Solving the Housing Shortage is a Force Multiplier

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Housing Multiplier Project

FAS CENTER FOR REGULATORY INGENUITY

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About Us

This research was led by the Housing Multiplier Project in partnership with the Federation of American Scientists Center for Regulatory Ingenuity and the Lincoln Institute of Land Policy — with co-authors from MIT, Urban Land Institute, World Resources Institute, RMI, University of Denver's Center for Housing Research and Innovative Solutions, and UC Berkeley's Center for Law, Energy & the Environment.

The Housing Multiplier Project works at the local, state, and federal level to advance an agenda that solves the housing shortage faster and more cost effectively — and makes housing a force multiplier for progress. Our research shows that when we solve the housing shortage strategically, new homes lower housing, transportation, and energy costs; strengthen resilience and insurance markets; improve state and local fiscal health; increase grid reliability; protect open and working lands; and reduce emissions.

The FAS Center for Regulatory Ingenuity (CRI) is building a new, transpartisan vision of government that works — that solves complex challenges like climate change in ways that improve people's daily lives. CRI's core conviction is that there is a mismatch between highly dynamic modern problems and the aging regulatory strategies and institutions we rely on to solve them. Our work focuses on addressing this mismatch in the climate context by (1) creating high-trust environments where stakeholders who don't always work together can pressure-test the big ideas needed to modernize government institutions and the democratic feedback loops that hold them accountable; and (2) cultivating a "network of networks" that helps policymakers and practitioners move these ideas from concept to implementation at scale. Housed at the Federation of American Scientists, one of the nation's oldest science-policy organizations, CRI's initiatives are shaping the next era of federal and subnational climate policy in the United States.

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Executive Summary

In the United States, we have an unprecedented opportunity to reimagine where and how we build housing. Our country faces a severe housing shortage: We need to build at least 14 million homes to meet demand over the next decade. This shortage drives up housing costs, prevents people from living near good jobs and schools, and makes it all but impossible for many would-be buyers to break into the housing market.

Fortunately, policymakers are taking notice. Between July 2024 and July 2025, state and local governments passed 124 housing bills across 33 states aimed at increasing housing production. At the federal level, the recently enacted 21st Century ROAD to Housing Act similarly intends to boost supply. And this is only the beginning — throughout the country, bipartisan momentum continues to build.

Recent bipartisan reforms share a throughline: they remove the restrictions and barriers that create artificial housing scarcity. Once these strangleholds loosen, opportunities for ingenuity abound. But it's not a given that the policies that governments enact will be the best policies for getting homes built at the scale, speed, and prices we need. And depending on how we proceed, we may also leave major benefits on the table.

The best housing policies make it easier to build homes. They also do something critical: they recognize how housing connects to other domains. America's affordability problem, for instance, is bigger than home prices and rents. Household spending on energy and transportation is heavily shaped by where homes are located and how they are built. At the same time, increasingly frequent and intense disasters and extreme weather both impose direct costs and contribute to escalating insurance prices that squeeze family finances and limit housing. Each year, disasters destroy the equivalent to one month's worth of the nation's new home construction. And a constrained electric grid and rising utility costs add to the pressure.

Our research shows that when done right, new homes are a force multiplier: they lower housing, transportation, and energy costs; strengthen resilience and insurance markets; improve state and local fiscal health; protect open and working lands; increase grid reliability; and reduce emissions.

USING EVIDENCE TO FIND THE BEST HOUSING POLICIES

This white paper puts forth the most impactful housing policies that states and localities can implement to stimulate housing production at the scale and speed we need. Given today's fiscal constraints, we focus on state and local policies that require limited public dollars, which then prime the pump for market forces, private capital, and targeted public investment to get housing built. Based on an extensive research review, analysis of case studies from across the United States,

formal interviews, and less formal conversations with hundreds of subject matter experts, we surface evidence-based policies to:

1) **Solve the U.S. housing shortage faster and more cost effectively, and**

2) **Make housing a force multiplier for progress.**

Achieving these goals means rejecting the myth that we must choose between building more housing and pursuing other societal objectives. Instead, we must recognize how housing intersects with these issues and adopt policies that align them.

In short, we must **build for benefits.**

While the systems are complex, the agenda is simple: We need more of the right homes in the right locations, at the lowest costs. The evidence overwhelmingly shows that the following principles should guide where, what, and how we build:

- **Where:** homes in connected, lower-hazard established neighborhoods with access to jobs and services.
- **What**: home types that more people can afford, including accessory dwelling units (ADUs), townhomes, duplexes, fourplexes, sixplexes, apartments, single-family starter homes, and manufactured homes.
- **How**: homes that are better able to withstand disaster, have lower utility costs, reduce pollution, and strengthen the grid rather than strain it.

In some cases, this may mean new construction. In other instances, it may mean repurposing non-residential buildings for housing, or adding units to existing housing.

Moreover, what constitutes an established neighborhood differs by geography. In urban areas, the best opportunities may center on more housing near transit and robust public infrastructure. In rural areas without transit or existing infrastructure, the best opportunities may center on proximity to jobs, schools, and the other routine needs of daily living.

Key Findings - Box A synthesizes key benefits accrued by following the where, what, and how principles of homebuilding. Importantly, our research shows that maximizing benefits means integrating these three principles into a comprehensive, durable, cost-effective housing strategy.

Key Findings - Box B summarizes findings that counter common arguments against building more resilient, efficient housing in lower-hazard established neighborhoods (e.g., it's too hard; it's too expensive; there's not enough land; it slows production).

FROM EVIDENCE TO ACTION: SIX STATE AND LOCAL TACTICS

To turn these principles into results, we've identified six tactics that localities and states can adopt with limited public dollars to solve the housing shortage faster, more cost-effectively, and with greater benefits to households and communities. They create the conditions for private and public capital to flow faster and more efficiently into homebuilding. When implemented as a package, these tactics can increase housing production quickly, affordably, and at the scale our current shortage demands. The research draws on what's already working across the country, and focuses on aligning targeted deregulation with thoughtful building standards and strategic land, transportation, and utility policies.

These tactics are:

1) Cut red tape specifically to allow homes of all shapes and sizes in connected, lower-hazard established neighborhoods.
2) Put public land in lower-hazard established neighborhoods to work.
3) Simplify public financing so dollars for income-restricted housing and starter homes go further.
4) Make disaster-prepared construction the norm.
5) Build lower utility costs into new homes from the start and make homes critical energy infrastructure.
6) Align utility reforms with housing affordability and grid reliability.

These tactics mix two approaches. Some make it easier to build by eliminating regulations that slow construction. Others position state and local governments in a proactive role: such as putting municipal, and state-owned land to work; offering pre-approved plans, training, and financing that speed approvals and expand the pool of small developers and builders; or recruiting modular builders to establish local factories.

SCALING HOUSING REFORMS THAT WORK

These reforms need to be dramatically scaled across the United States. And they can be. Colorado, for example, is beginning to adopt the integrated approach this paper recommends. Since 2022, the state has legalized more housing of all shapes and sizes and at all budgets in established neighborhoods; strengthened wildfire standards; reformed insurance standards; incentivized efficient, electric construction; developed a new low energy and carbon code, and enabled virtual power plants and fairer electric rates. Many other localities and states across the U.S. have also made notable progress.

In the following pages, we lay out the state and local government actions that can, collectively, turn America's housing shortage into an engine of prosperity rather than a brake. The task is to scale reforms that make resilient, efficient housing faster and more cost effective to build. The goal is not to sacrifice speed; it is to remove real cost barriers to dramatically increase production and deliver homes that people need and that are affordable for the long term.

KEY FINDINGS: BUILDING FOR BENEFITS

A. The where, what, and how principles deliver returns

This white paper's key findings demonstrate that solving the housing shortage strategically is a force multiplier that:

- **Moderates home prices and rents across markets.**
- **Reduces physical risk, which improves the risk profile of insurance pools and bolsters insurance markets** for both new and existing homes.
- **Lowers household transportation costs, saving, on average, $700 per person per year** on fuel and vehicle maintenance through shorter commutes, less congestion, and fewer vehicle miles traveled.
- **Leaves intact the farms, forests, recreational land, and natural buffers that shield communities from flooding, wildfire, and extreme weather.** This could spare up to 13.5 million acres of farm and ranchland and up to 19 million acres of wildlands.
- **Saves taxpayers money and yields more revenue.** Expanding footprints are hard to govern and costly to serve. Homes built in established neighborhoods rather than on greenfields save an average of $21,000 per home in roads, water, sewer, and utility infrastructure and up to 50% in ongoing maintenance. They also generate 13% more tax revenue per acre.
- **Lowers household utility costs, reduces peak demand, and helps avoid new fossil fuel power plants** by turning efficient, grid-interactive homes into critical utility infrastructure.
- **Reduces pollution by up to 70 million tons per year** — roughly equal to half the country buying only electric vehicles by 2035 — through modest reforms that give people a wider range of home choices in opportunity-rich neighborhoods where they can drive less. But the full emissions and economic opportunity is even larger. Strategic housing reforms put in motion a built environment that strengthens the grid, optimizes clean energy, and serves as the backbone of the energy transition.

B: Countering common arguments: the evidence on land availability, cost, and delivery

The U.S. has enough vacant and underused land in opportunity-rich, lower-hazard neighborhoods to solve today's housing shortage without building on farmland, forests, or wildlands.

1. More than 16 million homes could be built on underused commercial and vacant land outside floodplains in established neighborhoods near transit.
2. Municipal- and state-owned land in transit-accessible, lower-hazard neighborhoods could alone accommodate up to 6.8 million homes.
3. With targeted infrastructure investment, lower-hazard rural communities can build more homes near jobs and services.

Disaster-resistant, energy efficient construction is a sound investment. Targeting the regulations that drive most housing costs will do far more for production than rolling back standards that add small upfront costs yet deliver long-term savings.

1. Resilience pays. The National Institute of Building Sciences found that every $1 invested in resilience saves up to $13 in avoided future losses, and Allstate and the U.S. Chamber of Commerce found that each dollar not invested in disaster preparedness costs up to $33 in lost economic activity.
2. Whole-home energy efficiency standards are not a major cost driver, especially when compared to legacy regulations. Parking mandates, dual-stairway requirements, and commercial code requirements for missing middle housing *each individually* cost substantially more than making an entire home or building energy efficient, in some cases by orders of magnitude.

Streamlining public financing and the use of public land are high-yield steps.

1. Land accounts for 10–20% of development costs. Cities and states that streamline the use of public land for housing can measurably raise production.
2. Juggling multiple financing sources adds construction, staffing, legal, and compliance costs. In California, each additional public financing source for an affordable housing project raised costs by an average of $20,460 per dwelling and extended timelines by four months. Streamlined financing delivers more homes per public dollar.

I. Introduction

Housing in America is expensive, and there isn't enough of it in the places people want to live. The resulting competition among renters and buyers drives up home prices and rents, widening the gap between what people earn and what it costs to keep a roof overhead. Today, roughly 750,000 people are homeless. Teachers, healthcare providers, first responders, and other critical workers are increasingly priced out of the communities they serve, while homeownership — long a primary pathway to building wealth — drifts further out of reach.

Decades of underproduction have led to today's housing shortage and high home prices and rents. Legacy land use policies, slow approvals, and regulations have limited new supply. Labor constraints, supply-chain issues, tariffs, inadequate financing for affordable housing, and unfavorable economic conditions have mattered just as much, and in some markets, more.

But rising prices and rents are only part of the affordability squeeze. At least three other factors are making homes harder to afford and hold onto, while also increasing related household costs, such as transportation, energy, insurance, and property taxes.

One factor is extreme weather. More frequent and intense storms, floods, wildfires, and heat damage homes and put people at risk. As losses mount, insurers raise premiums or cut coverage. Homeowner insurance premiums rose an average of 12% nationwide in 2025, and far more in some states (48% in Illinois, 36% in Michigan, and 20% in Nebraska between 2023 and 2025). In parts of California, Florida, Louisiana, Arizona, and North Carolina, insurers have stopped writing new policies altogether. Because buyers can't get mortgages and developers can't get financing without insurance coverage, the instability can make it harder to build new homes and hold onto the homes we have. These problems are likely to intensify with more extreme weather: on current trajectories, access to mortgages and other housing-related financing could severely diminish across much of the country within the decade.

A second factor is land use policy and legacy regulations that limit housing production overall and make it especially hard to build in lower-hazard established neighborhoods. Because most land zoned for housing allows only detached single-family houses, zoning often steers development out of established neighborhoods and into under- and undeveloped areas, including farmland and other working lands. If current development patterns continue, 18 million acres of agricultural land will be "lost, fragmented, or compromised" by 2040. That carries significant economic and environmental costs.

Pushing development out of established neighborhoods also raises household transportation costs and strains local governments by requiring them to extend infrastructure and services while absorbing higher infrastructure, disaster, and insurance costs. At a time when local governments are already grappling with fewer resources, including lost federal aid, these additional costs hit hard — particularly because new developments tend to be built in risky places. More than

90% of new homes built in Arizona and California between 2020 and 2022, for instance, face significant fire risk, versus 40% of those built 1900 and 1959. In North Carolina, between 1996 and 2017, roughly 10 new homes were built in high-hazard areas for every home bought out after a disaster. And in the Houston metro area, more than 65,000 new properties have been built in flood zones since Hurricane Harvey in 2017.

A third factor is the rising cost of energy on an increasingly strained grid. Aging infrastructure, surging demand from data centers and other new loads, cancelled clean energy projects, and repeated disasters are all pushing up bills. Household electricity and gas bills rose about 6% and 10%, respectively, from January 2025 to January 2026, before the 2026 oil price shocks drove energy prices higher still. Aging infrastructure is also making it harder to connect new homes to the grid.

Today, the average American household spends more than half its income on housing, transportation, and energy combined. For many households, that leaves little margin for error. Together these interlocking pressures constrain growth, stability, security, and opportunity nationwide.

SOLUTIONS THAT INCREASE HOUSING PRODUCTION AND MAKE HOUSING A FORCE MULTIPLIER

Several of the factors that limit home production, challenge affordability, and increase hazard risk are within state and local control. Across the country, states and localities are already showing what's possible when they act.

- In Austin, Texas, zoning and permitting reforms helped catalyze a building boom that put downward pressure market-wide, lowering average rents adjusted for inflation by 19% between 2021 and 2025.
- In Minneapolis, lifting restrictions on smaller, denser housing and investing in transit, alongside demographic shifts, contributed to a 12% increase in housing supply and 18% decrease in per capita vehicle miles traveled.
- In Alabama, Fortified roofs and stronger building codes helped bolster the insurance market for new and existing homes alike, while making these homes far safer.

These places and many others show that we can build homes faster, better, and more cost effectively and that being intentional about where, what, and how we build delivers benefits that extend well beyond the housing market.

This paper highlights what's working across the country while also identifying where the picture is more complicated and policies need refinement to scale and reach lower-income households. Austin's building boom, for example, was unusually large and fast, making it harder to replicate. The city still struggles to house its lowest-income residents.

However, the case for building more of the right homes, in the right places, in the right ways has never been stronger. States and localities already have enough land (including significant amounts of state- and locally-owned land) in lower-hazard established neighborhoods to accommodate the entire U.S. housing shortage. Effective housing policy starts by simply making it easier to build a greater mix of homes of all shapes and sizes in these neighborhoods. Strategically lifting restrictions, paired with proactive government action, invites new capital, spurs production, and gives people more choices about where and how they live and more freedom to move as their needs change.

