

Internal Growth: The Liberal Libertarian Guide to Housing Affordability & Density

by

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DISSERTATION ABSTRACT

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Communities across the United States are reconsidering the efficacy of segregated land use zoning, given escalating economic, environmental, and social concerns. Motivations for change include diminished housing affordability and compounding costs to society, a need for economic development to counter inflation, or to address municipal budgetary. Continued research points to segregated land use zoning having an adverse relationship with these issues, specifically where it forms zones exclusive to SFD housing. As communities look to make amendments to, or in some cases replacement of segregated land use zoning, increased research seeks to understand the potential for these policy moves to address housing affordability, impact to the physical built environment, and whether results are in alignment with intent.

The recent development of policies to alter existing segregated land use zoning codes to eliminate SFD zoning, enabling multi-family construction on all residential lots, is intended to increase the number and diversity of housing options through incremental development and to address a growing housing affordability and availability crisis. From a liberal perspective, this shift addresses decades of exclusion in support of society, from a libertarian perspective, less regulation to infringe on individual rights. During the development stages of reforms to segregated land use zoning codes, elected and appointed officials must consider the viability of incremental development by homeowners and small local developers, that is sufficient to alter affordability trends.

In hindsight, segregated land use zoning is economically inefficient and tears at the social fabric of communities. Society is well studied in the repercussions of land use regulation, and amendments to regulations should not be considered the next chapter of the same story. It may be better to shrug off the weight of old ideas, with one hundred years of questionable adjustments, and write with fresh intent and the wisdom of hindsight. Three primary economic indicators should inform the extent of mixing compatible uses and the cadence of transition between low- and high-density zones: Housing costs (and transportation costs as an inverse function) for varied income levels, local economic development, and municipal solvency. The health of each is beholden to an adequate supply of housing.

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INTRODUCTION

INTRODUCTION

In 1871, a fire spread through the center of Chicago, leaving one third of the residents homeless and killing hundreds.¹ A hurricane struck the city of Galveston, TX in 1900, "the deadliest natural disaster in U.S. history, killing between 6,000 and 12,000 people."² In 1906, the San Francisco earthquake and fire took place, the deadliest earthquake in U.S. history, more than 3,000 dead.³ The "Spanish Flu" of 1918-1919, an H1N1 virus, killed an estimated 675,000 Americans toward the end of World War I, spreading rapidly through the dense urban housing conditions of major U.S. cities.⁴ The concerns of crowding in cities that is often noted as an impetus for zoning, is an understatement taking these events into account. Now consider that the able bodied men on factory floors went off to support the war in 1917, leaving industrial jobs vacant, while the Immigration Act of 1917 was passed to halt the vast flow of immigrants entering the country, over 14 million between 1900 and 1920.⁵ The Red Summer of 1919 fueled the already decade old Great Migration of Black families into the North, Midwest, and Western states. And, 116,000 soldiers would not return home.⁶ Those that did, struggled to find affordable housing after years of underproduction. This is the context that shaped the origin of American zoning. Crowded cities were dangerous, unhealthy, and becoming less racially homogenous, just as a new tool for structuring cities was introduced as the panacea to urban woes. One hundred years later, with many of the same concerns, worsening natural disasters, contagion, and a shortage of housing, we look to zoning regulations once again, as a way forward.

THE PROBLEM

Single-family detached (SFD) zoning began as a way to separate single-family residential units from all other uses, including multi-family residential. It was the fundamental driver for the mass adoption of segregated land use zoning codes in the United States in the early 1900s. The long-term unintended economic, social, and environmental consequences of development governed by SFD zoning are a well-studied topic in urban planning literature. Research has shown that SFD zoning can diminish housing affordability, thereby restricting wealth and exacerbating economic inequality⁷. Studies have also shown that SFD zoning can limit the diversity of housing types and restrict access to opportunities for lower-income households⁸. SFD zoning codifies sprawling low density development in ever expanding cities, requiring inefficient networks of infrastructure that compound costs to society and inhibit municipal solvency. This urban sprawl has led to significant environmental consequences, such as increased carbon emissions from both

energy production and automobile use, and loss of natural habitats⁹. More immediately, pattern creates heat islands from the excessive latticework of streets and parking lots, all impermeably paved, forcing investments in complex stormwater management systems¹⁰. The excessive use of vehicles to navigate between work and home is costly and also undermines our health and wellbeing, reducing active transportation options and walkability.¹¹ The increased socio-spatial segregation associated with SFD zoning is leading to disparities in access to quality education, healthcare, and other resources¹², and may also limit the ability of cities to adapt to changing demographics and housing needs¹³.

Local economic development and municipal solvency will also be discussed, as these issues relate to housing affordability. And while many regulations add to the costs of housing, I will focus on land use regulations, incorporating other regulations as they relate to the topic at hand. There is no way to discuss the economics of housing affordability and land use policies in a vacuum. According to economist Thomas Piketty, economic growth can be defined as population growth plus growth in per capita GDP¹⁴. By this definition, economic growth will require a growing supply of housing to accommodate a growing population, else housing affordability will be negatively impacted. Increasing housing production will require a combination of densification, expansion, and application of complementary policies to breach the developmental stagnation that has stunted an adequate supply.¹⁵

Municipal budgets are increasingly strained by building and maintaining infrastructure for low-density development,¹⁶ and this translates to ever higher property taxes that can spur displacement and tamp demand.^{17,18} Cities have an obligation to govern growth more efficiently, equitably, and to limit the imposition of added burdens to housing costs. This is not based on moral ethics, but business ethics. An EPA-sponsored study shows that infrastructure costs for compact development patterns are up to 47 percent lower than for conventional suburban developments¹⁹. Simply, reforming zoning to allow densification in addition to expansion, will begin to relieve budget concerns. As an added bonus, densification is also a more environmentally sound development pattern, and has been shown to increase social interactions and promote community cohesion^{20,21}.

This densification will also result in varied size units, new and old, in formally SFD neighborhoods. When consumer preference is considered, economic variables are key to the differentiation between what someone prefers and what they would ultimately choose. Resident housing consumption is an individually calculated decision based on trade-off scenarios between housing cost variables, employment commuting costs variables, and relationship to amenities such

as schools, parks, or retail. Housing consumption is also variable with changes in life-stage characteristics, such as when school age children are in the home or when the elderly lose a spouse and return to living alone. Diverse housing options should accommodate different life stages, and their location within the city should allow residents of varied incomes to live near job opportunities, necessary resources, and allow for affordable transportation options.

Economic development goals should support a vibrant and resilient local economy where entrepreneurship and a focus on the recirculation of capital is of principal concern.^{22,23,24} Densification allows homeowners and smaller scale builders to incrementally develop in existing neighborhoods and keep investments local rather than inviting outside developers to deliver build-to-capacity-big-boxes and then extract money from the city economy.^{25,26} It also provides an avenue for homeownership of small-lot housing to allow residents to accumulate wealth and equity.²⁷

The focus of this research will center on land use reform or replacement strategies that allow multifamily development on all lots previously zoned for SFD housing, to increase supply and tame the upward pressure on prices, and the economic viability of this development. For some cities, this transition is self-induced, but changes in policy are often met with resistance from various stakeholders. As such, states like Oregon have provided a model code that is binding if and until cities amend their own local regulations. Activists and elected officials are marking this down as a win, but whether the amendments spawn production in reality is still in question. Zoning policies can significantly shape urban and suburban landscapes. Planning for a bright economic future requires understanding the current market characteristics and forecasting how development and the community evolve in unison towards shared goals.

REFORM: SEGREGATED LAND-USE AND SINGLE-FAMILY ZONING

Zoning practices have played a pivotal role in urban planning and development, originating from the need to regulate urban growth, protect public health, and uphold property values.²⁸ Initially envisioned to minimize conflicts between land uses, zoning gradually led to the creation of single-family zones with Rothstein (2017)²⁹ highlighting their role in socioeconomic and racial segregation. This was further supported by Silver (1997)³⁰ who argued these zones were designed to maintain the status quo and prevent the perceived threats of multifamily housing and those that come with it. Research by Glaeser and Gyourko (2003)³¹ and Been (2018)³² underscored the negative implications of these practices, pointing out how they curtail housing supply, inflate housing prices, and perpetuate socioeconomic disparities. Moreover, Pendall (2000)³³ discussed the environmental consequences associated with segregated land use zoning, such as suburban

sprawl and increased carbon emissions. Despite these drawbacks, Fischel (2004)³⁴ highlighted the potential of zoning in maintaining neighborhood character and managing urban growth.

Recent scholarship suggests potential solutions to these issues. Schuetz (2018)³⁵ proposed relaxing zoning restrictions to include more diverse housing types, aiming to increase housing supply and affordability. The momentum behind zoning reform movements has been gaining traction, as demonstrated by Badger and Bui (2020),³⁶ which highlights the recognition of problems associated with single-family zoning.

In terms of the economic implications, Ganong and Shoag (2017)³⁷ and Hsieh and Moretti (2019)³⁸ explored how restrictive zoning practices contribute to income inequality and stifle economic growth by limiting labor mobility. Additionally, Mitchell, and Franco (2018) emphasized the role of zoning practices in reinforcing racial and socioeconomic segregation, suggesting comprehensive zoning reform towards promoting housing equity and inclusion.³⁹

Dong (2021)⁴⁰, Freemark (2022)⁴¹, and Talen (2021)⁴² explored alternatives and amendments to traditional zoning, such as "upzoning" and "form-based codes," finding potential in these approaches to increase housing affordability and socioeconomic diversity without detrimental impacts on neighborhood character or property values. These contemporary studies underpin the need for strategic zoning reforms to mitigate the adverse impacts on housing affordability, economic conditions, and social equity.

REPLACE: FORM-BASED CODES

Form-based codes (FBCs) have become a progressive tool in the urban planning and development sector. Unlike traditional zoning codes that focus primarily on land use, FBCs emphasize the physical form of buildings and the relationship between public and private spaces. Parolek et al. (2008)⁴³ outlines the foundational principles of FBCs, emphasizing that these codes prioritize the creation of a particular type of "place" or neighborhood character, considering factors like building design, height, and uniform street fronts, as well as the design of streets and public spaces. In the discourse surrounding FBCs, Talen (2012)⁴⁴ poses that FBCs offer a more flexible and holistic approach to urban planning and development, potentially addressing several challenges posed by conventional zoning, such as housing affordability and environmental sustainability. She suggests that, by enabling a wider variety of housing types and more compact, walkable neighborhoods, FBCs can contribute to more sustainable urban environments.

However, the implementation and effectiveness of FBCs are not without limitations. Holleran (2021)⁴⁵ notes that the shift from traditional zoning to FBCs can be met with considerable resistance from various stakeholders, including residents concerned about changes in their neighborhoods.

The effectiveness of FBCs can also vary based on local market conditions, existing built environments, and community preferences. Talen (2021) further explored these limitations, particularly the potential for FBCs to become overly prescriptive and limit creative design solutions.⁴⁶ Research examining the impacts of FBCs on communities is still in its early stages, but some studies show promising results. Tagtachian & Barefoot (2019)⁴⁷ found that FBCs have contributed to increased walkability and mixed-use development in case study communities, indicating potential benefits for health, sustainability, and economic vitality. However, they also noted that these benefits are not guaranteed and depend on careful code design and implementation. Bristol (2015)⁴⁸ researched the impacts of FBCs on affordable housing. They found some evidence that FBCs could increase housing affordability by enabling a greater diversity of housing types and densities.

CITIZEN PUSHBACK

Zoning modifications frequently encounter significant resistance due to concerns about altering neighborhood characteristics, potential density increase, and the possible decline in property values.⁴⁹ Schively (2007)⁵⁰ suggests community engagement and education as strategies to overcome these barriers, while Foss (2018) suggests framing and decentralized participation to avoid political aversion.⁵¹ However, the success of these strategies hinges on their adaptability to the distinct concerns and preferences of individual communities. Understanding and addressing the psychological drivers behind these responses, including cognitive biases like status quo bias and loss aversion, may be crucial in diminishing opposition to zoning changes.⁵² Further, early and consistent community involvement can promote understanding and consensus, effectively reducing resistance to zoning changes.⁵³ In addition, building strong coalitions with key stakeholders, housing advocates, developers, business groups, and public officials can aid in overcoming resistance to zoning changes.⁵⁴ Lastly, focusing on social or environmental benefits, which are often based on the priority of values, may be secondary concerns in some communities, although they may be viewed through the lens of economics. Deeper discussions can focus on the economic value and benefit to the pocketbooks of residents.

ECONOMIC BASIS OF OPPOSITION

- Property Values:
- Local Economic Goals
- Cost of Implementation
- Increased Tax Burden and Infrastructure

Economically, the perceived impact on property values, both increasing and decreasing, constitutes a significant concern. According to Been (2018),⁵⁵ homeowners often worry that zoning changes leading to increased density or the introduction of diverse housing types could depreciate their property values,⁵⁶ a crucial source of wealth for many. While Levine (2006) notes that concerns arise about the potential cost of implementing new zoning codes and the possibility of an increased tax burden or disruption of local economic development goals.^{57, 58}

FOCUS: PROPERTY VALUES

Property values remain a significant point of concern, with homeowners expressing apprehension that increased density and the introduction of multi-family housing might depreciate property values.⁵⁹ Despite these concerns, the empirical evidence remains inconclusive. Wegmann (2020)⁶⁰ expresses concerns about the potential for gentrification due to the elimination of single-family zoning. He suggests that unless up zoning is done in a uniform manner, developers may exploit poorer areas for high-density, market-rate housing development, which could potentially inflate property values and displace current residents, particularly those from lower-income demographics. Ahlfeldt et.al. (2018)⁶¹ highlight a social consequence, revealing that abolishing single-family zoning could potentially increase housing prices and intensify social inequality. The allowance of higher-income producing development in areas previously zoned for SFD homes could exacerbate socioeconomic segregation within communities.

FOCUS: INFRASTRUCTURE & TAXES

The prospect of escalating density, as a result of eliminating single-family zoning, raises concerns about its potential to strain existing infrastructure, which includes roads, schools, and utilities. Unmanaged increases could lead to overcrowded schools, amplified traffic, and overtaxed utilities, subsequently reducing the quality of life in the communities.⁶² Beske & Dixon (2018)⁶³ propose that if we want to make our suburban scale neighborhoods more urban and walkable, development could induce infrastructure upgrades stimulated by investments, culminating in long-term benefits. Nelson (2022)⁶⁴ suggests that a broader tax base, courtesy of denser development,⁶⁵ could finance necessary improvements in roads, schools, and utilities.⁶⁶ Moreover, Prieto et.al. (2015)⁶⁷ indicate that infrastructure becomes less expensive as density increases. They warn, however, that there is an upper threshold to these efficiencies.

Introducing a climate change perspective to the discussion, Wegmann (2020)⁶⁸ analyze how the termination of single-family zoning could impact infrastructure. He contends that denser development might contribute to more climate-resilient communities by decreasing per capita energy use, vehicle miles traveled, and fostering investment in climate adaptative infrastructure.

ENVIRONMENTAL BASIS OF OPPOSITION

- Pollution / Emissions / Air Quality
- Increased Noise
- Loss of Open or Green Space
- Loss of Tree Cover

From an environmental perspective, while increased density may lead to more efficient resource utilization and reduced carbon emissions, residents might fear that denser development could result in the loss of private backyard green spaces or local parks.⁶⁹ McDonald et al., (2023) found that while denser development patterns can potentially enhance sustainability, residents often express apprehensions about the possible loss of public green spaces and tree cover in their neighborhoods.⁷⁰ Such areas often serve as key community gathering spots and contribute significantly to neighborhood character and aesthetic appeal. Moreover, residents' environmental concerns are not confined to the loss of green spaces. While vehicle miles traveled (VMT) decreases with density, congestion increases and noise as well.⁷¹ Duranton & Puga (2020) and Tagtachian & Barefoot (2019) found that, although fewer emissions are emitted as density increases, exposure to particulates increases due to increased concentration.^{72,73}

FOCUS: CITIZEN HOUSING AND TRANSPORTATION OPTIONS

Increased density, catering to the diverse housing and transportation needs of a community, promotes walkability, and reduces car dependency.^{74,75} Bibri (2020)⁷⁶ expands on this and argues that compact cities are "efficient for more sustainable modes of transport." This aligns with an increasing trend among cities whose goals are encouraging "mixed-use developments along transit corridors; improving walkability; enhancing the quality of the public realm; and promoting a variety of housing types, especially affordable housing."⁷⁷ Reductions in transportation costs due to compact development can ease the combined housing and transportation burdens of residents.

SOCIAL BASIS OF OPPOSITION

- Changing Community Character
- Loss of Neighborhood Identity / Cohesion
- Increasing Density and Congestion
- Concerns of Displacement or Gentrification
- Fear of the Unknown

Social apprehensions stemming from zoning changes relate largely to neighborhood character, community cohesion, and neighborhood identity.^{78, 79} The alteration to existing zoning or

a shift to FBCs generally entails greater density and a broader array of housing types, which can spark fears of altering neighborhood character.^{80,81} As studies by Cheshire, Hilber, & Koster (2018) indicate, even well-meaning policy alterations may lead to unintended consequences.⁸² While zoning reforms aim to improve housing affordability by boosting supply, they might inadvertently instigate displacement unless coupled with other protections for existing residents. Such risks are especially elevated in neighborhoods already undergoing economic and demographic shifts. Displacement can occur if new development places upward pressure on existing housing prices, although these largely hinge on the local housing market.^{83,84} Research has found that proposed zoning changes often sparked apprehensions about increased noise, traffic congestion, and overcrowding, primarily when such changes were perceived as advocating for greater density.⁸⁵ These factors straddle environmental and social concerns. The fear of losing the neighborhood's unique character and tranquility, are critical attributes that contribute to residents' sense of belonging and well-being.

FOCUS: NEIGHBORHOOD CHARACTER AND INSTABILITY

Single-family zoning has been a traditional tool to maintain the character of low-density, suburban neighborhoods.⁸⁶ Reform of zoning could result in increased density, leading to physical and social changes within communities.⁸⁷ More recent research explores the possible implications of eliminating SFD zoning and its impact on neighborhood character.⁸⁸ They assert that this escalated density could lead to changes in neighborhood dynamics and may result in higher demands on infrastructure, resources, and services.⁸⁹ A parallel concern stems from the work of An et al., (2022), who suggest that the elimination of single-family zoning might ignite gentrification.⁹⁰ As developers could focus on these areas for higher-density, market-rate housing development, property values may surge, potentially displacing existing residents, particularly those from lower-income backgrounds. From a landscape perspective, increased density following the removal of single-family zoning might contribute to the loss of abundant tree cover, which is a form of neighborhood identity in many neighborhoods.⁹¹

PROCESS BASIS OF OPPOSITION

- Failure to Address Concerns
- Increased Transparency
- Public Engagement
- Communication of Benefits and Implications of Zoning Change
- Distrust in Changing Regulations / Politicians / Top-Down Implementation

The process of altering zoning codes, or the transition from conventional use-based zoning to Form-Based Codes (FBCs), can raise concerns among residents based on the level of community involvement and the perception of whether their concerns are being adequately addressed. Recent research substantiates these sentiments. Evangelopoulos. & Nuworsoo (2016) explored the process of FBC implementation, noting that citizens frequently express a desire for increased transparency and robust public engagement⁹². They underscored the necessity of unambiguous communication about the benefits and implications of zoning changes in mitigating potential resistance. In a similar vein, Carmona et al. (2022) found that residents often perceive zoning changes as top-down decisions made without adequate public involvement.⁹³ They stressed that to ease these concerns, it is vital for policymakers to make concerted efforts to include local voices in the planning process. Moreover, change can be attributed to satisfaction with the status quo. A study by Knaap et al. (2001) illustrated that even when residents understand the potential long-term benefits of zoning changes, immediate fears of disruption and loss can often eclipse these potential advantages⁹⁴.

GOALS FOR CHANGE

Based on the concerns of residents:

- Housing Affordability
 - Increase Housing Supply and Affordability
- Property Value
 - Maintain Stable Property Values
- Infrastructure and Taxes
 - Develop Efficient Infrastructure
 - Revise Property Tax
- Citizen Housing and Transportation Options
 - Sustainable Transportation Mode Choice
 - Refocus Income from Transportation to Housing
- Neighborhood Character and Instability
 - Preserve Character & Avoid Displacement

ECONOMIC RESILIENCY AND GROWTH

The goal of all cities, the reason we congregate to begin with, is economic growth. The influence of zoning practices on economic resilience and development viability presents a complex

dynamic. Glaeser and Gyourko (2003)⁹⁵ argue that restrictive zoning practices, such as limitations on housing density and permissible uses, can stifle economic growth by artificially constraining the availability of housing and commercial space. This constraint can lead to inflated property prices and rents, presenting barriers to business expansion and affordable housing. In a similar vein, zoning can impact the adaptability of cities to economic changes. Ganong & Shoag (2017)⁹⁶ argue that stringent zoning practices can limit economic mobility and intensify income inequality, as it restricts the movement of people to economically thriving areas.

The relationship between zoning and development viability isn't solely determined by zoning regulations, but also by other factors such as local real estate market conditions, infrastructure, and community preferences. Schuetz, Meltzer, and Been (2011)⁹⁷ note that less restrictive zoning does not automatically translate into viable development if market demand is weak, infrastructure is inadequate, or if there's strong community opposition. Recent research has delved deeper into these issues. Duranton & Puga (2020),⁹⁸ and Ahlfeldt & Pietrostefani (2017)⁹⁹ found that zoning practices limiting building heights and densities can deter economic growth by creating market entry barriers, discouraging innovation, and limiting job opportunities. Additionally, Wolf (2021)¹⁰⁰ suggest that less restrictive zoning, like mixed-use zoning, can enhance economic resilience by fostering a more diversified local economy and promoting efficient land use. Rahmat & Zainudin (2023)¹⁰¹ highlight the necessity of aligning zoning regulations with market realities, stating that a disconnect can hinder development and economic growth.

In the decades since Alonso (1964),¹⁰² Mills (1967),¹⁰³ Muth (1969),¹⁰⁴ and Sveikauskas (1975),¹⁰⁵ a majority of the papers (69 percent)¹⁰⁶ find positive effects associated with compact urban form. Research on the economies and diseconomies of density, have been reviewed carefully and the quantification of magnitude of elasticity for the benefits of productivity with respect to density have enjoyed broad consensus.^{107,108,109,110} Ahlfeldt and Pietrostefani (2019)¹¹¹ have shown that compact urban development has been praised for numerous economic benefits, such as increases in productivity, innovation, and access to jobs. Alterations to zoning, allowing higher density, or residential above commercial can stimulate local economies and create more vibrant, attractive places. FBCs, by promoting flexible and adaptable land uses, can attract a wide range of businesses and industries, facilitating job creation and economic growth.¹¹² Whether alterations to current zoning regulations to allow higher densities, or a shift to FBCs, there is ample evidence that increased density, to a point, is beneficial economically, environmentally, and socially. It has the potential to reduce housing costs, lower the entry to homeownership, help balance municipal budgets, and promote economic development.

RESEARCH QUESTION

What is the development potential to increase the supply of housing through internal densification rather than expansion for markets that reform land use policies to address housing affordability?

METHODS

The methodology for this study includes an in-depth assessment of proposed land use policies from a development financial feasibility standpoint by testing prototypes under current market conditions. The mode of inquiry is quantitative. It is quasi-experimental in that it identifies the potential impact of code reform on feasibility, but the testing is not randomized, and deliberately based on realistic development scenarios. The unit of analysis is incremental development of housing across markets for multiple case cities.

The static pro forma financial feasibility framework, a well-accepted methodology,¹¹³ serves as the foundation for this analysis to assess the viability of owners, tenants, and units across various market alternatives. This approach compares the lending eligibility of potential owner/developers, affordability for residents at varied income levels, and revenue at project stabilization—the point at which lease-up is complete—with the aggregate costs of project development. In constructing the pro formas, a series of assumptions were formulated, including development costs that reflect standardized, location-adjusted construction expenses, typical project soft costs, conventional operating expenses, and anticipated return on investment. These assumptions are grounded in a comprehensive research process, drawing from academic literature, industry market reports, and third-party data sources for prevailing market rates. The use of this framework allows for a nuanced understanding of the economic dynamics inherent in owner-occupied incremental development projects, and how density serves to increase the spatial concentration of economic activity.

To approach this research question there are three conditions that must be understood:

CONDITION I: VECTOR & CATALYST

What is the current tack and magnitude of housing affordability, and the impetus for the sudden and rapid situational shift?

In physics, both force and acceleration are vectors, but are not interchangeable terms, as a force is what creates acceleration, when mass is factored into the equation (Newton's Second Law). To understand the vector of a problem is to understand its direction, its rate of change, and its gravity. A vector also has a magnitude, a strength of the force, velocity in a given direction, or exponential rate of change. A vector is complex. Seeking to define the vector of housing affordability involves a complex array of measurable data that provides a more comprehensive

understanding of the topic. A catalyst can induce a reaction, an outside influence that speeds up the reaction rate. Housing costs are generally on an upward trend, as inflation, costs, and incomes escalate. However, an outside influence caused this normative reaction to increase its speed, rising at a greater rate than expected. In the housing cost equation, we know that incomes are not rising alongside, but costs are.^{114,115} The cause of this imbalance should be understood if we hope to alter course.

Task 1:

Review quantitative economic and demographic data for select metropolitan areas that inform the trajectory and severity of the current housing affordability crisis and identify the catalyst that altered historical trends.

CONDITION II: DRIVERS & ENABLERS

What are the propellant forces contributing to the current issue, that can be recalibrated towards correction?

Beyond the immediate factors of condition one, normal housing cost inflation has continued to soar due to various elements that provide fuel to keep the trend in motion. The identification of these drivers is key to taking corrective measures. In nature, as in engineering, when there is an unanticipated collapse, finding the points of failure provides feedback to guide the iterative process of evolution. These points are where we can make adjustments to reinforce or relax key facets. Historical documentation of adopted regulations that enabled this shift in trajectory will give insight into potential resolutions or provide precedents for reference.

Task 2:

Verify the drivers of decreasing affordability, and the points of failure in existing policies that allows affordability to deteriorate.

CONDITION III: RECOURSE & CONSTRAINTS

What is the potential for addressing the housing affordability crisis based on the actions taken by governing bodies, and impediments to success?

Imbalances in housing costs have occurred in the past, and over the past 100 years legislation has been adopted, reformed, replaced, and rescinded. There are cities and states that have made recent attempts at increasing access to affordable housing by eliminating single-family zoning,^{116,117} and at least one, Gainesville, Florida, who elected a new slate of elected officials to reverse course.¹¹⁸

Task 3:

Identify prototypes of desired development reflecting the type and range of housing being considered. I intentionally decided not to select specific parcels within the cities to avoid results with amenity bias in land cost.

FINANCIAL VARIABLES

- **Land Costs:** Land Costs are based on comparable sales, using median land values based on market sales over the prior 12 months.
- **Hard Costs:** Hard costs consist of building construction costs and site work, based on cost estimates from Home Builders Digest Cost Guides.
- **Soft Costs:** Soft costs are derived from the proportional cost breakdown from the National Association of Homebuilders.
- **Revenues:** Rent was set to be affordable at set income levels, while covering the cost of construction, paying the mortgage and operating expenses, and producing positive cash flow. For comparison, rents for available residential units are provided for reference. This analysis assumes vacancy rates of 2 percent for all prototypes, and operating expenses of 2.5 percent annually. For unit viability, a Debt Service Coverage Ratio of 1.5 was required for viability. This represents a minimum of 25% positive monthly cash flow. Typical developer yield thresholds were specifically not used, assuming each homeowner makes final development decisions based on their individual debt-to-income ratios and household income.

PRIMARY DATA ANALYSIS

The specific methodological details of the actual pro forma and analysis, including data sources, are described in Chapter Four: Viability Analysis.

LIMITATIONS

The examination of primary data, however, is not without its constraints.

- The generalizations inherent in the assumptions, coupled with the lack of control over data quality, introduce potential biases and may result in a sample that is neither equitable nor representative of homeowners within a market.
- The framing of studies or direct quotes that provide qualitative insight may be esoteric or use dated language, potentially altering the intended meaning.
- The accuracy of results from referenced studies or third-party data sources may not be known.

Such methodological challenges are not uncommon in empirical research, where the trade-offs between data quality and practical constraints often lead to compromises in study design and execution. Examples can include budget restrictions tied to fee based data sources, or time restrictions or alignment of data gathering and release dates.

VECTOR & CATALYSTS

DIMINISHING HOUSING AFFORDABILITY

According to a report by Zillow in February 2024, a household would need to make \$106,500 to afford a typical home today, up 80 percent from the \$59,000 it required in 2020.¹¹⁹ The cost of living has been diverging from incomes for some time, but the shift in magnitude from 2020 onward has compounded housing cost burdens. The housing market has experienced volatility in recent years, with home prices and rents soaring across the nation due to pandemic-driven demand, constrained supply, and increased interest rates stemming from the Federal Reserve's (Fed) efforts to control inflation.¹²⁰

The invisible hand is forcing a discussion on housing affordability as fear of growing negative repercussions have elevated zoning reform to a prominent position on political agendas at all levels of government.¹²¹ In an election year, voters are whipped into a frenzy by a number of topics, many with no direct connection to their daily lives, but housing affordability is likely the number one kitchen table economic concern across the nation.¹²² Much of the research on housing affordability compares median household incomes and median priced homes,¹²³ or explores the impacts of housing affordability on low-income residents,^{124,125,126} evictions,¹²⁷ social support programs,¹²⁸ or impacts on quality of life.¹²⁹ Median household incomes often reflect dual-income households, which can be further skewed by masses of historically atypical salaries at many start-ups and tech firms. This does not reflect the lives of many of the essential workers that keep our cities running, that keep us safe: Nurses, Public School Teachers, Firefighters, and Police, to name a few. During contingency events, most of us retire to our homes and wait-it-out, but these essential workers are asked to function at a higher level. Their incomes are somewhat uniform across markets, while housing costs are not, and as a result, essential workers face disparities in housing cost burdens (Figure 1). For higher cost cities, this relegates them to long commutes and pushes them further from the neighborhoods they serve.

Cities have also priced out segments of the population, like recent college graduates and retired elderly, who lack the income to support themselves in the face of such elevated housing costs. And, we cannot omit those that build homes, like carpenters, as without their effort, the cost of housing will continue to escalate. The average income of these residents are in-line with essential workers. Cumulatively, they are not the primary drivers of GDP in a city, but one could argue that they constitute a group of essential residents for an economically healthy and resilient society. For statistical purposes in this research, I will refer to the essential resident average income (ERAi) as a measure against housing affordability rather than rely solely on the standard median

household income. This averages the median incomes for each segment of the population (Nurses, Public School Teachers, Firefighters, Police Officers, Carpenters, Recent Graduates, and Retirees).¹³⁰

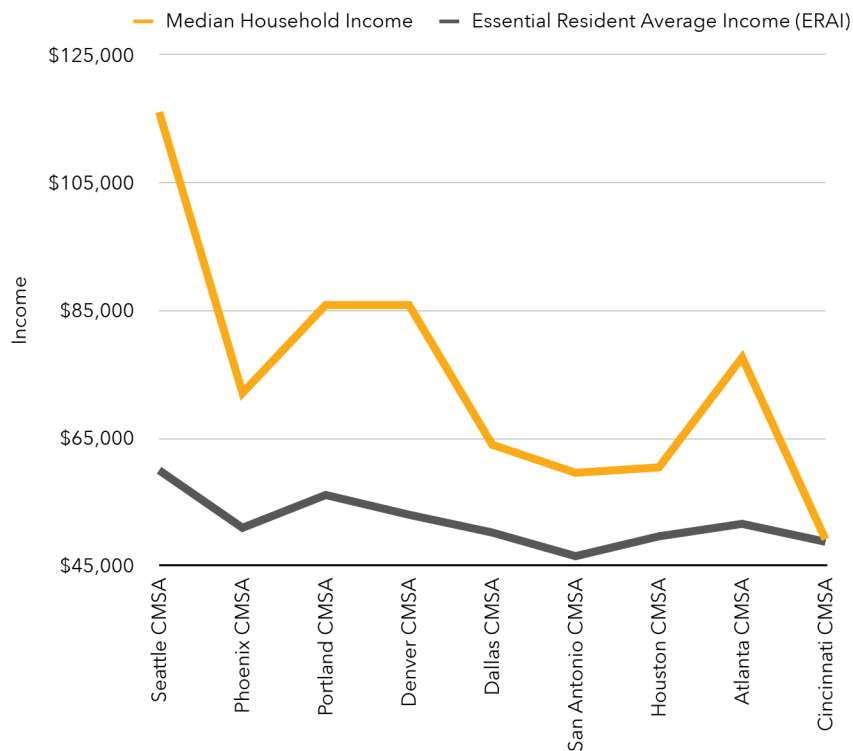


FIGURE 1: COMPARISON OF MEDIAN INCOME AND ERAI

Reference Metropolitan (Metro) Areas

The University of Pennsylvania's Wharton Regulatory Land Use Restrictiveness Index (WRLURI), is an index of 11 regulatory factors combined into a single score (2008, 2021).^{131,132}

1. The degree of local stakeholder engagement in residential land use regulation
2. The extent of state government intervention in local development matters
3. The involvement of state courts in adjudicating local development disputes
4. The number of entities required for residential rezoning approval
5. The nature and quantity of non-zoning approval prerequisites
6. The frequency and type of discretionary approval
7. The imposition of zoning or building permit limitations
8. The existence of a minimum 1-acre residential lot size designation
9. The requirement of open space allocation
10. The presence of residential exaction or infrastructure mandates
11. The duration of the residential approval process

Gyourko et al. first released the WRLURI in 2008, with an update in 2021.¹³³ I selected a list of consolidated metropolitan statistical areas (CMSAs) that were represented in both publications, as opposed to the full datasets for each study. Their description of the WRLURI is as follows.

This aggregate measure is comprised of 11 sub-indexes that summarize information on the different aspects of the regulatory environment. Nine pertain to local characteristics, while two reflect state court and state legislative/executive branch behavior. Each index is designed so that a low value indicates a less restrictive or more laissez faire approach to regulating the local housing market. Factor analysis is used to create the aggregate index, which then is standardized so that the sample mean is zero and the standard deviation equals one.

The WRLURI represents the effect regulations have on housing prices. Gyourko et al. separate WRLURI values into three ranges, Lightly Regulated: ≤ -0.64 , Average Regulation (AR): -0.64 to 0.63 , and Highly Regulated (HR): ≥ 0.64 . I will use a similar demarkation between Highly Regulated and Average Regulation, but rounding to the nearest tenth. As none of the select cities scored below the lowest threshold to earn the Lightly Regulated designation, I will differentiate those CMSAs with average regulation by separating markets with a negative score to those with a positive score. The CMSAs chosen for each study were not identical, although there was some overlap, therefore not all CMSAs will be used. General statistics will use the 19 CMSAs in Table 1, and be referred to as the Full Set. There are six Highly Regulated (≥ 0.6), six Average Regulation above zero (0.1 to 0.59), and six Average Regulation CMSAs with negative WRLURI values (≤ 0.0). I included San Francisco as the most restrictive CMSA for top line reference. The following CMSAs are listed in descending WRLURI value:

WRLURI2018	CMSA
1.2	San Francisco Metro
0.9	Providence Metro
0.7	Los Angeles Metro
0.7	San Bernardino Metro
0.7	Seattle Metro
0.6	Phoenix Metro
0.6	Portland Metro
0.5	Philadelphia Metro
0.4	Denver Metro
0.2	Milwaukee Metro
0.2	Dallas Metro
0.1	San Antonio Metro
0.0	Houston Metro

-0.1	Pittsburgh Metro
-0.1	Minneapolis Metro
-0.1	Atlanta Metro
-0.3	Cleveland Metro
-0.4	Cincinnati Metro
-0.5	St. Louis Metro

TABLE 1: FULL SET

Statistics that are more specific to the characteristics of the metro areas or city used a more restricted set to provide more comparable references. The criteria for selection was that: the metro population in 1950 was more than 200,000 and fewer than 1 million, and the current metro population is greater than 2 million.¹³⁴ This ensured that the metro matured in the auto-centric golden era of suburbanization. This resulted in the nine CMSAs in Table 2. There are three Highly Regulated (≥ 0.6), three Average Regulation above zero (0.1 to 0.59), and three Average Regulation CMSAs with negative WRLURI values (≤ 0.0) (Figure 2).

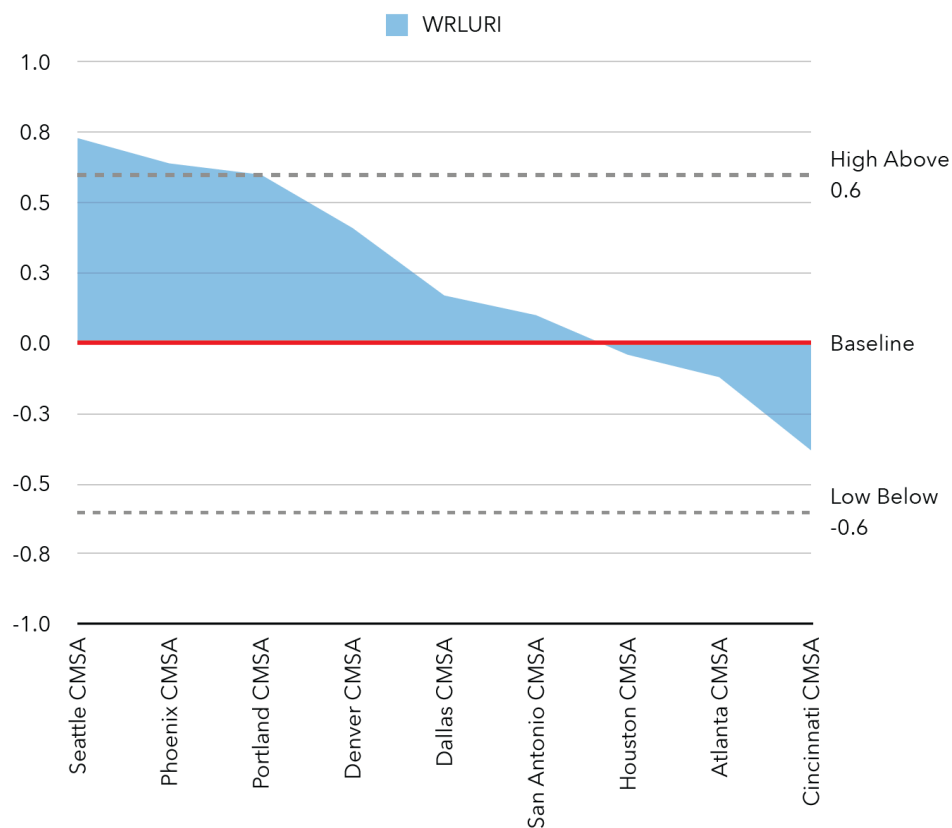


FIGURE 2: RESTRICTIVENESS OF REGULATION FOR CASE CITIES

This set of CMSAs will be referred to as the Case Markets. The standard deviation (SD) for the ERAI over the nine case cities is \$3,000 per year, or 5 percent, while the SD for median home values is more than \$200,000 or 47 percent. An entry level home, defined as the FHA 80th percentile price in a metro, had a standard deviation of \$98,000 between the Case Markets.

WRLURI2018	CMSA
0.7	Seattle Metro
0.6	Phoenix Metro
0.6	Portland Metro
0.4	Denver Metro
0.2	Dallas Metro
0.1	San Antonio Metro
0.0	Houston Metro
-0.1	Atlanta Metro
-0.4	Cincinnati Metro

TABLE 2: CASE SET

Quantifying Affordability

The housing affordability threshold is often measured as 30 percent of gross income, and depending on the industry makeup of a city, what is affordable for the median household is simply not sufficient for these essential residents. Median priced homes are a reflection of inventory that sells in a market, provided by the National Association of Realtors (NAR), and not the full inventory of housing in a given market. As such, it is able to measure what it would cost to purchase the median home for sale, but it doesn't reflect the movement of the overall market. Restrictions to housing production affects existing homes in single family detached (SFD) neighborhoods differently than a mass of new SFD homes for sale on the periphery. Housing prices have grown dramatically in the past few years, but many homeowners have low interest mortgages and purchased their homes when prices were more moderate. If their mortgages are fixed rate loans, then their housing costs may very well be affordable. This is also important in understanding the equity an average existing homeowner has for future development. Any incremental development that increases the value of an existing home is also not reflected in median home prices. Zillow maintains a database that accounts for the updated value of all homes in a market, and is more suitable for this research.

Harvard's Joint Center for Housing Studies reports that in Q4 of 2020, 30 percent of households nationwide spent over 30 percent of their income on housing. Additionally, 14 percent of households were severely cost burdened, spending over half their income on shelter.¹³⁵ Housing supply is the primary antagonist, stemming from long-term depressed housing production and unpredictable demand.¹³⁶ When demand outruns supply, vacancies decrease, and costs increase due to the lack of available housing units. The Federal Reserve (Fed) can impact the demand side indirectly through adjustments to the interest rate, and of course there are subsidies, but neither is

of importance without available housing. Ultimately, increasing supply is the only price mitigating variable we can control directly, but the obstacles to housing production are many.

DRIVERS & ENABLERS

SUPPLY SIDE DRIVERS

This drastic shift in housing costs is glaring, but the drivers have been in motion for decades, what Jerome Powell, Fed Chair, referred to as a "perfect storm".¹³⁷ Many facets of this storm are beyond the reach of local officials and residents, such as labor availability, inflated material costs, or tight lending markets, but local land use regulations provide a powerful tool to mitigate a worsening condition and regain a balance that allows our cities to hew to a path of affordability, economic growth, and resilience to external economic shocks.

DEMAND SIDE DRIVERS

Underproduction limits supply, but the other side of the affordability coin is demand. Increasing the interest rate is intended to tamp demand, which can stabilize inflation. Borrowing becomes more expensive as the interest rate increases, leading to a decrease in real estate investments and consumer spending. This, in turn, can reduce overall demand in the economy, slowing inflation, but it can also further limit housing production. On the other hand, subsidies help to support demand by providing financial assistance to low-income individuals and families. These programs enable recipients to afford housing and other essential goods and services, thereby maintaining or even increasing demand in certain sectors of the economy. Housing subsidies, rent control, and eviction moratoriums in response to COVID, propped up demand in the face of rising interest rates, during a period of limited supply and low housing production. These measures supported housing stability during times of economic uncertainty and hardship, however, they also created a complex dynamic where the demand for housing remained relatively high. This increases competition for available units and drives up prices.

ENABLERS

If drivers are the forces propelling us in the wrong direction, enablers are those things within our control that either did not stop the adverse shift or could correct our current vector. They are variables that should be reconsidered. Market conditions are relatively predictable absent unforeseen, uncontrollable, or induced externalities, like economic bubbles, industry failures, a pandemic, natural disasters, political agendas, or legislation. Each can apply pressure on market conditions, causing market distortions of some magnitude, determining viability, availability, and therefore affordability. Most of these forces are beyond our control, the only somewhat controllable

factors at the local level leading to market distortions are political agendas and legislation, both often at the mercy of elected officials. Political agendas often lead to fleeting decisions, not fully vetting the breadth or depth of repercussions that may result. They are talking points steered by mob mentality, and may shift each political cycle. Legislation, or regulation, is meant to be more reasoned, binding in the long-term, and should be focused on resolving a specific civic need that better the societal condition. It should equally consider the potential long-term direct and indirect impacts, which is not always the case.

Zoning that segregates use is sometimes referred to as exclusionary zoning (EZ). In many jurisdictions, the majority of land that is designated residential is exclusive to SFD housing, rendering other forms of development illegal. SFD zoning is and has been the most consequential obstacle to housing production since its inception, and that was the intent. Richard Florida, a professor of urban economic theory, notes of exclusive SFD zoning:

"We've long known two things about land use regulations. One is that . . . 'exclusionary zoning' has led to racial and economic segregation. The other is that restrictive land use and building codes in cities limit housing construction, leading to increased costs, worse affordability problems, and deepened inequality in urban centers."

-Richard Florida, University of Toronto, Rotman School of Management¹³⁸

Land use regulation is amendable at the local level, and can enable or hinder housing production, but amendments should also allow the latitude to accommodate market shifts. Increases to supply through incremental development is prohibited on most residential lots. The legality of such development requires an alteration to typical land use regulations. Once legal, there are three ways regulations can hinder production: The restrictiveness of the regulation, the complexity, and the process of compliance. Unreasonably restrictive and complex regulations, or requiring a laborious and lengthy approval process, adds to the cost of housing, which can void the viability of development.¹³⁹

It is important to note that the enabling of housing production, through the streamlining of processes or simplifying regulation, does not mean it will occur, just that it can if market conditions provide viable development options. Even with land available for development, homeowners are already leveraged and may find it difficult to fund additional construction, more so with elevated interest rates. Small developers use the same lenders as homeowners, and face the same financial headwinds. To increase supply in a developmentally stagnant market, promotion, incentivisation, or stimuli may be required to induce production.

RECOURSE & CONSTRAINTS

Cities have already begun to alter existing zoning codes, on their own or by state mandate, to allow for more housing options in previously SFD neighborhoods. Theoretically, these alterations will permit affordable housing, as infill, in existing SFD neighborhoods. In addition to allowing infill development, incentives and relief from some requirements are often offered for units that are affordable according to guidelines based on the area median income (AMI). It is unknown whether the changes made will have a meaningful impact on housing affordability and induce development in existing neighborhoods. Minneapolis, through their own initiative, was the first major city to allow multiple units in previously exclusive SFD neighborhoods. In the view of their city council, this incremental development signifies a return to how their city originally developed.¹⁴⁰ Recently, state governments have mandated that their cities loosen unitary restrictions to increase supply and housing affordability through this same incremental development. California, Oregon, and Washington have used preemption powers to mandate change and lift exclusive SFD restrictions. However, other states use their preemption powers to restrict land use changes that increase density and affordable housing.

VIABILITY ANALYSIS

This research will focus on the regulatory conditions that are barriers to housing production, recent actions to relax those policies, and whether these amendments have the potential to address housing affordability. The purposeful alteration of regulations to allow incremental development of various typologies of infill housing is implemented to address the overarching goal of increasing the number and diversity of housing units available for rent in a given market, adding to supply and applying downward pressure to housing cost escalation. An initial step in development, of any size, is determining the viability of the project, and this financial analysis is calculated using a pro forma.

PRO FORMA ANALYSIS

Pro forma analysis is a common methodology used in real estate decision-making to test the viability of developments and investments. It is a financial model that projects the potential costs and revenues of developments under various scenarios. These scenarios are meant to test the viability of a project by altering parameters and variables in the model that affect costs and revenues, including zoning regulations, land costs, construction costs, expected rents or sales prices, and market demand.

- **Identification of Parameters and Variables:** Identify the parameters and variables that affect costs and revenues, including zoning regulations, land costs, construction costs,

expected rents or sales prices, and market demand. These will be incorporated into the pro forma analysis. Consider how different zoning codes (e.g., Reformed segregated land use zoning or form-based codes) could impact these variables. For zoning codes' impact on development costs and revenues, consider Clapp and Lindenthal (2022), who discuss how zoning affects land and property values.¹⁴¹ Similarly, Schuetz, Meltzer, and Been (2021) explore how zoning regulations impact housing prices and construction.¹⁴²

- **Data Collection:** Hsieh and Moretti (2019) provide a useful reference point for data collection methodologies, especially when investigating the impacts of zoning regulations on real estate and labor markets.¹⁴³
- **Pro Forma Construction:** On the topic of constructing pro forma financials, see Chung (2018).¹⁴⁴ He outlines a methodological approach to real estate development pro forma construction.
- **Scenario Analysis:** Huguen and Read (2017) provide insights on how to perform scenario analysis in the context of real estate investment and development, highlighting the importance of accounting for regulatory scenarios such as changes in zoning codes.¹⁴⁵
- **Sensitivity Analysis:** Patton et al., (2015) discusses ways to manage uncertainty in property investment decision-making through sensitivity analysis.¹⁴⁶
- **Interpretation and Reporting:** Finally, for interpretation and reporting, the work of Ahlfeldt and Pietrostefani (2017) is insightful, concerning best practices for interpreting and reporting findings from complex housing market analyses.¹⁴⁷

These references aid in understanding the various steps involved in the pro forma analysis of real estate projects in the context of zoning regulations. A Return of Investment (ROI) is calculated for the overall project as well as in a monthly cash flow schedule. Some projects may be viable overall, but cash flow may not be positive initially, and the developer's finances would dictate viability. There are often multiple design ideas for a property that are tested with the pro forma, each option will return a unique ROI and cash flow schedule to compare. Flexibility in the regulations allow developers and homeowners the ability to get creative in varied combinations of unit size and rents, to maximize the chance of viability.

Incentives

Cities can also incentivize development, further aiding in project viability and spurring production. However, some cities only offer incentives for pricing the unit to be affordable to a certain income range. This trade-off may or may not increase ROI of the project, and therefore viability. Cities must understand their market and test viability and incentives towards the goal of increasing supply, if that truly is their intent. According to economist Thomas Piketty, economic growth is equal to population growth plus growth in per capita GDP.¹⁴⁸ By this definition, economic growth will require a growing supply of housing to accommodate a growing population, else housing affordability will be impacted.

Increasing housing production will require densification, expansion, and the application of complementary policies that don't just allow for development, but promote it. There is a pressing need for diverse and affordable housing options that cater to those whose incomes are similar to our essential residents. In addition to increasing supply overall, and specifically affordable housing, this incremental development helps residents accrue wealth through the ownership of rental property or reducing the need to own an automobile, it helps to restore municipal solvency by limiting infrastructure investment and maintenance costs, and it can help to stabilize the local housing market and avoid resulting housing insecurity. Simplified regulations and processes, specifically for middle housing, along with incentives and information centers can help provide more housing options in the immediate future and improve affordability for residents over time.

CHAPTER ONE: Vector & Catalysts

VECTOR & CATALYSTS

CURRENT TACK AND MAGNITUDE OF THE HOUSING AFFORDABILITY CRISIS, AND CAUSES FOR THE RECENT SHIFT

In 1985, when most baby boomers turned 30, the median sale price of a single-family home was \$82,800. Today, millennials find their purchasing power significantly diminished. The average 30 year old in 2022 faced a typical home price of \$442,600, and a 67 percent higher price-to-income (PI) ratio.¹⁴⁹ This figure far surpasses inflation since 1985. Between April of 2020 and October 2021, growth in home prices was more than seven times higher than the Consumer Price Index (CPI) (Figure 3). The CPI measures inflation by tracking the price of goods and services over time, relative to incomes. Cash injections by both the Trump and Biden administrations, low interest rates, and tax breaks signed during the Trump administration, stoked inflation and fueled demand, demand that builders were unable to meet. This was unanticipated, markets changed overnight, and there was a need to react by ramping up production. The housing market's rapid appreciation has led to a significant affordability crisis, particularly for first-time homebuyers. With mortgage rates climbing and home prices remaining high, many potential buyers are being priced out of the market. This situation is exacerbating wealth inequality, as homeownership remains a primary means of building capital in the United States.¹⁵⁰

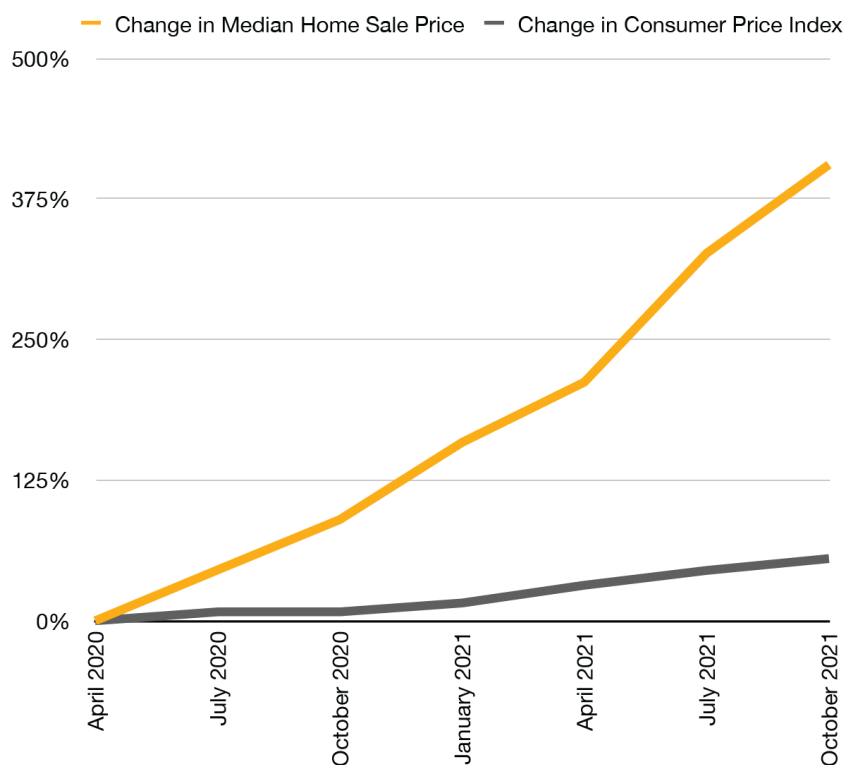


FIGURE 3: HOME PRICES & INFLATION APRIL 2020-OCTOBER 2021

The Federal Reserve's monetary policy plays a pivotal role in shaping the economic environment for housing development. The Fed has raised interest rates to help slow inflation, but it also has the potential to dampen economic growth and increase borrowing costs for consumers and developers alike. Due to these rising mortgage interest rates, disrupted material supply chains, high inflation, and increased housing costs, the affordability of single-family homes is at an all-time low.¹⁵¹ The Standard and Poor's (S&P) Case-Shiller Index shows a marked shift in home prices in 2020, and this was preceded by a tapering of incomes (Figure 4).^{152,153} Price increases are negating wage gains nationwide, making annual income growth less effective against rising inflation.¹⁵⁴ The Case-Shiller House Price Index, a metric for tracking single-family home values in the United States, employs a point-based methodology that compares sales of identical properties over time. This index measures quarterly fluctuations in the real market value of homes, which capture market-wide trends rather than individual property characteristics. The index normalizes house prices with a baseline value of 100 in 1890 (i.e. 100% of original value), allowing the comparison of future quarters' values relative to this initial benchmark. Values exceeding 100 indicate real appreciation and those below 100 signify depreciation. The distribution of the Case-Shiller House Price Index by Standard and Poor's in 2002 marked a shift in the reference point, replacing the original 1890 baseline with home prices from 2000.

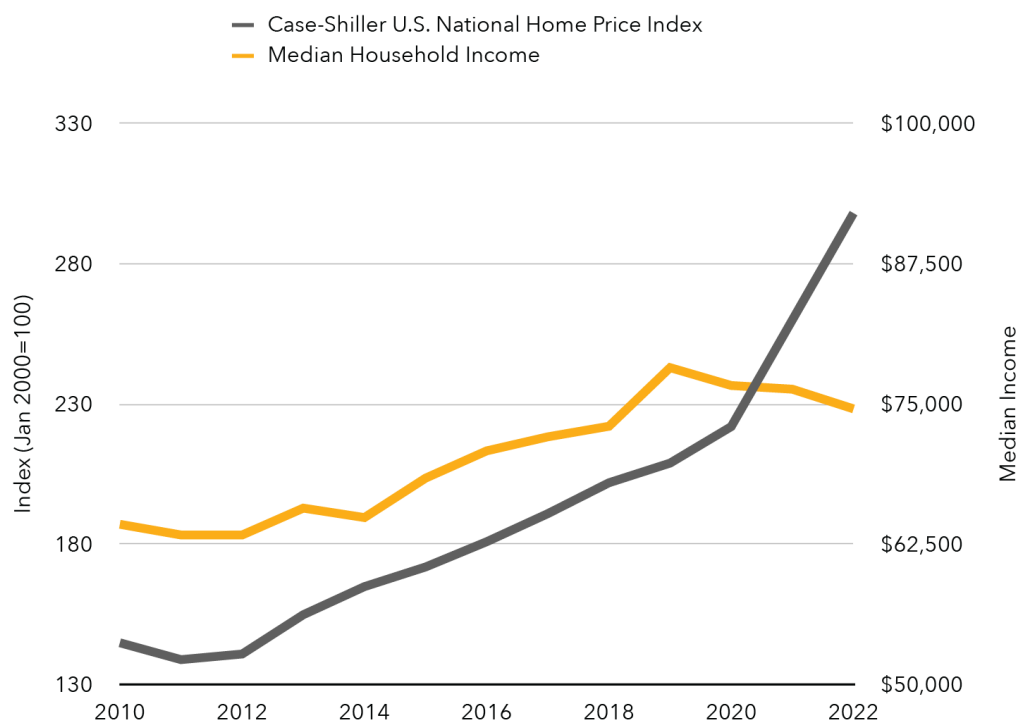


FIGURE 4: CASE-SHILLER HOME PRICE INDEX AND MEDIAN HOUSEHOLD INCOMES 2010-2022

If home prices had risen at the same rate as inflation since 1970, the median home price today would be under \$200,000, rather than over \$400,000. A median U.S. home sale price in 1970 was \$23,900, and as of Q4 2024, it was \$426,800.¹⁵⁵ The median American household's income has only slightly outpaced inflation over the last 40 years, only 17 percent since 1990, averaging 0.5 percent per year.

AFTERMATH: THE BUBBLE & GREAT RECESSION

Consumption in the 2000s was at record highs, due, in part, to the Bush tax cuts of 2001 and 2003, leading to overbuying by under qualified Americans.^{156,157} This put additional upward pressure on already rising housing prices (Figure 5), as sales surpassed production levels. Questionable loans drove the housing market, as the subprime market was based largely on low- or no downpayment mortgages for moderate-income people. The Federal Housing Authority (FHA) was displaced with the growth of the subprime market. Their market share of lending contracted from an average of 8-9 percent to just 3 percent by 2006, at the apex of the bubble.¹⁵⁸ Housing prices and vacancies have an inverse relationship, when vacancies rise, housing prices drop. Homeowner vacancy rates have stayed between 1 percent and 1.8 percent since the 1950s, but overbuilding pushed vacancies to all-time highs as more inventory piled up (Figure 6), and homes lost value, leaving many new homebuyers underwater on their mortgages. Homeowners defaulted on mortgages, banks foreclosed on their homes, adding more homes to the market, increasing the vacancy rate, and lowering home prices even further. Default rates increased, creating a self-reinforcing downward spiral until banks began to fold. In Q1 2010, the homeowner vacancy rate was 2.6 percent, and by 2023 it had fallen to 0.7 percent.¹⁵⁹ Vacancy rates dropped across the board, with rental rates dropping more than housing due to the increase in demand for rental units at the onset of the Great Recession (Figure 7).

Similar to vacancy rates, the National Association of Realtors (NAR) gathers data on housing inventory as a measure of number of months' supply. Simply, it's the number of months it would take to sell, at the current sales pace, the current inventory of homes on the market.¹⁶⁰ A six month supply indicates a healthy market, and like vacancy rates, low supply is a tight market adding upward pressure to housing prices, and high supply resists escalation. When the bubble burst, in January 2009, the U.S. had 12.2 months of inventory. Increased demand for rental units, coupled with sky high inventory signaled a need to slow SFD housing production. In the aftermath of the collapse, lenders took fewer risks, making credit difficult to source. As such, SFD sales sank further, and housing production came to a halt.

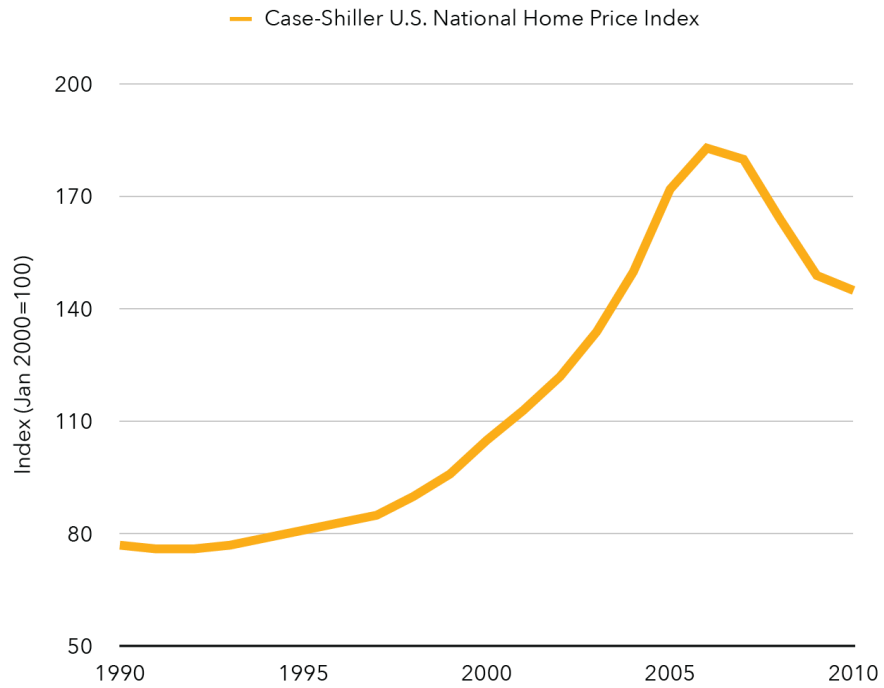


FIGURE 5: CASE-SHILLER HOME PRICE INDEX 1990-2010

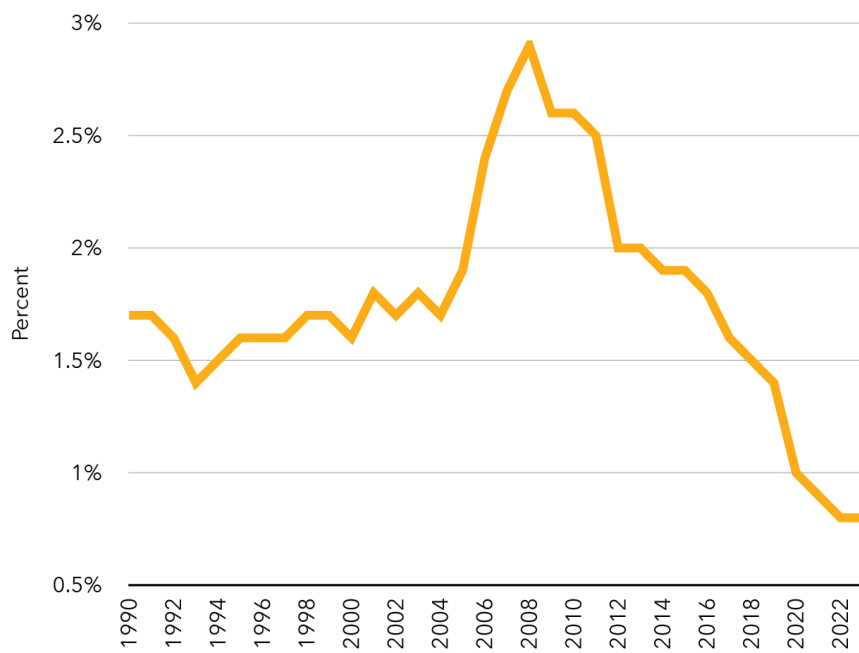


FIGURE 6: HOMEOWNER VACANCY RATE 1987-2023

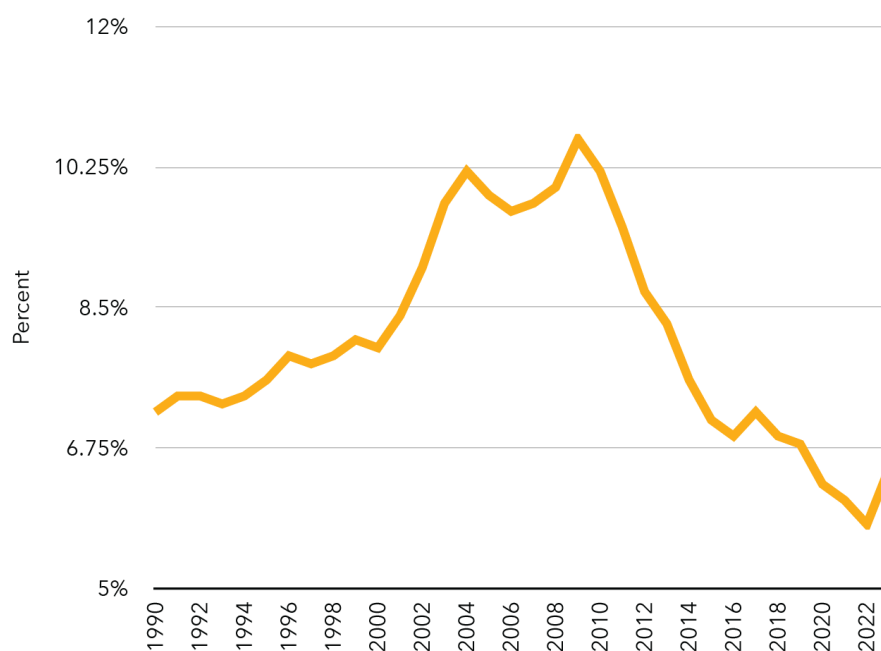


FIGURE 7: RENTAL VACANCY RATE 1987-2023

Housing construction in the 2010s lagged due to both demand-side and supply-side repercussions of the 2009 housing bust of the Great Recession. From the 1970s to early 2000s, residential construction's contribution to the national GDP averaged 4.5 percent until mid-2000s, when overproduction pushed it to 6.8 percent.¹⁶¹ Production slowed as a result, and residential fixed investments began a decent in 2006 that would not find support again until Q4 2011, at a low of 2.4 percent. The return back to historical averages was slow, reflecting the underproduction of the 2010s. If we take the average starts per million Americans, per decade for the prior 50 years, single-family starts for the 2010s were 54 percent lower, 2-4 unit building starts were 86 percent lower, and 5+ unit buildings were 44 percent lower (Figure 8). The drop in single-family home building in the 2010s stands out more when you consider population growth; average building rates per million people provides a more equitable comparison (Table 3).¹⁶² The construction of single-family homes surged in the 1970s due to demand from the Baby Boomers, and then moderated, adjusting to the population size. From 1980 to the late 2000s, production was steady at slightly over 41,000 new homes per million people. In the 2010s, the rate fell to about half of the usual pace, due to changes in both supply-side and demand-side repercussions of the Great Recession. Cities with higher rates of population increase saw supplies drop faster than others. Lagging behind GDP share, inventory figures recovered slowly through the latter half of the decade, allowing the national inventory to moderate into 2020 (Figure 9).

