



Center for Community
Solutions



PARKVIEW LEGACY
FOUNDATION

Preapproved
Housing Plans for *Missing*
Middle Housing
A CASE STUDY OF THE
CITY OF RIVERSIDE





Table of Contents

Contributors	3
Executive Summary	4
Introduction	6
Literature Review	8
Methodology	13
Overview of the Riverside Middling Middle Initiative	15
Program Origins and Development	15
Program Goals and Intended Outcomes	16
Community Engagement and Technical Design Process	19
National Approaches to Missing Middle Housing	29
California Preapproved Plan Programs: Early Evidence	33
Synthesis and Implications for the City of Riverside	39
Appendix I:	41
References	50

Contributors

August 2026

Kristen Kopko

Research Manager,
UCR Center for Community Solutions

Justine G.M. Ross, Ph.D.

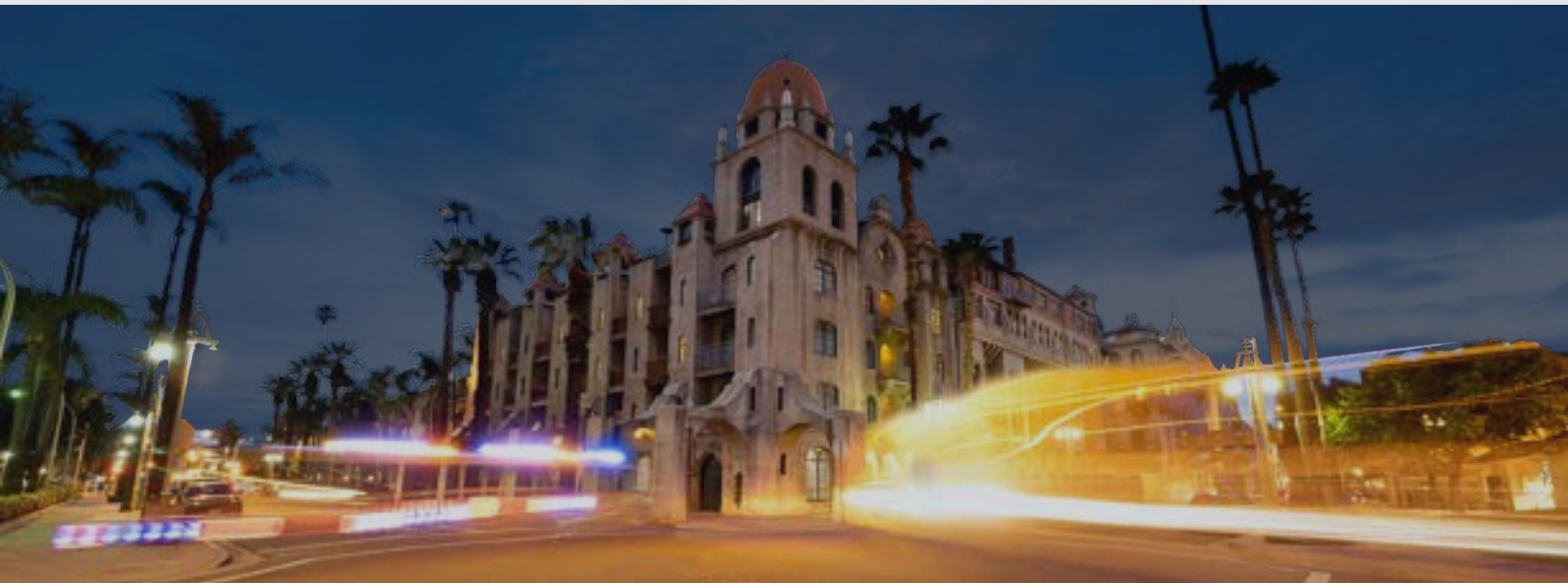
Executive Director,
UCR Center for Community Solutions

Jayden Li

Intern,
UCR Center for Community Solutions

Qingfang Wang, Ph.D.

Faculty Director,
UCR Center for Community Solutions,
UCR School of Public Policy



Recommended Citation:

Kopko, K., Ross, J., & Li, J. (2026). *Preapproved Housing Plans for Missing Middle Housing: A Case Study of the City of Riverside*. Center for Community Solutions, University of California Riverside, School of Public Policy.

Executive Summary

Missing middle housing—including duplexes, bungalow courts, and other small multifamily forms—can expand housing choice within established neighborhoods. Yet these projects often lack the scale needed to absorb architectural costs, technical review, financing, and development uncertainty. Riverside’s Preapproved Housing Plans for Missing Middle Housing responds to this challenge by investing in reusable plans that give property owners and developers a clearer, more accessible starting point.

Adopted by the Riverside City Council in June 2026, the initiative provides preapproved plans for two neighborhood-scale prototypes: a duplex and a bungalow that can be arranged with additional units around a shared courtyard to create a bungalow court. Major architectural and technical components have undergone advance review, reducing work that would otherwise be recreated for each project. Applicants must still satisfy site-specific, zoning, utility, and other requirements, but they can begin with a professionally developed design rather than starting from the group up.

Riverside’s Distinctive, Locally Tailored Approach

Riverside extends a model commonly associated with accessory dwelling units (ADUs) to more complex missing middle housing. What distinguishes the initiative within the programs examined is not any single element, but the way several elements are brought together. The plans were shaped by community input, a multidisciplinary Technical Advisory Committee, analysis of potential infill sites, interdepartmental review, financial feasibility testing, and design features responsive to Riverside’s architectural character and residents’ changing needs.

The initiative also reflects an atypical level of cross-sector collaboration. An idea that emerged through a regional housing-policy academy was advanced by civic and philanthropic partners and developed through coordination among the City, regional agencies, community participants, technical advisers, and a private architectural firm. The result is more than a catalogue of standardized designs: it is an investment in shared development infrastructure intended to reduce selected costs and uncertainty across multiple future projects.

Riverside’s programs seeks to:

- Lower selected upfront design costs and administrative uncertainty;
- Expand neighborhood-scale housing choice;
- Encourage infill development on vacant and underused sites;
- Strengthen opportunities for property owners and emerging developers.

The plans are intended to support housing relevant to households earning between 80 and 120 percent of Area Median Income, but they are not income restricted and do not guarantee affordability. Their more direct purpose is to improve the conditions under which smaller housing projects can move forward.

Riverside in the Broader Policy Landscape: Survey + Policy Matrix

To assess Riverside's approach, this case study conducted two original analyses: a comparison with selected missing middle housing programs across the United States and a survey of 89 California jurisdictions about their preapproved-plan programs, which received a 66 percent response rate.

The national comparison shows that cities' approach to increasing the supply of missing middle housing include intervention at different points in the development process. Some cities change zoning; others provide land or financing. Riverside's initiative speaks to several of these objectives under one programmatic umbrella. Through reusable plans, advance technical review, site analysis, and feasibility testing, it seeks to reduce administrative burden, lower selected front-end costs, and create a clearer development pathway.

The California survey provides encouraging, but preliminary support for Riverside's strategy. Responding jurisdictions reported that preapproved plans can shorten design and permitting timeline and, in some cases, reduce costs. Results varied sharply depending on how programs were structured and most evidence concerned ADUs rather than more complex housing types. The findings therefore cannot be generalized directly to Riverside's duplex and bungalow plans. Nevertheless, Riverside enters implementation with several potential advantages: its plans were publicly funded and developed for public use, major technical components have undergone advance review, and its multifaceted design suggests it may be responsive to several weaknesses identified in programs elsewhere in the state.

From Plans to Housing

Riverside has transformed a collaborative policy idea into two tangible plan sets. The next test is whether those plans help viable projects reach construction. Tracking plan use, site-specific requirements, review time, costs, project attrition, and completed unit will identify which barriers the program reduces and where additional support may be needed.

The initiative's theory of change is straightforward: a public and philanthropic investment in reusable plans and advance review can reduce front-end uncertainty, expand participation, and move more neighborhood-scale projects forward. The promise of Riverside's model lies not only in the plans it has produced, but in the more repeatable path it may create from underused land to completed housing.

Introduction

Between the detached single-family home and the large apartment building lies a range of smaller housing types that once played a familiar role in many California neighborhoods. Duplexes, triplexes, townhomes, cottage clusters, and bungalow courts can add homes incrementally, while retaining a neighborhood-scale form. Yet these “missing middle” options remain comparatively scarce, even as California communities seek ways to overcome its estimated 3,000,000 unit housing shortage (Christopher, 2025), respond to changing households needs, and make better use of vacant and underused land.

Allowing these housing types is only part of the challenge. Small infill projects must also absorb architectural and engineering expenses, navigate technical review, respond to site-specific requirements, and secure financing - often without the economies of scale available to larger developments. For individual property owners and smaller scale developers, the time, cost, and uncertainty involved before construction begins may be enough to prevent an otherwise promising project from moving forward.

Riverside’s Preapproved Housing Plans for Missing Middle Housing initiative aims to address this practical gap. In June 2026, the Riverside City Council adopted preapproved plans for two neighborhood-scale prototypes: a duplex and a bungalow that can be arranged with additional units around a shared courtyard to form a bungalow court (City of Riverside City Council, 2026). The plan sets include major architectural and technical components that have undergone advance review, allowing applicants to begin with a professionally developed design rather than creating an entire project from the ground up (City of Riverside Community & Economic Development Department, 2026). Applicants must still satisfy zoning, site-planning, utility, entitlement, and other project-specific requirements, but the initiative is intended to make the path to a viable project more predictable and accessible.

The idea builds on an emerging policy tool. California has encouraged local governments to accommodate more infill housing through measures such as Senate Bill 10, which authorizes qualifying jurisdictions to allow greater residential density in certain transaccessible and urban locations (California Senate Bill 10, 2021). The state has also required jurisdictions to establish a process for preapproving accessible dwelling unit (ADU) plans through Assembly Bill 1332 (California Assembly Bill 1332, 2023). Riverside brings these policy currents together in a less common way by applying a model widely associated with ADUs to more complex missing middle housing and tailors the resulting plans to local sites, architectural context, and community priorities.

This case study examines how that idea moved from a regional-policy learning process to a tangible set of plans for public use. It begins by reviewing the evidence underlying missing middle housing and preapproved plans, followed by an explanation of this study’s methods. The Riverside case then traces the initiative’s origins, partnerships, goals, community and technical design process, plan features, financial assumptions, and anticipated implementation challenges. A comparison with selected programs across the United States places Riverside within a broader landscape of regulatory, financial, and process-oriented strategies, while a survey of 89 California jurisdictions provides early evidence about the use, reported benefits, and practical challenges of preapproved plans.

Through the lens of Riverside’s distinctive, locally tailored program, this case study considers whether and how combining publicly available plans, advance technical review, community input, and cross-sector collaboration may create a more accessible pathway from an eligible property to completed housing.



Literature Review

This review examines the relationship among housing affordability, infill development, and housing diversity before turning to missing middle and preapproved housing plans - which seek to make some of that housing more practical to design and pursue. Finally, the review concludes with a discussion of the available evidence on whether preapproved plans can reduce development time, cost, and uncertainty. Because preapproved plans and missing middle housing are two subject areas that have not been studied extensively. This review does, however, identify a rationale for investing in tools and development pathways that may help translate housing policy into completed projects.

Housing, Affordability & Infill Development

Although housing affordability is shaped by a range of regulatory, economic, and market factors, insufficient supply is widely recognized as a key driver of high housing costs. Affordability pressures are further intensified when the housing being produced does not serve households across the income spectrum (Garcia et. al, 2022). Increasing the number of homes is therefore important, but so is increasing the range of housing available.

