widely recognized for their potential to address housing shortages and affordability constraints, yet regulatory uncertainty and neighborhood concerns often limit their adoption. Pilot programs can act as a governance strategy allowing municipalities to test housing innovations before broader implementation. This paper examines one such program in a mid-sized U.S. Intermountain West city that piloted moveable Tiny Homes on Wheels and Recreational Vehicles on residential lots as a form of infill housing. Using a qualitative case study approach, the study draws on interviews with property owners, tenants, neighbors, nonprofits, intermediaries, and city staff, along with site visits, and document analysis. Findings highlight the importance of intermediary organizations in facilitating implementation, the role of early adopters in advancing policy experimentation, and the influence of property costs, permitting, complexity, and neighborhood dynamics in program feasibility. Results demonstrate how pilot-based experimentation can reduce uncertainty, generate administrative learning, and build political feasibility for incremental housing reform. By identifying the institutional, infrastructural, and social conditions that shape implementation, the study contributes to scholarship on policy innovation and highlights how small-scale pilots can function as a mechanism for advancing housing policy reform in established neighborhoods.

Introduction

Cities across the globe are grappling with complex challenges at the intersection of housing affordability and land-use regulation (Chaudhary, 2024; Tatu & Srivastava, 2026; Wetzstein, 2017). Infill housing – developing within existing urban areas rather than expanding outward – is one strategy for increasing housing diversity, revitalizing neighborhoods, and reducing sprawl (AlHasawi et al., 2024; Aly & Attwa, 2013; Boudreaux, 2018; Newton & Glackin, 2014; Rowley & Phibbs, 2012). Simultaneously, innovative housing models, such as accessory dwelling units (ADUs) movable tiny homes on wheels (THOWs), are gaining attention as nimble, lower-cost means to expand housing supply. Despite growing interest, regulatory ambiguity, permitting complexity, and neighborhood concerns continue to limit widespread adoption of these housing types, particularly in urban settings, as evidenced by the popular press (Prevost, 2017), law reviews (Trambley, 2021; Troutner, 2021; Vail, 2016), and academic journals in planning and housing studies (Evans, 2021; Shearer et al., 2018; Shearer & Burton, 2023; Vasseur et al., 2022).

While existing scholarship documents the regulatory barriers facing THOWs, less attention has been paid to how municipalities experiment (i.e., innovate) with incremental infill reform through pilot programs. Small-scale infill strategies, such as backyard housing allowances, represent a form of densification operating at the parcel level within established single-family neighborhoods. Their success depends not only on formal code changes, but on a jurisdiction's willingness to change, administrative capacity, intermediary support, and neighborhood acceptance. Examining these dynamics provides insight into how cities can innovate within entrenched land use systems. The THOW and recreational vehicle (RV) pilot program examined here represents a form of incremental, small-scale infill innovation that tests how cities

can diversify housing supply within existing single-family neighborhoods, and our analyses point to the institutional conditions necessary for such innovation to succeed.

Our analysis unfolds in four stages. First, we situate the study within scholarship on tiny homes, regulatory ambiguity, and incremental urban reform, and connect these debates to theories of policy innovation and diffusion. Next we introduce the Boise, Idaho, THOW/RV pilot as a case study of municipal infill experimentation and describe the methods used in its evaluation. The findings identify the institutional, infrastructural, and social conditions under which small-scale backyard housing can be integrated into established neighborhoods. The conclusion considers how pilot-based experimentation may serve as a governance strategy for advancing urban housing innovation and shaping the diffusion of incremental land-use reform.

Background

The Challenges and Potential of THOWs as Urban Infill

In some urban contexts, particularly where land costs are high, multi-family development is the most sustainable and economical option for producing affordable housing (Vasseur et al., 2022). However, in many cities, low density development, such as single family homes on large lots, has left ample room for small infill development (e.g., THOWs, ADUs, etc.). Integration of these smaller dwellings has the potential to moderately increase densities within historically single-family neighborhoods and to diversify housing options (Glumac, 2021; Shearer et al., 2018). Their small profiles may avoid the disruptions to neighborhood character and aesthetics that larger structures can bring. THOWs' installation also requires minimal site improvement, lowering both costs and time to occupancy. Urban integration allows for the use of existing infrastructure including power, water, sewer, and transportation such as streets and sidewalks as well as public transportation. Urban locations also ensure that THOWs are near opportunities such as jobs and schools.¹ But despite the advantages presented, some THOW residents (or would-be residents) avoid these sites due to land costs and restrictive regulations (Shearer & Burton, 2023).

The challenges associated with urban tiny home development are well documented. Much of the problem stems from zoning and building codes that either explicitly prohibit small and mobile structures, or fail to address them at all (Evans, 2018). Developed in part to address perceived threats to property values, many zoning codes have restricted tiny or mobile structures in order to discourage transience, or to avoid crowding, poverty, and blight (Chernoff, 1983; Cumberbatch-Pearson, 2020; Evans, 2021; James & Shahab, 2024). For instance, minimum floor space requirements, common to many zoning codes, were intended to prevent overcrowding (Vail, 2016). While most technical and material requirements in building codes are intended to ensure that all dwellings are safe, sound, and sanitary (Evans, 2021), such policies can also increase building costs and stifle innovation (Vail, 2016).

Tiny homes on *wheels* present special challenges in terms of existing regulations. THOWs often fall into a gray area between dwellings and vehicles. In many jurisdictions, a permanently habitable dwelling must be permanently connected to utilities like water and sewer (Evans, 2018). Tiny homes on fixed foundations

meet these requirements, and are often accommodated through existing building codes (Trambley, 2021), or as part of purpose-built communities (Evans, 2020, 2021; Jackson et al., 2020; Lessard, 2022). Meanwhile, THOWs are often regarded as RVs, and subject to rules regarding camping (Brokenshire, 2018; Evans, 2018).² Typically, these rules restrict the amount of time that one may park in a given site, or the number of nights that they can be inhabited (Trambley, 2021; Vail, 2016). To avoid citations, THOW dwellers may move frequently or opt for sites where their dwellings are less likely to be noticed (Vail, 2016; Prevost, 2017; Shearer & Burton, 2023; Lessard, 2022). While these types of solutions may appeal to those for whom tiny house living is part of a broader countercultural or anti-establishment identity (Harris, 2018; Shearer et al., 2018; Weetman, 2018), it may diminish the appeal for others.