The benefits go on. Effective housing policy can help bolster insurance markets. Building in established neighborhoods rather than greenfields cuts upfront municipal infrastructure costs by an average of $21,000 per home,[1] halves municipal long-term maintenance costs, and generates 13% more tax revenue per acre while keeping property tax rates lower for everyone. It can cut per capita transportation costs for fuel and vehicle maintenance by as much as $1,100 per person per year, while leaving open lands intact for farms, forestry, recreation, and a natural buffer against extreme weather. For instance, many of Vermont's century-old villages sit within a short drive of thousands of jobs but lack public water and sewer. With targeted infrastructure investment, they could absorb much-needed homes while cutting commute times, transportation costs, and pollution, and sparing farmland and forests.

And if new homes are efficient and grid-enabled — especially with heat pumps, solar, and storage — they can feed stored power to the grid when demand is highest. That reduces the need for new power plants for data centers and other load growth, alleviates grid constraints, maximizes clean energy use, and cuts household utility bills. Paired with utility reforms like heat-pump-friendly electric rates and virtual power plants, this can lower the cost of living, avoid expensive infrastructure investments, and contribute to major emissions reductions by reshaping how tens of millions of new and existing homes are heated and cooled — all while reducing peak loads that strain the grid.

Housing debates often assume a tradeoff between housing production, affordability, and other goals like resilience, but the evidence doesn't bear this out. For example, our new synthesis of existing research finds that energy efficiency is generally a smaller cost driver than other common regulatory requirements. Parking mandates, dual-stairway requirements, impact fees, and certain building codes for small apartment buildings are each individually substantially more expensive than making an entire home energy efficient.

We can build more housing while delivering broader benefits. We can do it today. The pages that follow lay out how.

[1] Pew defines infrastructure as roads, water and sewer lines, and other public utilities; the study assumes homes in established areas rely primarily, but not exclusively, on existing roads and utilities.

This paper is structured as follows:

Section II, Regulatory Drivers That Raise Development Costs and Limit Production — and How to Address Them, provides background on the current housing shortage, outlines effective recent housing reforms, and lays out the evidence behind them.

Section III, Six Tactics to Solve the Housing Shortage and Make Housing a Force Multiplier, introduces the “where, what, and how" principles and explores the six tactics for state and local governments and the evidence behind them. These tactics strengthen proven housing reforms in order to solve the housing shortage faster, more cost effectively, and with greater benefits to households and communities.

Section IV, Reducing Pollution from Construction Materials, explains how housing reforms can cut new homes’ embodied carbon through reuse, more efficient housing, modular construction, and lower-carbon materials.

Section V, Conclusion, argues that these reforms work best when pursued together, highlighting Colorado and Montana as models for cross-sector and cross-partisan coalitions.

Appendix A: The State and Local Policies Checklist, turns the six tactics into a detailed, actionable list of policies (from zoning to utility reform) to increase housing production and make housing a force multiplier. It works alongside the paper or as a standalone reference tool.

Appendix B: Housing Reform Legislation, provides an easy-to-use list of legislation that has been implemented across the U.S. that was referenced in this paper.

Appendix C: Methodology, summarizes the research methodology for housing production capacity near transit and transportation cost savings.

Limitations of this Paper

This paper focuses on state and local government reforms that can unleash new housing production, but supply alone cannot solve all our housing challenges. Producing housing that is affordable to the lowest-income households will require more federal assistance, other financing sources, and targeted policies. Preserving existing affordable housing is equally essential, and it too is under mounting pressure from rising insurance costs, energy burdens, and more frequent disasters. Finally, safeguards are needed to ensure that current residents aren’t priced out of their neighborhoods by new development, including by the resilience and energy investments we recommend. Hazard-informed rezoning, resilience upgrades, and energy improvements in existing neighborhoods can sometimes raise land values and accelerate displacement of lower-income renters and homeowners.

These tensions, and the policies that address them, aren't secondary to this paper's production agenda. They are its necessary complement. But they require more extensive treatment than we can offer here, meaning the following topics are out of this paper's scope:

- Strategies to make new homes affordable to lower-income households.
- Anti-displacement and tenant protections.
- Inclusionary zoning.
- New sources of financing and universal rental assistance for lower-income housing and households.
- Policies that support the millions of people already living in high-hazard areas.

While several policies in this paper indirectly benefit existing housing,[2] preservation as a supply strategy also falls outside its scope.

Research Methodology

The policies in this paper — all drawn from efforts underway across the country — make up the library in the State and Local Policies Checklist (Appendix A). They, and the evidence behind them, underpin the where, what, and how principles and the six tactics that, if implemented at the state and local level, can increase housing production and deliver broader benefits.

To identify the most promising cross-cutting state and local policies, we combined a literature review of more than 150 publications with expert input: 17 formal interviews; informal conversations with more than 100 experts across housing, insurance, resilience, energy affordability, transportation, climate, and clean energy; and an in-person convening of roughly 40 leaders.

Among the policies we examined, we prioritized those that could both (1) deliver more housing faster and more cost-effectively and (2) advance one or more of the following goals: household affordability; insurance benefits; disaster protection; utility cost savings; state and local fiscal health; and emissions reductions from buildings, transportation, and land. Where upfront production costs seemed to conflict with long-term energy benefits, we synthesized existing research to compare costs associated with regulations, codes, and development patterns. The most consequential open questions, and findings that cut against our conclusions, are flagged for further research.

[2] Examples include: (1) speeding up permitting, which benefits renovations as well as new builds; (2) allowing existing homes and lots to be subdivided, which generates capital and/or rent that owners can reinvest in existing buildings; (3) streamlining public financing for income-restricted housing, which can also serve existing housing; (4) bolstering insurance markets, which steadies coverage for existing and new homes alike; and (5) utility reforms, which lower energy costs and improve the economics of energy-saving technologies for all housing.

II. Regulatory Drivers that Raise Development Costs and Limit Production — and How to Address Them

Regulations are among the most significant — and most controllable — drivers of new housing development costs. They include things like zoning restrictions, design reviews, permitting, entitlements, inspections, parking mandates, height caps, lot-size minimums, impact fees, and building codes, plus the bureaucracy surrounding public land disposition and other administrative processes. Unlike materials (shaped by global markets and federal policy) and labor costs (influenced by a complex range of factors), many regulations are policy choices that state and local governments can change, often quickly.

While some regulations are crucial to health and safety, many legacy policies drive up costs and suppress production in exchange for limited benefit. These are areas where regulatory ingenuity and housing reform can have the greatest impact. This section discusses how states and localities across the country are reforming legacy policies, and what we can learn from their experiences to date.

II.A HOUSING DEVELOPMENT COSTS — A BREAKDOWN

Understanding the development costs of new housing can help us design targeted policies to reduce those costs. Total development cost equals land costs plus hard construction costs plus soft costs.

Though specific proportions vary by region, parcel, and housing type, the breakdown is roughly as follows for an apartment building:

- **Land acquisition:** ~10–20% of total development cost. Costs run higher where restrictive zoning laws reduce the availability of developable land and thereby drive up its price.
- **Soft costs**: ~20–30% of total development cost. These include permitting, entitlement, and impact fees; financing fees and interest; architecture and engineering fees; and contractor fees and developer profit. States and localities influence many of these costs, including through fees they charge developers and procedural burdens and delays. Snowballing reviews, approvals, inspections and permitting, and unending community meetings can add months or years to a project's timeline, significantly increasing soft costs.
- **Hard costs:** ~50–70% of total development cost. These largely include labor and building materials. States and localities influence these costs too, including through building codes

and other requirements, and through zoning and other regulations that influence what type of housing gets built.

II.B HOW STATE AND LOCAL POLICIES INFLUENCE HOUSING DEVELOPMENT COSTS AND WHAT GETS BUILT

We will now look more closely at how local and state policies relate to development costs and what gets built.

II.B.1 IMPACTS OF ZONING, LAND USE POLICY, AND THE ADMINISTRATIVE PIPELINE ON HOUSING DEVELOPMENT COSTS

Zoning and Land Use Restrictions. Zoning determines what may be built on each land parcel, at what density, with how much parking, and through which approval process. For most of the 20th century, American cities used zoning to separate residential, commercial, and industrial uses, and to shape what gets built where. Roughly 75% of residential land in many U.S. cities — and more than 90% in some — only permits the single-family detached houses that millions of people can't afford. Exclusionary zoning can also subject projects to lengthy discretionary design reviews and approval timelines that raise costs and kill projects. Exclusionary zoning also limits the availability of developable land, creating artificial scarcity that pushes up land — and therefore housing — costs.

Minimum Lot Sizes, Minimum Home Sizes, and Height Restrictions. These requirements add costs and limit housing production. For example, many jurisdictions mandate that each home sit on a large lot: often 5,000 to 10,000 square feet in cities and an acre or more in some suburbs. Other jurisdictions have minimum home size requirements that prohibit smaller, single-family starter homes. These rules effectively limit construction to larger, pricier homes. Height limits, meanwhile, artificially restrict how tall apartment or mixed-use buildings can be, constraining supply, limiting housing options, and pushing people to live far from jobs, stores, and transit.

Manufactured Housing Prohibitions. Manufactured homes can cost two-thirds less than similar site-built homes and, as of 2025, can be built up to four units under the federal HUD Code.[3] In many rural areas and depopulated cities, manufactured homes can be the most financially feasible way to add single-family housing. This is because site-built construction costs can exceed the completed home's value and because local labor may be scarce. Yet local zoning laws often bar manufactured homes in residential neighborhoods. Outdated state titling laws often prevent buyers from obtaining a traditional mortgage for manufactured homes, forcing them to pay more for financing.

[3] The 21st Century ROAD to Housing Act eliminates the chassis requirement for manufactured housing. Production and adoption are expected to rise significantly, making safe siting more important. Manufactured homes are also built to the federal HUD Code, which preempts state and local resilience and energy efficiency standards, but is significantly weaker than modern codes in both areas, leaving residents with higher utility bills and greater disaster exposure.

Discretionary Reviews. Restrictive zoning means that, in many jurisdictions, almost all new housing needs a variance or rezoning — triggering a subjective, expensive discretionary review that often leads to additional costs, delays, and hurdles. Such reviews can also counteract zoning reforms. A city may adopt transit-oriented development zoning, for instance, to allow taller apartment buildings closer to public transit, but still subject each project to a discretionary review that ultimately strips the height allowance. As the Brookings Institution explains, "The uncertainty and high cost of that [discretionary] review process complicates — and undoubtedly kills — many prospective housing developments."

Parking Mandates. Parking minimums, which require developers to add a set number of parking spaces per dwelling unit, raise construction costs significantly. In a study of 17 cities, researchers from UCLA found that the average cost of an underground parking space was $73,000, not including land, while the average cost of structured parking was $52,000 per space. Even that price tag understates the impact: parking mandates dictate how much housing can fit on a given parcel. Their research shows that parking mandates can increase the total cost of housing construction by more than 50%, pushing developers toward fewer, larger homes that can absorb parking costs and away from smaller homes and apartments that deliver affordability at scale. At worst, parking mandates can make new housing infeasible in established neighborhoods. While surface parking is substantially cheaper to build, parking mandates consume land that could otherwise accommodate additional housing or other important uses, even in regions where land is readily available.

Administrative Pipeline. The municipal housing delivery pipeline itself — discretionary reviews, permitting, inspection, approvals, and occupancy certificates — can add considerable time and cost, especially for housing in established neighborhoods (infill housing). RAND found that in California, complicated restrictions and bureaucracy added almost two years to the completion of multifamily projects. Longer timelines snowballed into more debt and interest, exposure to increasing material costs, a need for sophisticated developers demanding higher returns for risky projects, and a workforce tied up on a project for longer than necessary.

Impact Fees. While some city- and state-imposed impact fees are a necessary source of local revenue to offset government costs associated with development, they can slow housing production. In California, Rand found that impact fees averaged $29,000 per home versus $1,000 in Texas. Before California's recent reforms, the Bay Area Economic Council found that "impact fees raise the price of new housing by about 166% the amount of the fee." Before recent reforms in Portland, Oregon, government fees added an average of 13% to total housing development costs.

II.B.2 IMPACTS OF BUILDING CODES ON HOUSING DEVELOPMENT COSTS

Building codes also shape what gets built, how fast, and at what cost. Many codes are due for updates, though changes require particular care given how important codes can be to human health and safety, structural integrity, and long-term performance. The goal is to shed outdated requirements while retaining those that keep people safe and buildings sound.

Missing Middle Housing. Nowhere is the need for code reform clearer than in missing middle housing. This term refers to the range of home types that sit between a detached single-family house and a large apartment building, such as duplexes, fourplexes, townhouses, and small multiplexes. Such housing is the backbone of affordable, walkable, connected, mixed-use neighborhoods. For moderate- and lower-income households, missing middle housing is often the most realistic path to homeownership and the economic stability that comes with it. Before World War II, missing middle housing was the most common housing type built in American cities. But the spread of single-family zoning and other restrictions made missing middle housing harder to build. Zoning reforms are beginning to allow missing middle housing as-of-right (i.e., without special approvals). But building codes can still make it financially infeasible.

A barrier is that most missing middle housing is governed by the commercial building code. In the U.S., housing falls under one of two building codes: the International Residential Code (IRC) for one- and two-family dwellings and townhouses up to three stories, or the International Building Code (IBC) for larger residential buildings. Though missing middle housing functions more like a single-family house than a large apartment building, most states and cities regulate it by the costlier, more complex IBC. That drives up construction costs and requires more sophisticated builders and developers. The IBC cost premium means that missing middle housing often isn't built even when and where it's allowed. Surveying developers, builders, and architects, researchers found that building missing middle housing under the IBC can increase construction costs by roughly 15–40%.

For instance, the IBC requires buildings to have at least two means of egress (clear pathways for exiting the building), which requires two accessible staircases. This requirement is a legacy of early-20th-century fire codes that predate modern fire safety standards and technologies. Research shows no clear safety advantage of double-staircase mandates today, provided a building meets modern fire safety requirements. Yet the dual-egress requirement inflates costs and floor areas, making missing middle housing far more expensive and often impossible to fit on a parcel in an established neighborhood.

In a joint report by Pew Charitable Trusts and the Center for Building in North America, researchers modeled a hypothetical 12,000-square-foot, six-story building with hard construction costs of roughly $3 million. They found the second staircase cost $190,000 to $380,000 to construct and raised the building's total hard construction costs by 6–13%, because the second staircase requirement reshaped the entire building layout, not just the stairwell footprint. Other research suggests an even larger impact. A report by Boston Indicators, the Harvard Joint Center for Housing Studies, and Utile finds that dual-egress requirements can increase total project costs by 15–25%.

II.C RECENT POLICY RESPONSES BY LOCAL AND STATE GOVERNMENTS

States and localities across the country and political spectrum have recently enacted reforms targeting regulatory barriers and legacy policies that constrain housing production. Below, we

summarize these efforts by policy area and with state and local examples. We then identify early lessons from these reforms.

II.C.1 REFORMS BY POLICY AREA

Passing comprehensive reforms. The "Montana Miracle," a package of reforms adopted by Montana, dismantled regulatory barriers across the board. The state rewrote local planning procedures; allowed duplex, triplex, and fourplex housing; allowed ADUs as-of-right in single-family zones; allowed larger apartment buildings in commercial zones; legalized buildings up to six stories; enacted single-stair reforms; capped parking mandates; and legalized manufactured housing.