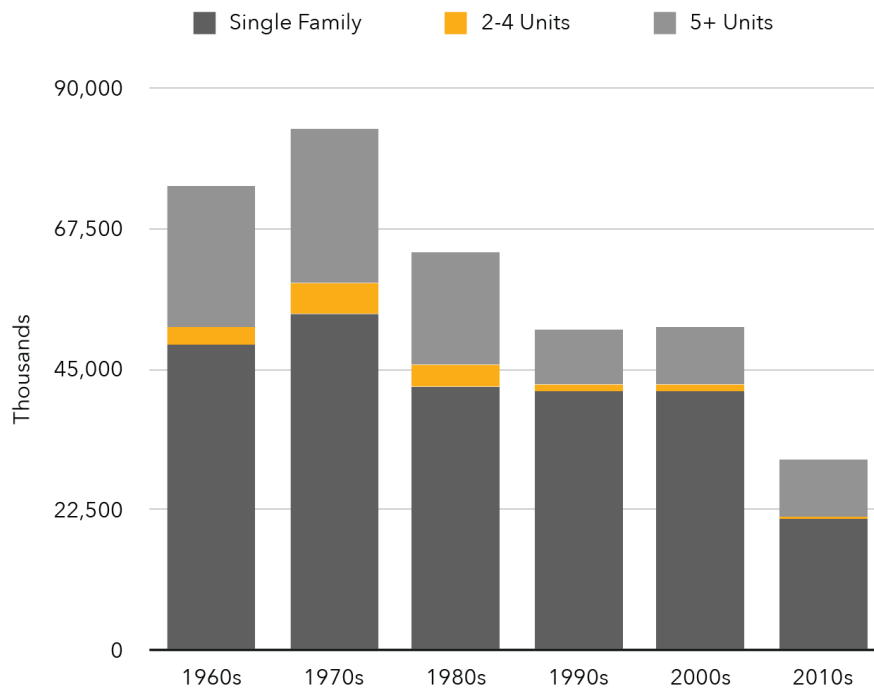


FIGURE 8: TOTAL HOUSING STARTS PER 1 MILLION PEOPLE^{163,164,165}

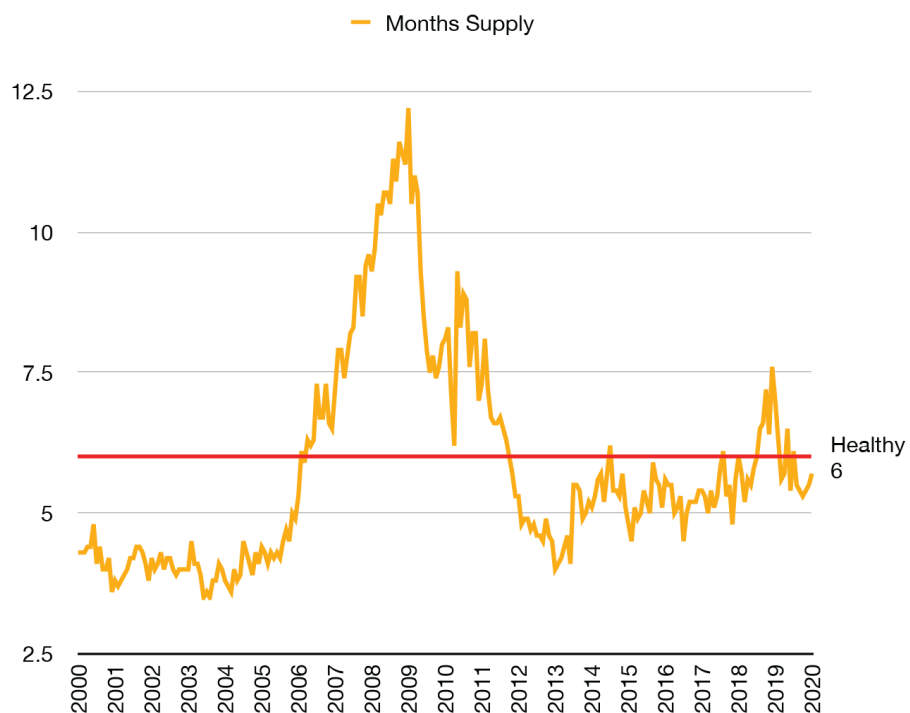


FIGURE 9: MONTHS SUPPLY OF NEW HOMES IN THE UNITED STATES 2000-2020¹⁶⁶

DECADE	TOTAL STARTS	STARTS / 1M PEOPLE
1960S	9.3 MILLION STARTS	47,997 STARTS/1M
1970S	11.4 MILLION STARTS	53,138 STARTS/1M
1980S	9.9 MILLION STARTS	41,588 STARTS/1M

1990S	11.0 MILLION STARTS	41,710 STARTS/1M
2000S	12.3 MILLION STARTS	41,671 STARTS/1M
2010S	6.8 MILLION STARTS	21,288 STARTS/1M

TABLE 3: HOUSING STARTS BY DECADE

THE ECONOMIC IMPACT OF COVID

In March 2020, the spread of the coronavirus led to activity restrictions. Suddenly, demand for SFD housing rose sharply, and supplies plummeted nationwide. In April of 2020, the supply of housing peaked at 6.7 months, and by August it hit a low of 3.3 months (Figure 10). More people working from home wanted more space, with extra bedrooms supplanting office cubicles, and were open to living further from city centers. New home sales increased from 682,000 in 2019 to 821,000 in 2020, and still, housing production was unable to keep pace with demand, despite a high rate of production.¹⁶⁷ Starts totaled 888,000 in 2019, the highest since the Great Recession, and rose to 991,000 in 2020.¹⁶⁸ While starts increased by 12 percent, sales rose by 20 percent. The COVID induced demand for SFD homes caused a churning of demand across markets, many left high cost cities, those with already low inventories or tight markets, and settled in the suburbs and exurbs of sprawling, traditionally lower cost cities such as Phoenix, AZ and Boise, ID. This migration surge further strained supply in these cities, and caused prices to skyrocket. Moody's said housing prices in Boise were 76.9 percent overvalued, and Phoenix was 57 percent overvalued.¹⁶⁹

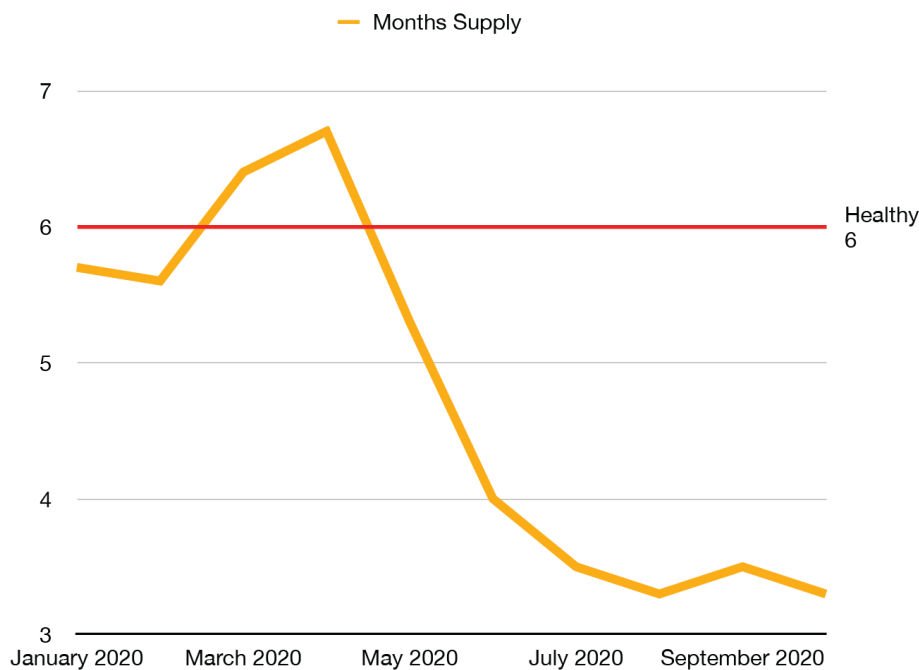


FIGURE 10: MONTHS SUPPLY OF NEW HOMES IN THE UNITED STATES 2020

The Fed is structured to be independent of politics and make decisions based on data and analysis alone, which translates into unpredictable monetary policy. Their attempt to control excessive housing costs through continued rate increases, and the added risk of uncertainty, resulted in a decline in new construction by adding to the cost of borrowing, making it more difficult for builders to secure Acquisition, Development, and Construction (AD&C) lending. This, in turn, further restricted production and added to the overall cost of housing, directly through increased development costs, and indirectly through reduced supply. Higher interest rates also limit the supply of housing for sale, as homeowners choose to retain their lower interest rate loans rather than face high interest rates on their next purchase. On the demand-side, higher interest rates increase the cost of borrowing for potential homeowners, and reduce the amount they qualify for. In this scenario, supply- and demand-side repercussions work against each other, reducing the market share for housing products.

Nationally, home prices reached an all-time high this past year, despite high interest rates, with the home price index jumping 47 percent¹⁷⁰. Cost burdens have breached the middle-income market, as a tight supply of homes, specifically affordable homes and apartments, is leading to upward pressure on housing costs. According to a report by Zillow in February 2024, a household would need to make \$106,500 to afford a typical home today, up 80 percent from the \$59,000 it required in 2020.¹⁷¹ Harvard's Joint Center for Housing Studies reports that in 2020, 30 percent of households nationwide spent over 30 percent of their income on housing. More than a quarter of homeowners age 65 and over are housing cost burdened,¹⁷² and 14 percent of households were severely burdened, spending over half their income on shelter.¹⁷³ After taxes and insurance, the monthly cost of the median-priced home is now \$3,096 for low-downpayment financing options typically sought by first-time homebuyers.¹⁷⁴ The National Association of Home Builders (NAHB)/Wells Fargo Housing Opportunity Index shows that only 38.1 percent of homes sold from October to December 2022 were affordable for families earning the median income.¹⁷⁵ Just one in seven renters hoping to make the transition to homeownership, 6.6 million of the nation's 45 million renter households, can meet that threshold.¹⁷⁶

Renters, unable to enter the housing market, are also feeling the pinch as rental prices rise in response to increased demand for lower-cost rentals. Half of the nation's renters pay more than 30 percent of their income towards housing costs, 22.4 million renter households, with rents up 26 percent since early 2020.¹⁷⁷ According to Redfin, in Q1 2023, there were only four major metropolitan areas in the U.S. where a typical home had a lower monthly mortgage cost than its estimated rent:¹⁷⁸ Detroit, Philadelphia, Cleveland, and Houston. For most, renting is the only

option. Vacancy rates for rental properties were above 11 percent in Q1 2009, but the slowdown in housing production caused supplies to drop to 5.7 percent by 2020 (Q2), well below the 9.5 percent average of prior decades. As seen in Figure 11, there is an inverse elasticity between vacancy rates and rent increases. Apartment construction continued to drop from 402,000 in 2019 to 389,000 in 2020, as delays and increased building material costs extended construction times.¹⁷⁹ In 1999, New York City was the only rent burdened metro in the U.S., meaning the median rent was more than 30 percent of median income. By Q1 2024, there were nine.¹⁸⁰

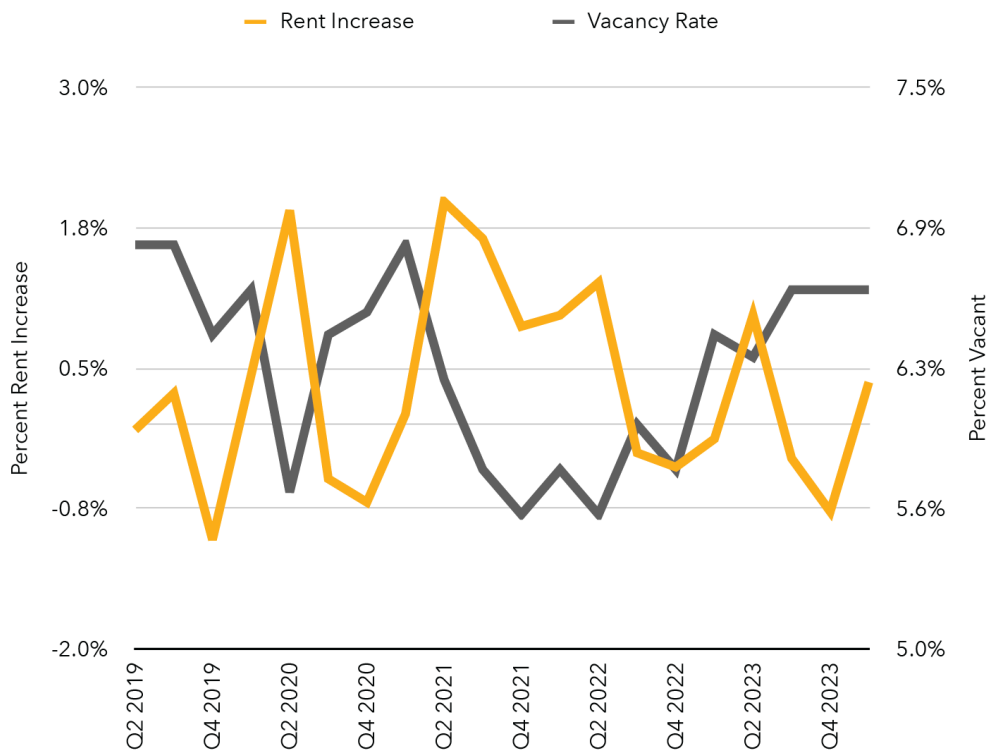


FIGURE 11: INVERSE RELATIONSHIP BETWEEN RENTAL VACANCY RATE AND RENT INCREASES 2019-2023

Like homes, incomes simply haven't kept pace with rising rents. Since 1990, rents have increased more than 100 percent while incomes have only risen 25 percent (Figure 12). Despite being employed full-time or holding multiple jobs, earnings prove insufficient for many Americans. Within the United States, nearly half of the 25 most common occupations, essential roles such as teachers, police officers, and nurses—occupations upon which society heavily relies—fail to provide sufficient compensation to afford a single-bedroom rental unit in the cities in which they are employed (Figure 13).¹⁸¹ And in most markets, the lowest-income households are unable to afford private market housing even under optimal conditions.¹⁸² While subsidies and rent control can provide short-term relief for renters and low-income households, they do not address the underlying issue of insufficient housing production. Without an increase in the construction of new housing units, the market will continue to experience imbalances that contribute to affordability

challenges. Policymakers face the difficult task of balancing immediate needs for housing assistance with long-term strategies to increase housing supply.

Not all cities fared the same, with some having more supply to meet increased demand, others, able to respond and increase production, and many had neither the supply buffer nor the responsiveness needed to ease the impact. Both the amount of supply and a city's responsiveness to economic shocks are impacted by the restrictiveness of their land use regulations. Housing prices increased in all metros, but the WRLURI value had a strong correlation to three important metrics from the Case Cities: Housing Costs, Average Supply of Housing 2013-2023, and the volatility of PI Ratios 1980-2022.

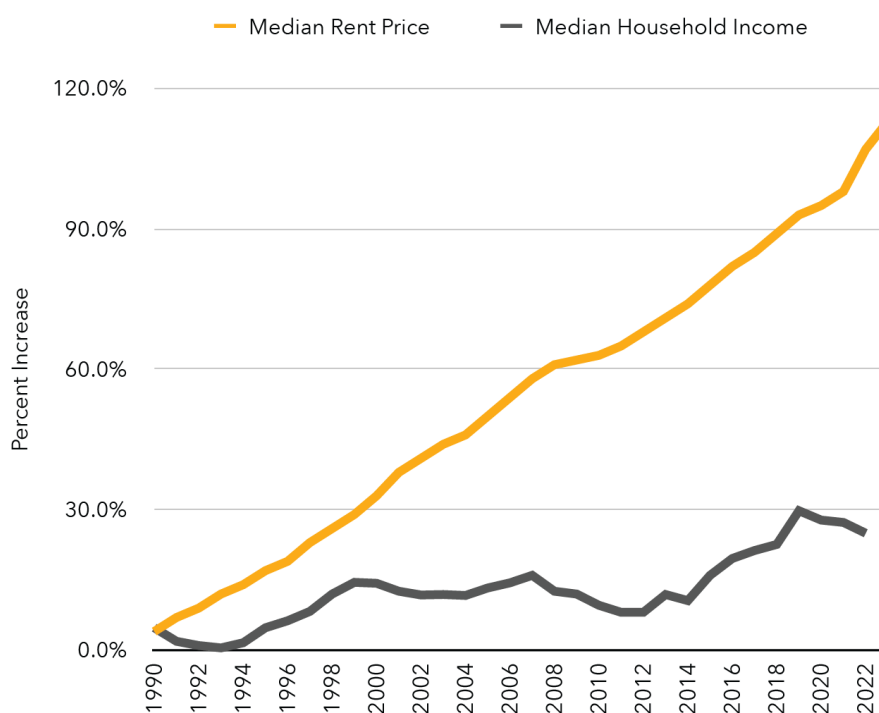


FIGURE 12: ANNUAL RENT AND INCOME INCREASED 1990-2022 (1989 = 0 PERCENT)¹⁸³

The housing costs in less restrictive markets were lower overall, and the magnitude of the increase 2013-2023 was less acute. (Figure 14: Case Cities, Correlation $r = 0.766$) Using the full set of cities, the relationship remained predictable, but the range of prices for restrictive markets had greater variation. (Figure 15: Full Set, Correlation $r = 0.798$) This is due, in part, to the average supply levels over the same time period. (Figure 16: Case Cities, Correlation $r = 0.774$) Less restrictive markets had higher levels of average supply, and lower housing prices, lower housing price volatility, and less variation in prices for localities with similar WRLURI values.

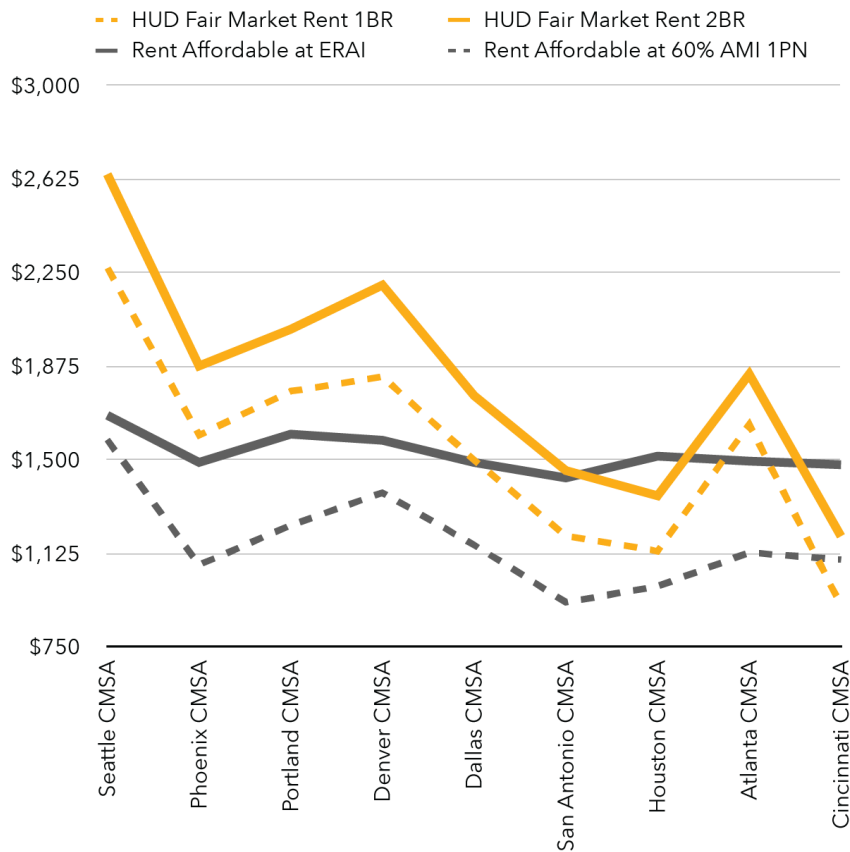


FIGURE 13: RENT AFFORDABILITY: ESSENTIAL RESIDENTS AND LOW-INCOME HOUSEHOLD

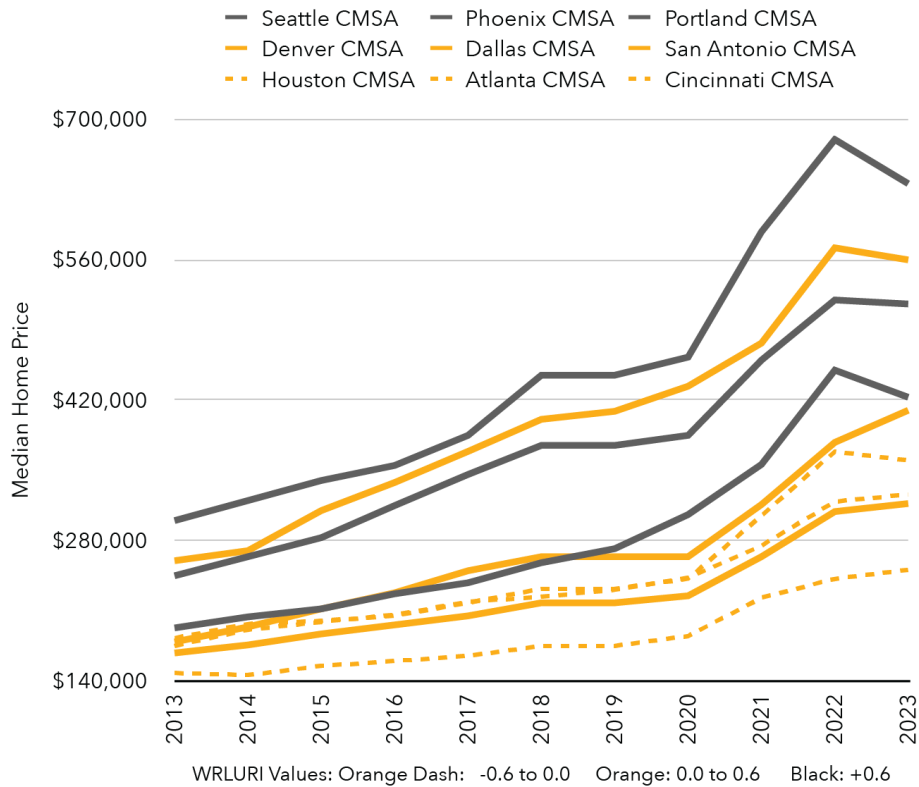


FIGURE 14: CASE CITIES: WRLURI GROUPING AND HOUSING COSTS

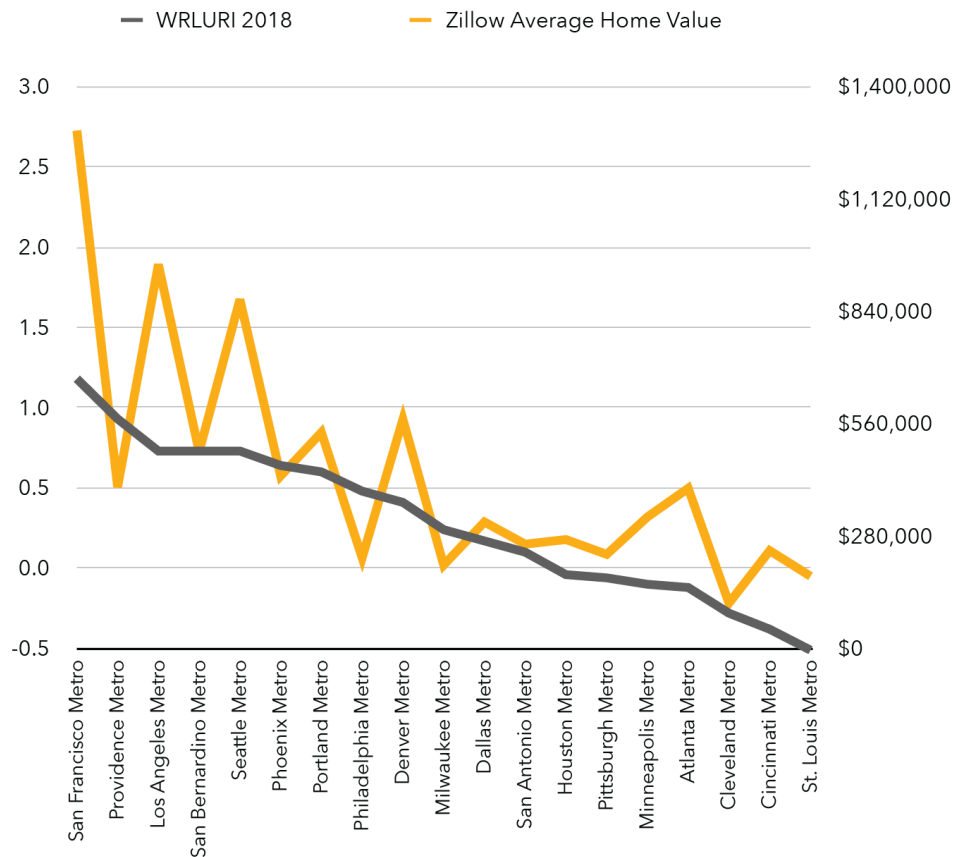


FIGURE 15: FULL SET: WRLURI VALUE AND HOME VALUE

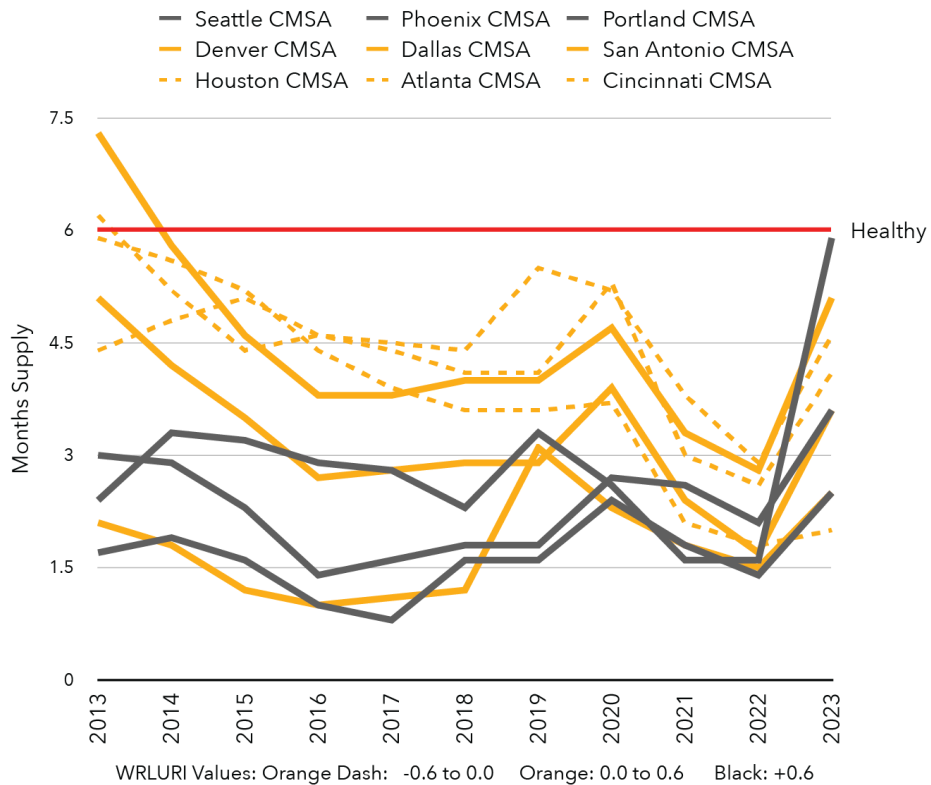


FIGURE 16: CASE CITIES: WRLURI GROUPING AND MONTHS SUPPLY 2013-2023

PI ratios are a good metric to compare housing affordability across markets and overall market stability. A PI ratio compares the price of a home to gross income, in this case, the median household (HH) income. The current PI ratio for existing homes is 4.5 nationally. However, historically, in a healthy market, the median priced home is three times the median household income, or a PI ratio of 3.0 (Figure 17). Not only are PI ratios more favorable as WRLURI level decline, but they are also less volatile over time. (Figure 18: Case Clty, Correlation $r = 0.921$)

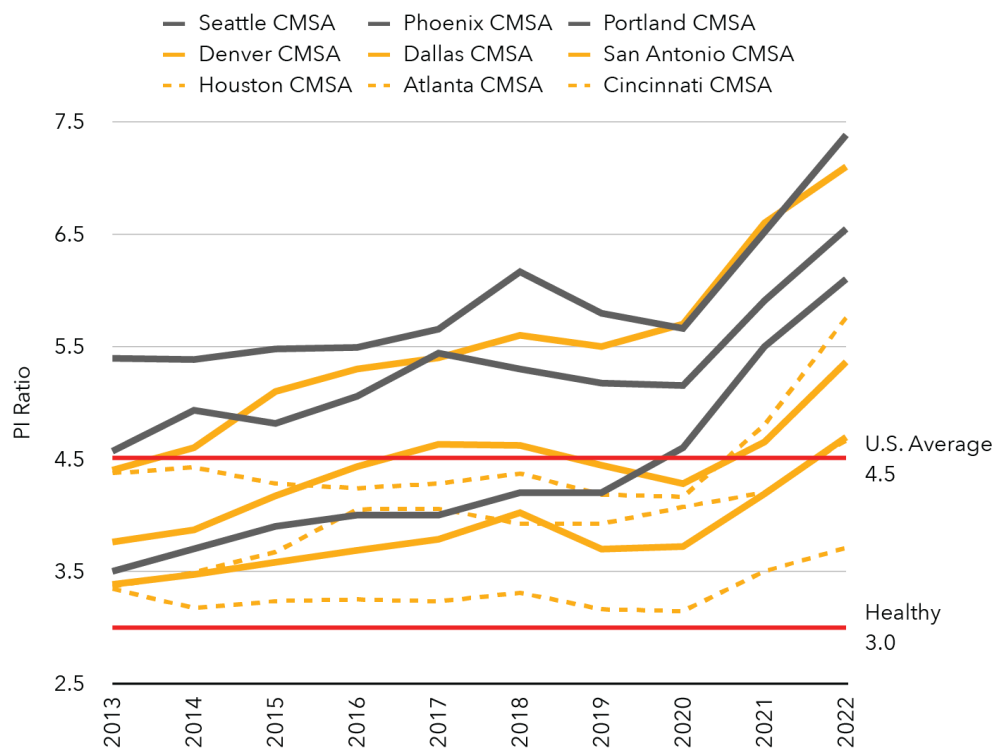


FIGURE 17: CASE CITIES: WRLURI GROUPING AND PI RATIO 2013-2022

Incomes are more steady than housing costs, so longitudinal fluctuations of the PI ratio is a measure of housing market stability over time. Meaning, not only can restrictive regulations increase the cost of housing, they accentuate the fluctuations of PI ratios due to economic shocks, increasing development and lending risks, and diminishing economic resilience. Figure 19 shows the standard deviation (SD) in 2022, alongside the historic SD (1980-2022) for each market. Again, WRLURI levels correlate with both current and historic volatility. (Figure 19: Full Set, Correlation $r = 0.798$)

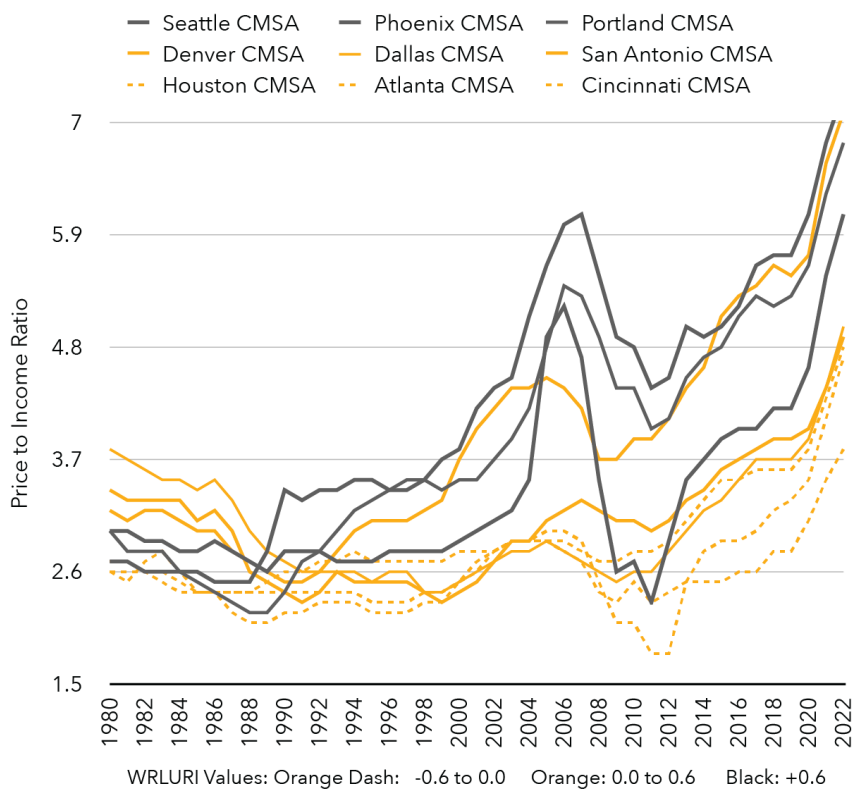


FIGURE 18: CASE CITIES: WRLURI GROUPING AND VOLITILITY OF PI RATIO 1980-2022

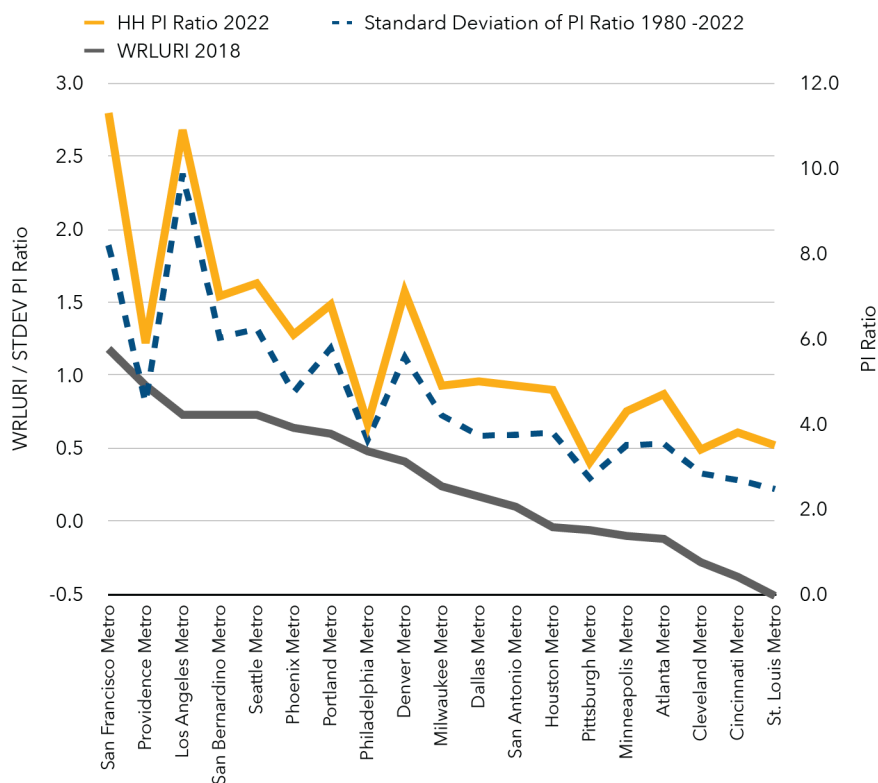


FIGURE 19: FULL SET: WRLURI VALUE AND SD OF PI RATIO 1980-2022

HOUSING & MARKET INSTABILITY

Instability occurs at two scales, market instability and housing instability. Market instability is a cause of housing instability, through shifting housing costs. When the supply of housing is low and prices are rising, with no availability of diverse housing options in SFD zoned areas, residents whose income is at or below the area median income (AMI) often move further from the urban core of the city, for less expensive units. There is a trade-off in the form of increased transportation costs as workers move further out. This cost is cash, directly through increased transit fees, or buying and maintaining a vehicle if necessary. Indirectly, it costs time. Many don't apply time to the equation, but much needed time is spent commuting rather than supporting their family's needs. When housing costs spike in high cost cities, the housing/commute trade-offs made based on normative cost assumptions are no longer valid. Moving yet further out is no longer a zero sum game. Increasing PI ratios are just indicators of increased housing costs relative to incomes. Absent rent controls, this translates into higher rents relative to incomes. For those like essential workers, with budgets that are already tight, this can mean the inability to renew leases and remain in their current housing.

This instability is also felt by our aging population, many of whom fall well below the AMI.^{184,185,186,187} They also have requirements that few housing options provide, such as grab bars and roll-in showers. If faced with escalating housing costs, their options for alternative housing that meets their needs is limited. If they are more ambulatory, but with no need for a SFD home, most cities don't allow them to reside in smaller units in the neighborhoods of their children and grandchildren, even in their own backyards. This puts the aging population at risk, and excludes them from the majority of residential areas. There is more elasticity in housing costs than incomes, leading to unplanned housing cost burdens. Restrictive regulations limit supply and directly impact the rate and magnitude of market price fluctuations leading to higher housing costs. That is, market stability is reliant on the availability of housing. A supply buffer can moderate shifts in housing costs¹⁸⁸ and mitigate housing instability.

In Figure 20, the metros are ordered from left to right based on the restrictiveness of their land use regulations, or WRLURI. The median household income is sufficient to rent an affordable one bedroom apartment in all markets, but only the Texas markets and Cincinnati are considered affordable to essential residents. The purchase of a home will prove difficult for either group, but as some markets are within 10 percent, and this is average value, homeownership is likely within reach in San Antonio, Houston, and Cincinnati.

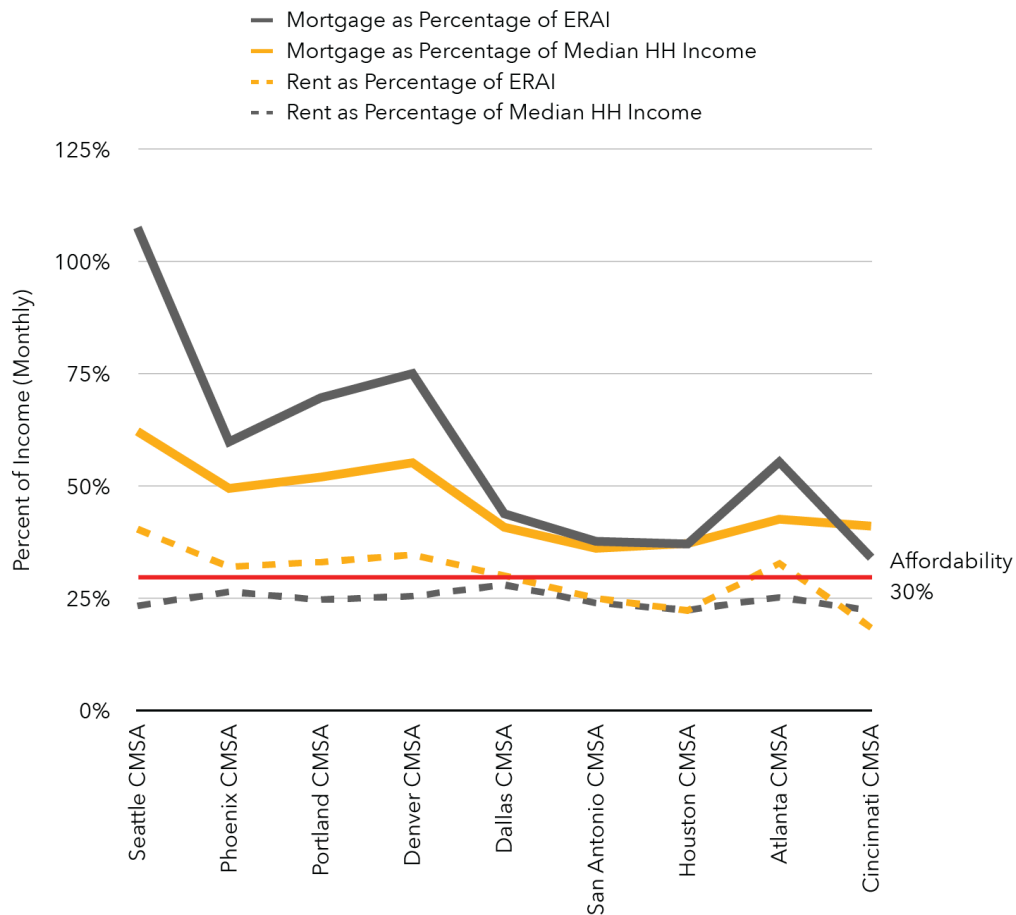


FIGURE 20: WAGE AND HOUSING COST DISPARITIES

The lower the income, the greater the potential for housing instability brought on by shifts in the market. Essential residents are particularly vulnerable, as they are often beyond the threshold for social support, while the application process and requirements for such support are not structured for contingency events.¹⁸⁹ Federal and state social support programs based on the finances of a prior year are not representative of current conditions, leaving a gap year of instability. This housing instability can lead to underspending on essentials to stave off relocation or homelessness. Housing instability can be mitigated by fostering a more stable market. Market stability is influenced by many factors, but less restrictive regulations and a buffer of housing supply can reduce the rate and magnitude of housing price variations, whether the cause is long-term and structural or a contingency event.

SUMMATION

The housing market has experienced volatility in recent years, with home prices and rents soaring across the nation due to pandemic-driven demand, constrained supply, and increased interest rates stemming from the Federal Reserve's efforts to control inflation.¹⁹⁰ In a U.S. Senate

committee session on housing, Dr. Herbert Christopher said:

The Federal Reserve's efforts to control excessive growth in housing prices and rents were necessary but unfortunately also resulted in a decline in new construction, which is ultimately needed to balance the housing market.

While COVID contributed uniquely, it only magnified ongoing housing issues. Addressing this will require a concerted effort from all levels of government and the private sector to limit constraints to housing production. Specifically, supply-side constraints, such as a contracted labor force in the building trades, growth controls and restrictive zoning codes, the lengthy approval processes, and inflated material costs. Recent NAHB research using 2021 data shows a shortage of 1.5 million homes¹⁹¹ however, using a different methodology, FreddieMac estimates the housing shortage to be 3.8 million.¹⁹²

Dr. Christopher emphasized the importance of addressing these supply-side challenges to alleviate the housing shortage and stabilize the market. He noted that innovative policy solutions and collaborations between public and private sectors are essential. Potential strategies include reforming zoning laws to allow for higher-density housing, investing in workforce development to expand the construction labor force, and streamlining the permitting process to reduce delays. Additionally, leveraging technology and modern construction techniques, such as modular and prefabricated housing, could help reduce costs and increase efficiency. Dr. Christopher also highlighted the need for targeted incentives to encourage the construction of affordable housing, ensuring that new developments meet the needs of diverse income groups. He stressed the importance of federal, state, and local governments working together to create a more resilient and equitable housing market. By addressing these challenges, the nation can move towards a more sustainable housing future that meets the needs of all its residents.

CHAPTER TWO: Drivers & Enablers

DRIVERS & ENABLERS

FORCES CONTRIBUTING TO THE CURRENT CRISIS AND POINTS OF FAILURE TO RECALIBRATE

In an inflationary period, the cost of building materials, tools, and equipment add to housing costs, but home values are influenced by a wide variety of complex factors, including population migration and changes in working conditions. For instance:

- **Demand:** With the rise of remote work in 2020 and 2021, many urban residents sought homes in less densely populated areas and suburbs, looking for space to accommodate home offices. Many left high cost cities seeking more affordable alternatives.
- **Low Cost of Debt:** In 2020, lenders reduced mortgage rates to historic lows, making homeownership more attainable and boosting demand for available homes over the subsequent two years.
- **Limited Inventory:** Many current homeowners held onto their properties, and a significant backlog of new homes emerged as home building slowed due to supply chain disruptions, intensifying competition among buyers and driving up prices. Regulatory headwinds played a double role by adding to the cost of housing directly and indirectly by limiting supply.
- **Inflation:** The increased costs of building supplies added thousands of dollars to the price of new homes in 2021.

The bubble, bust, and recession of the late 2000s was a national event that had international repercussions. The national housing deficit from depressed production and associated affordability crisis, is, in part, due to international factors, such as supply chain disruptions, or immigration policies. However, despite increasing supply nationally since 2020 (Figure 21), local markets differ considerably. There has been general upward pressure on housing across the nation, but the severity is variable and conditioned on local supply and demand. Aside from the supply constraints at the national scale, local zoning and growth regulations can further limit supply and increase the cost of housing.

It is well understood that various regulations, such as land use rules, environmental laws, impact fees, and building codes, along with government procedures for enforcing these regulations, hinder housing production, limit housing supply, and generate significant costs.¹⁹³ These regulations increase land costs, but also may require more expensive materials, more specialized labor to install them, and as overall housing costs rise, so does the living wage of a location and therefore labor costs. These higher costs either get transferred back into new housing costs, or push project costs beyond what is viable for a given market. The latter resulting in an increasing housing deficit, and both further contributing to higher costs for housing.

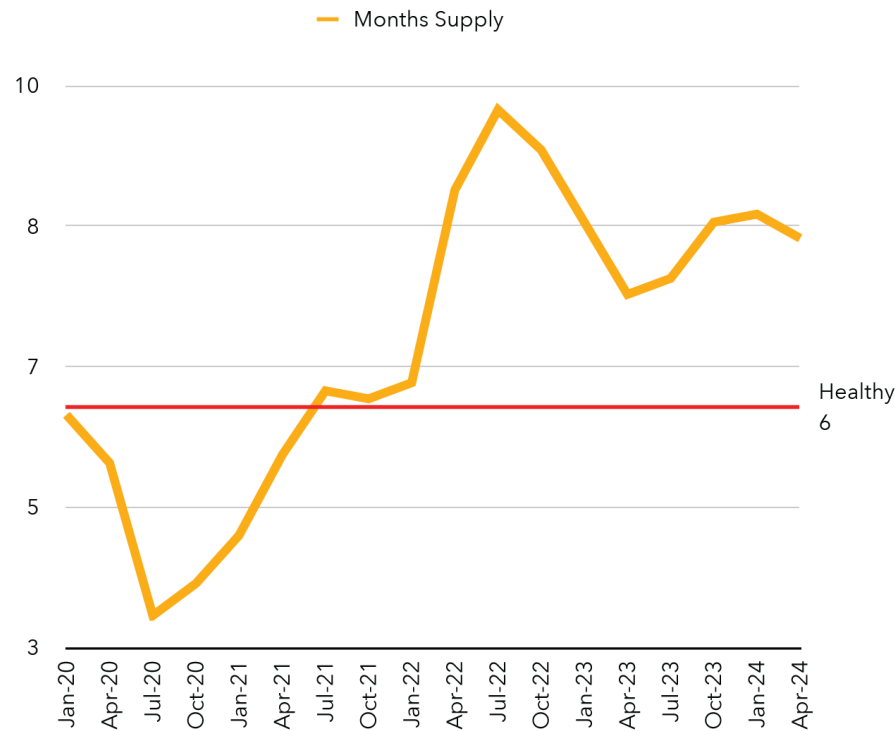


FIGURE 21: MONTHS SUPPLY OF NEW HOMES IN THE UNITED STATES 2020-2024¹⁹⁴

When housing production drops, in the face of continued demand, vacancies decrease, and affordability with it (Figure 22).¹⁹⁵ Glaeser and Gyourko (2003)¹⁹⁶, along with Obrinsky and Stein (2007)¹⁹⁷, argue that zoning practices and tools for urban growth management,¹⁹⁸ especially single-family zoning, restrict housing supply and increase prices, leading to housing affordability issues and budgetary concerns at municipal levels.¹⁹⁹ The Housing Affordability Index measures whether a typical family, while spending no more than 25 percent of their income on principal and interest payments, earns enough to qualify for a 30-year fixed mortgage on the median priced home. A value of 100 is the threshold, and assumes the resident has 20 percent of the home value in cash as downpayment for such a loan. In a typical housing market, vacancy rates have an inverse relationship to home and rent prices.²⁰⁰ Low vacancy rates suggest robust demand, reduced supply, and higher prices. This may come about due to a surge in demand without a corresponding increase in the housing supply, or steady demand with depressed rates of housing production, or a combination thereof. Regulations that curb supply create market distortions where housing costs increase faster than incomes, resulting in increased housing cost burdens.

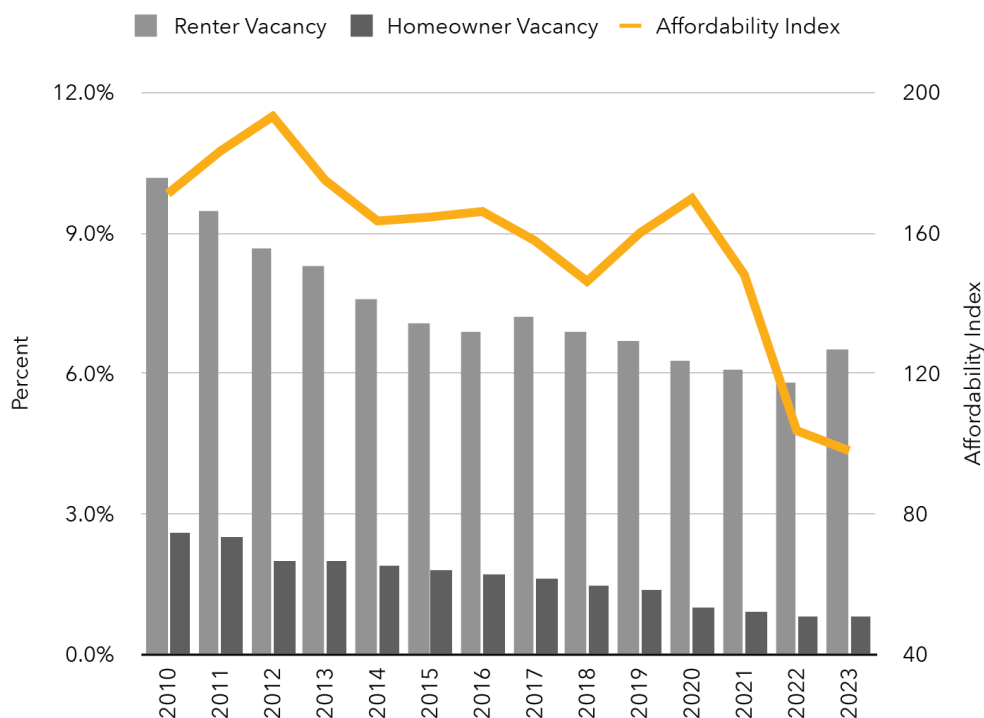


FIGURE 22: HOMEOWNER AND RENTER VACANCY RATES AND IMPACT TO AFFORDABILITY²⁰¹

STRUCTURAL DRIVERS AND SUPPLY-SIDE LIMITATIONS: THE FIVE L’S

Housing affordability is a product of housing availability, a supply that satisfies demand in a given market.²⁰² As the population increases, the number of available homes, which is contingent on the rate of residential construction, determines the severity of the housing affordability crisis. The housing market faces a major, ongoing problem, stemming from a decade-long construction drought that predated the coronavirus pandemic. When supply isn’t able to keep up, the decrease in availability leads to a decrease in affordability. Market conditions determine the viability of development, which is the gatekeeper to housing production and increased supply. Viability is a formulaic response to the relevant variables, an if/then equation. If conditions are favorable, projects can move forward, although ultimately, it is the developer’s decision to proceed. The mitigating factor of viability is overall cost versus the price someone is willing to pay, or what the market will bear. We can categorize overall costs into construction costs (also referred to as hard costs), development costs (also referred to as soft costs), and overhead and profit (O&P). Construction costs are exactly as they appear on the surface, the materials and labor required to build housing. Development costs are all other costs, excluding O&P, such as land, impact fees, or loan interest. Given steady demand, project viability decreases as these costs increase, limiting

housing production. Dr. Robert Dietz, chief economist for the National Association of Home Builders (NAHB), says the structural impediments to project viability and drivers of the housing crisis come down to the five L's: Lots, Labor, Lumber (materials), Lending (for development/construction), and Legal (regulatory barriers).²⁰³ The five L's can also be thought of as costs. Lots are land costs. Labor and lumber are the materials and trades, these are the construction costs. Lending represents the financial services costs, and legal can be thought of as the processes involved from initial zoning reviews to the final certificate of occupancy, which are the development costs. A reduction in any of the L's reduces the cost of housing production, O&P costs as a percentage of the total, and resulting sale price or rent.

LOTS

The United States faces a significant challenge in housing development due to the short supply of legally developable land in or near urban areas.²⁰⁴ The obvious point to make first is that we have an abundance of land in the United States, the issue is not a lack of land, it's the lack of land in or near urban areas where it is legal to develop. Since 2012, land availability has increasingly constrained the overall building volume. This constraint has severely limited building volumes; in 2021, nearly 80 percent of home builders reported low or extremely low lot supplies.²⁰⁵ There are two ways that land use policies restrict the amount of developable land in U.S. cities. The first is SFD zoning itself, which significantly limits densification. In the majority of metros, SFD zones remain the largest portion of residential land. A 2019 article from the New York Times showed the following statistics for percentage of residential land zoned exclusively for SFD homes:²⁰⁶

- 84 percent Charlotte, N.C.
- 89 percent Arlington, TX
- 77 percent Portland, OR
- 81 percent Seattle, WA
- 94 percent San Jose, CA

Some of these cities have since revised their zoning to allow additional units on lots,²⁰⁷ but the potential of densification through incremental development is not possible in the vast majority of land zoned residential in the U. S. For all but a few cities, the proportion of residential land exclusively for low-density SFD homes is extensive. Moreover, SFD zoning is coupled with unnecessarily large minimum lot sizes, setting a bottom threshold for land cost share, and therefore setting a bottom threshold for SFD housing costs. As an example, Dr. Dietz (NAHB) says that their data from the New England region shows the typical lot size is 0.9 acres, or almost 40,000 square

feet (SF), while the average new home was less than 2,500 SF.²⁰⁸ Other regulatory restrictions that limit density include floor area ratios, setbacks, lot coverage maximums, and height limitations.²⁰⁹

The second way that developable land is constrained is through anti-growth legislation at the city scale such as urban growth boundaries (UGB). UGBs will be discussed further under Legal, but a trove of research has found that urban growth controls, such as UGBs magnify the problem by inflating land values and limiting affordable vacant land for development.^{210,211} When both densification and expansion are restricted, and housing supply cannot keep up with population growth and demand, land becomes scarce, and cost escalation is compounded. A market that cannot adjust to market trends by producing more housing is referred to as inelastic. Residents will make housing consumption decisions in their best interest, but an inelastic supply of land can hinder this possibility.²¹² Increases in housing costs can be moderated if there is outward expansion along with densification.²¹³ Reserving density to specific locations using growth controls or segregated land use zoning pushes rents higher, beyond the benefits of agglomeration, at the expense of essential workers such as teachers, firemen, police, and nurses.²¹⁴ In inelastic cities, as wages and density increase, real wage increases are less than nominal, increasing housing cost burdens for all. However, in elastic cities where there are few procedural or regulatory constraints to production, using the rate of outward expansion as a lever to control vacancy rates, and allowing more uniform internal densification, rents can be held steady as populations increase with economic development.²¹⁵ This can even mitigate rent escalation that can accompany increases in incomes, lessening the burdens of residents.

LABOR

The residential construction industry faces a significant labor shortage, amplifying construction costs and extending project timelines. A 2017 Freddie Mac report links this shortage to the 1.5 million loss of construction jobs during bust and Great Recession, and a weak recovery thereafter.²¹⁶ A weak post-recession recovery left 78 percent of construction firms with difficulty filling job positions, even prior to the COVID pandemic.²¹⁷ The report from Freddie Mac also notes that stricter immigration laws and a less welcoming environment reduced the number of immigrant construction workers, which make up more than a quarter of the construction workforce nationwide, and as high as 35 percent-40 percent in California, Texas, Nevada, and New York.²¹⁸ Their research concludes that the Secure Communities program, initiated by the Bush administration in 2008, led to a statistically large slowdown of construction activity.²¹⁹ Stricter immigration laws during the Trump administration further slowed construction by reducing both high-skilled immigrant labor and complementary low-skilled domestic labor,²²⁰ once absent, domestic labor

did not have the skillset to replace the lost immigrant labor. Builders did not increase wages to attract replacement workers, despite continued demand for housing,²²¹ as there was simply not high-skilled replacements to complete the work. Despite efforts to recruit and train workers, unfilled job openings have been consistently high over the past six years, leading to a sustained drop in housing production. At the end of 2022, the construction sector had 413,000 job openings. To provide perspective of the ongoing labor shortage in home building, despite slowing demand from inflation and high interest rates, the open jobs rate for the past six years has been higher than the peak open jobs rate during the building boom of the last decade.²²²

Land use policies that inflate housing costs, also risk corresponding increases in labor rates, cyclicly applying additional upward pressure over time. This suggests an indirect long-term penalty for restrictive land use policies. If labor rates don't increase with the costs of housing, the city risks losing skilled labor as their discretionary income would be reduced. Discretionary income is the money remaining after taxes and essential cost-of-living expenses.²²³ Figure 23 illustrates the monthly cost of ownership of an entry level home, defined as the FHA 80th percentile price in a metro, as a percentage of the ERAI, and remaining discretionary income.

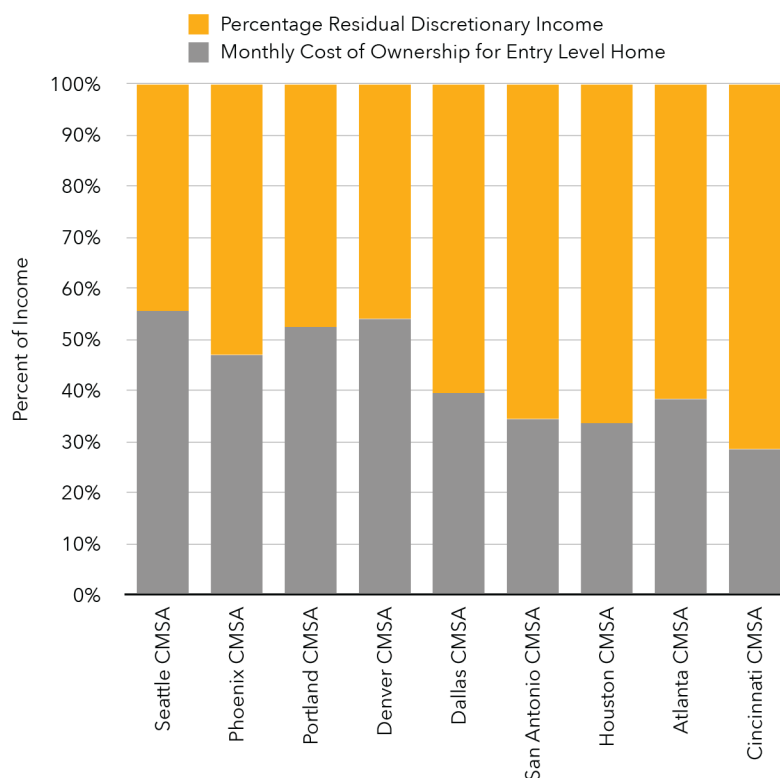


FIGURE 23: ERAI RESIDUAL DISCRETIONARY INCOME 2022

In Seattle, an essential worker is left with less than 45 percent of their income after covering housing expenses in an entry level home, while more than 60 percent in Texas and Atlanta, and

more than 70 percent in Cincinnati. The three most costly metros for essential workers, Seattle, Portland, and Denver, cumulatively lost over 17,000 construction, transportation, and utilities jobs in 2023.

LUMBER

Changes in lumber prices and the availability and expense of other construction materials have slowed down home building. Softwood lumber has experienced a significant rise in prices, nearly 10 percent annually since the 2009 housing bust and almost doubling in 2020 alone (Figure 24).²²⁴ The pandemic sparked a housing demand surge, and lumber prices rose from about \$350 per thousand board feet to over \$1,500, adding tens of thousands to the cost of a typical home.²²⁵ In 2021, the price of lumber hit a record high, up more than 170 percent over the prior 10 months.²²⁶ NAHB note that 96 percent of homebuilders report that inconsistent access to building materials is their most urgent concern.²²⁷

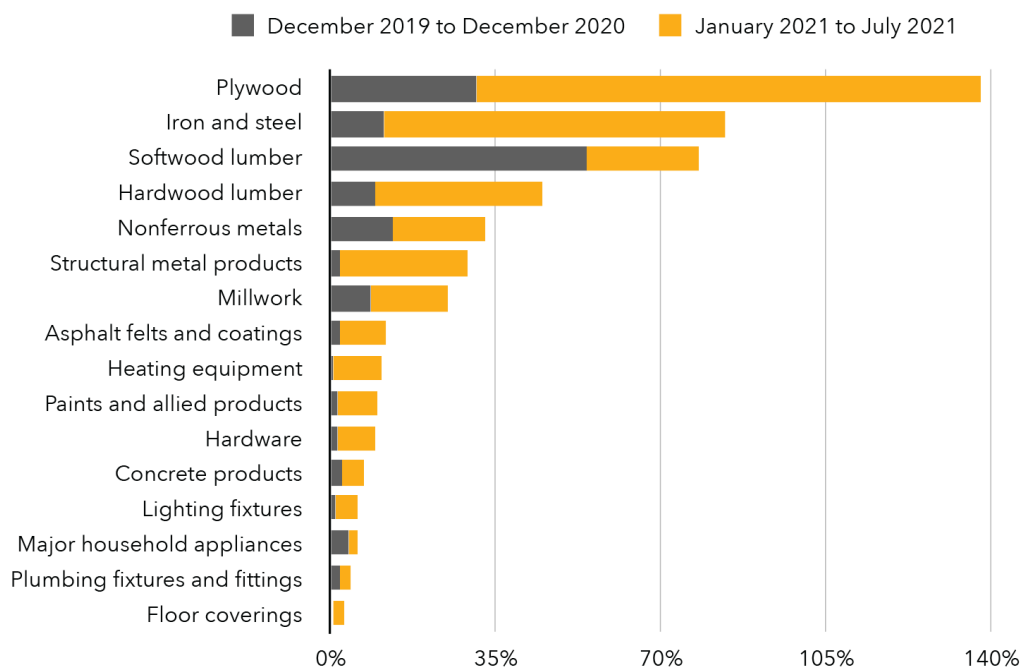


FIGURE 24: PERCENT CHANGES IN PRODUCER PRICES FOR SELECTED MATERIALS AND COMPONENTS FOR CONSTRUCTION²²⁸

Additionally, they contend that home sales and closings are being disrupted by appraisers not taking lumber costs into account.²²⁹ The disruption of global supply chains during the pandemic had some impact on these elevated material costs, but conditions worsened with the imposition of higher tariffs and increased trade restrictions on most major U.S. trading partners by the Trump administration. The most detrimental impact were the unnecessary tit-for-tat trade disputes with Canada and China, given that Canada is a crucial source of lumber and other wood

products, while China is a significant supplier of aluminum, steel, concrete, fiberglass, plumbing fixtures, and appliances.²³⁰ Conservatives, once in favor of reduced tariffs to increase global trade are now being steered by isolationism that threatens our economic health.