As of the early 2020s, building and zoning codes presented a lack of consensus on whether THOWs were structures or vehicles, and just which types of regulations would apply (Evans, 2021). The ambiguity and uncertainty surrounding THOW rules presents not only practical challenges, but also perceptual challenges. Multiple studies have identified the confusion around tiny home and THOW regulations as a substantial barrier to widespread adoption (James & Shahab, 2024; Vasseur et al., 2022). Complex or contradictory regulations increase the transaction costs associated with THOW adoption, and can make rural sites more appealing (James & Shahab, 2024; Shearer et al., 2018). Variation in THOW regulations from place to place can also diminish these dwellings' potential as mobile housing (Brokenshire, 2018; Shearer & Burton, 2019).

The emerging literature on the potential of THOWs as a housing solution and the barriers to their adoption makes clear the need for policy innovation in this area. In fact, a number of jurisdictions are adapting zoning and building codes to permit THOWs. For instance, the City of Los Angeles has categorized these as junior accessory dwelling units (JADUs), and San Diego has begun to allow THOWs in back yards (Trambley, 2021). Recent scholarship has also pointed to *potential* solutions, such as permitting backyard leases for THOWs (Shearer et al., 2018), or increasing tiny homes' accessibility through subsidies, tax breaks, creative financing solutions, or partnerships across private, public and philanthropic entities (Evans, 2021; Shahab, 2026; Vasseur et al., 2022). The pilot project central to this study provides an opportunity to examine policy innovation and diffusion reflective of multiple recommendations emerging from the tiny home and THOW scholarship.

Policy Innovation and Diffusion

Building on the regulatory ambiguity and implementation challenges outlined above, the question becomes not only whether THOWs can function as an infill strategy, but how municipalities navigate the institutional constraints that have historically limited adoption of land use changes. In this context, the integration of THOWs into urban neighborhoods is not only a technical or design challenge, it is also an issue of governance, requiring policy innovation within entrenched land use systems.

Diffusion scholarship defines innovation as the introduction of a policy instrument or approach in a new jurisdiction, whether or not the instrument itself is entirely novel (Rogers, 2003; Shipan & Volden, 2012). As prior research demonstrates, innovation within government is shaped by both internal and external determinants, including issue pressure, fiscal constraints, enabling legislation, policy learning, and

intergovernmental influence (Berry & Berry, 1990, 2014; Boushey, 2012; Fry, 2019; Shipan & Volden, 2012). Situating small-scale infill reforms within this framework allows us to understand municipal experimentation not as ad-hoc problem-solving, but as part of a broader process of policy learning and institutional change.

In the case of THOWs, the housing form itself is not new. However, permitting their long-term residential siting within established single-family neighborhoods represents a departure from conventional zoning practice. This shift reflects a form of incremental land-use innovation, one that recalibrates density restrictions at the parcel level while maintaining the physical and aesthetic characteristics of existing neighborhoods. Rather than pursuing large-scale rezoning or development, this approach introduces modest, distributed changes that collectively expand housing opportunities.

Pilot programs can play a critical role in this type of incremental innovation. By design, pilots function as policy experiments, allowing municipalities to test regulatory flexibility under controlled conditions (Lazarevic et al., 2024). This reduces political risk, creates space for administrative learning, and generates locally grounded evidence to inform future policy decisions. As observed in other domains, demonstration projects and targeted experimentation can shape both the trajectory and pace of policy diffusion by providing proof of concept and reducing uncertainty for other jurisdictions (Blackburn et al., 2018, 2020; Castán Broto & Bulkeley, 2013; Lazarevic et al., 2024).

At the same time, pilot-based innovation is deeply contingent upon local conditions (Hersperger et al., 2014; Koontz, 2005). The effectiveness of such efforts depends on not only formal regulatory change, but also in the interaction of institutional, social, and infrastructural factors. As the analysis in this study demonstrates, these include the presence of motivated “early adopter” property owners, the administrative capacity to navigate complex and sometimes ambiguous permitting processes, the role of intermediary organizations in facilitating implementation, and the degree of neighborhood acceptance. Together these factors shape both the feasibility of pilot implementation and the potential for broader policy adoption.

Examining Boise’s THOW/RV pilot through this lens highlights how municipal governments operationalize innovation within constrained environments. The pilot serves as a localized “laboratory” for testing not just a housing type, but a broader model of incremental infill reform, one that relies on distributed participation, relational coordination, and adaptive governance. In doing so, it offers insight into how small-scale policy experimentation can inform longer-term land-use change and contribute to the diffusion of more flexible, context-sensitive housing strategies.

Study Site and Methods

Boise, Idaho, is a fast-growing city in the U.S. Intermountain West (2024 population 237,963). Its strong economy (the city is home to multiple Fortune 500 companies, as well as the state capital), natural beauty, and access to outdoor activities have attracted migrants to the city and surrounding Treasure Valley region from pricier western states and from rural Idaho. The city added 30,000 new residents between 2010 and 2020 (US Census, 2026). Housing construction has not kept pace with this growth, resulting in steep increases in both rents and the purchase price of homes (rent for a two-bedroom apartment increased 75%

from 2017 and 2023 – see ApartmentList.com, n.d.). A City of Boise analysis estimated that to meet growing demands, the city would need around 2,000 “new or significantly renovated units each year over the next ten years,” with nearly half of these units accessible to households at or below 80% of area median income (City of Boise, 2024, p. 4).