A longstanding preference for single family housing and zoning has solidified detached, low-density housing as the dominant residential form in California and many places throughout the United States. While this emphasis has shaped the state's housing stock for decades, an overreliance on a single housing type may limit the housing market's ability to respond to diverse household needs and changing demographic trends (Parolek & Nelson, 2020).

Research on diversity and complex systems provides one framework for understanding this limitation. Drawing on Page's (2010) diversity theorems, Frederick (2022) argues that continually adding more of an already dominant housing type yields diminishing marginal returns, while introducing underrepresented forms can improve the efficiency and resilience of housing markets. From this perspective, townhomes, ADUs, duplexes, rowhouses, and small multifamily buildings are not simply alternatives to detached homes. Collectively, they may improve community's ability to respond to differences in household size, age, income, tenure preference, and life stage

Infill development offers one way to introduce this variety within communities that are already substantially developed. Rather than extending development outward, infill adds housing on vacant or underused parcels or makes more productive use of existing sites. Gentle infill development may increase neighborhood density (to 15 dwelling units / per acre), potentially enough to support public transit and other desirable neighborhood amenities (Tomasso, 2025). By locating additional residents closer to employment, services, and transportation, denser housing patterns may also help reduce vehicle miles traveled and greenhouse gas emissions (Zeebuyth & Moore, 2024).

These benefits of infill do not eliminate community concerns. Residents may resist additional density because of anticipated changes to neighborhood character, traffic, parking, or other features of their existing (Winterberg-Lipp, 2018). The policy challenge is therefore not only to permit more housing units, but also to identify housing forms that add capacity within established neighborhoods and create a development process through which those projects can realistically advance and remain responsive to neighborhood context.

Missing Middle Housing

The term missing middle housing popularized by Parolek (2020), refers to a collection of small- to medium-scale housing types that can integrate into existing neighborhoods and support infill development. These buildings are generally no more than two-and-a-half stories, typically contain between two and fourteen dwelling units, and can reach densities of approximately 35 dwelling units per acre (Parolek, 2020). Examples range from duplexes and triplexes to townhomes, rowhouses, cottage clusters, and bungalow courts - all of which can fit on a single residential lot.

The “missing” in missing middle describes the limited availability of these housing forms in the United States, while “middle” refers to their physical scale between detached homes and larger apartment buildings. It does not necessarily indicate that the resulting homes will be affordable to middle-income households. Their more immediate contribution is to expand housing choice for residents who may not need, want, or be able to afford a detached home but prefer an alternative to a large apartment complex. Depending on their design, location, and price, these forms may serve first-time homebuyers, renters, smaller households, multigenerational families, and older adults seeking to remain in established communities as their needs change (Parolek, 2020).

The scale of missing middle development may also broaden participation in housing production. Whereas large multifamily developments that are frequently undertaken by national or regional developers, smaller infill projects may be accessible to smaller, locally based builders with stronger community ties (Winterberg-Lipp, 2018). These local housing providers occupy an important role in neighborhood development and strengthening the capacity of these builders can simultaneously generate local wealth, contribute to community revitalization, and provide dignified housing opportunities in constrained markets (Tomasso, 2025). Early evidence from Portland, where legislation expanded the housing types allowed in neighborhoods traditionally dominated by single-family homes, suggests that the proportion of middle housing in an area can increase substantially in just two years (Dong, 2025). This potential is particularly relevant in places seeking to develop a pipeline of smaller projects that may not attract large institutional developers.

Preapproved Housing Plans

Preapproved housing plans are one such implementation tool. Under these programs, a local government reviews standardized building plans before an applicant proposes using them on a particular property. Applicants can then begin with a design that has already undergone some level of technical review, rather than commissioning and submitting an entirely new plan set. This approach converts part of the design and review process into a reusable development resource. Without preapproved plans, multiple builders proposing similar structures may each incur the expense of developing separate designs and completing substantially similar technical reviews. A preapproved-plan program instead makes an upfront investment in work that can potentially support multiple future projects, reduce administrative burden, and improve the efficiency of the approval process (Wolf and Julian, 2024).

Advance review may also reduce staff time devoted to recurring technical issues and allow planning and building departments to allocate resources more efficiently (Rodnyansky & Su, 2026). Preapproved plan libraries can offer flexibility by providing a range of housing designs that can be adapted as community needs or regulatory requirements evolve (Zeebuyth & Moore, 2024). Their value, however, depends on how the program is structured - including what applicants must pay to use the plans, how much customization is permitted, and which components remain subject to site-specific review. For property owners and developers, a principal benefit is greater predictability. Reducing some fixed and upfront burdens may be particularly valuable to small-scale and emerging developers who cannot distribute cost across a large number of units (Rodnyansky & Su, 2026).

Evidence on Time & Cost Savings

The investment rationale for preapproved plans rests on the proposition that completing part of the design and review process in advance should reduce the time, cost, and uncertainty associated with subsequent projects. The existing literature generally supports this proposition, although specific program estimates vary and are relatively few in number. Seattle's preapproved ADU program processed applications 2.6 times faster compared to conventional ADU permits (Seattle Office of Planning & Community Development, 2023). Other research estimates that, by reducing uncertainty, streamlining design review, and minimizing repetitive architectural and engineering expenses, preapproved plans can lower overall development costs by approximately 1 – 2%, with even greater savings possible for multifamily projects involving more complex design and review (Rodnyansky & Su, 2026). For ADU projects specifically, the development timeline may be reduced by six to nine months (Chytla-Hinze, 2020).

Time savings are important because delay itself carries a cost. Before a project is completed or begins generating revenue, owners or developers may continue to incur property taxes, interest, insurance, utilities, and other carrying costs. Smith (2022) estimates that permitting delays in Washington State increase construction costs by approximately 1% (or \$4,400) per month. Other estimates suggest that approval delays add approximately \$30,000 per unit in Seattle and \$50,000 per mid-rise unit in New York City (Rodnyansky & Su, 2026). Although these estimates come from different markets, they demonstrate how delays affect the costs associated with development which may ultimately be passed on to homebuyers.

Preapproved plans may also reduce some upfront architectural and engineering expenses. According to some estimates, these services accounted for approximately 1.5% (\$6,480) of the average cost of constructing a single-family home nationally in 2024 (Lynch, 2024). Preapproval will not eliminate all design costs, particularly when a project requires site-specific work or customization, but it may reduce the expense of reproducing technical components that have already been developed and reviewed.

Together, the literature identifies a plausible pathway through which investment in preapproved plans may support housing production by reducing repetitive design work, allowing for advance technical review, and greater predictability that may make some projects easier to evaluate, finance, and pursue. These benefits may be especially meaningful for smaller projects and emerging developers. That said, the evidence to-date also suggests clear limits. Preapproved plans do not guarantee that applicants will use them, that suitable sites will be available, or that completed projects will be financially feasible. Plan ownership, pricing, customization, financing, and local demand, among many other factors, affect whether an initial program investment translates into housing production.

These considerations are directly relevant to Riverside. Most documented preapproved-plan programs and outcome estimates concern ADUs, which are generally smaller and less complex than missing middle housing. Riverside is extending this model to a broader set of housing types while tailoring its plans to local development conditions and community priorities. Its initiative provides an opportunity to examine how an upfront investment in reusable, missing middle plans can reduce barriers for subsequent projects and support a wider pipeline of neighborhood-scale development.



Methodology

This case study uses three complementary methods to examine Riverside’s initiative within a broader policy and implementation context. First, a comparative policy analysis identifies how selected jurisdictions across the United States approach missing middle housing. Second, a survey of California jurisdictions examines the availability, use, and reported benefits of preapproved housing plans. Third, a document and policy review provides an in-depth account of the origins, structure, and intended operation of Riverside’s program. Together, these methods move from the national policy landscape to statewide implementation experience, and finally, to Riverside’s local approach.

Document Analysis

To analyze the City of Riverside’s preapproved, missing middle housing program this case study relies primarily on document and policy review. All relevant local materials were obtained directly from the City of Riverside planning staff and organizations involved in the development of the initiative. All relevant state housing laws were obtained directly from the California Legislative Information database.

The document analysis was important to determine the underlying elements and the overall background of the initiative, including its origins and development, goals and intended beneficiaries, and the associated governance, community-engagement process, technical design, financing assumptions, and implementation requirements. The review also considered how the program addresses local development conditions and how its preapproved plans interact with site-specific zoning, utility, and building requirements. The Riverside analysis is descriptive rather than an outcome evaluation. Because the plans were adopted in June 2026 and the program remains in an early stage of implementation, the available documents primarily capture program design, anticipated benefits, and projected feasibility. Evidence about actual plan use, timelines, costs, and other outcomes will need to be collected as implementation proceeds.

Survey

As of 2025, every city in California has a preapproved ADU plan program, as mandated by state law (AB 1332). AB 1332 requires jurisdictions to accept plans submitted for preapproval, but does not require every local government to develop and own a library of plans itself - meaning that the existence of a preapproval program does not necessarily mean that plans are immediately available for public use. To examine how these programs operate in practice, the research team developed a short, 4-item questionnaire that covered the following topics: (1) plan availability, (2) estimated time and cost savings to residents or developers, (3) plan usage data, (4) a request for any additional data or documentation the locality was willing to provide.

A list of preapproved housing plan programs was initially developed by an intern at CCS. After a first round of successful inquiries, we sent our questionnaire to every city in California with a population between 100,000 and 500,000. This subset was selected to enable appropriate comparisons to the City of Riverside, whose population is approximately 320,000.

Finally, cities that offer other preapproved housing plan types, including duplexes, triplexes, and cottage homes were sent the questionnaire and asked about each of their preapproved programs respectively. In total, 89 localities were surveyed, with surveys directed to each locality’s planning department unless otherwise specified. The survey’s overall response rate was 66%. Some localities do not maintain cost and/or time-savings data in an easily accessible or consistently trackable format, while others were unable to provide such data. As a result, some survey responses were incomplete.

Policy Matrix

To place Riverside within the national policy landscape and create the comparative housing policy matrix, the research team compiled data on commensurate missing middle initiatives in jurisdictions across the United States. Programs were reviewed across key categories including administrative structure, evaluation, financing, and partnerships.

The final cases were selected purposively to present variation in population size, geography, program goals, and policy mechanism and the comparison includes jurisdictions that rely principally on zoning reform, public land, financial assistance, preapproved plans, or combinations of these tools. This approach was intended to illustrate the range of strategies available to local governments and the final programs structured within the matrix were chosen specifically with diversity in mind, rather than identify the best models or nationally representative assessments. The resulting matrix provides a consistent framework for comparing Riverside with programs that pursue similar housing objectives through different policy and implementation strategies.



Overview of the Riverside Missing Middle Initiative

Program Origins and Development

Riverside's initiative did not begin with a formal city proposal, but from sessions of the Housing Policy Leadership Academy, a program supported in part by the Southern California Association of Governments (SCAG). This educational program is designed to help local leaders develop strategies for addressing housing challenges. One learning group within the Academy contained eight Riverside-based members representing residents, elected officials, non-profits leaders, and other community perspectives. Through the Academy, the group explored different housing types and policy approaches and identified an opportunity to combine preapproved housing plans, missing middle housing, and infill development within a single local initiative.