Allowing missing middle and ADUs as-of-right. Oregon, like several states and localities, now requires larger cities to allow duplexes, triplexes, fourplexes, cottage clusters, and townhouses in areas formerly zoned for single-detached homes. Washington requires cities to allow two to six units per lot, depending on city size and proximity to transit. States like Utah and Colorado now allow certain ADUs as-of-right, as do many localities, such as Columbus, Ohio, and Alexandria, Virginia.

Eliminating minimum lot sizes, setback rules, and height restrictions for a wider range of housing types. Spokane, Washington, and Austin, Texas, reduced lot size requirements. California, Washington, Oregon, and Rhode Island allow lot splitting for smaller, more budget-friendly parcels. Texas's "Starter Homes Act" limits setback requirements, and Oregon allows developers to bypass local setback and height limits for projects that meet affordability and density requirements.

Legalizing large apartment buildings and transit-oriented development as-of-right. Cambridge, Massachusetts, legalized housing up to six stories as-of-right. Colorado and Massachusetts now require by-right multifamily zoning near transit lines. Several states like California and Texas now allow large apartment buildings by-right in areas zoned for commercial, warehouse, retail, or mixed use. In Texas, that means no required rezoning, variances, or public hearings.

Permitting manufactured homes. Since 2020, at least 12 states have passed laws allowing manufactured homes in more places, often in any location where other single-family housing is allowed. For example, Maryland permits new manufactured or modular homes in single-family zones and allows them to be treated as real estate rather than personal property, helping buyers access lower-cost financing. New Hampshire automatically classifies manufactured homes as real estate once connected to utilities, enabling borrowers to obtain a mortgage even if they don't own the underlying land.

Eliminating parking mandates. At least 113 cities and counties in the U.S. have eliminated parking mandates since 2017, from Cambridge, Massachusetts, to Lansing, Kansas. Oregon and Washington significantly curtailed parking minimums, and California and Colorado removed parking minimums near transit lines. North Carolina removed parking mandates throughout the state, with minor exceptions.

Simplifying adaptive reuse and office-to-housing conversions. New York City's "City of Yes" streamlined office-to-housing conversions, while Texas removed parking and rezoning requirements. Arizona, Maryland, Texas, and Hawaii recently passed adaptive reuse legislation, making it easier to turn existing buildings into housing.

Revisiting residential (IRC) vs. commercial (IBC) building codes. To stimulate missing middle housing, states and localities are extending the IRC to cover small apartment buildings previously regulated under the IBC. Tennessee, North Carolina, and Utah recently changed laws to ease code requirements for three- to four-unit housing. Washington directed its State Building Code Council to adapt the IRC for housing developments up to six units. Dallas approved a "1 to 8 Dwelling Units" ordinance, allowing a modified residential code rather than the IBC. Memphis now allows the IRC for up to six-unit buildings. This has inspired the International Code Council (ICC) to revisit these codes.[4]

Enacting single-stair reforms. Nineteen states, including Montana, Texas, and Hawaii, have passed single-stair reforms or study bills since 2023, which allow multiplexes and small apartment buildings to be constructed with one staircase instead of two if they meet modern fire safety standards, cutting costs and making infill housing easier. While cities like Culver City, California, adopted reforms directly, Texas and Tennessee created a city opt-in code that has led to adoption of single-stair reforms by large cities such as Austin, Dallas, Chattanooga, Knoxville, Memphis, and Nashville. This has inspired the ICC to revisit these codes.[5]

Simplifying permitting, shot clocks, and environmental reviews. States like Texas are implementing "shot clocks" that set a review deadline of between 30–45 days. If the deadline isn't met, the project is automatically approved. California is also streamlining permitting, including exempting multifamily housing in urban areas from the California Environmental Quality Act. Massachusetts is cutting environmental review times from over a year to 30 days for qualifying housing, and New York City is exempting some housing from State and City Environmental Quality Review (SEQRA/CEQR). Other states and localities, including Delaware; Louisville, Kentucky; and Denver, Colorado, are using AI and automated tools to streamline the permitting process for new housing. California and Colorado are also using AI-enabled tools to expedite permitting for solar and storage, helping households cut energy costs and freeing municipal staff to permit more housing.

Offering pre-approved house plans. Pre-approved plans for homes can cut permitting timelines, reduce design costs, and ease staff capacity constraints. Pew found that as of 2026, preapproved plan programs were active in 40 U.S. jurisdictions, in addition to California's pre-approved ADU

[4] As of publication, the ICC's Building Code Action Committee has a working group focused on shaping the 2030 IBC to address affordability and flexibility for missing middle housing. The ICC plans to publish guidelines with potential code modifications for jurisdictions to use immediately. It already released a reference that consolidates existing IBC provisions applicable to middle housing to improve usability and clarity for developers.

[5] As of publication, the 2027 IBC is anticipated to include a provision that would permit a single exit for housing up to four stories. An ICC committee and governmental members approved the provision, which awaits validation of the code development results.

program. Arizona now requires municipalities to establish preapproved housing plans for single-family homes, duplexes, triplexes, and ADUs. Housing Ohio offers pre-approved plans, and at least 12 Ohio cities are adopting the plans or developing their own. South Bend, Indiana; Jackson, Michigan; Hawaii County, Hawaii; Seattle; and Claremore, Oklahoma, are just a few of the other localities offering pre-approved plans. Vermont has combined its pre-approved plan program with training for small developers.

Limiting impact fees. San Antonio, Texas, offers water and sewer impact-fee waivers for eligible infill and redevelopment projects. Montana sets limits on impact fees, and Texas eliminated new impact fees for qualifying commercial-to-residential conversions.

II.C.2 EMERGING LESSONS

Housing reforms are making a measurable difference on housing production and cost. For example, the number of households in North Carolina's Raleigh-Cary region grew by 4.6% between 2019 and 2022. In 2021, Raleigh relaxed its zoning laws to allow duplexes, triplexes, and townhomes by-right and implemented additional reforms. The Raleigh-Cary region then built enough homes to not only keep pace with population growth (producing 4.34 homes for every new household) but also shrunk its housing shortage by more than 5,000 homes. More than half of these new homes wouldn't have been allowed before the zoning reforms.

The Pew Charitable Trusts found that Raleigh isn't alone. In Minneapolis, Minnesota; New Rochelle, New York; Portland, Oregon; and Tysons, Virginia, housing reforms helped increase housing production, thereby slowing rent increases. Between 2017 and 2021, household growth in these jurisdictions ranged from 7% to 22%, compared to 6% nationally — yet median rents rose far less than the national average. During this same period, median rents grew an average of 31% nationwide, compared to 7% in New Rochelle, 2% in Portland, and 4% in Tyson.

Reforms like legalizing missing middle housing and reducing minimum lot size are also showing results across the country. After Houston reduced its minimum lot size from 5,000 square feet to as little as 1,400 square feet, the city saw a boom in townhouse construction; townhouses built through single-family lot redevelopment cost about $205,000 less than other new single-family homes. In Portland, Oregon, similar reforms enabled smaller homes that sold for substantially less than new detached houses. Durham, North Carolina, meanwhile, effectively ended single-family zoning in urban neighborhoods and allowed homes on lots as small as 2,000 square feet. These reforms and others helped new home prices plateau even as prices in neighboring cities continued to rise.

Preapproved plans are also creating more home construction in places with successful programs like those noted above. Pew found that they reduce overall development costs by 1–2% (equivalent to $5,000–$10,000 on a $500,000 single-family home) and potentially several times that for a small multifamily building.

Housing reforms work best when implemented together, as Minneapolis illustrates. In 2018, the city legalized duplexes and triplexes on land once zoned for single-family homes. But duplexes and triplexes haven't been built at scale, in part because the city left in place restrictions, such as lot size and height limits. Research on Minneapolis also suggests that the effects of duplex and triplex upzoning in more expensive areas is weaker because existing homes already capture most of any parcel's value. In other words, tearing down a valuable home for a duplex or triplex does not pencil out, so the most expensive parcels see the least redevelopment response.

This points to the need for more comprehensive reforms that can boost supply at a greater scale. Minneapolis again is telling. The city's reforms for larger-scale multifamily housing went further, including eliminating parking minimums and rezoning as-of-right multifamily housing along commercial corridors. Between 2017 and 2022, Minneapolis permitted nearly 21,000 units of housing, 87% of which were in buildings with 20 or more apartments. Over the same period, the city's housing stock increased by 12%, while rent increased just 1%. Meanwhile, the rest of Minnesota's housing stock grew by only 4%, while rents increased by 14%. The lesson extends beyond Minneapolis: legalizing new housing types is not sufficient on its own if other building code, parking, permitting, or financing requirements still make those homes difficult or too expensive to build.

Comprehensive reform should also close loopholes that can undermine new policies. In 2021, California passed a duplex bill (SB 9) to override local bans on building multiple units on a lot. This law was billed as transformative, with analysis from the Terner Center estimating that it could lead to 700,000 new homes in a state that was permitting just 100,000 a year. Yet as of 2023, only 266 projects had been permitted or built. That's because cities quickly found loopholes in the law, issuing more than 100 "emergency ordinances" that made projects financially unfeasible by adding fees, parking mandates, size restrictions, and other limitations. While loopholes are part of the reason SB 9 has fallen short, design rules, owner-occupancy mandates, and permitting requirements also slowed production, as did homeowners who lacked expertise and financing.

Housing reform is becoming more widespread and comprehensive. Mercatus details how states like Texas and Montana have enacted major housing reform packages, while Kansas, Nebraska, Arkansas, and Alabama have passed at least one housing supply bill. Many of these efforts — and others across the country — are bipartisan. Reforms are also becoming broader in scope, moving beyond zoning changes to address barriers like minimum lot size, parking mandates, building codes, and financing. The geographic reach of reform continued to expand in 2026, with states that had previously done little on housing supply, such as Idaho, adopting major reform packages. While it's too early to see results from many of these reforms, Montana Governor Greg Gianforte recently pointed to data from the National Association of Home Builders that his state had the highest year-over-year increase of single-family home permits in January 2026, attributing it to recently enacted housing reforms.

A NOTE ON HOUSING VULNERABLE HOUSEHOLDS

Policies to ensure that vulnerable households have safe, decent, affordable housing are beyond this paper's scope, but we touch on them briefly here. Reforms that increase housing production and lower average rents do not guarantee that all households benefit.

The Furman Center finds that new housing production generally reduces rents or slows rent growth, does not elevate displacement, and "frees up" for-sale and rental homes for people across income levels. The latter gives higher-income households alternatives to the older units for which they might otherwise outbid lower-income residents. While market-rate construction puts broad downward pressure on rents, it generally must be paired with policies that directly support housing for lower-income households. Furman's review calls for "more attention to the needs of those households for whom market-rate housing is unlikely to ever be affordable," recommending that state and local governments pair supply growth with subsidies and tools such as density bonuses or inclusionary zoning.

Other research weighs the impact and unintended consequences of different policies for stimulating housing production for lower-income households. Assessing the tradeoffs of inclusionary zoning, the Terner Center points to public subsidies as the more targeted route to stimulating below-market home production. Upzoning likewise must be designed carefully. While upzoning is only modestly correlated with displacement of existing lower-income residents, spot upzoning (upzoning small areas rather than entire communities) can increase displacement, because it can raise land values without producing enough new homes to offset the increase with lower rents.

To design the right mix of state and local policies for lower-income households, communities would benefit from place-based research. Raleigh, for example, is expanding market-rate housing to reduce housing costs generally, with complementary subsidy programs for below-market-rate homes. But research is needed to determine the extent to which the city's new supply has reached lower-income households, and how much additional investment is needed to support income-restricted housing and starter homes.

III. Six Tactics to Solve the Housing Shortage and Make Housing a Force Multiplier

Section II described policies that are increasing housing production across the U.S. The following sections sharpen those policies to solve the housing shortage faster and more cost-effectively, and make new homes a force multiplier that lowers housing, transportation, and energy costs; strengthens resilience and insurance markets; improves state and local fiscal health; protects open and working lands; increases grid reliability; and reduces emissions.

WHERE, WHAT, HOW

Achieving the force multiplier effect takes more of the right homes in the right locations, at lower cost. The evidence points to clear principles for where, what, and how we build:

- **Where:** homes in connected, lower-hazard established neighborhoods with access to jobs and services.
- **What**: home types that more people can afford, including accessory dwelling units (ADUs), townhomes, duplexes, fourplexes, sixplexes, apartments, single-family starter homes, and manufactured homes.
- **How**: homes that are better able to withstand disaster, have lower utility costs, reduce pollution, and strengthen the grid rather than strain it.

FROM EVIDENCE TO ACTION: SIX STATE AND LOCAL TACTICS

The following six tactics turn these principles into action. Drawing on what's already working across the country, they pair targeted deregulation with thoughtful building standards and strategic land, transportation, and utility policies.

1) Cut red tape specifically to allow homes of all shapes and sizes in connected, lower-hazard established neighborhoods.
2) Put public land in lower-hazard established neighborhoods to work.
3) Simplify public financing so dollars for income-restricted housing and starter homes go further.
4) Make disaster-prepared construction the norm.
5) Build lower utility costs into new homes from the start and make homes critical energy infrastructure.
6) Align utility reforms with housing affordability and grid reliability.

Most tactics span two or more of the where, what, and how criteria: Tactics 1 and 2 cut upfront costs and promote right-sized homes in lower-hazard neighborhoods; Tactic 3 stretches scarce public dollars; and Tactics 4–6 lower all-in housing costs.

Tactic 1. Cut red tape specifically to allow homes of all shapes and sizes in connected, lower-hazard established neighborhoods

Meaningful progress on the housing shortage starts with Tactic 1.

Tactic 1 takes policies that have proven effective at increasing housing production overall (as discussed in Section II) and applies them to stimulate more homes of all shapes and sizes in connected, lower-hazard established neighborhoods. Specifically, Tactic 1 recasts well-established policies (like as-of-right housing on smaller lots and faster permitting) as tools to cut the costs and red tape of building a wider range of home types in lower-hazard established neighborhoods. This, in turn, lowers transportation costs, strengthens municipal fiscal health, improves insurability and resilience, and reduces emissions.

What constitutes an established neighborhood may look different in a metro core, which has transit and robust public infrastructure, than in a rural county, where roads and homes are in place but infrastructure like public water is not. But the logic of Tactic 1 holds in both: build housing where connection to jobs and daily life already exists and hazard exposure is lower.

Recommended policies under Tactic 1

- Update zoning, land use, permitting, building codes, and fees
- Allow more housing by-right in lower-hazard established neighborhoods, without discretionary review, variances, or rezoning
- Allow a greater mix of home types as-of-right, including single-family starter homes, manufactured homes, ADUs, missing middle housing, and larger apartment buildings near transit and in mixed-use areas, and allow more homes through adaptive reuse and subdivision of existing residential buildings
- Remove size, height, setback, and lot-size rules that limit the number, size, and type of homes on a parcel
- Eliminate parking mandates
- Streamline permitting and offer pre-approved plans
- Simplify building codes for small apartment buildings
- Adjust fees and property taxes to spur home construction and to reflect the cost of services and infrastructure (e.g., roads, water, sewer, electricity) in established neighborhoods versus greenfields and in lower-hazard areas versus higher-hazard areas

Building in established neighborhoods is often assumed to be costlier and harder to pull off than building on a greenfield.[6] This is partly due to legacy policies (such as lengthy, unpredictable reviews, permitting, and codes) that discourage infill housing and push development into greenfields and higher-hazard areas. Tactic 1 policies create the preconditions for more housing to be built faster and more affordably in lower-hazard, opportunity-rich areas.