In response to Boise’s growing housing affordability crisis, the City of Boise participated in the Harvard-Bloomberg City Leadership Initiative Innovation Track in 2021. This program provides research and resources for city leaders to expand their problem-solving capacity, build effective organizations, and improve outcomes for city residents. Part of the program teaches decision makers about using incremental innovation to facilitate long-term change (“Innovation Case Set,” 2025). This includes techniques allowing municipalities to test changes under closely monitored conditions, thus reducing risk and allowing for modifications before full implementation. As such, through this initiative, the City identified and launched two housing pilot programs designed to test innovative, small-scale solutions including an ADU incentive program and a land use code change to allow siting of THOWs. Together, these pilots aimed to explore flexible, lower-cost housing alternatives while generating insights to inform long-term policy development. The City contracted with a local housing nonprofit, LEAP Housing, to implement both pilots. The THOW Pilot was subsequently expanded to include RVs, and allowed selected Boise residents to host a THOW or RV on their residential property for 12 to 18 months. The nonprofit partner would assist with site evaluation, permitting, and matching tenants with hosts, and would oversee the grant program that reimbursed property owners for program-related expenses.

The authors served as principal investigators for an evaluation of the THOW/RV Pilot. This work focused on documenting the experiences of pilot participants – property owners, tenants, and neighbors – as well as identifying implementation successes and challenges. We requested interviews with each property owner and tenant participating in the THOW/RV Pilot, as well as property owners who made substantial progress through the site evaluation process before withdrawing, and ultimately interviewed 9 of the 13 program participants (8 property owners and 1 tenant). We also contacted 24 neighbors, using notification lists the City had generated as part of property owners’ site approval processes. We were able to arrange only 2 formal interviews with adjoining neighbors, and conducted 2 additional brief interviews with neighbors we met outside their homes while leaving contact letters. Finally, we spoke with key personnel at both the nonprofit partner and the City of Boise’s Planning and Development Services to learn about their experiences with the Pilot.

In-person interviews were conducted at locations of the participants’ choosing, usually at their homes or offices. A minority of interviews were conducted using Zoom or over the phone. Interviews typically lasted from 30 to 60 minutes. Each participant was provided an informed consent statement in advance of the interview and provided opportunities to ask questions about both the interview process and the project before granting consent. Most interviewees permitted recording; contemporaneous notes were also taken. Transcriptions were initially provided by AI services and corrected by the authors prior to analysis. In addition to our interviews, we reviewed key documents including pilot project proposals and plans, parcel maps, and communications with neighbors.

All interview transcripts and field notes were analyzed using NVivo qualitative analysis software. Initial coding was deductive, drawing on concepts from the policy innovation and implementation literature to identify themes related to early adopter motivations, administrative and regulatory processes, and the social, institutional, and infrastructural factors shaping adoption and scalability. We then employed inductive coding to capture patterns emerging from the data, particularly those related to participant characteristics and lived experiences within the pilot program.

Findings

Participant Motivation and Preparation

Most property owners were what we could call “early adopters”: willing to accept risks and to actively participate in the range of activities required to successfully install THOWs. Many participants were poised for this type of program long before its announcement. Some had previously expressed interest in hosting THOWs or RVs on their property, wanting to put extra space to use, only to be frustrated by restrictive local codes. As the planners we interviewed noted, property owners had been frustrated that this type of land use was illegal and were eager to see the policy innovation succeed. Some property owners acknowledged the uncertainties and risks associated with participation in a pilot, such as investing in upgrades for what might become a nonconforming use. The grants provided through the pilot assuaged these concerns, and, for some, were seen as a means to finance improvements that would add value to the property by preparing it for eventual development of an ADU.

We identified two primary motivations for property owners: a desire to help ease the city’s ongoing housing crisis, and access to supplemental income. Some participants had been experiencing the housing crisis in highly personal ways, such as the host of an RV occupied by a family member unable to find a spot in local RV parks. Others identified specific populations they hoped to assist, such as veterans, traveling nurses, or young people saving to buy a home. While property owners did not limit their tenant search to those populations, awareness of these groups’ struggles to find housing in Boise was an explicit motivation for program participation. Those seeking additional income were often young homeowners for whom housing expenses posed a challenge. We spoke with two participants who rented rooms in their homes as a way of supplementing their incomes; adding a THOW would expand this income stream. As one of these participants noted, helping others was among his motivations, but making money was “the highest priority.” This participant was not the only one for whom the two motivations coexisted. Those who spoke about the program’s ability to provide affordable housing were also mindful of the expenses and returns associated with their participation. Most held rents relatively low, around \$500 to \$650 a month, which met the goals of the program as well as the needs of tenants for whom living in a THOW was, in part, motivated by the desire to save on housing expenses.

Most costs associated with participation were one-time outlays for utility hookups and other site preparations – expenses eligible for reimbursement by the City once a tenant was in place. Still, several property owners minimized these costs by completing work themselves. In some cases, this was done after receiving estimates perceived as unreasonable. For instance, one property owner, discouraged by

estimates for installation of a water line, rented a trencher and completed the work with a neighbor. While other participants did rely on contractors for complex tasks like installing water and electrical utilities, most identified elements that they had completed themselves, such as trenching, pad construction, fencing, skirting, and landscaping. Importantly, it was not only property owners who used DIY skills – tenants did as well. We learned of multiple tenants who had upgraded landscaping or privacy features or addressed THOW-specific utility needs such as heat taping water lines. The tenant we spoke with was actually a builder who had constructed his THOW. He shared that by relying on his own skills and those of his acquaintances he was able to minimize the costs of THOW construction and installation. For this tenant, THOW living also aligned with his interest of self-sufficiency and desire to live more simply.

In addition to their confidence with DIY projects, most of the property owners we spoke with (6 of the 8) had prior experience in property development or as a landlord. This included renting out rooms in their primary residences or single- or multifamily properties. While these experiences familiarized participants with the fundamentals of landlord-tenant relationships, several noted that renting to a THOW and its occupant is in some ways distinct (e.g., tenants must, in many cases bring their own dwelling) and hoped to see additional resources created to assist THOW landlords, such as a how-to guide or online community.