The Producer Price Index (PPI), first published in 1902, provides price volatility for services and goods. The relevant goods used for construction of housing are “materials” and “components.” Components are complete commodities ready to install, such as sinks, windows, and doors. Materials, such as softwood lumber and plywood, are partially processed products that will be altered on site to form part of an assembly towards the construction of a final product. Both have risen sharply in recent years (Figure 25).

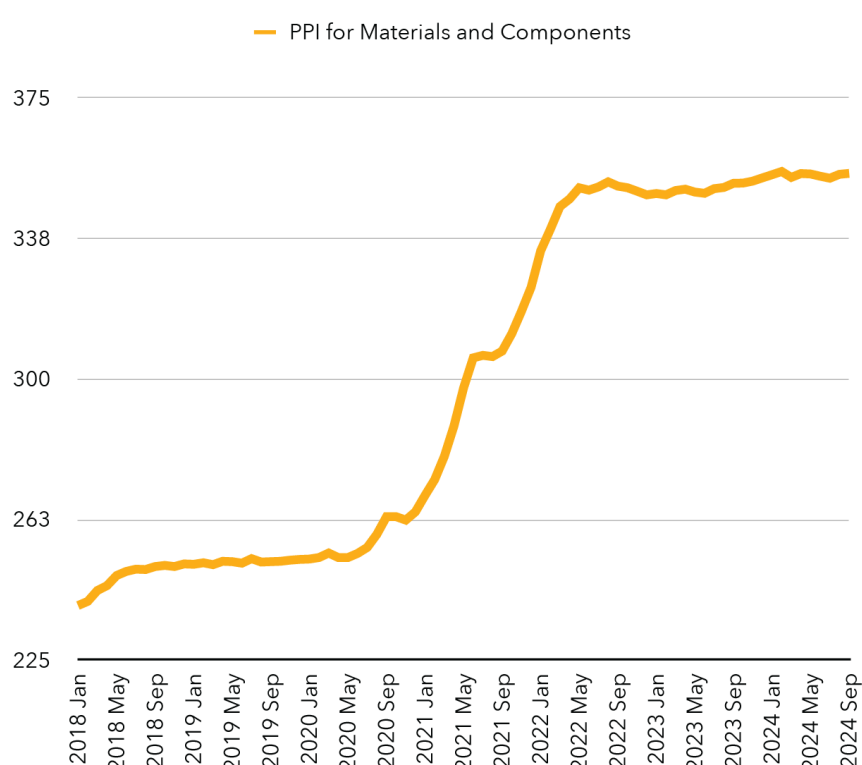


FIGURE 25: PRODUCER PRICE INDEX FOR MATERIALS AND COMPONENTS FOR CONSTRUCTION²³¹

LENDING

When discussing financing, we often focus on mortgages, yet two-thirds of housing construction is by small builders or local individuals who secure their capital from community banks.²³² To mitigate risk, funding from smaller banks tightens quickly during economic downturns and is slow to rebound. As of Q1 2024, Acquisition, Development, and Construction (AD&C) lending had tightened for nine straight quarters, specifically with total amounts they were willing to lend, requirements for personal guarantees, and increased interest rates.²³³ While large developers

are less affected, small-scale builders are finding it difficult to secure credit as interest rates stabilize and demand improves.²³⁴ One issue in particular is that AD&C loans aren't backed by the secondary funding market, which currently supports mortgage lending, increasing the cost of credit for small-scale builders.²³⁵ That said, securitized lending played a primary role in the housing bust and Great Recession, so regulation of this lending is needed. The Consumer Financial Protection Bureau was created for this purpose, but conservatives have tried, unsuccessfully to defund the agency. The funding mechanism was challenged by Republicans this year in the Supreme Court, but the Court rejected the argument and sided with the Biden Administration, with conservative Justice Clarence Thomas writing the majority opinion.

LEGAL

Segregated land use zoning began as a way to separate SFD residential units from all other uses, including multi-family residential. It was the fundamental driver for the mass adoption of segregated land use zoning codes in the United States in the early 1900s. The recent development of policies to alter existing segregated land use zoning codes to eliminate SFD zoning, enabling multi-family construction on all residential lots, is intended to increase the number and diversity of housing options, through incremental development, to address a growing housing affordability and availability crisis.²³⁶ The politics of such decisions can blur the economics, often leading to conflict at the local level. Gainesville was the first Florida city to alter their zoning to allow diverse housing options in previously SFD zoned areas, and the elected officials that approved that measure were replaced the next election cycle. The incoming administration voted 4 to 3 to begin the repeal process, which is still underway.²³⁷ If repealed, Gainesville will be the first city in the nation to reverse course, reestablishing exclusionary zoning.

There are a number of regulations that reduce the amount of developable land and increase land costs, but there are also policies that impede housing production or increase costs in other ways. Regulations come from all levels of government. While some regulations are essential for safety and welfare, others may unnecessarily inflate housing prices. Building codes, for instance, are implemented and enforced locally, adopted at the local or state level, and often created at the national level with the help of federal agencies. Building codes set minimum standards for housing construction. They are a legitimate, necessary, and result in a safer, higher quality home. While these regulations may increase costs or reduce developable land, they are necessary for the health, safety and welfare of residents. However, not all elements are as requisite, and building codes can also become regulatory barriers. Some codes require materials or processes that exceed minimum health and safety needs, are outdated due to legislative delays in updating codes, or are

duplicative.²³⁸ Sometimes they are redundant out of excessive caution, or through lobbying by manufacturers or unions, who influence their evolution, resulting in added costs.²³⁹

Recent research by the NAHB highlights the significant impact of regulations on housing costs and breaks the costs into those that are related to the development of the lot, and those incurred during the construction phase of the project.²⁴⁰ They found that 41.9 percent of the pre-construction development cost, are attributable to regulations,²⁴¹ and 21.7 percent of the construction costs. Together, they make up 23.8 percent of the total home price, \$93,870, and ultimately this is passed on to the buyer.²⁴² NAHB and the National Multifamily Housing Council (NMHC) found that, for multifamily projects, regulations account for over 40 percent of development costs.²⁴³ As is the case for the buyer, these costs are transferred to renters. These regulatory costs are direct costs and exclude indirect regulatory costs, such as trade policies that increase the price of lumber, or immigration policies that reduce high-skilled immigrant labor.

DEMAND AS DRIVER

Changes in demand stem from three different sources: changes in population counts, a shift in preference, and therefore housing consumption, and affordability. Cities with contracting populations experience an increase in supply, which is equivalent to a general decrease in demand. There is a natural population growth of a society, so even a steady population count can signal that outmigration is occurring. With increased supply, housing values drop, and production slows, naturally. Alternatively, increases in population are equivalent to increased demand, and rate of growth will distinguish between natural growth or economic growth. Growth will reduce supply, raising housing costs, and production will increase naturally. If increases in supply are hindered, cost escalation is compounded, and affordability drops until there is reduction in demand through changes in housing consumption. In this way, population growth, preference, and affordability are connected through the demand-side of housing. This is the way market forces work, and the introduction of limits to supply cause market distortions that increase volatility and disrupt the natural shift of market forces. If this volatility pushes land costs beyond what the market will bear on the upside, or project viability on the downside, the market has a more difficult time returning to an equilibrium state. This can also occur if demand is artificially propped up by housing subsidies, as without shifts in consumption, prices cannot correct naturally.

Research has shown that when there is an increased unitary cost for floor space, there is an inverse reduction in per capita floor space consumption, if wages remain constant, limiting the elasticity of housing unit rents to 0.07 for individual budgets.²⁴⁴ If unit sizes don't allow for

decreased floor space consumption, the alternative is to find less expensive housing farther away, pay a larger percentage of income on housing, or take on roommates.^{245,246} Moving farther out increases commute times, that has both a direct cost of transit fees or vehicle ownership, and indirect cost in time spent commuting rather than being productive. If demand is artificially held steady when costs increase, there is no signal, through reduced consumption and increased supply, for prices to drop. Rent subsidies can act as support for higher rents, impacting those that are not being subsidized. In this case, production may need to be incentivized to overcome demand-side subsidies, and increase supply.

The pandemic caused a shift in preference, towards SFD housing, which reduced demand for high density apartments.²⁴⁷ Demand shifts not tied to supply and demand elasticities are unpredictable, and if the supply-side cannot follow market trends, then the supply and demand pressures resume as this will create a scarcity in the preferred housing type. Costs for that typology will increase while costs for the unpopular typology will drop. These shifts do not balance themselves, and only a counteracting externality or shifts in production can bring back the equilibrium state. However, housing has a built-in demand, in that all residents want to live somewhere. Lower prices anywhere will invite demand from some group. The total cost-of-living influences the amount and type of housing we are able to consume, whether we live with roommates, the size of apartment or home, or whether we can afford to live in an area at all. People, like water, will follow the path of least resistance.

COST-OF-LIVING AND COMMUTING

The 30 percent threshold for housing affordability assumes that all other expenses are typical, and transportation, which is often a household's second largest outlay, is one such expense. The Center for Neighborhood Technology maintains a Housing and Transportation (H+T) Index that provides a more complete picture of kitchen table affordability, because costs of both housing and commuting vary inversely with distance to the urban core. As distance from the core increases, transportation costs increase as well, and land values taper. Considering both H+T costs as a variable pair captures the trade-off scenarios that residents weigh in reality. Their research shows that 15 percent is suitable for transportation costs when measured with housing, or 45 percent total for H+T costs.²⁴⁸ A PI ratio of 3.0 is equivalent to the 30 percent affordability threshold, and therefore, a PI ratio of 4.5 represents the H+T affordability threshold. Nationally, the average PI ratio for existing homes is 4.5, without the inclusion of transportation. When housing costs are beyond what is affordable, additional costs, from any source, narrow ones ability to pay for housing. Adjusted for inflation, college tuition has surged by 52 percent since the baby boomers started

attending universities, and since 1963, tuition has escalated 143 percent.²⁴⁹ Today, millennials in their 30s carry student loan debts averaging \$40,500.²⁵⁰ For more than a third of that demographic, high housing prices and large debts has made homeownership impossible.²⁵¹ Including other debt, the average debt level in the U.S. broke \$100,000 per individual in 2022,²⁵² and residents of higher cost cities incur more debt (Figure 26). A debt-to-income (DTI) ratio of 43 percent is typically the threshold to qualify for a mortgage. Including your mortgage, you should not spend more than 43 percent of monthly gross income on debt. For essential residents, a mortgage for an entry-level home alone exceeds that threshold in many markets (Figure 27).

The intent of encouraging development of middle housing is that there are more housing options available nearer to high opportunity areas, and that the increased density better supports public transportation. More compact infill development has the advantage of curbing commuting costs, reserving more in family budgets for essentials or housing. Not only is public transit more viable as density increases, it has also been found to reduce total vehicle miles traveled (VMT).²⁵³ Micromobility, alone, or combined with active travel or public transit, has changed the way people traverse a city, expanding non-vehicular commuting distances. The funds used to operate and maintain a vehicle are better spent on housing if alternative transportation options are feasible.

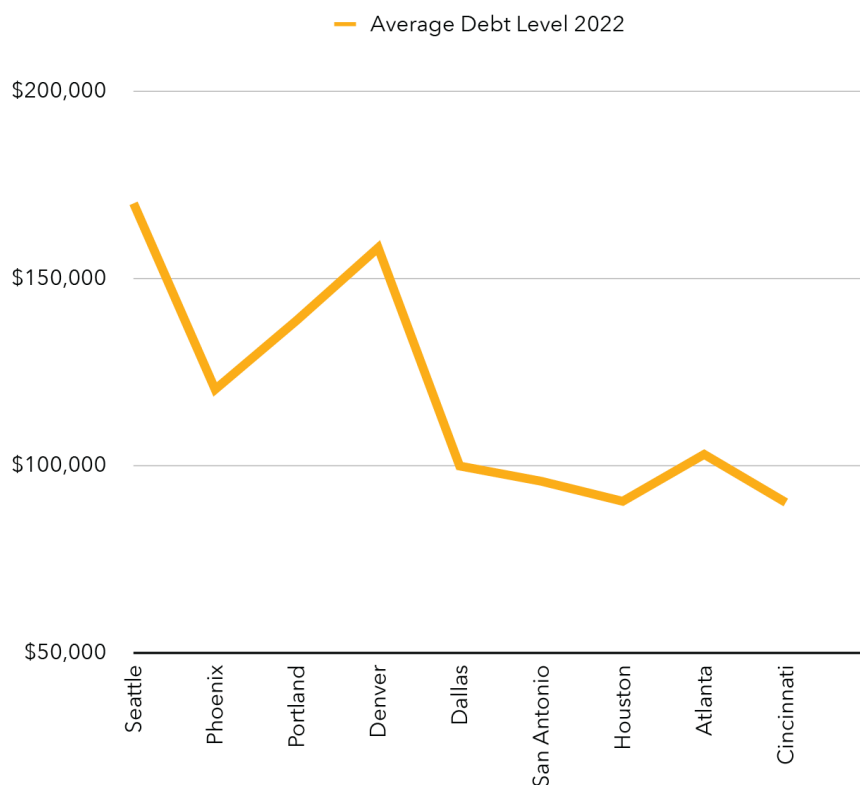


FIGURE 26: AVERAGE DEBT 2022

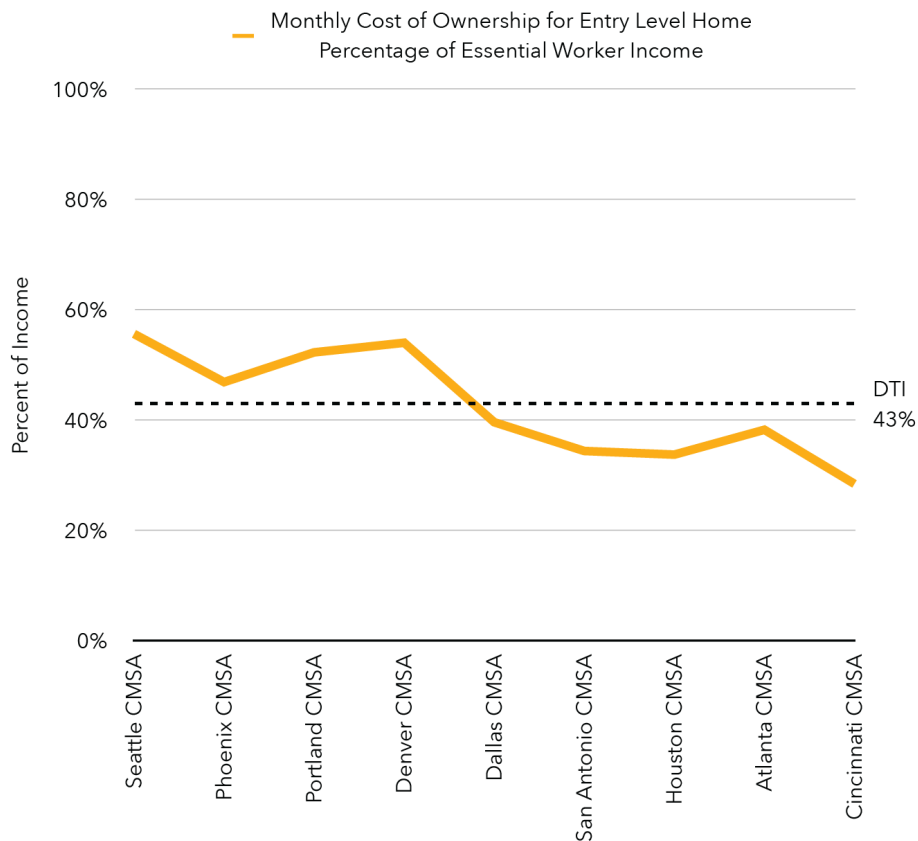


FIGURE 27: ERAI DTI RATIO: MORTGAGE PAYMENT ENTRY-LEVEL HOME

"Displacing low-income residents can be devastating both personally and economically."²⁵⁴ If there are not enough affordable units, families may end up in distant areas or in overcrowded or unsafe conditions. The distance can make it hard to keep jobs and social networks.²⁵⁵ When low-income tenants move to other poor neighborhoods, those areas' poverty and burdens increase. This can lead to greater citywide inequality.²⁵⁶

ENABLING ELEMENTS

An enabling element is that which can either allow or halt an action. Research concludes that restrictive and complex regulations and a protracted development processes influence housing prices by inflating land values and limiting affordable vacant land for development.²⁵⁷ The impact is multiplied if the growth in housing supply cannot keep up with population growth. In addition to increased housing prices, these controls can lead to exclusionary effects and displacement, particularly affecting low-income and minority households. However, these are enabling elements, that we have the power to change. It is a choice of repercussions -it's increasing housing affordability or diminishing it, helping residents to accrue wealth or restricting it, avoiding costs to society or compounding them. Before exploring these enabling elements, understanding their history and how they are applied is a necessary foundation of understanding.

THE APPLICATION OF LAW

"The law" consists of a complex set of rules and principles. These include federal and state constitutions, legislative acts (statutes or legislation), judicial decisions (case law), and administrative regulations from agencies at all levels of government. Simply listing these sources does not capture the complexity of their relationships. The U.S. Constitution is the starting point, declared by the founders as "the Supreme Law of the Land," and establishes the federal balance of powers between the executive, legislative, and judicial branches. State constitutions serve similar functions but are subordinate to the federal constitution. The Bill of Rights and later amendments outline individual rights, including property rights, but also powers reserved for the states. Land use was not a major issue in the late eighteenth century, and the framers of the U.S. Constitution did not address "land use regulation" directly. The Tenth Amendment, however, stated that powers not given to the United States by the Constitution, nor prohibited to the states, are reserved to the states or the people. This provision made land use regulation a state matter, not a federal one. States have generally delegated authority over land use to local municipalities and counties, which often defer to the wishes of "the people" as expressed through the private market and ballot box. Thus, the federal government is essentially powerless to interfere directly in local land use planning and zoning matters. However, the Fifth Amendment, is crucial for land use, stating: "No person shall be... deprived of life, liberty, or property without due process of law, nor shall private property be taken for public use without just compensation."

Legislation from Congress and state legislatures must be constitutional, as determined by the judicial branch. The Constitution did not explicitly grant courts the power to overrule legislative acts, but Chief Justice John Marshall asserted this authority in the 1803 Supreme Court case *Marbury v. Madison*. This case established judicial review, allowing courts to determine the constitutionality of laws. It set the precedent courts would rely on when making decisions in similar cases. The United States has two court systems: the federal system and state systems. Both have a hierarchy: trial courts at the base, appellate courts in the middle, then State Supreme Courts, and the U.S. Supreme Court at the top. Land use cases usually go to the state courts where the land is located, as land use powers are reserved for the states. State supreme courts make most significant decisions in this field. State court decisions concerning state law become precedent within that state unless overruled. The application of precedent from other states has persuasive influence rather than binding authority, because the legal systems across states maintain a degree of autonomy.²⁵⁸ However, cases may move to federal courts if they involve a federal constitutional issue or if the parties are from different states. Most land use disputes are filed against local

governments, but sometimes against federal or state agencies, where the plaintiff asks the court to decide if a statute or regulation is constitutional and fairly applied. Federal and state legislation authorizes local administrative agencies to adopt and enforce regulations, and through legal challenges, courts ensure they are constitutional and consistent with the law. These agencies operate within the powers given by the authorizing law.

LOCAL GOVERNING BODIES

At the local level, there are three types of subservient governing bodies: Municipalities, to include cities, towns, boroughs, and villages, depending on the state; Counties, to include parishes and unincorporated areas; Special Purpose Districts, such as parks, highways, airports and other transportation hubs, schools, and utilities.

MUNICIPALITIES

Municipal governments are legal entities that operate under state law and court precedent, within clear boundaries. They can only exist within one state, but can be parts of multiple counties within that state. Municipalities cannot share territory, but one municipality can annex another, dissolving the annexed governing body. They can also expand their boundaries to annex unincorporated land. In much of the north east, all land is divided between municipalities, there is no unincorporated areas, and boundaries do not shift. Many states allow preannexation agreements that allow services, utilities, or taxation of a primary municipality to extend beyond its boundaries to other municipalities. As a legal entity, municipalities are allowed to sue and be sued, to enter into contracts, to acquire and hold property, to adopt local laws, to borrow against future revenues, and to levy taxes and fees. States enable the existence of municipalities and determine the extent of their power through either the Dillon Rule or Home Rule. In a Dillon Rule state, municipalities have those powers "granted in express words" by the state, "those necessary or fairly implied", and those essential to achieving the corporation's declared objectives.²⁵⁹ Beginning with Missouri in 1875, some states adopted amendments to expand municipal autonomy, and municipalities are only limited by the powers expressly forbidden, termed the Home Rule. Most states have a hybrid of both, based on different areas of governance, like taxation, land use, or service delivery. Municipalities usually have powers limited to their established boundaries. "Some states, however, allow extraterritorial powers to develop public water supplies because many communities lack adequate water sources."²⁶⁰ In some states, extraterritorial land can also be acquired for parks, refuges, and airports. It's also common for sewage treatment plants and other municipal services to be sold outside their boundaries. This same governing method is applied to counties, for powers that apply to their jurisdictions.

COUNTIES

Each state is divided into counties or parishes, although three states have abolished counties, Connecticut, Rhode Island, and Massachusetts. There are a few cities that are independent of any county, and some that have merged the municipality with the county government, each rare occurrences. However, both a municipality and a county are simply governing bodies within a defined boundary, and like municipalities, counties provide local services like police and fire, parks, and infrastructure repairs in rural areas and unincorporated settlements.

SPECIAL DISTRICTS AND REGIONAL AUTHORITIES

School districts and water districts are the most common special districts. However, districts exist for many purposes. They can manage local airports, zoos, oversee parks, recreation, and pollution control. In big cities, special districts often handle vital services, such as mass transit, sewage treatment, and garbage disposal. Most districts and authorities focus on a single function, and these districts may overlap with each other and with municipalities and counties. However, districts with the same function do not overlap in their service areas. Regional districts that manage distribution of utilities and services impact land use, particularly sewer and water services, whose facilities may rely on elevation and slope. Their location and capacity greatly impact how land develops.

ADMINISTRATION

Within the constraints set by the state, the key decision maker in the zoning process is the "local elected body," such as a city council, or county commissioners. This body assimilates three streams of inputs: (1) legal advice from the municipal attorney on applicable legislation, case law, and administrative rules; (2) technical advice from planning department staff, a planning board, or consultants; and (3) public testimony presented at a public hearing or communicated through other means. Local planning and zoning boards conduct their business in open meetings, where the public is invited to attend, but may or may not participate. Most decisions require a public hearing where concerned residents may present testimony on a pending decision.

Euclidean zoning divides communities into multiple classes of use: residential, commercial, and industrial, as an example. These classes are further divided into subclasses such as single-family residence, retail, or heavy industry. Homes cannot be built in commercial districts, just as businesses are barred from residential zones. This has contributed to the spatial segregation of residential and commercial activities, a major complaint of today's smart growth–new urbanist movement, which advocates mixed uses in urban neighborhoods. Zoning regulates for each district (1) the use of land, (2) the density of development per unit of land, and (3) the dimensions

or bulk of buildings. Zoning specifies which activities are (1) permitted as of right, (2) prohibited, or (3) conditionally allowed by variances from the zoning board. Housing density is regulated through the establishment of minimum lot sizes for dwellings. Lots for single-family homes typically range from 8,500 to 85,000 square feet (0.2 acres to 2 acres). Lot size roughly correlates with the size and cost of the home. Less expensive dwellings are usually built on land zoned for smaller lots.

There are six different ways zoning regulations can control development:

- **Use Regulation:** Controls the type of development that is permitted on a given property.
- **Density Regulation:** Limits to height, minimum lot sizes, floor area ratios (FAR), maximum coverage.
- **Design Regulation:** Building materials, colors, architectural features, landscaping.
- **Preservation Regulation:** Limits updates or enlargements, preserves architectural characteristics.
- **Process Regulation:** Subjects development to discretionary approval, scrutiny for conformation with zoning, environmental.
- **Quality Regulation:** Can be tied into performance, sustainability, open space requirements.

Density for multistory construction is regulated by establishing a floor-area-ratio, lot coverage, and height restrictions. Absent use and unitary restrictions, this represents bulk zoning, or form restrictions. Platt's definition is: "FAR specifies the maximum floor area for a structure as a multiple of the site area."²⁶¹ The example in Figure 28 represents a FAR of 2.

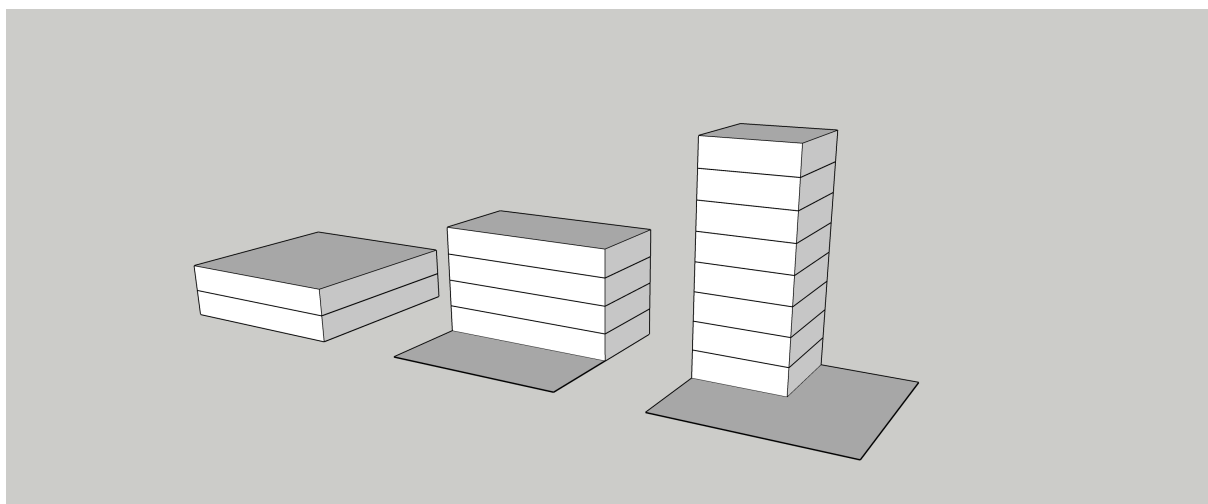


FIGURE 28: FLOOR AREA RATIO

At 100 percent coverage, two stories are allowed, and four stories are permitted at 50 percent coverage, or an eight story building at 25 percent coverage. For a lot with 50 percent maximum coverage, an FAR of 2, and a height restriction of three stories, height would be the limiting regulation. Sometimes an increased FAR is offered as an incentive for projects that include community amenities such as an onsite outdoor public plaza.

Form-based codes are bulk zoning with more loosely applied three dimensional use regulations. As an example, for the 50 percent coverage, three story building, FBCs might require retail on the first floor and allow either office or residential on the remaining floors. Unit count would not apply and could be all one-bedroom units or the mix of units that best suits the market. Since the allowed form, and use requirements would not apply uniformly across a municipality, a regulating plan is part of FBCs to indicate the applicable condition for a given lot. During the design process, the community would create a series of models representing different densities, called transects. Transects include street and sidewalk widths, that, together, shape the bulk of buildings relative to streets. For development, the process is now simplified. Locate your lot on the regulating plan, which will tell you which transect applies, and that would exemplify the form that is applicable to your site. Within that simplified form, you design the building.

Many jurisdictions have minimum block or street depth regulations as well as minimum lot widths, such that in a unit restricted residential area with a set depth, the minimum width would become the binding limit on lot size.²⁶² At that point, further reductions to allowable lot size become moot for most development. In new developments with smaller lot sizes, two lots can be combined with a central access easement that allow access to four smaller lots. In previously developed areas, this may not be possible without demolition of the existing structures.

It is not uncommon to mix zoning, making things more complex. Hybrid zoning combines Euclidean and form-based codes to regulate the entire physical environment, including the building and the space around it. Performance Zoning, often combined with Euclidean Zoning, regulates the permitted activities onsite by setting quantifiable performance standards to prevent adverse effects to neighboring sites, such as noise, traffic, and pollution. Incentive Zoning uses Euclidean Zoning as a baseline, but allows projects to exceed zoning limits like Floor Area Ratio or Density. In return, projects must provide community benefits such as affordable housing, neighborhood amenities, or open space. Inclusionary zoning programs have specific requirements, where developers must sell or rent 10 to 30 percent of new units to low-income households.

Local zoning uses two main documents, a zoning map showing the boundaries of different zones, and the corresponding text that explains the rules for each type of district. The zoning text lists allowed land uses for each zone on the map. The text also sets size limits for each zone. These include minimum lot size, distance from lot lines, and maximum height. For tall buildings, it sets a maximum floor area ratio (FAR). Other parts of the zoning text, that do not correspond with the map, cover parking rules, sign regulations, and guidelines for historic districts.

REGULATORY FLEXIBILITY

The bending of rules provides flexibility for non-conforming development. As with any legal document, amendments can be made for long-term adjustments to the regulation. They are legal changes to the zoning ordinance that can alter the text, the zoning map, or both. For individual cases, zoning boards employ variances and special permits, and for medium-term adjustments, floating zones, planned unit developments (PUDs), and performance zoning are available legal tools. Variances typically involve a single parcel, where the zoning board grants a relief of regulation for property owners who cannot use their land reasonably under current zoning rules. Courts scrutinize variances more strictly than amendments due to their potential for corruption. Special permits provide municipalities with discretionary review of development proposals, rather than amendments or variances. A special permit, or conditional use permit, is a "maybe" in zoning terms. It allows certain uses in specific zones if approved by the board after a public hearing. Cluster zoning and PUDs emerged in the 1960s due to concerns about urban sprawl and loss of open space. They are best suited to large projects where a developer may seek to reduce minimum lot-size requirements in exchange for providing public open space.

The American Planning Association's definition of a Cluster Development is as follows.

*Residential cluster development is a form of land development in which principal buildings and structures are grouped together on a site, thus saving the remaining land area for common open space, conservation, agriculture, recreation, and public and semipublic uses.*²⁶³

PUDs also allow a changing of zoning to accommodate mixed land uses and a variety of housing types, on a large parcel of land. They replace conventional zoning rules with special rules negotiated between the municipality and the developer. Due to their high front-end costs, they are not often viable for small developers. Performance-based zoning is similar in scope to a PUD, but where specific values of an amenity, such as number of affordable housing units, or even sustainability measures like energy use, are measured as a condition for approval. They require a detailed project plan for approval. Land use and development involve complex interactions among several systems: geography, economics, technology, social and cultural factors, and legal and political systems. Private stakeholders and public authorities at all levels play roles in this process. They interact within rules set by legal and political processes. Some interactions are based on strict legal interpretation, and some are discretionary, some more hostile, like appeals and lawsuits, others are friendly, such as negotiated contracts and governmental grants, and some may be corrupt, involving bribery and kickbacks. There are many opportunities along the path where sufficient order is maintained, without the weight of a heavy hand (Figure 29).

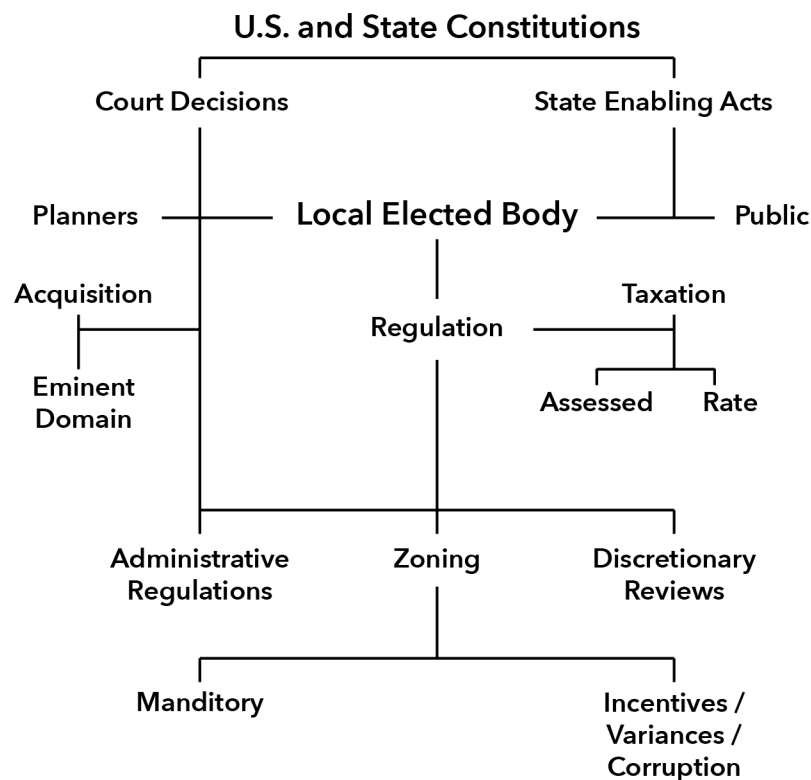


FIGURE 29: LEGAL COMPLEXITY AND FLOW OF POWER

ENVIRONMENTAL REGULATION

Progressive backers promoted zoning as a tool for urban improvement. It was intended to reduce street congestion, ensure safety, promote health, provide light and air, prevent overcrowding, and avoid undue population concentration. It generated passionate advocacy during the 1920s, when urban Americans outnumbered rural inhabitants for the first time. In 1960, the suburbs passed central cities in total population for the first time. Both shifts coincided with radical changes in public dominion over land use. The 1920s saw a surge in the adoption of Euclidean zoning laws and municipal control of the private land market. In the 1960s, federal governments began to reclaim power over land use. While they couldn't directly control zoning, they found other ways to regulate land use.

Congress and the federal government faced no such constitutional restrictions regarding water and air. In *Gibbons v. Ogden*, 1824, the U.S. Supreme Court held that the clause that established the power of Congress to regulate interstate commerce, supported federal improvement of rivers and harbors for commerce and navigation. Over time, court decisions expanded this power to allow federal regulation of water and air quality by the 1970s. The first Earth Day on April 22, 1970, launched the environmental movement, and was a public reaction to

the degradation of air, water, and land resources. Millions of people participated in about 12,000 local Earth Day events across the nation. Adam Rome, Professor of Environment and Sustainability at the University of Buffalo, was quoted in the Harvard Gazette:

*"It was bipartisan to an extent that would not be fathomable today. A lot of conservatives as well as liberals agreed that it was a pressing issue."*²⁶⁴

President Richard Nixon formed the U.S. Environmental Protection Agency (EPA) by signing of National Environmental Policy Act (NEPA) through executive order on January 1, 1970. Also signing the federal Clean Air Act, symbolizing the start of an extraordinary decade of federal environmental activism and established new decision-making procedures for federal agencies. The U.S. Council on Environmental Quality was then created to administer the new policies and procedures established by NEPA. NEPA requires environmental impact statements (EIS) disclosing potential environmental repercussions affecting the quality of the human environment from all federal agencies.

The 1972 Federal Water Pollution Control Act Amendments expanded federal oversight of the nation's water resources, including wetlands. Wetlands are characterized by the presence of water, saturated soils, and vegetation adapted to wet conditions,²⁶⁵ which include swamps, marshes, bogs, and similar areas. The EPA's guidelines highlight two key concepts: water dependency and mitigation.²⁶⁶ Water dependency applies to facilities needing water access, like marinas. For non-water-dependent facilities, like housing developments, mitigation involves actions to minimize adverse effects of fill or discharge into regulated areas, including wetland restoration. Compliance is cumbersome and sometimes duplicates state or local reviews. This has been used by NIMBY residents to tie up unpopular projects in court. The Endangered Species Act (ESA) of 1973 is known as the nation's toughest environmental law. It is rigid and inflexible. Congress adopted the ESA to conserve ecosystems that endangered and threatened species depend on, and applies to both private and public land, which has caused much controversy. States, local governments, and nonprofit conservation organizations held much of the responsibility for saving open spaces. Federal rules encouraged sprawl through housing and highway programs, and then simultaneously discouraged sprawl through funding for open space preservation. The Land and Water Conservation Fund (LWCF), established in 1964, has been the primary channel for federal support to open-space preservation and management.

REVENUE AND DEBT

Revenue is a constant and critical need for all levels of government: local, county, state, and federal. Most cities and counties rely on property taxes, an ad valorem tax based on a percentage

of the assessed value of each parcel and improvements, as their main source of income. The tax rate, which determines the tax owed, is uniform for similar classes of property within a municipality or county. However, tax rates often differ significantly among local and county governments. Tax rates are typically conveyed as dollars per \$1,000 of assessed value. The local tax base is the total value of taxable assessed property within a jurisdiction. Land and buildings owned by government agencies or certain nonprofit organizations are “tax-exempt” and not part of the local tax base. In some states, like California and Texas, tax limitation laws can constrain property tax rate increases over time. Absent these constraints, the local government determines its budgetary needs for the next fiscal year to find the net amount needed from property taxes.

Large public projects such as police and fire stations, schools, libraries, and parks need significant funds at once. In this case, governing bodies issue bonds, which are repaid from property tax revenue and other sources over time. Today, many cities, counties, and states must balance bond payments with pension and health care obligations for current and retired employees. Some states limit the amount of debt a municipality can incur based on its total assessed value. Some public facilities like swimming pools or public golf courses are expected to be self-sufficient through user fees. These facilities can be funded through revenue bonds, which are not subject to general obligation bond ceilings. Governments transfer money between levels, like block grants, passed through states to provide major funding for cities, counties, and some special districts. States also provide a portion of sales and income taxes to local governments to support schools, welfare, health services, or affordable housing. In the 1980s, many cities adopted tax increment financing districts (TIFs). A TIF is a special district where funds are used to increase the taxable value of the district, and the increment in additional revenue pays back the revenue bond.

Many American cities struggle with debt, particularly if their populations are contracting. In California, Los Angeles is at risk of default, and Detroit, which lost more than half its population since 1950, is in state receivership after the largest municipal bankruptcy in U.S. history.²⁶⁷ Many municipalities and counties face job losses, shrinking tax revenue, and rising costs of health insurance and pensions for workers. In suburbs, tax rolls are climbing while central cities are struggling against external economic, political, and environmental shocks. This is important due to the lack of municipal liquidity that limits investment in affordable housing, but it is also exacerbated by a financially inefficient development morphology.

BIPARTISAN DESIRE TO CLEAR REGULATORY OBSTRUCTIONS

The legality of zoning in the United States has been a subject of controversy since its inception due to its complex control mechanisms and the effects it has on communities. Land use regulations emerged as both top down and bottom up measures. Federal courts provided the precedent for such regulations, but the regulations are written and approved at the local level. Through various agencies and federal policies, the Federal government has shaped the evolution of zoning codes since their inception. The 1922 Standard State Zoning Enabling Act (SZA) provided the legal footing for SFD districts, allowing the exclusion of other structures like townhouses, small apartments, and accessory dwelling units.²⁶⁸ This effort was led by then Secretary of Commerce Herbert Hoover. Many localities adopted SZA in the 1920s, which was upheld as constitutional by the U.S. Supreme Court in 1926.²⁶⁹ As a result, SFD zones became predominant, and higher-density housing types were made illegal over large sections of cities.

The issuing of building permits was a ministerial act, in the first half of the 20th century, not requiring review by committee or public approval. However, policymakers began requiring discretionary approval processes, often involving public hearings, in the 1950s and 1960s. This allowed individual discretion by policymakers and empowered neighborhood groups to further limit development.²⁷⁰ The U.S. shifted from diverse property types in the 1920s to our current exclusionary zoning, which prevents or delays affordable housing construction.²⁷¹ Clear health, safety, or nuisance policies controlling private property rights were increasingly replaced with the opinions of community members assuming the role of planner, through influence.²⁷² This prevents the market from responding to price signals to stabilize prices, or using land efficiently.

In 1990, President George H.W. Bush ordered the formation of the Advisory Commission on Regulatory Barriers to Affordable Housing, which he characterized as “excessive rules, regulations, and red tape that add unnecessarily to the cost of housing...”. The commission defined these barriers to housing production as:²⁷³

Any local ordinance or policy that reduces the supply of housing or will increase its cost. These regulations tend to be land-use and zoning issues. But local standards, fees, and review or approval procedures can also directly increase the cost and time it takes to develop, rehabilitate, or construct housing. The regulatory issue is really about overregulation.

Subsequent administrations, Republican and Democrat, have tried to address housing affordability and excessive regulation,^{274,275,276} but at the local level, residents, both Republican and Democrats, have pushed back against reforms that open up communities to more housing

production or a change in the status quo. A national debate over zoning reform has been roused, one hundred years later, by the same state preemption powers that enabled zoning. The debate is over the elimination of SFD zoning to address a growing housing shortage and resultant affordability challenge.

Senator Tim Scott (R-S.C.), at a recent hearing for the U.S. Senate Committee on Banking, Housing, and Urban Affairs, titled "The State of Housing 2023" said "The problem is, zoning is a local issue that should be resolved locally, not in Washington D.C."²⁷⁷ Yet, as a response to hearing of minimum area requirements that prohibited homes smaller than 1,600 sf, he said "If there are regulations that have a minimum requirement for square footage in order to build, with the costs of construction, you're essentially telling potential first-time home buyers 'Please don't bother thinking about being a part of the American dream, at least in this neighborhood.' That's offensive."²⁷⁸ Yet, more than 30 years prior the commission found that:²⁷⁹

In community after community across the country, local governments employ zoning and subdivision ordinances, building codes, and permitting procedures to prevent the development of affordable housing.

The problem, Senator Scott, is that as local zoning codes are written locally, the status quo, is, the local solution to zoning, and often exactly what residents want.

The commission continues:²⁸⁰

"Not In My Back Yard"—the NIMBY phenomenon— has become the rallying cry for current residents of these communities. They fear affordable housing will result in lower land values, increasingly congested streets, and a rising need for new infrastructure such as schools.

Historically, local elected officials, wishing to remain in office, upheld the status quo, and some still do.²⁸¹ I call them NIMC (Not in my City) officials. To be clear, SFD zones were meant to exclude from the onset.²⁸² In those days, there was alignment in the views of elected officials and many of their constituents. Fischel (2004) writes, "Home-and-hearth ideology helped state and federal judges, typically drawn from the same social spectrum as suburban home-owners, to suspend their scruples about the new zoning laws..." In fact, the dissenting opinion in *Euclid v. Ambler*, stated that zoning's ultimate goal is to classify and segregate the population based on their income or situation in life.²⁸³ Since zoning codes in the U.S. were drafted in the early 20th century, land use has been defined, pragmatically, as what can be built and where, as determined by a governing body. Comprehensive plans determine the future distribution of land uses in a planning jurisdiction, and zoning codes turn these plans into laws. Euclidean zoning separates land by use type into their own zones. Use types include residential, commercial, retail, civic, industrial, etc. Euclidean zoning is often associated with sprawling development patterns,²⁸⁴ but even the

most dense U.S. cities have used Euclidean zoning. The term "Euclidean" comes from the U.S. Supreme Court decision *Euclid v. Ambler* (1926), which gave local governments the power to determine suitable uses for specific properties or zones, even if it affected property owners' interests. Euclid, Ohio, was the government that brought the case, creating the legal precedent that allows the control of land use in almost every U.S. city.

Initially, most jurisdictions implemented zoning in a hierarchical structure. A hierarchical zoning model organizes land use like a pyramid. The apex was the single-family residence zone from which all other uses were banned. Below that was the multiple-family zone, where either single- or multiple-family dwellings were allowed. The next level, commercial, allowed both businesses and residential uses. Industrial zones at the bottom were essentially unrestricted. Cumulative zoning protected residential areas from nonresidential activities but not vice versa. In contrast, Euclidean zoning is a flat model where each use is separated into its own area. It often excludes any variation within each zone. For example, most industrial zones exclude residential uses and residential zones exclude industrial, or retail uses. There are also variations among residences, such as excluding apartment buildings from SFD home zones. As such, Euclidean Zoning is also known as exclusionary zoning.

Glaeser and Gyourko (2003), along with Obrinsky and Stein (2007), hold that local zoning practices restrict housing supply, thereby increasing housing prices,²⁸⁵ but some categories of housing remain outright forbidden. This likely affects first-time and first-generation buyers the most; the tightest part of the market are the small lot housing options like entry-level or townhouse construction.²⁸⁶ In 2010, 32 percent of houses being built were under 2,400 sf, which has declined to about 24 percent today.²⁸⁷ A 1,400 sf home was very popular in the 1980s, and is now in the single digits of market share being built.²⁸⁸ The decline in this segment of the market has meant lower homeownership rates, people renting into later life stages, and a doubling of young adults that live with their parents over the last 20 years, roughly the same level as the 1940s when soldiers returned home to a housing shortage.²⁸⁹ There is also a need for more modestly priced rental housing, which is not allowed in the majority of land zoned for residential use.²⁹⁰ Most recent multifamily construction consists of large, prime-location multifamily housing in downtown areas.²⁹¹ While this is also needed, building affordable housing in those locations is difficult to impossible without subsidies or incentives due to inflated land costs, from both tight restrictions and the amenity effect of the centralized location..²⁹²

The patterns of development, governed by this exclusionary zoning, have drawn criticism for negative economic, environmental, and social repercussions, which has led to interest in zoning

reform. Cities, like Minneapolis, have amended their zoning to allow multifamily development in SFD zones, some like Miami have replaced their Euclidean zoning with Form-Based Codes, and others, like Denver developed hybrid codes. Whatever the approach, putting an end to exclusion, reducing regulatory housing costs, and streamlining development processes are the easiest solution to increase production. The power to make this happen is at the local level. Understanding the origins of zoning and the corresponding economic and political contexts offers valuable insights into the resultant repercussions, and an understanding of those parts of land use regulations that are not necessary.

THE END OF EXCLUSION: A HISTORY

THE NASCENT PERIOD

Most colonial towns evolved organically, with a church, a school, a marketplace, and a burial ground.²⁹³ There were a few exceptions, William Penn's 1686 plan for Philadelphia and the plan for New Haven, Connecticut, where, in 1638, settlers agreed to a rectangular plan with streets and lots around a central common, and James Oglethorpe's 1733 plan for Savannah, which used a replicable block arrangement around neighborhood parks. Property rights and land use law in the U. S. draw heavily from the legal systems of settlers' countries of origin. English common law, based on judicial decisions or precedent, took root in New England and mid-Atlantic settlements. Migrants from France and Spain brought elements of civil law, such as the Napoleonic Code and the Law of the Indies, which set design standards for settlements in the New World, to places like Florida, Louisiana, Texas, New Mexico, Arizona, and California.

Modern capitalism dates back to the English Age of Enlightenment in the seventeenth and eighteenth centuries. In "The Wealth of Nations" (1776), Scottish political economist Adam Smith laid the theoretical foundation for capitalism with his theory of the "invisible hand" of private markets optimizing wealth and social well-being. His views, influenced by John Locke, impacted the framers of the U.S. Constitution. In land terms, capitalism involves dividing land resources among various ownership units. Ownership implies the freedom to use land for maximum profit, within legal constraints to limit harmful effects. The Land Ordinance of 1785 led to the orderly rectangular land survey west of the Appalachians, simplifying land ownership documentation through metes and bounds.

Before land use zoning, many Americans worked either in or near their homes, urban expansion was constrained by the distance one could walk, densities were capped by technological constraints, disputes were settled amongst neighbors, noxious uses were banished to ports and the periphery, and regulations on building materials and heights to ensure the health

and safety of residents were already active in American cities.²⁹⁴ In 1666, a fire broke out in London that burned unchecked for three days, consuming more than 10,000 homes and leaving more than 100,000 people homeless. It was the Age of Enlightenment, when reason and science began to influence society, and leading architects proposed replacing its medieval clutter with an orderly, geometric network of streets and regulation to guide the size, position, and building materials as a building code for redevelopment. The Act for Rebuilding London of 1667, was described as London's first complete code of building regulations.²⁹⁵ This in turned informed city building in the U.S.

However, the U.S. was going through a period of population growth and technological breakthroughs following the second Industrial Revolution in 1850, placing intense pressure on cities. New York City grew rapidly. Its population increased from 62,000 in 1800 to 660,000 in 1850, and then to 2.7 million by 1890.²⁹⁶ In 1898, with the consolidation of the five boroughs, New York City became the world's second-largest city, surpassing 3 million people. New construction couldn't keep up with growing populations, and overcrowding reached inhuman levels.

The construction of the first steel-framed building in 1885 marked a new era, as building height was no longer constrained by available technology.²⁹⁷ Cities experienced vertical growth and increased density due to advancements in technology, and this increased the potential for noxious uses to impact larger populations.²⁹⁸ In 1890, Jacob Riis published "How the Other Half Lives," depicting New York's slums through photography and narrative, describing the foul core of New York's slums where children faced high mortality rates due to overcrowding and lack of sanitation.²⁹⁹ The elite resisted regulatory approaches to address the increasing sanitation issues, but public expenditures providing clean water, and removing sewage found acceptance in the masses. City governments had to learn to provide urban infrastructure through public financing and administration. Innovations in civil engineering, social statistics, public health, finance, public administration, and landscape design helped in the management of growing cities, bringing them into the 20th century.

From the 1830s to 1900, many cities modernized their infrastructure. They improved street paving and lighting, water and sewer systems, urban drainage, mass transportation, schools, and parks. The need for large-scale facilities like water and sewer systems, parks, highways, and firefighting required urban governments to modernize legally and technologically. The redevelopment of Paris under Georges Haussmann provided a model, which pioneered finance and public administration techniques and influenced American urban design.³⁰⁰ He introduced modern fiscal approaches to urban redevelopment, funding improvements through national and

municipal grants, and the sale of public lands along new boulevards that recently increased in value. Haussmann demolished medieval districts to build these new boulevards with modern infrastructure like gas and water lines, sewers, and later, electrical cables and the Metro subway system. He built two major aqueducts to bring freshwater to Paris, to address public health issues, and expanded the city's boundaries by annexing surrounding neighborhoods.

The mechanization of agriculture and the growing demand for factory labor spurred urban migration between 1890 and 1920. This period also saw millions of European immigrants arriving on the East Coast, Asians on the West Coast, and the Great Migration of African Americans from the South. Cities like Providence, Cleveland, and Los Angeles experienced growth rates exceeding 50 percent in a year during this time.³⁰¹ This is also a time period when the United States experienced its worst disasters, the Great Chicago Fire of 1871 left a third of Chicago's residents homeless, the deadliest hurricane in US history destroyed Galveston in 1900, and the worst earthquake in US history ravaged San Francisco in 1906. And, one hundred years before COVID, the Spanish Flu of 1918-1919 killed 675,000 Americans. Crowded cities were dangerous, unhealthy, and becoming less racially homogenous at a time when streetcars meant that outward growth was no longer limited by walking distance.³⁰² In large American cities, horse-drawn streetcars, and later electric railways and subways, helped develop new suburban towns within commuting distance of downtowns. This allowed elites the ability to separate from the congested urban conditions and form exclusive communities at the urban edge.³⁰³ This gave rise to streetcar suburbs, where, before the widespread use of cars, suburban single-family homes were predominantly for the elite.

The Chicago fire, and the financed rebuilding that followed provided the impetus for new regulations, building codes, master plans, and a show piece for the City Beautiful movement at the 1893 World's Fair in Chicago. However, there was not consensus for the best approach. Urban historian Lewis Mumford criticized the city beautiful movement as "...an architecture of compensation: It provides grandiloquent stones for people who have been deprived of bread and sunlight."³⁰⁴ Landscape architect Robert Anderson Pope criticized the city beautiful movement for being impractical and elitist. He urged decentralization, and zoning to regulate building heights and land use. Burnham's 1909 Plan of Chicago, one of the best-known documents in U.S. planning history, was said to be focused on grand boulevards and civic centers, but neglected housing, schools, health care, neighborhood parks, and other needs of a city.³⁰⁵ Social reformers and progressive industrialists in the nineteenth century offered an alternative to regulations and redevelopment of existing cities, their idea was to help the working class leave crowded, unhealthy cities. They planned new model towns in outlying areas, designed to uplift the spirit, increase

productivity, and provide healthy living conditions. Well-known were the rural isolationist Shaker villages in New England which retained control over land use and density, made provisions for education, social and moral betterment, and allowed residents to live in proximity to where they worked. They served as utopian inspiration for George Pullman and Ebenezer Howard, which coincided with transcendentalist ideals.³⁰⁶

The advent of high-rise office buildings led to the construction of high-rise apartments, the birth of big business, and a building boom. Concerns arose among early urban reformers regarding issues such as light obstruction and wind tunnel effects caused by the form of these skyscrapers.³⁰⁷ This boom kept rents for offices and apartments low, and the construction of new skyscrapers could cause rents and property values to plummet, prompting the idea of density-restricting legislation to slow growth. Urban reformers in the early 1900s focused on overcrowding and political corruption, and blamed immigration from Europe to eastern cities as a cause of these issues. Immigrants, often poor and non-English-speaking, supported machine politicians for jobs and food in exchange for votes.

Congestion was a major concern that included disease-ridden tenements, crowded streets, loss of light and air, and lack of open space. The early city planning movement found a critical mass behind a mantra of "anti-congestion," similar to how we use "sustainability" today. Frederick C. Howe addressed congestion in his 1905 book, "The City: The Hope of Democracy," advocating for German city planning practices. His ideas influenced Benjamin C. Marsh, who became the executive secretary of the Committee on Congestion of Population (CCP) in New York City. After visiting Europe, Marsh used his role effectively, and in 1909, he published "An Introduction to City Planning," promoting German regulatory techniques like public control over street design and zoning to regulate building attributes. Marsh and the CCP organized the First National Conference on City Planning and Congestion in Washington, D.C., in 1909, with many urban leaders in attendance.

Over time, the focus shifted from congestion to data, statistics, techniques, management, standards, efficiency, and evaluation. Social scientists began to influence discussions on city planning and zoning. The Equitable Building, completed in 1915, provoked both reformers and developers to demand regulations to manage growth. This imposing 42-story structure occupied its entire property, adding 1.2 million square feet of floor space.³⁰⁸ It casted a seven acre shadow over an adjacent park and three neighboring buildings, thereby depriving them of natural sunlight. It was the largest building in the world by floor area.³⁰⁹ These factors led to adopting stricter regulations at a time when the Enlightenment philosophy emphasized rational order and the

scientific administration of society.³¹⁰ However, there were also signs of early NIMBYism. Merchants on Fifth Avenue in New York opposed garment factories and offices encroaching on their retail street. They pushed for controls on building size to protect property values. In response to Fifth Avenue merchants, the state legislature passed a zoning enabling act in 1913.³¹¹ This led to New York City adopting the nation's first land use zoning ordinance in 1916. Early introductions to zoning regulations came to the United States from Europe.

EUROPEAN ROOTS OF ZONING

Early Use Zoning

Use-based zoning was aimed at separating incompatible uses. Frank Backus Williams, often referred to as the pioneer of zoning in America, authored the seminal work "The Law of City Planning and Zoning" in 1922.³¹² Serving as the chairman of the City Planning Committee of the City Club of New York, Williams played a pivotal role in shaping zoning policies, including his contributions to drafting the New York City Planning Law of 1913, and his research on the evolution of use-based zoning in Europe. This research found that true use-based zoning was first introduced in 1874 at a German Architects and Engineers Society meeting in Berlin. However, Napoleon I had laid the groundwork for this concept in 1810, using administrative permits to protect residents from noxious emissions, safeguarding their health and wellbeing.³¹³ The organization is based on use with the specific arrangement formed on segregation of incompatible characteristics towards the health of society.

Early Economic Zoning

Economic zoning pursued the highest and best use of property. Von Thunen's (1826)³¹⁴ central place or location theory concept highlighted the role of transportation costs in shaping cities, based on rising costs as distance from a central point increased. These concentric rings of costs could then be compared to usage rates and rents of products to maximize profitability and the needs of the central place, linking goods with people who need them. The onset of urban economics applied use designations, to maximize value, based on inputs and outputs. It is formulaic and void of sentiment. While this organization is based on use, the arrangement is based on economic value, towards increasing economic efficiency and profitability.

Early Bulk Zoning

Using height and restrictions to building placement, bulk zoning regulated form.³¹⁵ Franz Adickes, the mayor of Frankfurt-on-the-Main in Germany, is credited with introducing bulk zoning in 1891.³¹⁶ The law imposed regulations on tall buildings in the town center, restricting their height

to the width of the street. This was not organizational, it simply applied a proportion that was appropriate to the human scale, and very similar to Form-Based Codes.

Comprehensive Zoning

In combination, use, economic, and bulk zoning organized and regulated land use and form, to promote safe, happy, and economically vibrant communities in Europe. Non-compatible businesses and factory uses were located along transportation corridors to maintain the integrity of the inner city, in line with both von Thunen's central place theory to maximize value and an effort to protect the health and wellbeing of residents³¹⁷, while bulk zoning controlled density and form. The use and bulk zoning ordinances governed the expansion of Berlin and Frankfurt's outer cities. These types of zoning were introduced individually, as they were needed, but quickly gained international popularity. Presented as related novel concepts, they were seen as a comprehensive set of tools to address urban growth. The amalgamation of zoning approaches formed into one can be described as comprehensive zoning.

SCIENTIFIC MANAGEMENT & APPLICATION IN THE US

The emergence of these ordinances occurred during a crucial juncture in American urban development. Taylorism, or scientific management theory was peaking as the idea of the three types of zoning made their way to the US. In addition to basic use and economic zoning, bulk zoning controlled lot coverage, building height, building placement, and overall volume. People saw zoning as a way to organize cities scientifically and take control away from corrupt politicians. In 1899, Congress limited building heights in Washington, D.C., to preserve views of monuments, but the Triangle Shirtwaist Company fire in 1911, which killed 146 women, highlighted the need for building height and safety regulations. By 1913, twenty-two U.S. cities had height controls. The most stringent height regulations were usually applied in areas furthest from the city center, a gradient of morphological density from the civic core to the suburban fringe. In response, cities like New York and Los Angeles implemented regulations setting maximum building heights and setbacks, a move generally supported by the courts.³¹⁸ These restrictions bettered the social condition by shaping the bulk of the built environment and organizing incompatible uses in such a way that economic growth and industry could flourish.³¹⁹ The Progressive Era's emphasis on scientific governance influenced the development of comprehensive zoning laws³²⁰, and echoed the concerns of the City Beautiful Movement.³²¹

THE LEGALITY OF SFD ZONING

Use, economic, and bulk zoning were sufficient to govern American cities, but there was still an aspect of control not being met. The 5th and 14th Amendments to the United States Constitution provide safeguards for individual rights, stipulating that the government cannot deprive individuals of life, liberty, or property without adhering to due process of law, and must provide just compensation in instances where private property is taken for public use. Given the strong cultural emphasis on individualism and private enterprise in American society, the imposition of restrictions on the use of private property through zoning laws may be perceived as antithetical to these values, potentially infringing upon property rights and lacking the requisite due process or just compensation mandated by the Constitution. The 1926 Supreme Court case of *Village of Euclid v. Amber Realty Co.* established the legal foundation for modern zoning practices in the United States.³²² The case involved a dispute between a corporation seeking to develop industrial property and a local government that had zoned the land for residential use. The Court ultimately ruled in favor of the Village of Euclid, determining that the zoning ordinance constituted a valid exercise of police powers, which grant states the constitutional authority to regulate for the health, safety, and welfare of their citizens.

The majority and dissenting opinions in the Supreme Court's ruling encapsulate the ongoing debate surrounding zoning. The majority contended that the separation of commercial and residential structures within neighborhoods serves to protect public health and safety, arguing that this justifies not only the separation of residential from commercial uses but also the differentiation between single-family and multi-family dwellings.³²³ They suggested that increased regulation is necessary for the governance of cities. Conversely, the dissenting judges asserted that the underlying purpose of zoning is to classify and segregate individuals based on income or status. These contrasting perspectives have given rise to a complex regulatory framework that continues to exert significant control over the development of the built environment.

The U.S. Department of Commerce formed the Zoning Advisory Council in 1921, from real estate experts to craft the influential Standard State Zoning Enabling Act. In *A Zoning Primer*, the agency explained how "Zoning Protects Property and Health":

Suppose you have just bought some land in a neighborhood of homes and built a cozy little house... If your town is zoned, no one can put up a large apartment house on those lots, overshadowing your home, stealing your sunshine and spoiling the investment of 20 years' saving.

The potential large apartment house is further described as:

*...mere parasites...a giant airless hive, housing human beings like crowded bees. It provides that buildings may not be so high and so close that men and women must work in rooms never freshened by sunshine or lighted from the open sky.*³²⁴

It is clear that the framers were intent on excluding multi-family residential from burdening the typical middle-class American family SFD home from the onset, despite that having nothing to do with the facts of the case. The goal doesn't appear to be a ban on crowding bees into giant airless hives, which might very well meet the threshold for "Health, Safety, and Welfare" of residents. No, the issue appears to be property values and sunshine for those fortunate non-bees. The phrasing suggests that form, density, and use, were being considered, which were currently being regulated legally, but segregation of multifamily from single-family was not as common.

1917 Illegality of Exclusion

The United States Supreme Court struck down Louisville, Kentucky's overtly racial zoning scheme in *Buchanan v. Warley* (1917).³²⁵ A white man simply wished to sell a home to a black family. While still basing their decision on the 14th Amendment, the Court did not derive its ruling from the Equal Protection Clause, as in *Brown v. Board of Education*. Instead, it found that racial zoning "is in direct violation of the fundamental law enacted in the Fourteenth Amendment of the Constitution preventing state interference with property rights except by due process of law."³²⁶ This decision forced the revision of "the country's first comprehensive municipal residential segregation ordinance" in Baltimore.³²⁷ However, Mayor J. Barry Mahool "remained committed to finding additional ways for the municipal government to limit black mobility," and proposed "setting aside sections of the city for black people on the grounds they 'constituted a permanent menace to the health of the white population.'"³²⁸ Describing the link between Louisville's Supreme Court loss and the adoption of height, area, and use classifications in Baltimore's revised zoning, Paige Glotzer writes:

*The south and southeastern sections of Baltimore, with large populations of blacks and immigrants, were zoned industrial. Even neighborhoods composed primarily of homes were zoned industrial if they were majority-black, depriving them of the height, use, and construction restrictions neighborhoods of similar appearance received. The values of residential property in industrial districts would suffer, as would the residents, because all noxious businesses would be concentrated near their homes. This move sapped value from black-owned property and made it more difficult for the African Americans who could afford to own property in Baltimore to buy a new home outside the new industrial areas. For black renters, who already faced a housing shortage that had them paying much higher rents than whites for comparable units, zoning exacerbated the shortage of potential locations for new multifamily dwellings.*³²⁹

The law, as written was technically color-blind, but the intent was not. This wasn't unique, or

exclusive to the South and Midwest, residents in many cities pushed for similar regulations. In New York City it was the Fifth Avenue Association concerned that manufacturing brought in Jew "Flies" that would scare off the clientele.³³⁰ In *The Color of Law*,³³¹ Richard Rothstein tells us about Harland Bartholomew, planner for many cities, he was the chairman of one of the largest planning firms in the United States, and appointed to Federal planning committee's by three U.S. presidents.³³²

*According to Bartholomew, an important goal of St. Louis zoning was to prevent movement into "finer residential districts . . . by colored people." He noted that without a previous zoning law, such neighborhoods have become run-down, "where values have depreciated, homes are either vacant or occupied by colored people." The survey Bartholomew supervised before drafting the zoning ordinance listed the race of each building's occupants. Bartholomew attempted to estimate where African Americans might encroach so the commission could respond with restrictions to control their spread.*³³³

The lack of control that was missing from already legal economic, use, or bulk zoning was the allowing of one segment of the population while denying another.

Building the Case: The Pretexts to Justify "Health, Safety, and Welfare"

The original proponents of zoning recognized that safeguarding public health and safety fell squarely within the realm of state police power authority needed for additional control. The city of East Cleveland enacted an early "building zone" ordinance in 1919. A property owner challenged the ordinance, claiming it was unconstitutional. However, the Ohio Court of Common Pleas upheld the ordinance.³³⁴ The court stated:

*The congestion of population is conducive to the spread of epidemics. Epidemics are spread by social intercourse, and the more dense this intercourse the more devastating is the epidemic, or the plague. When epidemics are sweeping over the land the cities suffer most, and those portions of the city which are most densely populated suffer most of all. . . . The influenza epidemic through which this country passed within the last year is fresh in the minds of all. Churches, schools, theaters, public halls and public meetings were closed, but apartment homes, containing from 100 to 200 or 300 families, or from 500 to 1000 persons, remained open. It is no wonder that the influenza could not be checked and that its victims were numbered by the thousand.*³³⁵

A few years later, also on the outskirts of Cleveland, the case that serves as precedent for Euclidean zoning, the opinion of Justice Sutherland in *Village of Euclid v. Ambler Realty Company*:

The decisions . . . agree that the exclusion of buildings devoted to business, trade, etc., from residential districts, bears a rational relation to the health and safety of the community. Some of the grounds for this conclusion are promotion of the health and security from injury of children and others by separating dwelling houses from territory devoted to trade and industry; suppression and prevention of disorder; facilitating the extinguishment of fires, and the enforcement of street traffic regulations and other general welfare ordinances; aiding the health and safety of the community, by excluding from residential areas the confusion and danger of fire,

contagion, and disorder, which in greater or less degree attach to the location of stores, shops, and factories.