Portland, Oregon, offers an early proof of concept. In 2021, it legalized duplexes, triplexes, fourplexes, cottage clusters, and ADUs in formerly single-family zones. The city established simpler, more transparent, and more predictable reviews that allowed these housing types to proceed at speed and lower costs. The reforms worked: between August 2021 and June 2024, 1,400 of these homes were permitted. Today, they sell for $250,000 to $300,000 less than new single-family homes. And Portland's new ADUs are functioning primarily as permanent housing rather than short-term rentals.

There is ample evidence to support Tactic 1. Research suggests that building in established, lower-hazard neighborhoods:

1. Is eminently feasible. There is enough available land in established lower-hazard neighborhoods to solve the national housing shortage. In a forthcoming parcel-based analysis of 64 cities across 36 states, researchers at WRI found that over 16 million homes could be built on underutilized commercial and vacant land near transit and outside of flood zones — enough, in every state reviewed, to meet its respective housing shortage.[7] In Texas, San Antonio alone could accommodate 512,000 new homes over the next 10 years, far exceeding the statewide 326,000 home shortage. As Tactic 2 discusses, other research shows that there is enough state- and local-owned land across the country in such neighborhoods to build 6.8 million homes.

And availability of land in well-positioned neighborhoods doesn't just apply to metropolitan areas. For instance, many of Vermont's century-old villages sit within a short drive of thousands of jobs but lack public water and sewer. With targeted infrastructure investment, they could absorb much-needed homes while cutting commute times, transportation costs, and pollution, and sparing farmland and forests. Utah and Montana, as well as several other states, are working to overcome similar constraints.

2. Improves state and local finances. Governments save an average of $21,000 per home on infrastructure — roads, water, sewer, and utilities — and cut maintenance costs by up to 50% when

[6] Land often must be assembled from multiple owners, construction can be more complex, and sites may need environmental cleanup. Parcels are frequently irregular, requiring bespoke designs and more sophisticated engineering and architecture.
[7] Refer to Appendix C.1 for methodology.

homes are built in established neighborhoods rather than greenfields. Such development also generates 13% more tax revenue per acre.[8]

3. Meaningfully reduces transportation costs. Forthcoming analysis by researchers at WRI found that building more housing near jobs and services could cut per capita fuel and vehicle maintenance transportation costs by up to $1,100 per year.[9] In Montana, each person would save $1,100 annually; in Texas, $700.

4. Creates more resilient communities and conserves land. Building new housing in already-developed areas maintains land for agriculture, forestry, and recreation, and can serve as a buffer against floods, fires, and other disasters. By building in established neighborhoods, we can preserve up to 13.5 million acres of farm and ranchland, and up to 19 million acres of wildlands. The contrast with current development patterns is stark: the U.S. lost 11 million acres of farmland to development between 2001 and 2016, according to the American Farmland Trust. If we continue that pattern, 18 million acres of agricultural land will be "lost, fragmented, or compromised" by 2040. This is also critical for watersheds: 80% of America's freshwater originates in forests, which act as a natural filtration system. Sparing forests and open land also preserves their capacity to sequester pollution.

5. Reduces pollution. If every state channeled a modest amount of its new housing growth into compact existing neighborhoods, the country could "reduce annual U.S. pollution by 70 million tons of carbon dioxide equivalent in 2033," the equivalent of half the country buying only EVs by 2035. Those reductions are only the start.[10] As described in Tactics 5 and 6, the full emissions opportunity is much greater when factoring in not just where we build, but how we build.

Solving the housing shortage strategically has very large pollution-reduction potential, because it puts in motion a built environment that can optimize clean energy and anchor the energy transition. Every new home that is built to be grid-interactive, efficient, and with low embodied carbon materials compounds emissions savings, while lowering household utility bills, reducing the need for new fossil peaker plants, and maximizing the use of clean energy on the grid. Paired with utility reforms like heat-pump-friendly rates and virtual power plant infrastructure, this can cut emissions dramatically by reshaping how tens of millions of new and existing homes are heated and cooled, while easing peak loads on the grid. More homes feed a positive feedback loop: more people justify better transit, sidewalks, and bike infrastructure, which further reduces vehicle miles traveled.

[8] Smart Growth America found similar results elsewhere in the U.S.: "Under conventional suburban development patterns, the costs of providing infrastructure and public services exceed the revenues collected, leaving municipalities with unsustainable fiscal burdens."

[9] Refer to Appendix C.2 for methodology.

[10] Namely, fewer vehicle miles traveled, reduced vehicle manufacturing and upstream oil production, a larger proportion of smaller multifamily homes, and land preservation. The estimate does not include reductions from building energy efficiency and grid interactivity.

THE IMPORTANCE OF COMPLEMENTARY REFORMS

More homes in established neighborhoods is one of the most effective ways to make housing a force multiplier. But supply alone is not a panacea. If these strategies succeed, they could add millions of new homes in the high-demand neighborhoods where displacement pressure is already greatest. Complementary protections for existing residents and greater investment in income-restricted housing can ease displacement pressures. While anti-displacement is beyond this paper's scope, it is a needed piece of any comprehensive housing strategy.

Tactic 2. Put public land in lower-hazard established neighborhoods to work

Across the country, states and localities own millions of acres of underutilized land in lower-hazard established neighborhoods that could be used for housing. Tactic 2 examines how to put this land to work.

Recommended policies under Tactic 2

- Streamline the use of state- and locally-owned land in lower-hazard established neighborhoods for housing
- Prioritize land that is underutilized, outside environmentally sensitive areas, and not serving public purposes such as rights-of-way, parks, or open space
- Include deed-restricted affordable housing and starter homes
- Require homes to be resilient and built to withstand local hazards
- Require homes to be efficient, grid-interactive, electric with low embodied carbon construction materials

Government budgets are constrained, and most localities and states have limited direct capital for housing production. What they do have is land. The Lincoln Institute of Land Policy found that there is enough state- and locally-owned land in transit-accessible, lower-hazard established neighborhoods to build 1.9 million homes at 7 homes/acre and 6.8 million homes at 25 homes/acre. This land is underutilized, outside environmentally sensitive areas, and not serving public purposes like parks. Putting publicly owned land to work for housing brings real value, as land represents 10–20% of multifamily development costs. The five states with the most government-owned land suitable for housing development (Massachusetts, Washington, Florida, Texas, and California) include states with some of the largest housing shortages and most expensive markets.

Yet bureaucracy can effectively wipe out the financial benefit of the land contribution. Public land disposition involves competing agency claims, environmental review requirements, community opposition, and long timelines, all of which add to production costs.

Budget deficits and fiscal instability can also drive governments to prioritize revenue over housing production, especially for lower-income households. In several states, constitutional gift clauses prohibit local governments from selling land at below-market rates absent a public-purpose exemption, a legal barrier even for localities committed to increasing housing production through government-owned land.

Nevertheless, several cities have successfully shown how public land can be used for housing production. Atlanta is the clearest example. In 2022, Mayor Andre Dickens convened a cross-agency Housing Strike Force to identify opportunities for housing development on city-owned land, much of which was spread across agencies that barely coordinated.

To put that land to use for housing and help achieve his goal of 20,000 new or preserved affordable homes, the mayor created the Atlanta Urban Development Corporation, composed of staff from key agencies and charged with cutting the bureaucracy and legally preparing land for disposition. The resulting process is predictable and lower-risk, cutting costs for private developers and public-private partnerships, and stimulating production.

In one example, an Atlanta fire chief wanted a new station and Dickens wanted affordable housing in that neighborhood. The solution? Build a new firehouse with 30 stories of housing above it. By 2025, Dickens' commitment had 40 projects underway on public land, with at least 10,000 units of affordable housing either built or in development. Much of this new housing is near transit.

The Atlanta example required exceptional mayoral commitment and new institutional infrastructure, capacity that smaller cities may lack. Those cities might look instead to Austin, Texas, where a private municipal property advisor identifies opportunities for public land development, runs the RFP process, matches capital, and oversees disposition. Like a real estate broker or bond underwriter, that role can be funded through transaction fees once a project closes, eliminating the need for a new budget item or grant funding.

Other states and localities are using public land for affordable housing and starter homes. Chicago offers city-owned land for $1 and offers up to $150,000 per home in subsidies for developers building for buyers making up to 140% of the area median income.

In Washington D.C., when the city makes land it owns available for housing, 20% of the units must be affordable for residents with lower incomes; if the land is near transit, 30% of the units must be affordable. It also requires qualifying District-owned or District-financed residential buildings to meet net-zero-energy standards and prohibits on-site fuel combustion for heating under the Greener Government Buildings Amendment Act of 2022 and subsequent amendments. This has led to projects like Cycle House, the first net-zero affordable apartment building in the district, which was built through a public-private partnership on a vacant city-owned lot with a 99-year ground lease.

Tactic 3. Simplify public financing so dollars for income-restricted housing and starter homes go further

Financing for affordable housing and starter homes is often fragmented across agencies, localities, and organizations. This adds overhead, complexity, and time to much-needed housing development. While new capital sources for income-restricted affordable housing are outside this paper's scope, Tactic 3 shares policy levers to streamline existing funding sources in ways that support housing production. Simplifying public financing for housing is especially important for lower-income households, which face greater exposure to disasters, steeper losses, and a slower path to recovery, and spend a disproportionate share of income on housing, transportation, and energy costs.

Recommended policies under Tactic 3

- Consolidate public financing sources (e.g., for affordable housing) into a one-stop shop to reduce development costs
- Offer multiple public financing sources through a single joint notice of funding availability, with one application, one contract, one set of legal documents, one legal counsel, one inspector, and one set of design requirements

Public financing for affordable housing, such as Low-Income Housing Tax Credits (LIHTC), often requires navigating 10 or more sources of capital. The Terner Center found that in California, each additional public funding source raised per-unit costs by an average of $20,460 and extended timelines by four months. Juggling multiple applications increases construction, staffing, legal, and compliance costs. Longer timelines expose projects to higher predevelopment costs, inflation, higher interest rates, and rising labor and materials costs.

States and localities can reduce these timelines and transaction costs by moving toward a single "one-stop shop": one application, one contract, one construction inspector, one legal team, and one set of requirements. This can potentially save hundreds of thousands of dollars per home.

No state or municipality has fully streamlined its housing funding, but many are making progress. Massachusetts, New York, Oregon, and California each brought housing programs under unified leadership to cut inefficiency. Massachusetts, Oregon, North Carolina, and Minnesota each created a single application that lets developers apply for multiple funding sources at once. In Massachusetts, Governor Maura Healey created a cabinet-level position overseeing state housing funds, and four state agencies consolidated their financing paperwork via a shared digital portal into one standardized set of loan documents and mortgages.

Localities are streamlining funding too. Developers often face mismatched application windows, with federal funds, county grants, and philanthropic dollars becoming available at different times of the year. To fix this friction, Cincinnati and Hamilton County, Ohio, use a nonprofit lender to run their Affordable Housing Leverage Fund. This framework pools multiple funding streams into a single "fund of funds." Developers use a centralized intake process, and underwriters match projects to the best mix of resources in a single cycle.

Streamlining financing can also advance energy goals. New York State's Clean Energy Initiative (CEI) offers a model. CEI adds $100 million in clean energy funding from the state energy agency to the state housing agency's affordable housing funding. This lets developers seeking the housing funding apply for energy incentives at the same time, and receive funds at the time of project financing rather than as a rebate months after construction.

By removing a separate application and aligning funding streams and timelines, CEI reduces costs and allows developers to incorporate energy incentives directly into project underwriting — moving toward CEI's goal of making highly efficient, all-electric housing "business as usual." Under the program, new homes are electric and meet Passive House, Enterprise Green Communities Plus, or LEED ZERO specifications. CEI's first completed project, The Lyceum in Buffalo, opened in 2024. This former school was converted into 42 energy efficient, affordable homes, in a building that now achieves the Enterprise Green Communities standard and is all-electric, energy efficient, and water conserving.

Affordable housing preservation is outside this paper's scope, but it's important to note that existing LIHTC properties serving low-income families face compounding challenges that streamlining alone cannot solve. Energy and resilience investments cost money, insurance costs are rising, and subsidy structures haven't kept pace. Streamlining financing helps at the margins but doesn't close the capitalization gap for upgrading the existing affordable stock — that requires complementary capital investment.[11]

[11] Examples include expanded investment in the Federal Weatherization Assistance Program, programs like the canceled HUD Green and Energy Efficient Mortgage Insurance Premium, and the Inflation Reduction Act's Green and Resilient Retrofit Program, which funds measures for energy and water efficiency and resilience to extreme weather.

Tactic 4. Make disaster-prepared construction the norm

Reducing the risk of physical damage to homes is among the most effective ways for localities and states to make homes safer, more resilient, and easier to insure. This is the guiding principle for Tactic 4, which treats disaster preparedness as a first principle of housing. Through reforms to construction standards and land use planning, governments can normalize disaster-ready building methods and steer more homes into lower-hazard areas, protecting households from loss and bolstering property insurance markets.

Recommended policies under Tactic 4

- Expand home construction in lower-hazard neighborhoods
- Use scientific hazard data to inform zoning and land use decisions
- Ensure new homes are built to last by adopting modern building codes, encouraging above-code standards that further harden homes, and requiring rigorous above-code standards in higher-hazard areas
- Reform insurance markets to reward resilience: require insurers to disclose how they price hazard risk and to reflect resilience investments in insurance rates; have insurers, the state, or other entities offer discounts, incentives, or financing for resilience investments

Property insurance costs have recently spiked. Rising real estate values explain part of the increase, but extreme weather is the key driver. Since 1980, billion-dollar disasters have become far more frequent due to intensifying weather and more housing construction in vulnerable areas. Today, some insurance providers have reduced coverage, stopped renewing policies, or exited higher-risk markets outright. Between 2021 and 2024, 95% of zip codes in the United States saw homeowner premiums go up. Analysis of over 74 million premium payments found that inflation-adjusted premiums rose 28% between 2017 and 2024.

Instability in insurance markets dampens home production and threatens housing availability, reduces household safety, and increases costs for property owners. In 2025 Senate testimony, the Federal Reserve warned that "if you fast-forward 10 or 15 years, there are going to be regions of the country where you can't get a mortgage, because of climate change." This risk extends beyond high-hazard zones to entire regions and states. Without insurance, prospective buyers or developers of single-family and multifamily housing can't get a mortgage or financing and owners may be unable to finance repairs.

Faced with insurance market instability, many policymakers reach for insurance-market interventions. Insurance reform is genuinely needed: insurers don't consistently price in resiliency

and risk reduction, and homeowners with low credit pay 24% more for identical coverage. But market reforms alone can't address growing underlying risk. Suppressing rates when expected losses exceed premiums drives insurers out of markets, while artificially subsidizing rates shifts costs to taxpayers. Neither reduces a home's exposure to disaster. To stabilize insurance markets, localities and states must actually reduce this risk.