We understand each of these aspects of pilot program participants as elements of the “early adopter” profile. Participants brought with them an awareness of the area’s housing crisis and desire to be part of the solution, and a willingness to roll up their sleeves to make the pilot work. Experience with housing innovations and with property development or as landlords prepared them for the experience, and recognition of the financial benefits stoked their motivations. These qualities eased participants’ concerns about the program’s risks. They may have also contributed to a degree of impatience regarding program implementation, and a desire to see administrative processes move along more quickly. Importantly, these traits or skills are not uniformly distributed within communities. Jurisdictions aiming to implement innovative infill projects may need to convey the benefits of adding backyard housing solutions and consider how this can be made affordable when participants lack DIY skills or initiative.

Administrative Capacity

While participant motivation and preparedness were critical to the success of the THOW pilot, the implementation of the program also depended on administrative capacity, defined here as the ability of individuals and institutions to navigate regulatory, technical, and logistical demands. Because the pilot introduced a novel form of housing within existing regulatory frameworks, both participants and city staff encountered procedural ambiguity, unfamiliar processes, and evolving requirements. As a result, administrative capacity emerged as a central factor shaping participant experiences and outcomes.

Some participants entered the process with limited familiarity with land use planning, permitting, and infrastructure requirements. For property owners, the administrative aspects of participation often proved more challenging than the physical preparation of sites. Several participants – particularly those with limited property development experience – described difficulty navigating permitting terminology, understanding application requirements, or determining which approvals were necessary. Submitting

applications and coordinating across departments introduced particular complexity. Property owners with backgrounds in construction, development, or prior landlord experience often reported greater comfort navigating permitting and infrastructure requirements. They were more likely to complete site improvements independently, communicate effectively with contractors and city staff, and troubleshoot unexpected challenges. Conversely, participants without this experience relied more heavily on guidance and support to move forward.

Time burdens associated with navigating these processes also emerged as a recurring theme. Participants frequently described the process as more time-intensive than anticipated, likely due to the experimental nature of the pilot and the lack of established procedures. Delays related to permitting, coordination of utilities, and evolving requirements contributed to extended timelines and, in some cases, uncertainty about project feasibility. These administrative demands reinforced the importance of participant flexibility and patience – characteristics often associated with early adopters of policy innovation.

In addition to individual capacity, institutional administrative capacity evolved throughout the pilot. Because the THOW model did not fit neatly within existing regulatory categories, city staff were required to interpret code provisions, adapt procedures, and develop new internal workflows. Staff described the pilot as a learning process, during which requirements were clarified and processes refined over time. Therefore, as city staff reviewed potential sites, they became familiar with which types of properties were best suited to THOWs. This adaptive approach enabled the program to move forward but also contributed to variability in participant experiences, particularly for those participating earlier in the pilot. In other words, those later in the pilot benefited from administrative capacity building and learning and received both quicker decisions on their proposal and overall guidance from staff.

Administrative complexity also influenced participation decisions. In some cases, participants withdrew from the program after encountering unexpected permitting requirements, infrastructure costs, or procedural hurdles. For others, the administrative burden reinforced the perception that participation required a higher level of commitment than initially anticipated.

Taken together, these findings highlight administrative capacity as a key determinant of pilot implementation. The success of the THOW pilot depended not only on motivated participants and suitable properties but also on the ability of individuals and institutions to navigate regulatory uncertainty and evolving procedures. As jurisdictions consider scaling or formalizing THOW policies, or other innovative land use practices, reducing administrative complexity and clarifying processes may broaden participation beyond early adopters and support more equitable access to this form of housing innovation.

Intermediary Organization

A critical factor in the implementation of the THOW pilot was the role of the intermediary organization, LEAP, and the hands-on involvement of its primary point of contact. As participants navigated a novel policy environment characterized by administrative uncertainty and evolving requirements, LEAP functioned as a bridge between property owners, tenants, and city staff. This intermediary role helped translate policy innovation into actionable steps and reduced barriers to participation.

Participants frequently described LEAP as an essential guide throughout the process. Early in implementation, LEAP conducted site visits and assessed feasibility, helping property owners understand infrastructure needs, permitting considerations, and overall project viability. Through this screening, LEAP helped narrow the initial pool of 78 interested applicants to the 10–12 for whom the program had capacity. Properties with greater likelihood of success were included; those excluded often had outstanding code violations, poor locations, or lacked curb appeal. This early screening function also reduced uncertainty and helped participants determine whether their properties were suitable for the pilot. LEAP also facilitated relationships between participants. In several cases, the organization matched property owners with prospective tenants and helped coordinate initial communication. This matchmaking function reduced risk for property owners while ensuring that tenants met pilot requirements. Participants described this coordination as particularly valuable given the experimental nature of the program and the absence of established processes.

Beyond initial coordination, LEAP served as an ongoing liaison. Participants described relying on LEAP to help navigate permitting requirements, communicate with city staff, and troubleshoot issues as they arose. This role was particularly important for participants with limited experience in development or land use processes. As one participant noted, the administrative aspects of the project could be challenging, and having a knowledgeable contact helped them move forward with greater confidence.

LEAP also provided logistical and financial support that enabled participation. Assistance with infrastructure planning, contractor referrals, and cost-sharing for site improvements helped reduce barriers and allowed projects to move forward that might otherwise have stalled. These supports were particularly important given the upfront infrastructure costs associated with placing tiny homes on private property as well as the temporary nature of a pilot program.

LEAP's role extended beyond administrative coordination to include technical guidance, relationship-building, and problem-solving. In this way, LEAP functioned as a boundary-spanning intermediary, connecting participants with institutional actors and facilitating implementation in a context characterized by regulatory ambiguity. At the same time, reliance on an intermediary underscores the resource-intensive nature of pilot implementation. LEAP staff conducted individualized site assessments, coordinated across stakeholders, and provided ongoing support. Such functions may be difficult to replicate at scale without additional capacity or institutionalization of processes. As jurisdictions consider expanding or formalizing policies for THOWs or other innovative land uses, maintaining some form of intermediary support, or embedding these functions within city processes, may be critical for broadening participation beyond early adopters.