After the Academy concluded, two members of the Riverside group—Blended Impact and the Parkview Legacy Foundation—elected to take this idea further and explore how to implement their proposed preapproved program in Inland Southern California. As part of this effort, they requested the Western Riverside Council of Governments (WRCOG) to present the concept before the region's city planning staff during a regularly scheduled meeting convened by SCAG. During the meeting, participating jurisdictions were invited by the project partners to pursue a formal pilot project through SCAG's Regional Early Action Plan (REAP) grant program. REAP funding supports local governments to accelerate housing production, implement their Connect SoCal plan, and advance the development of sustainable, infill-oriented transportation infrastructure. Following this discussion, the City of Riverside's planning staff recognized that the funding opportunity could provide a pathway for moving the concept from discussion to implementation, and the City elected to pursue a REAP grant.

The City of Riverside was subsequently awarded REAP funding and, following an extended implementation delay, initiated work on the pilot project. The resulting initiative retained the central elements proposed through the Housing Policy Leadership Academic, including preapproved plans for missing middle housing on infill sites, a Technical Advisory Committee, and a community-engagement process to inform plan development. In this way, Riverside translated a concept generated through cross-sector policy learning into a formal municipal initiative while preserving the collaborative character of the original proposal. Moving from concept to implementation, however, required considerably more than selecting a set of building designs. Complete preapproved plans require full architectural, civil, structural, mechanical, electrical, and plumbing plans, as well as review by the relevant City departments. Riverside therefore had to develop both the housing prototypes and the technical and administrative framework needed to make the plans accessible for use.

Program Goals and Intended Outcomes

Riverside's preapproved housing plan program is organized around four interrelated goals:

1. Lower upfront costs and uncertainty by providing reusable, professionally designed plans.
2. Expand neighborhood-scale housing choice for residents with different household structures and needs.
3. Advance infill and regional sustainability by directing development toward underused sites and transit-accessible locations.
4. Strengthen local development capacity by making smaller projects more accessible to property owners and emerging developers.

Together, these goals reflect Riverside's broader strategy to invest in shared development infrastructure that can improve the conditions under which multiple future housing projects move forward.

1. Lower Upfront Costs and Uncertainty

At its most direct level, the initiative provides residents and developers with professionally designed, preapproved housing plans at no or low cost. Applicants begin with reusable plans rather than commissioning a complete building design from the round up, potentially reducing upfront architectural expenses and shortening portions of the design and plan-review process. This approach may be especially valuable to individual property owners and small developers with limited capacity to absorb substantial upfront design costs, carrying costs, and uncertainty (City of Riverside, 2022; WRCOG, 2023).

Riverside's approach builds on the use of preapproved ADU programs implemented in other California jurisdictions, but extends the model to more complex housing forms. The current pilot includes two prototypes—a duplex and a bungalow that can be arranged with other units to create a bungalow court—within the broader family of missing middle housing (e.g., triplexes, townhomes, etc.). By applying preapproval to neighborhood-scale housing beyond ADUs, Riverside is testing whether a familiar streamlining tool can support a broader range of infill development.

2. Expand Neighborhood-Scale Housing Choice

The program is intended to expand housing options for residents at different stages of life, including first-time homebuyers, older adults seeking to downsize, multigenerational families, and people seeking rental opportunities within established neighborhoods. It is also intended to support housing options relevant to households earning between 80 and 120 percent of Area Median Income (AMI) (City of Riverside, 2022). The plans are not income-restricted, however, and their use does not by itself guarantee that the resulting units will be affordable to households within that range. Rather the program seeks to improve feasibility by addressing selected upfront costs and administrative barriers that can affect the final cost of development.

Riverside’s existing housing stock helps explain the emphasis on greater housing variety. Most of the city’s homes are detached, single-unit structures, while buildings containing 10 or more units constitute the next largest category. (U.S. Census Bureau, 2024). Comparatively fewer options fall between the detached home and larger apartment building - the space that missing middle housing is intended to occupy.

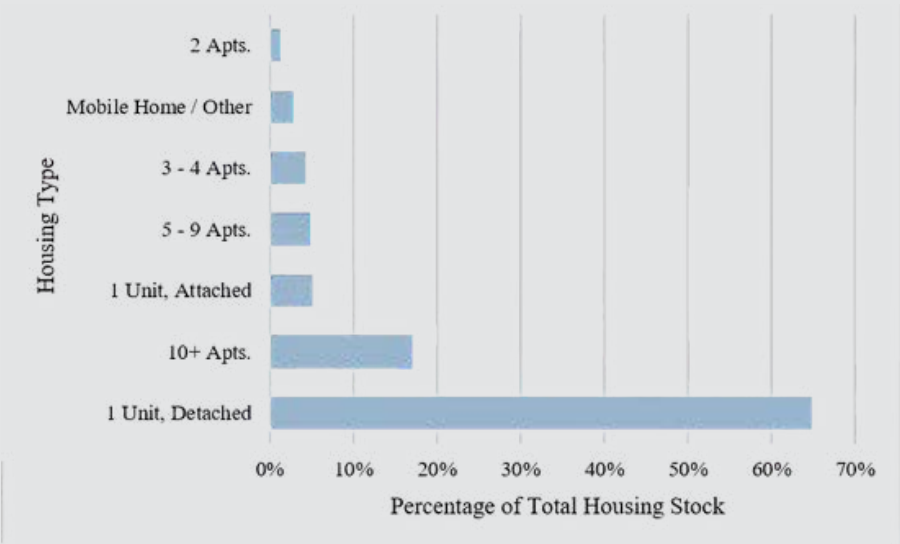


Figure 1:
City of Riverside Housing Stock;
U.S. Census Bureau. American
Community Survey,
ACS 5-Year Estimates Subject
Tables, Table S2504, 2024

The city’s varied household composition also points to the need for greater housing choice. In 2024, approximately 6 percent of Riverside residents lived alone, while approximately 7 percent of households included three or more generations (U.S. Census Bureau, 2024; IPUMS USA, 2024). Missing middle housing may provide alternatives for residents who need less space than a detached home, want to share a property with extended family, or seek to remain in an established neighborhood as their circumstances change. A more varied housing stock may also help existing homes and land serve residents more efficiently while creating additional pathways for younger households to enter the housing market (Tomasso, 2025). Some sources estimate that publicly traded homebuilders accounted for 86% of new-home closings in the Riverside, CA metropolitan area (Lambert, 2024). As of July 2026, the median home size in Riverside County was 1,945 square feet (Realtor.com, n.d.).

3. Advance Infill and Regional Sustainability

The City of Riverside describes the program as a strategy to promote the development of vacant and underutilized public and private infill sites by providing preapproved or near-approved construction plans (City of Riverside Community & Economic Development Department, 2026). By directing development toward infill locations and High Quality Transit Areas—places with convenient access to frequent public transportation—the program seeks to reduce vehicle miles traveled and greenhouse gas emissions while improving access to employment centers and everyday services (City of Riverside Community & Economic Development Department, 2026). Centrally located, neighborhood-scale housing may also support quality of life by allowing residents to remain close to existing institutions, amenities, and social networks.

4. Strengthen Local Development Capacity

Smaller infill projects also lower barriers to entry for emerging developers who are not positioned to undertake large multifamily developments. By lowering some front-end cost and providing a clearer starting point, Riverside seeks to make small-scale development more accessible and expand opportunities for locally based builders. In the longer term, the program is intended to support economic mobility through both homeownership and rental housing (City of Riverside, 2022; City of Riverside Community & Economic Development Department, 2026).

From Plans to Housing Outcomes

The program's theory of change connects an initial public and philanthropic investment to a series of potential outcomes. Its immediate outputs are tangible: two completed plan sets, advance interdepartmental review, and a framework for applying the plans to eligible sites (City of Riverside Community & Economic Development Department, 2026). Riverside anticipates that these resources will reduce design costs and uncertainty, shorten portions of the review process, and encourage participation by property owners and emerging developers. Over time, the City's goal for these changes was to contribute to additional infill development, a more diverse housing stock, and expanded housing choice.

These longer-term outcomes are not guaranteed and will depend on plan utilization, suitable sites, financing, construction costs, market demand, and the City's continued implementation of the program. Tracking these factors will be important for determining whether the investment in preapproved plans translates into completed housing and for identifying where additional supports may be needed.



Community Engagement and Technical Design Process

Riverside did not approach plan development as purely architectural or technical exercise. Instead, the City used three complementary sources of information to shape the initiative: (1) community engagement; (2) guidance from a multidisciplinary Technical Advisory Committee; and (3) analysis of potential infill sites. Together, these inputs were intended to align the plans with resident preferences, practical development considerations, and Riverside's physical landscape.

1. Community Engagement

A central component of the project was a public outreach strategy designed to engage residents, stakeholders, and community organizations throughout the planning process. The strategy emphasized convenient, accessible participation, use of existing communication channels and community events, and outreach to disadvantaged and historically disinvested communities (City of Riverside Community & Economic Development Department, 2026). The City used social media, flyers, email announcements, and community workshops, and an online survey to invite participation and help ensure meaningful participation from disadvantaged and historically disinvested communities (City of Riverside Community & Economic Development Department 2026). Workshops were scheduled and located to reach neighborhoods with significant potential for infill development while giving residents opportunities to learn about the initiative and provide feedback. Collectively, the workshops engaged 47 participants and the online survey received 20 respondents (City of Riverside, 2025).

Community input helped translate broad housing goals into specific design priorities. Respondents expressed interest in housing configurations that could accommodate small families, multigenerational households, and people living alone. Three-bedroom units were the most preferred configuration, followed by two- and four-bedroom units, although respondents also expressed interest in smaller micro-units. In-unit laundry emerged as the higher-priority housing amenity (City of Riverside Community & Economic Development Department, 2026).

2. Technical Advisory Committee

The City complemented public input guidance from a multidisciplinary Technical Advisory Committee. The committee included architects, developers, contractors, housing advocates, neighborhood organizations, and representatives of underserved communities. This combination brought together perspectives on design quality, contribution, project feasibility, neighborhood concerns, and housing access (City of Riverside Community & Economic Development Department, 2026).

The Technical Advisory Committee served as the initiative's principal advisory body, helping the City assess how community preferences could be incorporated into plans that would also be practical to develop. Its recommendations informed decisions about local housing needs, design priorities, and development considerations before the plans were finalized (City of Riverside Community & Economic Development Department, 2026).

3. Site and Livability Analysis

The project also examined where the plans might realistically be used. A citywide site inventory identified vacant and underused parcels, along with Housing Element sites zones for multifamily residential, mixed-use, and commercial development. The dimensions and characteristics of these sites informed the design parameters of the prototypes, helping the City develop plans suited to common infill conditions in Riverside (City of Riverside Community & Economic Development Department, 2026).

The site analysis also incorporated a livability assessment developed by PlaceWorks. Potential locations were evaluated using indicators related to green space, mobility hubs, transit access, and environmental conditions, including measures from the SCAG Green Acres Resource Index and CalEnviroScreen. The results demonstrated substantial variation in site suitability across Riverside, underscoring that the benefits and feasibility of infill development are partly contingent on where projects are located (City of Riverside Community & Economic Development Department, 2026).

By combining resident preferences, practitioner expertise, and site-level analysis, Riverside sought to avoid treating preapproved plans as generic designs that could be applied uniformly across the city. Instead, the process produced prototypes shaped by local household needs, development realities, and neighborhood conditions. The following section describes how these inputs were reflected in the design and features of the completed duplex and bungalow plans.