In this way, the contingency events of the late nineteenth and early twentieth century, fire, contagion, disorder were not the reason for zoning, they were the excuse that allowed it to become law. Alleviating congestion was viewed, or framed, as one of the benefits zoning offered, a sentiment seen in demand shifts during the pandemic. Unitary density, one home, one lot, could be argued to reduce congestion. And by relying on the disasters of the day, and omitting race altogether, a new legal tool was born to enshrine racial and classist segregation. In Kentucky, the Supreme Court found that the property rights of one owner was taken by denying his ability to sell property to a black family, and yet the rights of all owners to develop to the highest and best use of their property were willingly given away for the power of exclusion.

Segregational Zoning

A study by ProPublica found that Highland Park, TX formed its own city, in the middle of Dallas, so they wouldn't have to integrate, with their website proclaiming it "as a refuge from an increasingly diverse city."³³⁶ The predominant desire for exclusion by many Americans and their representatives was pursued three ways: exclusion of land, exclusion of race/class, and exclusive investment. Initially, zoning functioned hierarchically in most cities, which generally placed industrial areas as the least restrictive -additionally allowing commercial, multi-family housing, and single-family housing- and SFD districts as the most restrictive, allowing nothing more. Prior to the widespread implementation of zoning, larger cities generally exhibited a greater mix of land uses. Despite early attempts at land use controls, American cities had organically attained a certain level of spatial organization. This has led many researchers to view zoning as a reflection of pre-existing urban configurations rather than a rapid transformation of urban organization.³³⁷ While quantitative studies on the factors influencing the initial zoning laws in major U.S. cities are limited,³³⁸ a study by McMillen and McDonald (2012)³³⁹ focusing on a sample of blocks in Chicago revealed that zoning largely aligned with prior development patterns. Obviously, this is not the case for areas that were not developed prior to the adoption of zoning regulations.

Exclusion of Land

The advent of rail transport fundamentally altered the economic trajectory of cities along railroad corridors, transforming into dynamic engines of growth and prosperity.³⁴⁰ Improved intercity connectivity and reduced transport costs associated with railroad access, rapidly produced a concentration of economic activity in these well positioned urban centers.³⁴¹ Transportation infrastructure played a pivotal role in segregating intracity land uses based on density and income

levels prior to zoning. The high costs of intracity transportation led heavy industries to cluster near rail stations and ports. Most workers, especially those with lower skill levels, lived in higher density housing, within walking distance, due to the prohibitive expenses of daily public transit. Those in higher paying jobs could live further out in single-family housing.³⁴²

Early hierarchical use zoning was used as a tool for segregation on two scales. The findings from Twinam's (2018)³⁴³ study on Seattle and Shertzer, Walsh, and Logan's (2016)³⁴⁴ study on Chicago highlight the first way hierarchical zoning was a tool for segregation, exclusion of land. Their research considers the initial density and mixed uses in minority neighborhoods, and distinguish between various zoning treatments in densely populated and mixed-use areas. Their analysis revealed that both first-generation immigrants and black migrants from the South were disproportionately subjected to lenient zoning regulations, burdened with industrial zoning in their neighborhoods.³⁴⁵ It was these lower income residents that bore the brunt of unhealthy industrial pollution. Yet, zoning protected single-family housing from all other uses, while continuing to permit residential uses alongside industrial ones.

This had a significant impact due to the limited availability of land zoned for all types of uses, including industrial. This left developers of moderate income multifamily housing to compete with industry and commercial interests for what land was available. This contrasts with studies focusing on minimum lot sizes and general land use regulations directly restricting migration to certain areas, and implies that zoning regulations may have perpetuated racial discrimination over time by allowing unchecked development in African-American neighborhoods, and exposing residents to industrial pollutants.³⁴⁶ Their analysis also highlights the significance of neighborhood demographics to both bulk and use zoning as form restrictions, such as height and coverage, which exclude land by limiting rentable area on a lot-by-lot basis.

Exclusion of Race and Class

Second, is the exclusion of all who could not afford a SFD home, exclusion of race, then class. When a black graduate of Yale Law School decided to move into a previously all-white neighborhood in Baltimore, it prompted the city to introduce its first municipal segregation ordinance during the summer of 1910. The formation of a neighborhood association dedicated to preventing racial integration in the area spearheaded this legislative action. Subsequently, they swiftly implemented the "West Ordinance," which served as a model for similar regulations enacted in various southern and border towns between 1910 and 1917.³⁴⁷ This ordinance effectively prohibited African Americans from residing in housing on blocks predominantly occupied by white residents. It also stipulated that white individuals were not permitted to relocate

to blocks where a majority of residents were people of color, albeit as a superficial attempt to uphold equality.

Over the ensuing eight years, 27 more cities adopted similar ordinances.³⁴⁸ Randall Walsh and Werner Troesken (2019)³⁴⁹ conducted a recent study analyzing the sudden shift towards using local government mechanisms to enforce racial segregation within neighborhoods. They found that white populations used racial zoning laws as a means to regulate the settlement patterns of rapidly expanding and economically thriving black communities.³⁵⁰ However, many covenants reveal that other races and religions were excluded alongside black families. Recent research has shown that racial triangulation in Seattle pitted Asian Americans and African Americans against each other in competition for resources, while white populations still received the majority of investment.³⁵¹

The introduction of automobiles early in the twentieth century disrupted the status quo.³⁵² With the ability to commute longer distances, the working class could now afford to live farther from the city center, and enabled blue collar Americans to move away from apartments and into SFD homes. Cheaper land in suburban areas prompted the migration of light industries and apartment buildings into areas previously exclusive to SFD homes. This shift facilitated the expansion of suburbs, which became increasingly accessible and desirable. Industries, no longer tethered to ports and rail depots, took advantage of cheaper land on the urban periphery, further decentralizing urban areas.³⁵³ Unlike in Europe, where conforming business and residential areas were intermingled, zoning practices in the United States introduced an increasingly strict separation of land uses with rigid zoning boundaries based on questionable intent.³⁵⁴

Small apartment buildings, even those of just a few stories, caused anxiety among new homeowners, climbing the ladder of upward mobility, who wished to separate themselves from the rung from which they came. Established suburban residents feared the strain on local infrastructure and potential devaluation of their properties. These structures also represented the perceived infiltration of "undesirable" groups, viewed as a significant threat to property values.³⁵⁵ Initially, to mitigate the risk of integration, real estate developers imposed restrictive covenants on homes constructed in suburban areas or on the outskirts of cities.³⁵⁶ These covenants prohibited commercial activities and restricted the sale of properties to individuals from certain racial and religious backgrounds.³⁵⁷ The city of Los Angeles approved such a regulation in 1908, establishing residential districts and banning washhouses, which were predominantly Chinese owned, from these districts, although Berkeley had the first SFD zoning, both were drafted for exclusionary purposes.³⁵⁸ These restrictions acted as legal barriers to minority groups and implied that their

mere presence would negatively impact the community.³⁵⁹ Homeowners and real estate developers employed various other tactics to maintain racial homogeneity in neighborhoods. Informal enforcement of racial segregation was prevalent, with instances of collusion between real estate agents and developers, intimidation of black families, property damage, and even mob violence.³⁶⁰ In a span from July 1917 to July 1919, at least 26 bombings targeted black households in areas previously occupied solely by white residents or at real estate offices in Chicago.³⁶¹

Segregational zoning ordinances encountered legal opposition from their inception. While courts in Virginia and Georgia supported these ordinances, those in Maryland and North Carolina opposed them.³⁶² The year 1917 brought clarity when the US Supreme Court invalidated a Louisville, Kentucky ordinance in *Buchanan v. Warley*, although it wasn't until 1948 that the Supreme Court invalidated racially restrictive covenants.³⁶³ Despite their brief existence, these laws made a lasting impact, revealing the prevailing sentiments of white individuals and their elected representatives regarding racial integration. As the 20th century progressed, white homeowners increasingly resorted to formal exclusion measures, such as minimum lot sizes, as part of comprehensive zoning regulations that excluded those not able to afford the minimum land requirements. The implementation of comprehensive zoning policies followed the Supreme Court's invalidation of racial zoning laws, leaving cities with seemingly race-neutral tools to manage development and demographic distribution. Consequently, as cities grappled with significant demographic shifts, they embraced comprehensive zoning ordinances under the constraints set by the *Buchanan* ruling in 1917. The creation and revision of zoning was largely overseen by white homeowners and their representatives, who harbored a preference for racial homogeneity.³⁶⁴

Over time, segregational zoning was fully folded within European-based comprehensive zoning and supplanted the informal norms and institutions that had traditionally maintained segregation. The Supreme Court generally refrained from interfering in local land use regulations, leaving zoning matters within the purview of local authorities, however, unlike overt segregationist zoning laws, comprehensive zoning ordinances were upheld as constitutional. Homeowners and developers, driven by the desire to maintain the long-term value of their properties by excluding others, pressured elected officials for city-wide Euclidean zoning ordinances to codify segregation. The adoption of comprehensive zoning by New York City in 1916 marked the initial step towards mass adoption, and by the end of 1916, 8 municipalities had zoning, 218 by 1923, and with 1100 other municipalities following suit by 1930.³⁶⁵ A 2011 study showed that the whitest, wealthiest neighborhoods have the strictest applications of Euclidean zoning.³⁶⁶

If Frank Backus Williams was the pioneer of zoning in America, Edward Basset was the father

of American zoning.³⁶⁷ As the primary author of the New York Comprehensive Zoning of 1916 to control use and bulk, he visited every state to promote zoning.³⁶⁸ However, other members of the group had more interests than use or bulk. Robert Whitten, also a key author of the New York City zoning saw the Supreme Court of Georgia strike down his racial Atlanta regulations.³⁶⁹ Charles Henry Cheney, who delivered a paper at a conference on City Planning in New York, noted that laundries in California brought in "negroes and orientals", with his local counterpart further wishing to rid neighborhoods of "the heathen Chinese."³⁷⁰ The official narrative surrounding the origins of comprehensive zoning often neglects the racial undertones of the unofficial narratives and urban policies enacted alongside these ordinances.

Exclusive Investment

The utopian cities described by urban theorists, architects, and planners came to fruition, in large part due to federal mandates and funding, just not how they were intended. The General Motors Futurama exhibit at the 1939 New York World's Fair predicted a society reliant on highways and cars, which soon became a reality. Frank Lloyd Wright, the famous American architect, developed a plan in the 1930s for a future utopian city called Broadacre City, with sprawling low-density residential areas around compact commercial centers linked by highways. This vision ignored heavy industry, the poor, nonwhites, and those who preferred urban life, the reflection in postwar suburban sprawl is notable. Prior to the 1940s, population densities were high, many urban areas were mixed-use and walkable, and public transportation was common in the streets of United States.³⁷¹ After the 1940s, city planning began to change.³⁷² Although zoning codes had been adopted by many municipalities since 1926, the Great Depression and WWII limited development. Historically, cities were seen as centers of disease, sin, and crime, inspiring reform movements like Ebenezer Howard's Garden Cities to fix these issues through urban planning.³⁷³ While these movements led to car-centric low-density sprawl, that was not his intention.³⁷⁴ Howard wanted urban life to be healthier, cheaper, and more enjoyable.³⁷⁵ He believed that lower density allowed people to own larger plots of land and enjoy more freedom and that building outside the city reduced housing costs because the land was cheaper.³⁷⁶ He also intended residents and workers to live in a compact mixed use city with public transportation, a variety of goods and services, and shared civic space.

Post-war America was characterized by a boom in housing for returning veterans and their families. Congress responded with programs under the Federal Housing Authority and the Veterans Administration, fueling a construction boom of 15 million new housing units in the 1950s. Most were single-family homes on land outside older cities, marketed to middle-class white

families. The federal Interstate Highway System and tax deductions further subsidized suburban sprawl.³⁷⁷

French architect Le Corbusier created another utopian city plan, also in the 1930s, called La Ville Radieuse (the Radiant City). Unlike Wright, Le Corbusier proposed high-rise apartment towers within walking distance of each other, surrounded by parks and open spaces. Public transportation and elevators provided mobility, with cars needed only for countryside trips. La Ville Radieuse influenced urban designs in Great Britain, Europe, and Asia, but in the U.S., it shaped postwar government housing projects for the poor, often with disastrous results. The 1937 Wagner-Steagall Housing Act helped local authorities build and operate housing for low-income families. Around 130,000 units were built before World War II, mostly racially segregated "garden city" row-house apartments. The 1949 Housing Act included federal assistance to local urban renewal agencies for programs aimed at building new housing and commercial developments, strengthening urban tax bases, and encouraging private investment. Two decades after its inception, the term "urban renewal" was often used as a pejorative by the poor and with proud arrogance by mayors and planning officials.³⁷⁸ Post-war planners, like New York's Robert Moses, saw urban renewal and public housing as a tool for slum clearance, often neglecting to rehouse those displaced.³⁷⁹

Funding constraints led to high-rise, barebones structures for low-income black families in the style of La Ville Radieuse. Most public units, except elderly housing, were built in existing black neighborhoods far from jobs, transit, schools, and stores. The Robert Taylor Homes project in Chicago is a notorious example, with 4,500 units in twenty-eight buildings isolated from downtown jobs. Critics like Jane Jacobs condemned such projects and pushed for alternative urban housing forms. The Pruitt-Igoe project in St. Louis, completed in 1955 with 33 eleven-story buildings and 2,800 apartments, became infamous. It symbolized the warehousing of low-income, typically black families, in poor living conditions. Abandoned by its tenants, Pruitt-Igoe was demolished in 1972.

Central cities focused on public housing, urban renewal, and highway programs, which changed downtowns and damaged older neighborhoods. Between 1967 and 1970, interstate highways displaced 168,000 people, adding to the displacement caused by urban renewal. State and city highway engineers targeted lower-income neighborhoods to improve mobility for the more affluent. Low-income black Americans were pushed into inner-city neighborhoods or public housing, and white flight resulted from the lure of suburbia. The federal government supported and partly mandated this postwar segregation.

Between 1950 and 1990, the population of New York stayed roughly level, the white population halved, and the black population doubled. As Chicago lost almost one million people from the overall count, it lost almost two million whites. As the

population of Los Angeles almost doubled, the number of whites living there grew by fewer than ninety thousand. Baltimore went from a city of three times as many whites as blacks in 1950 to a city that had twice as many blacks as whites in the year 2000. All this happened while the number of blacks in the United States has stayed a roughly constant percentage, between 11 and 13 percent.

-Journalist Ray Suarez, from Land Use and Society³⁸⁰

Urban renewal was more favorable to local governments and the building industry than low-income groups, allowing funds for nonresidential redevelopment, such as hotels, office buildings, and shopping malls. Many privately held properties near prime locations, like downtowns or waterfronts, were declared "blighted" and cleared, with the federal government covering the bulk of site preparation costs. By 1967, new units constructed through the program were only one-tenth the number demolished.

The suburban boom was propelled by federal policies and economic incentives that prioritized homeownership for those in SFD neighborhoods. The Home Owners' Loan Corporation (HOLC) of 1933, helped homeowners in default or foreclosure, but also created maps that evaluated mortgage risk by grading neighborhoods, based on economic class, employment status, and the race/ethnicity of residents.³⁸¹ Color coded neighborhoods indicated those that were "Hazardous," known today as "redlining." Redlining limited access to home ownership and hindered business development in those areas. The Federal Housing Administration (FHA), established in 1934, played a pivotal role by insuring mortgages and encouraging homeownership. However, the new FHA conditioned their support and finance of the housing boom to follow, on the existence of strict zoning controls, which led newly formed suburbs to make the adoption of SFD zoning their first act. Unfortunately, this typically meant that the FHA insured home mortgages in White-only neighborhoods, which denied credit to homebuyers in predominantly Black neighborhoods.³⁸² Congress created Fannie Mae in 1938 to boost homeownership by making low-cost loans available. Fannie Mae buys mortgages from local banks and securitizes them, allowing banks to lend more. FHA guidelines severely limited Black access to mortgages. Yet, of the \$120 billion in new housing subsidized by the federal government between 1934 and 1962, only two percent went to non-whites.³⁸³

There were also programs put in place to support veterans returning home. The GI Bill of 1944 further accelerated suburban growth by providing returning World War II veterans with access to affordable home loans. However, Black veterans missed out on the post-war housing boom because the program's structure prevented Black people from fully accessing these benefits, a key source of intergenerational wealth for White middle-class families.³⁸⁴ Levittown (NY) was the first large-scale suburban development. It aimed to provide FHA and VA backed affordable

housing to veterans during the post-war housing shortage, although racially restrictive covenants prevented home sales to non-White people.

Responding to decades of disinvestment in urban neighborhoods, the American Housing Act of 1949 allowed the use of eminent domain to clear "slums" as part of an "urban renewal" program that required 300,000 low- and moderate-income families to move from their homes. The FHA favored loans for new suburban construction over older urban properties, which contributed to this urban decay. The National Interstate and Defense Highways Act of 1956 funded the Interstate Highway System and subsidized suburbanization by providing the infrastructure for sprawl. The +40,000-mile federal Interstate Highway System reshaped the postwar U.S. landscape. The largest public works project in U.S. history devastated inner-city neighborhoods, and disproportionately benefitted white middle-class families. These highways often cut through or demolished urban areas, termed segregation by infrastructure, which displaced and further impoverished the residents of these neighborhoods.

The Fair Housing Act of 1968 prohibited discrimination in housing based on race, religion, national origin, sex, handicap, and family status. However, this did not address the decades of investment in white suburban neighborhoods over those long excluded. Excluding additional tax benefits and incentives that have fueled the home building and growth of suburbia, this has led to racial segregation, inequality, perpetual poverty, and car dependency.³⁸⁵ From the New Deal of the 1930s, through the Great Society of the 1960s, up until the 1970s, the federal government required zoning to receive funding for infrastructure, housing subsidies, and disaster recovery. Housing production from the 1920s on has placed a limit of one housing unit on one lot for the majority of land designated as residential in the United States, severely limiting the supply of available and affordable housing. Nolan Gray notes of SFD zoning: "Zoning's purpose from the start has been to prop up incumbent property values, slow the growth of cities, segregate by race and class, and promote ownership of single family housing."³⁸⁶

THE ROLE OF THE COURTS

Perpetuating Exclusionary Zoning and Suppressing Affordable Housing

The courts played a significant role in the establishment of exclusionary SFD zoning in the 1920s, but their role since has allowed it to metastasize and further limit housing production. Experts agree that zoning became a primary tool for promoting racial exclusion³⁸⁷ and to push denser development towards lower-income, more use-diverse areas. This shift in development can drive up housing costs in these neighborhoods, leading to displacement. It also hinders poorer and minority city dwellers from moving closer to jobs or better schools in more prosperous

neighborhoods.³⁸⁸ The rapid expansion of suburbs, fueled by “white flight” from urban centers in the mid-20th century, employed exclusionary zoning practices to reinforce segregation that have withstood legal challenges. The courts of the 1950s and 1960s gave vast deference to municipalities, Norman Williams, professor of Land Use Planning and the Law wrote:

“Under the prevailing ‘fairly debatable’ test, any restriction on land use was upheld, particularly if it concerned a residential area, as long as there was something which could be said in its favor. In other words, if a lawyer defending such a restriction was struck dumb as he rose before the court, and could think of nothing to say, the restriction would be in some real trouble-but as long as he could manage to keep on making a noise like a lawyer, all would be well.”³⁸⁹

In some jurisdictions, any type of development is now subject to discretionary zoning, like design reviews, where housing laws basically do not apply until after citizens have their say and a city certifies an approval.³⁹⁰ San Francisco has a discretionary review process that allows any member of the public to halt a project.³⁹¹ Environmental reviews by themselves can also be a hindrance. A California judge ruled that housing laws don't apply until a city certifies a project's environmental review as complete. Normally, there's a one-year limit on environmental review. However, the court decided this deadline is only advisory, and that courts can't order a city to act on a project during the ongoing environmental review.³⁹² This means years could pass without legal recourse, even if it is unrelated to the environment, or simply a move to exploit a developer. This creates a longer lead time, developmental risks, and limits supply. There were those that felt this deference was excessive. In 1962, the dissenting opinion of Justice Frederick Hall in *Vickers v. Gloucester Township* noted:

Legitimate use of the zoning power by such municipalities does not encompass the right to erect barricades on their boundaries through exclusion or too tight restriction of uses where the real purpose is to prevent feared disruption with a so-called chosen way of life...nor does it encompass provisions designed to let in as new residents only certain kinds of people, or those who can afford to live in favored kinds of housing, or to keep down tax bills of present property owners.

The majority's view could as well support exclusion of modernistic dwelling architecture, split level homes, or even whole developments of identical houses if a bare majority of the township committee does not like their looks.³⁹³

Expansion, Affordability, and Preemption

With the passage of the Housing Act of 1954, the US federal government induced a greater use of city planning by mandating that cities implement a comprehensive city plan to qualify for revenue sharing for urban renewal.³⁹⁴ It's important to distinguish the difference between planning and zoning. Planning defines a vision for the future, where zoning is the regulatory tool to achieve that vision. A comprehensive plan illustrates the intended development pattern at some point in

the future. Many cities had or were in the process of developing comprehensive plans or forming legislation to do so. Henry Fagin, the planning director of the Regional Plan Association of New York, made the first formal effort to address development timing towards a general plan in 1955. In an article in *Law and Contemporary Problems*, "Regulating the Timing of Urban Development," Fagin argued that planning involved both space and time, that during rapid building expansion, communities needed adequate time to assimilate, and that without tools to manage time, space coordination would fail.³⁹⁵ Fagin's work led to a session on development timing at the American Society of Planning Officials conference in Montreal that same year. Phillip P. Green, the session moderator, noted that if only a limited area used development timing, growth might "leapfrog" to uncontrolled areas, and effectiveness required wide-area implementation.³⁹⁶ This would influence Robert Freilich, of Ramapo, NY, who recalled that he "started analyzing the whole area, and realized that the best way to accomplish this was to basically provide a linkage to infrastructure."³⁹⁷

Ramapo, New York was experiencing rapid growth from "white flight" from New York City enabled, in part, to construction of the New York State Freeway. Between 1940 and 1963, the population of the unincorporated area grew by 286 percent, leading to uncoordinated growth that strained or ignored necessary facilities.³⁹⁸ In 1966, the town board voted to eliminate multifamily housing from the zoning ordinance, altogether, despite objections that it discriminated against minorities, and implement a development timing ordinance to control additional expansion into the unincorporated areas.³⁹⁹ Land owners and developers sued, however, in *Golden v. Ramapo* (1972), growth management was upheld. The growth control measures were repealed a decade later as growth waned, but cities had been granted new and unprecedented growth control powers.

The year following the decision, the State of Oregon created the Land Conservation and Development Commission (LCDC) and enacted Senate Bill 100 on a bipartisan basis. The legislation required cities to submit proposed UGBs as part of a comprehensive plan, to the LCDC for approval, according to state planning goals. UGBs restrict housing development and growth by restricting developable land; they rely on regional control of development and cooperation that is beyond the typical zoning extents. A similar system was independently developed for Salem, Oregon, and was not a completely new idea. In fact, Lexington, Kentucky established a UGB in 1958. However, Ramapo established the principle of reasonable use over a reasonable period of time as measured by the life of the general plan.⁴⁰⁰ In essence, it created a movable regional boundary to development that the city adjusted over time, that was enshrined in the police powers that made SFD zoning legal.

Ramapo, like The State of Oregon, felt a need to contain outward expansion, and combined, they show how states can use their preemptive powers to force change at the municipal level. This was not a tactic that was implemented at scale, and the repercussions are described by Rutherford Platt, Land Use Lawyer:

...between 1982 and 2007, some 21 million acres of agricultural land—an area the size of Indiana—were converted to “developed uses.” Most metropolitan areas during the heyday of sprawl consumed land much faster than their rate of population growth. Between 1982 and 1997, “urbanized areas” (as defined by the U.S. Bureau of the Census) increased in area by 47 percent, while the nation’s population grew by only 17 percent.⁴⁰¹

While conservation was the goal in Oregon, in the long-run, the result can be increased land costs as land available for development was now curtailed. Glaeser and Ward (2009)⁴⁰² find that local restrictions have less of an impact on housing costs as long as there are housing options in nearby communities that are not constrained. Overly smothering, restrictions at the state level, like UGBs, can deny less constrained substitute housing options. For this reason care should be taken, with an eye on land costs, with the use of UGBs.

The Euclid decision allowed states to grant police powers to municipalities, but states could revoke or adjust as desired, being powers exclusively held by states. Justice Hall, the dissenting opinion in *Vickers*, would return to preside on the landmark case of *Southern Burlington County N.A.A.C.P. v. Township of Mount Laurel* in 1975, leading to one of the most progressive housing laws in the nation.⁴⁰³ This was a New Jersey State Supreme Court case where the state used their preemptive powers to insist that municipalities had an obligation to provide affordable housing.⁴⁰⁴ The decision made three main points:

- Zoning restrictions must affirmatively promote the general welfare, on a regional basis.
- The need for housing, and particularly for low- and moderate-cost housing, is a major facet of the regional general welfare-and, in effect, a favored use.
- Each municipality has the responsibility for its “fair share” of the regional housing need.

In *Mount Laurel II* (1983), Hall clarified that the planning and zoning powers must not be used to favor rich over poor, and added teeth to the decision by granting a “builder’s remedy.”⁴⁰⁵ A builder’s remedy allows a developer, by state approval, to disregard all zoning regulations when constructing low- and moderate-income housing, provided the municipality’s zoning did not accommodate the project proposal. Legal wrangling has seen this concept through *Laurel IV* as governors and the courts applied their checks-and-balances, but the *Mount Laurel Doctrine* is in effect. This decision is, of course, incredibly important to residents of New Jersey, but it also provided a path forward for states to use the preemptive powers that permitted zoning to exist, to

force the hands of municipalities in loosening land use regulations. As was discussed, precedents from state courts are only for reference in other states, not binding. Ideally, states would not need to force the hand of municipalities. Albouy and Ehrlich find that when state level politicians or courts are involved, housing costs increase by 5.8 and 4.2 percent respectively.⁴⁰⁶

Critics also highlight the homogeneity of development patterns, suburban sprawl, traffic congestion, and excessive paving. The criticisms echo Wolf's observations in 2008,⁴⁰⁷ where he suggested that many zoning problems appeared to be inevitable. Nonetheless, he acknowledged that zoning, despite its shortcomings, was a well-intentioned but flawed effort to improve the quality of life for future residents, businesses, and industries. The responsibility for the impacts of zoning is shared among developers, politicians, lawyers, the community, and planners. Lewis Mumford, in "The City in History" wrote that "The ultimate effect of the suburban escape in our time is, ironically, a low-grade uniform environment from which escape is impossible."⁴⁰⁸ Despite intentions, sprawling development required cars for commuting and shopping, and the lack of walkability has led to increases in diseases like diabetes, obesity, and cardiovascular disease.⁴⁰⁹ It also created new health and environmental problems such as car pollution, leading to respiratory diseases and cancer.⁴¹⁰ Sprawl has also used more land and resources, destroying natural habitats.⁴¹¹ In the 1960s, planners, environmentalists, and architects recognized the negatives of sprawl and sought alternative planning methods.⁴¹² Figures like Jane Jacobs looked back to traditional neighborhood development patterns. Traditional neighborhood design (TND) did not separate commercial and residential buildings, and people could walk to essential destinations like the grocery store and workplace.⁴¹³ Urban developments had a downtown area with centralized commercial and government functions, that often included green public spaces.⁴¹⁴ These neighborhoods were dense because they were planned before automobiles became popular or were invented,⁴¹⁵ or because they were developed based on market conditions in the absence of zoning regulations. Sprawl spurred reform, culminating in the advent of new approaches and alternatives to segregated land use regulations.

This idea of exclusion has become so commonplace that we forget that it is borne of racism and classism, and that legal gymnastics about contagion and plagues are the only justification that they are constitutionally legal in the first place. Mandating the SFD neighborhood, and precluding the highest and best use in doing so, was supposed to be, un-American. If we're no longer excluding multifamily, and now advocate for mixed-use walkable pre-zoning development, and cases like Mount Laurel are removing classist barriers, does the argument for zoning still hold, that it's not a taking of life, liberty, and property without due process defined by the 5th amendment?

Would the Supreme Court legalize zoning for sign regulations and architectural character?

POINTS OF FAILURE

Research has shown that SFD zoning can diminish housing affordability, thereby restricting wealth and exacerbating economic inequality.⁴¹⁶ Studies have also shown that SFD zoning can limit the diversity of housing types and restrict access to opportunities for lower-income households⁴¹⁷. It codifies sprawling low density development in ever expanding cities, requiring inefficient networks of infrastructure that compound costs to society and inhibit municipal solvency. This urban sprawl has led to significant environmental consequences, such as increased carbon emissions from both energy production and automobile use, and loss of natural habitats⁴¹⁸. More immediately, we create heat islands from the excessive latticework of streets and parking lots, all impermeably paved, forcing investments in complex stormwater management systems⁴¹⁹. The excessive use of vehicles to navigate between work and home is costly and also undermines our health and wellbeing, reducing active transportation options and walkability. The increased socio-spatial segregation associated with SFD zoning is leading to disparities in access to quality education, healthcare, and other resources⁴²⁰, and may also limit the ability of cities to adapt to changing demographics and housing needs⁴²¹.

Barring outright exclusion, there are three ways regulations can hinder production: The restrictiveness of the regulation, the complexity, and the process of compliance. Unreasonably restrictive and complex regulations, or requiring a laborious and lengthy approval process, adds to the cost of housing, which can void the viability of development. Restrictiveness and complexity are closely related in that complexity can come from technical sophistication or an increased quantity of more easily understandable restrictions, that complicate full compliance. In leu of a full rewrite, the method used to alter zoning by most cities is the use of amendments, revisions, and overlays, to shift what is governed and how. The last full-scale overhaul of the zoning codes for Dallas, TX was in 1967, with half a million fewer residents. In order to accomodate growth with outdated zoning, Dallas created "planned development districts" (PDs). Now a patchwork of more than a thousand, covering 17 percent of the city's land area.

A less permanent solution is the issuing of variances when projects don't align with approved regulations. The volume of approved variances determines, in a sense, the worth of the regulation as a whole. Before Philadelphia adopted a new code in 2011, more than 40 percent of all projects presented to the zoning board each year needed a variance, or Chicago who prior to their new code in 2004, was processing nearly 1000 zoning variances annually.⁴²² Zoning is complex and onerous, not because of the type of regulation, but because of our need to control

every-single-thing. The 1926 revision of the Standard State Zoning Enabling Act (SSZEA) stated the need for regulation changes as new situations emerge, otherwise, zoning would restrict and harm a community instead of benefiting it.⁴²³ The issuing of thousands of variances tells us the controls we have in place are needlessly slowing projects that could benefit residents, and driving up costs along with it. Overly restrictive zoning that is commonly cleared through the use of variances, provides opportunities for corruption and developmental blackmail, holding projects hostage for concessions and kickbacks.⁴²⁴

Facilitating housing production, through bans on exclusion, the streamlining of processes, or simplifying of regulation, does not mean it will occur, just that it more easily can, if market conditions provide viable development options. Even with land available for development, homeowners are already leveraged and may find it difficult to fund additional construction, more so with elevated interest rates. Small developers use the same lenders as homeowners, and face the same financial headwinds. To increase supply in a developmentally stagnant market, promotion, incentivisation, or stimuli may be required to induce production. Incentives can also invite favoritism and quid pro quo scenarios if not transparently applied and tied to quantitative application mechanisms that bypass discretionary approvals.⁴²⁵

RESTRICTIVE AND COMPLEX REGULATIONS

A precise understanding of relevant zoning information is of paramount importance for all development projects in the United States, as architects, developers, contractors, and other stakeholders rely on it to navigate the convoluted web of regulations. However, obtaining this data is often a time-consuming, challenging, and error-prone process. The increasing complexity of zoning necessitates the use of numerous maps and a profound understanding of intricate legal terms, tables, charts, and diagrams. Municipalities store zoning information in various locations and formats, with each entity managing the data independently. Consequently, the process of obtaining comprehensive zoning information is often protracted. This, in turn, contributes to the lengthy permitting process. According to a report by the Seattle Department of Construction & Inspections, a full review takes on average 739 days, a cumulative 490 days in their control and a cumulative 249 days revising the plans for compliance.⁴²⁶

The Wharton Residential Land Use Regulatory Index (WRLURI) is a measure of regulatory constraint on residential housing production that local land use policies impose on development.⁴²⁷ Research has found that in communities that were highly (or lightly) regulated, they were more (or less) regulated across the 11 sub-indexes that make up the WRLURI.⁴²⁸ The highly restricted communities had more vocal and active pressure groups to influence local

regulations, had higher minimum lot requirements with more one-acre minimums, and lengthy application and approval processes.⁴²⁹ A value of 0.0 on the WRLURI signifies a normative regulatory environment. The top quartile, from 0.6 and above is considered highly regulated, and below -0.6 is a low level of regulation. Restrictive regulations increase both construction and development costs, leading to higher overall housing costs (Figure 30). Gyourko et al have found a strong correlation between the WRLURI value and median home prices, but I have found it to have a significant correlation to both PI ratios and supply of housing, over time. A one (1) unit increase in the WRLURI value represents a 3 percent decrease in the share of land available for development.⁴³⁰ In a more expansive view, Mayer and Sommerville (2000)⁴³¹ and Quigley and Rafael (2005)⁴³² have similar findings, that more restrictive regulations tend to decrease the supply of housing.

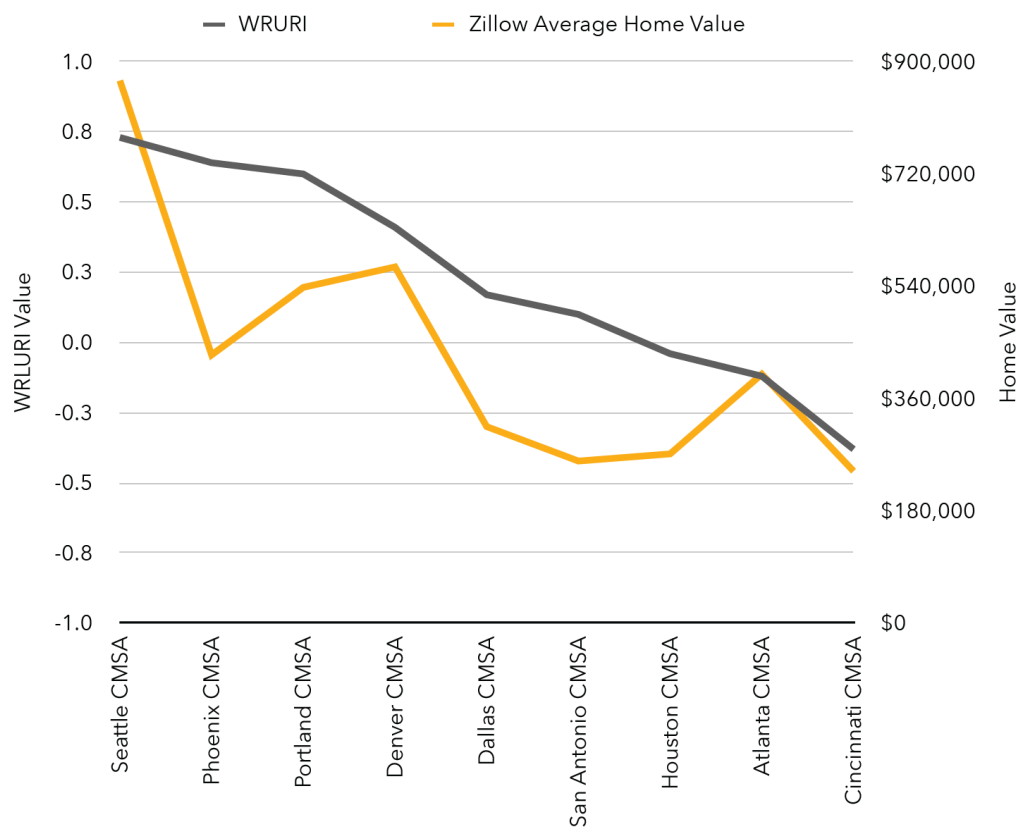


FIGURE 30: RESTRICTIVE REGULATION AND HOME VALUE^{433,434}

Today's regulations are also exceedingly complex, often spanning thousands of pages and requiring teams of experts to interpret and implement them. One would think that there could not be more than a handful of use designations to categorize parcels as residential, commercial, industrial, and civic. But in reality, these categories are further subdivided based on factors such as land use intensity, unit density, or specific commercial activities, with the level of detail becoming increasingly granular. For instance, residential zones might be broken down into single-family

homes, multi-family units, high-density apartments, and mixed-use developments. Commercial zones could be further categorized into retail, office space, hospitality, and entertainment. Industrial zones might differentiate between light manufacturing, heavy industry, and technology parks. Even civic designations can be further detailed, distinguishing between schools, hospitals, government buildings, and public parks. The city of Seattle claims to have 28 categories, but if you look at their GIS data, they append numbers and letters, resulting in more than 280 distinct designations, each with their own set of guidelines.

Regulations for each zone are composed of rules and requirements specific to that type of development. Overlay zones may also be present to incentivize or restrict additional characteristics, or the parcel may be subject to inclusionary zoning requirements. Inclusionary zoning either mandates that a specific percentage of units be affordable, or offers incentives in exchange. It is intended to increase the production of affordable housing, but it also drives up costs for market rate units. Theoretically, this intricate web of regulations aims to ensure that land use is optimized for community needs, environmental sustainability, and economic growth. However, the complexity can also lead to challenges in compliance that suppress development. Current zoning ordinances are often outdated, complex, and susceptible to corruption.⁴³⁵ Despite their flaws, they are seldom discarded. In an article in *The Urbanist*, a non-profit in the Seattle area, Architect Ryan DiRaimo provides a colorful description of Seattle's zoning codes:

*"...today, Seattle's official land use code is 1,400 pages long. To read it cover to cover is the same as reading the Holy Bible from Genesis to Revelations, while tacking on another 200 pages just to call it even. Charles Darwin explained how all life on Earth came to be in just 502 pages, yet we can't even describe a desired building in Seattle's land use code with a book three times as thick. It has become a lesson in urban micromanagement, a lesson that ends with housing shortages, soaring costs, segregation, and unequal development practices that often pick on the poor and disadvantaged."*⁴³⁶

Houston, renowned for its absence of formal zoning laws and land use restrictions, boasts well-designed neighborhoods with excellent connectivity and easily navigable streets. This laissez-faire free market approach to planning encourages a more balanced distribution of land uses, leading some planning experts to claim that Houston's development is comparable, and often superior, to that of other cities.⁴³⁷ It is not the density many planners would prefer, but diverse and affordable housing options, including middle housing, can be found in many neighborhoods throughout the city, near centers of employment.

New Urbanists question the separation of uses, particularly between residential and commercial areas, and the utter lack of density.⁴³⁸ They believe that to recover from sprawl, communities need new regulations in a fresh regulatory environment. Form-based codes (FBC)

were born of the theories of New Urbanism to address this very topic, although, FBCs could codify sprawl just as easily as compact development. New Urbanists argue that they started a restructuring of urban governance with Seaside in the 1980s.⁴³⁹ They consider it the first form-based code, and the most important shift in urban planning since New York City's efforts in the late 19th and early 20th century.⁴⁴⁰ The original Seaside standards, established in 1992, consisted of a single page of text. Both New Urbanism and Garden Cities are reform movements⁴⁴¹ that assume the current system is flawed and needs fixing. However, it's important to note that despite sharing many similarities, what New Urbanism is attempting to fix are many of the repercussions of the Garden City movement.

This illustrates how complex regulations can also have complex repercussions. Traditional Euclidean zoning is often criticized for a multitude of issues, racial segregation, social injustices, political corruption, bureaucratic hurdles, urban sprawl, dead downtowns, and a scarcity of green or public spaces. Wolf (2008) highlighted these repercussions with calls to take local planning and zoning decisions away from local government officials, in light of the potentiality for bribery and corruption.⁴⁴² Despite conflict of interest laws, many board members have ties to the local real estate market as builders, lenders, or contractors. As community taxpayers, they have a vested interest in promoting the local tax base, but it also allows room for bribery and discretionary approvals out of self-interests. Former Miami Mayor Diaz praised Miami 21 in 2013 for its efforts to reduce the influence of the rich and political elite on zoning, replacing a complicated zoning code previously controlled by lawyers, lobbyists, and special interests, and replacing it with a FBC.⁴⁴³ However, despite their potential for simplicity, the form-based codes adopted in Miami spans nearly a thousand pages.⁴⁴⁴

HOUSING COSTS AND SUPPLY ELASTICITY

The level of restriction, complexity, and processes shift with increased density, as do viability metrics and benefits to residents. The net-effect of increased density depends on housing tenure and housing supply elasticity.⁴⁴⁵ Housing supply elasticity refers to the ease of adding housing in a city. Cities with onerous regulations or protracted approval processes would be considered inelastic. Literature is in agreement that owners, whether landlords or homeowners, enjoy a net-benefit of increased density, with respect to property values.⁴⁴⁶ For renters, the net-effect and magnitude depend on the current density, current housing supply, and housing supply elasticity. Increases to density in supply-elastic markets may not hurt renters if the current housing supply isn't overly tight and cities include outward expansion in addition to densification as population increases.⁴⁴⁷ In fact, using the external frontier as a relief valve, there is an elasticity to residential

vacancy rates.⁴⁴⁸ In supply elastic cities, an external frontier that is too loose allows for urban decay and voids of development, and too tight causes land prices to rise, but, theoretically, moderating the external frontier with an eye on residential vacancy rates can steady land prices and housing costs.⁴⁴⁹ This also mitigates rent increases for economic growth that sees incomes rise. Recent research has found that in markets with low vacancy rates, increases in income at the upper end of the distribution are associated with significantly higher rents, which is not experienced in markets with above average vacancy rates.⁴⁵⁰

Glaeser and Gottlieb (2008) and Ahlfeldt & Pietrostefani (2019) find that as density increases, the elasticity of rent increases, an exponential effect not found for wages.⁴⁵¹ They deduce that the net-agglomeration benefits are bell-shaped, where at some apex, the costs of increasing density curb agglomeration benefits more than a corresponding reduction in wages, as a proxy for productivity, from lower densities.⁴⁵² It also means that in lower density cities, the magnitude of costs from increased density are lower, and further from the apex. Exclusive of outward expansion, Combes, Duranton, and Gobillon (2019) find that if the urban footprint is held constant, housing price increases are compounded by increasing land prices as population, and therefore density, increases.⁴⁵³ In the long-term, housing prices would increase twice as much, but as increases to housing supply lag population increases, there would be price hikes in the short-term as people compete for housing.⁴⁵⁴ When supply is restricted through both urban containment and land use policies, and the housing supply is already strained, the net-cost to renters, and inverse net-benefit to owners, becomes progressively divergent.

Duranton & Puga (2020) also note that developers trend towards maximum density and large-scale development to maximize profit, rather than the optimal density for the benefit of residents. If density increases are restricted to specific areas, this typically leads to increased height, beyond what many local builders are capable. This means that large local, or non-local developers would be required for development. The Friedman Doctrine, as developed by the American economist Milton Friedman, states that "an entity's greatest responsibility lies in the satisfaction of its shareholders", and therefore to maximize its revenue to increase returns for the shareholders.⁴⁵⁵ This is giving priority to private benefits versus social benefits. As such, the viewpoint of ethical responsibility for large developers and residents are not always in alignment, and may produce higher-density development than optimal. For this reason, care should be taken when using land use regulations to restrict growth to specific areas in inelastic cities.

Economic Growth and Housing Supply Elasticity

The wage premium for college educated workers increases with the cost of living, but as

costs increase, the increase in real wages is less than the nominal wage increase.⁴⁵⁶ As more college educated workers move into cities, and housing supply is restricted, housing costs increase. The more elastic the housing supply, the more real wages increase as a percentage of nominal wages. There is no premium for lower-income workers though, and as housing costs increase, their real wage decreases, and inequality increases.⁴⁵⁷ These lower-income worker families must then compete for scarce housing with skilled workers. Landlords have financial thresholds for rental housing that, as housing costs increase, unskilled workers are less able to meet. As this continues, unskilled workers are forced further out, into more elastic areas of a metro. While housing costs and transportation costs have an inverse relationship with distance from job centers, in inelastic cities, the slight decreases in housing costs as distance increases are not offset by increasing transportation costs, exacerbating the financial hardships they face.⁴⁵⁸ In the case of an UGB, it can mean into the suburbs, the exurbs beyond the UGB, or to other towns within the metro. Statistically, as the share of college educated workers increases in a city, it either means that the unskilled are being forced out or the natural increase of unskilled population is surpassed by the inflow population of educated workers. In either case, if the housing supply is inelastic, it hurts essential residents.

Higher Density, Higher Costs...it is what it is

Without complicating the relationship between economic growth and density with internal or external scale economies, density is the result of the productivity and amenity value of a location.⁴⁵⁹ Economic growth leads to increases in population, and commuting costs limit horizontal expansion to accommodate that growth.⁴⁶⁰ Competition for space increases the unitary value of that space, higher rents lead to higher densities, and higher densities cause higher construction costs.⁴⁶¹ Gyourko and Saiz (2006) find that, even after controlling for regulatory conditions, labor market variations, and geography, construction of a single family home will cost more as density increases.⁴⁶² However, construction materials and methods are very different for mid-rise buildings than for SFD homes. Ellis (2004) suggests that stacked flats in a mid-rise building cost twice as much to build than a single family home on a per square foot basis.⁴⁶³ Constructing a mid-rise multi-family building is more complex and typically beyond the abilities of the average home builder. The increases in density, translate into increased height, as height increases building codes become more strict, and construction costs increase.⁴⁶⁴ Therefore, there is both a location effect⁴⁶⁵ and a structure-type, or structure effect,⁴⁶⁶ of density on construction costs.⁴⁶⁷

Location effect characteristics with respect to density may include congestion induced transport costs, limited construction staging area, higher labor costs, and restrictive regulations.

Structure effect characteristics from building taller structures may include specialized architecture and engineering services, more sophisticated building materials, robust foundation systems, space for building support and vertical circulation, stricter building codes due to height, and increased costs of financial services. Gyourko and Saiz (2006) provide a construction cost index for location effect to estimate the density elasticity of construction costs.⁴⁶⁸ While Ellis (2004) provides a similar index for structure effect.⁴⁶⁹ To my knowledge, Ahlfeldt & Pietrostefani (2019) are the first to estimate a density elasticity of construction costs that captures the influence of both.⁴⁷⁰

The distinction between location effect and structure effect is important because densification through incremental development doesn't involve building beyond the scale of an SFD home. When allowing multifamily in previously SFD zoned areas, the location effect would be a valid increase in costs, albeit minimal, but the structure effect would not. Since densification in SFD zoned areas do not incur these increased costs, value of floor space should not increase beyond what is typical of that size unit in the city. Any increase in property value would be due to added improvements, on a per lot basis. Alternatively, when strict frontier growth controls are in place, and higher density is restricted to specific areas, it serves as a dual growth control condition where housing costs are compounded. Rigid UGBs increase the costs of land generally, and the location restricted development area increases more than the average land value, a location effect premium. The higher land costs require increased density for project viability, entailing mid-rise or greater construction, which, due to the structure effect, results in higher costs. As a result, housing costs bear both penalties. Increasing densities across a large area to maximize land use efficiency and avoid the location effect, reduces land cost per unit, but stopping short of densities that increases the structure effect is where maximum efficiency is found.

LOCAL LEVEL

In practice, and omitting unknown externalities, density is governed by regulations at differing scales. At the lot scale, there are often limits to permitted usage, dwelling units per lot, minimum lot size, minimum area per dwelling unit, floor area ratios, setbacks, parking requirements, lot coverage, and height limitations. For multifamily, there may be maximum dwelling units per acre, residency requirements, size limits to accessory dwellings, or changes to which building codes apply. Informally, permitting times, municipal fees, and overall restrictiveness of the regulations can limit supply and in turn density. It is important to note that a specific policy tool may govern density, but the goal or intent of policymakers may have been altogether different, based on a different time and a different ideologic sentiment.⁴⁷¹

When the permitted use is exclusively a single unit of housing, the limiting factors for what

gets developed are the unit count and housing market. Whether your lot is 5,000 sf or 5 acres, you can only build what can be sold in the market. As an example, If you have an 8,000 sf lot, you're allowed to build to 50 percent coverage and you have a 28' height limit, the remaining land, after setbacks would allow you to build to the 50 percent coverage limit of 4,000 sf. The height limit would allow you to build two levels, 8,000 sf total. When restricted to a single unit of housing, no developer would build an 8,000 sf house. If the limit was four units of housing, it may be viable to build four 2,000 sf units. So the market (cost per unit) and unit restriction are what governs what is ultimately built. However, once the lot had been developed under the one unit restriction, and the land use changes to allow four units, adding three more units becomes problematic. As building single level homes is more cost efficient, the developer built one unit at 2,000 sf on one level. It's not sited with the intention to build additional units, so access to any additional units may be constrained or impossible. Other limits to construction will become more vital. As siting may be inefficient, the reduction in developable land due to the existing structure would mandate that the units be stacked, and the base square footage governed by setback limits. The height limitations would preclude three levels, and therefore, only two units could be built. This is only to illustrate that, removing the regulation that initially limited the development of the lot, no longer allows one to build to the capacity intended, four units. In this way simply removing the initial limiting factor, is not always the solution. At the local level, some enabling elements are:

- SFD zoning
- Minimum Lot Sizes
- Parking Requirements
- Form Restrictions
- Impact Fees
- Property Taxes
- Growth Control

Single-Family Detached Zoning

There are two constraints denoted in the name, unit count and separation. The designation of single-family implies that there are multiple inhabitants, multiple bedrooms, and that they are related in some manner. Many jurisdictions have additional restrictions on the number of non-family members that can reside in one home. Despite talks of fear of increased density and additional strain on infrastructure, unit density can rise with no increase of people living in the neighborhood, and no increase in built structures. A family of four can live in one house or four singles can live in a four-plex of the same size. The limitation of one unit was meant to exclude all

but a similar slice of Americana. Detached signifies that there can be no shared demising walls, such as row houses, townhomes, or condos, even if they are a single family. If the zoning designation changes and allows additional units, and no other guidance is changed, this could allow outside developers to demolish the existing home and build to capacity. In our previous example, a 2,000 sf single level home could be transformed into a, 8,000 sf 28' tall box with four units if the market permits. If this is not a desired result, there should be binding guidance for future development patterns that illustrate the character intended for the neighborhood. In this case, bulk zoning clarification would be needed to maintain the existing neighborhood scale.

It is common to see demising walls between units on a single lot, such as duplexes. What is not commonly permitted today, unless designed so as a townhouse development, is their allowance between adjoining properties. In such a case, each owner has an easement in the other's portion of the wall. A recorded demising wall agreement or covenant defines the rights and obligations of the parties. In townhouse developments, each owner has a fee simple title to the land under their unit, and they share a common interest in the demising walls with adjacent property owners. Side-yard setbacks in SFD zoned areas, preclude the possibility of such a development scenario. A developer wishing to create a row of townhomes along a street front would need to purchase multiple lots, legally combine them, build the townhomes, then legally divide the lots, in order to move forward with development. Allowing demising walls with a neighboring lot through a recorded contract removes related time and legal expenses.

Minimum Lot Size

Cities may follow rigid zoning, believing a planned city functions better with strict order rather than more organic development patterns, or maintain binding lot regulations as a bargaining chip for regulatory relief, and some may find it politically expedient to mitigate density increases.^{472,473} Whatever the case, minimum lot size is arguably the most density limiting regulation in SFD zoned areas. Used in conjunction with unit count, it is a way to further segregate by socioeconomic status. Prior research has shown that it increases housing costs, exacerbates social segregation, harms the environment by encouraging sprawl, and adversely affects people other than the suburb's existing homeowners.⁴⁷⁴ Minimum lot sizes impact housing on two scales. If unit restrictions are in place, it creates exclusionary conditions. If unit restrictions are not in place, it determines the scale of the development project, and therefore the type of developer. The relationship between distance and the balance of costs of rent to transport are central to urban economics, although requiring a great many assumptions. The early models by William Alonso,⁴⁷⁵ Edwin S. Mills,⁴⁷⁶ and Richard F. Muth⁴⁷⁷, in the 1960s, were based on a monocentric city, with all

jobs located in the city center, and commutes consisting of a roundtrip between work and home. This does not reflect reality, and while there is a reduction in vehicle miles traveled in relation to distance to the city center, it's not much. Duranton and Puga 2019 estimate an elasticity of only 0.07.⁴⁷⁸ However, they do find an equal and opposite relationship between land costs and transport/commuting costs with respect to distance. Land costs and distance are a gradient of location effect on a base cost per SF of land. The closer to the city center, the more location effect impacts the base land cost, and the cost per SF of land increases proportionately (Figure 31).

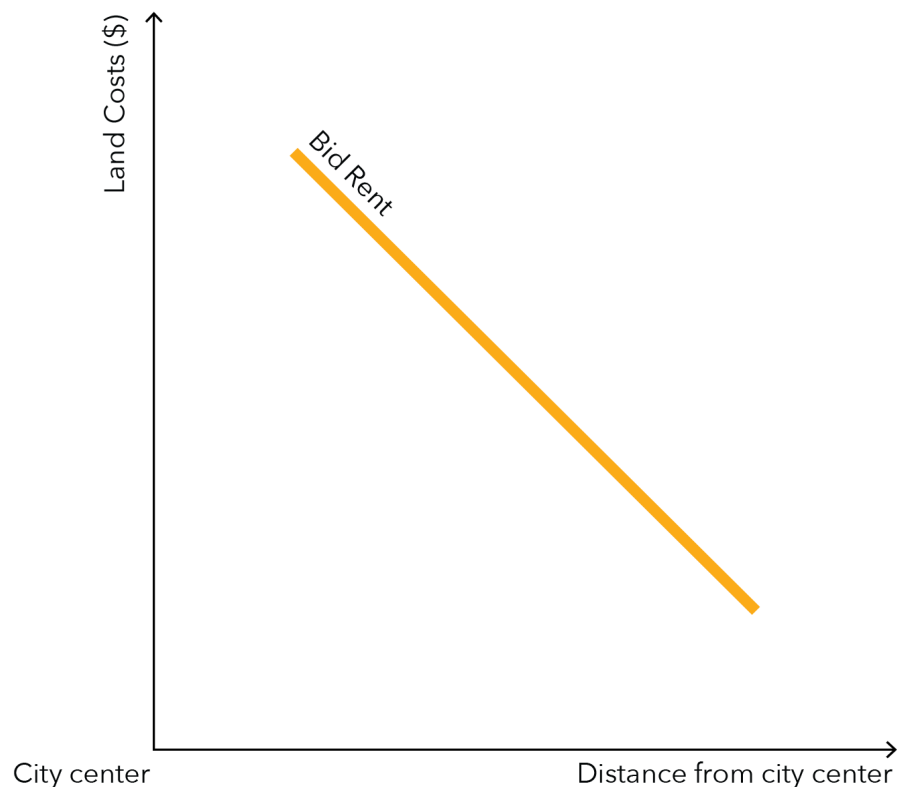


FIGURE 31: URBAN COST GRADIENT

To determine the Total Land Cost (T) of a parcel, let L represent the cost per SF of land, and let P represent the parcel area:

$$L * P = T$$

As distance to the city center decreases, the cost per SF of land increases (L'). If we wish to keep the Total Land Cost (T) static as distance to the city center decreases, then there must be a reduction in the parcel area (P'):

$$L' * P' = T$$

If the parcel area is held constant, as in the case of a minimum lot size, then the Total Land Cost increases (T') as distance to the city center decreases:

$$L' * P = T'$$

In a hypothetical city without land use regulation, builders use land and capital to produce housing. All things equal, a rule of thumb for development of SFD homes is that the land should cost 20-30 percent of the total sales price, we'll say 25 percent for sake of argument. Total Home Value, the price that a developer can sell a home in a given market, is the sum of development cost, construction cost, and O&P. Total Land Cost is one part of development costs. As land costs increase, there is a corresponding increase in the construction cost, because a larger home is required to create the appropriate value that covers the land cost, making the project viable. Therefore, increases in land costs have a compounding effect on Total Home Values when minimum lot sizes restrict a reduction in land consumption for a single unit of housing. It's not likely to be economically viable to build a starter house on an acre of land in the heart of the city. However, if minimum lot sizes are small, the viability of producing an affordable unit increases as distance increases.

Most cities aren't purely monocentric, and a polycentric configuration, with an elastic lot size, can provide diverse housing options throughout the city, to a point. If unit count is restricted, this places a lower end cap on affordable housing. The minimum lot size, through this home value equation, creates a minimum threshold for home values, and as lending is based on a ratio of debt-to-income this sets a minimum threshold for income. Traditionally, a 3:1 ratio between home price and income is a good measure of affordability or ability to purchase a home.⁴⁷⁹ In large metropolitan markets across the nation, the current average is 4.3 for new homes and 4.5 for existing homes.⁴⁸⁰ Land costs do typically rise with shorter distances to the city center or some amenity, and if lot size is held constant, minimum lot regulations cause an income stratification of residents outward from the desired amenity. Some jurisdictions have reduced allowable lot sizes in previously SFD neighborhoods, but if they have been previously developed, it may require the demolition of the existing home to create multiple lots. And, while this reduces the land cost on a per project basis, increasing the development potential of the land increases the cost of the land. Research found that while the UGB was active in Ramapo, NY, the unitary price of quarter acre lots was 73 percent higher than one acre lots.⁴⁸¹

Many jurisdictions issue variances or allow smaller minimums in planned unit developments (PUD). Gray and Furth (2019) find that in Round Rock, TX and Pflugerville, TX, 40 percent of lots in SFD zoned areas were non-compliant with minimum lot regulations.⁴⁸² Their research of unconstrained lots maintains that there was demand for a wide range of lot sizes, even in a homogenous suburban context, where uniformity was only present where minimum lot regulations

bound variations.⁴⁸³ When unit restrictions are removed, minimum lot sizes determine the scale of the development project. As long as height and coverage allow, the increased land costs can be divided between the units and increases to housing costs are minimized. As previously discussed, construction beyond four stories becomes more expensive due to structure effect. In this way, large minimum lot sizes can require development that surpasses this threshold and adds to housing costs. It also may require a more sophisticated general contractor.

Parking Requirements

While off-street parking doesn't limit density directly, it requires valuable land and has a cost that must be absorbed by the project.⁴⁸⁴ Research finds that the addition of one parking space per unit in an affordable housing development increases total development costs 12.5 percent.⁴⁸⁵ Additionally, in a mixed income development, parking costs can be regressive for low-income residents who have lower vehicle ownership rates and spend a larger portion of their income on rent.⁴⁸⁶ For larger projects, parking can be tucked under the housing units, height permitting. However, infill development has stricter height limits, tighter margins, and must contend with the inefficiency of existing development. Requiring off-street spaces on a per unit basis can negate the possibility of development altogether. The costs of parking have been extensively documented⁴⁸⁷, and cumulatively have an impact on housing. Seattle reduced or eliminated parking requirements for development in urban centers and transit stops in 2012. It is estimated that from 2012 to 2017, these parking reductions led to 18,000 fewer parking spots, at a savings of \$500 million.⁴⁸⁸ That's half a billion dollars that wasn't passed on to renters in only five years. Research into the provision of clustered parking in larger developments has shown that the numbers are near the legal minimum requirement and indicate they are a binding regulation.⁴⁸⁹

Impact Fees

Many jurisdictions levy impact fees on developers of new housing to shift more of the marginal costs of infrastructure investments to the developer, away from the average costs and existing residents. Like zoning and land use regulations, impact fees have the potential to discourage new development by raising its cost. For that reason, impact fees should not be flat fee, but applied based on the location of the project, where one unit of middle housing in existing neighborhoods would require very little investment in the short-term or increases in maintenance costs in the long-term, but one unit on the periphery would require more of both. Flat fee pricing, based on the number of homes built, might also lead a developer to build larger homes rather than more, reducing supply and raising prices. The ability to impose an impact fee might make a municipality more willing to permit housing, and some will exempt affordable housing to

incentivize production. Although, if a shortage of housing is placing upward pressure on housing costs, it may be wise to waive impact fees for market rate middle housing projects for owner occupied lots. Studies show that impact fees are associated with higher prices for newly constructed housing, often, the price increase is higher than the fee itself. Higher prices do not necessarily mean that an impact fee should be removed. If housing consumers value the amenities paid for by the fee, the price increase may reflect increased demand.

Property Taxes: Both Sides

Property taxes add to housing costs, and can stifle demand if they push affordability beyond a threshold for a given market. It is an ad valorem tax on land and improvements, and the primary revenue source for local governments. If regulations restrict supply and increase land and/or housing costs, this can increase the value of existing homes, and therefore property taxes. A self-reinforcing cycle. Property tax rates can be variable year-to-year, based on the needs of a city, and fund the building and maintenance of our roads, bridges, water and waste conveyance, and stormwater systems. To lower tax rates, municipalities can increase efficiencies on the spending-side, and increase revenue through added value. The fairness of the tax depends on how those investments are implemented and division of costs, while the accuracy relies on the quality of property valuation by local assessors.

Compact development nearer to the city center requires less infrastructure investment per capita, and makes municipal spending more efficient, which can be reflected in lower property tax rates. Infill development increases the efficiency of the neighborhood infrastructure, incrementally, as development occurs, spreading out infrastructure investments over time. Smart growth development has been found to generate 10 times more tax revenue per acre compared to conventional suburban development,⁴⁹⁰ with a 10 percent average reduction in essential public service delivery, and infrastructure costs that are approximately one-third lower than conventional development patterns.⁴⁹¹ The city of Calgary estimated compact development will save the city \$11 billion in infrastructure costs, making it 33 percent less costly to build the roads, transit, water, recreation, fire, and schools that it expects to need over the next 60 years.⁴⁹² In Nashville, net surplus revenue per acre is as high as 1,150 times more under their downtown form-based code than low-density development.⁴⁹³

Growth Control and the Cost/Value Curve

Growth control regulations can originate from the local level or state mandate. Lexington, Kentucky instituted an Urban Service Area to contain growth in 1958, but the first large scale use was in enacted in Oregon with Senate Bill 100 in 1973.⁴⁹⁴ This required that cities present their

proposed UGBs to the newly formed Land Conservation and Development Commission for approval, ensuring they align with the "19 Statewide Planning Goals." These goals include the preservation of prime agricultural lands, forest conservation, and the protection of open spaces. Additionally, the goals strive to foster the development of "high-quality, livable cities and towns by increasing density, improving public transit options, and encouraging affordable housing close to jobs."⁴⁹⁵ The law requires that a city adjust their UGB every 5 years to maintain 20 years worth of land for development, but that is a difficult metric to quantify. In 2005, they amended the legislation to allow cities to designate Urban Reserves outside the UGB to guide future growth intentions at 40 to 50 years out.

Recently, states and municipalities have introduced "smart growth" regulations. These policies aim to limit growth on the outskirts of metropolitan areas and, in some cases, encourage higher density in central areas, but don't require strict restrictions on the periphery. Opponents believe the UGB system infringes on private property rights and increases the cost of housing, while proponents point to the increased property values of a more desirable community.^{496,497} Increased costs and increased values are the same result from different perspectives. Within a market, there is a price that the market can bear, and a developer finds the target demographic for their projects, which sets the for sale price range. A developer would start at that price, and then subtract out their required Operations & Profit (O&P) percentage. In a market, there is a local cost per SF for construction, and a cost for development for permits, fees, and consultants. These costs are also predictable, based on the size and type of the unit. What remains is the residual land value to make the project viable.