Neighborhood Acceptance

Widespread adoption of THOWs/RVs depends on the willingness of neighbors to accept this land use innovation. While our engagement with neighbors was limited, the data we were able to gather suggests that neighbors are, for the most part, unbothered by THOWs and RVs, and may welcome them to their neighborhoods. Of note, limited response to interview invitations may reflect nonresponse bias, as

individuals who self-select into land use discussions are often more likely to hold strong, and frequently oppositional, views (Beierle, 2010; Einstein et al., 2020; Groves et al., 2011).

Neighbor notification was built-in to the pilot. Participating property owners were required to notify adjacent neighbors of their intentions. Using certified mail and a template provided by the City and LEAP, they outlined where the THOW would be installed and for how long, and solicited comments. While one property owner bemoaned his “millennial” lack of familiarity with the postal service, others reported that notifying neighbors by certified letter was simple and straightforward. Most neighbors did not express concerns or negative reactions during the notification process; only 2 formal neighbor responses were shared with us. Each asked for additional details regarding siting (including setbacks), use (e.g., potential use as a short-term rental), tenant parking, and property management. These types of concerns are not altogether different from those raised by neighbors when other new land uses are proposed nearby.

Our data indicated that, for the most part, neighbors had neutral or positive opinions on the pilot. Asked about neighbors’ reactions, most participants related positive comments their neighbors made in passing. A property owner also described multiple neighbors coming to her aid on the day the THOW was installed, when maneuvering the truck necessitated moving a gate post. One neighbor said he preferred the THOW next door to some other new housing types in the area because it did not block his view of Boise’s foothills. Another noted no negative changes and actually observed an improved yard maintenance on the participant’s lot. In fact, both neighbors we formally interviewed had observed that upkeep of parcels had improved after THOWs were installed. It may be the case that some large lots are difficult for households to manage, and THOW siting provides an occasion or incentive for additional maintenance (the nonprofit liaison was concerned that the lack of upkeep on one parcel might deter potential tenants). We also heard from property owners that THOW tenants undertake gardening projects and improve the property by adding decking and privacy screening.

Another explanation for the improved site maintenance is the participants’ commitment to the pilot’s success. Multiple participants, including both property owners and the tenant we interviewed, recognized that *how* they implemented this housing innovation would reflect on the program’s likelihood for codification. As one property owner stated, “We need to be, you know, good neighbors all along, because then we’ll be able to sustain this.” Similarly, the THOW tenant we interviewed was highly sensitive to neighbors’ concerns regarding THOW siting and the implications for privacy in their back yard. The THOW was ultimately sited with a 20-foot setback, double the required 10 feet. Describing his motivation, he said, “since it’s a pilot program, we were trying to appease people wherever possible to make sure that people were satisfied.”

Discussion and Conclusion

The Boise THOW/RV pilot illustrates the specific challenges and opportunities associated with this infill strategy. The program leveraged property owners’ interests in addressing the housing crisis as well as their desire to earn income from unused property, and guided them through an often unfamiliar landscape of permitting processes. The intermediary organization connected THOW and RV tenants with sites that

ultimately provided housing at affordable prices. Reactions from neighbors – or the general lack thereof – indicate that this form of gentle density is well tolerated in the urban and suburban neighborhoods in which the dwellings were ultimately installed. But beyond demonstrating the viability of THOWs and RVs as urban infill, we call attention to three specific ways that this program illustrates how pilot-based experimentation can serve as a government strategy for advancing urban housing innovation and shaping the diffusion of incremental land use reform.

First, we observed that the pilot program's design *reduced the uncertainty* associated with undertaking a new land use. Our data pointed to multiple types of uncertainty associated with installation and use of THOWs and RVs as infill housing: whether structures and utilities would be compliant with codes; what it might mean to rent one's property in this unfamiliar way; whether income would be sufficient to recoup the expenses of site preparation; and, relatedly, whether property owners would be able to attract appropriate tenants. The pilot design and actions of intermediary organization were crucial in addressing these uncertainties by assessing sites' appropriateness, providing guidance through permitting processes, and facilitating connections between property owners and potential tenants. The financial uncertainty associated with participation was eased through program grants. While grants to reimburse the expenses associated with site preparation may not be sustainable long term, the use of these grants allowed the city to learn the true costs of site preparation, information that can be shared with future participants.

Identifying the costs associated with THOW or RV installation is just one example of the *administrative learning* that occurred through the pilot program. More broadly, the pilot generated insight into the types of resources participants needed to succeed, including access to technical knowledge, upfront capital for infrastructure improvements, and ongoing guidance through permitting and compliance processes. This learning extended to the intermediary and city staff. It clarified the range and variability of site preparation costs, which were often highly dependent on parcel-specific conditions such as utility access and layout. In addition, the pilot revealed the importance of intermediary support and clear communication channels, particularly for participants without prior experience in development or land use processes. These lessons point to the need for more standardized information, streamlined procedures, and accessible support systems if participation is to extend beyond early adopters. In this way, administrative learning extended beyond cost identification to encompass a more comprehensive understanding of the institutional supports and process improvements necessary to scale this form of incremental infill housing. Importantly, these forms of administrative learning are not only relevant for local program refinement but also contribute to broader processes of policy diffusion, as they provide actionable knowledge that can reduce uncertainty for other jurisdictions considering similar reforms. By translating pilot experiences into clearer expectations, cost benchmarks, and implementation pathways, cities can lower barriers to adoption and accelerate the spread of incremental infill innovations.