Details of the Preapproved Housing Plans

The central assets produced through Riverside's initiative are two reusable housing prototypes: a duplex and a bungalow designed for use in a bungalow court configuration. The City developed both plans around three priorities:

1. Accessibility and adaptability for residents across ages and abilities.
2. Environmental sustainability through fully electric building systems.
3. Compatibility with Riverside's architectural character through locally familiar design elements.

Together, these priorities distinguish the plans from generic building templates. They are intended not only to simplify portions of the development process, but also to produce housing that can respond to changing households needs and fit within Riverside’s established neighborhoods (City of Riverside Community & Economic Development Department, 2026).

Accessibility and Long-Term Adaptability

Both prototypes incorporate universal-design principles intended to improve usability for residents with different mobility needs. Features include no-step entrances, wider doorways, ground-floor bedrooms and bathrooms, and appliances with controls positioned at the front. The plans also incorporate aging-in-place strategies that allow the homes to adapt as residents’ needs change. In the two-story design, for example, a pantry space can be converted to accommodate a residential elevator (City of Riverside Community & Economic Development Department, 2026). These features support the program’s broader goal of serving residents across different stages of life, including families with children, multigenerational households, and older adults who may wish to remain in their communities as their mobility or housing needs change.

Sustainability and Local Character

The plans are fully electric, supporting Riverside’s sustainability goals while reducing reliance on natural gas infrastructure. Their neighborhood-scale form also supports the initiative’s emphasis on infill development within already established areas (City of Riverside Community & Economic Development Department, 2026). Both designs draw inspiration from Riverside’s Spanish Revival architecture. Features include low-pitched red terracotta-tile roofs, smooth white stucco walls, arched windows and entryways, and decorative architectural details. Incorporating these elements allows the plans to add housing while reflecting a design tradition closely associated with Riverside’s identity and build environment (City of Riverside Community & Economic Development Department, 2026).

Duplex Prototype



Figure 2: Duplex Units Sample Rendering, City of Riverside, 2026

The duplex is a two-story building containing two units of approximately 1,300 square feet each. Each unit includes three bedrooms, two bathrooms, in-unit laundry, and an accessible bedroom and bathroom on the ground floor. The design provides a small-scale multifamily option that can accommodate families or multigenerational households while retaining a form compatible with many residential neighborhoods (City of Riverside Community & Economic Development Department, 2026).

Bungalow Prototype



Figure 3: Bungalow Court Units Sample Rendering, City of Riverside, 2026

The bungalow is an approximately 1,000-square-foot detached unit with two bedrooms, two bathrooms, in-unit laundry, and an enclosed private patio. Each unit includes a ground-floor bedroom and bathroom. Multiple bungalows can be arranged around a shared courtyard on a single property, creating a bungalow court that combines individual living spaces with a common neighborhood-scale setting (City of Riverside Community & Economic Development Department, 2026).

Both prototypes include preapproved architectural, structural, mechanical, electrical, and plumbing plans. These plan sets provide applicants with a substantial technical foundation for a project, but they do not address every condition associated with an (City of Riverside Community & Economic Development Department, 2026).

How the Plans are Used

Preapproval applies to the building prototypes, not automatically to the property on which they may be constructed. Moving from a preapproved plan to a building permit therefore involves three principal steps:

1. Confirm that the property is eligible and that the proposed project complies with applicable zoning requirements.
2. Adapt the selected prototype to the physical and regulatory conditions of the site.
3. Complete the remaining planning, building, utility, and other project-specific reviews.



Site Eligibility and Project Design

A property owner must first verify that the site is located within an eligible zone and that the proposed housing type complies with applicable development standards. The applicant then selects either the duplex or bungalow prototype and works with a licensed design professional to prepare a site plan respondent to the property's characteristics. Applicants remain responsible for site-specific elements such as open space, parking, pedestrian pathways, utility connections, grading, and refuse collection. These requirements vary by property and cannot be fully resolved through a standardized building plan (City of Riverside Community & Economic Development Department, 2026).

Planning and Building Review

The Planning Division reviews the proposal to determine whether it complies with applicable zoning requirements and whether discretionary planning entitlements are needed. The project then proceeds to Building and Safety for review of the site-specific materials and any proposed changes to the preapproved design.

The principal building plans have already been reviewed by the City's Planning, Building and Safety, Public Utilities, Electric, and Parks and Recreation departments. This advance coordination can reduce the amount of design and technical review required for each subsequent application, allowing staff and applicants to focus more directly on the conditions unique to the proposed site (City of Riverside Community & Economic Development Department, 2026).

Modification and Remaining Requirements

Applicants may modify the prototypes to better fit a property or development concept, provided the changes remain consistent with Riverside's Municipal Code and other applicable requirements. Depending on the extent of the modifications, additional review may be necessary. The plans are therefore neither automatically permit-ready nor ministerial. Their value lies in providing a reviewed, adaptable starting point rather than eliminating all project-specific approvals. By completing substantial design and interdepartmental coordination in advance, Riverside seeks to make the path from an initial development idea to a viable application more predictable while preserving the reviews needed to address site conditions and public safety (City of Riverside Community & Economic Development Department, 2026).

Comparing the Financial Feasibility of Missing Middle Housing Types

Riverside’s planning process extended beyond producing technically complete building plans. The City also examined whether the duplex and bungalow prototypes could support financially viable projects on representative infill sites.

The analysis examined two representative projects:

- A bungalow development at Simmons/Magnolia; and
- A duplex development on Taft Street.

Each project was evaluated under both rental and for-sale models. The analysis used leveraged cash-on-cash yield, the projected annual cash return relative to the equity invested, as its principal measure of financial performance. A minimum projected yield of 8 percent is typically used as the threshold for financial feasibility (City of Riverside Community & Economic Development Department, 2026).

Prototype & Site	Estimated Investment	Projected Rental Yield	Rental Result	For-Sale Result
Bungalow Development at Simmons/Magnolia	\$1.8 million	9.71%	Financially feasible	Not financially feasible
Duplex on Taft Street	\$352,000	8.05%	Financially feasible	Financially feasible

Table 1. Financial Feasibility of Riverside’s Preapproved Housing Prototypes.

Source: City of Riverside Community & Economic Development Department, 2026 Results reflect modeled financial assumptions and do not represent returns from completed projects.

Under the rental model, both projects exceeded the City’s 8 percent benchmark, although the Taft Street duplex did so by a relatively narrow margin. The results differed under the for-sale model: the duplex remained financially feasible, while the bungalow development did not. The analysis therefore suggests that feasibility depends not only on the housing prototype, but also on the project’s scale, site, and intended tenure. Notably, the estimated rents for the bungalow development (\$3,294) and the duplex development (\$3,540) are unaffordable for residents earning the area median income (\$106,507) (U.S. Department of Housing and Urban Development [HUD], 2026).

The analysis depends on assumptions about construction costs, financing, rents or sale prices, operating expenses, and other market conditions. Changes in any of these factors could materially affect the results. Nevertheless, the analysis provides an early indication that the prototypes may support private development under some conditions and identifies the circumstances under which additional funding, subsidy, or other support may be needed.

Implementation Considerations and Remaining Challenges

The completed plans and preliminary feasibility findings provide a foundation for implementation, but they do not resolve every barrier between a development concept and a completed housing project. Riverside's experience will be shaped by four interrelated considerations:

1. Alignment with local regulations and infrastructure requirements.
2. Availability of suitable infill sites.
3. Access to financing and sufficient market demand.
4. Neighborhood impacts and equitable development.

1. Regulatory and Infrastructure Alignment

Preapproved building plans cannot overcome development standards that prevent a project from fitting on an otherwise eligible site. Building height, setbacks, parking, floor area ratio, easements, and other requirements can reduce the usable building envelope and affect project feasibility. Building, energy, and fire standards may create additional constraints, particularly when local requirements exceed state minimums (Winterberg–Lipp, 2018).

Infrastructure requirements can also have a disproportionate impact on small projects. California's Subdivision Map Act, for example, may trigger improvements such as utility undergrounding or sidewalk construction that were designed with larger subdivisions in mind but can be costly when applied to a development containing only a few units (Garcia et al., 2022). As applications move forward, Riverside will need to monitor whether existing standards and infrastructure requirements allow the preapproved designs to be used as intended or whether they create recurring barriers that require further attention.

2. Availability of Suitable Infill Sites

The effectiveness of the initiative will also depend on whether enough properties can accommodate the prototypes. Site size, configuration, zoning, utilities, access, and surrounding conditions all affect whether a duplex or bungalow-court project can move forward.

The PlaceWorks analysis evaluated Riverside parcels using livability indicators that included the SCAG Green Acres Resource Index, mobility hubs, and CalEnviroScreen measures. Among parcels zoned for single-family housing, 23 were placed in the highest livability category, while 2,158 were placed in the lowest (City of Riverside Community & Economic Development Department, 2026). These classifications do not necessarily mean that lower-ranked parcels are incapable of supporting development. They do indicate, however, that relatively few single-family-zoned sites offered the strongest alignment with the selected environmental, mobility, and livability measures.

The site analysis reinforces the importance of matching the prototypes to appropriate locations rather than assuming they can be applied uniformly across Riverside. Early tracking of site inquiry, eligibility determinations, and recurring site constraints can help the City identify where the plans are most usable and whether additional prototypes or regulatory adjustments would expand their reach.

3. Financing and Market Demand

Preapproved plans can reduce selected design and administrative costs, but they do not resolve the larger financial requirements of housing development. Property acquisition, construction costs, interest rates, utility connections, insurance, labor, and access to capital will continue to shape project feasibility. The City's analysis demonstrates this sensitivity as both prototypes appeared feasible as rental projects under the modeled assumptions, but only the duplex appeared feasible under the for-sale model (City of Riverside Community & Economic Development Department, 2026).

Program utilization will also depend on whether property owners and developers are aware of the plans, see value in standardized designs, and believe sufficient demand exists for the resulting units. Continued outreach to property owners, lenders, contractors, and emerging developers may therefore be as important as making the plans publicly available. If promising projects remain unable to secure financing, the City and its partners may also need to examine whether targeted lending products, gap financing, technical assistance, or other forms of support could help move viable proposals toward construction.

4. Neighborhood Impacts and Equitable Development

Infill housing can introduce benefits and tradeoffs within established neighborhoods. Additional residents may support local businesses, public transportation, and neighborhood amenities, but development may also generate concerns about traffic, parking, neighborhood character, and displacement. Research suggests that in high-demand markets, the moderating effect of additional housing supply on rents generally outweighs the upward pressure associated with new amenities (Marantz & Wegmann, 2024). Monitoring where development occurs, who is served, and how many residents experience neighborhood change will be important as Riverside's initiative advances. In areas facing displacement pressure, housing-production strategies may need to be paired with tenant protections or other measures intended to help existing residents remain in their communities.

From Plans to Housing Outcomes

Riverside's contribution lies not in any single program component, but in how the City combined them. Preapproved plans have most commonly been associated with ADUs; Riverside extended the model to duplexes and bungalow courts, incorporated community and practitioner input, adapted the designs to local architectural and site conditions, coordinated advance review across City departments, and tested the prototypes through site-level financial analysis. The result is a locally tailored implementation model that links housing policy, design, public engagement, and development feasibility.

The initiative has already produced several tangible outputs: two completed plan sets, advance interdepartmental review, community and technical input, site and livability analysis, and a framework through which applicants can apart the plans to eligible properties. The next stage is to determine whether these assets alter the development process in practice.