In its simplest form, residual land valuation follows this formula:

$$\text{Sale Value} - \text{Total Cost of Development} = \text{Residual Land Value}$$

In other words, the land residual analysis answers the question: "What can I pay for land in order to maintain project feasibility?" As land costs increase as distance to the city center decreases, minimum lot requirements and costs/SF of land at a given distance from the city center, sets the near distance threshold (v) for development (Figure 32). If a UGB is present, that sets an outside threshold for development (b), thereby narrowing the amount of land viable for development (Figure 33). However, as a UGB limits the amount of land available for development, it alters the bid rent curve and increases the cost of land from a given distance, and further narrows the amount of land that is viable for development (v') (Figure 34). Viability narrows because fewer can afford the new price. As this share of land diminishes, development becomes stagnant, and production must be incentivized (u) to compensate, and make development viable (Figure 35).

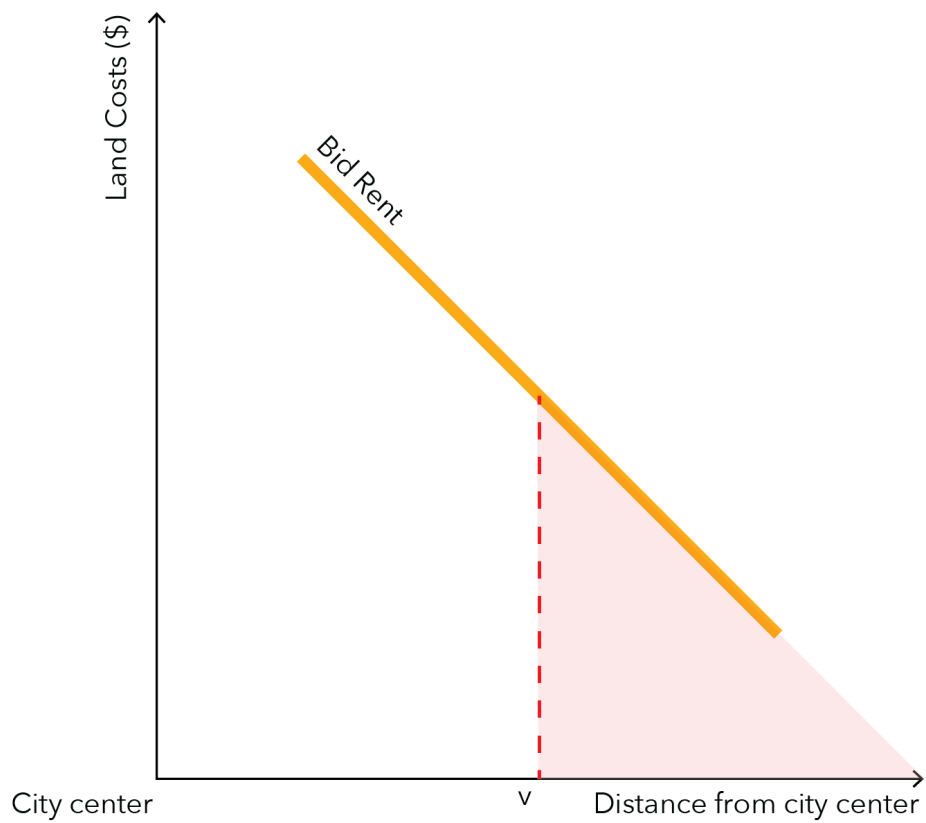


FIGURE 32: LAND COST GRADIENT AND DEVELOPMENT VIABILITY WITH EXPANSION

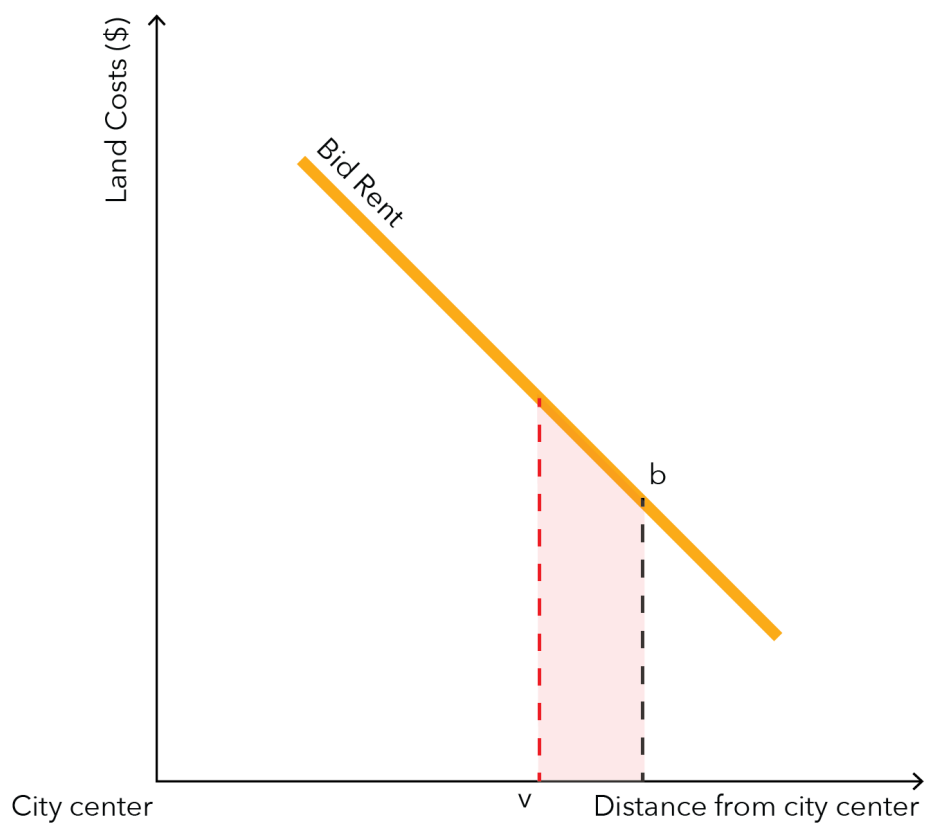


FIGURE 33: URBAN GROWTH BOUNDARY IMPACT TO EXPANSION

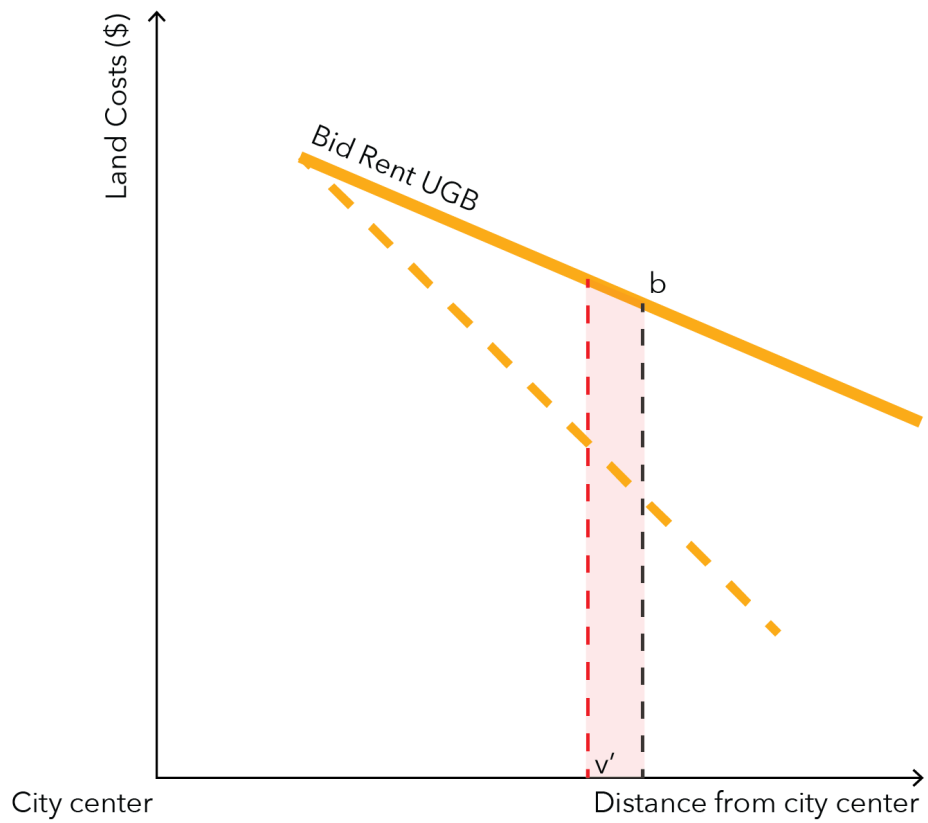


FIGURE 34: ALTERED BID RENT GRADIENT AND VIABILITY

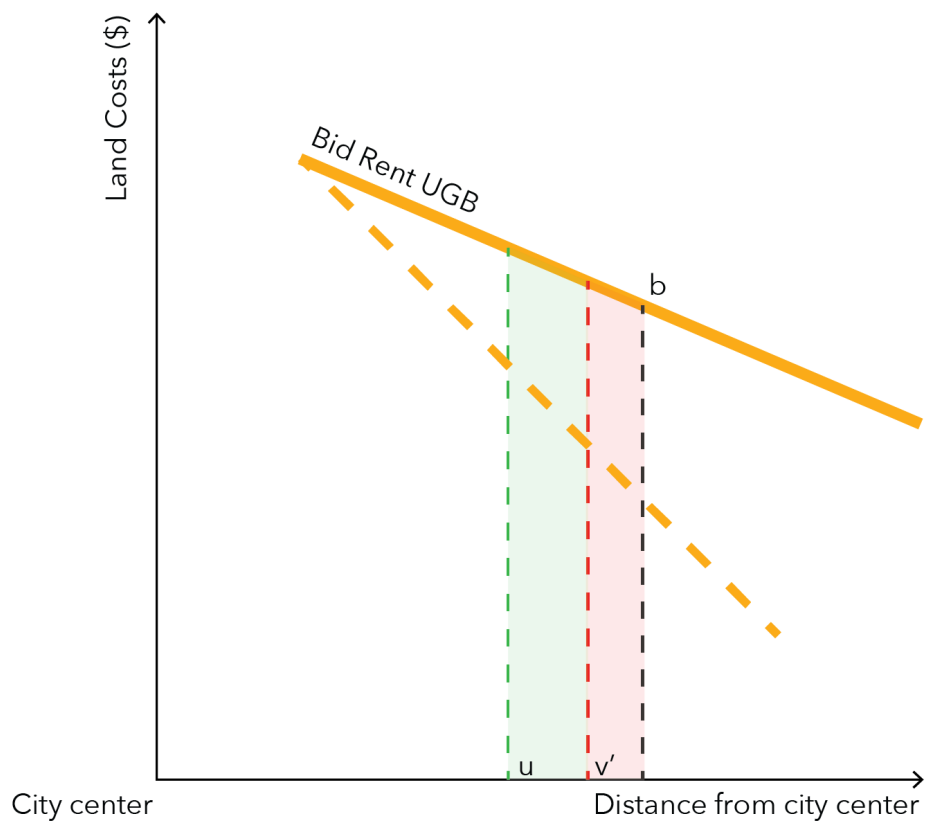


FIGURE 35: ALTERED BID RENT GRADIENT AND VIABILITY WITH INCENTIVES

Rent Control and Inclusionary Zoning

In 1979, Dianne Feinstein, the mayor of San Francisco at the time, and her bipartisan moderate board of supervisors installed a moratorium on rent increases and adopted emergency rent stabilization policies to regulate rent and evictions.⁴⁹⁸ However, the laws purposely did not control rent increases once the unit was vacant, and as a result, landlords used loopholes like owner move-in evictions to evict tenants and raise rents. Owner-occupied properties with four or fewer units were exempt from rent control until 1995.

Shaw provides an example of why San Francisco has the highest WRLURI rating:

"San Francisco city officials would never allow a rent-controlled building to be demolished without the landlord funding tenant relocation and subsidizing tenants' rents elsewhere during the rebuilding. Tenants would get the right to return to their former homes at their prior rent or be given new rent-controlled units at their former rent with the owner subsidizing the difference."⁴⁹⁹

Berkeley passed a Neighborhood Preservation Ordinance in 1973 that required 25 percent of units be affordable for any project over 4 units. It required a public hearing before any permits were issued, and the intent was to stop developers from building apartment buildings in the short-term.⁵⁰⁰ For long-term exclusion, residents also created a committee to downzone the code, barring apartments permanently. This created enough of a financial burden to make development unprofitable, and very little housing was built for decades. This is the only time I have seen inclusionary zoning used to halt development, but it serves as a good example of how inclusionary zoning adds to the cost of housing and can stifle housing production.

The U.S. Department of Housing and Urban Development describes Inclusionary zoning:

Advocates have long promoted inclusionary zoning (IZ) as a viable, market-based strategy for increasing affordable housing and creating mixed-income communities. IZ policies require or encourage developers to set aside a certain percentage of housing units in new or rehabilitated projects for low- and moderate-income residents. This integration of affordable units into market-rate projects creates opportunities for households with diverse socioeconomic backgrounds to live in the same developments and have access to same types of community services and amenities. And because it leverages private- sector development, IZ requires fewer direct public subsidies than do many other state and federal programs that promote mixed-income communities. . . . Since the nation's first IZ ordinance was enacted 40 years ago, more than 400 jurisdictions have adopted the strategy in some form or another.⁵⁰¹

Many inclusionary zoning programs are voluntary and offer density bonuses, expedited approval, and fee waivers to developers, as incentives and to offset costs of providing affordable units. However, if these regulations and fees are easily discarded in exchange for construction of non-market rate units, the outside appearance is that they have become a form of developmental

blackmail that may not be needed in the first place. Many municipalities require developers to build affordable units, provide them offsite, or pay in-lieu fees.⁵⁰² I'm not sure why it is deemed to be legal, or even desired, to make those producing housing pay for affordable housing. It is a direct cost that's passed on to potential homebuyers or renters that makes housing costs more expensive overall. If a city wants to provide affordable housing, tax all residents and build affordable housing. If residents refuse to pay the additional tax, cut less important programs elsewhere, but to add it to the cost of new housing is a disincentive to produce housing, which will cause more residents to be housing cost burdened in the long-term.

THE PROCESS OF DEVELOPMENT

CITY	WRLURI2018	PERMIT APPROVAL TIME
Seattle	0.7	641 Days ⁵⁰³
Phoenix	0.6	32 Days ⁵⁰⁴
Portland	0.6	332 Days ⁵⁰⁵
Denver	0.4	41 Days ⁵⁰⁶
Dallas	0.2	45 Days ^{507*}
San Antonio	0.1	45 Days ^{508*}
Houston	0.0	45 Days ^{509*}
Atlanta	-0.1	45 Days ⁵¹⁰
Cincinnati	-0.4	21 Days ⁵¹¹

TABLE 4: RESTRICTIONS AND PERMIT APPROVAL TIME

*Texas HB 14 states that if the regulatory authority does not take action within 15 days, a third-party review can be initiated by the owner.⁵¹² Any licensed engineer may be a third-party reviewer.

ADMINISTRATIVE PROCESSES

In many municipalities, regulatory costs multiply due to inefficient and duplicative government processes.^{513,514} As regulations grow increasingly intricate, the frequency of interactions between housing developers and officials rises. These interactions typically transpire during project approval phases, such as negotiating zoning amendments, fulfilling environmental assessments, or securing building permits. (Table 4) Prolonged delays frequently stem from inadequate government staffing, accumulated backlogs, and obsolete procedures. Challenges are compounded when developers must navigate multiple agencies or governmental bodies for permits and approvals. More government contacts increase the chance for political intervention. Discretionary approvals often face public pressure from community residents or competing developers. Each approval allows citizens to raise concerns, oppose projects, or file lawsuits. The resulting uncertainty can harm a project more than the regulations themselves. The complexity of

the regulatory environment often leads to miscommunication and misunderstandings, further delaying the approval process. Developers may face additional hurdles such as changing regulations, varying interpretations of the rules by different officials or the courts, and the need for repeated submissions of documentation. These factors not only increase the time required to get projects off the ground but also add to the costs, making housing development more expensive and less predictable. Studies, as noted by May (2005)⁵¹⁵, suggest administrative roadblocks significantly raise housing costs and hinder development. Glaeser and Gyourko (2003) support this, finding a strong link between longer permit times and rising land and housing prices.⁵¹⁶

To mitigate these issues, some jurisdictions are implementing streamlined processes, such as one-stop permit shops, online application systems, and clear guidelines to enhance transparency and efficiency. Collaboration between developers and government officials is crucial to identify bottlenecks and develop solutions that balance regulatory compliance with the need for timely project completion. Effective communication, adequate staffing, and modernized procedures can significantly reduce delays, fostering a more conducive environment for housing development.

ENVIRONMENTAL REVIEWS

Environmental regulations can add costs through extended approval processes, impact mitigation efforts, or the complexity of compliance that requires expert consultation. Governments often require developers to conduct extensive environmental impact analyses, that can ultimately limit where and how development can occur. Two key federal laws are the Clean Water Act and the Endangered Species Act, both of which limit development. The favorability of these regulations is certainly personal and often political. Some residents value the environment more than others, and the priority one assigns to these values are at the individual level. This means that local environmental regulations can vary from state to state or community to community.

Many jurisdictions have discretionary review over various aspects of development, but some allow individual residents to halt projects for additional environmental review. Lawsuits from neighbors or environmental activists can add more costs and delays. This added risk may discourage builders from starting projects, limiting housing supply and increasing prices. Regulation that allows individual residents to halt a project for additional review provides an effective tool to halt all housing production in a given area through attrition, and environmental regulations are a common vehicle. When the process of development is long and arduous, it increases costs of housing by increasing risk, resulting in higher interest rates on Acquisition, Development and Construction (AD&C) loans. The higher interest rate is then carried over a longer permitting period, incurring unnecessary financial services costs. These costs are either passed on

to residents through increased rents, or may void project viability altogether. As regulatory complexity increases, as does interactions between developers and officials. These interactions often occur during project approval stages, such as negotiating zoning changes, satisfying environmental reviews, or obtaining building permits. Long delays often result from insufficient government staffing, backlogs, and outdated procedures.⁵¹⁷ Problems increase when developers must deal with multiple agencies or governments for permits and approvals. All of this adds cost and limits housing production.

SUMMATION

The ubiquitous and rapid adoption of comprehensive zoning can be attributed to various factors, aided by the enactment of the 1926 Standard Zoning Enabling Act (SZA), the 1928 Standard City Planning Enabling Act (SCPEA), and the pivotal Euclid case.⁵¹⁸ In the early 20th century, city planners faced competing challenges of economic development on one hand and poor health conditions associated with overcrowding on the other. These planners were deeply committed to improving quality of life, eagerly awaiting the implementation of zoning⁵¹⁹ as a key tool in shaping a future American city that was not only organized and healthy but also efficient and aesthetically pleasing.⁵²⁰ Both local and state judiciary bodies adjusted their decisions to align with the Euclid ruling, delegating zoning authority to city councils as long as it was vaguely deemed beneficial to community health, safety, morals, and general welfare.⁵²¹ Cities throughout the United States swiftly embraced zoning practices in an effort to rectify contentious building and planning decisions, while also realizing veiled segregationist intents. Zoning was heralded as a cure-all solution, implemented so hastily that their potential repercussions were not fully understood.⁵²² It caused economic, social, and environmental disparities between demographic groups split by race, religion, and wealth. Boyer's (1986)⁵²³ analysis characterized the 1920s as the nascent period of planning and zoning, with the primary goal being the restoration of land values, regulation of land use, oversight of urban structure, and facilitation of market efficiency. This was an altruistic view that was not shared by all planners of the day. Professionals like Harland Bartholomew, who said of zoning in St. Louis, that without zoning, "values have depreciated, homes are either vacant or occupied by colored people.",⁵²⁴ Unfortunately, as Julius Caesar said, "Omnia mala exempla ex rebus bonis orta sunt", or "All bad precedents began as justifiable measures." Unlike overtly prescriptive segregationist zoning or racial covenants, by being proscriptive, comprehensive zoning didn't have to say the quiet part out loud, and preserved the possibilities for manipulation towards desired outcomes. "Whites only" became "No multi-family housing" and minimum lot sizes.

The separation of single-family and multi-family homes, remains central to understanding the core of housing affordability. To some extent, use, economic, and bulk zoning all serve a purpose, but segregational zoning, overt or not, has no constitutional purpose. As the name implies, SFD zoning allows one detached home per lot, where minimum lot sizes determine a cost threshold for inclusion, and limits housing production. Given the demographics of the day, from its origins to today's NIMBY conflicts on affordability, American Euclidean zoning has always been linked to exclusion based on race, ethnicity, and socioeconomic status. Those meant as insiders used devices like hierarchical use zoning, minimum lot sizes, and more to keep out immigrants, minorities, working class essential workers, students, and the elderly. Housing for one segment of the population was and is subsidized and incentivized, building wealth and generation opportunity, while others faced urban renewal and segregation by infrastructure, for over one hundred years.

Cities no longer face the rapid growth of the past, and growth control measures should be revisited for restrictive relevance. Reviewing current zoning to minimize limits to housing production, alleviate complexity and other regulatory costs, and re-apply incentives and subsidies equitably can begin the process of moving from diminishing housing affordability to increasing it, restricting wealth to helping accrue it, from compounding costs to society, to avoiding them. We need not continue to enable mistakes of the past. There are numerous factors that, one-by-one add costs or require time, and cumulatively, it has become a drag on production. Most economists are in agreement that regulation like minimum lot sizes make housing more expensive.⁵²⁵ Rising impact fees, delay requirements, and land approval processes result in higher rents and home prices.⁵²⁶ Output per worker over time or homes built per worker often reflects regulatory costs in time or construction complexity that can be tied to building codes.⁵²⁷ Loosening regulations could encourage more innovation, especially in regard to off-site construction.

CHAPTER THREE: Recourse & Constraints

RECOURSE & CONSTRAINTS

COURSES OF ACTION TOWARDS CORRECTION AND IMPEDIMENTS TO SUCCESS

The focus of this research is on the use of land use policies to address a growing housing affordability crisis, and their economic viability. Zoning, while initially conceived as a means to promote health, safety, and welfare, has not always adhered to this purpose, a concern foreseen by early critics in the *Euclid v. Ambler* case.⁵²⁸ Zoning can exert a significant influence on housing affordability by restricting housing development through direct bans on certain structures or requiring adherence to complex and onerous regulations. The contentious local debates, as well as the protracted land-use review processes, underscore the profound influence of zoning on housing availability. In the United States, we are fortunate that our regulations are written locally, biased towards market-based, and are not part of a generic national agenda that can shift from red to blue and back. Such back and forth creates more disjointed and fractured top-down land use regulation that is ultimately too thick with bureaucracy. In the nineteenth and early twentieth centuries, Britain had a market-driven approach to urban planning, which changed with the Town and Country Planning Act of 1947.

Since then, Local Planning Authorities (LPA) must follow national guidelines for urban planning. Every plot in Britain must belong to a use class, such as residential, industrial, or commercial. Developing land outside designated urban areas is rare. Public-sector planners fix the supply of land within each use class and determine land allocation for production and housing. The Town center First (TCF) policy was introduced in 1988 and revised in 1996. TCF allows planning authorities to control commercial activity in urban areas using a 'needs test' and a 'sequential test.' The needs test requires proof that a new store is needed and does not harm an existing store of the same type.⁵²⁹ This test virtually eliminates local competition. The sequential test prioritizes town center locations over less central ones, creating a more centralized distribution of commerce. Due to the added cost of land-use regulations, retail, housing, and office space are more expensive. This extra cost is known as the 'regulatory tax.' The regulatory tax is the difference between the marginal real estate price and the marginal construction cost.⁵³⁰ Studies⁵³¹ calculate that London's regulatory tax is 800 percent in the West End, 449 percent in the City of London, and 327 percent in Canary Wharf. The West End has the highest tax due to stricter building height regulations.

Euclidean zoning appears tame in comparison, but many European nations have strict price controls and a number of additional regulations, taxes, and social support programs that somehow fill the gaps, and people make their way, there, same as here. We are already a relatively libertarian country, and the addition of state governments and separation of powers, such centralized

micromanagement is impossible. The precedent set by Euclid granted states the ability to give police power to local governing bodies. The legalization of this state enabling legislation for planning and land-use established the framework for community building. These statutes empower local governments to create comprehensive plans, zone land, and regulate development; they also permit local investments and revenues for infrastructure and services like streets and schools.⁵³² This also means states have preemption powers to require local governing bodies to reform their zoning. While Oregon uses preemption to force localities to accept the elimination of SFD zoning, other states like Texas may potentially use those powers to enshrine it.⁵³³

HOW GOVERNING BODIES ARE ADDRESSING THE HOUSING CRISIS

The federal government has supported housing, through many programs and policies, since the 1930s. Today, Congress funds many programs, and HUD manages most of these, with tax benefits from the Treasury Department, and rural aid from the Department of Agriculture. The U.S. government offers three main types of housing support, which are not mutually exclusive:

HELP WITH HOME BUYING AND FINANCING

- Direct aid for home purchase costs
- Tax credits
- Mortgage insurance

RENTAL AID

- Direct aid through rent vouchers for the private market
- Low-cost units owned by public housing agencies or private landlords under contract
- Limited developer support for the construction of new affordable rentals

SUPPORT FOR STATE AND LOCAL GOVERNMENTS⁵³⁴

- Flexible block grants for rental, homeownership, or community development
- Special-purpose grants
- Tax-based programs

These programs can support both single-family and multi-family housing, help eligible buyers to secure mortgages, and for developers to finance the construction of affordable rentals. Homeownership has been a core aspect of U.S. housing policy for 80 years. The government supports homeownership in six ways:⁵³⁵

1. Homeowners can deduct mortgage interest and property taxes. This lowers their tax bill.

2. When selling a home, owners don't pay taxes on up to \$250,000 in profits.
3. Investors who buy state mortgage bonds don't pay federal income tax on them.
4. Some rural and low-income buyers get grants for down payments and cheaper mortgages.
5. The government backs mortgage securities from certain agencies. This protects investors.
6. Government programs insure lenders. This helps low-income people get mortgages.

These policies work synergistically to make buying a home easier and more affordable for many Americans. Experts disagree on whether promoting homeownership has been a beneficial policy goal for the U.S. Some believe the policies have aimed to promote homeownership,⁵³⁶ while others argue that many federal programs had other purposes.⁵³⁷ However, all agree that owning land and a home has long been part of the American dream.⁵³⁸ But homeownership only became a major federal policy concern in 1921. That year, Commerce Secretary Herbert Hoover launched a national homeownership campaign to convince middle-class families that buying a home was a safe investment and would promote family values.⁵³⁹ Over the next decade, the Commerce Department took many steps to encourage homeownership. The Great Depression caused a foreclosure crisis. Nearly a million homes were lost between 1931 and 1933. The federal response had four parts:⁵⁴⁰

1. The Federal Home Loan Bank system was created in 1932. It boosted liquidity and confidence in the failing savings and loan industry.
2. The Home Owners Loan Corporation (HOLC) was set up in 1933. It refinanced at-risk mortgages using a new tool: the 30-year, fixed-rate, fully amortizing mortgage.
3. The FHA created mortgage insurance. This encouraged cautious lenders to offer loans with smaller down payments on new homes. In 1944, a similar program for veterans was launched under the Veterans' Administration.
4. Fannie Mae bought and securitized single-family mortgages. This created a nationwide secondary mortgage market and provided more liquidity to commercial banks. Freddie Mac was later created in 1970 to serve a similar role for savings and loans.

EARLY HOUSING SUPPORT: 1921-1949

HOMEOWNER SUPPORT

The Great Depression sparked the federal government's first major housing policy. Before the 1930s, mortgages only financed 40 percent to 50 percent of property values, were often three-to five-year terms, and required borrowers to renegotiate at the end of the term if the note was not paid in full. During the Great Depression, most lenders didn't have the liquidity to refinance loans, leading to foreclosures. The HOLC refinanced over a million mortgages between 1933 and 1935,

protecting one in five urban homeowners from foreclosure. The government responded to high unemployment and foreclosures by creating the Housing Act of 1934, which encouraged lenders to help stimulate job growth in the building industry, and spur housing construction. It also established the Federal Housing Administration (FHA), which protected lenders against losses on home loans. The FHA introduced 20-year mortgages with full repayment at term's end. This led to long-term mortgages becoming standard. Only the federal government could act on such a large scale. The 15- and 30-year mortgages became more common, even without FHA backing, with a considerable down payments. The role of the federal government in housing expanded in 1938 with the establishment of the Federal National Mortgage Association (Fannie Mae). Fannie Mae helped create a new secondary mortgage market.

RENTAL SUPPORT

The government also addressed rental housing during the Depression. Roosevelt's Works Progress Administration (WPA) added a housing division, building low-income housing nationwide, bypassing local governments. This was not taken well locally. The U.S. Housing Act of 1937 replaced the WPA's Housing Division, creating the United States Housing Agency, what would eventually become HUD, and the Low-Rent Public Housing program.⁵⁴¹ This program was based on coordination between the federal, state, and local governments to create local public housing authorities (PHAs) to receive federal funding to build and maintain low-income public housing.⁵⁴² It used federal funds and credit to help states and local governments reduce unemployment and improve housing, where, in both rural and urban areas, low-income families lacked safe, clean housing. Federal participation was legally based on the premise that poor housing harms the health, safety, and morals of citizens.

STATUS OF POLICY

Congress passed the 1949 Housing Act to provide "a decent home and a suitable living environment for every American family", marking the first real national housing policy, as opposed to ad-hoc programs.⁵⁴³ It also gave USDA power to help farmers improve their homes. The goal was to create safe, decent living conditions for farmers and their workers. USDA could offer loans and grants to those who couldn't afford full loans. Over time, the program expanded to include all rural residents.⁵⁴⁴

In President Truman's 1949 State of the Union Address, he highlighted the housing crisis:

"Five million families are still living in slums and firetraps...and three million families share their homes with others... The housing shortage continues to be acute. As an immediate step, the Congress should enact the provisions for low-rent public housing, slum clearance, farm housing, and housing research which I have

repeatedly recommended. The number of low-rent public housing units provided for in the legislation should be increased to 1 million units in the next 7 years. Even this number of units will not begin to meet our need for new housing."⁵⁴⁵

According to McCarty et al., The 1949 Housing Act introduced several key programs:⁵⁴⁶

- **Established a federal urban redevelopment and slum clearance program**, authorizing federal loans of \$1 billion over a five-year period to help local redevelopment agencies acquire slum properties and assemble sites for redevelopment
- **Reactivated the public housing program for low-income families** (which had been on hold during World War II), authorizing subsidies to local housing authorities sufficient to build 810,000 units over six years
- **Expanded the FHA's mortgage insurance program** to promote home building and homeownership
- **Created within the U.S. Department of Agriculture a program of financial assistance** and subsidies to improve housing conditions on farms and in rural areas
 - **Section 515: Rural Rental and Cooperative Housing:** The Rural Housing Service can give direct loans to build rural rental and cooperative housing. These loans have a 1 percent interest rate and a 50-year repayment term. Most borrowers must show they need this help to offer affordable housing.
 - **Section 538: Loan Guarantees for Private Lenders:** USDA backs loans from private lenders to developers. These loans help create affordable rural rental housing for low- and moderate-income families.
 - **Section 521: Rental Assistance:** This program pays property owners directly. It covers the gap between what tenants pay (30 percent of their income) and the USDA-approved rent for rental units. Owners must run the property with limited profit.
- **Authorized federal grants for research**, primarily to improve the productivity of the housing industry.

The impact of these programs varied over time. Enthusiasm for federal housing spending fluctuated.⁵⁴⁷ Still, the 1949 Housing Act laid the groundwork for future housing policies in America. Despite these efforts, housing policy remained contentious. President Eisenhower attempted to cut spending on housing in the 1950s, while Congress pushed back, seeking to increase it.⁵⁴⁸

A MODEL RESPONSE TO A HOUSING SHORTAGE 1950-1972

In the 1950s, many families earned too much for public housing but too little for market-rate homes. Congress wanted affordable rentals from the private sector without creating a costly new program. The Housing Act of 1959 provided government incentives to encourage private developers to build homes for low- and moderate-income families. This law created the Section 202 Housing for the Elderly program, offering low-interest loans to build affordable housing for

moderate-income seniors aged 62 and up. Lower interest rates allowed nonprofit developers to charge lower rents, and maintain viability to repay government loans. From 1964 to 1990, it also housed non-elderly disabled people, when Congress created the Section 811 Supportive Housing for Persons with Disabilities Program. Now, it provides capital grants and rental assistance,⁵⁴⁹ similar to project-based Section 8, it serves very low-income elderly households. These are homes where incomes are at or below 50 percent of the area median.

The Housing Act of 1961 expanded private sector involvement in low- and moderate-income housing. It established the Section 221 Below Market Interest Rate (BMIR) program. This program offered low-interest loans to private developers, including for-profit, and insured those mortgages. The Housing and Urban Development Act of 1965 added rental assistance to the BMIR program, introducing the Rent Supplement Program. This program capped tenant rents at 20 percent of their income and paid owners the difference between fair market rent. The Act also created Section 23, the leased housing program, to subsidize existing private rental units. Two new programs were created with The Housing and Urban Development Act of 1968. The Act also established the Section 235 and Section 236 programs. The Section 236 program subsidized private developers' mortgage interest and ensured they paid no more than 1 percent interest, and also offered rent subsidies for the poorest tenants.⁵⁵⁰ The Section 235 program helped individual homeowners by reducing mortgage interest payments for eligible borrowers, with FHA-insured mortgages with lower interest rates, or, HUD paid lenders to cut mortgage rates to as low as 1 percent.

Private developer subsidies could be viewed as a significant contributor to the creation of rental units, if one were to consider the outcomes of various federal programs. Section 236 and Section 221, for instance, resulted in the construction of approximately 700,000 units, while the Section 202 program generated over 45,000 units specifically for elderly residents.⁵⁵¹ By 1972, the Section 235 program had assisted nearly 400,000 homeowners, and Section 23 had provided rent subsidies for more than 38,000 private rental units. It is worth noting that public housing remained the most substantial program, with roughly 1 million units subsidized by the early 1970s. Including the USDA programs of 1949, if there was a 20-year period that illustrated how to effectively exit the current housing crisis, this was it.

In the late 1950s, the FHA altered its underwriting rules to put an end to federal redlining, but many lenders in the private market continued the practice. When HUD was established in 1965, its main emphasis was on supply-side strategies, but tainted with the same prejudicial influence that shaped exclusionary zoning. In 1968, three commissions, focusing on civil rights legislation, revived housing's importance to the fight: The Kerner Commission highlighted housing

discrimination, The Douglas Commission examined demographic and economic forces shaping urban landscapes, and The Kaiser Commission proposed ambitious federal housing production targets. The Fair Housing Act of 1968 marked a turning point, when federal agencies began to fight redlining actively in promotion of minority homeownership. It banned housing discrimination based on race, religion, family status, sex, and disability.⁵⁵² The law also required HUD to actively promote fair housing. The resulting 1968 Act created Section 235 for homebuyers, Section 236 for renters, and established the Government National Mortgage Association (Ginnie Mae) to back mortgages for veterans, government employees, and qualified buyers.

For years, FHA discouraged insurance in non-white or mixed areas and supported race-based occupancy restrictions.⁵⁵³ These policies limited minority homeownership and increased segregation. Congress passed the Community Reinvestment Act (CRA) in 1977, requiring federally insured banks to fulfill local credit needs rather than using local deposits to fund lending elsewhere, leading to neighborhood decline. They also had to prove they served low-income households in order to grow or expand. These lending agreements were widespread, by 2002 the National Reinvestment Coalition reported loans totaling \$1.5 trillion. CRA mortgages performed well with default rates below 1 percent, matching or beating many conventional mortgages.

PARTISAN MANAGEMENT STYLE: 1973-2007

IF LEFT IS NOT RIGHT, THEN RIGHT IS THE ONLY ONE LEFT, RIGHT?

The Nixon Administration signaled a new level of partisanship that continues today. Carl Rove, Dick Cheney, and Newt Gingrich had the ear of the President and would backseat steer a new Republican agenda until the Obama Administration took control of the downward spiral. Republicans were intent on centralized control of deregulation and tax cuts, and Democrats who believed "all politics is local."⁵⁵⁴ The 1970s saw growing concerns about housing subsidy programs, people questioned their cost, effectiveness, and fairness.⁵⁵⁵ The government tested new approaches, comparing construction subsidies to rental assistance. President Nixon criticized existing programs for not serving families equally, providing poor housing that costs too much. In 1973, President Nixon halted most federal rental subsidy programs and ordered a National Housing Policy Review to rethink current programs to eliminate overlapping and conflicting programs. Rethinking federal housing policy involved a recalibration of expectations regarding the government's role and capabilities. A notable transition towards demand-side housing policy began with the Housing and Community Development Act of 1974, which introduced the Section 8 Housing Choice Voucher program, the first comprehensive program of its kind, combining features from earlier programs. This initiative offered subsidies to low-income households, in the form of

vouchers, to assist with rents in the private market. The expansion of Section 8, in the 1980s, reflected a broader policy change to empower individuals by giving them access to the private market, however, the issue with demand-side tenant housing assistance is that it is useless when there is a shortage of housing units, and can't be used by those intent on increasing supply. Over time, Section 8 proved more expensive for new construction than for existing housing. With the Housing and Urban-Rural Recovery Act of 1983, the government stopped using Section 8 for new construction and focused on existing properties. With the passage of the act, a more flexible Housing Voucher was created, similar to Section 8, which was made permanent in 1985.

The Reagan Commission advocated for a fundamental shift in policy direction, emphasizing deregulation of the banking industry and prioritizing private enterprise in the provision of affordable housing.⁵⁵⁶ The Commission concluded that government intervention should be limited to addressing market failures, but Congress wasn't ready for such a drastic change. In 1987-88, Democrats took control of the House and Senate (and remained in control until 1994) and ordered its own review, the National Housing Task Force. The Task Force took a path between the Kaiser Commission and the more market-centric Reagan Commission, keeping the government's role in housing policy, but also focused on using private resources and nonprofits to provide housing.⁵⁵⁷

Reagan tax cuts and increased military spending in the mid-1980s, reduced funds for social programs, including housing support. With less federal support, state and local governments became more involved, coordinating with private for-profit and nonprofit groups to find new ways to provide housing in their areas.⁵⁵⁸ Following the guidance of recently retired Democrat, Tip O'Neil, from the late 1980s through the 1990s, leadership in Congress recognized the value of local control, giving more power to state and local governments to make housing decisions using block grants and tax credits.⁵⁵⁹ Initiated during the Reagan Administration, the Low Income Housing Tax Credit (LIHTC) program emerged from tax system simplification efforts, operating through the tax system and state housing finance agencies. The federal government provides tax credits to states, the state housing agencies give these credits to developers, and in return, developers must build or renovate homes for low-income families. The developers sell the credits to investors to reduce funding needs, allowing owners to charge less rent. Investors then get lower federal taxes for 10 years. Rent can't exceed 30 percent of the set income limit, and must remain affordable for at least 15 years. In 2018, the program cost \$9 billion in lost taxes, from over 2.3 million homes under contract. To get credits, projects must meet one of three rules.⁵⁶⁰

1. 20 percent of homes for families earning 50 percent or less of local median income
2. 40 percent of homes for families earning 60 percent or less of local median income

3. Mix of incomes, averaging 60 percent or less of local median income

The G. H. W. Bush Administration signed the bipartisan Cranston-Gonzalez National Affordable Housing Act into law in 1990. It established the HOME program, giving federal grants to municipalities to fill gaps between older public housing and Section 8 rental assistance for families earning 80 percent or less of the area's median income. This program was a large, flexible block grant for states and localities, based on the Democrat's Community Development Block Grant from 1974 (now one of the longest-running HUD programs). Understanding the need to rebuild, repair, or demolish large numbers of vacant and deteriorating public housing units, Congress established the National Commission on Severely Distressed Public Housing. Their 1992 report⁵⁶¹ proposed a demonstration project to replace obsolete "public housing with mixed-income, mixed-use developments designed to catalyze positive community change."⁵⁶² Henry Cisneros, the incoming HUD Secretary, embraced the idea wholeheartedly. The Clinton Administration expanded it, creating the HOPE VI public housing replacement program.

HOPE VI projects were site specific designed low- or medium-rise buildings, with higher quality construction methods and more desirable amenities, such as business centers.⁵⁶³ HUD made this possible by allowing higher construction costs for HOPE VI projects. They "encouraged local Public Housing Agencies (PHA) to combine HOPE VI funding with other sources, including project-based vouchers and the LIHTC."⁵⁶⁴ HOPE VI projects were intended to serve as seeds of walkability, some even included neighborhood retail, that blended into existing neighborhoods, to not isolate residents, . HOPE VI sparked debate from the beginning. Housing authorities had to replace demolished units, but there was not a requirement to maintain the same affordability levels. A goal of HOPE VI was replacing the concentration of low-income housing with mixed-income housing to reduce the concentration of poverty. This meant higher rents for many former tenants who wanted to return. PHAs could now use stricter screening for new and returning tenants, and as a result, only 44 percent of original tenants would return to HOPE VI units.⁵⁶⁵ The Bush Administration tried to end the program each year, and each year, Congress kept it alive, sharply reducing its budget. Funding continued to shrink until the Choice Neighborhoods Initiative replaced HOPE VI in 2011. In the end, HOPE VI demolished 155,000 units and built 97,400 across 259 projects, although not all were low-income units.⁵⁶⁶

DEREGULATION, THE GROUNDWORK FOR BUST

In 1992, with the support of the Bush Administration, Congress started pushing Fannie Mae and Freddie Mac to assume more minority and low-income mortgages.⁵⁶⁷ Homeownership rates jumped quickly, with homeownership rates climbing from 64.2 percent in 1990 to 69 percent in

2004.⁵⁶⁸ White homeownership grew from 68 percent to 75 percent between 1990 and 2005. Non-White homeownership increased from 44 percent to 51 percent in the same period, with the number of black homeowners growing from 4.3 million in 1990 to 6.5 million in 2005.⁵⁶⁹ However, the Republicans took control of Congress following the 1994 elections, and sidelined housing policy. Struggling to maintain policy relevance, President Clinton tacked sharply to the right, and, together with Congress, continued the deregulation of the banking industry as Reagan had recommended.⁵⁷⁰

They launched the National Homeownership Strategy in 1995 with the goal to create 8 million new homeowners by 2000.⁵⁷¹ Fannie Mae and Freddie Mac, the two government sponsored enterprises, faced pressure to increase mortgage lending and boost homeownership among minority and moderate-income families. President George W. Bush pushed even harder to create an "ownership society,"⁵⁷² and over time, Fannie Mae and Freddie Mac slowly gave in to demands. This became his main domestic policy aim, using Fannie Mae and Freddie Mac as key tools to achieve this goal. This market distortion props up demand and hides the telltales that serve as warning signs for a need to tack. The Republicans controlled the House and Senate from 1995-2007, also controlling the Presidency 2001-2009. During this time, the banking industry was deregulated further, the protections of the Glass-Steagall Act were dismantled with the passage of the Financial Modernization Act in 1999, and banking conglomerates began to merge banking, insurance underwriting, and securities activities, the groundwork for the bust and financial crisis.⁵⁷³

As the U.S. economy expanded during the 1990s, housing prices and rents again began rising, widening the affordability gap between homeowners and low- and moderate-income renters. Loath to spend public money but needing to respond, Congress created the bipartisan Millennial Housing Commission in 2000 to identify ways to galvanize the private sector to better provide affordable housing. Exceeding its narrow mandate, the Commission's final report recommended a substantial expansion and realignment of federal housing programs.⁵⁷⁴ But in the aftermath of September 11, 2001, neither Congress nor President Bush was in the mood for any major new domestic spending initiatives.

In the 1990s, housing costs widened the gap between homeowners and low- and moderate-income renters, as prices and rents escalated with an expanding economy. Congress formed the bipartisan Millennial Housing Commission in 2000, to find ways to motivate the private sector to provide affordable housing. Their final report called for a major overhaul of federal housing programs, but the timing was poor. The 9/11 attacks changed priorities, and neither Congress nor President Bush wanted to start big new domestic spending projects. The "all-hands" focus of

attention to New York and the Middle East meant extensions and continuations of existing programs at HUD.

In 2002, the George W. Bush administration introduced the Blueprint for the American Dream,⁵⁷⁵ which shared ideas with Clinton's strategy, such as better homebuyer education and more financial assistance. Bush's plan, however, went further, targeting an additional 5.5 million new minority homeowners by 2010. A downpayment assistance program was authorized in 2003,⁵⁷⁶ further propping up demand, and over time, federal housing shifted from broad homeownership encouragement to pushing risky loans on vulnerable borrowers. Republicans expanded their efforts in 2003, requiring Fannie Mae and Freddie Mac to back mortgages for underserved borrowers, and also buy similar securities from private issuers. The latter mandate is what triggered the takeover of Fannie Mae and Freddie Mac in 2008. This provision allowed private firms like Bear Stearns and Lehman Brothers to issue risky securities, including many uninsured, high-risk loans, knowing full-well that Congress required Fannie Mae and Freddie Mac to buy them. As housing prices began to fall in 2006, these private firms couldn't sell the junk securities fast enough. If they had succeeded, they would have turned a healthy profit and left Fannie and Freddie holding the bag. Fannie Mae and Freddie Mac issue securities with strict underwriting standards, and this mandate, not their lending activities, damaged their financial health.⁵⁷⁷

The housing boom was built on low interest rates, loose lending, and blind optimism. By 2006, homeowners with adjustable-rate mortgages faced rising payments and were unable to refinance or sell their homes to cover their debts.⁵⁷⁸ Defaults hit overpriced markets first but the problem spread quickly. Foreclosures jumped from 269,000 in 2006 to 1.5 million in 2009.⁵⁷⁹ Foreclosed homes flooded the market, as prices plummeted. Many homeowners found themselves underwater. Their homes were valued lower than their mortgages. By mid-2009, the damage was severe. House prices had fallen 31 percent from their 2006 peak, one in 11 homeowners were behind on their mortgage payment, and the housing crisis had become a national emergency that would lead to an international crisis.⁵⁸⁰

THE LONG RECOVERY

A notable shift in housing policy occurred in 2007 when the Democrats regained control of Congress, culminating in the establishment of the National Housing Trust Fund (NHTF) in July 2008, which President G. W. Bush signed into law. The NHTF was to refocus HUD from the deregulated push for homeownership initiated by Reagan and back to decentralized pass-through funding to support rental housing. Designed to be funded through Fannie Mae and Freddie Mac, the NHTF was meant to fill funding gaps in affordable housing projects, and work in conjunction with other

programs like HOME, Federal Home Loan Banks' Affordable Housing Program, and state initiatives. However, it was too late for the NHTF, as the unfolding housing bust led to the federal receivership of Fannie Mae and Freddie Mac, resulting in an indefinite suspension of funding. The Obama Administration righted the ship in a measured and controlled way, without a single Republican in the House voting for the Recovery Act of 2009 and only three Republican Senators, which leading economists from MIT, Harvard, Yale, Berkeley, University of Chicago, Princeton, Stanford, and Columbia agree reduced unemployment and whose benefits vastly outweighed the costs.⁵⁸¹

Bruce Katz, with the Brookings Institution's Metropolitan Policy Program, and advisor to then HUD Secretary Shaun Donovan offered a reform proposal in June 2009. Katz said housing policy focused too much on homeownership and financial deregulation. He suggested:

1. Expanding affordable rental housing
2. Growing the Section 8 voucher program
3. Funding a new Affordable Housing Trust Fund
4. Restarting the HOPE VI program to replace public housing

This was in-line with what the Democratic led Congress believed as well, and the Obama Administration reinitiated the NHTF in 2016. To date, it has allocated \$3 billion towards affordable housing, primarily rental housing as of early 2024.⁵⁸² The 2009 stimulus package boosted funding for housing programs, and the 2010 Dodd-Frank Act re-regulated banking and set new mortgage rules to protect consumers and the financial system. It passed along party lines and included the Volcker Rule, which was similar to the Glass-Steagall Act, returning the financial system to sound footing.

TRUMP: THE 45TH ADMINISTRATION

I'm reticent to include efforts of the Trump Administration to address housing as it was largely an attempt to dismantle HUD, cutting the budget by 15 percent, a move blocked by rare bipartisan coordination. This is while his HUD Secretary, Ben Carson, a medical doctor with no experience in housing, spent \$165,000 on furniture for his office, \$30,000 on a dining set,⁵⁸³ while steering a non-competitive \$485,000 contract to a consulting company recently founded by his daughter-in-law.⁵⁸⁴ Policy-wise, Carson suspended enforcement of the Affirmatively Furthering Fair Housing Act of 2015, an assessment tool for local governments to determine if block grants conformed with the Fair Housing Act of 1968.⁵⁸⁵ Carson also proposed amending the U.S. Housing Act to raise the threshold of affordability from the long maintained 30 percent to 35 percent, and removal of income adjustments due to child care that allowed low-income residents to work, or

assisted with medical expenses not covered by insurance.⁵⁸⁶ With respect to liberalizing zoning laws to allow incremental development, President Trump and Secretary Carson penned an Op-Ed in the Wall Street Journal vowing to stop the:

*"radical social engineering project...to abolish single-family zoning and compel the construction of stack and pack apartment buildings in residential neighborhoods, and forcibly transform neighborhoods...the way far-left ideologues...think they should."*⁵⁸⁷

LITTLE SUPPORT FOR RENTAL SUPPORT

The problems encountered with federal promotion of homeownership are due to the delivery and control of funding, and shouldn't reflect on the positives of homeownership. Owning a home can bring positive effects to neighborhoods, society, and future generations.

- Neighborhoods with more homeowners are often in better condition, physically, than predominantly renter neighborhoods.⁵⁸⁸ This is due to deficient attention to maintenance by both the renter and landlord.
- Children of homeowners may have are more likely to finish high school.⁵⁸⁹
- Homeownership acts as a forced savings plan. It offers better chances to build wealth over time through rising property values.⁵⁹⁰
- The housing industry creates jobs that help to stabilize the economy, including homebuilders and tradesmen, real estate agents and inspectors, financial services and insurance agents, and material and home furnishings sales.⁵⁹¹
- Homeowners are more involved in their neighborhoods than renters. This holds true even when accounting for income and education levels.⁵⁹²
- Recent homebuyers were happier with their lives and communities than similar renters. New homeowners also tended to have larger social support networks.⁵⁹³
- These children are also more likely to buy homes themselves and build wealth faster.⁵⁹⁴

These benefits justify federal policies that promote homeownership. However, current subsidies favor those who can easily buy homes without assistance, creating an unfair distribution of benefits, that, unfortunately, has come at the expense of renters. In 2000, the government spent \$102 billion on homeowners and \$24 billion on renters, and by 2015, the gap had widened with homeowner support at \$164 billion, while renters received \$34 billion. Overall, renters earn less than homeowners, yet policies that support homeowners now get nearly five times more funding than for renters. These figures represent outlays, but homeowners get tax advantages as well. They are able to deduct mortgage interest and property taxes from their taxable income, regardless of income. A 2017 study by the Tax Policy Center found that households earning over \$100,000 per year receive 85 percent of mortgage interest deduction benefits.⁵⁹⁵ Renters face a different reality,

with only one-third of eligible households receiving support, waiting an average of 30 months for qualification decisions, if they're even taking applications. The result is a regressive tax on lower-income workers and essential residents to support six-figure middle-class households. This has prompted various policy proposals, including the establishing of vouchers as an entitlement for the lowest-income households.^{596,597,598} This lack of support for renters has existed from the onset, Landis and Reina caution:⁵⁹⁹

Since most renters aspire to become homeowners but do not receive rental housing assistance, periodic suggestions that homeownership tax expenditures be reduced, and that the increase in federal revenues be redirected to low-income renters, have never gained much political traction.

Public housing was America's first big subsidized rental program, along with Section 236 and Section 8 programs, 2.7 million units exist today.⁶⁰⁰ Local PHAs own and run low-rent public housing, and the federal government subsidizes and regulates these developments. To live in public housing, low-income families must earn a certain percentage less than the area's median income, and some new developments are mixed income. Residents contribute 30 percent of their adjusted income towards rent and HUD contributes the remainder. This funding helps bridge the gap between tenant rent and maintenance expenses. Housing authorities get operating funds for daily management, and capital outlays for major upgrades like new roofs or heating systems. Housing authorities can also apply for Choice Neighborhoods grants as well, to help rebuild or fix run-down public housing.

Public housing is a major government housing program with about 1 million units, but the number of units has been dropping since the mid-1990s.⁶⁰¹ Several factors caused this decline:

- The 1998 Public Housing Reform Act stopped housing authorities from adding more units
- Housing authorities can now demolish or sell units with HUD's approval
- Since the mid-1990s, housing authorities don't have to replace demolished units, only give displaced families Section 8 vouchers
- The 1998 act allows, and sometimes requires, converting public housing to voucher based
- The HOPE VI program has torn down more units than it has built⁶⁰²
- The Rental Assistance Demonstration shifted half of public housing units to Section 8

All public housing and PHAs face a similar problem, aging buildings that urgently need repairs. A 2000 study found public housing needed \$26.6 billion for repairs and upgrades.⁶⁰³ During George W. Bush's presidency, federal funding for major repairs dropped 32 percent. President Obama's stimulus package gave PHAs \$4 billion for urgent fixes, but the government still lacks a plan to keep public housing viable long-term. At first, the government only paid to build

public housing. Tenants covered all other costs through rent, which worked well until the 1960s, when operating costs began to rise faster than tenant incomes.⁶⁰⁴ Public housing aims to help the poorest families. This makes it hard to find tenants who have steady jobs, pay rent on time, and help maintain their homes. Not being a profit driven entity, PHAs don't use modern property management methods, are not efficient, have too many staff, and their management is too centralized.⁶⁰⁵ In an effort to force PHAs to control costs, Congress cut funding on purpose in 1993, leading to large and growing budget shortfalls for repairs and improvements.

The private market can't meet poor Americans' housing needs. Affordable units are disappearing in cities nationwide. The only major federal program for affordable housing production, the LIHTC program, isn't keeping up with demand. The tenant benefit per dollar of taxpayer cost is less than for the voucher program,⁶⁰⁶ and has been found to not actually have an impact on overall housing production.⁶⁰⁷ The Housing Choice Voucher program serves 2.5 million households, but it needs to be amended to better accommodate varied market conditions. HUD is attempting to improve the granularity of support so that it better suits diverse markets with the Small Area Fair Market Rent (SAFMR) program. This program lets housing authorities set voucher rent limits by zip code.

Federal housing programs built over 1 million subsidized rental units between 1976 and 1982. After that, production dropped to about 25,000 new units per year.⁶⁰⁸ The federal government's reduced role in housing development has had several effects. First, state and local governments now play a bigger part in providing affordable housing, through the LIHTC for rental housing, and HOME programs for both rental and ownership housing production and rental assistance.⁶⁰⁹ The LIHTC and HOME programs gave states and localities more control over housing development. These programs provided a larger and more flexible federal funding stream. With LIHTC, states can now set priorities, where before they had limited roles. They can allocate tax credits for specific groups like homeless individuals or people with disabilities, choose to preserve existing housing, or build new units. HOME funds can be used to build new rental housing and provide rental assistance for low-income families. LIHTC developments must make 20 percent of units affordable for households at 50 percent of area median income, or 40 percent of units for those at 60 percent. Although, a new income-averaging approach, with the passage of the Consolidated Appropriations Act of 2018, allows for a mix of incomes. Extremely low-income households (30 percent of area median income), often need additional subsidies, like Section 8 vouchers, to afford LIHTC units.⁶¹⁰

Second, preserving existing affordable housing has become more important due to fewer

new units being built each year. Many subsidized units from the 1960s and 1970s are no longer available to low-income households. Building owners agreed to maintain affordability for a set period, and these contracts, or "use restrictions," varied from 15 to 50 years. As contracts expire, they can charge market-rate rents. Congress has tried to preserve affordable housing units. When Democrats regained control of the House and Senate in 1987, they passed the Emergency Low-Income Housing Preservation Act that prevented owners from eliminating the contractual requirements by prepaying mortgages, without HUD permission. In 1990, the Low-Income Housing Preservation and Resident Homeownership Act continued these conditions and offered incentives to maintain affordability. In 1996, with Republicans back in control of Congress, they reinstated owners' right to prepay mortgages without HUD permission, and in 1998, they stopped funding preservation incentives, ending the program. The Multifamily Assisted Housing Reform and Accountability Act of 1997 is still in effect, which restructures owners' debt and renegotiates rental assistance contracts.

Third, multiple funding sources are now needed to support both new affordable housing and the preservation of existing units. Over time, Federal grants for multifamily housing have shrunk as a portion of the government's housing portfolio, and also cover a smaller part of the total cost needed to build affordable housing. Developers must now seek multiple financing options like a combination of the LIHTC and state or local housing trust funds, in addition to rent subsidies upon completion. Combining these financing streams is complex and requires expertise from housing finance professionals to create a workable development plan. In the past, federal funds were often enough to build or renovate affordable units, private financial markets weren't needed, but today, the landscape has changed dramatically.

Congress has since expanded the voucher program after repealing authorization for project-based Section 8 and public housing in 1983, and as a result, project-based assistance and public housing units have declined.⁶¹¹ As landlords leave the program, when their HUD contracts expire, then displaced families get vouchers if they can't move to other public housing. The Rental Assistance Demonstration (RAD) program is also causing a drop in public housing units. Congress enacted RAD in 2012, letting PHAs convert their properties from public housing to Section 8 housing, with HUD approval. The move from project-based to tenant-based assistance allows families to leave troubled areas for better communities using vouchers. But experts debate whether this leads to economic or social improvement.⁶¹² Recent research supports the idea that moving from poor, minority-heavy public housing to more diverse areas with vouchers provided families with better employment options and positively affected young children.⁶¹³ However, families

accustomed to public housing may struggle to use vouchers in the private market, often needing counseling and support, which isn't always available.⁶¹⁴ Evidence shows that many families don't fully use vouchers to access better areas. This may be due to personal preference, voucher values compared to rents in higher opportunity areas, and landlords' willingness to accept vouchers.

Public housing and both the demand-side and supply-side of Section 8, are the main housing programs for low-income families, assisting about 4 million households. In 2017, 40 percent of voucher households were female-headed with children, 34 percent in public housing, and 25 percent in project-based housing. More than 80 percent of project-based Section 8 serves elderly or disabled households, 71 percent in public housing, and 61 percent in the Section 8 voucher program.⁶¹⁵ Non-homeowner senior households who are becoming eligible, especially those in coastal metropolitan areas with escalating rents, may lead to increased demand for federal housing assistance programs for the elderly.⁶¹⁶ The most recent report shows that the number of older renters struggling to afford housing is increasing faster than the availability of rental assistance.⁶¹⁷ These programs are required to serve low-income households, at or below 80 percent AMI. Many serve very low or extremely low-income households. In 2018, the national median income was \$71,900. With thresholds for low income, very low income, and extremely low income, at \$57,500, \$35,950, and \$21,550 respectively. Most households in these programs have incomes of \$14,999 or less. This includes 65 percent in public housing, 63 percent demand-side voucher program, and 70 percent supply-side project-based assistance.

While households headed by individuals aged 65 and older are the wealthiest generation in U.S. history, they also have a larger proportion of their assets tied up in housing compared to previous generations.⁶¹⁸ This concentration of wealth in housing assets could potentially impact housing market liquidity and mobility patterns among seniors in the coming decades. Where seniors seek to downsize into condominiums or apartments, they may encounter increased competition from both their peers and younger generations, potentially exerting upward pressure on rents and starter home prices. Conversely, if seniors opt to age in place, this could result in a constrained housing supply in suburban areas, thereby inflating prices.

In 2000, families without children eclipsed families with children as the predominant household group. This trend may be attributed to millennials postponing family formation, but coupled with elderly living alone, is shifting towards families with children becoming a minority in most American communities.⁶¹⁹ The prevalence of single individual households, as opposed to married couples with children, translates to increased housing unit demand due to lower occupancy rates per unit. This may also mean a shift in demand from homeownership of suburban

homes to rent of smaller apartments. Given the scarcity of new rental units across various housing markets, particularly land zoned multifamily, this trend is likely to exacerbate rental housing affordability issues.

BIDEN: THE 46TH ADMINISTRATION

The Biden Administration launched a Housing Supply Action Plan in 2022 to focus on building more housing and reducing housing cost burdens.⁶²⁰ Many of these actions require Congressional funding from a Republican controlled House, and bipartisan support, but some can and have been implemented through actions at the cabinet level. The Biden Administration has:

- Changed the rules for how the LIHTC is awarded, now using averaged income rather than strict income limits to promote mixed-income development that is more viable⁶²¹
- Created infrastructure grants, awarded through the Department of Transportation, for jurisdictions that amend their land use codes to allow more density, and set aside \$35 billion for low-interest lending on transit oriented development (TOD) projects⁶²²
- Allocated \$10 billion in pass-through block grants to help with commercial-to-residential conversions⁶²³
- Provided \$100 million for technical consultation to help jurisdictions remove barriers to affordable housing production⁶²⁴
- Announced \$325 million in pass-through Choice Neighborhood grants to preserve and expand housing and invest in neighborhood amenities⁶²⁵
- Provided greater interest rate predictability for state and local housing finance agencies

REMAINING NEED

A successful policy or program must achieve its goals effectively, and do so at a reasonable cost. In order to gauge effectiveness, we can compare low-income households overpaying for rent with those receiving subsidies. According to Landis and McClure, in 2000, 8.1 million renter households with incomes below \$20,000 paid 35 percent or more for rent.⁶²⁶ Only 4.7 million households got federal rental assistance, leaving more than 3 million families still in need. They continue, noting the top 10 states had 2.2 million households with unmet needs. Arizona, Nevada, Oregon, Washington, DC, and Washington had the highest percentages, but California had the greatest number of households, 670,000.⁶²⁷ These results show two clear points. First, that federal rental assistance was falling short by at least 40 percent. Second, the distribution of rental subsidies is uneven and unrelated to total need. Unmet need varies widely among states, Delaware and Puerto Rico had no unmet need in 2000. Today, conditions are much worse, and there will need to be a coordinated effort to increase supply to tame housing costs. We should also focus on matching assistance to need, whether that is supply or demand subsidies. In the case of Delaware,

their most recent housing needs assessment for 2023 found that for those residents making 50 percent AMI, the state had a shortage of 19,400 rental units.⁶²⁸ Overall, 50 percent of Delaware renters and 20 percent of owners, pay more than 30 percent on housing, despite pre-recession levels of housing production. The issue is that 85 percent of new units are SFD homes, beyond what is affordable for most residents. This is because builders are serving a different market. In total, 38,200 homes are vacant, only used as seasonal or vacation homes, with "a gap in middle housing."⁶²⁹ The Delaware State Housing Authority determined that "efforts to address the state's housing needs will be constrained unless state and local regulatory policies explicitly encourage the development of diverse housing types" and that "more investment will be needed" to accomplish this task.⁶³⁰

The 2024 President's Budget includes additional investments and actions to lower costs and increase production, which remain unfunded:⁶³¹

- Expand the LIHTC, to increase the credit states receive and adjust the private financing requirement to leverage more private capital
- Create a New Neighborhood Homes Tax Credit to support the building and renovating of affordable housing directly
- Provide incentives for innovative housing models, including community land trusts, mixed-income/mixed-use public development, and ADUs
- Allot a one-time \$7.5 billion investment to address the maintenance needs of public housing units
- Provide a \$10,000 tax credit for middle-class first-time homebuyers, paid over two years, which is the equivalent to reducing the mortgage rate by 1.5 percent
- Provide \$10,000 tax credit to owner-occupant middle-class families who sell their entry-level homes to another owner-occupant family when they move to larger housing
- Allocate \$10 billion for targeted downpayment assistance for first-generation first-time homebuyers whose parents did not own a home
- Create a Housing Voucher Guarantee for Low-Income Veterans program
- Create a Housing Voucher Guarantee for Youth Aging out of Foster Care program
- Allocate a \$4 billion pass-through grant program targeting older adults in unstable housing situations

THE DEPARTMENT OF JUSTICE

The Department of Justice may interject where unfair advantage is placing a thumb on the scales in the rental market. In November of 2022, the Senate Subcommittee on Competition Policy, Antitrust and Consumer Rights sent a letter to the Department of Justice asking their Antitrust

Division to investigate a Texas-based software company, RealPage, for using aggregated rental pricing data to advise subscribing landlords on rental rates for their area. It uses an algorithm to set rental rates to maximize profitability.⁶³² The concern is that, by aggregating data from multiple landlords in the area, the use of this software, formerly called AI Revenue Management, amounts to anticompetitive coordination and collusion to inflate rental rates for a given market.⁶³³ Despite the anonymized data aggregation, the result is that the software allows their clients to indirectly coordinate pricing, potentially in violation of federal law. According to their website, 24 million units are currently priced using their software⁶³⁴ by more than 31,000 clients currently under contract.⁶³⁵ Reporting by ProPublica found that in the trendy Belltown neighborhood in Seattle, 70 percent of apartments were managed by just 10 companies, each using RealPage to set rates.⁶³⁶ In a comparison of two buildings in that neighborhood, ProPublica found that the building who set rents using RealPage software increased rents by 33 percent in one year, where the one who didn't increased their rent 3.9 percent. They report that a firm, owning 40,000 units, increased rental rates per the RealPage software, resulting in a 4 percent increase in revenues, despite a 4 percent decrease in occupancy rates. In April of 2022, a RealPage press release announced that RealPage had been acquired by private equity firm Thoma Bravo for \$10.2 billion, stating that they had the resources to accelerate RealPage's momentum and grow its capabilities.⁶³⁷ For a full list of current sources of federal funding, see Table 19 in the Appendix.