Finally, the pilot allowed the City of Boise to assess the *political feasibility* of allowing long-term siting of RVs or THOWs on residential parcels. The enthusiastic response to the pilot from would-be participants, as well as the general lack of response by neighbors of the included parcels, provided the City with evidence for the feasibility of a permanent code change. Importantly, had serious problems occurred with the pilot, whether issues with safety and sanitation, resistance from neighbors, or unforeseen challenges with

implementation, the City would have a built-in opportunity to halt the program and change course. Ultimately, the City integrated long-term siting of THOWs into its Modern Zoning Code in 2025, and, through a 2026 update, allowed for up to two THOWs (or a combination of up to two THOWs or ADUs) on residential parcels with adequate space (Carmel, 2025; Dee, 2026).

We also recognize in this study parallels to other housing innovations. A key benefit of the pilot was assistance in navigating planning and permitting processes. This mirrors findings regarding successful implementation of ADU programs. As Pothukuchi and Guinn (2025) conclude in their analysis of diverse literature on ADUs and affordability, the difficulty of navigating city codes not only adds cost to these projects, it can pose an insurmountable barrier. “Ecosystems” of ADU implementation are, in their analysis, one potential solution. Our research suggests that similar ecosystems, facilitating the sharing of plans, contacts, and THOW-specific knowledge, would also ease adoption and implementation. In particular, institutionalizing the intermediary functions observed in this pilot, whether through nonprofit partnerships or embedded in municipal support, may be critical to expanding participation beyond early adopters. More broadly, these findings reinforce that successful diffusion of small-scale housing innovations depends not only on regulatory change, but on the development of supportive implementation infrastructure that reduces complexity and builds participant capacity.

In reviewing a single pilot program, we recognize the limitations of this study’s generalizability. As a case study grounded in one mid-sized U.S. city with specific institutional, political, and housing market conditions, the findings may not translate directly to jurisdictions within other regulatory environments, land use patterns, or levels of administrative capacity. At the same time, the proposed analysis aims not to produce generalizable findings, but to generate content-rich insights into the processes and conditions that shape implementation of incremental housing innovation. We also acknowledge that some groups – particularly tenants and neighbors – are underrepresented in our data. Such limited participation may reflect both challenges in recruitment and varying levels of engagement with the pilot itself. In contrast, property owners’ commitment to the pilot, their relationships with the intermediary organization, and, in some cases, the receipt of grant funds, may have motivated them to participate in the evaluation. As a result, the findings would benefit from a more robust inclusion of tenant and neighbor experiences, as well as comparative analysis across multiple jurisdictions of pilots or other land use policy innovations.

This study highlights the potential of pilot-based experimentation as a governance strategy for advancing incremental housing innovation. The Boise THOW/RV pilot demonstrates that small-scale, parcel-level interventions can expand housing options in ways that are both administratively feasible and socially acceptable, particularly when supported by motivated participants, intermediary organizations, and adaptive institutional processes. At the same time, the findings underscore that regulatory change alone is insufficient; successful implementation depends on reducing administrative complexity, building supportive ecosystems, and generating the practical knowledge necessary for broader adoption. By illuminating the institutional, infrastructural, and social conditions that shape these efforts, this study contributes to a growing understanding of how cities can operationalize policy innovation. As housing affordability challenges persist across diverse contexts, pilot programs such as this one offer a pragmatic pathway for testing, refining, and ultimately diffusing more flexible approaches to infill housing.

Declarations

Author Contribution

V.F. and K.P. contributed equally to the conceptualization and design of the study, data collection, analysis and interpretation of findings, and development and writing of the manuscript. Both authors reviewed and approved the final manuscript.

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Data Availability

The qualitative data generated and analyzed during this study are not publicly available because they contain information that could permit identification of participants given the small number of individuals involved in the pilot program and the context-specific nature of the interviews. To protect participant confidentiality and comply with human-subjects research protections, the underlying interview data are not available for public release.

References

1. AlHasawi, M., Maatouk, M. M. H., & Qurunfulah, E. (2024). Key Success Factors of Urban Infill Development: A Conceptual Framework. *European Journal of Architecture and Urban Planning*, 3(3), 9–17. <https://doi.org/10.24018/ejarch.2024.3.3.40>
2. Aly, S., & Attwa, Y. (2013). Infill development as an approach for promoting compactness of urban form. 173, 455–466. <https://doi.org/10.2495/SDP130381>
3. ApartmentList.com. (n.d.). Apartment List Blog—Data & Rent Estimates. Retrieved January 3 (2025). from <https://www.apartmentlist.com/research/category/data-rent-estimates>
4. Beierle, T. C. (2010). *Democracy in practice: Public participation in environmental decisions*. Routledge. <https://api.taylorfrancis.com/content/books/mono/download?identifierName=doi&identifierValue=10.4324/9781936331017&type=googlepdf>.
5. Berry, F. S., & Berry, W. D. (1990). State lottery adoptions as policy innovations: An event history analysis. *The American Political Science Review*, 395–415.
6. Berry, F. S., & Berry, W. D. (2014). Innovation and Diffusion Models in Policy Research. In P. A. Sabatier, & C. M. Weible (Eds.), *Theories of the Policy Process*. Westview.
7. Blackburn, C. J., Flowers, M. E., Matisoff, D. C., & Moreno-Cruz, J. (2018). Do Pilot and Demonstration Projects Work? (Working Paper No. 7252). CESifo Working Paper. <https://www.econstor.eu/handle/10419/185450>