Early measures of progress may include:

- Public awareness of and inquiries about the plans;
- The number and characteristics of properties screened for eligibility;
- Applicant design expenses and review timelines;
- Types and frequency of plan modifications;
- Participation by individual property owners and emerging developers;
- Permits issues, construction started, and completed units; and/or
- Whether completed units are offered for rent or sale, and at what prices.

These measures can help Riverside distinguish between different points in the implementation pathway. For example, substantial public interest but few eligible sites would suggest a different barrier than multiple proposals that cannot obtain financing. Tracking the program at each stage can help the City and its partners identify where additional investment, technical assistance, regulatory adjustment, or outreach would be most useful.

Because Riverside's initiative remains new, its long-term effects on development costs, permitting timelines, housing production, affordability, and neighborhood conditions cannot yet be determined. The national program comparison and California jurisdiction survey that follow provide a broader evidence base for interpreting Riverside's approach. Together, they show how other jurisdictions have structured similar efforts, what early benefits have been reported, and which implementation challenges Riverside may consider as its own program moves from completed plans toward completed housing.

National Approaches to Missing Middle Housing

Local governments across the United States are experimenting with different ways to make missing middle housing more feasible. The programs examined for this case study illustrate three broad approaches: (1) changing the regulations that govern what may be built; (2) providing land or financial assistance to support development; and (3) reducing design and review barriers through preapproved plans. Although these approaches share the goal of expanding neighborhood-scale housing, they intervene at different points in the development process and require different levels of public investment and administrative capacity. Appendix I provides a detailed comparison of the six programs.

1. Regulatory Reform: Los Angeles, Sacramento, and Portland

Los Angeles, Sacramento, and Portland primarily use planning and zoning reform to create more opportunities for missing middle housing. Rather than directly subsidizing individual projects or providing complete building plans, these jurisdictions are changing the rules that determine where smaller multifamily housing may be built and how it is reviewed.

Missing Middle LA comprises several related initiatives intended to allow smaller housing types—including ADUs, duplexes, townhomes, and cottage clusters—in areas where residential development is permitted. The initiative combines zoning amendments with objective design standards and, for certain projects, ministerial review. Its central strategy is to reduce regulatory barriers and establish clearer, more consistent pathways for neighborhood-scale development.

Sacramento has incorporated missing middle housing into a broader, long-term planning framework. Through its 2040 General Plan and related zoning work, the City is seeking to accommodate a wider range of housing types throughout established neighborhoods while supporting infill development, transit access, and climate objectives. This comprehensive approach can reshape development opportunities citywide, although individual proposals remain subject to applicable site-plan and design review requirements.

Portland's Residential Infill Project similarly expanded the housing types permitted in neighborhoods historically dominated by detached homes. The reforms allow duplexes, triplexes, fourplexes, and, under certain conditions, sixplexes on many residential lots. Portland is also the most established initiative included in the comparison: during the program's first year, 271 middle housing units were permitted in areas previously zoned primarily for detached homes. Its experience demonstrates how zoning reform can alter the composition of development, while also underscoring that regulatory permission alone does not address all financial, design, or site-specific barriers.

2. Land and Financial Assistance: Chicago and Memphis

Chicago and Memphis intervene more directly in project financing. Their programs recognize that allowing missing middle housing does not necessarily make it financially feasible, particularly in neighborhoods where land conditions, construction costs, or achievable rents and sales prices limit private investment.

Chicago's Missing Middle Infill Housing Initiative combines publicly owned vacant land with substantial construction assistance. Selected developers acquire clusters of City-owned lots at a nominal price and may receive per-unit subsidies to produce small-scale, owner-occupied housing. This model uses public assets and capital to encourage development in neighborhoods where vacant land is concentrated and market conditions may otherwise discourage investment. It can therefore address barriers that plans or zoning changes alone would not resolve, but it also requires considerable public funding and depends on the availability of suitable City-owned property.

Memphis' Middle Income Housing Pilot provides financial assistance for the construction or rehabilitation of buildings containing between two and ten units. The program focuses on projects serving households earning between 80 and 120 percent of the Area Median Income and it is intended to support both nonprofit and for-profit developers. Whereas Chicago combines land disposition with construction subsidies, Memphis focuses more directly on filling financing gaps for projects targeting middle-income households.

These programs illustrate the potential value of public financial participation, particularly where project economics are the principal obstacle. They also demonstrate that financially oriented interventions serve a different function than process reforms by helping to close the gap between development costs and anticipated project revenue, rather than primarily reducing design or administrative burdens.

3. Preapproved Plans: Riverside's Process-Oriented Approach

As discussed, Riverside addresses another part of the development process through its publicly available, preapproved duplex and bungalow prototype plans, intended to reduce repetitive architectural and technical work and make the review process more predictable. Among the programs reviewed, Riverside is notable for applying the preapproved-plan model to missing middle housing types.

Riverside within an Emerging Policy Landscape

Together, the cases demonstrate that missing middle housing policy does not consist of a single intervention. Los Angeles, Sacramento, and Portland primarily expand regulatory capacity by changing where and how neighborhood-scale housing may be built, whereas Chicago and Memphis use public land or financial assistance to improve project feasibility. Riverside intervenes at another point in the development process by investing in reusable plans, advanced technical review, and a more clearly defined pathway for applicants.

At the same time, Riverside's approach speaks to several of the barriers addressed by the other programs. Like the regulatory approaches pursued in Los Angeles and Sacramento, it seeks to reduce administrative burden, review uncertainty, and avoidable delay. Like the financially oriented programs in Chicago and Memphis, it seeks to improve the conditions under which smaller projects may become economically feasible - but by lower selected front-end design and review costs rather than providing discounted land or direct construction subsidies.

What distinguishes Riverside within this group is not any single program component, but the way the initiative brings multiple components of diverse programs together. The City has adapted a preapproved plan model commonly associated with ADUs for use with more complex missing middle housing types and combined it with community engagement, technical guidance, site analysis, and locally tailored design. This multifaceted structure allows one targeted initiative to address design, administrative, contextual, and feasibility considerations that are often treated separately.

The programs are also at different stages of implementation, limiting direct comparisons of their results. Portland has reported early permitting activity, Chicago has begun delivering units, and several other initiatives, including Riverside's, remain in initial implementation. At this stage, the comparison is therefore most useful for understanding differences in program design, resources, and intended mechanisms. The synthesis following the California survey returns to these distinctions and considers what the national cases may suggest for Riverside as its initiative moves from plan development to implementation. Riverside's preapproved plans represent a promising starting point, but---as the City tracks implementation and refines the program over time---it should also remain attentive to emerging efforts, such as those in Chicago and Memphis. While these approaches reflect different local contexts and may not be directly transferable, they could offer useful lessons as jurisdictions continue testing strategies to support missing middle housing.

Riverside should consider tracking the number of units permitted using the preapproved plans, average permitting timelines, and associated permit costs to evaluate program implementation and utilization. Collecting these data would also allow the City to assess the program's effectiveness over time, identify opportunities for refinement, and estimate the time and cost savings generated by the preapproved plans.



California Preapproved Plan Programs: Early Evidence

The national comparison demonstrates that jurisdictions use different policy tools to address different barriers to missing middle housing. To examine one of those tools more closely, this study surveyed California jurisdictions about the availability, utilization, and time/cost savings associated with preapproved housing plans. The survey was sent to 89 jurisdictions; we received responses from 66 percent of localities. Because most existing preapproved housing plan programs apply to ADUs, the findings primarily reflect ADU experience, and only four surveyed jurisdictions offered preapproved plans for housing types other than ADUs. These programs provide the closest available source of empirical evidence on preapproved residential plans, but their results cannot be directly generalized to larger or more complex missing middle housing types.

The findings point to three broad conclusions. First, preapproved-plan programs are increasingly common but remain relatively new and unevenly utilized. Second, responding jurisdictions reported potentially meaningful time and cost savings, although the magnitude of those savings varied substantially by program structure. Third, establishing a program does not guarantee that usable plans will become available or that property owners will ultimately use them.

Plan Availability and Early Utilization

Responding jurisdictions offered an average of approximately six preapproved ADU plans. The available designs varied considerably, ranging from compact units of only a few hundred square feet to homes containing as many as three bedrooms. This variety suggests that preapproved-plan libraries can accommodate a range of lot configurations and household needs, rather than offering a single standardized housing product.

Across the jurisdictions for which utilization data were reported, 500 ADUs had been permitted or constructed using preapproved plans. Utilization was not evenly distributed, however. Fifteen of the 59 localities that responded to the survey reported that they had either not yet issued a permit using a preapproved plan (9), or had issued a call to designers and architects to submit plans for their preapproved program, but received no responses (6). Ten additional jurisdictions had established a preapproval process but did not have approved plans available yet for public use. Many of the programs had been introduced within the preceding three years, and some within only the previous 18 months, leaving limited time for applicants to learn about the plans, secure financing, complete site-specific work, and obtain permits. Among localities that had issued at least one preapproved plan permit, an average of 23 ADUs were constructed per locality over the short lifetime of these programs. The number of preapproved ADUs permitted per locality ranged from 0 to 165. Only one locality in our sample had permitted a non-ADU preapproved housing unit, one triplex.

1 The ADU count reflects each locality's stated definition or designation of its program and was not independently verified based on specific program characteristics.

These findings suggest that early utilization should be interpreted cautiously. A low initial number of projects may indicate limited program demand or implementation barriers, but it may also reflect the time required for a new development tool to gain public awareness, attract participating developers, and produce completed projects. Continued monitoring will be necessary to distinguish between a program that is still maturing and one whose structure does not adequately respond to local development conditions.

Reported Cost and Time Savings

Only a subset of responding jurisdictions could estimate the cost savings associated with preapproved plans. Among those providing an estimate, the average reported direct savings was approximately \$10,300 per project. Estimates ranged from a few thousand dollars to approximately \$45,000; only one jurisdiction could estimate savings as a percentage of total project cost, estimating a 5 to 10 percent savings.

This variation reflects, in part, important differences in program design. Some jurisdictions provide publicly funded plans at no cost and may reduce applicable fees, allowing applicants to avoid a substantial portion of the expense associated with commissioning a custom design. Others maintain online catalogues of privately owned plans that applicants must purchase or license directly from an architect. Those programs may offer the benefits of prior technical review without eliminating the cost of acquiring architectural plans.

The survey therefore does not support a single estimate of the savings produced by preapproval. Instead, it indicates that cost effects depend on what a jurisdiction means by a “preapproved plan program”, including who owns the plans, whether applicants must purchase them, which technical components have been reviewed, whether fees are reduced, and how much site-specific design remains necessary. Of the four surveyed jurisdictions offering preapproved plans for housing types beyond ADUs, only one reported that a full-scale unit had been permitted. Evidence on the cost implications for missing middle housing consequently remains especially limited.

Reported Time Savings

Responding jurisdictions were generally better able to estimate time savings, rather than cost savings. On average, they reported that using a preapproved plan saved approximately 53 days during the design and permitting process. One jurisdiction estimated potential savings of as much as six months.

Jurisdictions that compared processing speeds reported that preapproved plans were reviewed 2.8 times as quickly as conventional plans, on average. Individual estimates ranged from approximately 1.6 to 4.6 times as fast. On average, a preapproved ADU is permitted in just 12 days. These findings are generally consistent with the literature reviewed earlier, which suggests that advance review can shorten portions of the preconstruction process by reducing repetitive technical work and narrowing the issues that must be evaluated after an application is submitted.