LIBERAL LIBERTARIAN POLICY: COURSES OF ACTION

When it comes to policy or regulations that govern aspects of our lives, there is often a split along ideological lines. Even where there are wide swaths of agreement, each side clings to the nuanced particulars that come from having different perspectives. While each side beats the drum of talking points relative to their view, it is important that we as researchers and academics empathize with each in order to produce work that hopes to resolve conflicting views rather than see them reduced to thrown mud. The Oxford Dictionary defines *liberal* as an adjective that describes someone open to new ideas, and denoting a philosophy that promotes the civil liberties of citizens. It defines *libertarian* as an advocate of minimal intervention in the free market and the private lives of citizens. Politically, they represent both the left and the right, and on the surface, both champion the basic rights and liberties of the individual and the ability to adapt to shifting conditions. Where they differ is that the liberal intent is using public power to protect individual rights from the private sector, and the libertarian intent is using private power to protect individual

rights from the public sector. Together, this should be the intent of land use regulations. They should not allow the public to restrict a landowner's rights to exclusive use of property, as long as what is done does not infringe on the rights of others. The latter part of the argument can be tested against the health and safety clause of the 10th amendment granting police powers to states, and the former part of the argument can be tested against the due process and takings clauses of 5th and 14th amendments. Beyond that, we are inflicting costs to either the landowner or the community. Such a lack of control would frighten many, but a sober look at the facts, removing the discriminatory legal wrangling that "created" law through prior precedent, that was the original intent. It's not likely that any jurisdiction would make such radical changes to their land use regulations, particularly at once.

Zoning practices have played a pivotal role in urban planning and development, originating from the need to regulate urban growth, protect public health, and uphold property values.⁶³⁸ Fischel (2004)⁶³⁹ highlighted the potential of zoning in maintaining neighborhood character and managing urban growth. Recent scholarship suggests potential solutions to these issues. Schuetz (2018)⁶⁴⁰ proposed relaxing zoning restrictions to include more diverse housing types, aiming to increase housing supply and affordability. The momentum behind zoning reform movements has been gaining traction, as demonstrated by research by Badger and Bui (2020),⁶⁴¹ which highlights the recognition of problems associated with single-family zoning. Dong (2021)⁶⁴², Freemark (2022)⁶⁴³, and Talen (2021)⁶⁴⁴ explored alternatives and amendments to traditional zoning, such as "upzoning" and "form-based codes," finding potential in these approaches to increase housing affordability and socioeconomic diversity without detrimental impacts on neighborhood character or property values. These contemporary studies underpin the need for strategic zoning reforms and potential paths forward to mitigate the adverse impacts on housing affordability, economic development, and social equity.

The federal government's role in local land use has been limited for two main reasons. First, some experts claim the Constitution restricts federal interference in local affairs.⁶⁴⁵ However, Congress has often acted when national interests are at stake, like religious freedom, environmental protection, and telecommunications.⁶⁴⁶ The 1996 Telecommunications Act allows the federal government to override local rules that block cell tower placement, and The Religious Land Use Act of 2000 stops localities from unfairly restricting religious institutions.^{647,648} In these cases, Congress used its spending and commerce powers. For housing, the Equal Protection Clause gives even more authority, because exclusionary zoning has often denied equal opportunities based on race or class.^{649,650} The second reason is lack of political will. HUD has

studied exclusionary zoning under both parties, but doing more would require legislation. Political agendas rarely align on these issues as lawmakers face strong opposition from homeowners. Many resist federal interference in local zoning, especially for affordable housing, with critics crying "social engineering" or "forced integration." The cause of big national housing problems are many little local decisions over decades of push-and-pull political debate.⁶⁵¹ In the case of *Southern Burlington County N.A.A.C.P. v. Township of Mount Laurel* in 1975, the court argued that numerous small decisions, if left unchecked, accumulate into significant consequences:

*This pattern of land use regulation has been adopted for the same purpose in developing municipality after developing municipality. Almost every one acts solely in its own selfish and parochial interest and in effect builds a wall around itself to keep out those people or entities not adding favorably to the tax base...One incongruous result is...municipalities render...it impossible for lower paid employees of industries...to live in the community where they work.*⁶⁵²

In a more recent context, the US Supreme Court applied similar reasoning to racial segregation. It determined that local zoning decisions with a "disparate impact" on racial and ethnic minorities are not in accordance with the Fair Housing Act, even in the absence of explicit discriminatory intent.⁶⁵³ Writing for the majority in *Texas Department of Housing and Community Affairs v. Inclusive Communities*, Justice Kennedy, concluded that "these unlawful practices include zoning laws and other housing restrictions that function unfairly to exclude minorities from certain neighborhoods without any sufficient justification."⁶⁵⁴ He asserted that such cases "reside at the heartland of disparate-impact liability."

However, local governments often curb production of certain types of housing, like subsidized housing and apartments, for lower-income families, due to financial reasons.⁶⁵⁵ Cities and towns favor zoning rules that allow use types that generate more property tax revenue than they consume in public services, to fund infrastructure, schools, and deliver basic services.^{656,657} This is a less efficient use of infrastructure in the long term, but provides more immediate revenue, but as these costs are spread to all residents, there is no incentive to alter course. This is especially true in states where local governments bear most of these costs. An example would be commercial centers that boost sales tax revenue.^{658,659} The federal government can help remove local barriers to fair and affordable housing by supplementing revenue through infrastructure modernization, contingent on more efficient usage and requiring states to show progress in meeting regional housing needs. This would also require communities to distribute affordable housing across various communities to receive competitive funding.⁶⁶⁰ HUD's oversight of local land-use regulations has been limited, with George Romney, HUD Secretary under President Nixon, making the boldest attempt to address suburban development, which he described as "the high-income

white noose" around the black inner city.⁶⁶¹ He proposed withholding federal funds from places that kept exclusionary zoning or rejected subsidized housing. Soon after the Fair Housing Act of 1968 passed, Romney's Open Communities program was adopted, but Nixon quickly ended it when HUD delayed funding to three mostly white suburbs.⁶⁶²

The federal government can accelerate statewide implementation with conditional requirements to competitive grants for housing, transportation, and infrastructure. Through funding mechanisms, they would be obligated to establish clear and achievable goals to increase supply. This approach builds on past programs, echoes recent proposals, and is similar to Romney's Open Communities program, but targets the states rather than municipalities. Importantly, by focusing on federal funding streams to the states rather than municipalities, cover is given to representatives in Congress and local elected officials, the most visible in the string of government officials, while allowing states the ability to frame it as is best for their constituents. States should establish performance goals, which HUD and the Department of Transportation review and approve.⁶⁶³ Research by Freddie Mac shows most states lack supply, and this shortage drives up housing costs, but,⁶⁶⁴ even in states without overall deficits, most metro areas face shortages, especially smaller affordable housing. The federal government should not dictate specific policies, but it could provide sample preemption or enabling legislation, similar to the SZEAL in 1922. Two types of policies should automatically qualify states for federal funding and exemptions:

1. States can adopt laws like Oregon's HB 2001. This law ended SFD zoning and allows middle housing on all residential lots and removes discretionary review, but allows localities to amend their own land use policies. The state created a set of codes for middle housing that are the guiding regulations until localities approve their own.
2. States can model policies after Massachusetts's Chapter 40B. This law lets developers bypass local zoning using the Builder's Remedy, as in the Mount Laurel decision, and as adopted in California. It offers streamlined review for affordable housing projects meeting specific requirements, such as 20 percent affordable units, and developers can appeal rejections to a state committee.

The federal government gives more money to states for transportation than for housing. In 2019, states received \$67 billion for transportation, and only \$7.2 billion for housing and community development,^{665,666} but housing and transportation are closely linked. When housing is scarce and expensive, people move further out, forcing longer commutes and increasing strain on infrastructure. Almost all local governments get some form of federal investment through state grants, and all local governments must follow state law, therefore, holding states accountable in exchange for federal resources can address the problem of exclusionary zoning through funding mechanisms rather than policy.⁶⁶⁷ As many cities have strained budgets and aging infrastructure,

this allows states to develop policies and incentives that fit their local context. The government may find it beneficial to explicitly set a broad definition for transportation and infrastructure funding.

ENABLING REGULATORY CHANGE

The initial step to link funds to housing production is to identify the housing, transportation, and infrastructure funding programs that are complementary to the goals set forth. Use localized participatory planning techniques, rather than distant federal commissions, to create decentralized task forces with local, state, and federal members. These members should include policymakers, developers, experts, local elected officials, and essential workers as representatives of their communities, to decide on criteria and compliance thresholds. This decentralized approach takes housing affordability and federal funding off the national stage where disagreements over one tactic are less likely to sink the whole effort. It also preserves the efficiencies of economies of scale to determine common resources to track progress, methods of collection, and intervals. If standardized, national and state data collection could be homogenized to compare strategies, nationally, that mitigate local barriers to implementation and housing production.

The goals for reform should be clear, and developed within the community. This requires both vertical and horizontal alignment of policies. The reformed regulation text should be simple to understand and use, succinct, and the corresponding plan should include easily digestible information on infrastructure investments and timing at all levels. This allows for the planning of housing projects to hit the market when their completion will be most successful. Goals should be evidence-based with a way to measure progress. Requirements should be tested against quantitative evidence, applicable to the region. As an example, insulation requirements for San Diego, Portland, and Minneapolis, or parking requirements in San Francisco and Cleveland, should all be very different and not based on the trending best management practices (BMPs) across the nation. The resulting path forward should be simple to understand and implement. The permitting processes should be clear, simplified, and predictable, with a goal of increasing throughput and eliminating discretionary approvals or negotiating tactics. They must maintain a focus on individual rights. A litmus test for whether the regulation is based on prejudicial exclusion or valid health and safety concerns should be debated when considering the validity of regulations that violate the individual right to property without due process or just compensation. The test for validity should not be what has been legal in the past. And, governments need to realize that incentivization will be a component of inducing development, and will be variable, specific to the region. It will be important to know the local market and use it as an indicator for incentives and adjustments to variable land use conditions, such as density, height, frontier adjustments, and other regulations

that can temper or induce production. Density thresholds should account for discrepancies in infrastructure costs, property taxes, and not allow subsidization of sprawl.

ALIGNMENT

Cities should integrate housing policies with broader economic, transportation, and potentially environmental goals, and develop a unified vision with renderings and narrative that is digestible to the average resident. The adoption of best management practices (BMP) and innovative solutions from other jurisdictions should be encouraged, and HUD has a good opportunity to serve as the repository for such BMPs.

- **Land use regulations should align with national, state, and local housing goals.** This alignment is critical in creating a coherent policy framework that supports affordable housing initiatives across different levels of government. For example, local zoning laws that prohibit multi-family housing in certain areas may conflict with federal objectives to increase housing supply and affordability. There should be a clear line of rationality that connects policies to goals.
- **Regular updates to simplified land use plans and their implementing regulations are essential.** This ongoing process ensures that planning documents remain relevant and responsive to changing community needs. Moreover, clear linkages between these plans and capital improvement programs can enhance the efficiency of public investments in infrastructure. Localities should promote transparency and accountability in the regulatory process by making information on land use regulations, procedures, and decisions readily available to the public and developers. If this task is overly onerous for planning departments, then they should consider simpler regulations. FBCs can be such a tool, but not 1,000 pages as implemented in Miami, or the single page in Seaside. This need not be a costly endeavor, and adjustments should be done in-house once the base code is established. If it cannot be done in-house, additionally simpler regulations should be considered, or HUD and state governments should assist. The inability to revise land use regulations due to the cost of revision is not an acceptable barrier to implementation.

PERFORMANCE

Governing bodies should promote the adoption of data-driven methodologies to assess the efficacy of land use regulations and environmental legislation, ensuring that such policies are cost effective, and grounded in empirical evidence and actual results.

- **The technological feasibility, cost-effectiveness, and attainability of regulatory standards must be carefully considered, based on the unique conditions of the area.** This criterion acknowledges the practical constraints faced by developers and builders. For instance, overly stringent energy efficiency requirements may significantly increase construction costs, potentially outweighing the intended environmental benefits and negatively impacting housing affordability. Environmental protection regulations must be grounded in demonstrable ecological benefits rather than speculative concerns. A cost-benefit analysis to assure that the benefits of the standards outweigh the costs. This economic

perspective is crucial in ensuring that regulations do not impose undue burdens on the housing market. For example, excessive parking requirements may increase development costs without providing commensurate benefits to residents or the community.

- **Environmental rulings and regulations should be based on the best available scientific evidence, subject to peer review, and applicable to the area.** This criterion emphasizes the importance of evidence-based policymaking in environmental regulation. For instance, wetland protection policies should be informed by current ecological research rather than outdated or unsubstantiated assumptions. In many cases, policies should not be uniformly applied across the country.
- **Using a percentage of AMI is not a valid reference point for incentives or thresholds for affordable housing.** Rather, using something like the average of median incomes of essential workers, or the self sufficiency standard, would provide a more realistic account of the needs of a city. The AMI tells us nothing about the relationship between income and costs of living in a given market, nor who is included or excluded from receiving support, and therefore should not be a base for qualifying participation or incentives for housing production. It is the current indicator because the federal government gathers this data, which informs direction for federal programs. In forming a closer working relationship with state and local governing bodies, this data can be aggregated in a standardized format that is more applicable to the needs of residents. Perhaps this data collection is a qualifying requirement for the incentivized programs.

INDIVIDUAL RIGHTS

- **A comprehensive effort for reviewing and reforming land use and environmental regulations, at all levels of government, to increase housing affordability is necessary to make a meaningful impact.** This process should include a fresh assessment of the relevance of each regulation to health and safety concerns, as originally intended by the constitution, with the goal of amending or eliminating those that do not serve a legitimate public purpose. The existence of a clear and compelling need for each regulation must be established, and provided in a transparent way, serving as a safeguard against regulatory overreach and ensuring that each rule serves a legitimate public interest. As an example, outdated minimum lot size requirements in suburban areas may unnecessarily inflate land costs without providing commensurate public benefits.
- **The protection of property owners' inherent rights and reasonable use of land must be ensured.** This principle recognizes the delicate balance between public interests and private property rights. Revisit the intent of the constitution and allow property owners to determine the highest and best use, with restrictions tied to valid health or safety concerns. Character can be subjective and is not a constitutional concern. For example, historical preservation ordinances, while valuable, should not unduly restrict property owners' ability to maintain or improve their properties.

SIMPLIFIED APPROVAL PROCESS

The burden of regulation can take the form of how much time and effort are required to comply with restrictive and complex regulations, or the volume that require compliance. Highly

restricted markets will discourage development, opening residents up to housing instability. A healthy economy is active and competitive, where regulation promotes development, allowing it to respond to shifts in market conditions and trending priorities of the community, or contingency events. One key benefit of incremental development is that it supports entrepreneurial activity, and its importance will grow as regulations are moderated and the number of residents and developers involved in that development increases. People learn by doing, and increased development activity will breed additional development. Given the rapid shift in our daily lives witnessed during the pandemic, the ability to react quickly to externalities and market opportunities is critical to a society's overall prosperity.

Regulations need to encourage and support development if housing production is to increase. Where these elements are onerous, it is difficult to encourage development, and ultimately nullifies the need to decide where businesses and housing is located in the first place. If regulations are not shaped to be easily understood and reasonable, they will be avoided.⁶⁶⁸ Equally, the permitting processes cannot be so taxing that it stifles production. Overburdening developers with complex regulations does not necessarily deter all development; it discourages small local development that don't have an office full of lawyers or critical mass to exercise financial influence in circumventing burdensome regulation. Housing and land use regulations fall into two categories: those that encourage and those that restrict development. This can motivate or discourage individuals from adding new and diverse housing options to the market.

- **The importance of certainty, stability, and predictability in the development approval process cannot be overstated.** These qualities benefit both the public and private sectors by reducing risk and encouraging investment. For instance, clearly defined zoning regulations and consistent application of development standards can streamline the approval process and reduce costs. It would be beneficial to standardize this process so that development in any jurisdiction follows the same concept.
- **Allowing for administrative handling of minor amendments to applications and permitting extensions to development approvals based on market conditions.** This can provide valuable flexibility to developers, particularly important in volatile economic environments where project timelines may need to be adjusted.
- **Governments should commit to approving developments that comply with regulations rather than relying on time-consuming reviews.** This approach can reduce delays and costs associated with the development process. For example, form-based codes can provide clear guidelines for development, reducing the need for subjective interpretation and negotiation. Expedited permitting procedures, including "one-stop" permit systems and permit tracking systems, can significantly reduce the time and cost associated with the development process. For instance, the city of San Diego's Development Services Department has implemented an online permitting system that has dramatically reduced processing times and improved transparency. HUD should develop and provide software

templates for municipalities to use, perhaps this is where standardization can occur.

INCENTIVES

- **Encouraging and incentivizing the development of diverse housing types and infill projects can help address housing affordability while promoting sustainable urban growth.** Provide incentives and funding for the development of affordable housing, including grants, low-interest loans, and tax credits. Many cities offer density bonuses for affordable housing units or expedited permitting for infill projects to stimulate the production of housing, and these should be made standard. However, these incentives are aimed at larger developers and more effort should be made to incentivize infill development. Public-private partnerships could help with lending or leverage resources and expertise to tackle housing affordability challenges. Successful implementation of incentives and funding may require training initiatives for elected and appointed officials to deepen their understanding of the impact of regulations on housing affordability, and housing market dynamics.

Market contestability is whether a market is closed to new business ventures and small local participants, protecting corporate incumbents, or open to market based competition. A market dominated by just a few business groups is increasingly distorted and lacking true market contestability. While subsidies and taxes are considered to create distortions, small builders are not in competition with large corporate builders, and incentives may be required to break developmental stagnation. Maintaining an environment that encourages small lot development also maintains a certain segment of the skilled labor force, which is essential to increased affordable housing production.

In the same way it is beneficial to create separate zoning regulations for middle housing, incentives can be middle housing specific as well. And, incentives shouldn't be seen as a bargaining chip for below market rate rents if cities are serious about increasing supply. Smaller middle housing is less expensive than other housing options organically. Small projects by individual homeowners have thin margins, and cities that hold homeowners to a specific rent level put the homeowner in danger of default if there are any contingency events that lead to eviction moratoriums and reduction in revenue. They don't often have several properties that can absorb shifts in demand or other unanticipated events. As an example, multiple cities in Oregon exempt homeowners from system development charges (SDC) for middle housing, which can amount to several thousand dollars, depending on the municipality.⁶⁶⁹ However, they place an upper threshold of rent affordable to 60 percent AMI households over a five year period. If for any reason the unit is rented above that threshold, the homeowner is required to pay back the exempted fees plus interest. If financial hardship is what forced the increase in rates, this penalty could contribute to default for well-intentioned residents. The threshold is raised to 80 percent AMI for homes for

sale, and that may be an option for new development, but less likely on a previously developed lot.

Essential or front-line workers struggled to earn a living wage even before the pandemic, which was made worse by the housing affordability crisis. Various workforce housing programs emerged to address this issue, such as community redevelopment agencies, tax increment financing, block grants, land trusts, and rental housing preservation.⁶⁷⁰ However, these efforts have had limited success. Housing assistance or incentives to develop middle housing are often based on percentages of AMI and many have a ceiling of 60 percent AMI. As regulations become more restrictive, the AMI and market rate rents increase more than the ERAI, such that the ability of essential workers to afford more than 80 percent AMI is less likely in the higher restricted markets (Figure 36).

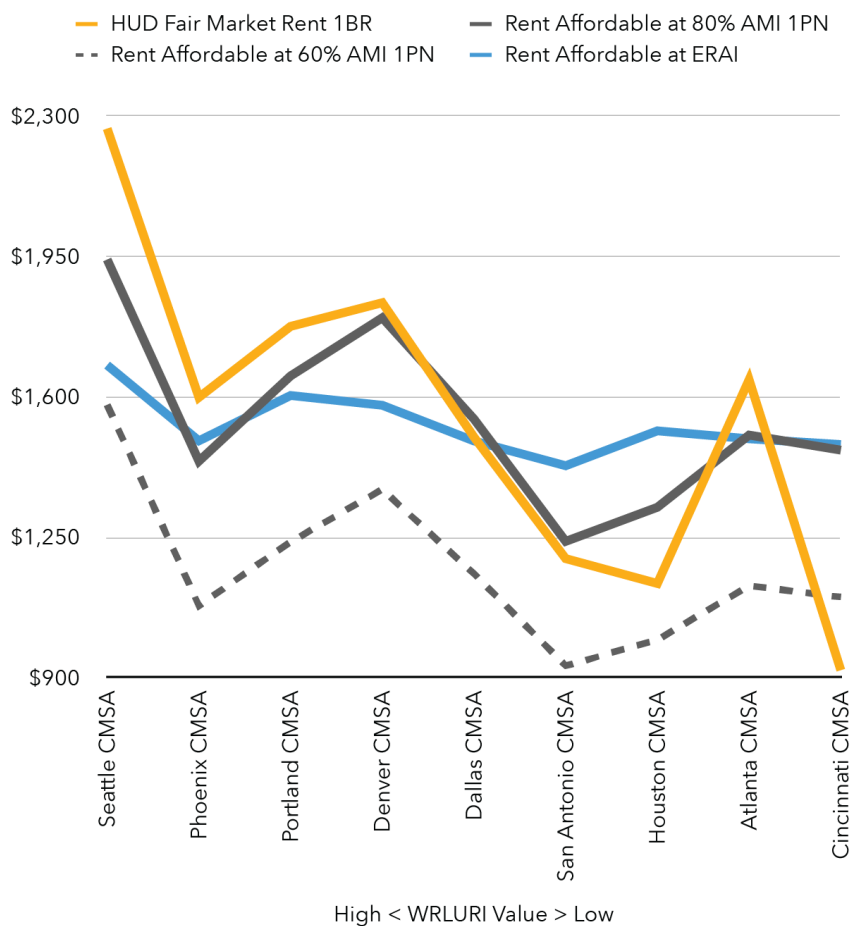


FIGURE 36: ACROSS MARKETS

For incentives towards apartments affordable to those making 60 percent AMI, a homeowner in Seattle could get 40 percent more rent than a homeowner in San Antonio, while the difference for what's affordable for essential workers between markets is less than 15 percent. For some incentives, the threshold is at 80 percent AMI, which would be more than market rent for a one bedroom in some Case Cities, but not others. The result of this disconnect is that the housing

cost burdens of essential residents and corresponding policies at the local, state, and federal level fail to offer the same incentives to support their housing needs. Capping incentives is capping production for many homeowners that would like to add additional units on their lots. Increased production of any kind would be beneficial for the overall housing affordability crisis, and lower-income residents.⁶⁷¹

The average debt per individual, nationally, broke \$100,000 in 2022,⁶⁷² and higher cost markets reflected higher average debt (Figure 37). Higher median incomes are often due to education levels, and student loan debt has risen substantially over the past 50 years.⁶⁷³ Apples to apples, in 2021 dollars, they have risen more than 300 percent in that timeframe. This can make financing middle housing difficult. The median income for a licensed architect in Seattle is less than 20 percent more than in San Antonio, and the additional 40 percent in rent for an apartment that qualifies for incentives means that an architect in Seattle can more easily develop viable affordable housing in their community than an architect in San Antonio.

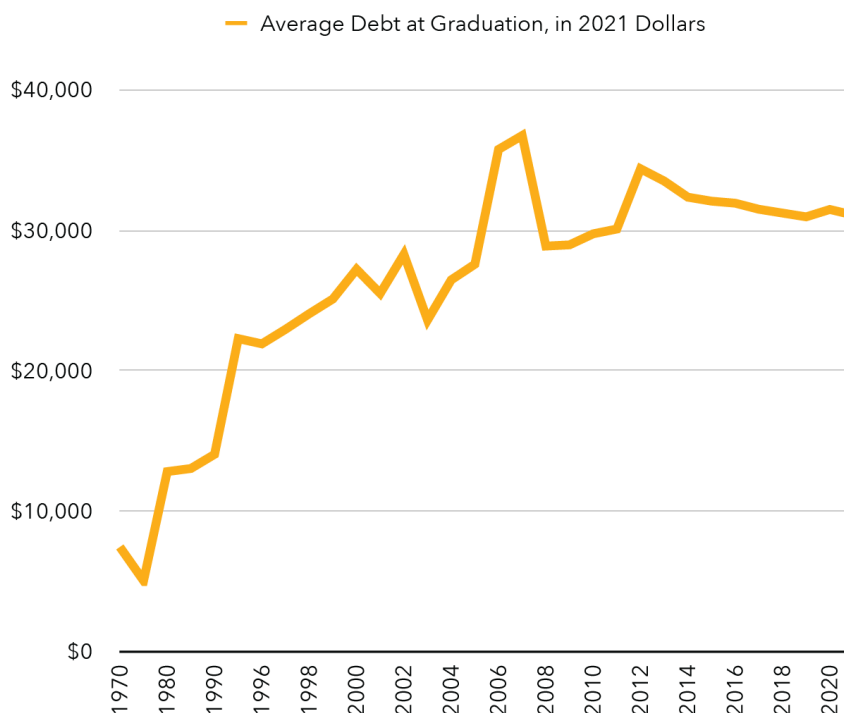


FIGURE 37: COLLEGE DEBT

TAX INCREMENT FINANCING⁶⁷⁴

Tax increment financing (TIF) relies on the idea that public investment will raise property values and the property tax base. A TIF is a loan to a district that considers tax revenue growth from infrastructure projects or improvements within that district, as collateral. TIF began in California in the 1950s to raise funds for federal redevelopment, and became a common urban development

tool when federal funding decreased in the 1980s.⁶⁷⁵ TIF are revenue bonds that can bypass municipal limits and revenue caps by being seen as independent government units, an entity separated from cities.⁶⁷⁶ Over the past several decades, Federal Community Development Block Grants (CDBGs) have decreased, forcing local governments to raise more redevelopment money on their own.⁶⁷⁷ The Housing and Community Development Act of 1974 created these grants to give local authorities more control over redevelopment funds. As direct federal subsidies disappeared, capital markets began to determine project feasibility instead of federal criteria.⁶⁷⁸

Now, many local governments focus on increasing revenues by encouraging big box retail, and avoiding multi-family housing that increase social service costs. This trend encourages the use of TIFs in areas with high potential for revenue rather than neighborhoods where investment is needed. However, a study of Chicago neighborhood TIFs found higher value increases for multi-property TIFs with a focus on community development, and in districts that included, school, and park projects, or in parts of the city that are growing more slowly.⁶⁷⁹ A Minneapolis study found that when properties are rehabilitated near upzoned TIF districts, the increased property values created conditions that signal the consideration of developer investment.⁶⁸⁰

Texas calls a district where TIF is used for community development a Tax Increment Reinvestment Zone (TIRZ). TIRZs, in Texas, can be petitioned, and if approved, governed by a board of property owners within in the district. Property owners in the Houston uptown district have carried an ongoing TIRZ since 2000, reinvesting as the term of the bond is to retire. Concerned about a lack of investment activity, congestion, and infrastructure in poor condition, owners petitioned for \$25 million, and were approved, creating TIRZ 16. As part of the TIRZ, Harris County required that one third of the tax increment collected be allocated towards affordable housing, and passed on to the City of Houston's Housing and Community Development Department. Coffin, 2013 finds that if TIF goals are beyond commercial economic development, like affordable housing, they are more effective when coordinated with the municipality's comprehensive plan.⁶⁸¹ Within TIRZ 16, investments were made to existing streets, the street grid network, and building a pedestrian network to increase mobility, and an improved water infrastructure. By 2004, increased revenue raised \$7.5 million in bonds for affordable housing. A park, slated for commercial development was purchased using these funds, creating Memorial Park, and plans were made for an arboretum and nature center. TIRZ also funded new residential pockets, education facilities, and a Bus Rapid Transit system to increase transportation options. In 2000, the taxable value of Uptown was \$1.9 Billion, and by 2016, had grown to \$7.8 Billion.

In that timeframe:⁶⁸²

- Owner occupied housing increased from 28.3 percent to 33.4 percent
- Median household income (in 2016 adjusted dollars) \$35k to \$84.5k
 - By contrast, Harris County \$55k to \$55.5k
- Population under 200 percent Federal Poverty Threshold 26.4 percent to 19.8 percent
- Ratio of affordable units has dropped, but the rate of loss has slowed since creation of the TIRZ
- 80 percent AMI for one-person household is \$38,800, 30 percent is \$970/mo, where about 2,400 units rent for <\$1,000 or 34 percent of the rental stock
- They have given the city more than \$100M for affordable housing

Today, TIRZ 16, referred to as Uptown, is the 15th largest business district in the U.S., the largest outside of a central business district, and houses 185,000 residents within a three-mile radius.⁶⁸³ Post Oak Boulevard, which runs through the center, has 12'-wide sidewalks, multi-modal transportation options, shopping and dining, and over 1,000 oak trees to offer shade for a comfortable walkable environment. These projects are initiated by residents, for the betterment of their neighborhood. I don't expect a city would set up a TIF for each neighborhood that needs housing, but it may be a creative way to provide interest free capital on a per lot basis and allows the tax increment to serve as repayment over time. Because cities are accustomed to using incentives to force concessions, it may be difficult to find one that would offer them for small middle housing projects. Cities should offer the incentive for market rate owner occupied development, because a shortage of housing is a shortage of housing.

ASSUAGING CONCERNS

Policies aimed at promoting inclusive prosperity should focus on providing equitable access to jobs, ensuring fair wages, and creating supportive environments that allow all individuals to thrive. Inclusive prosperity not only enhances individual wellbeing but also strengthens the overall economy. This requires diverse housing options across municipalities to accommodate diverse groups of citizens. Access to education and training is crucial for developing human capital, ensuring that the workforce is equipped with the skills necessary to adapt to and drive technological innovations. Urban society poses many challenges to residents, financial risk, accessibility of employment and education, social isolation, safety in living and working environments, and housing and economic stability are some of these.^{684,685,686,687} The types of homes that are available to us, the variety of neighborhoods, all governed by land use policies, are inherently tied to each of these. Land use policies, through our living conditions, can dictate the

proportion of the community that have incomes or wealth above the basic level needed to survive and thrive, the reliability of discretionary income, and resilience against economic shocks. They can influence the distribution of resources and services, such as access to quality education, healthcare, and public transportation, which are critical for enhancing the quality of life and opportunities for residents. Urban planning decisions and infrastructure development, play a significant role in shaping the economic, environmental, and social landscape of a city. For instance, community parks or mixed-use walkable neighborhoods tend to offer more vibrant and economically diverse environments. These areas can attract businesses, create jobs, and provide residents with convenient access to amenities, thereby fostering a sense of community and improving overall well-being. Conversely, areas that are zoned strictly for residential use, and worse yet, that segregate income levels, may lack essential services and opportunities, leading to economic stagnation and social isolation. This can perpetuate cycles of poverty and limit upward mobility for residents.

There are a set of basic universal needs, without which the pursuit of one's goals is fundamentally impaired.⁶⁸⁸ There is also a base level of capabilities that we must be able to perform that defines our ability to live "a good life."⁶⁸⁹ Both require adequate living conditions. Adequate living conditions have intrinsic worth, and provide a platform for success.⁶⁹⁰ Meeting basic needs helps maintain health and further education. These are key components of human capital and benefit both individuals and society, economically. To be productive, people need sufficient resources to support themselves and their families. They should have suitable accommodations connected to necessary services. They must be free from illness promoted by unsafe environments. They need adequate nutrition and energy to stay healthy and work effectively. They also need access to employment, and in today's digital environment, access to technology is a requirement for connecting all members of society to amenities, activities, and services. This creates a more inclusive environment and gives individuals the chance to join in the social and cultural activities essential for prosperity. An inclusive market allows diverse new, more productive firms to continuously surface and ensures that all citizens have the opportunity to fully participate in the workforce, key determinants of long-term productivity growth.⁶⁹¹

A fundamental aspect of economic growth is the acquisition of new productive capabilities, which leads to the expansion of comparative advantage - and not just economies at the technological frontier.⁶⁹² By not relying too heavily on a single industry or sector, cities can mitigate the risks associated with economic downturns in specific areas. This requires a level of diversification in the economy, and a corresponding diversity of housing options, appropriate for a

range of incomes. Tight markets that drive up housing costs can limit that diversification and exclude a large segment of the workforce. Often the lower income groups, like essential residents, are unable to relocate long distances to cities who promote affordable housing rather than restrict it. However, they are able to move further out from their primary city. This increases transportation costs, both directly, and indirectly through time spent commuting. The lack of affordable housing options near employment centers can exacerbate social inequalities and reduce overall economic efficiency. When workers are forced to live far from their jobs due to high housing costs, they may face increased stress and decreased productivity, which can have a ripple effect on the broader economy. Moreover, long commutes contribute to environmental degradation through higher carbon emissions and increased traffic congestion, further straining public infrastructure and resources.

Inclusive prosperity necessitates that everyone has the opportunity to engage in the labor market, employ and enhance their skillset, and achieve their productive potential.⁶⁹³ This is crucial not only at the individual level but also in mitigating income inequality, a significant determinant of happiness and subjective well-being.⁶⁹⁴ Beyond the implications for social well-being, income inequality also adversely affects aggregate economic potential.⁶⁹⁵ When individuals are excluded from the labor market or are unable to fully exploit their skills, the economy suffers from a loss of talent and innovation. This underutilization of human resources can lead to slower economic growth and reduced competitiveness. Additionally, disproportionate income levels can lead to social unrest and decreased social cohesion, which can further hinder economic progress. When people feel that they have fair access to economic opportunities and that their efforts are rewarded equitably, they are more likely to trust institutions and participate actively in the economy and politics of a jurisdiction.^{696,697,698}

Early education lays the foundation for critical thinking and problem-solving skills, while ongoing training and professional development allow workers to stay current with industry trends and innovations. Vocational training and apprenticeships can provide practical, hands-on experience to those not financially able to attend college. Fostering an environment conducive to research and development can spur innovation, leading to the creation of new industries and the revitalization of existing ones. This adaptability is essential in a rapidly changing economic landscape where new technologies can swiftly render existing skills obsolete. Equitable access to education and jobs requires that diverse and affordable housing options are in close proximity to enjoy the benefits of density. Too often cities rely on public transportation to supplant proximity, but as we experienced during the COVID outbreak, public transportation is not always available.

Economic resilience is also enhanced by the ability to respond to, recover from, and continue to function through contingency events such as natural disasters or pandemics. As exclusive cities become more expensive, essential workers whose income may be below the AMI, are pushed further out. Essential workers are not just expected to continue working during contingency events, they are asked to work at a higher level, longer hours with less rest. Commuting from the periphery has become a limiting factor, both for our collective safety, and for their familial stability. By pushing those that struggle the most further from jobs and education, we place additional burdens on those that are less able to bear it. And, even under normal conditions, public transportation doesn't take kids to pre-school in the morning, or pick up groceries on the way home. Diverse housing options can place teachers in proximity to the schools they serve, the schools their children attend, and in neighborhoods near the retail and amenities that support their households.

Comprehensive urban planning and policy interventions are vital to addressing these challenges. Recognition of the strengths and weaknesses of density is needed in order to frame the argument for changes to the status quo. Local officials should be selective with the inclusion of these strengths and weaknesses to best suit their unique community. This includes altering land use policies, specifically exclusive SFD zoning, incentivizing diverse housing production, and enabling walkable mixed-use or neighborhood commercial development. Access to jobs, education, healthcare, and other social services is essential to equip all citizens with the necessary skills and opportunities to engage in the shifting economy and address income and housing inequality. Fostering a more inclusive and diversified economy can boost productivity, drive innovation, and secure sustainable long-term growth that benefits every segment of society.^{699,700,701}

We know that well-intentioned policies can have unintended consequences on housing affordability, and recognizing the urgency of the housing affordability crisis and the potential for regulatory reform to make a significant impact is crucial. Economic success is growth, and cities should use available knowledge and data to provide the environment for growth.⁷⁰² This means fertilizing, not restraining. In advocating for evidence-based regulation and streamlined development processes, the revised regulatory environment supports the development of affordable housing units, protects the rights of property owners, and ensures sustainable land use practices. However, successful implementation will require sustained collaboration between all levels of government, the private sector, and community stakeholders. Moving forward, it is crucial that officials continue to monitor and evaluate the impacts of these reforms, ensuring that they effectively balance the needs of communities, the environment, and the urgent demand for

affordable housing. Before determining the best approach, officials must understand the issues and concerns of residents and these are: 1) housing supply and affordability; 2) property value stability; 3) infrastructure investments and taxes; 4) transportation choices; and 5) neighborhood character and displacement.

HOUSING AFFORDABILITY

Federal housing policy has failed twice, and both times, it was due to an overly ambitious and contrived effort. In 1949, Congress tried to wipe out slums and replace them with large public housing blocks. Later, Presidents Clinton and Bush pushed too hard for homeownership and targeted groups who should have rented instead. Elected officials often create new programs to confront trending problems and show voters that they are addressing the needs of citizens. This has led to multiple fragmented and inefficient housing programs with their own rules and staff to govern their use. This is not unlike local zoning codes. These programs may work well alone, but rarely together. The use of vouchers remains the most adaptable and economically efficient method for providing affordable, low-income rental housing, yet they face resistance from private landlords and libertarian conservatives in congress.

Current rental aid programs ignore the differences across states and cities, using a uniform approach for all areas, regardless of local costs, needs, or resources. This one-size-fits-all model doesn't work. This new program, being tied to the market rate rent, provides both owners and housing officials more flexibility to better address local rental needs with tailored policies and adaptable subsidies. This approach would help officials respond to unique local challenges in rental housing. This applies to the LIHTC also. Current federal law imposes a flat rate per state resident allocation limit, disregarding local housing needs and construction costs. LIHTC allocations should be indexed to local construction costs in the same way funding requests for government buildings use an area cost factor in their estimates.

Mixed-income housing strategies are associated with positive outcomes, suggesting that these programs should extend credit to support small multi-unit developments incorporating a minimum of one affordable unit and a maximum of three financed units total, on existing owner-occupied residential parcels. This allows revenue flexibility while increasing affordable housing options. Capping this at four units total is the typical maximum unit count for recent policy reforms, where a quadraplex maintains the scale of SFD homes. The LIHTC program's success in creating 1.6 million high-quality, permanently affordable housing units justifies its continuation and expansion, despite being more costly per household than vouchers.⁷⁰³ Both programs should also be modified to incentivize small, residential lot level mixed-income developments and allow

project-based vouchers for lower-income residents. HUD and state housing agencies need to spread affordable rental housing funds across metro areas, and small scale PBVs can do this. This may mean working around local land-use rules with state cooperation. Cities must increase the supply of housing, and set production goals that, at a minimum, levels the current trajectory. A city does not build houses, so a city must analyze their market like a developer, and ensure project viability to initiate production. Some markets may not need to be incentivized, while in others it may require substantial investment, but planning officials must be acutely aware of the market and required stimuli if they are serious about meeting housing goals.

HOUSING PRODUCTION: FINANCE & INCREMENTAL DEVELOPMENT

The past four decades transformed affordable housing from government ownership of public housing to private ownership, supported by government initiatives. Innumerable projects have received government funding, tax breaks, and other incentives, but these incentives are focused on large developments rather than incremental development on a lot-by-lot basis. A more holistic approach might, in addition to providing government support to large developers, offer market-specific performance-based incentives for the average American towards the construction of more affordable housing. The incentives should be variable and adjusted in each market to breach the viability threshold to initiate production. In the same way housing subsidies support demand for housing, and past subsidies have supported urban renewal or large public housing projects, local development subsidies can support incremental development. Moreover, these incentives should not be limited to monetary investments. Cities might develop smaller, more simple regulations that only govern construction of small residential projects, streamlining the process to make it less intimidating to homeowners, and investing in a knowledge and support infrastructure that promotes development by connecting programs and incentives to participants, and assists with budgets, lending and financial planning.

Homeowners, small developers, and local officials determining incentive thresholds should also be wary of demand side variables that can affect project viability. When a pro forma is being refined by a developer or homeowner, market rate rents, or affordable rents if applicable, are often used to determine the return on investment (ROI). However, build(ing)-to-rent should be viewed from a different perspective than homeownership. It should be viewed as a stand alone business, where the viability of the business would not be based on normative conditions alone, but consider downside risks. There are many variables that can influence demand and the market as a whole. As this is a long-term investment, it's important consider contingency events. Rent growth and normal inflation will be considered in a typical pro forma, but externalities can have a substantial impact on

rents. There are shocks that stem from the economy, industry, nature, and biology, all impact demand considerably.

Supply is the buffer to unpredictable demand shifts at the city scale, but for the homeowner developing on their own lot, it can have detrimental economic impacts. These shocks are somewhat rare, such as Amazon moving their headquarters and suddenly adding thousands of households into a market, the Lehman Brothers collapse, or when Enron filed bankruptcy. Neither a city nor a homeowner can base their housing decisions on such events, but they *should* consider their potential impact. There are natural disasters, which should not be considered, but their aftermaths should. Hurricane Katrina caused thousands to vacate their homes, many migrated to Texas, and cities like Houston were expected to absorb this influx and provide adequate housing. Of course, another example is the unknown number of residents that migrated, within markets, and across the nation due to the coronavirus.

But, as one market is absorbing in-migration, another is experiencing out-migration, leaving many rental units empty. It could also mean a tenant continues to stay in a rental without paying, and no ability to evict. The lesson for the homeowner intent on starting their business by developing on their own lot is, the business needs to be economically resilient enough to sustain itself with minimal overall risk. The question to ask is, how many months can you cover the mortgage, without putting your primary home in jeopardy? A city might consider this, and provide a mortgage assistance program for contingency events. Governments have bailed out auto manufacturers, banks, and Wall Street, but the homeowner is left with threats of foreclosure. Demand-side shocks are less likely to occur, and are detrimental to all involved, but residents should be prepared for their existence. This is also why supply-side adjustments remain the key to housing affordability. If a program such as the Rent Supplement Program is implemented, it lessens the risks homeowners must consider.

VIABILITY, REVENUE OR COST

Increasing housing production is a matter of viability. Viability has a revenue side and a cost side. If a project is not viable, some combination of increasing revenue or decreasing costs is the key to moving forward. Revenue can be increased in two ways, higher rents or more rental units per land area. Increased rents can come in two ways, if the market will bear it or if rent is subsidized, or a combination of both. Typically, raising rents is not an option. Pro formas are designed to maximize profit through scenario analysis, and rents are set to market conditions. If rents in a location are pushing the boundaries of affordability, there is a limited market for new construction and the rents they will require. Rather than increase rents, an increase in units on the same plot of land increases

revenue. Depending on what was the limiting factor, this would require either an increase in allowed unitary density, or an increase in height. This is referred to as upzoning. Upzoning is often used as a bargaining chip to secure the development of affordable units, at 60 percent or 80 percent AMI. In our case, this means housing for essential residents.

Research has shown that an increase in housing, even at the top of the market, reduces rents.⁷⁰⁴ It could be argued that holding density bonuses as bargaining tools is akin to holding project viability hostage. It does not, encourage housing production, quite the opposite, as it adds risk. These negotiating tactics may be acceptable to large developers, but cities should not play these games with residents, homeowners or renters. Upzoning for incremental development is necessary, as unitary restrictions constrains development. Once lifted, height can have a pronounced impact. On a developed lot, buildable area is scarce and the only option is up. If existing zoning allows three stories, this can maintain neighborhood character and maintained older housing stock, but development will be slow. In the case of older housing stock that has not been maintained well, allowing a fourth floor can add the flexibility and profit potential that can allow for demolition of older housing stock and still turn a profit. This gets the attention of medium sized developers. This could very well change neighborhood character, but will increase supply at a faster rate. Cities should carefully choose which areas should be allowed to change, and which should remain the current scale. There can be a graceful transition of scale, a gradient, between levels of morphological density, which can also allow a mix of uses along commercial corridors.

A MODULAR SIDE-NOTE

Right now off-site construction is only about 3 percent of new housing starts, in the late 1990s it was 8 percent. The HUD code for manufactured housing, approved in 1976, restricts innovation in modular housing. Excluding common recreational vehicles, manufactured homes, the tiny home movement, and advancements in material technologies since 1976 have given sufficient cause to reconsider how we regulate factory housing options. There can be three different categories that determine the codes that govern off-site construction methods: Recreational Vehicle (RV), Mobile Homes, and Modular Homes. An RV is limited to 399 SF, not including loft space, is mounted to a trailer, and is subject to ANSI A119.5 regulations for recreational use and Federal Motor Vehicle Safety Standards adopted by the National Highway Traffic Safety Administration.⁷⁰⁵ These are nationally applied regulations that allow units to be built or used in any state, enabling standardization and mass production, and taking advantage of economies of scale. However, they are not often allowed for habitation in neighborhoods zoned residential, and sites that do allow them are limited. Mobile Homes, also mounted on trailers, require a special permit for

transport on public roads, and are installed in a more permanent manner. They can be single units, or multi-unit configurations that are as large as typical wood-framed homes. A three section home from Palm Harbor is 2,810 SF, with four bedrooms and three baths (Image 1). Mobile Homes must comply with the nationally applied Manufactured Home Construction and Safety Standards established and enforced by HUD. The construction of both RVs and Mobile Homes are inspected by local agents at the factory. Like RVs, Mobile Homes can be mass produced, but are not typically permitted in SFD neighborhoods, and sites that allow them are limited. As a result, neither are viable options for affordable housing, infill or not.

Modular Homes can be large multi-unit structures that rival high-end construction, or they can be as small as an RV. They are transported on trailers and then craned into place. Modular homes are often allowed in SFD neighborhoods, but they must comply with the regulations of their final location. These regulations vary by city and state, making mass production difficult, essentially becoming a custom factory built home. They must be inspected both at the factory and at their final location. As they are site assembled rather quickly, this requires tight coordination between manufacturers, the owner, and local inspectors to avoid delays. Due to the cost of crane rental, delays can be costly. With regard to infill-sized units, it is not uncommon for a manufacturer to produce the same model as RV or Modular. This allows for some economies of scale, but requires in-house experts that can guide compliance with national regulations for mass produced RV units and adjust for local regulations on a per unit basis during construction of modular units. Image 2 is an example of a model offered as both RV and modular, by Utopia Villas.

If it's on wheels, it's governed by one regulation, but if you take the axels off and bolt the frame to a foundation it becomes a modular home that does not meet code and is no longer fit for habitation. Mass produced RV models are less expensive, but the manner in which they are sold, financed, and insured, is more an evolution of the automobile sector than the real estate market. This means shorter terms and more costly monthly payments. And although they would not increase property taxes, they are not permitted by code. Alternatively, the modular unit of that same model can be financed over a 30-year term, reducing monthly costs, but the lack of standardization makes them individually more costly.⁷⁰⁶ This separation of two very similar types of housing into two very different regulations means that the benefits of economies of scale, experience, and potential for affordable housing is being lost.

I understand the reticence, and am not offering a solution to maintaining value and character in a neighborhood while liberalizing regulations on manufactured homes. However, the tiny house movement has produced many great designs, is much more affordable to add to a property than

modular or stick-built construction, and the property tax savings means that viability at rents below the median income become much easier to meet.



IMAGE 1: PALM HARBOR TRIPLE-WIDE MOBILE HOME



IMAGE 2: THE VALLEY FORGE BY UTOPIA VILLAS

PROPERTY VALUES

According to Been (2018),⁷⁰⁷ homeowners often worry that zoning changes leading to increased density or the introduction of diverse housing types could depreciate their property values,⁷⁰⁸ a crucial source of wealth for many. When a home is built, there is a land value ratio (LVR) that is set by dividing the land value by the value of the overall property. As the property progresses through its life, the built structure depreciates and most often, land values increase, altering this LVR over time.⁷⁰⁹ Alonso (1964), Muth (1969), and Mills (1972) say, however, that the land values are dependent on the structure, based on rents generated for the highest and best use (HBU) of the property and at a given location. Therefore, land value is a residual equal to the HBU value, less construction/development costs. This "Residual Land Value (RLV) is used by developers to determine the maximum land costs for a project to be viable. Constructing more net area of structure, increases HBU values, and as the HBU value increases, the land value increases. It also shifts the LVR to add value to the improvements side of the equation, reversing the effects of depreciation. However, increases to HBU potential, through upzoning, can also increase land value. This increase in property value can lead to increases in property taxes for neighboring properties, even those absent increased net area. In cases where home owners are at or near the affordability threshold, this added cost can cause displacement, particularly the elderly that have paid off their houses and apply their limited incomes to utilities and taxes. Wegmann (2020)⁷¹⁰ expresses concerns about the potential for displacement due to the elimination of single-family zoning. He suggests that unless upzoning is done in a uniform manner, developers may exploit poorer areas for high-density, market-rate housing development, which could potentially inflate property values and displace current residents. Ahlfeldt et.al. (2018)⁷¹¹ warn that abolishing single-family zoning, upzoning, could potentially intensify social inequality. The allowance of higher-income producing development in areas previously zoned for SFD homes could exacerbate socioeconomic segregation within communities as existing residents are pushed out.

INFRASTRUCTURE AND TAXES

Economically, the perceived impact on property values, both increasing and decreasing, constitutes a significant concern. While Levine (2006) notes that concerns arise about the potential cost of implementing new zoning codes, the possibility of increased tax burdens, or disruption of local economic development goals.^{712,713} Property taxes increase with land value, but their rate is determined by municipal spending needs. Maintaining infrastructure for low-density development can also translate to ever higher property taxes and displacement. Cities have an obligation to govern growth more efficiently, equitably, and to limit the imposition of added burdens to housing

costs. This is not based on moral ethics, but business ethics. An EPA-sponsored study shows that infrastructure costs for compact development patterns are up to 47 percent lower than for conventional suburban developments.⁷¹⁴ Simply, reforming zoning to allow densification in addition expansion, will begin to relieve budget concerns.

THE METRICS OF COMPACT DEVELOPMENT

The earliest use of the term compact city, that I am able to source, is Dantzig and Saatay (1973).⁷¹⁵ The OECD (2012) defines a compact city as one having dense and proximate development patterns, urban areas linked by public transport systems, and accessibility to local services and jobs.⁷¹⁶ Notable work on compact city features include Churchman's (1999) effort to separate the benefits and costs of compact city features as applied to economic, social, and environmental indicators, daily trips, and alternative mode choice;⁷¹⁷ and Neuman's (2005) comparison of compactness and sprawl in cities;⁷¹⁸ social equity in compact cities;⁷¹⁹ and environmental qualities of compactness.⁷²⁰ Density can be measured in a number of different ways, by housing units, population, street intersections, jobs, parcels, or establishments.⁷²¹ Alexander (1993) claims that there are multiple ways to measure and perceive density, and these measures often do not align with the actual experience of density in urban settings.⁷²² Following the research of Alonso et al, early work by Sveikauskas (1975)⁷²³ used density to increase granularity of the relationship between productivity benefits and urbanity through per capita worker productivity.

Increased granularity requires a renewed look at the attributes of density, adaptations to methods of measurement, scale of study areas, the inclusion of new data sources, and novel means of analysis via emerging technologies. Marshall's (1920) concepts of clustering of industry remains a central principle for modern urban economic study after more than one hundred years.⁷²⁴ Perpetual advancements in data acquisition, location accuracy, storage, and access to such data has transformed the means and methods of both theoretical and empirical research at the urban scale. Recent literature has used cellphone data to explore the spatial network of the garment industry,⁷²⁵ measure economic activity inside cities,⁷²⁶ monitor social interactions,⁷²⁷ gauge residential mobility,⁷²⁸ and track knowledge spillover with the return of workers to offices after COVID-19.⁷²⁹ Others use satellite imagery to identify both formal and informal markets in developing countries,⁷³⁰ delineate urban areas and building density,⁷³¹ and to measure and monitor urban expansion.⁷³² And, while GIS has been used for decades, it can now be coupled with new data sources to enhance the analysis or the way we communicate that analysis to reach a broader demographic.⁷³³ Building on the groundbreaking work of Ciccone and Hall (1996), most research and resultant literature in the field of urban economics in the United States has used

population or employment density to quantify the effects of economies of agglomeration and economies of scale on productivity.⁷³⁴ This is partly to do with the availability of data, often using the United States Census Bureau as a source.⁷³⁵ Due in part to a wider array of data, recent studies have measured the density of human capital⁷³⁶ or patents⁷³⁷ as more relevant variables.

Duranton and Turner (2018) found that in order to study the impacts of urban density on daily urban travel, a five-to-ten km (3-6 mile) radius from the individual's residence is an appropriate scale, as beyond 10 km, no measurable effect of driving behavior is observed.⁷³⁸ Within larger study areas, using a simple population density can produce misleading results.⁷³⁹ As an example, two cities can have the same population over a given area, but one may be homogenous while the other is concentrated in a tight cluster, the remaining as low density residential. Population weighted density is a better measure of experienced density over larger areas, where the density of smaller measurements, such as census tracts or block groups, is weighted by the population count of each smaller area. You can find early examples by Ciccone and Hall (1996) where the smaller density calculations are at the county level, then averaged for the state.⁷⁴⁰ This can mitigate counting portions of a larger area that may not be inhabited. Depending on the needs of the study, the smaller calculations can be used individually to form a heat map type gradient over the larger study area. The De la Roca and Puga (2017) method establishes experienced density through the calculation of smaller grid square weighted densities within a larger specified radius of an individual grid square, where the weighted density is further weighted by the sum of adjacent grid squares.⁷⁴¹ This produces a finer grain of experienced density to account for clustering within a larger context.⁷⁴²

One highly prejudicial component of using density based on Census data, weighted or not, is that the inmates of detention facilities and penitentiaries count that facility as their residence. For this reason, a look at the density of downtown Houston appears to be much higher than reality due to a federal prison and county jails near downtown. Together, there are over 10,000 inmates in four buildings. These type of facilities are plentiful, and color what may seemingly be valid research, not discovered in a peer review process. Of course, the city of Houston is well aware of where these facilities exist, and could account for their impact on analysis, and supports the idea that data collection and analysis is more accurate as granularity increases.

For this research, there are three types of density to consider, each with its own positive or negative influence. Economic Density, Morphologic Density, the last type doesn't have as a succinct name, but it is the density of use-type variability. This is the integration intensity of different uses in an area, that can satisfy our common needs. I'll refer to this as Mixed Use Density.

- **Economic Density:** Defined as the number of people living or working in an area, typically measured as population or employment density.⁷⁴³
- **Morphologic Density:** Defined as the density of the built environment in terms of land cover, building footprint, street connectivity, and floor-area-ratio.⁷⁴⁴
- **Mixed Use Density:** Defined as the extent to which residential, employment, retail, and leisure opportunities are located in close proximity, horizontally or vertically.⁷⁴⁵

In urban economic theory, density will increase, based on the productivity and amenities of a location,⁷⁴⁶ and as a market reaction to rising transport costs that limit expansion as distance to a central business district (CBD) increases.⁷⁴⁷ Abel & Gabe find that an increase of 100 people per square mile to metro population density results in a 1.8 percent per capita GDP gain.⁷⁴⁸ As economic density increases, there is competition for land and floor space, for housing, office space, and retail locations.⁷⁴⁹ The increased locational demand due to higher productivity or other benefits is capitalized into the value of space,⁷⁵⁰ and as a lagging indicator, land prices. When density is increased due to land use policies that restrict supply elsewhere, the market distortion will cause a compounded increase in the value of space.⁷⁵¹ Increases in morphological density and mixed uses can make a place more walkable and attractive, which can also increase locational demand, and therefore the value of space.⁷⁵² Where increased morphological density is absent mixed land uses, research has shown that building more densely can be economically efficient,⁷⁵³ but when this increase in density is translated into increased height, building codes become more strict and construction costs, on a square foot basis, increase.⁷⁵⁴ However, Ahlfeldt & Pietrostefani (2017) find that when isolating the outcomes of increased mixed use density, there was a negative elasticity to value of space.⁷⁵⁵ That is, for a given density, unitarily, it became less expensive when mixed uses were present.

Cities often formed around places that had historically intrinsic value, such as portage sites⁷⁵⁶ or fertile agricultural land,⁷⁵⁷ and they still shape current spatial economies through path-dependency.⁷⁵⁸ These exogenous geographic features had an amenity value that spurred economic activity, giving rise to density. A compact monocentric structure would form around this amenity, developing its own intrinsic value through economies of agglomeration and scale, accelerating economic growth, population growth, and further increasing density. Positive within-city transport costs supported this increasing density.⁷⁵⁹ Some developed into large monocentric cities, while others, due to the proximity to other clusters, overlapped and became large polycentric cities. Classic urban economics has long been premised on a monocentric model, but recent economic models feature multiple equilibria to account for modern polycentric urban structures.⁷⁶⁰ Under both types of models, density is understood as both a cause and effect of

productivity. A balancing effect of the market, free from onerous regulation and market distortions, created density organically - formulaically, productivity for a location increases, rents rise with increased demand, per capita space consumption is reduced as a result, the market allows for taller buildings, and the location becomes more dense.

Chief among the costs of higher density is higher land costs, which translate into higher costs per unit of space, regardless of use. As a homeowner, this would translate into higher home values, but Mulder and Wagner (1998) find that as the degree of urbanization increases, homeownership rates decrease.⁷⁶¹ An alternative perspective is that, more often, multifamily units are not individually for sale and the higher value of space is passed on as higher rental rates, rather than equity for local residents. The elasticity of land price to economic density in the city center is estimated at 0.30.⁷⁶² This is interpreted as a one unit increase in land price being correlated with a 0.30 unitary increase in economic density. Higher land prices require higher total rent per unit of land for development feasibility. The market sets the value per unit of floor space, and the amount of floor space required to meet the total rent threshold for development feasibility will, along with the coverage and height restrictions dictated by zoning codes, determine the RLV. With respect to land prices, Ahlfeldt and McMillen (2018)⁷⁶³ estimate an elasticity of building height of 0.45 for office buildings and 0.30 for residential buildings. Increases in building heights correlate to development cost increases for consultant fees and material costs, such that unit costs for floor space are increased by an estimated elasticity of 0.25.⁷⁶⁴ Basic urban economics would dictate that someone's willingness to pay would increase as distance to the city center decreases due to offsets in commuting costs, including drive time. However, Liu, Rosenthal, and Strange (2018) found that the time high-rise tenants spent each day riding or waiting for elevators was comparable to average one-way commute times.⁷⁶⁵ Because the cost per unit of floor space increases, there is an inverse reduction in per capita floor space consumption, if wages remain constant, limiting the elasticity of housing unit rents to 0.07.⁷⁶⁶ This represents a tighter standard deviation for cost per dwelling unit than area of the dwelling unit. If available unit sizes don't allow for decreased floor space consumption, the alternative is to find less expensive housing further away from a primary amenity, decreasing access. Duranton and Puga (2019) estimate the elasticity of average distance to the city center of 0.30, with respect to total population.⁷⁶⁷ However, if productivity and wages increase with density, and rents remain constant, per capita floor space consumption increases.⁷⁶⁸

In a study of French metropolitan areas, Combes, Duranton, and Gobillon (2019) find that, with respect to housing prices, the elasticity of population is 0.11 and the elasticity of density is 0.21. However, they find that, with respect to land prices, the elasticity of population is 0.30 and the

elasticity of density is 0.60.⁷⁶⁹ Their findings indicate that if the urban footprint is held constant, housing price increases are compounded by increasing land prices as population, and therefore density, increases.⁷⁷⁰ This suggests that if cities include outward expansion in addition to densification, they will be better able to moderate housing cost increases as the population increases. Furthermore, infrastructure investments are more uniform and incremental as more even densification occurs. Advancements in data collection and granularity of that data allow us to analyze investments to find the density of infrastructure that is most efficient for a given locality. This is more than just utilities, including service delivery from public safety to education.

DEVELOP EFFICIENT INFRASTRUCTURE

The prospect of escalating density, as a result of eliminating single-family zoning, raises concerns about its potential to strain existing infrastructure, which includes roads, schools, and utilities. Unmanaged increases could lead to overcrowded schools, amplified traffic, and overtaxed utilities, subsequently reducing the quality of life in the communities.⁷⁷¹ Beske & Dixon (2018)⁷⁷² propose that if we want to make our suburban scale neighborhoods more urban and walkable, development could induce infrastructure upgrades stimulated by investments, culminating in incremental long-term benefits. Nelson (2022)⁷⁷³ suggests that a broader tax base, courtesy of denser development,⁷⁷⁴ can finance the necessary improvements in roads, schools, and utilities.⁷⁷⁵ Moreover, Prieto et.al. (2015)⁷⁷⁶ indicate that infrastructure becomes less expensive as density increases. They warn, however, that there is an upper threshold to these efficiencies.

Municipal budgets are increasingly strained by building and maintaining infrastructure for low-density development. State and local governments spend roughly \$500 billion annually on new projects, upkeep, and operating costs for roads, bridges, transit systems, and water resources.⁷⁷⁷ There is concern this is not sufficient with an accumulating backlog of required repairs or the substantial upfront capital essential for modernizing core public infrastructure. Estimates from researchers with the Volcker Alliance indicate that the cumulative costs incurred nationally from deferred maintenance and repair over the past 50 years approaches one trillion dollars (2019).⁷⁷⁸ This estimate may be conservative. Last year, The American Society of Civil Engineers projected these costs could be double that amount.⁷⁷⁹ And, the adverse impacts of climate change, escalating temperatures, sea level rise, and increased precipitation and flooding, challenge the resiliency of existing infrastructure. At a minimum, estimates suggest that increasing the resiliency of core public services, such as access to potable water, requires hundreds of billions of dollars.⁷⁸⁰

Currently, at Dallas City Hall, planners are holding public meetings, evaluating regulations, revising a comprehensive land use plan nearly two decades old, known as ForwardDallas 2.0,

which will subsequently inform future zoning decisions. The city relies on revenue, projecting roughly \$1.44 billion in property tax revenue for the current fiscal year, with 61 percent allocated for public safety. This property tax revenue accounts for nearly one-third of the city's \$3.6 billion annual operating budget, and new properties are expected to add only \$28 million to revenue totals this year. In May, the city will vote on a \$1.25 billion bond program, which represents funds the city must borrow to maintain existing infrastructure. The city staff highlighted \$17 billion in "unmet needs" that the bond will inadequately address, and these needs continue to escalate.⁷⁸¹ For instance, in 2021, 48 percent of all city-owned infrastructure managed by the Transportation Department was at least 40 years old. Replacing outdated traffic lights at a single intersection costs an average of \$550,000. The city of Dallas is responsible for maintaining 11,790 paved lane-miles of traffic lanes, and because the cost of asphalt increased by 30 percent between 2021 and 2022, just resurfacing costs around \$720,000 per mile for a single lane.

Zoning practices significantly impact the fiscal stability of communities. Municipal budgets are increasingly strained by the need to build and maintain infrastructure for low-density development, leading to higher property taxes that can cause displacement and reduce demand. An EPA-sponsored study showed that total thoroughfares and parking cost per residential unit was reduced by 40-60 percent.⁷⁸² Alternatively, noting the costs of sprawl, the city of London, Ontario estimates sprawling development patterns will cost an extra \$2.7 billion in capital expenditures plus \$1.7 billion in operating expenses, or \$4.4 billion extra over 50 years.⁷⁸³ Additionally, Alvarez et.al. (2014)⁷⁸⁴ find that the low-density development, characteristic of segregated zoning may inflate infrastructure costs due to the inefficiencies in providing services over dispersed areas. Although increased density has been found to reduce per capita maintenance costs of roads and sidewalks,⁷⁸⁵ there is a threshold to efficiency gains,⁷⁸⁶ beyond which the gains begin to reverse. This highlights the need for the increase in granularity of local analysis to best serve the financial interests of residents.

With respect to total cost, any added capacity in SFD neighborhoods would still be less than serving the same number of new units at or beyond the urban edge. One reason that development continues to occur on the urban edge is that infrastructure investment is based on average costs, spreading the cost to all residents. Housing consumption decisions based on the inverse relationship of housing cost to commute distance exists because we receive economic signals at the household level that alters our behavior (Figure 38).