8. Blackburn, C. J., Flowers, M. E., Matisoff, D. C., & Moreno-Cruz, J. (2020). Do Pilot and Demonstration Projects Work? Evidence from a Green Building Program. *Journal of Policy Analysis and Management*, 39(4), 1100–1132. <https://doi.org/10.1002/pam.22218>
9. Boudreaux, P. (2018). Infill: New Housing for Twenty-First Century America. *Fordham Urban Law Journal*, 45(3), 595.
10. Boushey, G. (2012). Punctuated equilibrium theory and the diffusion of innovations. *Policy Studies Journal*, 40(1), 127–146.
11. Brokenshire, S. (2018). Tiny houses desirable or disruptive? *Australian Planner*, 55(3–4), 226–231. <https://doi.org/10.1080/07293682.2019.1634114>
12. Burel, D. (2017). In Search of the RV. <https://doi.org/10.3167/mih.2017.080115>
13. Carmel, M. (2025). June 13). Boise City Council considers changes to zoning code for tiny homes, added density near airport. BoiseDev. <https://boisedev.com/2025/06/13/tiny-home-zoning/>
14. Castán Broto, V., & Bulkeley, H. (2013). A survey of urban climate change experiments in 100 cities. *Global Environmental Change*, 23(1), 92–102. <https://doi.org/10.1016/j.gloenvcha.2012.07.005>
15. Chaudhary, G. (2024). The Role of Public Policy in Housing Affordability and Urban Development. *Integrated Journal for Research in Arts and Humanities*, 4(6), 658–664. <https://doi.org/10.55544/ijrah.4.6.45>
16. Chernoff, S. N. (1983). Behind the Smokescreen: Exclusionary Zoning of Mobile Homes Note. *Washington University Journal of Urban and Contemporary Law*, 25, 235–268.
17. City of Boise (2024). City of Boise Housing Needs Analysis 2024 Update. City of Boise. <https://www.cityofboise.org/programs/housing/housing-needs-analysis/>
18. Cohen, M. J. (2021). New Conceptions of Sufficient Home Size in High-Income Countries: Are We Approaching a Sustainable Consumption Transition? *Housing. Theory & Society*, 38(2), 173–203. <https://doi.org/10.1080/14036096.2020.1722218>
19. Cumberbatch-Pearson, L. (2020). Exploring the Need for Tiny Houses in Urban Cities [Rutgers, the State University of New Jersey]. <https://rucore.libraries.rutgers.edu/rutgers-lib/65815/PDF/1/play/>
20. Dee, M. (2026). March 12). EVs out, ADUs in: Boise bets these changes hold answers in housing search. *Idaho Statesman*. <https://www.idahostatesman.com/news/local/community/boise/article315013906.html>
21. Einstein, K. L., Glick, D. M., & Palmer, M. (2020). Neighborhood defenders: Participatory politics and America's housing crisis. *Political Science Quarterly*, 135(2), 281–312.
22. Evans, K. (2018). Integrating tiny and small homes into the urban landscape: History, land use barriers and potential solutions. *Journal of Geography and Regional Planning*, 11(3), 34–45. <https://doi.org/10.5897/JGRP2017.0679>
23. Evans, K. (2020). Tackling Homelessness with Tiny Houses: An Inventory of Tiny House Villages in the United States. *The Professional Geographer*, 72(3), 360–370. <https://doi.org/10.1080/00330124.2020.1744170>

24. Evans, K. (2021). Overcoming Barriers to Tiny and Small Home Urban Integration: A Comparative Case Study in the Carolinas. *Journal of Planning Education and Research*, 41(3), 270–281.
<https://doi.org/10.1177/0739456X18788938>
25. Fry, V. C. (2019). Pay for Success: Diffusion of Policy Innovation for Social and Economic Stability. *Public Administration Review*, 79(5), 784–790. <https://doi.org/10.1111/puar.13100>
26. Glumac, B. (2021). Tiny portable home: Measuring the rental preferences. *Cities*, 116, 103279.
<https://doi.org/10.1016/j.cities.2021.103279>
27. Groves, R. M., Fowler Jr, F. J., Couper, M. P., Lepkowski, J. M., Singer, E., & Tourangeau, R. (2011). Survey methodology. John Wiley & Sons. [https://books.google.com/books?hl=en&lr=&id=ctow8zWdyFgC&oi=fnd&pg=PR15&dq=Robert+M.+Groves+et+al.+ \(2009\).+Survey+Methodology+\(2nd+ed.\).&ots=fhJL6zXhXc&sig=Pnp-FAo0EcQIP_m4hBVusuUYmIA](https://books.google.com/books?hl=en&lr=&id=ctow8zWdyFgC&oi=fnd&pg=PR15&dq=Robert+M.+Groves+et+al.+ (2009).+Survey+Methodology+(2nd+ed.).&ots=fhJL6zXhXc&sig=Pnp-FAo0EcQIP_m4hBVusuUYmIA)
28. Harris, T. (2018). *The Tiny House Movement: Challenging Our Consumer Culture*. Rowman & Littlefield.
29. Hersperger, A. M., Franscini, G., M.-P., & Kübler, D. (2014). Actors, Decisions and Policy Changes in Local Urbanization. *European Planning Studies*, 22(6), 1301–1319.
<https://doi.org/10.1080/09654313.2013.783557>
30. Huang, H., & Herbert, C. W. (2025). Long-Term Temporary Disaster Recovery Housing: Living in RVs Post-Wildfire. *Rural Sociology*, 90(3), e70019. <https://doi.org/10.1111/ruso.70019>
31. Innovation Case Set (2025, March 13). Bloomberg Harvard City Leadership Initiative.
<https://www.cityleadership.harvard.edu/resources/collection/innovation-case-set/>
32. Jackson, A., Callea, B., Stampar, N., Sanders, A., Rios, A. D. L., & Pierce, J. (2020). Exploring Tiny Homes as an Affordable Housing Strategy to Ameliorate Homelessness: A Case Study of the Dwellings in Tallahassee, FL. *International Journal of Environmental Research and Public Health*, 17(2).
<https://doi.org/10.3390/ijerph17020661>
33. James, M., & Shahab, S. (2024). Big costs for tiny houses: Exploring the transaction costs of developing tiny houses in England. *International Journal of Housing Policy*, 24(3), 421–445.
<https://doi.org/10.1080/19491247.2024.2308725>
34. Koontz, T. M. (2005). We Finished the Plan, So Now What? Impacts of Collaborative Stakeholder Participation on Land Use Policy. *Policy Studies Journal*, 33(3), 459–481.
<https://doi.org/10.1111/j.1541-0072.2005.00125.x>
35. Lazarevic, D., Mokkila, S., Kivimaa, P., Lukkarinen, J., & Toppinen, A. (2024). Municipal experimental policy engagements in the built environment. *Environmental Innovation and Societal Transitions*, 52, 100888. <https://doi.org/10.1016/j.eist.2024.100888>
36. Lessard, G. (2022). The scaling up of the tiny house niche in Quebec – transformations and continuities in the housing regime. *Journal of Environmental Policy & Planning*, 24(6), 625–639.
<https://doi.org/10.1080/1523908X.2021.2022464>
37. Newton, P., & Glackin, S. (2014). Understanding Infill: Towards New Policy and Practice for Urban Regeneration in the Established Suburbs of Australia's Cities. *Urban Policy and Research*, 32(2), 121–143. <https://doi.org/10.1080/08111146.2013.877389>