These estimates should nevertheless be treated as preliminary. The jurisdictions did not necessarily calculate savings using a common method, and many programs had not operated long enough to support a rigorous comparison of preapproved and conventional projects. Moreover, advance approval of a building design does not eliminate review of site access, utilities, grading, parking, setbacks, or other property-specific conditions - a difference that is likely of particular consequence for comparison to Riverside's program as ADUs often carry very different costs than missing middle housing. For example, new housing units typically need their own electrical and sewer hookup infrastructure, whereas ADUs often do not. The amount of time saved will therefore depend on both the scope of the preapproval and the complexity of the proposed site, and ADU program estimates cannot be scaled directly to Riverside's prototypes.

Implementation Challenges Reported by Jurisdictions

Survey respondents identified four recurring implementation challenges: securing plans for public use, keeping those plans current, balancing standardization with customization, and addressing site-specific requirements. These challenges help explain why establishing a preapproval process does not always lead directly to plan availability, utilization, or measurable savings, and may support Riverside as it moves to implement its initiative.

Moving from an Administrative Process to Available Plans

Several jurisdictions reported that they had established a process for reviewing and approving ADU plans, but had not received submissions from architects or responses to requests for proposals. In these communities, the administrative framework existed, but residents had no approved plans available to select. This distinction reflects the structure of California's preapproval requirement. State law requires jurisdictions to establish a process for reviewing and approving preapproved ADU plans by January 1, 2025, but does not require each locality to commission, own, or maintain a public plan library. Consequently, implementation ranges from procedural compliance to active provision of publicly supported plans.

Maintaining Plans across Building-Code Cycles

Preapproved plans also require continued maintenance. Several jurisdictions reported temporarily withdrawing their plan catalogues coinciding with their Title 24 Building Standards Code update every three years. As plans approved under an earlier code cycle required review and revision before they could be offered again. Thus a plan library is not a one-time product; it is infrastructure that requires periodic investment to remain usable. Jurisdictions should therefore anticipate an ongoing need to coordinate and complete renewed review.

Balancing Standardization and Applicant Preference

Some jurisdictions reported limited demand because property owners preferred customized designs despite the potential advantages of using a standardized plan. This tension is inherent in the model: standardization creates efficiencies, but individual sites and household preferences often require adaptation. Programs that permit reasonable modifications may appeal to a broader range of applicants, although extensive customization can reduce the time and cost advantage associated with advance approval.

This challenge may operate differently for Riverside than for the ADU programs represented in the survey. ADU applicants frequently seek designs that fit a constrained portion of an already developed property, respond to a particular household need, or match the style of an existing primary residence. Riverside's duplex and bungalow prototypes, by contrast, are intended for new development and may therefore be less constrained by the need to conform with an existing structure. Their incorporation of design elements associated with Riverside's architectural character may further increase their applicability across local neighborhoods.

This difference could give Riverside's standardized designs some advantage over preapproved ADU plans, although developers and property owners may still seek modifications in response to site conditions, construction preferences, market demand or neighborhood context. Riverside allows modifications that remain consistent with applicable municipal and planning requirements, creating a potential balance between standardization and flexibility. Whether that balance supports plan utilization while preserving meaningful time and cost savings will be an important question as implementation proceeds.

Addressing Site-Specific Concerns

Finally, respondents emphasized that many delays arise from the development site rather than the building design. Utility connections, grading, parking, access, easements, fire requirements, and other property-specific considerations may still require multiple rounds of review. One jurisdiction questioned whether preapproved plans produced substantial time savings when site-related revisions continued to drive their permitting timeline.

This finding clarifies both the value and limits of preapproval. The plans can reduce repetitive work associated with design and review of the building itself, but they cannot eliminate every source of development uncertainty. Programs are therefore likely to be most effective when jurisdictions clearly communicate which requirements have been addressed in advance, identify eligible or promising sites, and help applicants understand the site-specific work that remains.

Implications for Riverside's Emerging Program

California's experience suggests that the effectiveness of preapproved plans depends as much on implementation as on plan development. Programs appear more likely to generate value when usable plans are actually available, applicants can obtain them at little or no cost, the scope of advance review is clearly defined, reasonable customization is permitted, and jurisdictions have a strategy for maintaining the plans over time.

Riverside's initiative incorporates several features responsive to these early lessons. Rather than relying solely on private designers to submit plans, the City invested in the development of two publicly available prototypes. Its process incorporated community engagement, multidisciplinary technical review, analysis of potential infill sites, and flexibility for site-responsive modifications. In this respect, Riverside addresses several challenges that have limited implementation elsewhere before making the plans available to applicants.

At the same time, the survey highlights potential issues Riverside may wish to monitor as the program moves forward. These include public awareness and plan utilization, the cost and extent of site-specific work, the frequency and implications of plan modifications, processing time relative to conventional projects, and the resources required to update the plans during future building-code cycles. While the California findings do not establish how Riverside's more complex duplex and bungalow plans will perform, they identify practical indicators through which the City can evaluate whether its multifaceted approach translates into reduced barriers and completed housing.



Synthesis and Implications for the City of Riverside

A set of plans does not, by itself, produce housing. Zoning must allow a project to proceed, the site must be suitable, financing must be available, and construction must ultimately make economic sense. Yet plans can change where a project begins. By reducing the need to design and review the same building components repeatedly, preapproved plans may lower front-end costs, shorten portions of the development process, and give property owners and emerging developers a clearer path from an idea to a viable project.

The national comparison shows that local governments are approaching missing middle housing from different directions. Some have changed zoning and development standards; others have contributed public land, financing or construction subsidies. Riverside addresses yet another part of the development process through reusable plans that speak to several of the same concerns as the other programs at one time: reducing administrative burden and uncertainty while improving the circumstances under which smaller infill projects may become financially feasible.

Riverside's contribution lies less in any single innovation than in the way the initiative brings multiple components of policy and development together. The City has adapted a preapproved-plan model commonly associated with ADUs for use with duplex and bungalow courts and combined it with extensive community engagement, multidisciplinary technical guidance, analysis of potential infill sites, locally responsive architectural design, interdepartmental review, and site-level financial feasibility testing. Within the programs examined, this represents a distinctive and multifaceted effort to address design, administrative, contextual, and feasibility considerations through one locally-tailored pilot.

The California survey illustrates why this more comprehensive level of program development may matter. Across the state, establishing a preapproval process has not always resulted in usable plans, meaningful cost savings, or completed housing. Some jurisdictions have created an administrative pathway, but have not secured plans for public use. Others provide plans that must still be purchased from private designers. Even so, responding jurisdictions reported potentially meaningful reductions in design and permitting time and, in some cases, direct project costs. The evidence is early and uneven, but it suggests that preapproved plans can provide real value when they are structured, maintained, and implemented as usable development resources.

Riverside enters implementation having seemingly addressed several of the gaps identified elsewhere. The duplex and bungalow plans have already been developed for public use; major technical components have undergone advance review; and applicants may modify the designs within applicable requirements. Because the prototypes are intended for new development, rather than additions to existing homes,

they may also be less constrained than ADU plans by the need to fit behind or match an existing primary residence. These features give Riverside a promising foundation, although they do not guarantee that property owners and developers will choose to use the plans.

Policy development can be strengthened by the presence of an outside intermediary that can help originate ideas, convene partners, secure resources, engage developers and capital, and remain involved throughout implementation. Calling attention to this model is particularly important given the broader challenges identified above, as effective policy often depends not only on government action but also on sustained coordination among public, private, and community partners. The 21st Century ROAD to Housing Act, enacted in July 2026, establishes a new federal grant program to help local and tribal governments adopt pre-reviewed housing designs, or “pattern books,” including designs for ADUs, duplexes, townhouses, and other small-scale housing types. Community groups can also play an important role by advocating for their local governments to pursue these grant opportunities, building awareness of the benefits of preapproved housing designs, and encouraging local leaders to incorporate these tools into their housing strategies. This type of local advocacy can help ensure that federal resources translate into tangible housing-production opportunities at the community level.

The next chapter of the initiative will therefore be defined by implementation. Site conditions, entitlements, utilities, construction costs, access to capital, market demand, and public awareness will continue to determine whether prospective projects move forward. The most revealing measure will not simply be how often the plans are utilized, but whether they help viable projects advance farther and faster than they otherwise would. Tracking review times, site-specific costs, plan modifications, applicant experiences, permits, completed units, and points of project attrition will allow Riverside to identify which barriers the program reduces and which remain.

That learning process is itself an important return on the public and philanthropic investment in the initiative. If the plans reduce front-end uncertainty and help property owners and emerging developers reach construction, Riverside may provide a useful model for other communities interested in extending preapproved plans beyond ADUs. If projects continue to stall, the pilot can reveal where complementary zoning, infrastructure, financing, or technical assistance is needed. Continued engagement with applicants, contractors, lenders, and community partners may prove useful as the City refines plans and the development pathway around them.

Riverside’s initiative is therefore more than a catalogue of building designs. It is an effort to translate a broad housing objective into something tangible that a property owner or developer can use. Its ultimate significance will depend on whether that investment carries projects from possibility to construction. But by moving preapproved plans beyond the familiar ADU context and embedding them within a locally informed, collaborative process, Riverside has created a meaningful test of how cities can turn missing middle housing from a policy concept into a practical development opportunity.



Appendix I:

Program Name:	Preapproved Housing Plans for Missing Middle Housing	Missing Middle LA	Missing Middle Infill Housing Initiative	Middle Income Housing Pilot	Sacramento Missing Middle Housing Strategy	Portland Residential Infill Project
Program Overview						
Jurisdiction	Riverside, CA	Los Angeles, CA	Chicago, IL	Memphis, TN	Sacramento, CA	Portland, OR
Initiative Name	Preapproved Housing Plans for Missing Middle Housing	Missing Middle LA	Missing Middle Infill Housing Initiative	Middle Income Housing Pilot (MI-Pilot)	Sacramento Missing Middle Housing Strategy (2040 general plan)	Residential Infill Project (RIP)
Program Type (Ordinance, Pilot Program, Zoning Code Amendment, City Council Policy, Planning Department Admin. Procedures, etc.)	Pilot Program	Zoning Code Amendment (multiple code amendments: Small Scale Homes, Small Lot Ordinance Update, Objective Design Standards)	Pilot Program	Pilot Program	Long-term master plan	Zoning Code Amendment
Missing Middle or Preapproved Plans (or Both)?	Both	Missing Middle	Both	Missing Middle	Missing Middle	Missing Middle

Appendix I:

Program Name:	Preapproved Housing Plans for Missing Middle Housing	Missing Middle LA	Missing Middle Infill Housing Initiative	Middle Income Housing Pilot	Sacramento Missing Middle Housing Strategy	Portland Residential Infill Project
Program Overview						
Jurisdiction	Riverside, CA	Los Angeles, CA	Chicago, IL	Memphis, TN	Sacramento, CA	Portland, OR
Initiative Name	Preapproved Housing Plans for Missing Middle Housing	Missing Middle LA	Missing Middle Infill Housing Initiative	Middle Income Housing Pilot (MI-Pilot)	Sacramento Missing Middle Housing Strategy (2040 general plan)	Residential Infill Project (RIP)
Program Type (Ordinance, Pilot Program, Zoning Code Amendment, City Council Policy, Planning Department Admin. Procedures, etc.)	Pilot Program	Zoning Code Amendment (multiple code amendments: Small Scale Homes, Small Lot Ordinance Update, Objective Design Standards)	Pilot Program	Pilot Program	Long-term master plan	Zoning Code Amendment
Missing Middle or Preapproved Plans (or Both)?	Both	Missing Middle	Both	Missing Middle	Missing Middle	Missing Middle