Reducing risk through better building standards and smarter siting is a durable path to stable insurance markets.[12] Specifically, we can reduce physical risk and help stabilize insurance markets by (1) building and retrofitting homes to better withstand extreme weather, and (2) making it easier to build in lower-hazard established neighborhoods. Both can be accomplished through risk-informed land use planning and zoning reforms alongside stronger building codes and standards.[13]

Consider Alabama. Many coastal jurisdictions require updated codes for new homes, and the state offers incentives for new and existing homes for Fortified roofs, a resilient construction method. The University of Alabama's Center for Risk and Insurance Research showed that after Hurricane Sally, homes built or retrofitted to the Fortified Roof standard had 73% fewer claims and 15% lower claim amounts, and a 72% lower loss ratio. If all homes in the storm's path had been upgraded to the more comprehensive Fortified Gold standard (which also includes structural improvements), the University of Alabama estimated that homeowners would have saved $34.6 million, or 65%, in deductibles, while insurers would have saved $111.8 million, or 75%, in losses.

In 2002, Florida implemented a statewide building code requiring stronger wind-resistant construction, windborne-debris protection for windows and glazing in coastal areas, and stronger roofs. Windstorm losses have since fallen by 72%, with an additional 15–25% attributed to stronger local administration and enforcement. Better building codes and standards also reduce wildfire losses, with community-scale interventions[14] delivering even greater benefits. Modeling shows that in California's wildland-urban interface (WUI), the "transition zone" between development and nature, home-hardening and defensible-space investments could deliver a 52% loss reduction.

Yet less than half of jurisdictions have hazard-resistant codes and only 21% of hazard-prone areas have adopted them. Even fewer places incorporate disaster-informed zoning to limit construction in high-hazard areas. The National Zoning Atlas and the Urban Institute created a Climate-Resilient Development Index to measure how residential zoning relates to hazard exposure. This tool found

[12] A scenario analysis of Florida's property insurance market examined three plausible futures — continued escalation, rate suppression, and coordinated risk reduction — and found that only risk-reduction stabilized insurance and housing markets over the medium term. The authors concluded that "The only way to solve the challenges in insurance and linked markets is to address underlying risk." The Hamilton Project's proposal for a U.S. federal property reinsurer underscores that insurance premiums and availability are an "important market signal" that can incentivize resilience investments and steer development away from high-risk areas.

[13] Examples of hardening standards include IBHS Fortified certification and Wildfire Prepared Homes, Enterprise Green Communities, and LEED resilience criteria.

[14] The IBHS and the American Property Casualty Insurance Association published a community framework with research-backed standards for structural hardening and defensible space so that insurers can account for mitigation in underwriting and rate-setting.

that in Mobile County, Alabama, for instance, 15% of zoned housing capacity is in areas of flood risk — parcels that, if built out, could expose homes and families to catastrophic risk. Mobile County isn't alone; homes continue to be built in high-hazard zones because existing zoning encourages it.

Widespread belief holds that incorporating risk reduction into building codes raises costs and hurts affordability. But the University of Alabama found no evidence that new editions of the residential building code (IRC) systematically increase home prices or constrain new single-family housing supply.[15] The University of Alabama researchers conclude that "given the established resilience and safety benefits of modern codes, delaying code adoption is unlikely to improve affordability and may increase vulnerability to future hazards." The study examined single-family homes, and no comparable research has evaluated the IBC, the commercial code. However, several states and cities now allow missing middle housing under the IRC or a modified version of the IBC, and missing middle housing built under the same residential code could plausibly show a similar result. Future research should test that effect directly.

Further, a 2026 *Nature Communications* study based on 64 expert interviews across the housing sector found that housing reforms, such as those in Tactic 1 that cut overall housing development costs, proportionally shrink the cost of resilience improvements, potentially freeing up funds to pay for them. It also found that two-thirds of respondents — including the majority of private-sector participants — believe that "legal mandates or regulations" are necessary to drive resilience in housing, arguing that market forces alone are insufficient for scaling solutions.

The truth is that resilience pays. The National Institute of Building Sciences finds that every $1 invested in resilience measures can save up to $13 in avoided future losses. Allstate and the U.S. Chamber of Commerce found that each dollar not invested in disaster preparedness can result in up to $33 in lost economic activity. Both FEMA and the insurance industry concur that the most effective ways to reduce losses from disasters are to update building codes and avoid construction in high-hazard areas.

Indeed, many states and localities are cutting long-term risk by making it easier to build in lower-hazard established neighborhoods. When jurisdictions allow more homes on land that is already developed, they take pressure off the undeveloped, higher-risk land at the edges. Loosening zoning in safer areas is a durable strategy because it works with market mechanisms rather than against them.

Colorado offers the clearest state-level illustration. Roughly half of Colorado's population lives in the WUI, and more than a million residents live in areas the state forest service rates as moderate to very high wildfire risk.[16] Zoning is a major driver: nearly 70% of the state's residential land permits nothing but detached single-family homes, which pushes growth outward as population increases.

[15] The study included more than 2.7 million home sales across 26 states.

[16] The 2021 Marshall Fire, which destroyed more than 1,000 homes in suburban Boulder County, Colorado, underscored the connection between development patterns and wildfire losses. Colorado's average homeowner premium rose 52% between 2019 and 2022, partly due to wildfire risk.

In 2024, the state legislature passed a package of laws, such as allowing greater density near transit, easing ADU approvals, and curbing local parking mandates. A Colorado Energy Office study modeling policies similar to that package indicated that the policy changes would shift development toward existing urbanized areas and away from areas with high risk of wildfire. The model projected a seven percentage-point decrease in development in areas with a high risk of wildfires statewide, and a reduction in the infrastructure and insurance costs that sprawl imposes on residents and taxpayers alike.

Homebuilding patterns are likely to see even more dramatic shifts in certain parts of the state. In Colorado Springs, for example, the share of new development in high wildfire risk areas would drop from 49% to 22% under the modeled reforms, keeping an estimated 30,000 households out of harm's way. Land use researchers modeling similar patterns in San Diego found that infill development produces both the highest housing density and the lowest wildfire risk of the growth patterns they tested, while dispersed and leapfrog development produces the highest exposure.

Coastal communities face parallel risks with flooding, and parallel models for how to build better. Norfolk, Virginia's Vision 2100 plan, adopted in 2016, identified where the city should prioritize long-term growth, given projections for sea-level rise. However, as a comprehensive plan, it lacked the independent zoning authority needed to create the right policy conditions to build in those areas. It acquired that authority two years later, when the city adopted a rewritten zoning ordinance that translated Vision 2100's priorities into enforceable rules.

The ordinance created a Coastal Resilience Overlay that raised the bar for new construction in flood-prone areas. Buildings in the floodplain now must be elevated at least three feet, basements are prohibited, and standards apply even in the 500-year floodplain. The ordinance also created an Upland Resilience Overlay covering higher ground, where developers can meet fewer resilience requirements and receive bonus points toward the city's development scoring system, with the explicit goal of encouraging walkable, transit-rich neighborhoods on safer land.

What's more, developers in the Upland Resilience Overlay can earn additional points by retiring development rights on flood-prone parcels in the Coastal Resilience Overlay, permanently restricting those properties to open space or conservation use. Researchers who studied flood-risk zoning across five Virginia communities applauded Norfolk for pairing the carrot of incentives to acquire coastal properties with measures that actively direct growth to higher ground, rather than relying on the stick of floodplain restrictions alone.

Austin, Texas, offers another example. Adopted in 2023 and 2024, the city council's HOME initiative is designed to prevent sprawl in the face of some of the fastest population growth of any large U.S. metro area. HOME initiative provisions include allowing up to three homes on lots that previously permitted only one and cutting minimum lot sizes from 5,750 square feet to 1,800. In its first year alone, the initiative drove an 86% increase in building permits for small-scale infill housing, all inside the city's already-developed footprint instead of on the wildfire-prone land at its edges.

These examples share a common thread. Land use planning is often framed narrowly, as a set of restrictions on where hazardous development can occur. But making it easier to build in safe, already-developed neighborhoods is what gives that restriction somewhere to go. Without easing pressure on infill development, housing demand will simply push development further out — often into areas that planners would like to protect. States and localities that tighten standards in high-hazard areas while also loosening zoning in lower-hazard urban areas will better accommodate growth without inadvertently adding risk.

This combination becomes even better if also paired with codes and standards that make disaster-ready construction methods the norm. It's clear that building homes to withstand wildfires (and other extreme weather) is an effective tool for reducing disaster losses. After the 2023 Lahaina Fire in Hawaii, for instance, one home was left standing while neighboring homes burned. This century-old home survived because it had a metal roof that was less susceptible to combustion, and the perimeter had gravel and was cleared of debris and vegetation.

Similar principles are incorporated into the IBHS Wildfire Prepared program, which uses proven wildfire science to reduce risk. KB Homes's Dixon Trail neighborhood in Southern California was the first community built to the IBHS Wildfire Prepared Neighborhood Standard. KB now has four such communities, showing that production builders can meet above-code resilience standards. In Los Angeles, Brookfield Residential is building all of its post-fire rebuild homes to IBHS Wildfire Prepared Enhanced, integrating the cost of above-code wildfire resilience into a turnkey solution and providing some of the most affordable rebuilding options in the region at the highest resilience standard.

Colorado, Utah, and Alabama provide good examples of places that have codified resilient construction methods.

Colorado's SB23-166 requires that any development in wildfire-prone areas be built to stronger standards. Colorado also passed a law (HB25-1182) requiring insurers to incorporate property-level and community-level mitigation — such as defensible space or fire-resistant construction — into their risk models, allowing homeowners who harden their homes to qualify for lower premiums.

Utah's HB-48 created a statewide system for mapping wildfire risk. It requires insurance companies to use the maps to evaluate and justify coverage, requires cities and counties to adopt specific codes for buildings in the WUI, and charges homeowners in those areas a fee that goes toward wildfire management.

The Alabama example is discussed above.

Moreover, there's strong evidence that resilience and energy efficiency can reinforce each other. In Los Angeles, homes built to the highly efficient Passive House standard survived the 2025 fires better than comparable homes. Air sealing that cut heating and cooling costs also prevented sparks from entering the homes. Building to the latest energy codes is also proven to save lives in extreme heat. Analysis from National Labs indicates that homes that meet the energy codes with better

insulation and air sealing can reduce heat-related deaths by up to 80% because they maintain cooler temperatures.

To close our discussion of this tactic, we note three final relevant considerations.

- **Protecting Vulnerable Households.** Better codes and standards and easier building in lower-hazard areas strengthen insurance markets for new and existing homes. But millions of families already live in high-hazard areas, in homes never built for today's disasters. Because Tactic 4 policies apply to new construction, they don't reduce physical risk of those homes. Protecting these homes and families requires complementary policies focused on existing stock, such as home-hardening and retrofit programs paired with financing for lower-income owners; building standards that apply on substantial renovation (not just new construction); and insurance and resilience incentives that reward mitigation rather than merely repricing risk.

- **Manufactured Homes.** Zoning has historically pushed manufactured homes onto marginal land. Eighty percent of manufactured homes now sit in high-hazard areas versus 20% of site-built homes. Allowing manufactured homes in low-risk areas is the first step toward greater resilience. The second is building manufactured housing for resilience. Manufactured homes are governed by a single federal HUD Code that preempts local construction, safety, and energy codes and is far less resilient and efficient than modern local building codes. The Urban Institute recommends that HUD "consider a climate resiliency update to the HUD code that addresses fire, flood, extreme heat, and high-wind event vulnerabilities." We'd add energy efficiency to that list. Homes built to modern energy codes see fewer heat-related deaths, because well-insulated homes stay survivable longer when temperatures spike or power fails; but manufactured homes built to today's HUD Code have significantly less insulation than the modern energy codes for site-built homes require.

- **Insurance Reforms.** Insurance restructuring is beyond this paper's scope, but to the extent insurance reforms proceed, they should incentivize risk reduction. States can require insurers to disclose how mitigation affects pricing and availability; require risk reduction to be reflected in premiums; and direct carriers, the state, or another entity to fund incentives for hardening investments such as Fortified roofs. Risk reduction and insurance policy would also benefit from research quantifying how many new resilient homes in lower-hazard areas — and how many retrofitted existing homes — are needed regionally to shift risk pools and stabilize insurance markets.

Tactic 5. Build lower utility costs into new homes from the start and make homes critical energy infrastructure

Building homes that are energy efficient and grid-interactive cuts utility bills, helps avoid costly upgrades to electric grid infrastructure, and is one of the fastest, most cost-effective ways to free up capacity on the nation's strained grid. Such homes compound savings, supply power to the grid at peak demand, and contribute to a built environment that can serve as the backbone of a nationwide transition to reliable clean energy.

Tactic 5 treats housing as critical energy infrastructure by incorporating housing and affordability into utility policy from the start. It delivers homes that need less energy to heat and cool, can generate on-site power, and can join virtual power plants (VPPs). Through Tactic 5, households gain greater energy independence, have a hedge against fuel price swings, and are better protected from extreme heat — while the grid is strengthened, not strained.

Recommended policies under Tactic 5

- Adopt modern energy codes as the floor for new home construction
- Use fuel-debiased metrics in energy codes and standards so that all-electric and mixed-fuel buildings are measured against the same energy target
- Prioritize above-code standards for deeper energy savings (e.g., Passive House)

Utility costs are rising. Household electricity and gas bills climbed 6% and 10%, respectively, in 2025, before the 2026 oil price shocks drove them higher still — making homes that much harder to afford. Some of this increase is from growing strain on the nation's electric grid: demand from data centers and other new loads, extreme weather, aging infrastructure, and canceled clean energy projects are taking their toll. Diminishing grid capacity has become a roadblock to housing production in high-demand areas, where grid constraints can add months to the time required to connect new homes to the electric grid.

We can make progress on both rising utility bills and a strained grid by treating housing as critical energy infrastructure. That is, rather than viewing homes as purely energy consumers, we recast them as part of our nation's electric system — as assets that help make the entire system stronger, safer, more efficient, and more affordable. Localities and states can do this by incorporating energy efficiency and grid interactivity into the earliest stages of homebuilding, instead of treating them as optional upgrades to add later.

Buildings use 75% of U.S. electricity, so they largely determine how much infrastructure, generation, and grid capacity the country needs. Efficient buildings that flatten peak loads and participate in VPPs shrink power sector costs (infrastructure, maintenance, and generation), thereby lowering bills for customers. Lawrence Berkeley National Laboratory finds that reducing demand in buildings, including through efficient envelopes, heat pumps, and smart controls, could avoid more than $100 billion in annual power system costs by 2050 — offsetting more than a third of the cost of transitioning the entire grid to clean energy.

Cutting home energy costs and making homes critical energy infrastructure depends on energy efficiency and grid interactivity. This means leveraging two decades of innovation and falling costs in heat pumps, insulation, air sealing, windows, appliances, lighting, rooftop solar, automation, grid-interactive controls, and VPPs.

Efficient homes are better protected from utility cost spikes because they need less energy. Current energy codes make homes roughly 40% more efficient than those built 15 years ago through better insulation, air sealing, and more efficient appliances and lighting. As of 2026, 13 states have adopted one of the two most recent editions of the codes.

Passive House certification[17] doubles those savings, primarily through better insulation and air sealing. Over 12,000 U.S. homes have been certified. Sixty communities in Massachusetts have opted into the Commonwealth's specialized code, which requires Passive House for larger multifamily buildings. The California Public Utilities Commission finds that widespread deployment of Passive House homes would cut energy costs, flatten demand on the grid, and defer costly new infrastructure and maintenance.