38. Null, R., & Bailey, A. (1994). The RV Lifestyle: An Exploratory Research Approach. *Housing and Society*. (world). <https://www.tandfonline.com/doi/abs/10.1080/08882746.1994.11430202>
39. Pothukuchi, K., & Guinn, A. (2025). Beyond Zoning Reform: A Review of Strategies for Accessory Dwelling Unit Affordability. *Journal of Planning Literature*, 08854122251396918. <https://doi.org/10.1177/08854122251396918>
40. Prevost, L. (2017). October 6). Where Can You Park a Tiny Home? The New York Times. <https://www.nytimes.com/2017/10/06/realestate/where-can-you-park-a-tiny-home.html>
41. Rogers, E. M. (2003). *Diffusion of Innovations*, 5th Edition (5th edition). Free Press.
42. Rowley, S., & Phibbs, P. (2012). Delivering diverse and affordable housing on infill development sites (Vol. 193). Australian Housing and Urban Research Institute Melbourne. https://www.academia.edu/download/39571287/Delivering_diverse_and_affordable_housin20151031-28182-i1x29j.pdf
43. Shahab, S. (2026). Tiny Houses: A Housing Solution or a Planning Problem? In E. Foster, K. Bell, & S. Shahab (Eds.), *The Sage Handbook of Eco-Social Policy and Politics*. Sage Publications Ltd.
44. Shearer, H., Bares, V., Pieters, R., Winkle, B., & Meathrel, K. (2018). Planning for tiny houses. *Australian Planner*, 55(3–4), 147–156. <https://doi.org/10.1080/07293682.2019.1632358>
45. Shearer, H., Burton, P., & Housing (2019). *Theory & Society*, 36(3), 298–318137507887). <https://doi.org/10.1080/14036096.2018.1487879>.
46. Shearer, H., & Burton, P. (2023). Tiny houses: Movement or moment? *Housing Studies*, 38(3), 360–382162354631. <https://doi.org/10.1080/02673037.2021.1884203>
47. Shipan, C. R., & Volden, C. (2012). Policy diffusion: Seven lessons for scholars and practitioners. *Public Administration Review*, 72(6), 788–796.
48. Simpson, D. (2008). Nomadic Urbanism: The Senior Full-time Recreational Vehicle Community. *Interstices: Journal of Architecture and Related Arts*, 34–46. <https://doi.org/10.24135/ijara.v0i0.343>
49. Tatu, S., & Srivastava, D. A. K. (2026). Urban Planning, Land Governance, and Housing Affordability: A Science-Mapping Review of Recent Literature. *Economic Sciences*, 22(1), 237–248. <https://doi.org/10.69889/8jcmt263>
50. Trambley, L. (2021). The Affordable Housing Crisis: Tiny Homes & Single-Family Zoning. *UC Law Journal*, 72(3), 919–958.
51. Troutner, J. (2021). Paving a Path to Independent Tiny Living: An Introduction to Roadblocks. *Sustainable Development Law & Policy*, 22(1), 15–38.
52. US Census (2026). U.S. Census Bureau QuickFacts: Boise City city, Idaho. <https://www.census.gov/quickfacts/fact/table/boisecitycityidaho/PST045224>
53. Vail, K. M. (2016). Saving the American Dream: The Legalization of the Tiny House Movement Notes. *University of Louisville Law Review*, 54(2), 357–380.
54. Vasseur, V., Sing, J., & Short, S. W. (2022). Determinants of the adoption of tiny houses and their role in alleviating housing shortages in Germany. *Clean Technologies and Recycling*, 2(4), 199–224. <https://doi.org/10.3934/ctr.2022011>

55. Wakin, M. (2008). Using Vehicles to Challenge Antisleeping Ordinances. *City & Community*, 7(4), 309–329. <https://doi.org/10.1111/j.1540-6040.2008.00269.x>
56. Weetman, V. M. (2018). Resistance is fertile: Exploring tiny house practices in Australia. *Australian Planner*, 55(3–4), 232–240. <https://doi.org/10.1080/07293682.2019.1636837>
57. Wetzstein, S. (2017). The global urban housing affordability crisis. *Urban Studies*, 54(14), 3159–3177. <https://doi.org/10.1177/0042098017711649>
58. Zhang, D., Gong, M., Zhang, S., & Zhu, X. (2022). A review of tiny houses in North America: Market demand. *Sustainable Structures*, 2(1). <https://doi.org/10.54113/j.sust.2022.000012>

Footnotes

1. In rural and amenity regions, THOWs can also become an important source of affordable housing. For instance, Boise’s THOW pilot program was informed by a similar initiative in Hailey, Idaho, a mountain town facing an affordability crisis.
2. Much of the scholarship on RVs specifically focuses on their conventional uses as for leisure or as part of an intentionally nomadic lifestyle (Burel, 2017; Null & Bailey, 1994; Simpson, 2008), or their use as emergency or makeshift housing for those displaced by disasters or experiencing homelessness (Huang & Herbert, 2025; Wakin, 2008). Because these uses are markedly different from the program evaluated here, we focus primarily on the literature regarding tiny homes and THOWs.