Appendix I:

	Riverside, CA	Los Angeles, CA	Chicago, IL	Memphis, TN	Sacramento, CA	Portland, OR
Program Purpose	To facilitate the building of small multi-unit housing in Riverside by offering free, ready-to-use plans. The purpose is to induce the construction of housing for the missing middle, specifically for those who can't (or don't want to) afford single-family housing	To address LA's homeownership gap and housing affordability crisis by streamlining review and removing barriers to build smaller, neighborhood-scaled homes. Another stated goal of the initiative is to open new pathways for native Angelenos to stay in their communities	To bring new homes to neighborhoods in Chicago that have a lot of vacant, city-owned land. The City sells those lots for \$1 and gives developers money to build homes that working-class families can afford to buy	To help developers build more small multi-unit housing (2–10 units) for middle-income families in Memphis	Encourages housing near transit, sets a path to carbon neutrality for 2045	To allow more types of housing to be built in Portland's single-family neighborhoods, specifically duplexes through sixplexes
Stated Program Goals	More housing for those in the mid-income; cut cost and time of doing so by offering presently available plans; help small developers, or residents who cannot afford expensive architects; provide affordable housing through the construction of multi-unit housing	Make it easier to build ADUs, duplexes, and small homes on single-family lots; align local rules to match state housing laws; create standardized design rules so projects can be approved without a long process; increase homeownership options for LA residents	Leverage vacant city land and subsidies to catalyze construction of small-scale infill housing that brings residents back, stabilizes blocks, and expands attainable homeownership	Help local developers build or rehabilitate small multi-unit housing (2–10 units)	Increase housing supply by eliminating caps on single family zones, encouraging infill	Allow duplexes, triplexes, fourplexes, and sixplexes in single-family neighborhoods to increase infill development close to downtown areas

Appendix I:

	Riverside, CA	Los Angeles, CA	Chicago, IL	Memphis, TN	Sacramento, CA	Portland, OR
Housing Types Included (ADUs, Apartments, Single-Family Homes, etc.)	Duplexes (2 units); Bungalows	These amendments will expand housing choices by enabling the construction of smaller, more attainable homes such as Accessory Dwelling Units (ADUs), duplexes, townhomes and cottage clusters in all zones where residential use is permitted	Two-six unit residential buildings, and townhomes	2 to 10 unit buildings	Varied	Duplexes, triplexes, fourplexes, and sixplexes
Administrative Structure						
Eligibility Criteria	Small-lot (or potentially) other land owners in the City of Riverside	Property owners in eligible zones. However, eligibility criteria for this initiative varies by housing type	For-profit or nonprofit housing developers who can take on a full cluster of at least 5 City-owned lots at once (you can't just pick one lot). Finished homes must be sold to owner-occupants. Developers must show they have experience, a solid design, and financing. At least 50% of construction workers must be Chicago residents	Projects must target families earning 80–120% of median income, targeted towards non-profit and for-profit developers	Property owners or developers in Sacramento	Any property owner or developer in Portland's single-family zones

Appendix I:

	Riverside, CA	Los Angeles, CA	Chicago, IL	Memphis, TN	Sacramento, CA	Portland, OR
Permitting Process	Developer selects a preexisting plan and submits it, obviating the need for a long full-plan review process	Varied; Some projects are approved ministerially, skipping public hearing and discretionary review, three ordinances are being written to codify this	Developers apply online. The City scores each application on design quality, developer experience, financing, and density. Selected developers go through City Council approval (about a 2-month process), then sign a land agreement, then get a building permit through the standard process	Developers submit an application to the City of Memphis Housing & Community Development department during the open application window	Development proposals applied under the Missing Middle ordinance will be reviewed through the City's discretionary Site Plan and Design Review (SPDR) process	No special rules
Typical / Estimated Timeline for Approval/Permitting	No formal timeline as of right now, expected to launch Summer 2026, expected to cut approval time from months to weeks	Aligns city policies with state policy, meaning ADUs and two-unit applications have to be responded to in 60 days	Goes through standard Chicago building permit process	Open for a set window for application, then granted or denied in 4-8 weeks	NA	NA; No special permitting processes

Appendix I:

	Riverside, CA	Los Angeles, CA	Chicago, IL	Memphis, TN	Sacramento, CA	Portland, OR
Fee Structure	The prototype building plans are free to use. Developers still pay regular building permit fees and impact fees	Permit and impact fees still apply	City lots are sold for \$1 each (a huge discount). Developers also get \$50,000–\$150,000 per unit in construction help from the City's housing bond. There is a \$5 million cap per developer. Regular building permit fees still apply on top of this	Financial assistance is structured as a loan in Year 2. \$1 million total is available: \$650,000 for rental projects, \$350,000 for for-sale projects	No special fee structure	No special fee structure
Financing & Partnerships						
Funding Sources	Main funding: \$500,000 REAP 2.0 grant from SCAG (Southern California Association of Governments) and California's Department of Housing and Community Development. This money paid for hiring the architect (RADAR), running community workshops, and creating outreach materials. Parkview Legacy Foundation has funded Blended Impact Labs \$52,500 to support the initial plan launch and outreach to	N/A	Mayor Brandon Johnson's Housing & Economic Development (HED) Bond, approved by Chicago City Council in May 2024. This bond provides the \$1/lot land price and the \$50,000–\$150,000 per unit construction subsidies. The program is run by Chicago's Department of Planning & Development	City of Memphis Housing & Community Development budget	City of Sacramento's Planning Department budget	City of Portland's Bureau of Planning & Sustainability (general fund)

Appendix I:

	Riverside, CA	Los Angeles, CA	Chicago, IL	Memphis, TN	Sacramento, CA	Portland, OR
Institutional Partners	City of Riverside (lead); Blended Impact / Blended Impact Labs (co-originator, civic partner); Parkview Legacy Foundation (philanthropic partner, co-originator); RADAR Architecture (hired design firm); SCAG (grant funder); WRCOG (regional partner)	LA City Planning Department (lead); Mayor's Office; California HCD (state oversight)	Chicago Dept. Planning and Development, Mayor, Chicago City Council, ChiBlockBuilder	City of Memphis Housing & Community Development (lead); Mayor Paul Young's administration; Local developers (program recipients). Part of the "10,000 Homes" initiative	City of Sacramento Community Development Department; Opticos Design; SACOG (regional housing framework); California HCD; Community groups and neighborhood associations	City of Portland Bureau of Planning & Sustainability; Portland City Council; Bureau of Development Services; Cascadia Partners
Outcomes & Evaluation						
Implementation Status	Prototype plans supposed to be released 2026	In progress, ordinance adoption expected in 2026	In progress; already, seven two-flats in North Lawndale, as part of a first phase that will deliver around 115 units	Active	Adopted. The 2040 General Plan was formally adopted in February 2024. The companion zoning code changes are being finalized through 2025–2026	Adopted, with ongoing monitoring

Appendix I:

	Riverside, CA	Los Angeles, CA	Chicago, IL	Memphis, TN	Sacramento, CA	Portland, OR
Early (or General) Outcomes	Still in design phase, no units built yet	Ordinances still being written; NA	Units are being delivered currently, flats in North Lawndale and other rounds of construction	Year 2 applications opened in February 2026 with \$1 million available. Detailed outcomes from Year 1 have not been publicly released	No completed units attributed to this so far	In Year 1 (Aug 2021–Aug 2022): 271 middle housing units were permitted in single-family zones
Civic Engagement Component?	Yes, community workshops, virtual seminars, Technical Advisory Committee, community input	Public webinars, planning and comment hearings, historic neighborhood boards	Community open houses were held in each participating neighborhood (e.g., a public event on October 1, 2025 in Morgan Park). Each neighborhood's program is co-sponsored by its local alderman	The City commissioned a public report in 2022 identifying housing barriers. Opticos Design conducted community feedback sessions at every major milestone. Neighborhood associations and equity organizations were included	The City commissioned a public report in 2022 identifying housing barriers. Opticos Design conducted community feedback sessions	The Planning and Sustainability Commission held public hearings from 2016–2020
Affordability & Access Considerations	Plan is equitable, targeting the 80-120% median income peoples	Produces housing affordable by design	The city sells vacant lots (sometimes as low as 1 dollar) and adds per-unit subsidies so developers can offer homes at capped prices	All units must serve households earning 80–120% of area median income, pre development grants make it easier for small developers	The FAR rules are designed to make multi-unit housing (like fourplexes) more profitable to build than single-family homes	Zoning reform, in this case, allows for more infill and more models of housing (multi-unit housing options)

Appendix I:

	Riverside, CA	Los Angeles, CA	Chicago, IL	Memphis, TN	Sacramento, CA	Portland, OR
Lessons Learned	Publishing preapproved plans can cut costs and make missing middle housing more accessible for architects and users; uses a public-private-philanthropic model of partnership	LA shows the difficulty of implementing state housing laws at the local level; this project was meant to standardize housing policies locally	\$1 Subsidy model may be efficient for big cities with many vacant lots; cluster approach forcing developers to work on +5 lots of land is good for targeted infill	Memphis shows that the private market are hesitant to build for middle-income households without a financial push	NA	Portland was one of the first major U.S. cities to legalize missing middle housing in single-family zones at a citywide scale, first year implementation shows promising benefits
Comparison to Riverside	N/A	Similar goal, LA uses zoning reform, Riverside uses building plans, both municipalities want better affordability by design, and not by direct subsidy	Different in both approach and scale. Chicago uses city-owned land and construction subsidies to get developers to build in neglected neighborhoods; Riverside uses free building plans to lower costs on private infill lots. Chicago does not have an income target (just a price cap); Riverside specifically focuses on 80–120% AMI households. Chicago's program requires much more city money. But both use public tools to unlock private housing development.	Memphis and Riverside target the same households but solve different problems. Memphis fills the financing gap, Riverside fills the design and permitting cost gap. A city that wants to fully support middle-income housing would ideally do both	Sacramento allows missing middle almost anywhere citywide through a top-down regulatory change; Riverside is running a targeted pilot program using a bottom-up design approach.	Both Riverside and Portland make it easier to build middle housing, one with preapproved plans and the other with zoning amendments. This allows for more equitable access.