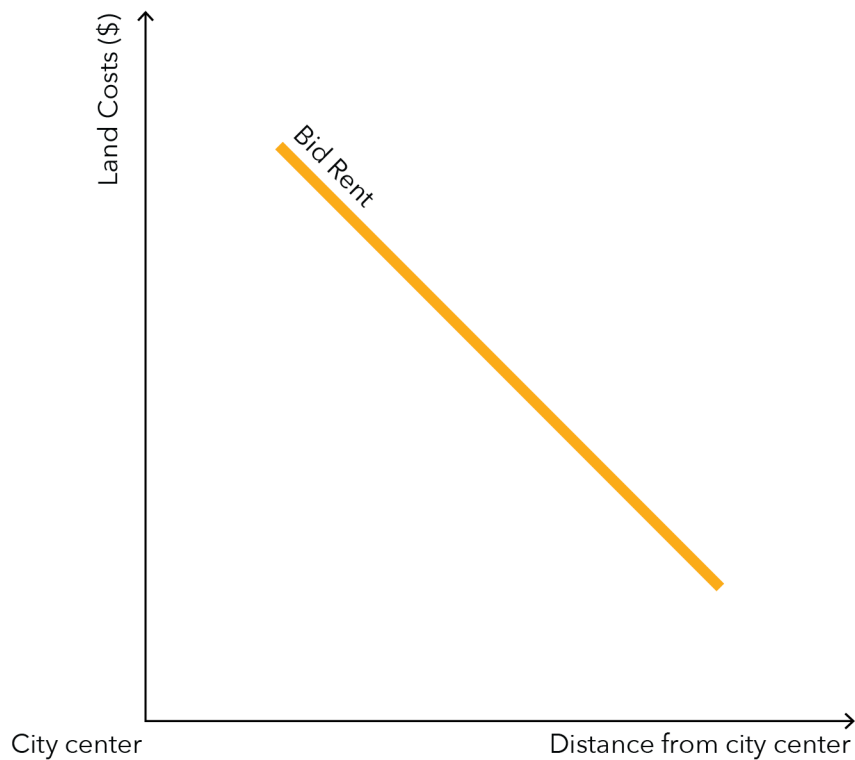


FIGURE 38: INVERSE RELATIONSHIP OF RENT TO DISTANCE

This is not the case with infrastructure investments, because we spread the costs to all residents as an average cost (e) (Figure 39). Marginal costs (e') would bias costs towards the developer, where the more expensive the infrastructure investment, the more they would have to pay. Investing based on marginal costs would provide the price signal, similar to housing consumption decisions, that developers would weigh in their pro forma analysis. For average costs (Figure 40), as distance from the city center increases, land costs decrease (e), and public expenditure on infrastructure increases (p^1). Developers are incentivized to build at the periphery to minimize their direct costs (c^1) i.e sprawl, due to lower land costs. This artificially subsidizes low density suburban development.⁷⁸⁷

If the investment structure is revised towards the marginal cost curve (Figure 41), more responsibility falls to the developer, limiting outward expansion, and a new equilibrium forms (e'). In this scenario, the developer is responsible for more share of the infrastructure (c^2), reducing the burden to the public (p^2). Developers would build in a more land efficient manner, increasing density, to restore project viability. If the land use regulations permit this increased density, municipalities can keep property taxes affordable for all residents by allowing and promoting more efficient development patterns.

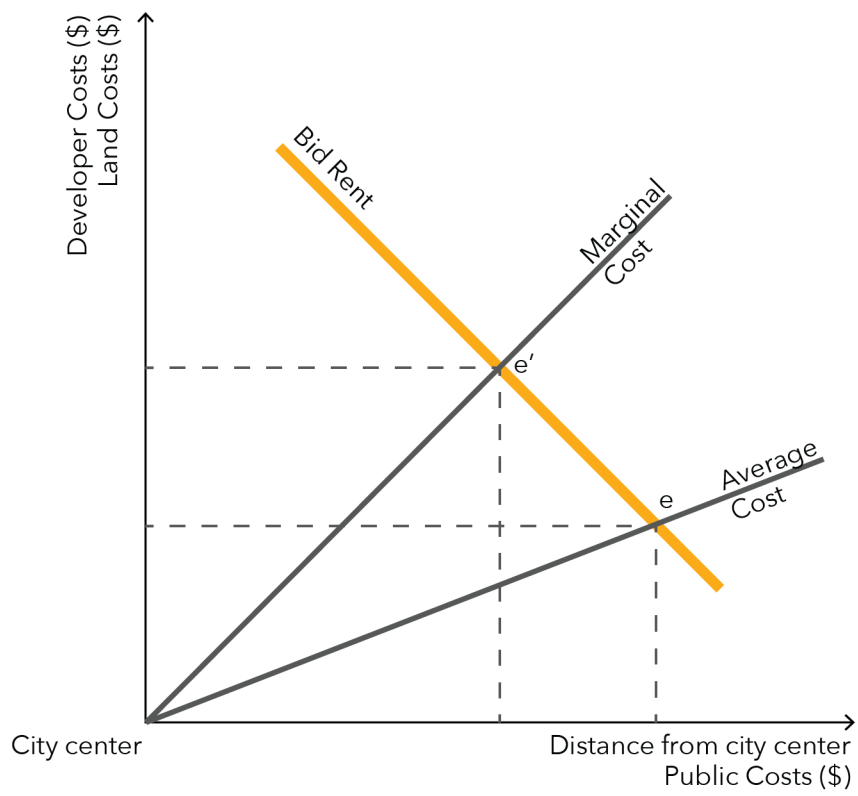


FIGURE 39: INFRASTRUCTURE INVESTMENT

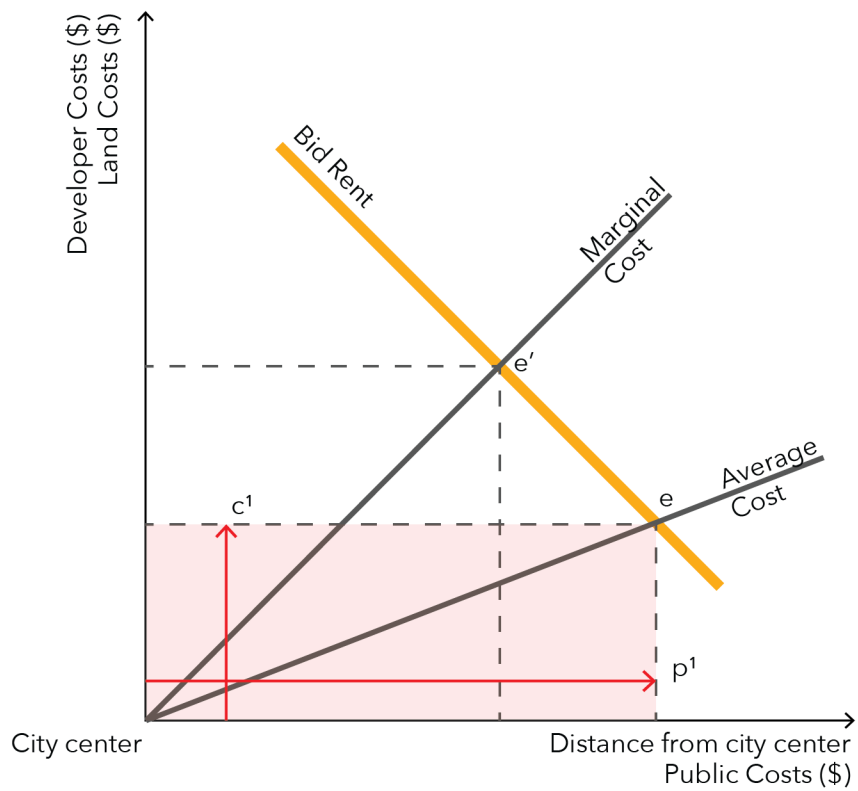


FIGURE 40: AVERAGE COST OF INFRASTRUCTURE

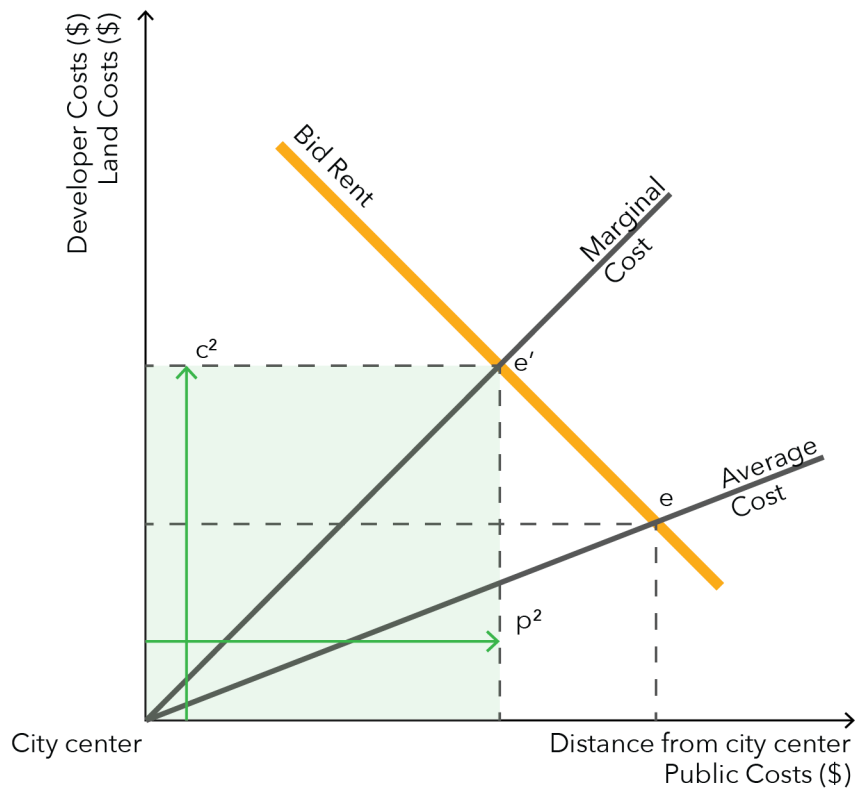


FIGURE 41: MARGINAL COST OF INFRASTRUCTURE

OPTIMAL DENSITY FOR INFRASTRUCTURE

Researchers have studied the cost efficiency of public infrastructure, as tied to economies of density (proximity) and economies of scale (unitary savings through larger system). The purpose was to find, between sprawl, clustered high density (horizontal and vertical, also number of clusters), or uniform density, the optimal conditions for which costs are minimized. The study was based on investments to utilities such as water distribution, sewage collection, and wastewater treatment. The study found that below a population density of approximately 9,000 people (ppl) per square mile (sqmi), absorbing population increases through density, uniformly, was a more economically efficient investment in infrastructure than through expansion or increasing density in dispersed clusters.⁷⁸⁸ Above this threshold, infrastructure investments are more economically efficient through expansion than through uniform or clustered density increases, or adding additional density clusters.

According to Christof Spieler, this is also about the density threshold (10,000 ppl/sqmi) where transit becomes viable.⁷⁸⁹ This is the equivalent of 15.6 ppl per acre (ac), gross. A gross figure means that within this one acre, a portion is private property, like home lots, and a portion is

public, like streets. At the worst housing consumption efficiency of one ppl per dwelling unit (du), that's 16 du/ac. Congress for the New Urbanism has a six zone transect classification to describe different density categories. The rural countryside is T1, where density is not counted in du/ac, but ac/du, and the most dense, ≥ 25 du/ac, is zone T6. These are net figures, meaning the gross density would be slightly higher. Typical suburban development, like a SFD zoned neighborhood, or T3, is 2-8 du/ac. Our optimum density threshold falls in both T4 and T5, which are defined as followed:⁷⁹⁰

General urban - T4: 6-20 du/ac

General urban, is primarily residential, but still relatively urban in character. The streets have sidewalks on both sides, and they have raised curbs. Housing mostly consists of single homes, duplexes, townhouses, and accessory units. Small apartment buildings (up to about eight units) can be accommodated in the general urban zone if care is taken to design them to blend in with single homes.

Some businesses may locate in this zone – corner stores and cafes, for instance. Churches, schools, and other civic buildings also may appear here. Buildings in the general zone are not as large as those in the center. Open space takes the form of parks and greens.

Setbacks generally range from 5 to 25 feet. Many houses have porches, and the porches should be allowed to encroach into the setback zone. Lot widths for townhouses generally range from 18 to 30 feet, and for single homes from 30 to 70 feet. Lot lengths generally range from 80 to 130 feet. Rear lanes with garages and/or accessory units are common. Sidewalks should be 5 feet wide, ideally, to allow two people to walk side by side. Thoroughfares consist mostly of residential streets.

Center - T5: 15-40 du/ac

The center (T5) is like the urban core (T6) in many ways – buildings typically mix uses, with shops on the first floor and offices and residential units above, and are usually built to the sidewalk – but the character has more of a "main street" feel.

PlaceMakers describes the historical center as:

"The main street neighborhood was as diverse as any, including merchants living over their shops and old folks who didn't want to have to saddle up to get to all the necessities. You could see lights on in the windows over the square every evening, and could hear mothers calling their kids to come in and do their homework"

Most buildings are attached, with their fronts aligned. Full four-way intersections with rectilinear trajectories (i.e., streets at right angles to each other) are common. Buildings top out at two to four stories.

Setbacks are short and sidewalks are wide. Open space often takes the form of squares. Transit is often available. Housing consists of apartments above retail, stand-alone apartment buildings, townhouses, and live/work units (townhouses designed so that one or more floors can accommodate business activities). Unlike the core, the density allows for surface parking in the center of blocks. Thoroughfares generally consist of main streets and boulevards.

These descriptions perfectly describe uniform and incremental middle housing densification in neighborhoods previously zoned SFD, and the neighborhood commercial or mixed-use

development that could occur on the streets that encircle those neighborhoods, currently zoned for only commercial uses. As this is the threshold where efficient investment begins to shift from densification to expansion, both should provide opportunities for development for the most cost conscious use of local taxes on infrastructure. This density is the equilibrium point for water utilities and service delivery, but other investments may find an economic equilibrium at different densities. The research found that around 64 percent of urban areas are below this threshold, with an average cost excess due to inefficient development of 18 percent.⁷⁹¹ Reforming zoning to permit densification, in addition to expansion, will help alleviate budget concerns. Additionally, densification is an environmentally sound development pattern that has been shown to enhance social interactions and foster community cohesion.^{792,793}

When construction is higher than 4 stories, development shifts from local small business developers and stick-frame construction to corporate development, potentially not local, with more complex structural requirements and building codes. The morphologies described for the T4 and T5 transects can be accomplished using this simpler construction method, saving on construction costs, while at a density that is most cost efficient for infrastructure. This minimizes the burden of property taxes on homeowners and renters. This increase in per lot development potential increases the value of property. The full value is realized when the lot increases the unit count. This increase in value translates into increases in revenue potential, however, efficient spending can mean reduced rates for homeowners overall.

Pendall (2000) highlights how segregated land use zoning, which separates residential, commercial, and industrial areas, often restricts the tax base by focusing on SFD homes at the expense of revenue-generating commercial, mixed, or higher density development.⁷⁹⁴ In agreement, Chung (2018)⁷⁹⁵ finds that FBCs, which encourage compact and mixed-use development, can potentially improve fiscal solvency by reducing infrastructure costs. By promoting a blend of residential, commercial, and other uses within the same vicinity, FBCs can thus broaden the tax base. In general, urban mixed-use mid-rise produces 25 to 59 times more revenue per acre than its suburban counterparts.⁷⁹⁶

Beyond infrastructure, The City of Dallas maintains pension plans for both city workers and public safety personnel, essential workers, which collectively are underfunded by approximately \$4 billion. Addressing this shortfall will necessitate either reducing benefits—potentially complicating efforts to attract and retain employees—or incurring additional debt to fulfill the city's obligations.⁷⁹⁷ Despite this, the new mayor, pledged "no new revenue." In order to thread the political needle and generate additional revenue without new revenue, the city must permit greater density. Dallas

finances the majority of its budget through property taxes, 57 percent of total revenue, and sales taxes at 25 percent. State law restricts any further increase in the sales tax, so to address the \$17 billion in unmet needs, they must alter their land use strategies. Using average taxable value per acre to estimate potential revenue, increased density in residential areas increases revenue (Table 5). A similar logic applies commercially, where a big-box Walmart has less taxable value per acre, than a shopping mall or a locally owned restaurant in a walkable neighborhood.

REAL PROPERTY	TAXABLE VALUE PER ACRE
Single-Family Home	\$1 Million
Duplex	\$1.9 Million
Apartment Complexes	\$3.2 Million
Townhomes	\$3.6 Million
Condos	\$5.2 Million
Big-box Commercial	\$600 Thousand
Shopping Mall	\$8.9 Million
Restaurant	\$18.9 Million

TABLE 5: TAXABLE VALUE OF REAL PROPERTY

ECONOMIC AND SOCIAL INFRASTRUCTURE

Trade enables the movement of goods, services, ideas, capital, and people through an economic infrastructure such as communications, resources, and transport. There are regulations that enable trade, and those that inhibit the flow of commerce. Where markets have sufficient infrastructure and few barriers to the exchange of goods and services, trade can flourish. This trade creates competitive and efficient markets, allowing new products and ideas to develop.⁷⁹⁸ Compact development reduces the costs of providing such infrastructure. Increased density has been found to increase the efficiency of public service delivery such as utilities, first responders, and reduce per capita maintenance costs of roads and sidewalks.⁷⁹⁹ As with the general costs of density, there is a threshold to efficiency gains,⁸⁰⁰ beyond which the gains begin to reverse. In addition to electricity, water, and sanitation, other essential services such as healthcare, education, and transportation also play a critical role in human wellbeing. Equitable access to these services supports social and economic development, reduces poverty, and enhances quality of life. Therefore, a comprehensive approach to improving access to all basic services is necessary for fostering inclusive and sustainable growth.

Connectedness is a multifaceted concept that includes physical, digital, social, and emotional elements. By fostering connectedness in all these areas, we can create more cohesive, supportive, and resilient communities. Connectedness is the extent to which individuals are able to

engage each other. Roads, sidewalks, and public transport must provide effective means of physical connectedness. This ensures that people can easily travel to work, school, and social events, thereby fostering a sense of community and reducing isolation. Additionally, digital connectedness is increasingly important in today's world. Access to reliable internet and communication technologies allows individuals to interact with others, access information, and participate in the digital economy. Both physical and digital connectedness are essential for a well-functioning society, as they enable individuals to collaborate, share ideas, and support one another in various aspects of life. Building strong relationships and networks, a social infrastructure, within communities can enhance social support systems, improve mental health, and increase overall well-being. Programs and initiatives that promote community engagement, such as local events, volunteer opportunities, and social clubs, can help strengthen these bonds.

INCREASED DEVELOPMENT AND A LAND VALUE TAX

Property taxes were a common practice across the ancient world. The earliest tax records, clay tablets dating back to around six thousand years B.C., were discovered in the ancient city-state of Lagash, located in modern-day Iraq. As Alexander the Great (356 B.C.–323 B.C.) conquered Persia, India, Egypt, and other regions, he provided administrators with specific instructions on implementing property taxes.⁸⁰¹ Before his conquests, heavy taxes were imposed in the lands he conquered, with revenues going to the king's or ruler's treasury. Alexander, however, significantly reduced taxes, allocating half of the collected funds to public projects such as water systems, roads, and ports, while retaining the other half to fund his conquests. Augustus Caesar, concerned about suboptimal production levels, introduced adjustments to the tax system, basing taxes not on actual production of the land, but on potential productivity. This policy aimed to incentivize maximum land use, ensuring that the least productive farmers paid the same property taxes as their most industrious neighbors.⁸⁰²

Our flawed tax system punishes behavior we should reward. Income taxes discourage earning money, investment taxes discourage innovation, and property taxes discourage homeowners from building improvements. Property taxes are value based, on both the land and improvements. There are two main issues with the assessment of property taxes and how they are levied: accuracy and consistency of valuation, and that any increased value due to development is greeted by higher taxes. Valuation of land, as illustrated in figures 25-33 is not fixed. And while the economic model uses the city center as the central source, any number of locations that have a value serve as a base of the value gradient. This can be landscape features, transportation hubs, commercial centers, or other amenity. Land value can be determined in two ways.

- **Sales Comparisons:** Using this valuation method, an assessor examines recent sales figures of comparable properties in the vicinity, commonly referred to as "comps." This approach assumes that a typical buyer will not pay more for the subject property than what has recently been paid for similar properties in the area. Assessors rely exclusively on data from properties that have actually been sold, as these figures represent concrete purchase prices. This data is typically sourced from public records or real estate agents.
- **Income Valuation:** This approach aims to determine the ongoing income the property can generate, such as rent or lease revenue. An assessor examines the market rent in the area, what similar properties are currently rented or leased for in the same market. The assessor reviews several similar properties, considering their size, location, condition, and amenities, to estimate the potential revenue of the property.

The problem with the former is that in a previously developed area, vacant land for comparison is scarce. The problem with the latter is that it is considering the revenue of an existing structure to determine an overall value and wouldn't be applicable to vacant land at all. Another factor that should be considered is zoning. The value of a small lot next to a busy interstate would vary significantly based on agricultural, residential, or commercial zoning designations, and vary further based on height restrictions. Using the method of Augustus Caesar, and considering the development potential, based on current zoning, is a more precise method to derive land value. In this case, improvements are not part of the valuation to determine taxes. Future improvements would not change the taxable value, and would not be a disincentive for development. On the contrary, it would incentivize development to realize a property's true potential. Like income valuation, the market provides the unitary value and the zoning provides a threshold for development. This removes subjectivity from property valuation. Recent research shows that assessments are typically regressive, where properties with a low sales price are assessed at a higher value, relative to their actual sale price, than properties with a high sales price.⁸⁰³ Assessments, as a proportion of actual sales price, were twice as high for homes in the bottom ten percent of sales price than homes in the top ten percent. This regressivity is not a regional phenomenon, and appears to result from limitations in the methods used in assessment. An assessment of improvements must take into account the condition of the structure, features that may result in higher or lower sales prices, and it requires visitation and subjectivity for any semblance of accuracy. The land value method based on development potential does not require a visit or opinions of assessors.

Pure land value taxes that exempt structures altogether are quite rare in practice, compared to "split rate" taxes. The split rate property tax consists of two tax rates: one on building values and the other on land values. Pittsburgh and Scranton implemented this policy in 1913, but it spread to

other cities in the 1980s. The tax on buildings is decreased, encouraging property owners to build, maintain, and improve their properties. The tax on land values is increased, discouraging land speculation and encouraging infill development. Conceptually, this is similar to marginal versus average costs of infrastructure. This splitting of taxes is important because these taxes have different impacts on incentives and development. On a community scale, this tax shift promotes efficient use of urban infrastructure, reduces urban sprawl, and spreads the benefits of development across the community. At the lot scale, land value-based tax policies encourage home improvements and construction of affordable housing. The intent of a tax system that shifts the source of value to land is:

- induce the highest and the best use of the land
- discourage land being left vacant or as parking
- encourage increased density
- discourage sprawl and preserve natural areas and open space areas such as parks, historic sites, etc.

Pennsylvania's property tax reform acknowledges this difference through the split-rate property tax. Among the cities that have adopted the two-rate system, there is a significant variation in the tax rates applied to land value versus building value. For example, Aliquippa, PA, a small city that pioneered the two-rate system for school districts, imposes a tax on land that is 16 times higher than that on buildings, Titusville's ratio is almost 9 to 1, and Harrisburg's ratio, which was 3 to 1, is set to change to 4 to 1. In Pennsylvania, 85 percent of homeowners pay less with this policy than with the traditional flat-rate approach. Those who do pay more are usually wealthier homeowners who can afford it. Alanna Hartzok, previously the United Nations Non-Governmental Organization Representative for the International Union for Land Value Taxation, and State Coordinator for the Pennsylvania Fair Tax Coalition, notes of Harrisburg, the following statistics:

- Number of vacant structures declined from 4,200 in 1982 to 500 in 1997
- 51 percent reduction in fires due to increased maintenance
- \$4.8 billion worth of investments
- Taxable properties went from \$212 million to \$1.6 billion
- Residential units sharply increased
- Vacant structures fell by 80 percent

Pittsburgh extended its land value tax in the 1980s so that now land values are taxed six times more heavily than building values. A recent study compared the average annual building permits issued in Pittsburgh and 14 other eastern cities over the decade preceding and the decade

following Pittsburgh's expansion of its two-rate tax. Pittsburgh experienced a 70.4 percent increase in building permits, whereas the average for the 14 other cities was a 14.4 percent decline.⁸⁰⁴ This statistic is particularly noteworthy given that the city's population contracted from 1,807,000 in 1980 to 1,681,000 in 1989. Research based on building permits issued in the three-year period before and after the implementation of the two-rate tax policy in Pennsylvania cities consistently shows significant increases in building permits issued after the policy was put in place.⁸⁰⁵ Mayor Stephen Reed of Harrisburg, the capital of Pennsylvania, sent the following letter to Patrick Toomey, then a member of the Home Rule Commission of Allentown (10/5/94), and since, senator of Pennsylvania from 2011-2023:

"The City of Harrisburg continues in the view that a land value taxation system, which places a much higher tax rate on land than on improvements, is an important incentive for the highest and best use of land in already developed communities, such as cities.

In our central business district, for example, our two-tiered tax rate policy has specifically encouraged vertical development, meaning highrise construction, as opposed to lowrise or horizontal development that seems to permeate suburban communities and which utilizes much more land than is necessary.

With over 90 percent of the property owners in the City of Harrisburg, the two-tiered tax rate system actually saves money over what would otherwise be a single tax system that is currently in use in nearly all municipalities in Pennsylvania.

We therefore continue to regard the two-tiered tax rate system as an important ingredient in our overall economic development activities.

*I should note that the City of Harrisburg was considered the second most distressed in the United States twelve years ago under the Federal distress criteria. Since then, over \$1.2 billion in new investment has occurred here, reversing nearly three decades of very serious previous decline. None of this happened by accident and a variety of economic development initiatives and policies were created and utilized. The two-rate system has been and continues to be one of the key local policies that has been factored into this initial economic success here."*⁸⁰⁶

Implementation of Transition

A property tax system should be designed to incentivize neighborhood investments, deter idleness, and ensure that private gain and public good are in alignment, and that is what this accomplishes. Transitioning to a land value or split-rate taxation system would probably encounter considerable resistance, as its impact would be distributed unevenly and most intensely among owners of high-value properties where land constitutes a relatively large portion of the total value. The opportunity cost for vacant land will be high. For these individuals, the removal of taxes on the value of buildings and other property improvements would only partially counterbalance the increased property tax burden. Both Harrisburg and Pittsburgh incrementally shifted from a traditional tax system to the split tax, taking care to maintain a revenue-neutral tax base. Such a

gradual shift, coupled with community education, enables citizens to make necessary adjustments. This transition invites investment, and a gradual shift allows owners time to partner with developers, sell the property, or develop themselves. As buildings are taxed less, their value might rise, while the value of more heavily taxed land may fall.

Implementing a land value tax in fully developed areas without adjusting zoning regulations would not boost housing supply. However, combining land value taxes with upzoning creates incentives for owners in high-cost areas. Land is most expensive in city centers, near job clusters, and transportation nodes, and land value taxes alter financial incentives for owners of costly land with low-density structures. Development in these areas allows more people to reside near high opportunity areas, and zoning should allow that growth. The long-term continuation of this tax policy in areas that have adopted it suggests it does garner voter approval over time. If upzoning along with a revised tax structure can make municipal spending more efficient, lower tax burdens on the cost-of-living, incentivize incremental development, lower housing costs through increased supply, and coax owners of vacant land and parking lots to build, then it shouldn't be difficult to sell to the public. Making the mandatory shift gradually, but allowing a tax neutral immediate opt-in for those that wish to build will allow developers to create accurate pro formas under the new tax system, and allow projects to move forward with less uncertainty.

Police power is reserved by states, and the federal government has little say on many policies that limit housing production at the local level. They do have dominion over many laws that impact labor costs, lumber and other materials, lending practices, and legal barriers on the environmental front. For this reason, federal, state, and local views must once again come back into alignment to address regulatory barriers to housing production, and alleviate housing affordability.

CITIZEN HOUSING AND TRANSPORTATION OPTIONS

Density is a relative term, cities host more than 55 percent of the world's population⁸⁰⁷ on 2.7 percent of the land.⁸⁰⁸ However, urbanization is growing twice as fast through expansion than population growth,⁸⁰⁹ and is expected to triple between 2000 and 2030.⁸¹⁰ The OECD (2012)⁸¹¹ estimates that between 1950 and 2012, the 38 member countries increased their built-up urban areas by 104 percent with a corresponding increase in population of only 66 percent. Effective land use planning plays a crucial role in environmental sustainability, by encouraging development that is more energy-efficient, that can reduce the carbon footprint of residents.⁸¹² Cities account for over 70 percent of CO2 emissions and global energy use.⁸¹³ The initial impetus for segregated land use regulation was public health, partially due to a lack of investment in public utility infrastructure, but also industrial emissions. Urban life expectancy didn't surpass rural until after 1930.⁸¹⁴ What

began as an exercise in the separation of incompatible uses to mitigate the harmful effects of concentrated pollution, quickly morphed into the segregation of single-family detached housing into low-density suburban development patterns. The policies adopted to reduce the effects of emissions are now a major contributor to increased pollution.

Research examining the impact of compact urban growth, assessing more than 300 studies worldwide, finds that a majority of the papers (69 percent) identified positive effects associated with compact urban form, particularly economic density.⁸¹⁵ The elimination of single-family zoning can potentially lead to complex environmental impacts. Ahlfeldt & Pietrostefani (2017)⁸¹⁶ contend that these impacts could include increased noise, loss of green spaces, and other forms of pollution due to increased density, but could also lead to more efficient use of resources and reduced carbon emissions, illustrating the complex nature of determining the net environmental impact. Higher economic and morphologic densities are shown to slow traffic and increase vehicular and pedestrian congestion,⁸¹⁷ however, increases in mixed use densities reduce congestion due to fewer trips, reduced trip length, and increase sustainable transportation mode choice.⁸¹⁸ Walkable compact development is often accompanied by reductions in parking requirements, and it should signify that residents can walk or bike to employment centers, not drive from one walkable neighborhood to another. However, it is common to see expensive mixed-use housing, nestled in with coffee shops and cafes, where residents drive twenty minutes to work, and those in the service industry, or teachers and first responders, must make long commutes by transit or car to the walkable neighborhoods they serve. And, since parking requirements were reduced or garages are exclusive to residents, they must plan extra time to drive around the neighborhood searching for a parallel street spot. Localities must dig deeper than the implementation of trendy policies for the appearance of effort, to truly respond to housing and transportation burdens. Talking points of a newly elected mayor or council member have zero worth when discussing kitchen table economics.

With increased concern over environmental sustainability, many scholars believe that densification is preferable to expansion,⁸¹⁹ as research shows that per capita emissions and energy consumption is half for those living in dense urban environments than in low-density suburban developments.⁸²⁰ Segregated land use zoning often mandates sprawling development patterns, where environmentally beneficial forms of urbanity are rendered illegal in most residential zoned areas in the United States. Fortunately, this means potential for densification and increased connectivity. Vehicle miles traveled (VMT) and total travel time decreases with density, with the benefit of reduced greenhouse emissions per capita than those living in less dense

environments.⁸²¹ A study by Duranton & Puga (2020)⁸²² corroborates the idea that an increase in density and diminished automobile use results in more efficient resource use and reductions to carbon emission, but may also be attributable to living in attached unit conditions or smaller square footage consumption per capita. The reality of today is that there is a private cost versus societal cost relationship for pollution. Tagtachian & Barefoot (2019) and Duranton & Puga (2020) found that, despite the lower per capita emissions as density increases, the particulate exposure is greater due to the increased concentration of pollution sources in high density locations.^{823,824} Carozzi and Roth (2019) find an elasticity of particulate exposure of 0.13 with respect to density.⁸²⁵ The concentration of pollution, or particulate exposure, is reduced with increased economic density, but increases with morphological density, potentially through trapping pollutants with reductions in air flow.⁸²⁶

The societal costs of outward expansion is public spending on infrastructure, the corresponding private cost is traffic congestion and slower speeds.⁸²⁷ Duranton and Puga (2019) estimate an elasticity of travel speed relative to population of -0.04.⁸²⁸ Increased density and proximity of varied uses catering to the diverse housing and transportation needs of a community, promotes walkability, reduces car dependency,^{829,830} and increases the viability of public transit. Increasing the level of walking connectivity in Melbourne by 10 percent is estimated to add \$2.1 billion to the economy.⁸³¹ The disamenities of increased economic and morphologic densities, such as increased noise and air pollution⁸³² and the scarcity of affordable parking, also support and increase the mode share of walking and cycling if the trip length is short,⁸³³ and public transit for slightly longer trips.⁸³⁴ This has the potential to reduce the overall costs of transportation,⁸³⁵ the negative effects of congestion,⁸³⁶ and total pollution.⁸³⁷ Encouraging mixed-use developments along transit corridors and promoting a variety of housing types⁸³⁸ can ease the combined housing and transportation burdens of residents. As these more sustainable modes of transport are affordable,⁸³⁹ they can be considered economically suitable and equitable alternatives to vehicular ownership.⁸⁴⁰

Additionally, while increased density may lead to more efficient resource use and reduced carbon emissions, residents might fear that denser development could result in the loss of private backyard green spaces or local parks.⁸⁴¹ The American paradigm is fundamentally defined by single-family residences featuring meticulously maintained front lawns and rear decks with a charcoal grill and a dog. This ideal has, particularly in the booming post-World War II era, evolved into a symbol of national identity.⁸⁴² The presence of a private yard is associated with residential pride, positive environmental views, and overall home satisfaction.⁸⁴³ Potential density increases

within SFD neighborhoods by incorporating small-scale dwellings in front, side, and back yards, can still reserve a smaller portion of yard for each unit.⁸⁴⁴ This becomes an American version of compact development, aimed at promoting higher density while preserving the character of single-family neighborhoods. Zoning for increased residential intensity might further the goals of a walkable city, increase access to jobs and education, and promote public transit, while recognizing the importance of privacy to Americans.⁸⁴⁵ Jansen et al. (2011) describe this with a bit of sarcasm "For many people, their ideal dwelling would be a spacious detached dwelling with the front located close to urban facilities and the back yard located in a green and quiet environment, such as a public park."⁸⁴⁶ However, this could describe the quality of increased density in SFD neighborhoods.

Neuman (2005),⁸⁴⁷ Wolsink (2016),⁸⁴⁸ and Ikin et al. (2013)⁸⁴⁹ find that as a result of higher opportunity costs from increases in the value of land associated with increased economic and/or morphological density, there is a corresponding reduction in open space. McDonald et al., (2023) explored these concerns, noting that while denser development patterns can potentially enhance sustainability, residents also express apprehensions about the possible loss of public green spaces.⁸⁵⁰ From a landscape perspective, this might contribute to the loss of abundant tree cover, which is a form of neighborhood identity.⁸⁵¹ Such public green spaces often serve as key community gathering spots and contribute significantly to neighborhood character and aesthetic appeal. However, analyzing how the termination of single-family zoning could impact infrastructure, Wegmann (2020) contends that denser development might contribute to more climate-resilient communities by fostering investment in climate adaptive infrastructure.⁸⁵² In many cities, stormwater retention and park systems are symbiotic uses occupying the same space, preserving open space for public use in good weather and serving as stormwater management in inclement weather.

NEIGHBORHOOD CHARACTER & INSTABILITY

Single-family zoning has been a traditional tool to maintain the character of low-density, suburban neighborhoods.⁸⁵³ They not only maintained a scale of the neighborhood, but also those that could live there. As such, neighborhood character is just as much about human character as it is morphologic. Studies by Cheshire, Hilber, & Koster (2018) indicate, even well-crafted policy alterations may lead to unintended consequences.⁸⁵⁴ The alteration to existing zoning or a shift to FBCs generally entails greater density and a broader array of housing types, which can spark fear of both physical and social changes within communities.^{855,856,857} Wegmann (2020)⁸⁵⁸ suggests that development of high-density, market-rate housing that is concentrated in poorer neighborhoods

due to the non-uniform application of land use changes, could potentially cause large scale demolition of existing structures that fundamentally alter neighborhood character. Social apprehensions of zoning changes relate largely to neighborhood character, or, increased noise, traffic congestion, and overcrowding.^{859,860,861} These factors concern unique environmental and social characteristics that contribute to residents' sense of belonging and well-being.

The elimination of single-family zoning, though intended to increase housing affordability, may inadvertently result to upward pressure on existing housing prices,^{862, 863} displacement, and a shift in the social character that is defined by those that live there.⁸⁶⁴ New development could potentially drive up housing prices, especially if it is targeted at high-income households, leading to possible displacement of lower-income residents.⁸⁶⁵ Recent literature by Freemark (2023)⁸⁶⁶ has added layers of complexity to the topic of displacement and gentrification as potential outcomes of zoning changes, but that the results depend on market demand, local context, housing types, and timing of development. Such risks are more apt to appear in neighborhoods already undergoing economic and demographic shifts, such as from an elderly population to young families. This can lead to changes in neighborhood dynamics and may result in higher demands on infrastructure, resources, and services.⁸⁶⁷ Hickey (2014)⁸⁶⁸ contends that displacement and gentrification effects due to the elimination of single-family zoning can be mitigated by integrating affordable housing policies, recommending the coupling of zoning changes with initiatives such as inclusionary housing requirements. A recent study by Talen (2021)⁸⁶⁹ found that where FBCs were adopted in low density urban areas, there were no signs of gentrification, no increase in population density, or lower median rents, but there was an increase in unit density and multi-unit buildings. This indicates a densification of diverse housing types. The benefit of FBCs over the alteration of existing land use regulations is that FBCs are prescriptive and Euclidean zoning is proscriptive. With FBCs, the scale and proportion, or bulk character, are inherent in the regulation. The regulation is written to describe the desired development. Traditional Euclidean zoning describes what is not desired, leading to unpredictable results. As an example, imagine ordering dinner by naming all of the items on a menu that you did not want to eat, rather than what you did. It is understandable, then, that changes to complex zoning receives pushback simply due to the apprehension of learning a new system.

ECONOMIC, MARKET, AND HOUSING INSTABILITY

Densification has been shown to increase social interactions and promote community cohesion.^{870,871} Community cohesion takes time, and time requires housing stability. Shelter, the availability and quality of accommodation, and the impact of that environment on the health of

residents are crucial factors in determining overall well-being and quality of life. Adequate shelter provides not only physical protection from the elements but also a sense of security and stability. The availability of accommodation is influenced by various factors, including economic conditions, population growth, and urban planning policies. Concentrated development, displacement, and sharp demographic shifts can create, or be created by, economic, market, and housing instability. Predictability forms the foundation of trust in the economic system, crucial for both consumers and businesses, where volatility has been shown to negatively correlate with economic growth.⁸⁷² Following the financial crisis, and during the pandemic, it became evident that individuals can more readily adapt to an unpleasant stability than to instability.⁸⁷³ The same logic applies to land use regulations, where risk is accrued in a shifty regulatory environment, and development is less likely to occur in an unstable market. When increases in density result in a reduction of distance between home and work, there is a corresponding increase in productivity.⁸⁷⁴

Productivity has been the central theme of spatial economics since von Thunen's seminal work on location theory, *Isolated State*.⁸⁷⁵ Where von Thunen's theories began as a way to maximize the profitability of land on his estate, it was instrumental in the development of modern urban economics by Alonso (1964),⁸⁷⁶ Mills (1967),⁸⁷⁷ and Muth (1969).⁸⁷⁸ In the decades since, research on this topic has been reviewed carefully and the quantification of magnitude of elasticity for the benefits of productivity with respect to density has enjoyed broad consensus.⁸⁷⁹ Molotch argues that the very essence of a city is as a "growth machine", a "mosaic of competing land interests", where each landowner strives to extract maximum rent (profit) from their parcel, such as apartment buildings competing for tenants, or rival stores.⁸⁸⁰ He continues that successful growth is a "constantly rising urban-area population...capable of strategic coalition and action", that drives politicians' zoning decisions and urban investments. Each city competes and thrives at the expense of others. For example, a city in a metropolitan area, in competition with adjacent cities, may vote to amend zoning to add a cultural district or sports arena to draw residents and increase revenues. Economic growth is equal to population growth plus growth in per capita GDP,⁸⁸¹ and adding a sports arena may accomplish those goals. In this example, the desire for growth influences zoning, which, in-turn generates growth.

I am not sure if "urban planners...seldom know how markets work", as Alain Betraud tells it,⁸⁸² or if they do, and watch helplessly as elected officials choose another path. That will not be a question I seek to address. Rather, my aim will be to point towards that best interest which gives a city an advantageous footing for its residents. As an architect and planner, I will try not to stray beyond my wheelhouse, but there is a surprisingly long reach to the policies that shape our built

environment. In understanding growth and stability, it is advisable to understand urban economics. There are five axioms of urban economics which can be applied on many scales:

1. Prices Adjust to Achieve Locational Equilibrium

- Something that is close can be priced higher due to the added costs of traveling out to get it at a lower rate

2. Self-Reinforcing Effects Generate Extreme Outcomes

- The Car Lot Effect. If two car dealerships relocate to a specific location, it becomes the place to go for cars over time, which draws more clients. This in-turn, lures additional dealerships.

3. Externalities Cause Inefficiency

- Each additional person that commutes from afar slows down all that commute from that direction, accruing costs

4. Production is Subject to Economies of Scale

- Internal: Producing more of a product reduces the unitary cost; External: When many similar companies locate in the same region, common support business locate there, reducing the costs of their service through a local efficiency

5. Competition Generates Zero Economic Profit

- Increased competition reduces profitability as firms cut prices to attract the same market share

These axioms are only true if those involved are acting in a rational way, in their best interest. Axiom one has been discussed with the land cost gradient and commuting costs. This concept is the base for von Thunen's central place theory. Axiom two is illustrated by the growth-to-zoning relationship of adding a sports arena, explained above, or the downward spiral of foreclosures during the housing crisis of the 2000s. Axiom three is the compounding costs of regulation on housing prices, where the volume or complexity of regulations increase the cost of land, labor, or materials. Axiom four represents the benefits of density, and the importance of maintaining steady housing production to retain the builders and skilled labor that do the work. Axiom five is how increased housing production also increases housing affordability.

Access: Employment and Economic Growth

Housing security allows for continued access to necessary amenities in a city. Access to jobs, education, and food is all stabilized when housing is assured. Urban economists agree that concentrations of housing and employment in cities creates agglomeration benefits that save on transport costs, boost innovation and productivity, and create an overall benefit to urban industries. Car ownership and new communication technologies distort this pattern. People and jobs moved

from urban cores to sprawling suburbs, the traditional city with one central business district evolved to become a multi-centered urban structures where employment centers now define the layout of large metro areas. Many fields created models to describe urban activity distribution. The sociologist, Burgess, proposed the concentric zone model. Economist Hoyt introduced the sector model. Geographers Harris and Ullman created the multiple nuclei model. These models mainly focused on a city's morphology. Johann von Thunen's location theory, or agriculture land use model, explained how agricultural land use related to freight costs and the needs of residents. Alonso, Mills, and Muth expanded this model and included location choices of households and firms to map urban land use and rent. Researchers have developed new models to understand multi-centered urban form; Anas, Fujita, Ogawa, Thisse, and Ota contributed to this work.

There is widespread agreement that, overall, the benefits of density exceed the costs, but as Henderson (1974) noted, there is a threshold where costs eclipse benefits.⁸⁸³ This threshold, generally, can vary based on mix of industries, housing costs, and transportation infrastructure. However, there are thresholds of agglomeration and scale economies for individual industries as well. An apt and concise definition for agglomeration in contemporary economics is from Harvard Economist Edgar M. Hoover:⁸⁸⁴

"The savings in unit cost that may accrue to the individual firms when a large enough number of them locate in one city. When such savings result from the agglomeration of firms in the same industry, they are known as localization economies because they depend on the local concentration of a particular activity."

-Edgar M. Hoover

A recent study of the development patterns of Dallas and Houston by Liu et al. (2019), tested several variables as drivers of economic growth:⁸⁸⁵

- **Number of jobs in an employment center.** Larger centers might grow faster due to agglomeration economies, or slower because of congestion or land shortages.
- **Job density in an employment center.** This tests the potential for expansion.
- **Industry composition.** Fast-growing sectors may grow faster in centers than elsewhere due to agglomeration economies.
- **Diversity.** Between agglomeration economies (urbanization) or economies of scale, this tests if diverse centers grow faster than those with jobs concentrated in fewer industry sectors.
- **Proximity to the CBD.** Distance. A center's growth may depend on its regional location. Nearby centers might grow slower due to congestion, land scarcity, or other scale diseconomies.
- **Labor force accessibility.** Ease of access to workers may boost growth.

- **Accessibility to airports.** Good airport access may help centers grow, especially for firms with wide-ranging business.
- **Proximity to highway system.** Highway access may affect center growth by influencing worker and firm locations.
- **Proximity to rail transit stations.** This tests how nearby rail transit affects job center growth, a factor often overlooked in studies.

Both Houston and Dallas developed during the era of highways and suburbs, leading to low population densities. The 2010 US Census shows:

- Houston-Woodlands-Sugar Land area: 5,920,416 people, 588 people per square mile
- Dallas-Fort Worth-Arlington area: 6,426,214 people, 692 people per square mile

Despite, both cities having recently added or extended rail lines, public transit use in Houston and Dallas is low. Both cities have extensive highway systems and cars dominate commute mode, which suggests highways influence job center growth in both cities. American cities control land use through zoning laws, but Houston stands apart. Its voters said no to zoning multiple times, preferring voluntary agreements like covenants instead. Dallas splits its land into specific uses, like other zoned cities. Houston and Dallas have similar population growth and commuting patterns, but their different land use policies offer a chance to study how urban land policies influence where people live and work, and affect how employment centers develop. Job centers were identified by Liu et al., through a statistical approach based on job density in each area. The number of Houston's job centers grew from 9 to 14 from 1980-2010, and in Dallas, they increased from 12 to 17 centers. Most job centers in Dallas lost jobs from 1990 to 2010, with only one small center gaining jobs. Dallas has a much higher job density in employment centers than Houston. Downtown Dallas has 244 jobs per acre, where downtown Houston has only 95. The crowded areas in Dallas struggled to expand outward due to land use restrictions, upward would require a substantial real estate investment, and increased density through inward growth compounded the costs of disamenities. In Houston, employment size had significantly positive effects on growth, and the relatively lower density areas with less restrictive land use policies allowed expansion up, out, or inward without penalty.

In a similar way, industry mix was less of a factor in Houston, while key for growth in Dallas. In Houston, the lower job density allowed growth in agglomeration economies (urbanization) and economies of scale, through increases in job density, and, for a single industry or a mix of industries, there were positive effects of growth. In Dallas, the high job density exhausted the economies of scale, particularly in a single industry, so the only growth was through increased

micro-agglomeration economies through increasing the diversity of industries. Land use policies can limit the diversity of industry through use restrictions, either directly, or through increased land costs. Transportation access also affected the cities differently. In Houston, highway access didn't impact the growth of job centers, indicating that workers were not as reliant on highways for commutes. The more uniform distribution of jobs and workers, unrestricted by segregated land use regulations, allowed for a wider selection of housing and commuting options near employment centers. However, the density and development pattern in Dallas created a centralized amenity effect that increased the cost of space consumption near job centers that exceeded what workers were willing-to-pay and forced highway use. As such, increasing distance from highways had a negative impact on growth. The land use regulations allowed a more uniform development pattern that supported economic growth and mitigated land price spikes that limit access to jobs and housing. It is this access that is fundamental to both economic and housing stability.

Access: Health and Education

Health and education are key parts of human capital, which contribute to economic growth. A physically and mentally healthier workforce is more productive, incurs fewer sick days, can work longer, and increases the chance of absorbing the benefits of experience.⁸⁸⁶ Although numerous studies have demonstrated the connection between good health and wellbeing, with mental health exhibiting a more pronounced relationship than physical health.⁸⁸⁷ Mental health can significantly affect an individual's wellbeing and their capacity to participate effectively in the labor market. By adopting land use policies that promote walkability, cities can create environments that not only promote safety but also enhance the quality of life for their inhabitants. Moreover, land use policies that prioritize green spaces and parks contribute significantly to the mental and physical well-being of residents.⁸⁸⁸ Access to nature and recreational areas provides opportunities for exercise, relaxation, and social interaction, which are essential for maintaining a healthy lifestyle. Additionally, green spaces can serve as important communal areas where people of all ages and backgrounds come together, fostering a sense of community and belonging.

Food security is also intricately linked to health. Access to grocery stores, farmers' markets, and community gardens can ensure that residents have reliable access to nutritious food. In contrast, food deserts—areas with limited access to affordable and healthy food options—can lead to poor health outcomes and exacerbate social inequalities. Food deserts exist because the income level of the area cannot financially support the existence of a grocery store. Promoting the construction of diverse housing options within existing SFD neighborhoods allows the financial density that can support stores and markets, while also providing proximal lower-cost housing

options. Ensuring that people have consistent access to a variety of nutritious foods is crucial for fostering overall community well-being.

The accumulation of skills and capabilities is fundamental to productive societies, as it drives economic growth.⁸⁸⁹ Education enables individuals to reach their potential, leading to more fulfilled and prosperous lives. Generally, higher educated workers enjoy a wider array of job options and face greater demand for their skills, which drives up individual earnings. Recent studies indicate that an additional year of schooling leads to a 9 percent increase in hourly wages, with even higher returns observed for women.⁸⁹⁰ A highly skilled labor force with the ability to continually update or acquire new skills will yield significantly higher output than an unskilled labor force of the same size.⁸⁹¹ As such, people with higher levels of education are less likely to be unemployed, and their skills compound the benefits of their employment. Job security supports housing stability.

SAFETY & CRIME

Safety is another critical aspect of housing stability. Well-lit, pedestrian-friendly streets and open spaces can enhance the safety and attractiveness of neighborhoods. Mixed-use developments that combine residential, commercial, and recreational spaces can contribute to a vibrant community atmosphere, reducing crime rates through increased foot traffic and natural surveillance.⁸⁹² Crime is more complex than the literature on urban economics relays. The per capita crime rate relative to density is ambiguous overall, with increases in crime as density increases for US cities, and reductions in crime in cities outside the United States.⁸⁹³ Braga et al.'s (2019) 'hot-spot theory' suggests that elements of morphological density allow criminals to cluster, but may also lead to higher levels of surveillance, both formal⁸⁹⁴ and informal.⁸⁹⁵ Using a measure of walkability rather than density explicitly, Gilderbloom et al., (2015) find that increases to a neighborhood's Walkscore resulted in reductions in crime.⁸⁹⁶ That is, densification of form may have negative impacts, but increases in mixed-use density that contributes to more walkable neighborhoods, also leads to safer and more stable living conditions.

REGULATORY CHANGE

As a result of restrictive land use policy, many localities lack housing, full stop, but especially low-cost housing for low- and moderate-income families.^{897,898,899} Restrictions are most pronounced in areas with fast-growing jobs and economic opportunities, artificially constraining labor mobility and suppressing economic productivity and growth.^{900,901} Restrictive zoning can also contribute to sprawl and a spatial mismatch between where low-wage workers live and where jobs are centered,

increasing commute times and transportation costs.^{902,903} There are regulations at every level of government that increase the costs that the five L's impose on development. Construction material costs are impacted by shipping and trade agreements, labor can be affected by immigration policy, and lending is tied to monetary policy. Governments must play their part in creating conditions that are in alignment with the goal of increasing affordability. However, there is no way for a developer or local government to counter the fluctuations of construction materials, and their role is removing or revising local regulations that limit supply. Law is a blunt instrument,⁹⁰⁴ and local legislation cannot be created to run mechanically, with exacting precision, given the vast number of externalities that are beyond local control. Land use regulations are not easily manipulated expeditiously, to react to a shifting market, nor is it simple to see minute attributable trickle through repercussions for corrective feedback. The only buffer between the effects of externalities on housing affordability is adequate supply, or the availability of housing appropriate for a given market. Demand and housing costs react to externalities more abruptly than incomes, and a supply buffer provides time to adjust to changing market conditions, increasing production overall or shifting from one product to another. The pandemic induced shift in demand towards SFD housing illustrates the importance of regulations that allow adjustments in production to align with demand. This requires regulatory change at the local level.

Body-Gendrot et al.⁹⁰⁵ note that land use policy is traditionally seen as a mechanism to save cities from speculators and develop them for the public good. Yet, there are many examples of private communities, from small condominiums to medium-sized towns, that create their own laws and provide infrastructure and services.⁹⁰⁶ Before the twentieth century, private interests controlled the built environment, including commerce, public spaces, and amenities. David Andersson⁹⁰⁷ points out that profit-driven planners must meet a long-term return constraint that drives them to invest in public goods like parks and plazas. This boosts demand and land prices, leading to increased profits or faster returns that, in turn, fund these investments. In larger developments, where the planning of roads and sidewalks are under private control, private planning is incentivized to be more land efficient, and perhaps they wouldn't devote so much of the land to vehicles, but find innovative plans that maximize efficiency of land use.⁹⁰⁸ Private planners are more likely to prefer regulatory regimes that provide the flexibility to adapt, because they are focused on minimizing project vacancy rates. If not made to, they would not likely restrict themselves to low density, minimum lot sizes, parking requirements, or mixed-use restrictions. They may propose pedestrian only streets fronted by mixed use cafes if that is more likely to increase interest in commercial tenants and seen as an amenity to the surrounding development. It is in their best interest to balance providing what the market wants and the most efficient / profitable use of the

land. Private planning can be more nimble, and responsive to local needs or changes to market conditions than public planning. Profit-driven property developers are constrained by the need for profit to exist, which forces them to focus on economic value. Governments and philanthropies are not as economically constrained, and may focus on values other than land value maximization. The efficient use of land and resources in urban planning can be better achieved if public planning emulated the perspective of private planning.

Historical accounts often overlook the role of privately supplied land use regulations, building codes, and infrastructures that shaped urban structure worldwide. Private entrepreneurs introduced land-use regulations through covenants, which are reciprocal and legally binding agreements outlining regulations that 'run with the land.' Houston's lack of zoning regulations has led to a diverse housing stock and has inhibited displacement. Unlike most U.S. cities, several cities in and around Houston, with Houston being the most prominent, don't have formal zoning policies. They do have ordinances and covenants that function similarly, but they are more like the bulk and use regulations of 19th century Germany than 21st century San Francisco. This has led to a situation where economic prosperity and affordability coexist with fewer regulatory burdens.

In 1970, Siegan conducted a detailed study of Houston's zoning landscape, meticulously weighing the pros and cons of the absence of formal zoning regulations.⁹⁰⁹ He concluded that despite its imperfections, Houston's system was preferable to the issues stemming from conventional zoning regulations. He observed that in other cities, where zoning fell short, the typical response was to impose more regulations. Siegan summarized his findings in ten key points:

1. Market forces naturally lead to the segregation of land uses
2. Property owners enter into agreements to safeguard their interests
3. Neighborhood covenants can be just as restrictive as zoning ordinances
4. Economic pressures often dictate land use patterns
5. Zoning can stifle innovation
6. A city without zoning laws is not subjected to political pressures for development
7. Zoning regulations rarely resulted in the construction of multi-family dwellings
8. The Federal Housing Administration (FHA) noted that the growth in housing values in Houston mirrored that of other cities
9. Zoning tends to cement land use configurations
10. When regulatory controls falter, they typically become more stringent

Houston isn't universally affordable, and for the lowest-income residents, the city doesn't fare

better than other major American cities. However, the city's relaxed rules have allowed for a diverse range of housing options, and has made it easier and less expensive to build affordable housing. Untangling existing policies to promote housing production can be as difficult as complete replacement. Crafting FBCs as a simplified way to control bulk and use, can function as a light touch way to regulate growth and development, similar to Houston, but in a more formalized way.

In 1968, the National Commission on Urban Problems highlighted how building code standards hindered housing development in the U.S. The President's Commission on Housing echoed this in 1982, and in 1991, the Advisory Commission on Regulatory Barriers to Affordable Housing provided a comprehensive deregulation program, emphasizing state involvement.⁹¹⁰ Despite these efforts, the federal government couldn't force the issue on states or require local action. Members of Congress, like state legislators, and local elected officials maintain fealty to suburban constituents. In the past, advocates for reducing regulatory barriers have failed to form effective coalitions. This despite the home-building⁹¹¹ and real estate industries,⁹¹² along with economists⁹¹³ and academics⁹¹⁴ consistently advocating for barrier removal.

The Obama Administration created a Housing Tool Kit to help municipalities modify restrictive zoning and land-use practices.⁹¹⁵ They planned to pair this with a grant program, but it remained unfunded. While these efforts are valuable, they may need a firmer mandate and dedicated funding to create significant change. Now, there's growing support to expand federal and state roles in easing restrictions that hurt communities and decrease affordability. Congress has introduced bipartisan bills in 2023, the Yes In My Back Yard (YIMBY) Act⁹¹⁶ and Build More Housing Near Transit (BMHNT) Act,⁹¹⁷ to increase oversight of local land-use regulations that aim to increase reporting requirements and push municipalities to reexamine their restrictions. During the Democratic presidential primary in 2020, most candidates included ideas for federal oversight of local land-use regulations. President Trump also signed an executive order to address this issue, creating a council to study the effects of local zoning laws and recommend ways to remove barriers, but like prior efforts, nothing tangible became of it, and ultimately, the recommendations were not supported by the President.⁹¹⁸

Simplifying the local regulatory process, by reform or replacement, is more effective than allowing a few developers to build high-density projects.⁹¹⁹ This approach also encourages more builders to compete, which lowers housing prices and boosts the local economy. A report by the Millennial Housing Commission shows that new home construction created about 3.5 million jobs in 2001, and that the nearly \$400 billion spent per year on building and remodeling homes, mostly stays in local communities.⁹²⁰ The best way to improve regulations is to create "as-of-right"

development zones.^{921,922,923} In these areas, builders who meet zoning rules can start projects without long approval processes. I would argue that opt-in FBCs geared towards middle housing would serve this function well. Regulatory changes alone won't solve affordable housing problems for low and middle-income renters. The gap between market and affordable rents is too broad, and the only way to provide affordable housing, even for moderate-income households in many markets, is through subsidies. I believe governments should focus effort to both increase supply and equip residents with support in the private market, to live in areas that make the most sense for their situation. I believe this can work both as direct support and through qualified block grants, tied to performance metrics.

REFORM: LIBERALIZING THE CODE

The discourse surrounding the potential relaxation of local zoning and land use regulations has gained renewed attention in recent years. This renewed focus stems from efforts to moderate inflated housing costs and to promote increased infill and multi-family housing development.^{924,925} Single-family zoning has long faced criticism for being exclusionary,^{926,927,928,929} the initial recognition of the supply-constraining effects of single-family zoning came from legal scholar Bernard Siegan's 1972 work, "Land Use Without Zoning."⁹³⁰ Siegan's analysis highlighted how Houston's absence of zoning enabled its homebuilders to deliver a greater volume of new homes at lower costs compared to other regions. The critique of exclusionary zoning was further developed by Bernard Frieden in his 1979 publication, "The Environmental Protection Hustle,"⁹³¹ which argued that local environmental regulations in California primarily functioned similarly to land use controls to restrict construction, thereby inflating property values. In theoretical terms, excessively stringent land use regulations impact housing and real estate prices in three ways. First, they increase the costs associated with land development and construction, with these additional expenses ultimately transferred to homebuyers or renters. Second, they constrain new construction, which, in the presence of strong or consistent demand, leads to price appreciation. Third, they limit the pool of developers, either by restricting development to mid-rise development, rather than traditional stick-frame construction, or to those with the most capital and procedural knowledge.

Four recent major surveys have examined local land use regulations in the U.S., each employing distinct methodologies to quantify regulatory intensity. The Brookings Institution published a report in 2006, that created land use typologies with four categories: "Wild West Texas" had loose restrictions, "Traditional" zoning with average restrictions, "Exclusionary", which tightly restricted most residential land as SFD with larger minimum lot sizes, and "Reform", which included additional growth control policies.⁹³² The University of Pennsylvania's Wharton Regulatory

Land Use Restrictiveness Index (WRLURI), used for this research, created an index of 11 regulatory factors combined into a single score (2008, 2021).^{933,934} The Urban Institute published their own database in 2019 covering the 50 largest metro areas.⁹³⁵ The last survey is by Landis and Reina, they developed the Beyond Zoning Regulatory Intensity Index (BZRII), published in 2021, and measures six specific planning powers, given to local governments by state laws, that restrict development.⁹³⁶ They describe the six as:

1. Whether local governments are required to prepare comprehensive plans covering land use, housing, and transportation
2. Whether local zoning ordinances must be consistent with local comprehensive plans
3. Whether private development projects must be subjected to state and/or local environmental reviews
4. Whether local annexations are subject to legislative or quasijudicial review
5. Whether state law allows local tax increment financing (TIF) or redevelopment districts to use eminent domain to acquire land for private development
6. Whether TIF or redevelopment districts can be established without a majority vote of the affected land holders.

Their conclusions stem from an exploration into the relationship between regulatory stringency, housing construction activity, and their impact on median rents. In a correlation matrix using the four surveys, Landis and Reina included the following variables:

- **Labor force participation rates:** More workers mean more income for housing.
- **Average payroll per worker:** Higher pay means more money for housing.
- **Job growth from 2005-2016:** New workers need homes.
- **Real payroll growth per worker from 2005-2016:** Rising pay means more money for housing and a potential churning of the market.

They found that in faster-growing and more prosperous economies stringent land use regulations are associated with higher housing values and rents, but not recent growth rates. Their opinion on the lack of correlation with growth is that rents were already inflated, at the upper end of what residents are able to pay. According to their quantitative analysis, regulations inflated construction costs, restricted new construction, limited developers' options, and shifted investment capital away from productive functions.

Landis and Reina categorized metropolitan areas into three levels of growth based on economic factors:

- "Hot" economy metros: Job growth rate exceeding 10% between 2005 and 2016.
- "Warm" economy metros: Positive job growth rates less than or equal to 10% during the

same period.

- "Cold" economy metros: Areas facing job losses between 2005 and 2016.

Their analysis shows that home values and rents depend on the steady demand provided by local economic growth. Economic theory links higher home values and rents to higher wages and stricter land-use regulations⁹³⁷ that exists at both state and metropolitan scales.⁹³⁸ Workers with higher earnings have greater purchasing power, including for housing, and as job density increases, wages increase, and wages drive housing costs.⁹³⁹

Between 2000 and 2018, the national average for new housing units per new job stood at 1.14, but their analysis showed significant variations existed between states and metros. At the state level, from 6.3 in Connecticut to 0.4 in New York, and from 0.08 in Pittsburgh to 48.3 in Jefferson City, MO at the metropolitan level.⁹⁴⁰ Such deviations from the national average, particularly in rapidly growing economies, indicate the presence of constraints impeding local homebuilders' ability to respond to increased demand, attributable to excessive land use and housing regulations. A summary of their findings are:⁹⁴¹

- Restrictive land use regulations are associated with more expensive homes in the 335 largest U.S. metro areas. Using data from 2016, generally, a 1-point increase in either the WRLURI or BZRUI was associated with around \$15,000 increase in median home values. In "Reform" metros, homes were \$43,000 more expensive on average.
- In higher job growth, higher pay metros, this effect was compounded. "Warm" and "Hot" metros were associated with a \$17,000-\$42,000 increase in home values for a 1-point increase in WRLURI, which increased to \$65,000 for high pay metros, compared to less stringently regulated metros.
- Restrictive land use regulations are associated with higher apartment rents, with a 1-point increase in WRLURI associated with a 7 percent increase in rents, for "Exclusionary" and "Reform" cities.
- In the 15 least affordable "hot" markets, deregulation to the average WRLURI of 0.0 would result in a 30 percent decline in monthly mortgage costs. The rent reductions resulting from liberalizing local land use regulations are quite a bit smaller, averaging just 3 percent among the "hot" job market metro areas and 10 percent among "warm" job market metro areas. This is because apartment rents are more sensitive to the current vacancy rates, while home values are more reflective of buyers' and sellers' future price expectations.
- In markets where single-family-only zoning and other restrictions create artificial land shortages, the effects of deregulation would be quickly apparent, especially on rents. Although, for multifamily, simply liberalizing regulation without upzoning, may take many years for the benefits of deregulation to make themselves known.

Cities have begun modifying existing zoning codes to accommodate a broader range of housing options in areas previously restricted to single-family dwellings. These alterations could, in

theory, induce the development of affordable housing as infill within established neighborhoods. Such changes often incorporate incentives and relaxed requirements for units meeting affordability criteria based on the area median income. The extent to which these modifications will meaningfully impact housing affordability and stimulate development remains uncertain. Reform of SFD zoning to increase the supply of housing will invariably produce an altered economic environment in addition to a morphological one, over time, but planning for a future environment requires understanding the current community's needs and characteristics and forecasting how development and the community evolve in unison towards shared goals.