Grid-interactive controls and VPPs are a second innovation. VPPs aggregate distributed energy resources (e.g., rooftop solar, batteries, thermal storage, heat pumps, smart thermostats, electric vehicles, and other connected demand-response technologies) and coordinate them with grid operations so that they collectively deliver reliability and economic value similar to that of a conventional power plant. Households that volunteer to participate in VPPs get paid by utilities to shift electricity use at peak demand. This lowers their bills, balances supply and demand on the grid, reduces the need for new fossil peaker plants, and integrates clean energy and other power sources more effectively. A U.S. Department of Energy (DOE) report finds that deploying 80–160 GW of VPPs by 2030, enough to serve 10–20% of U.S. peak load, could "support rapid load growth while reducing overall grid costs."

Demand-response has existed for decades, but the expansion of all-electric homes and new technologies are making it possible to deploy it at a greater scale. Electric homes are less expensive to build than mixed-fuel homes in many markets, while innovations such as grid-interactive heat pumps and storage, aggregation services, solar, and automation can respond to grid conditions in

[17] In the U.S., two separate Passive House certifications are run by different organizations: PHIUS, which has certified 9,000 dwelling units, and Passive House Institute, which has certified 3,229 dwelling units.

real time. As described in Tactic 6, complementary utility reforms can bring these benefits to millions of new and existing homes.

Energy standards cut utility bills and strengthen the grid, but have recently become controversial. Many places across the country have rolled energy standards back[18] under the false assumption that doing so will lower homebuilding costs and boost supply. The data suggest otherwise.

We reviewed existing research to compare upfront costs of whole-building energy efficiency with costs from common regulations including parking mandates, dual egress requirements, and requiring the commercial code (IBC) rather than the residential code (IRC) for missing middle housing. For whole-home energy efficiency, we reviewed costs associated with energy codes (IECC 2021 and ASHRAE 90.1 2019) and more advanced, above-code energy standards. For the latter, we drew on Passive House construction cost data from multifamily buildings in Massachusetts, New York, and Pennsylvania and on a RAND study comparing California's above-code energy standards with those of Texas.

We found that each individual non-energy regulation we studied costs more than making an entire home or building energy efficient, in some cases by orders of magnitude. Modern energy codes add roughly $18 per dwelling unit in apartment buildings that are four stories or taller and roughly $7,229 per dwelling unit in single-family homes and apartment buildings up to three stories. Parking mandates, by contrast, added between $52,000–$73,000 per structured or underground parking space in 17 cities studied, and can raise a project's total construction cost by 50%. While we examined three non-energy regulations — selected because their costs are well documented — they represent only a small share of the legacy regulations that drive up construction costs and constrain production.

The cost of making a whole-home energy efficient is comparable to routine design choices like higher-end finishes or adding a deck. But unlike those upgrades, energy efficiency reduces ongoing utility expenses. While cutting upfront housing costs is crucial, focusing on the true regulatory cost drivers that limit housing production will have far more impact than rolling back energy standards that add relatively small upfront costs yet deliver long-term savings.

[18] For example, Vermont and Kansas City, Missouri, both rolled back energy codes as part of their housing reforms. HUD and the USDA also rolled back energy code requirements for HUD- and USDA-backed mortgages in 2026.

COMPARING THE COST OF WHOLE-HOME ENERGY EFFICIENCY WITH NON-ENERGY REGULATIONS

Requirement	Upfront construction cost impact	Ongoing operating cost savings
Non-energy-related regulations		
Parking mandates	Adds an average $52,000 per structured parking spot and $73,000 per underground parking spot in cities studied; can add more than 50% to the total construction cost of a building	None
Requiring the commercial building code (IBC) rather than the residential building code (IRC) in missing middle housing	Adds ~15–40% to the total construction cost of a building	None
Dual-egress requirements	Adds 6–25% to the total construction costs (Boston Indicators, Center for Building)	None
Whole-home energy efficiency		
Energy Codes[19]		
Energy codes, apartment buildings 4+ stories (ASHRAE 90.1-2019)	Adds ~$18 per dwelling unit to construction costs	$224 utility savings per year; payback in under two months

[19] For energy code costs, we relied on the 2024 HUD/USDA determination, which used robust research methods, but was rescinded in 2026.

Energy codes, low-rise single family to three-story apartment buildings (2021 IECC)	Adds ~$7,229 per dwelling unit to construction costs	$963 utility savings per year; 7.7-year payback
Advanced, above-code whole home energy standards [20]		
Passive House, multifamily (MA and NY)	Adds ~2.3–3.5% to building construction costs	30–50% lower heating and cooling bills
Passive House, multifamily (PA)	Approached cost parity with building-as-usual construction costs	Not reported
CA's advanced, above-code state efficiency standards vs. TX	Adds ~2% to building's construction cost	Not reported

More peer-reviewed cost studies are needed to help states and localities make informed decisions on the most impactful and economically rational housing reforms. The cost impact of many legacy regulations has not been studied. While academic consensus that regulation constrains supply is directionally clear, and the specific cost impacts of some regulations (e.g., parking mandates) have been quantified, no peer-reviewed study has quantified the national dollar impact of zoning and permitting regulations on multifamily housing costs. The energy-cost literature is also narrow, concentrated in U.S. Department of Energy National Laboratories, state agencies, and trade organizations and lobbyists. We therefore recommend more peer-reviewed cost studies in this space. Additional building science research would also be valuable, particularly on construction methods that could further cut the cost of efficiency without sacrificing performance.

Though energy efficiency upgrades are relatively affordable, anything that raises upfront construction costs can be a legitimate concern for low- and moderate-income buyers who have little room to absorb higher costs while meeting down payment or debt-to-income requirements. Traditional appraisal methods compound this problem because they poorly account for energy efficiency in a property's valuation. A home can appraise below what its materials and labor cost — and its appraisal may not capture the very real value of meeting energy standards. This problem extends beyond energy. Most mortgage underwriting calculates the total cost of a loan from

[20] The data from Massachusetts, New York, and Pennsylvania compared the cost of Passive House construction in completed multifamily buildings to construction costs of comparable buildings meeting baseline energy standards in those states. The data from California's above-code standards compared it to the cost of construction in Texas.

principal, interest, taxes, and insurance — leaving out spending on utilities and maintenance, which are some of the largest recurring costs of owning a home.[21] Fannie Mae and Freddie Mac are updating their appraisal requirements in ways that will likely capture some of the value of energy efficiency.

Overall, the strongest policy packages combine targeted deregulation to increase housing production with practical energy standards. Such packages should be guided by the following rules of thumb:

- **Be disciplined when considering costs.** Weigh the incremental cost of whole-home energy efficiency against larger drivers of housing costs and delays, such as restrictive zoning, permitting delays, parking mandates, impact fees, discretionary reviews, fragmented financing, and utility connection timelines. Tackle the highest-cost barriers first.

- **Avoid false tradeoffs between housing supply and energy affordability.** Rolling back an energy standard may reduce the visible upfront costs, but can lock households into higher utility bills and increase system costs for decades. At the same time, energy requirements should be designed to avoid permitting and approval bottlenecks.

- **Set performance outcomes, then let builders figure out how to comply.** Instead of prescribing required technologies, policymakers can establish robust efficiency targets and standards, then let builders choose how to comply: through an energy code, a recognized performance index, Passive House standards, or a comparable pathway. Energy codes and standards should also use "fuel-debiased" metrics, as Colorado has done, so that all-electric and mixed-fuel buildings are measured against the same energy target baseline. Without this adjustment, all-electric homes, which tend to be cheaper to build, face a competitive disadvantage.

- **Design for low-cost flexibility.** Incorporate efficient envelopes, high-efficiency appliances, grid-interactive controls, electric readiness, solar and storage readiness, and managed EV charging up front. Where installing equipment isn't yet cost-effective, readiness requirements can avoid expensive retrofits later.

- **Pair standards with implementation infrastructure.** Provide pre-approved specifications, workforce training, streamlined inspections and commissioning, and incentives or financing during market transitions. Experienced project teams generally deliver high-performance buildings at lower incremental cost. Phased compliance, training, targeted support, and periodic cost reviews can help smaller builders and jurisdictions make the transition without slowing production.

[21] The Appraisal Institute's Residential Green and Energy Efficient Addendum has been available since 2011 to calculate some of these measures, but it has been underutilized.

- **Implement complementary utility reforms.** Efficient, grid-interactive homes are grid assets, but outdated utility policies often prevent residents from capturing the savings. Tactic 6 outlines the reforms that would help.

Colorado shows how to prioritize energy affordability while increasing supply. Between 2023 and 2026, it passed bills that cut regulations to stimulate production. It also finalized its Low Energy and Carbon Code, which establishes baseline energy efficiency for new homes; uses fuel debiasing to level the playing field for all-electric homes; and lets communities opt into a more ambitious path to Passive House for larger apartment buildings and single-family homes over 4,000 square feet.

Finally, manufactured homes require their own discussion. As discussed earlier, manufactured homes are built to a single federal standard, the HUD Code, which preempts state and local codes. While cross-jurisdictional uniformity can speed production and cut costs, the HUD Code's energy provisions have not been substantially updated since 1994. Manufactured homes are therefore significantly less efficient than a site-built home, and less efficient than they would be if DOE's 2022 energy standard for manufactured homes had been adopted by HUD.

The cost of that stagnation falls on residents. The DOE estimates that a new multi-section home built only to the existing HUD Code costs its occupants roughly $475 more each year in energy bills than if built to DOE's 2022 standard. That's a significant burden for the population that lives in manufactured housing, which has a median income near $40,000.

The 21st Century ROAD to Housing Act of 2026 provides much-needed regulatory flexibility to expand manufactured housing across the U.S., but it also raises the stakes. As factory production expands into townhomes, fourplexes, and stacked flats, an outdated energy floor will soon govern a growing share of new attached and multifamily housing — and higher energy bills could poorly serve the people who live in it.

Still, there is room for state and local action. Manufactured homes can be built to be more efficient: nearly half of the manufactured homes produced in 2024 earned ENERGY STAR certification, and 90% of those also satisfied DOE's Zero Energy Ready Home certification for manufactured housing. Vermont's Advanced Manufactured Home program pays builders $3,000 per highly efficient manufactured home they build. In a state where manufactured homes typically burn fuel oil or propane and average roughly $4,000 in annual energy costs, certified homes are projected to save about $2,700 per year compared to the existing stock and more than $1,300 compared to a new manufactured home that only meets the HUD Code. The first to move into these new efficient homes are households who suffered previous flood damage.

Tactic 6. Align utility reforms with housing affordability and grid reliability

Housing is squeezed by an aging, increasingly strained grid and outdated electric rate structures. Tactic 6 offers utility reforms that speed new homes' grid connections, lower bills, and ease strain on the system.

Recommended policies under Tactic 6

- Plan grid upgrades and clean energy with zoning and land use reforms
- Shorten hookup times for new homes
- Offer electric-friendly and solar-friendly rate structures
- Allow VPPs, demand response, distributed renewable energy, and microgrids
- End the gas obligation to serve and limit extensions of gas infrastructure beyond the existing footprint

Access to timely, reliable, and affordable power shapes where homes are built, how quickly they can be occupied, and what households pay for utilities after moving in. Data centers and increased electrification are adding large and uneven loads to the grid. The challenge goes beyond building more generation and transmission. It lies in rethinking the entire system so that existing infrastructure is better used, capacity is added where it is most valuable, and new homes are connected to the grid faster, without inheriting the costs and risks of large new commercial and industrial loads and of aging infrastructure.

The first priority for new housing supply is faster grid hookups and fixing transformer supply chains. These can add months to home production timelines and tens of thousands of dollars per home. Examples of existing reforms include Massachusetts' Power Forward initiative, which was launched by the state and its two largest utilities to expedite grid connections for new housing, and a pair of bills (SB 410 and AB 50) passed by California in 2023.

A second priority is rate reform. All-electric homes are more cost effective to build in many parts of the country, but inflated electric utility rates inadvertently penalize their operation. Many utilities charge heat-pump customers the same flat rate year-round even though winter heat-pump operation alleviates grid strain. That mismatch means households with heat pumps overpay and subsidize other users. Fairer rate structures — like those that are seasonal and time-varying, demand-based, or specific to heat pumps — can resolve this imbalance and cut bills.

In Massachusetts, electric utilities now offer seasonal heat-pump rates designed to lower winter energy costs, saving residents with heat pumps about $90 per month. Colorado directed its investor-owned utilities to develop tailored rates for residential customers with heat pumps — a shift expected to bring more affordable heat to more than 50% of the state's residents.

Other reforms are related to virtual power plants, rooftop solar, and gas lines. As explained above, VPPs aggregate distributed energy resources (like smart thermostats, heat pumps, and solar panels) in order to lower electric bills and expand grid capacity. In Illinois, the Clean and Reliable Grid Affordability Act requires utilities to stand up VPP programs that pay customers for demand flexibility from batteries, smart thermostats, and electric vehicles. It's expected to save consumers $13.4 billion over 20 years. Colorado's Modernize Energy Distribution Systems Act requires the state's largest electric utility to develop a VPP program, with the utility targeting 125 MW by 2030, alongside expanded community solar and storage capabilities. Maryland now requires utilities to pilot time-of-use rates, vehicle-to-grid, and VPPs to compensate households for providing power back to the grid. Large-scale VPP deployments in California are linking tens of thousands of homes to provide backup power during heatwaves.

On rooftop solar, net metering laws once let building owners with solar panels sell excess electricity back to the grid at competitive rates on sunny days and draw electricity from the grid on cloudy days, helping make rooftop solar a sound financial investment. However, states like California, North Carolina, Illinois, Arizona, Nevada, and Hawaii have changed those rules, significantly lengthening solar payback periods. In California, new solar interconnection requests fell as much as 82% in the first year after the changes took effect, and roughly 45% once the market settled. An analysis by the National Renewable Energy Laboratory similarly found that the share of U.S. households living in states that require net metering fell from about 84% in 2014 to 57% by the end of 2023. These policies should be revisited. Some states, including Massachusetts, New Jersey, Alaska, Maryland, and Colorado, still maintain favorable rate structures for solar owners, but they're increasingly the exception rather than the norm.

Streamlined permitting and grid interconnection for solar is also critical to making residential solar affordable. New Jersey now requires its utilities to establish a common interconnection agreement to speed up solar interconnections, while Massachusetts is exploring flexible interconnection for distributed energy, including solar. Colorado and hundreds of jurisdictions in California are using automated and AI tools like Symbium and Solar APP+ to permit solar and heat pump installations automatically, cutting approval times. Some states are also expanding access to solar more broadly. Colorado is requiring utilities to develop inclusive community solar programs paired with energy storage, while Utah and Connecticut have legalized balcony solar.

Finally, many parts of the country are experiencing spiking gas utility bills because of the costs associated with aging infrastructure and extending gas lines to new buildings. Utilities are spending upward of $7 billion per year on service line replacement, which adds to ratepayer costs, on a system that is largely redundant with the electric grid. Gas utilities increased construction spending

by 50% from 2022 to 2023, hitting $49.1 billion. As a result, many customers pay more for infrastructure costs than for the gas they actually consume.

To curb this spending, a growing number of states are looking at alternatives; some now require utilities to conduct a "non-pipeline alternative" analysis before breaking ground. Eight states are phasing out or no longer require existing customers to subsidize gas line extensions to new buildings — it is estimated that this will save up to $750 million in annual customer utility bills. The California Public Utilities Commission was first to act, issuing an order in 2022 to phase out gas line extension allowances. Washington State followed, adopting phaseout plans across three of its utilities. The Colorado legislature directed its utility regulator to do the same, as did Oregon through regulatory decisions in 2023 and 2024. Minnesota has approved modest changes through three rate case settlements and is now weighing broader action. Most recently, Maryland and Massachusetts said they intend to eliminate allowances entirely, and New York passed a bill doing the same. California lawmakers went further in 2026, passing legislation that would require utilities to offer customers incentives to electrify rather than pay to replace aging gas service lines.[22]

[22] As of publication, this bill is awaiting Governor Newsom's signature.