References

- California Assembly Bill 1332, Chapter 759, Statutes of 2023 (2023). *Accessory dwelling units: Preapproved plans*. https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=202320240AB1332
- California Senate Bill 10, Chapter 163, Statutes of 2021 (2021). *Planning and zoning: Housing development: density*. https://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=202120220SB10
- Christopher, B. (2025, September 26). *How Bad is California's Housing Shortage? It Depends on Who's Doing the Counting*. Cal Matters. <https://calmatters.org/housing/2025/09/california-housing-shortage/>
- City of Riverside. (2021). *2021–2029 housing element*. Community & Economic Development Department. <https://www.riversideca.gov/cedd/planning/general-plan>
- City of Riverside. (2022, September 9). *Standardized plans for missing middle housing types* [Unpublished grant proposal submitted to the Southern California Association of Governments (SCAG)].
- City of Riverside. (2024, October 22). *Resolution No. 24180* [City Council resolution]
- City of Riverside. (n.d.-a). *Economic development data dashboard*. Community & Economic Development Department. <https://www.riversideca.gov/cedd/economic-development/data-reports/data-dashboard>
- City of Riverside. (n.d.-b). *About Riverside*. <https://www.riversideca.gov/visiting-aboutriv.asp>
- City of Riverside Community & Economic Development Department. (2026, June 16). *Preapproved Housing Plans for Missing Middle Housing: Duplex and Bungalow Unit Plans* [City Council Memorandum].
- City of Riverside, & Western Riverside Council of Governments. (2025). *Preapproved housing plans for missing middle housing* [Community presentation]. Riverside, CA.
- Carruthers, J. I., & Ulfarsson, G. F. (2003). *Urban sprawl and the cost of public services*. *Environment and Planning B: Planning and Design*, 30(4), 503–522.
- Dong, H. (2024). *Expanding Affordable Middle Housing Options in Single-Family Neighborhoods*. *Journal of the American Planning Association*, 1–14. <https://doi.org/10.1080/01944363.2024.2344628>

- Frederick, Chad. “Economic Sustainability and “Missing Middle Housing”: Associations between Housing Stock Diversity and Unemployment in Mid-Size U.S. Cities.” *Sustainability*, vol. 14, no. 11, 2 June 2022, <https://doi.org/10.3390/su14116817>.
- Garcia, David, et al. “Unlocking the Potential of Missing Middle Housing.” *Terner Center for Housing Innovation UC Berkeley*, Dec. 2022. <https://ternercenter.berkeley.edu/wp-content/uploads/2022/12/Missing-Middle-Brief-December-2022.pdf>
- Garcia, D., Manji, S., Underriner, Q., & Reid, C. (2022). (rep.). *The Landscape of Middle-Income Housing Affordability in California* (pp. 1–27). Berkeley, CA: Terner Center for Housing Innovation.
- Huennekens, Joseph. “Learning from Land Use Reforms: The Case of Ramapo, New York.” *Cityscape: A Journal of Policy Development and Research* •, vol. 25, no. 25, 2023, www.huduser.gov/PORTAL/periodicals/cityscape/vol25num2/ch10.pdf. Accessed 1 July 2026.
- Lambert, L. (2024, October 17). Giant homebuilders tighten their grip on the housing market—*just look at this map*. *Fast Company*. <https://www.fastcompany.com/91210557/housing-market-giant-publicly-traded-homebuilders-tighten-grip-map>
- Lynch, E. (2025). Cost of constructing a home—2024. National Association of Home Builders.
- Marantz, Nicholas J, and Jake Wegmann. ““Missing” No More: Planners Should Harness Private Developers to Build Middle Housing.” *Journal of the American Planning Association*, vol. 91, no. 2, 7 Oct. 2024, pp. 1–7, <https://doi.org/10.1080/01944363.2024.2401372>.
- Negret, M., Mehta, M., Bigelman, N., & Garner, C. (n.d.). *How Six Cities are Creating Missing Middle Housing: An Introductory Review & Case Studies*. Regional Plan Association. <https://rpa.org/work/reports/how-six-cities-are-creating-missing-middle-housing>
- Page, S. E. (2010). *Diversity and complexity*. Princeton University Press.
- Parolek, Daniel. “Missing Middle Housing: Responding to the Demand for Walkable Urban Living.” https://www.nahbclassic.org/assets/docs/ises/DanParolek_MissingMiddleHousingfinal_20140127095017.pdf
- Parolek, D., & Nelson, A. C. (2020). *Missing middle housing: Thinking big and building small to respond to today's housing crisis*. Island Press.

- Realtor.com. (n.d.). *Housing inventory: Median home size in square feet in Riverside County, CA* [Data set]. Federal Reserve Bank of St. Louis. Retrieved August 24, 2026, from <https://fred.stlouisfed.org/series/MEDSQUFEE6065>
- Rodnyansky, Seva, and Dennis Su. “Preapproved Building Plans Help Cities Improve Housing Affordability.” Pew, Pew Charitable Trusts, 13 May 2026, www.pew.org/en/research-and-analysis/reports/2026/05/preapproved-building-plans-help-cities-improve-housing-affordability. Accessed 2 July 2026.
- Seattle Office of Planning & Community Development. (2023). *2022 ADU annual report*. City of Seattle. <https://www.seattle.gov/documents/Departments/OPCD/OngoingInitiatives/EncouragingBackyardCottages/OPCD-ADUAnnualReport2022.pdf>
- Smith, Andrea, M. “Cost of Permitting Delays in Select Jurisdictions in Washington State: How Project Delays Increase New Home Prices,” Building Industry Association of Washington—Washington Center for Housing Studies, 2022, <https://housingstudies.biaaw.com/reports/cost-of-permitting-delays-in-select-jurisdictions-in-washington-state>.
- Steven Ruggles, Sarah Flood, Matthew Sobek, Daniel Backman, Grace Cooper, Julia A. Rivera Drew, Stephanie Richards, Renae Rodgers, Jonathan Schroeder, and Kari C.W. Williams. I *IPUMS USA: Version 16.0 [dataset]*. Minneapolis, MN: IPUMS, 2025. <https://doi.org/10.18128/D010.V16.0>
- Sullivan, Olivia. *Expanding the Middle : Creating a More Inclusive Definition for Missing Middle Housing*. 21 Apr. 2023, <https://doi.org/doi.org/10.26153/tsw/50099>.
- Tomasso, Amy. “Surveying Missing Middle Housing - Trends in the United States and Massachusetts.” Harvard University, 1 Apr. 2025.
- U.S. Census Bureau. (2024). *Household type (including living alone) by relationship (Table B09019)*. American Community Survey, ACS 5-Year Estimates Detailed Tables. U.S. Department of Commerce. <https://data.census.gov/table/ACS5Y2024.B09019>
- U.S. Department of Housing and Urban Development. (2026). *FY 2026 income limits documentation system: Median family income calculation methodology*. HUD USER. <https://www.huduser.gov/datasets/il/il2026/median?year=2026&reporttype=hmfa&cbsa=METRO40140M40140&states=6&counties=0607199999>
- Western Riverside Council of Governments. (2023, February). *Standardized Plans for Missing Middle Housing Types for Infill Lots* [Program Presentation].

Winterberg-Lipp, Ryan, "Finding the Middle: Overcoming Challenges to Building Missing Middle Housing" (2018). Metroscape. 135. <https://pdxscholar.library.pdx.edu/metroscape/135>

Wolf, Nani, and Nicholas Julian. "From Blueprint to Reality: Harnessing the Power of Pre-Approved Housing." <https://www.nahb.org/-/Media/NAHB/Advocacy/Docs/Industry-Issues/Land-Use-101/Community-Planning/Pre-Approved-Housing-Plans.pdf?Rev=1305001032434f4897b44b99dc137816>, National Association of Home Builders, 23 May 2024.

Zeebuyth, Lena, and Mallory Moore. "Missing Middle Housing: Accelerating America's Transition from Single Family Zoning ." *Natural Resources Journal*, vol. 64, no. 1, 2024. JSTOR, www.jstor.org/stable/pdf/27427847. Accessed 2 July 2026.

A Clearer Path to Missing Middle Housing

A case study of Riverside's preapproved plan initiative

Missing middle housing—including duplexes, bungalow courts, and other small multifamily forms—can expand housing choice within established neighborhoods. Yet these projects often lack the scale needed to absorb architectural costs, technical review, financing, and development uncertainty. Riverside's Preapproved Housing Plans for Missing Middle Housing initiative responds by investing in reusable plans that give property owners and developers a clearer, more accessible starting point.

Riverside's Preapproved Housing Plans for Missing Middle Housing

Riverside is testing whether a tool commonly associated with accessory dwelling units (ADUs) can support more complex missing middle housing. The initiative provides preapproved plans for two neighborhood-scale prototypes: a duplex and a bungalow that can be combined around a shared courtyard to create a bungalow court. Because major architectural and technical components have undergone advance review, each applicant can begin with a professionally developed foundation rather than recreating the same work for every project.

The initiative is notable not for any single feature, but for the elements it brings together. Reusable plans are paired with community input, multidisciplinary technical guidance, analysis of potential infill sites, interdepartmental review, financial feasibility testing, and design features responsive to Riverside's architectural character and changing household needs.

Developed through extensive cross-sector collaboration, the program represents more than a catalogue of standardized designs. It is a locally tailored investment in shared development infrastructure intended to reduce selected costs and uncertainty, encourage infill, expand housing choice, and support multiple future projects.

About the Case Study

The study examines Riverside's approach and its broader policy context through 3 methods:

A National comparison of selected U.S. missing middle housing strategies.

A California survey of preapproved plan use and reported savings in 89 jurisdictions.

A review of Riverside's program, including of the initiative's development, design, goals, and partnerships.

What is the "Missing Middle"?

The "missing middle" refers to housing types that fall between detached single-family homes and large apartment buildings—such as duplexes, bungalow courts, and townhomes—that are increasingly scarce in many communities.



What Other Housing Strategies Reveal

Different Strategies to Advance Missing Middle Housing

A comparison of selected programs across the United States shows how local governments use different policy tools to address different barriers to missing middle housing.

Regulatory reform: Los Angeles, Sacramento, and Portland revise zoning and development standards to expand what can be built.

Financial incentives: Chicago and Memphis use discounted public land, subsidies, or financial assistance to improve project feasibility.

Preapproved plans: Riverside uses reusable, previously reviewed designs to reduce selected design costs, technical work, and permitting uncertainty.

Riverside's model bridges the approaches examined. Like regulatory reform, it streamlines portions of development and review; like financial incentives, it seeks to improve feasibility—but by reducing upfront plan-development and non-site-specific review costs rather than providing land or subsidies. This hybrid approach reinforces a broader lesson: effective strategies respond to the particular barriers, resources, and priorities of each community.

Early Evidence on Preapproved Plans from California

A **4-question survey** that asked about preapproved plan availability and use, estimated time and cost savings, and additional program data was sent to 89 California jurisdictions - including cities comparable in population to Riverside and jurisdictions offering preapproved plans beyond ADUs. 59 jurisdictions responded, for a 66% response rate. Their responses offer encouraging, though preliminary, evidence of the potential benefits of preapproved plans:

- **6 plans, on average**, were available per jurisdiction.
- **~ 53 days** saved during design and permitting.
- Preapproved plans estimated to be **processed at ~ 2.8x** the speed of conventional plans.
- **~\$10,300 per project** in average direct savings, with estimates ranging from a few thousand dollars to approximately **\$45,000**.
- **500 ADUs** built or permitted using preapproved plans, to-date.

The findings suggest preapproved plans can reduce development time and cost, but nearly all available evidence concerns ADUs. Riverside's distinctive approach applies this model to missing middle housing, providing an important test of whether these benefits extend to more complex housing types.

What this May Mean for Missing Middle Housing in Riverside

Together, the comparisons highlight both the promise and limits of preapproved plans—and what makes Riverside's approach distinctive. The City is moving the model beyond its typical ADU application and combining reusable plans with advance review, site analysis, and feasibility testing to support more complex missing middle housing. This creates an important test of whether a more comprehensive, locally tailored approach can reduce barriers that are often addressed separately. Financing, infrastructure, site conditions, and market demand will still shape whether projects are built. Tracking plan use, review time, costs, project attrition, and completed units will reveal what this model changes—and where additional support is still needed.

Explore the Full Case Study



Scan the QR code to examine Riverside's program in greater depth - including its origins and partnerships, community and technical design process, prototype features, financial feasibility analysis, national case comparisons, California survey findings, and key considerations for implementation.