IV. Reducing Pollution from Construction Materials

Building materials don't fit squarely into any tactics, but constructing millions of new homes will increase demand for concrete, steel, wood, insulation, and more, even as buildings and their construction already account for more than one-third of global greenhouse gas emissions. These materials are essential to addressing the housing shortage, yet producing and using them also creates embodied carbon emissions from extraction, manufacturing, transportation, and construction.

In fact, building new homes in the United States generates more than 50 million tons of embodied carbon emissions each year — equivalent to the annual emissions of 138 gas-fired power plants, or all of Sweden. Efforts to cut building pollution have long focused on reducing operating emissions (i.e., pollution from heating, cooling, appliances, etc.), but embodied carbon is significant too. An analysis of 100 new homes in Massachusetts, for instance, found that embodied carbon accounts for 32% of the homes' emissions over a 25-year period.

Zoning and regulatory reform — which stimulates more building reuse, more missing middle housing, less structured parking, and more modular construction — can reduce embodied carbon before any material substitution occurs. One study found that "a repurposed building avoids about 56% of embodied energy, 34–48% of CO2 equivalent emissions, and 72% of materials by mass compared to building a new apartment building." Reusing existing buildings for housing preserves existing structure and foundation, typically the most material-intensive components of any project.

Increasing the share of multifamily housing and smaller starter homes also reduces embodied carbon emissions due to shared (or smaller) walls, roofs, and foundations, which require less material per person than detached construction. On average, missing middle housing has significantly lower embodied carbon than single-detached homes (which require more materials per home) or mid- and high-rise buildings (which tend to have more intensive material usage like concrete and steel).

Parking reforms that reduce structured and underground parking also cut embodied carbon, while streamlining approvals of modular and manufactured housing allows for more of those lower embodied carbon housing types to be built.

Additional savings come from material substitution. RMI finds that builders can cut a new home's embodied carbon by 30–50% by targeting the four categories — concrete, insulation, cladding, and interior surfaces — that account for more than 70% of new home emissions. These reductions can be achieved using commercially available, code-compliant materials without increasing costs. Using natural refrigerants in heat pumps similarly reduces embodied carbon emissions, but requires regulatory reforms to be used in the U.S. The Carbon Leadership Forum maintains substitution guidance, and the new RESNET/ICC 1550 Embodied Carbon Standard, verified by trusted Home Energy Rating System (HERS) Raters gives homebuilders a way to measure results.

State and local jurisdictions are already demonstrating how policy can accelerate market adoption of low embodied carbon materials without stalling housing production:

- **Making it Easier to Build Lower Embodied Carbon Housing Types.** Multiple states and localities are passing legislation that makes it easier to reuse existing buildings for new housing; increase housing options like starter homes, missing middle housing, and apartment buildings; streamline modular and manufactured construction; and implement parking reforms.

- **Updating Building Codes for Advanced Materials.** Washington State modernized its building codes to allow tall mass timber construction, letting developers swap high-emission structural steel and concrete for low-carbon engineered wood.

- **Targeting High-Impact Materials.** Marin County, California, introduced a Low-Carbon Concrete ordinance that sets specific cement-reduction thresholds for concrete used in both private residential and commercial construction.

- **Lowering Material Costs and Increasing Material Production Through Tax Incentives.** New Jersey established a tax credit for concrete producers who meet embodied carbon targets, while Colorado established a statewide sales and use tax exemption for qualifying low-emission building materials.

V. Conclusion

Housing is unaffordable today because there are not enough homes to rent or buy that meet people's needs and budgets. This creates cutthroat competition and drives up prices. As a result, the people our communities rely on, like teachers, childcare workers, and service and retail workers, can't find homes they can afford in the places they serve.

This paper shows that the policies that close the shortage — homes of all shapes and sizes, tucked into lower-hazard established neighborhoods, built to modern standards — can be sharpened to also lower transportation and energy costs, bolster insurance markets, strengthen municipal budgets, preserve open and working lands, and cut pollution at a national scale.

The central implication for policymakers is that benefits compound when smart housing policies travel together. A state that legalizes more home choices but steers them into hazard zones will trade a supply problem for an insurance problem. A state that adopts energy affordability standards but leaves restrictive zoning, parking mandates, and slow permitting untouched will raise standards on homes that never get built. The where, what, and how are mutually reinforcing — and so are the reforms behind them.

Colorado shows what it takes to act on that insight. In 2024, the state legalized ADUs statewide (HB24-1152), required its largest cities to allow higher-density homes near rail and bus rapid transit (HB24-1313), and ended minimum parking mandates near transit (HB24-1304). This opened well-connected, established neighborhoods to the townhomes, ADUs, and right-sized apartment buildings this paper recommends. The same legislature passed the Modernize Energy Distribution Systems Act (SB24-218), which required the state's largest utility to file a VPP program with performance-based compensation by February 2025 — ensuring the homes those laws unlock will have lower energy bills and can strengthen the grid at peak demand rather than strain it.

Colorado also turned to how those homes are built. In 2025, the state published its Low Energy and Carbon Code, using fuel debiasing to make new construction efficient and electric, and, in the same year, the Public Utilities Commission issued its final order on the state's clean heat target — together reshaping how new and existing homes will heat for decades.

On resilience, the state adopted the 2025 Colorado Wildfire Resiliency Code, setting building-hardening and defensible-space requirements in the WUI — and lawmakers paired the standard with insurance reform in the same session. HB25-1182 gives homeowners the right to receive their wildfire risk scores from insurers and appeal inaccurate ones, tying mitigation to premiums, while a companion grant program (HB25-1302) funds resilient roof retrofits so the households most exposed can afford to harden their homes. Codes that reduce risk, insurance that rewards it, grants that finance it — adopted together, not sequenced years apart.

No single bill produced this alignment. A coalition did — one that refused to treat housing, energy, land, and pollution as separate fights. Consider one telling example: among the most effective

housing advocates in Colorado is the Southwest Energy Efficiency Project (SWEEP), an organization founded in 2001 to advance energy efficiency and clean transportation. SWEEP now tracks and champions the state's land use reforms because it reached the conclusion this paper documents: the best energy and affordability strategy is to allow more homes near jobs and transit, and the best housing strategy lowers utility bills. When an energy organization becomes a housing advocate — and housing advocates champion utility reform — the coalition stops trading priorities and starts compounding them.

This model can be replicated in other states, and it must be. It will not be easy. Building coalitions that hold together across all six tactics will require sustained negotiation, since the partners needed for housing deregulation are not always the same partners needed for utility and resilience reform, and some actively oppose each other. It asks organizations to work outside the lanes that their missions, funders, and expertise have long defined; it asks housing advocates to learn rate design and energy advocates to learn zoning; it asks coalition partners who may have previously opposed each other's policies to trust each other. It also asks coalitions to reach across the aisle, not just across sectors.

Montana's sweeping reforms passed because conservatives who saw overregulation and progressives who saw an affordability emergency converged on the same solution: legalize more homes. Affordability is one of the few issues with that kind of reach, and the most durable state frameworks will draw on both approaches — Colorado's cross-sector alignment and Montana's cross-partisan one. These new coalitions formed around a shared agenda. But the full agenda combining zoning deregulation, energy and utility reform, and resilience standards is considerably harder to assemble politically than any single piece of it. Where advocates fight over whether affordability or resilience comes first, both lose. Where housing bills pass without accompanying utility, insurance, and land use reforms, the compounding benefits this paper documents never materialize.

The window for this work is open now. The pro-homes movement has momentum across regions and parties. The task ahead is to convert that momentum into law and executive actions: allow smaller homes on small lots to create affordable starter homes; make it legal to convert a basement or garage into an apartment for a family member or caregiver; and welcome ADUs, townhomes, duplexes, fourplexes, and apartments into the neighborhoods where jobs, transit, and services already exist. And in every state, build the kind of coalition that can carry the full slate of reforms at once.

The states and localities that get this right won't just solve a housing shortage. A mix of homes of all sizes and prices will give more people the chance to put down roots, own their own home, build wealth, and lay solid foundations of economic stability and opportunity for themselves and the next generation, in communities that are more affordable, less polluting, and built to withstand whatever comes next. The policies are getting results. The coalition model exists. What remains is the harder work of scaling solutions, state by state.

Appendix A: State and Local Policies Checklist

States and localities have numerous levers to increase home production while making housing a force multiplier for progress. The policies below translate the where, what, and how principles and the six tactics into specific actions that can be taken with limited public dollars. These state and local policies prime the pump for market forces, private capital, and targeted public investment to get housing built. Because most of these policies touch several tactics and criteria, they are organized by policy area rather than by those frameworks.

Housing reforms require special care. The goal is to shed outdated legacy requirements while retaining those that keep people safe, buildings sound, and communities thriving.

Zoning and Land Use Reform

Allow homes of all shapes, sizes, and price points in lower-hazard established neighborhoods, cutting costs while steering growth away from hazard-prone and environmentally sensitive areas.

1. As-of-right housing	✓ Allow more housing by-right, without discretionary review, variances, or rezoning ✓ On existing single-family parcels: at a minimum, allow ADUs, duplexes, manufactured homes, and starter homes; where communities are ready to go further, allow townhomes, triplexes, fourplexes, and sixplexes ✓ In areas served by transit or zoned commercial, light industrial, or mixed use: allow larger apartment buildings (40 or more homes per acre)
2. Adaptive reuse and existing buildings	✓ Allow adaptive reuse of existing buildings for housing by-right, without discretionary review, variances, or rezoning ✓ Allow new apartments to be built within existing single-family homes and apartment buildings (e.g., basement conversions or dividing existing apartments into several smaller apartments)

	✓ Deem buildings, uses, and features that already exist in a neighborhood automatically compliant with the zoning code
3. Size, height, setbacks, and lot splits	✓ Increase the maximum number of homes allowed on existing lots ✓ Allow small lots and the splitting of existing lots into smaller parcels ✓ Eliminate floor area ratios, height limits, massing restrictions, street frontage requirements, and setback requirements ✓ Eliminate minimum home sizes to allow starter homes, single-room occupancy, boarding houses, cottages, and tiny homes
4. Parking	✓ Eliminate parking mandates
5. Arbitrary restrictions	✓ Eliminate bans on manufactured and modular housing ✓ Eliminate occupancy restrictions (e.g., limits on renters, number of occupants, or relationship of occupants) ✓ Eliminate covenants that limit new housing
6. Disaster-prepared zoning	✓ Make it easier to build in lower-risk areas and harder to build in higher-risk areas ✓ Overlay a resilience index backed by scientific hazard data on zoning maps ✓ In high-risk areas, steer growth elsewhere and prohibit new housing without stringent above-code building standards ✓ Conserve land that serves as a resilience buffer, including open space, farmland, forests, other working lands, and wildlands

	✓ Before disaster strikes, adopt a post-disaster zoning code that takes effect immediately following a disaster to expedite resilient reconstruction
7. Zoning for energy affordability and grid reliability	✓ Allow by-right grid-interactive appliances, solar, and storage ✓ Plan and site electric grid infrastructure upgrades and clean energy (e.g., utility-scale and community solar) as part of rezoning and land use reforms to speed up hookups for new homes and cut utility bills

Streamlined Permitting

Cut red tape and speed up timelines and approvals.

1. Permitting	✓ Set ambitious, but achievable, building permit approval targets (e.g., 24-hour or 30-day approvals) with “shot clocks” ✓ Publish clear, objective criteria for approving and rejecting permits and entitlements ✓ Eliminate redundant review steps ✓ Eliminate discretionary reviews and enable staff-level approvals ✓ Allow third-party plan reviews and inspections ✓ Adopt AI and automated tools ✓ Eliminate annual building permit caps
2. Pre-approved plans	✓ Provide a catalog of pre-approved home plans that receive automatic building permits ✓ Include a mix of home types ranging from ADUs to missing middle housing ✓ Include both site-built and modular designs that optimize for low-cost construction

	✓ Design plans to be resilient, efficient, grid-interactive, and electric with low embodied carbon construction materials
3. Environmental review	✓ Streamline environmental reviews under the National Environmental Policy Act (NEPA) and state equivalents ✓ Carve out categorical exemptions for housing in established neighborhoods outside high-hazard zones and environmentally sensitive areas

Building Code Simplification for Missing Middle Housing

Simplify building codes while preserving health, safety, and building soundness.

1. Single-stair and small-elevator reforms	✓ Allow missing middle housing to be built with one staircase instead of two when modern fire-safety standards are met ✓ Allow apartment buildings up to six stories to use smaller elevators
2. Residential versus commercial codes	✓ Allow missing middle housing to adopt either the residential code (IRC) with enhanced safety features or a modified commercial code (IBC)

Fees and Property Taxes

Adjust fees and property taxes to stimulate home production and to reflect the cost of services and infrastructure (e.g., roads, water, sewer, electric utilities) in established neighborhoods versus greenfields and lower-hazard versus higher-hazard areas.

1. Impact, permit, and connection fees	✓ Calculate fees based on building square footage, rather than number of dwelling units or occupants, to encourage more homes per parcel ✓ Defer fees (e.g., impact, permit, utility hookup) until occupancy to reduce capital costs for builders

	✓ Waive demolition fees when increasing density on lots in established neighborhoods ✓ Reduce or eliminate impact fees in lower-hazard established neighborhoods ✓ Set higher impact and utility connection fees in greenfield and higher-hazard locations to reflect the cost of extending and maintaining services and infrastructure
2. Property taxes	✓ Provide property tax abatements in lower-hazard established neighborhoods ✓ Reassess property taxes in higher-risk areas and greenfields to reflect the cost of municipal infrastructure, maintenance, and services

Resilience and Insurability

Expand home production in lower-hazard neighborhoods (see policies above) and ensure new homes are built to last.

1. Expand home production in lower-hazard neighborhoods	✓ See policies above
2. Resilient construction	✓ Adopt modern building codes to reduce physical risk in extreme weather ✓ Encourage above-code standards that further reduce physical risk (e.g., IBHS Fortified and Wildfire Prepared Home) ✓ Require rigorous above-code standards in higher-hazard areas

3. Insurance market reforms that reward resilience	✓ Require insurers to be transparent on how they price hazard risk ✓ Require insurers to price resilience into their rates ✓ Encourage insurers, the state, or other entities to offer insurance discounts, incentives, and financing for resilience investments

Energy Affordability

Cut utility bills, connect new homes to the grid faster, improve grid reliability and resilience, and protect residents from extreme heat.

1. Energy efficient construction	✓ Adopt modern energy codes as the floor for new home construction ✓ Use fuel-debiased metrics in energy codes and standards so that all-electric and mixed-fuel buildings are measured against the same energy target ✓ Prioritize above-code standards for deeper energy savings (e.g., Passive House) ✓ Accelerate grid-interactive, electric construction ✓ Allow by-right grid-interactive appliances, solar, and storage (see policies above) ✓ Encourage low embodied carbon construction materials
2. Utility reforms	✓ Site grid upgrades and clean energy as part of zoning and land use reforms (see policies above) ✓ Shorten hookup times for new homes ✓ Offer electric-friendly and solar-friendly rate structures ✓ Allow VPPs, demand response, distributed renewable energy, and microgrids ✓ End the gas obligation to serve and limit extensions of gas infrastructure beyond the existing footprint

Low Embodied Carbon Materials

Cut pollution from home construction and materials.

1. Housing types that use less materials	✓ Allow adaptive reuse of existing buildings (see policies above) ✓ Allow missing middle housing and smaller starter homes, which use less material per home (see policies above) ✓ Eliminate parking mandates that drive structured and underground parking (see policies above) ✓ Streamline approvals for modular and manufactured housing (see policies above)
2. Building codes that allow low embodied carbon materials	✓ Update building codes to allow lower embodied carbon materials and natural refrigerants
3. Material standards and measurement	✓ Target the four material categories that account for more than 70% of new home embodied carbon: concrete, insulation, cladding, and interior surfaces ✓ Use the RESNET/ICC 1550 Embodied Carbon Standard to measure results ✓ Require low embodied carbon materials in pre-approved home plans and in homes built on public land (see policies above)

State and Local Public Land and Financing

Streamline the use of state- and locally-owned land and public financing for housing.

1. State- and locally-owned land	✓ Streamline the use of state- and locally-owned land in lower-hazard established neighborhoods for housing

	✓ Prioritize land that is underutilized, outside environmentally sensitive areas, and not serving public purposes such as rights-of-way, parks, or open space ✓ Include deed-restricted affordable housing and starter homes ✓ Require homes to be resilient and built to withstand local hazards ✓ Require homes to be efficient, grid-interactive, and electric, with low embodied carbon construction materials
2. Public financing	✓ Consolidate public financing sources (e.g., for affordable housing) into one-stop shops to reduce development costs ✓ Offer multiple public financing sources through a single joint notice of funding availability, with one application, one contract, one set of legal documents, one legal counsel, one construction inspector, and one set of design requirements

A note on policies to increase production of homes for lower-income households. The policies above will go a long way toward meeting the nation's housing shortage and making homes less expensive. However, policies designed specifically to increase safe, stable homes for lower-income households — at the scale that is required — fall outside the scope of this checklist. Producing homes that are affordable to those households will require more federal assistance, other financing sources, and targeted policies. Preserving existing affordable housing is equally essential, and it too is under mounting pressure from rising insurance costs, energy burdens, and more frequent disasters. Finally, safeguards are also needed to ensure that current residents aren't priced out of their neighborhoods. The policies that address these needs are not secondary to this checklist's production agenda. They are its necessary complement.

Appendix B: Housing Reform Legislation

The legislation below was referenced in this white paper. It represents only a sample of the housing reforms recently enacted across the United States.

STATEWIDE COMPREHENSIVE REFORM ("MONTANA MIRACLE")

Jurisdiction	Legislation	Year	Key Provisions
Montana	SB 382	2023	Rewrote local land use planning procedures
Montana	SB 323	2023	Allowed duplex, triplex, and fourplex housing
Montana	SB 528	2023	Allowed ADUs as-of-right in single-family zones
Montana	SB 245	2023	Allowed multifamily housing in commercial zones
Montana	SB 243	2025	Legalized buildings up to six stories
Montana	SB 213	2025	Enacted single-stair reforms
Montana	HB 492	2025	Capped parking mandates
Montana	SB 252	2025	Legalized manufactured housing

MISSING MIDDLE HOUSING AND ADUS AS-OF-RIGHT

Jurisdiction	Legislation	Year	Key Provisions
Oregon	HB 2001	2019	Required larger cities to allow duplexes, triplexes, fourplexes, cottage clusters, and townhouses in areas formerly zoned for single-detached homes

Oregon	HB 2138	2025	Expanded missing middle housing requirements for larger cities
Washington	HB 1110	2023	Expanded as-of-right missing middle housing, allowing up to six units per lot
Utah	SB 34	2019	Encouraged cities to allow ADUs
Colorado	HB 24-1152	2024	Allowed ADUs as-of-right
Raleigh, NC	TC-5-20	2021	Expanded by-right duplexes, townhouses, and small multifamily housing
Durham, NC	TC1900002	2019	Expanded missing middle housing and allowed smaller residential lots
Portland, OR	ORD 190093	2021	Legalized duplexes, triplexes, fourplexes, cottage clusters, and ADUs in formerly single-family zones

MINIMUM LOT SIZES, SETBACKS, AND HEIGHT RESTRICTIONS

Jurisdiction	Legislation	Year	Key Provisions
Spokane, WA	ORD C36459	2023	Reduced minimum lot size requirements
Austin, TX	ORD 20240516-006	2024	Reduced minimum lot size requirements
Austin	ORD 20231207-001	2023	Allowed up to three homes on single-family-zoned lots
California	SB 9	2021	Allowed lot splitting for smaller parcels

Washington	HB 1096	2025	Allowed lot splitting for smaller parcels
Oregon	HB 2138	2025	Allowed lot splitting for smaller parcels
Rhode Island	H. 5794	2025	Allowed lot splitting for smaller parcels
Texas	SB 15	2025	Limited local setback requirements
Oregon	SB 8	2021	Bypassed local setback and height limits for projects meeting affordability and density requirements

LARGE APARTMENT BUILDINGS AND TRANSIT-ORIENTED DEVELOPMENT AS-OF-RIGHT

Jurisdiction	Legislation	Year	Key Provisions
Cambridge, MA	ORD 2025-1	2025	Legalized housing up to six stories as-of-right
Colorado	HB 24-1313	2024	Required by-right multifamily zoning near transit lines
Massachu-setts	H.5250	2021	Required by-right multifamily zoning near transit lines
California	AB 2011	2022	Allowed large apartment buildings by-right in commercial, warehouse, retail, or mixed-use zones
Texas	SB 840	2025	Allowed large apartment buildings by-right
Minneapolis	RCA-2020-01236	2020	Rezoned corridors and other areas to allow larger multifamily development

MANUFACTURED HOUSING

Jurisdiction	Legislation	Year	Key Provisions
Maryland	HB 0538	2024	Permitted new manufactured or modular homes in single-family zones, treating them as real estate rather than personal property
New Hampshire	HB 1361	2024	Automatically classified manufactured homes as real estate once connected to utilities, enabling mortgage financing without land ownership

PARKING MANDATES

Jurisdiction	Legislation	Year	Key Provisions
Cambridge, MA	ORD 2022-5	2022	Eliminated parking mandates
Lansing, KS	ORD 1111	2024	Eliminated parking mandates
Oregon	OAR 660-012-0430 & 660-012-0440	2022	Significantly curtailed parking minimums
Washington	SB 5184	2025	Significantly curtailed parking minimums
California	AB 2097	2022	Removed parking minimums near transit lines
Colorado	HB 24-1304	2024	Removed parking minimums near transit lines

Minneapolis	ORD 2021-023	2021	Eliminated off-street parking minimums

ADAPTIVE REUSE AND OFFICE-TO-HOUSING CONVERSIONS

Jurisdiction	Legislation	Year	Key Provisions
New York City	N 240290 ZRY	2024	Streamlined office-to-housing conversions with "City of Yes" legislation
Texas	SB 840	2025	Removed parking and rezoning requirements for conversions
Arizona	HB 2297	2024	Eased conversion of existing buildings to housing
Maryland	HB 150	2023	Expanded financing support for converting existing buildings to affordable housing
Hawaii	HB 2090	2024	Eased conversion of existing buildings to housing

RESIDENTIAL (IRC) VS. COMMERCIAL (IBC) BUILDING CODES

Jurisdiction	Legislation	Year	Key Provisions
Tennessee	SB 2635	2024	Eased code requirements for three- to four-unit housing
North Carolina	HB 488	2023	Eased code requirements for three- to four-unit housing
Utah	HB 175	2025	Eased code requirements for three- to four-unit housing

Washington	HB 2071	2024	Directed State Building Code Council to adapt the IRC for housing developments up to six units
Dallas, TX	ORD 33099	2025	Allowed a modified residential code rather than the IBC
Memphis, TN	IRC Local Amendments	2021	Allowed the IRC for buildings with up to six units

SINGLE-STAIR REFORM

Jurisdiction	Legislation	Year	Key Provisions
Montana	SB 213	2025	Allowed single-stair residential buildings statewide
Texas	SB 2835	2025	Passed a city opt-in code; adopted by Austin and Dallas
Tennessee	SB 2834	2024	Passed a city opt-in code; adopted by Chattanooga, Knoxville, Memphis, and Nashville
Hawaii	HCR 66	2025	Enacted a study measure
Culver City, CA	ORD 2025-013	2025	Allowed single-stair configurations in 4–6 story residential buildings

PERMITTING, SHOT CLOCKS, AND ENVIRONMENTAL REVIEW

Jurisdiction	Legislation	Year	Key Provisions
Texas	HB 3167	2019	Established "shot clocks" for development review

California	SB 35 and SB 423	2017	Streamlined permitting, including exempting multifamily housing in urban areas from the CEQA
Massachu-setts	301 CMR 11.00 amendments	2026	Cut environmental review to 30 days for qualifying housing
New York City	Green Fast Track Rule	2024	Exempted qualifying housing from SEQRA/CEQR review
Delaware	Executive Order 18	2026	Created permitting accelerator using AI and other tools
Louisville, KY	AI Permitting Pilot	2026	Launched AI pilot for residential permitting
Denver	Resolution 26-0105	2026	Approved AI-assisted plan-review platform
California	SB 379	2022	Required automated permitting for residential solar
Colorado	HB 23-1234	2023	Funded automated permitting for residential solar

PRE-APPROVED HOUSE PLANS*

Jurisdiction	Legislation	Year	Key Provisions
Arizona	SB 1529	2025	Required municipalities to establish pre-approved housing plans for single-family homes, duplexes, triplexes, and ADUs

** While we reference only one piece of legislation, we reference several states and localities with pre-approved plan programs, including Ohio; Seattle; South Bend, Indiana; Jackson, Mississippi; Hawaii County, Hawaii; and Claremore, Oklahoma.*

IMPACT FEES

Jurisdiction	Legislation	Year	Key Provisions
Montana	SB 133	2025	Set limits on impact fees
Texas	SB 840	2025	Eliminated new impact fees for qualifying commercial-to-residential conversions

RESILIENCE AND DISASTER RISK

Jurisdiction	Legislation	Year	Key Provisions
Norfolk, VA	Vision 2100	2016	Identified areas for future growth based on sea-level rise and flood risk
Norfolk, VA	Zoning Ordinance Rewrite	2018	Incorporated resilience and flood-risk priorities into zoning requirements
Alabama	SB 389	2011	Created grants for homeowners to retrofit homes to Fortified standards
Alabama	SB 288	2024	Established a statewide residential building-code framework with provisions for resilient construction
Florida	HB 4181	2002	Implemented a unified statewide building code with stronger wind-resilience standards
Colorado	SB 23-166	2023	Established statewide wildfire-resilient building standards for development in the WUI
Colorado	HB 25-1182	2025	Required insurers to account for wildfire mitigation in property risk models

Colorado	HB 25-1302	2025	Funded grants for resilient roof retrofits
Utah	HB 48	2025	Established statewide wildfire-risk mapping and WUI mitigation requirements

PUBLIC LAND FOR HOUSING

Jurisdiction	Legislation	Year	Key Provisions
Atlanta	ORD 22-O-1669	2022	Funded efforts to prepare publicly owned land for affordable housing development
Atlanta	ORD 23-O-1385	2023	Authorized public land and funding for affordable housing development
Chicago	Missing Middle Infill Housing Initiative	2024	Offered city-owned land and subsidies for construction of starter homes
Washington, D.C.	D.C. Code § 10-801	2014	Required 20% affordable housing on qualifying District-owned land, or 30% near transit

ENERGY AND UTILITY POLICY

Jurisdiction	Legislation	Year	Key Provisions
Washington, D.C.	B24-0785	2022	Required qualifying District-owned or -financed buildings to meet net-zero-energy standards
California	SB 410	2023	Established utility targets and requirements to reduce delays in connecting new customers to the grid

California	AB 50	2023	Established deadlines and accountability requirements for utility connections for new development
Colorado	SB 24-214	2024	Directed utilities to develop residential heat-pump rates designed to lower energy costs
Colorado	HB 22-1362	2022	Established statewide energy-code requirements and directed development of the Low Energy and Carbon Code
Colorado	SB 24-218	2024	Required state's largest utility to establish a VPP program
Colorado	SB 24-207	2024	Expanded community solar and energy-storage opportunities
Colorado	SB 23-291	2023	Eliminated utility subsidies for new gas line extensions
Illinois	SB 25	2026	Required utilities to establish virtual power plant programs
Maryland	HB 1256	2024	Required utility programs for time-of-use rates and distributed energy resources
Utah	HB 340	2025	Legalized portable plug-in solar systems
Connecticut	HB 5340	2026	Legalized portable plug-in solar systems
New York	S8417	2025	Eliminated utility-funded gas line extensions for new customers

EMBODIED CARBON AND MATERIAL COSTS

Jurisdiction	Legislation	Year	Key Provisions
Washington	SB 5450	2018	Authorized taller mass-timber buildings
New Jersey	S287	2023	Created tax credits for low embodied carbon concrete
Colorado	SB 22-051	2022	Exempted qualifying low-emission building materials from state sales and use tax
Marin County, CA	ORD 3776	2019	Established low-carbon concrete requirements for construction

Appendix C: Methodology

Forthcoming research led by researchers at the World Resources Institute

APPENDIX C.1 HOUSING PRODUCTION CAPACITY NEAR TRANSIT

Citation - Huckleberry, J., Chadha, J., Kay, D., Holland, B. (2026) The moonshot potential of housing at transit [PowerPoint slides]. NACTO 2026 Designing Cities Conference.

Researchers measured housing capacity near transit in 64 U.S. cities. The in-progress analysis combines transit network data from Transit Explorer with parcel-level data from UrbanFootprint. The analysis defines each city's transit zone as the area within one-half mile of fixed-guideway transit or one-quarter mile of bus stops served at 15-minute headways.

Within these zones, it screens out parcels unlikely to support new housing: parcels already in residential use, parcels providing designated open space and recreation, parcels in flood zones, parcels smaller than 0.1 acres, and parcels with improvement-to-land value ratios above the 20th percentile for their urban area.

This final screen restricts the analysis to the least-developed fifth of parcels in each region — vacant lots, surface parking, and marginal structures whose land is worth more than what sits on it. Applying the maximum residential densities already built in each city's transit zone to the remaining parcels yields capacity for upwards of 16 million homes. The estimate is deliberately conservative: it excludes all existing residential land, counts only parcels near frequent transit, and assumes no city builds denser than what the city already has.

APPENDIX C.2 TRANSPORTATION COST SAVINGS

Citation - (Publication currently in review) Huckleberry, J., Holland, B., Chadha, J., Lombardi, J., Korn, J., Wong, T., Subin, Z., Tregoning, H. (2026) Harnessing Climate Benefits of Infill Housing Near Jobs, Amenities, and Transit in the United States. Working Paper. Washington, D.C: World Resources Institute.

Researchers analyzed household transportation cost savings and aggregate emissions reduction potential across 12 states. They mapped available land in transit-accessible, lower-hazard neighborhoods in Arizona, Florida, Hawaii, Maryland, Minnesota, Montana, New Hampshire, North Carolina, Pennsylvania, Rhode Island, Texas, and Washington. To calculate emissions, they used the greenhouse gas emissions methodology from their published research. For the transportation cost savings analysis, they applied AAA estimates of gas and maintenance costs to per capita VMT savings derived from their greenhouse gas emissions methodology.

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