States across the nation are taking action, with Oregon and Washington in the Northwest, California and Utah in the West, Nebraska in the Mid-West, and Maryland and Virginia on the East Coast, having considered or adopted statewide zoning reforms.⁹⁴² The Nebraska middle housing law is still being debated, while in Arlington, VA, their middle housing proposal was struck down, as of September 27, 2024.⁹⁴³ Illustrating the full breadth of the Liberal Libertarian push for middle housing, a key element of the Maryland debate is ending the segregationist and exclusionary policies of the past, Oregon and Washington note the environmental benefits of compact development, the California,⁹⁴⁴ Nebraska,⁹⁴⁵ and Virginia⁹⁴⁶ proposals are focused on the economic hardships of the housing shortage, and Utah frames the issue as deregulation, fortifying the free market, and protecting owner's rights. Similar actions toward similar goals, packaged in the ideology conducive to acceptance by the local electorate.

California has been especially active as of late, using state legislature and preemption powers to curtail elevated housing costs. In 2021, Governor Gavin Newsom signed senate bills (SB) 8, 9, and 10 and Assembly Bill (AB) 1174 into law, each aims to create more housing by loosening zoning restrictions.⁹⁴⁷ SB 8 extends SB 330 Housing Crisis Act of 2019 through 2030. This speeds up the approval process for housing projects, restricts local governments from downzoning, and limits fee increases on housing applications. A local agency can no longer reject or conditionally approve a housing project for very low, low-, or moderate-income households in a way that makes it infeasible. The national movement to allow ADUs had already begun before COVID due to concerns about affordable housing. California's ADU initiatives in 2016 illustrate this trend, SB 1069 and AB 2299, were designed to compel local governments to authorize secondary housing units, eliminate parking requirements for ADUs near transit, and cap fees for utility connections, as well as eliminate owner occupancy requirements.⁹⁴⁸ The permit review period was also reduced for ADUs, and prevented covenants, conditions, and restrictions (CC&R) from banning ADUs.⁹⁴⁹ State mandates and some local lawmakers targeted "single-family zoning" in recent years. Minneapolis,

along with Oregon took notable actions. Oregon's 2019 act states:

"...each city with a population of 25,000 or more and each county or city within a metropolitan service district shall allow the development of:

(a) All middle housing types in areas zoned for residential use that allow for the development of detached single-family dwellings; and

*(b) A duplex on each lot or parcel zoned for residential use that allows for the development of detached single-family dwellings."*⁹⁵⁰

Following Oregon's lead, California passed SB 9 in 2021, eliminating SFD restrictions. If no local ordinance exists, approval happens administratively. With up to two units in a single-family residential zone, no discretionary review or hearing is needed, and any imposed standards must not reduce the size of either unit below 800 square feet. It also mandates administrative approval of parcel maps for urban lot splits, however, applicants must sign an affidavit to occupy one unit as their principal residence for at least three years. For re-zoning, a protracted timeline of five to ten years is impractical. SB 10 introduces a streamlined procedure, bypassing environmental reviews, for cities to designate areas for multi-unit housing, thereby facilitating and expediting the construction process, preferably near transit hubs.

California has mandated housing plans for all cities and counties since 1969. These plans, updated every eight years, ensure communities meet their housing needs.⁹⁵¹ California, however, recently stumbled onto an enforcement mechanism. In late 2022, WS Communities, a Southern California developer, proposed 14 high-rise residential projects in Santa Monica, totaling 4,260 units, exploiting a 33-year-old California housing law known as the "builder's remedy." Taken from the Mount Laurel decision, this law allows developers to bypass local zoning if a city's housing plan is non-compliant, provided 20 percent of units are for lower-income residents. Santa Monica had let their housing plan expire, and had not submitted a new housing plan for approval. The development proposal provoked strong local opposition and highlighted the law's potential as a bargaining tool. WS Communities negotiated with Santa Monica to rescind most of its proposals in exchange for expedited approval of 10 scaled-down projects. This use of the builder's remedy reflects a shift in California's housing politics, empowering developers and strong-arming localities amid a statewide housing crisis. Other affluent California cities are challenging the applicability of the builder's remedy, leading to potential legal disputes. In September 2024, the Governor of California signed AB1893 and AB 1886 into law, summarized as:⁹⁵²

- With Assembly Bill (AB) 1893, the California Legislature expressly confirms the "Builder's Remedy" as an intended consequence of local governments' failure to adopt legally sufficient housing plans.
- The law replaces the "free-for-all" approach to Builder's Remedy. Starting Jan. 1, 2025, new

Builder's Remedy projects must comply with site restrictions, density limits, certain objective local standards and other mandated requirements. In exchange for these new restrictions, AB 1893 eases certain affordability requirements and offers Builder's Remedy applicants more explicit protection from common tactics used by opponents of Builder's Remedy projects.

- Existing Builder's Remedy projects that meet certain requirements should be protected automatically, and existing projects that do not meet these requirements may "convert" to AB 1893 by redesigning the project without losing the project's entitlement to the Builder's Remedy. The law provides that existing vested projects may also choose to proceed under pre-existing law.
- A companion law, AB 1886, clears the path for existing and future Builder's Remedy projects by foreclosing a number of legal arguments that anti-Builder's Remedy jurisdictions frequently employ to frustrate these projects.

An altogether different enforcement mechanism is developing in Texas. In the revision of its land use plan, The City of Dallas has encountered opposition from vocal residents, which might become irrelevant with state legislation adopted in the last year. Much of the concern is where and how to introduce more density, particularly middle housing, with criticism in opposition to eliminating single-family zoning. However, there are currently efforts to turn-the-table on zoning at the state level to undermine local control. House Bill 2127 passed in 2023, and has been in litigation since.⁹⁵³ Deemed the "Death Star" bill, it limits cities' abilities to enact ordinances stricter than state law. Vaguely written, it's difficult to know the breadth of influence, but zoning and housing affordability are prominent concerns. The agenda for the 2025 state senate session, controlled by conservatives, includes recommendations to reduce regulatory barriers and strengthen property rights. Independantly, both are libertarian views, very much a Texas tradition, but we're talking about zoning. The elimination of SFD zoning would accomplish both goals, but that goes against common conservative talking points. In the run up to the 2020 elections, conservative pundits claimed that Biden planned to abolish the suburb.⁹⁵⁴ A recent article provided examples of such talking points:⁹⁵⁵

"Single family housing exists for people who are willing to pay a premium to live away from densely populated metropolitan areas where there's more crime."

"This also gives them more control over their local school district since it's funded through their property taxes. Allowing hordes of poor people who can't afford a down payment or qualify for a mortgage will diminish the quality of both their neighborhoods and schools."

But the rhetoric in Texas is changing from these old tropes to something that sounds like it may have been said on the steps of the Oregon capital:⁹⁵⁶

"Regulations that dictate anything from the number and type of housing units allowed on a property to the lot size itself—removing such burdensome restrictions can demonstrably lower the cost of housing,"

"Policies that enact smaller lots have led to an increased housing supply, resulting in [greater] resilience to rising housing prices."

"Eliminating minimum lot sizes and outdated zoning restrictions...will result in lower housing costs."

"...Texas Legislature should enact legislation that...preempts municipal regulation of single-family lots."

The Texas Public Policy Foundation, a conservative think tank, even provided sample legislation:⁹⁵⁷

A municipality may not adopt or enforce an ordinance, rule, or other measure that establishes a minimum size for residential lots or the number of dwelling units that may be constructed on residential lots.

A municipality may not adopt or enforce an ordinance, rule, or other measure that requires a small lot to have:

- *a setback greater than:*
 - *five feet from the front or back of the property*
 - *five feet from the side of the property*
- *covered parking*
- *more than one parking space per unit*
- *off-site parking;*
- *more than 30 percent open space*
- *fewer than three full stories not exceeding 10 feet in height measured from the interior floor to ceiling*
- *a maximum building bulk*
- *a wall articulation requirement*

The release of such a policy piece by a conservative group in Texas is good news, if surprising. These and many more policy adjustments are needed, at multiple levels of government. Preemption powers can be used to force the hand of localities, but as Jefferson said, "The government closest to the people serves the people best."⁹⁵⁸ It's difficult to know which regulations should remain local, but as NIMBYism is neither red nor blue, state preemption can provide political cover for local elected officials. The courts can also provide cover, for both state and local elected officials, but they often opt not to legislate from the bench.

To the above list, I would add:

- Preempt covenants that don't allow middle housing on residential lots

- Given the new reality of working from home, revise the type of home occupations and professions allowable in residential districts. This is not meant to allow corner stores and shophouses, but certainly a less restrictive definition
- Inclusionary zoning should be reconsidered, augmenting the zoning-related incentives provided for development of affordable housing units by developers, and a higher threshold for owner-occupied development that is based on essential residents and/or viability at the local cost of construction
- Remove ballot-box zoning initiatives and discretionary reviews that limit affordable housing
- Provide landowners pursuing zoning modifications and permits the option of a streamlined exclusively middle housing regulation, or Form-Based Code. Development of middle housing should not need to reference the primary land use regulations at all, and should be approved at the review.
- Modify permitting costs for middle housing that is proportionate to the reduction in time and effort required for the standard permitting process
- Eliminate impact fees for infill housing

Massachusetts enacted "Chapter 40R" to promote smart growth zoning districts, which prioritize higher density and affordable housing in mixed-use developments. There are currently over 30 such districts established throughout the state. Each district must meet three specific criteria: a transit system within a half-mile radius, an Area of Concentrated Development (ACD), and a Highly Suitable Location (HSL) appropriate for mixed-use development with access to existing facilities. As of 2014, these districts incorporated 11,194 housing units spread over 1,409 acres, with financial support from the state. Each new housing unit was granted \$3,000 in funding, above the base state project funding ranging from \$10,000 to \$600,000.⁹⁵⁹

MINNEAPOLIS

In 2020, Minneapolis became the first major U.S. city to ban single-family zoning, allowing duplexes and triplexes citywide. As part of the adoption process of the Minneapolis 2040 comprehensive plan, officials presented it as a solution to the effects of discriminatory policies of the past. Equity played a key role; Minneapolis had the nation's lowest home ownership rate among black households, and the widest unemployment gap between black and white residents. Other localities are also making changes to promote density, equity, and affordability. Washington, DC, now allows accessory dwelling units, Oregon passed laws legalizing middle housing, and still others waiting to see whether this change will create more housing and improve affordability.

Between 2010 and 2016, Minneapolis gained over 37,000 residents and 12,000 homes, its population grew by 11 percent to 425,000. This growth reversed decades of decline since the city's peak population in 1950, due to the loss of industry, "white flight," and suburban development.

Minneapolis faces a lack of available and affordable housing options; 50 percent of renters and 74 percent of low-income renters struggle with housing costs, according to Minneapolis 2040.⁹⁶⁰ However, as opposed to more restrictive markets with spikes in housing costs, declining incomes are playing a part. Since 2000, the median income of Minneapolis renters has dropped 14 percent while median rent increased 11 percent, and, the city lost around 15,000 affordable homes, which still exist but are now too expensive to own or rent for low-income residents.

In April 2017, the city council adopted goals for the 2040 comprehensive plan that addressed racial disparities, housing, transit, and climate resilience. Lisa Bender, an urban planner that introduced a successful ADU ordinance in 2014, was re-elected and became the city council president. The ADU ordinance was smartly framed as an age-in-place housing option. The zoning changes promoted by Bender through the Minneapolis 2040 plan faced fierce opposition, with "Don't Bulldoze Our Neighborhoods" lawn signs scattered through wealthier neighborhoods.⁹⁶¹

The community engagement process for Minneapolis 2040 lasted over two years, included more than 200 meetings, and receiving over 18,000 public comments.⁹⁶² The community outreach included workshops, dialogues, artist-supported events, and online engagement, an unprecedented effort for the city. Rather than just focusing on homeowners, planners focused on reaching underrepresented groups like renters, people of color, the disability community, and elderly, meeting them where they were. The goal for the process was a greater transparency than in previous planning efforts. Part of the process involved educating residents. In the first few months, planners faced pushback and abusive emails, but by the final months, people wanted to learn more, shifting to a collaborative effort to solve housing and equity issues.

The new zoning in Minneapolis states that no neighborhood can require exclusivity of single-family homes, and that renovating existing homes into new duplexes and triplexes must be allowed. Up to two units can be added to owner-occupied homes. Eddie Landenberger, vice president of the Twin Cities Land Bank, said, "We don't know yet how many duplexes and triplexes could be built in the next year or 10 years, but more single-family and smaller developers now see duplexes and triplexes as a step toward building multifamily buildings...The zoning change offers more opportunities for landlords to have a couple of units, and smaller developers are starting to take on these projects,"⁹⁶³

The legislation in Minneapolis, which was adopted over three years ago, was legally contested in 2021 by environmental groups and residents who made the case to the Minnesota Supreme Court that comprehensive plans require environmental review. Consequently, a judge has now halted implementation and ruled that cities must undertake these exhaustive and costly

studies for every conceivable future impact. Opponents of Minneapolis 2040 claim it will destroy existing neighborhoods, while proponents claim it will expand housing supply and lower rents. This framing has become a widely held belief on both sides. However, the loosening of zoning in SFD neighborhoods has not caused a significant uptick in middle housing. From 2017 to 2022, according to the Pew Research Center, the city added 21,000 new units, and rent grew at just 1 percent compared to the statewide increase of 14 percent.⁹⁶⁴ Yet, duplex and triplex construction accounted for just 1 percent of those new units.

The Minneapolis Federal Reserve projected the city's current output with a hypothetical Minneapolis absent the 2040 plan, using estimated housing production metrics from comparable cities.⁹⁶⁵ This analysis shows that there hasn't been much of a change. However, as part of the political negotiations, inclusionary zoning policy was enacted alongside for projects with 20+ units. The inclusionary zoning policy continues to be enforced, while other amendments are on hold. One unique incentive is that the city offered tax increment financing (TIF) assistance for building 20 percent of units affordable at 50 percent AMI. TIF is like a neighborhood scale loan, managed by the neighborhood, and goes towards projects that will increase the value of properties within the zone, and in-turn increase tax revenues. Normally this financing method is for things such as infrastructure, demo of old housing stock, creating or expanding parks, or sidewalk connectivity. Using TIF for affordable housing is worth looking deeper into in a later section.

The most publicized aspect of the Minneapolis 2040 plan was the alteration to SFD neighborhoods, allowing property owners to construct up to three dwelling units per parcel. While the production of tri- and four-plexes has risen in recent years, it remains comparable to the early 2000s and is still minimal in absolute terms. Housing production increased in late 2021 and early 2022, but only approaching pre-policy levels. In 2021, only 76 units were produced in Minneapolis and St. Paul combined, consisting of 15 duplexes, five triplexes, and two fourplexes. The first quarter of 2022, construction initiated on two duplexes, three triplexes, and three fourplexes, amounting to 25 total units, and, all but one of these was located in Minneapolis. Unfortunately, the annual output of duplexes, triplexes, and fourplexes equates, at best, to a single medium-sized apartment complex.

The demand for housing in these areas is consistent, putting pressure on the housing supply, but this pressure remains manageable. Politically, it might be advantageous to portray the plan as having immediate effects, but this was never the reality. Minneapolis was relatively affordable before the comprehensive plan. The adoption of the plan allowed for changes such as the elimination of parking minimums and the legalization of single-room occupancy projects, and

these changes might have faced resistance if introduced independently. The lengthy development process slows the effects of these policies, nevertheless, some progress is evident. In 2022, the ratio of parking units to housing units in approved projects had declined.⁹⁶⁶ That's a start. The district court's decision to halt the Minneapolis 2040 plan was based on the evaluation of the plan as if all potential housing units were constructed simultaneously, which is an unrealistic expectation. Urban planning doesn't function in that manner, nor does development. Minneapolis 2040 was designed to enhance flexibility to adapt to future market shifts and provide options. The plan's purpose is to guide future development, not to rigidly dictate it, and shouldn't be assessed by any other standard.

Whether localities reform land use policies to eliminate single-family zoning, replace their zoning with form-based codes, or go full Wild West Texas, and whether it is self-initiated, mandated by state preemption powers, or induced from the highest office in the land, the current vector is not conducive to affordable housing. Anagol, Ferreira, and Rexer (2021)⁹⁶⁷ find that when zoning regulations were relaxed, allowing for multifamily and a doubling of built area ratios, developers responded quickly and obtained approximately 65 percent more multifamily permits. The increased supply did not seem to have an impact on rents, but housing value of existing homes was slightly negative, as new construction was preferred. Policy change is not without risks and potential constraints, but these can be mitigated through careful policy design and political support, particularly at the state level. Local governments can enact other blocks to production, like high impact fees, coverage restrictions, or aggressive setbacks. States can either directly counter these, as California has, by placing caps on impact fees and other creative methods, or states can impose the Builder's Remedy for any local counterproductive measures.

REPLACE: TOWARDS A BY-RIGHT LIBERTARIAN FORM BASED CODE

Form-based codes (FBC) are not a new concept; they have their origins in ancient city plans, transect models, and a shared lineage with central place, and regional theory. In her work, particularly in the article "Design by the Rules: The Historical Underpinnings of Form-Based Codes," Talen suggests that the roots of form-based code can be traced back at least 3,000 years.⁹⁶⁸ FBCs take from the early European root zoning discussed earlier. They govern urban aspects like street width, building height, and frontage, much like Adickes' bulk zoning. While various designers and theorists have contributed to the development of FBCs, the influence of von Thunen's central place theory is evident in its serving as the basis for the transect, from livestock to crops to market. The works of von Thunen, Christaller, Losch, Geddes, Clay, and McHarg all align

with the principles of transects.⁹⁶⁹ Parolek defines the transect as “a means for considering and organizing the human habitat in a continuum of intensity that ranges from the most rural condition to the most urban”.⁹⁷⁰ Howard and Geddes, influenced by Mumford's⁹⁷¹ ideas, criticized urban sprawl in the early 1900s, long before it became trendy. Howard introduced the concept of the Garden City,⁹⁷² while Geddes focused on combating urban sprawl and coining the term “conurbation”, or an amalgam of merged urban areas. He depicted it as an integral part of a larger regional system, in line with the theories of von Thunen, Christaller, and Losch.⁹⁷³ Geddes highlighted specific areas where labor activities were concentrated, illustrating a transition from the fisher in low-density, low-lying regions to mining in higher ground areas. Similarly, Duany categorized various zones, ranging from natural surroundings to the urban core, in his transects from T1 to T6/SD.

Christaller, in his endeavors to manage German land holdings before and during World War II, expanded upon von Thunen's principles.⁹⁷⁴ He formulated a central place theory that incorporated a structured system, focusing on concepts of threshold and range to determine market size and customer travel distance. His vision of an ideal economy revolved around concentric circles surrounding a central hub, overlaid with a triangular grid (Image 3). This layout facilitated efficient travel between settlements, resulting in a hexagonal pattern (Image 4). However, Christaller's theory had specific prerequisites, such as a flat terrain, evenly distributed population and resources, and consistent purchasing power.

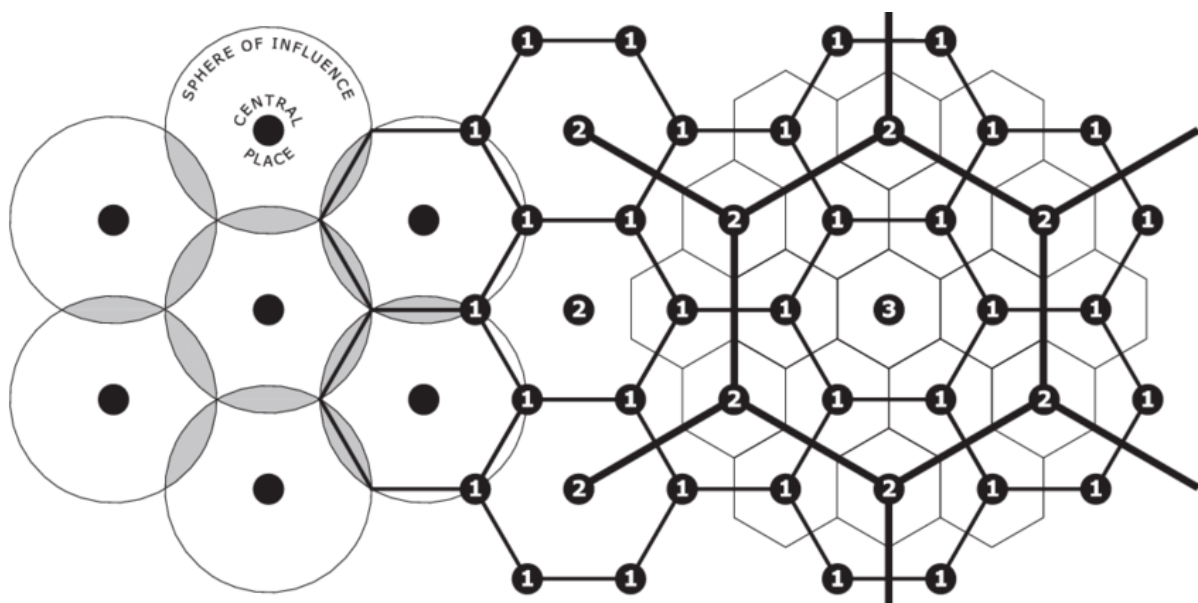


IMAGE 3: CHRISTALLER'S THREE ORDERS OF SETTLEMENT: THEORETICAL

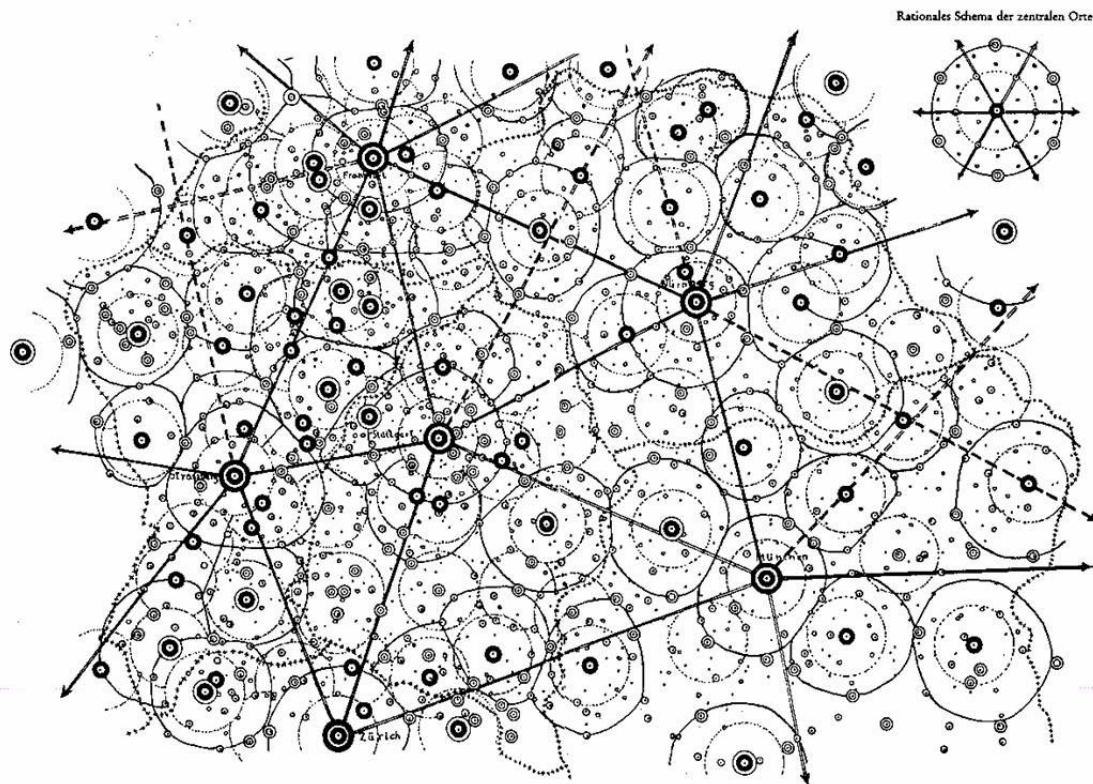


IMAGE 4: CHRISTALLER'S STRUCTURED SYSTEM: APPLIED

Building upon Christaller's work, Losch refined the central place theory to create a more flexible and regionally adaptable model.⁹⁷⁵ Similar to Geddes's approach, Losch's model is commonly applied in rural areas and small communities that are supported by larger towns and cities. In contrast to Christaller, Losch used spatial and geographical theories to explain demand dynamics, highlighting how consumers travel to major cities for high-value goods. Ross emphasized the advantages of transportation and mobility hubs within mega-regions.⁹⁷⁶ The collective contributions of these geographers, theorists, planners, and economists have shaped the evolution of urban planning, culminating in Duany's transect model for Form Based Codes.

The definition of Form Based Code is elusive due to the fact that they can be used to codify any type of development. They can be as complex as Euclidean zoning or as simple as a single page of illustrations. It's their potential for simplification of policy, corresponding ease of use, and due to their prescriptive format, potential to speed up the permitting process that is valuable.^{977, 978, 979} Talen (2012) suggests that FBCs, as typically implemented, can address some of the issues associated with SFD zoning, such as housing affordability and environmental sustainability.⁹⁸⁰ The Form Based Code Institute, Wikipedia, Talen, and The American Planning Association define FBCs respectively:

"Form-based codes foster predictable built results and a high-quality public realm by using physical form rather than separation of uses as the organizing principle for

the code. They are regulations, not mere guidelines, adopted into city or county law. Form-based codes offer a powerful alternative to conventional zoning."⁹⁸¹

*"Form-Based Codes create a predictable public realm primarily by controlling physical form, with a lesser focus on land use through city or county regulations."*⁹⁸²

*"A three dimensional vision of desired urban pattern and form in a transparent predictable way—an approach that doesn't hide behind arcane text that no one can understand or that results in form and patterns that no one particularly wants."*⁹⁸³

*"Form-based focused on how to create predictable development patterns and how to make permitted buildings 'fit' better with their neighbors and with a community's plan for how an area should develop."*⁹⁸⁴

Katz finds that form-based codes can capture the essence of neighborhoods, preserving scale and character.⁹⁸⁵ He also noted that since FBCs are easier to understand for non-professionals, it encourages independent development. Character can be stylistic, but typical SFD zoning doesn't dictate style, and nor should FBCs; character has more to do with scale, proportion, and the way buildings address the street. Use can also influence character, and residents typically don't want a retail shop in the middle of their residential neighborhood. Hirt points out that form-based code has a limited impact on mixed-use development as applied, and that a closer examination of New Urbanist proposals reveals they're not as mixed-use as many believe.⁹⁸⁶ Only their first two most dense zones, the urban center and urban core, may qualify as truly mixed use. Their suburban edge zone caters to single-family detached housing with potential civic and office uses. Their general urban zone accommodates single-family detached and more dense housing, like row housing. If anything other than residential is allowed there, it may be retail, restricted to specific lots, usually at corners, creating mixed use neighborhoods, but not mixed use buildings.

Some argue that as cities and buildings evolve, so should regulation.⁹⁸⁷ According to Perolek and Perolek,⁹⁸⁸ land use policy should be adjustable and recalibrated with the economy. The transects provide a morphological gradient, and permits uses secondarily. Their flexibility allows for growth potential over time, but does not require any more density than what already exists. In that general urban transect, form-based zoning can be particularly valuable in weaker markets or those with high demand volatility, where real estate developers can alter the housing types or mix of residential and commercial space in their projects to adapt to changing market conditions.⁹⁸⁹

Sitkowski (2006) breaks down the components of form-based code as follows:⁹⁹⁰

- **The Regulating Plan**, serving as a key map, for which transect applies, by street types, or as large zones.
- **Urban Regulations**, typically presented in a matrix format with accompanying illustrations, address factors such as bulk, height, coverage, and internal use standards. These regulations are typically structured based on building types, street types, or transect.

- **Street Regulations**, depicted visually, specify street width, sidewalk dimensions, curb heights, street-side parking requirements, permissible turning radii, and other basic street-related criteria.
- **Landscape Regulations** outline the permissible species, sizes, and placement of trees and other vegetation.

FBCs can be tailored to specific projects, focusing on areas like transit hubs, commercial districts, or street segments, or they can be applied more broadly to neighborhoods, town sections, or entire cities or regions.⁹⁹¹ Form-based codes are gaining acceptance at a much slower pace than Euclidean zoning did in the early 1900s, but planners wield significant influence as key drivers of the planning process and its impact on political landscapes.⁹⁹²

POLITICS, PREFERENCE, AND CONSUMPTION: WINNERS AND LOSERS

Rosenthal and Strange (2004)⁹⁹³ found that as population increased, economies of scale of traded goods increase, but there is a corresponding reduction in economies of scale for housing production.⁹⁹⁴ They propose that increased citizen pushback could be a possible contributor as perceived repercussions such as increased congestion or opposition to increased density reach elected officials en masse.⁹⁹⁵ These social restrictions correspond to increased land and housing costs as supply is constrained, resulting in less economic viability for development. Citizen pushback to changing the status quo of single-family zoning can vary based on individual self-interest.

There are many suggested in literature, such as:

- That allowing multi-family would hurt their property values⁹⁹⁶
- That poorer residents would freeload on amenities, such as higher-quality public schools^{997,998}
- If the location is highly desirable or highly productive and incumbents want to keep it exclusive^{999,1000,1001}
- Or, and this is less obvious to residents, that the benefits of density take time to accumulate and may be spread beyond the neighborhood while the costs of density are short acting and more neighborhood oriented¹⁰⁰²

The ballot box is a powerful platform, and state mandates may provide the most cover for local politicians. Unlike cars, TVs, or other goods, homes are assets, and their values fluctuate with market conditions. Purchasing a home is an investment, and as home values rise, so does the equity. A restriction on land available for new construction, coupled with annual population growth,

has made homeownership particularly lucrative since the 1970s. Persistent demand and limited supply creates an environment that is financially advantageous for property owners, and maintaining the scarcity of land available for development is in their best interest. However, increased values mean increased housing costs. This leads to a divergence of interests between owners and renters, that can impact zoning decisions based on the extent of influence residents have on elected officials.

Research has found that tenure status, homeownership vs. renting, influences voting behavior related to zoning changes, who economist William Fischel calls homevoters.¹⁰⁰³ The moniker is due to their ability to guide regulation through political contributions, vocal opposition to candidates that don't share their views, and of course, their vote, either in elections or public referenda. Zoning is such a hot button issue that even cities that recently changed zoning to allow middle housing in all residential zones have seen themselves voted out of office and the following slate of elected officials vow to reverse course.¹⁰⁰⁴ Where land use policy or public charters permit, affordable housing developers face hazards from public referenda that allow the public to veto zoning changes or approvals.¹⁰⁰⁵ This amounts to added risk, which translates to added costs, and without legal recourse, as the U.S. Supreme Court has rejected constitutional challenges to votes where local residents thwarted affordable housing projects.¹⁰⁰⁶

There are two ways that changes to policy may benefit owners over renters: investment in public amenities and increased density. In public referendums concerning local public goods, with a focus on the capitalization effect of local amenities and disamenities on property values, the rational behavior of both homevoters and renters is in protecting their economic interests. Homeowners, expecting capital gains from improved amenities, are incentivized to vote in favor of such initiatives. Renters, facing potential rent hikes from improved amenities, might have a more nuanced stance, based on whether renter protection policies are in place, or their willingness-to-pay for the added amenity. In communities with rent control policies, renters join owners in NIMBY behavior as increased regulations no longer impinge on their wellbeing. This insider-outsider dynamic can promote or maintain actions that contribute to the problem of housing affordability. Absent rent control, in areas with a higher share of renters, results of owner-led referenda can usher negative local externalities in the long-term as well.¹⁰⁰⁷

Generally, landowners, whether landlords or homeowners in residency, see the benefits of density in increases to both land value and value of floor space, but this translates to an increased cost for renters. Resident owners that wish to remain in their neighborhoods have an incentive to push back against large scale zoning changes that increase density because increased supply,

ceteris paribus, may limit value escalation, absent additional development. This can lead to densities that are lower than is beneficial for renters or society at large. Non-resident owners without the means and inclination to develop their land may also resist increases in density that reduce their rental profit potential, with the same bias towards lower supply. However, non-resident owners that do have the means and inclination to develop have incentive to push for zoning that allows densities higher than is beneficial for renters or society, as it provides the largest increase in property value and revenue.

Ahlfeldt & Pietrostefani (2019) find that the effect of increased density has a negative cumulative impact to renters. For renters, there is a cost penalty per square foot for new construction over old, which is an added value to owners. However, even though the per square foot costs to rent new middle housing will be higher than older low-density housing, the rent per dwelling unit will be less due to the reduction in size of available units. There is also a cost penalty per unit for increasing morphological density to new mid-rise versus infill development,¹⁰⁰⁸ as mid-rise development has a higher construction cost per square foot, leading to higher rents per square foot.¹⁰⁰⁹ And, there is a cost penalty per square foot and per unit for suppressing supply. All cases increase the burden to renters on a square foot basis, and infill housing provides the lowest dwelling unit costs while incrementally increasing density. All options can translate to higher property values for owners, but at a pace that's self-initiated. In most cases, interests diverge due to the elasticity between value and cost, and in most cases, owners have more influence in land use decisions. This can lead to increased rent burdens city-wide between low supply low density SFD neighborhoods and mid- to high-rise construction in more exclusive, clustered locations. It's the best of both worlds for owners, and the worst of both worlds for renters or those intent on becoming homeowners.

When consumer preference is considered, economic variables are key to the differentiation between what someone prefers and what they would ultimately choose. According to Duranton & Puga (2020), the data show that people choose locations based on private rather than social benefits and costs.¹⁰¹⁰ Housing and transportation costs and wage gradients from the periphery to city centers have different slopes than density. The differences in gradients allow residents to self-sort and make the best decision for their unique economic condition. As density increases, costs escalate faster than real wages, and this imbalance means that the severity of renter burdens increase with density.¹⁰¹¹ Resident housing consumption is an individually calculated decision based on trade-off scenarios between housing cost variables, employment commuting costs variables, and relationship to amenities such as schools, parks, or retail. Amenity value can signal

the inclination towards or against increased density. Resident owners of properties with a high amenity value may want to push back against increasing density as it decreases their exclusive access to that amenity. This can be something like a park, or distance to a specific destination. Given people's willingness to pay to live in proximity to such amenities, there must be a benefit or offset that increases quality-of-life.¹⁰¹²

Spatial equilibrium models form the base of quality-of-life literature with respect to rents. Quality-of-life serves as the compensating element to explain financial sacrifices made when increases in rents exceed increases in incomes that don't result in changes to housing consumption or commuting.¹⁰¹³ Theoretically, given full mobility, and perfect competition and demand elasticity, the aggregate place-specific amenity effect would be equal to the quality-of-life effect, either as a substitute for individual utility¹⁰¹⁴ or as an element of utility to be traded against the consumption of goods and amenities.¹⁰¹⁵ This implies a demand-driven capitalization of rent increases to quality-of-life through willingness to pay. As previously discussed, policies that promote density at the expense of restricting supply (Ex. Urban Growth Boundaries), also leading to higher rents, originate from the supply side, and therefore willingness to pay, or quality-of-life by proxy, cannot be exclusively demand-driven.¹⁰¹⁶ In the case of such market distortion, willingness-to-pay is more akin to forced-to-pay.

Andersen argues that preferences for tenure choice are highly connected to personal values and life stages, that non-economic factors, such as preferences for a certain type of housing or the desire for autonomy and freedom in housing choices, play a crucial role in tenure decisions, alongside economic considerations.¹⁰¹⁷ Housing consumption is variable with changes in life-stage characteristics, such as when school age children are in the home or when the elderly lose a spouse and return to living alone. Diverse housing options should accommodate different life stages, and their location within the city should allow residents of varied incomes to live near job opportunities, necessary resources, and allow for affordable transportation options. Viable development of middle housing on existing lots can increase property values by increasing the value of improvements and development potential, while mitigating rent escalation, but local owners will likely be the barrier to implementation.

FRAMING AND THE PROCESS OF CHANGE

Local officials should be selective with the inclusion of strengths and weaknesses of density in order to frame the argument for changes to the status quo. Steven Conn writes of Mumford's garden city inspired decentralization of New York City, that "But vision is not synonymous with policy, and neither Mumford nor his RPAA colleagues ever developed a plan or process to translate

ideas into actions.” He goes further stating “There is something almost sweet about that, naïve perhaps – a faith that disinterested expertise could persuade without having to dirty its hands with politics or money.”¹⁰¹⁸ Politics and money form the foundation of what officials must contend with in efforts to reform or replace land use policies aimed at increasing production and affordability. Navigating this will take planning in and of itself.

In the wake of a natural disaster, one political side is not pitted against the other, both sides fight together against an externality. However, when we disagree on a topic under our control, our ideological differences are amplified. Prior to COVID-19, state lawmakers used preemptive powers to bring cities, counties, and towns in line on politically sensitive issues like gun control, energy extraction, marijuana dispensaries, and environmental protection.¹⁰¹⁹ Where states and localities agree, power is often shared, but when they disagree, states can reserve that power and force localities to follow suit. Many localities grow frustrated as state legislators impose their science skepticism through preemption, preventing sustainability, resiliency, and environmental protection measures at the local level.¹⁰²⁰ Sustainability is a contested subject, and as such, may not be the best support used for enacting change. Social support is also contested, and elements like local public transit can be found lumped together with federal entitlement spending for immigrants.

Politics that stir visceral debate are emotions-based and variable, culturally and regionally. It is better to avoid social or moral values and focus on economic value. Numbers do not follow political shifts or the rules of [culture] war, and the pocketbook has the power to make friends of enemies, and push visceral beliefs aside. The NIMBY movement has turned social activists to isolationists, or pacifists to pugilists, in opposition to increased densities and housing production in their neighborhoods. There aren’t many debates that can join the hands of those on the political right with those on the left, but development of housing close to home is one.

For conservatives and liberals, often the points of contention break down over the topic of diversity of housing types, meant to provide housing to groups of varied income levels. On a larger scale, this is whether diversity of housing types should be allowed, mandated, or voluntary at the discretion of the property owner. Inclusionary zoning, being the mandated example, has not been received well by conservatives. Inclusionary zoning aside, whether development of such housing is allowed or not splits the conservative viewpoints along a libertarian line of individual rights and whether a government should have such dominion over private property. There are those Libertarian conservatives who see both mandates and exclusion of development options as the antithesis to a free market approach, more concerned with the imposition of onerous regulations that distort markets and stifle personal rights.¹⁰²¹ Compact development in a free market permits

individual owners to realize the full profit potential of their property through incremental development. Alternatively, Liberals promote compact development for community scale benefits, key to the success of larger public infrastructure investments such as transit, shared public amenities like parks, and equitable adjacencies to public services.¹⁰²²

Resident pushback to increased density is difficult to overcome without either a mandate from a higher power or a critical mass of residents in support. This is primarily due to the democratic process for electing those that approve such regulatory changes. Elected officials are beholden to the ballot box, and vocal opposition by the few can have sway over the many. Ann Foss finds that framing and the acumen to implement strategies that curb the power of minority opposition is key to the passage of contentious legislation.¹⁰²³ Framing is the aforementioned focus on economic value as opposed to moral values. As an example, liberals may wish to implement policies to enable compact development with the goal of minimizing our collective carbon footprint and to provide affordable housing for low-income residents. If someone does not share those values, does not believe climate change is a threat and/or wishes to raise their family in an exclusive middle-class SFD neighborhood, then they would not see any valid justification for regulatory change. However, if we discuss the topic in terms of increased economic development, tax reductions, increased property values, and less governmental spending, there is common ground between liberals and libertarians. A process example, provided by Foss, is to organize the participatory process at the neighborhood scale, with only residents from that neighborhood permitted to participate, as opposed to the more typical larger town hall discussions.¹⁰²⁴ Large town halls allow minority voices or even outside groups to promote political agendas and stir the crowd back to more reactionary visceral responses rather than a discussion on kitchen table economics. Specific to her research, she submits that framing sustainability planning as preserving natural amenities as high value assets in regional competition for economic development and the reduction in infrastructure spending by providing lower cost natural methods to control stormwater is received as a neutral argument.¹⁰²⁵

Criticisms of infill development also tend to be specific to the character of the proposed new residents. In a discussion over New Urbanist principles, conservatives described their idea of a preferred neighborhood as -a cohesive community of shared middle-class values and traditional town planning where their culture and morals could be passed down-,¹⁰²⁶ adding that most groups don't want to mix. Liberals viewed the community as diverse and culturally rich, with equitable access to public resources.¹⁰²⁷ However, allowing the development of a variety of housing types, and a resulting community of diverse income residents, says nothing about forcing different classes

or races to integrate. Conservatives' concern about middle-class values and liberals' culturally diverse vision of compact development both made assumptions that alluded to such mixing in their commentary. A diversity of housing types and incomes could describe housing appropriate for members of the same family at different life stages: a college student in their first rental, a family with kids still living at home, or an independent widow that wishes to live near her family. Yet, both sides imagined this diversity extending to racial, class, or cultural characteristics of those potential residents. Pathological research has found a tendency to form judgements and use extreme cases to stand as prototypes when triggered by a specific topic.¹⁰²⁸ In this case, the diversity of housing types and incomes are such triggers. Mitigating this instinctual pattern of thought can be as simple as providing the prototype, essential residents in our case, and not leaving it to interpretation. The argument for not renting a unit to a school teacher or firefighter is more difficult to support than the argument in favor.

SUMMATION

Zoning modifications frequently encounter significant resistance due to concerns about altering neighborhood characteristics, potential density increase, and the possible decline in property values.¹⁰²⁹ The process of altering zoning codes, or the transition from conventional use-based zoning to FBCs, can raise concerns among residents based on the level of community involvement and the perception of whether their concerns are being adequately addressed. Evangelopoulos & Nuworsoo (2016) explored the process of FBC implementation, noting that citizens frequently express a desire for increased transparency and robust public engagement.¹⁰³⁰ Carmona et al. (2022) found that residents often perceive zoning changes as top-down decisions made without adequate public involvement.¹⁰³¹ Research finds that the success of strategies to overcome barriers to implementation hinges on building strong coalitions with key stakeholders, housing advocates, developers, business groups, and public officials,¹⁰³² and their adaptability to the distinct concerns and preferences of individual communities.¹⁰³³ Further, decentralized community involvement can minimize the influence of vocal minority views, and promote consensus.¹⁰³⁴

Understanding and addressing the psychological drivers behind negative responses, including cognitive biases like status quo bias and loss aversion, may be crucial in diminishing opposition to zoning changes.¹⁰³⁵ A study by Knaap et al. (2001) illustrated that even when residents understand the potential long-term benefits of zoning changes, immediate fears of disruption and loss can often eclipse these potential advantages.¹⁰³⁶ Framing the need for change in more banal economic terms can lower the potential of emotions compromising the process.

Additionally, focusing this effort on the specific prototype of essential residents can tamp racist and classist tendencies to extremes. Texas, arguably, had the most successful policy campaign to advance legislation in modern times with their promotion of Don't Mess with Texas. A nationalistic type approach that fosters pride, coupled with helping the essential residents of communities, avoids political roadblocks to legislation. A coordinated effort between the federal and state governments to promote complimentary legislation at all levels of government can exact change on a larger scale than the current piecemeal shifts in policy scattered about the country. Folding a clever add campaign in with a plug-n-play local ordinance and simplified FBC, exclusively for infill housing, would allow a coordinated push for change, similar to the efforts of 100 years ago. However, rather than the State Zoning Enabling Act (SZA), try Housing Essential Residents Ordinance (HERO), using the ERAI as the threshold for incentives. In the event states use their preemptive powers to initiate change, local officials have the political flexibility to passively capitulate to or eagerly participate in either reform or replacement of regulation governing infill housing. Increased production of any kind, even if targeted to essential resident, opens up more affordable housing as essential residents shuffle within the market, and therefore would be beneficial for the overall housing affordability crisis, and lower-income residents.¹⁰³⁷ Image 5 illustrates examples of middle housing, also referred to as infill housing.

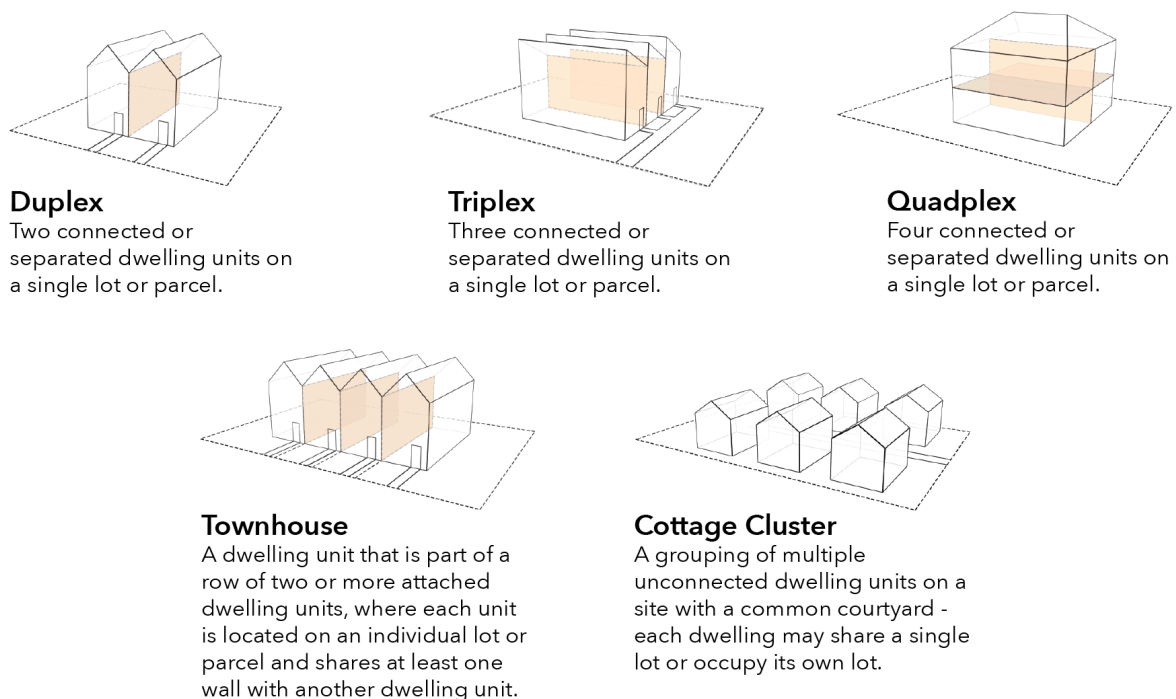


IMAGE 5: MIDDLE HOUSING EXAMPLES: EUGENE, OREGON

CHAPTER FOUR: Viability Analysis

VIABILITY ANALYSIS

ECONOMIC ANALYSIS OF DEVELOPMENT POTENTIAL

According to Clapp and Lindenthal (2022), zoning limits highest and best use construction, constraining structure value relative to land value.¹⁰³⁸ In existing neighborhoods, new construction is typically limited to a more expensive replacement of the demolished home. There are no unitary supply increases, and even when the replacement is larger, this only makes the replacement a more expensive option. Reformed segregated land use zoning or form-based codes have the ability to alter these variables. Incremental development retains the less expensive housing while adding supply to the market in absolute terms. The reform or replacement of regulations to allow incremental development of middle housing is meant to address the overarching goal of increasing the number and diversity of housing units available for rent in a given market, adding to supply and applying downward pressure to housing cost escalation. However, doing so does not make it so. Thus far, this research has focused on regulatory restrictions as barriers to housing production and the recent actions to relax those policies. Once the regulations are amended, local officials must analyze whether these amendments have the potential to address housing affordability in their markets. Looking for the things we can control, rents have an elasticity to supply, and both have an elasticity to the WRLURI. The WRLURI is a reflection of the regulatory restrictiveness of a market, and zoning is one aspect, but it also includes growth controls and other limits to the availability of land to build on.

The data suggest that more restrictive the regulations, the fewer developable lots are for sale (Figure 42). Through Zillow, which has access to the Multiple Listing Service reserved for real estate brokers, this is the number of lots, 3,000 SF - 7,500 SF, for sale per 100,000 residents in each case city market. For this analysis, I narrowed the case cities into three representative markets. I chose the highest value city for each WRLURI range to compare: Houston for the negative WRLURI group, Denver for the positive average restriction group, and Seattle for the highly regulated group. Supply that meets or exceeds demand in a market is the buffer to rising land costs. Houston has more than three times as many small lots on the market per 100,000 residents (Figure 43-1) and the price per SF of land echos this figure (Figure 43-2). And, if regulations allow, smaller lots on the market (Figure 43-3) further reduce overall development cost (Figure 43-4), leading to the viability of smaller, entry-level homes that do not need to support high lot or land costs.

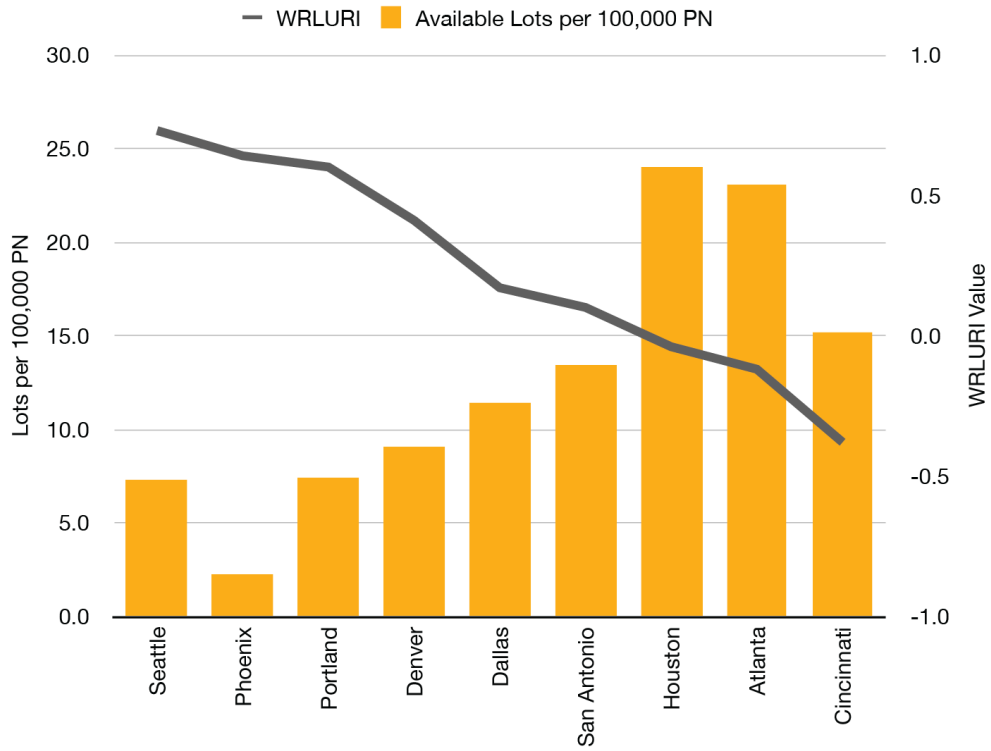


FIGURE 42: WRLURI AND AVAILABLE LOTS 3,000 SF - 7,500 SF: OCTOBER 2024

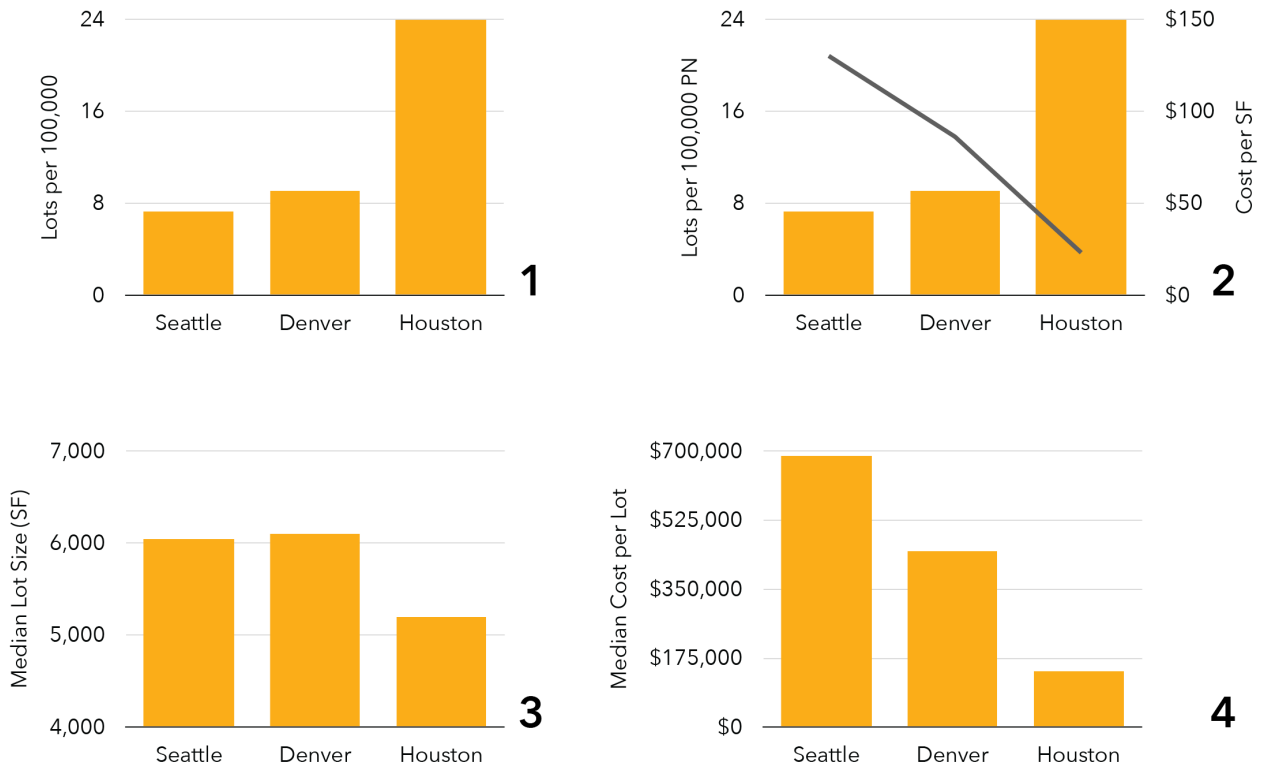


FIGURE 43: LOT SUPPLY AND DEMAND

For reference, Table 6 is an example Homeownership Viability table in Seattle, for a sales price that maintains a 3:1 price-to-income (PI) ratio for a given income. For either one person (1PN) or two person (2PN) ERAI or 80 percent AMI household, given the land and construction costs of the city, the Total Project Cost is the equivalent to three times their annual income. The numbers in orange show the area of home (Hard and Soft Costs) and lot (Residual Land Value) that maintains this PI ratio. A one ERAI household could only afford a sales price of \$201,513 and maintain a 3:1 PI ratio, resulting in a home of 281 SF on a 275 SF lot, which is not viable. A construction cost survey conducted by NAHB in the fall of 2022 was used to establish the proportional costs associated with the construction of a typical newly-built single-family home.¹⁰³⁹ The survey results indicate that 60.8 percent of the sales price is attributable to hard costs, 21.4 percent to total soft costs, and 17.8 percent for land costs. Soft costs include financing, overhead and general expenses, and builder profit. These proportional costs are used in the pro forma analysis as well.

For the three representative markets, a two income household, both ERAI and someone making 80% AMI can afford an average home in Houston, but not in Denver or Seattle (Figure 44). (For all 9 Case Cities, see Figure 49 in the appendix) This analysis was done to verify the relationship between residents of varied income levels and new home costs. For my analysis, I'm assuming those that develop on their own lot, entered the market when conditions were not as extreme as today, and are not saddled with the high costs of homeownership today. I will not test homeownership viability, as my focus is on incremental development and the rental viability for infill development by homeowners in residency.

FOR SALE at 3:1 PI RATIO

ERAI			1PN		2PN	
	of Total	\$ / sf	Cost		Cost	
Hard Costs	60.8%	\$437	\$122,520	281 SF	\$245,040	561 SF
Soft Costs	21.4%		\$43,124		\$86,248	
Residual Land Value	17.8%	\$130	\$35,869	275 SF	\$71,739	551 SF
Total Project Cost (TPC)	100%	\$718	\$201,513		\$403,026	
80% AMI						
	of Total	\$ / sf	Cost		Cost	
Hard Costs	60.8%	\$437	\$169,366	388 SF	\$338,733	776 SF
Soft Costs	21.4%		\$59,613		\$119,225	
Residual Land Value	17.8%	\$130	\$49,584	381 SF	\$99,168	762 SF
Total Project Cost (TPC)	100%	\$718	\$278,563		\$557,126	

TABLE 6: HOMEOWNERSHIP VIABILITY

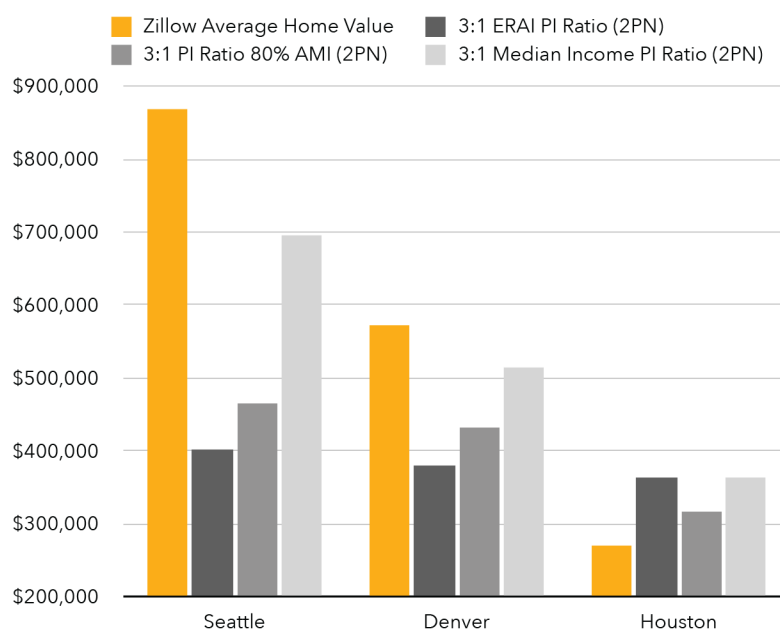


FIGURE 44: PI RATIOS: ZILLOW AVERAGE HOME PRICE

INCREMENTAL DEVELOPMENT AND THE RENTAL MARKET

This viability analysis will assume that the existing regulations have been amended to allow up to three additional units on the median sized lot. This is already the case in Seattle, it has passed at the state level for Denver, and Houston has always allowed it unless there is a private contract to limit development. Seattle has seen home prices increase more than \$400,000 over the last nine years, compared to \$188,900 nationally (Table 7). Denver has seen a similar spike, both in the prior nine- and three-year intervals, although the price growth has moderated over the last 12-months. Houston continues to hold prices more steady than the other Case Cities, and the national average. Equity gains vary considerably across the nation. This escalation in equity allows existing homeowners to borrow against their equity to build additional units on the property. This would suggest that homeowners in higher cost cities have more equity to leverage, but regardless of equity, lenders look at income to guide decisions.

	1-year Appreciation (2024 Q2)	3-year Housing Equity Gain	9-year Housing Equity Gain
SEATTLE, WASHINGTON	8.1%	\$101,900	\$402,900
DENVER, COLORADO	2.3%	\$96,600	\$312,900
HOUSTON, TEXAS	2.2%	\$52,300	\$133,800
UNITED STATES	5.1%	\$67,500	\$188,900

TABLE 7: HOME PRICE APPRECIATION¹⁰⁴⁰

An initial step in development, of any size, is determining the viability of the project, and this financial analysis is calculated using a pro forma. Pro forma analysis is a common methodology used in real estate decision-making to test the viability of developments and investments. It is a financial model that projects the potential costs and revenues of developments under various scenarios. These scenarios are meant to test the viability of a project by altering parameters and variables in the model that affect costs and revenues, including zoning regulations, land costs, construction costs, expected rents or sales prices, and market demand. This pro forma analysis allows a comparison across markets to determine what is viable using the unique conditions of each city. Construction costs for each city were sourced from Home Builder Digest's cost guides.¹⁰⁴¹ This provides a cost range within three levels of finish. As an example, \$200-\$300 per SF for value-conscious housing, \$300-\$400 for mid-range, and \$400-\$500 for luxury homes. The construction cost I use in the pro forma analysis is an average between the lowest rate for the base level and the highest rate for the mid-range level. Development costs are based on the NAHB survey's proportional costs associated with the construction of a typical newly-built single-family home. The average home in the survey was 2,561 SF, the smallest since the 2011 survey, signaling a shift toward more affordable homes as demand for larger homes has eroded since the Great Recession.¹⁰⁴²

With considerable variation, the lot size has also trended smaller, coming in at less than a half acre for this survey. While area of both the home and lot have decreased, the average price has trended upward. The survey results are national averages and there can be variation in building practices, the cost of labor, cost of land, and cost or mix of materials. However, this survey was not intended to provide accurate construction costs such as those available, for a fee, from RSMeans or Marshall & Swift. Land costs were sourced from Zillow, based on the median rate for all lots under 1/4 acre (10,890 SF) sold in the past 12 months for each market.¹⁰⁴³ The pro forma analysis is a preliminary analysis to determine the viability of development. These development proportions using construction costs for each market, and local land costs from comparables is sufficient for viability testing.

HUD, and many localities use a percentage of the area median income (AMI) to qualify for incentives on the supply-side, and support on the demand-side. Therefore, the units are sized according to the rent limits for Studios, 1 bedroom (BR) units, 2 BR, and 3 BR units at 60 percent AMI (Table 8). The proposed rental units are also affordable to essential residents, at 30 percent gross monthly income or lower.

	Seattle	Denver	Houston
Studio	\$1,581	\$1369	\$994
1BR	\$1,694	\$1467	\$1,065
2BR	\$2034	\$1761	\$1,278
3BR	\$2,351	\$2034	\$1,476

TABLE 8: HUD 60 PERCENT AMI RENT LIMITS¹⁰⁴⁴

The static pro forma financial feasibility framework is a well-accepted methodology, and serves as the foundation for this analysis to assess the viability of owners, tenants, and units across various market alternatives. This approach compares the eligibility of potential owner/developers in securing financing, affordability for residents at varied income levels, and revenue at project stabilization (unit leased with reliable cash flow) with the aggregate costs of project development. In constructing the pro formas, a series of assumptions were formulated, including development costs that reflect standardized, location-adjusted construction expenses, typical project soft costs, conventional operating expenses, and anticipated return on investment. These assumptions are grounded in a comprehensive research process, drawing from academic literature, industry market reports, and third-party data sources for prevailing market rates. The use of this framework allows for a nuanced understanding of the economic dynamics inherent in owner-occupied incremental development projects, and how density serves to increase the spatial concentration of economic activity.

PRO FORMA ANALYSIS

The first table of the pro forma includes the costs and assumptions for the project (Table 9). The cells in yellow can be adjusted, and the remainder are products of these inputs or comparable market data. The second table of the pro forma provides results of calculations to determine whether the project is viable for the owner, tenant, and the proposed unit (Table 10). Table 9 is broken into four sections: Project Costs, Operating Costs, Project Financing, and Revenue Assumptions.

The first section of Table 9, Project Costs, includes the number of proposed units, the area of the unit(s), comparable properties in the same market, and the cost of development. The area and count of the proposed unit(s) are multiplied by the median construction cost to determine the hard costs of the project. Using the percentages from the NAHB cost breakdown, values for soft costs and land are calculated. This provides the Total Project Cost (TPC) and Residual Land Value (RLV). Soft costs are highly variable, so the NAHB cost breakdown was used to determine a set percentage. Solely for a reference comparison to TPC, the cost per sq. ft. of New Homes represents the median cost for homes available in October 2024, with a lot of 7,500 SF or less. Local rent is the

median rate of currently available units below 1,000 SF in that market. It can be compared to the area cost of monthly rent for the proposed unit, described in the next section.

Residual Land Value measures a developer's land budget (shown in orange) and represents the total value remaining for land after all other development costs are considered. It helps in making informed decisions about property acquisitions and project viability. Equations can be based on the 5Ls: Operating costs and Profit (O&P) - Labor - Lumber - Lending - Legal = RLV. In this case, Labor and Lumber are the hard costs, Lending and O&P are the soft costs, Legal can impact all costs depending on the source, and RLV is the 5th "L", Lots. For my analysis, I used the resulting value for land in the NAHB cost breakdown and divided it by the local market land costs to derive the area of land the project could support. The cost of restrictive land use regulations are represented in land costs, and accounting for this cost provides a more realistic cost estimate. There is an economy of scale for construction of multiple units in that the residual land value is not increased, assuming that all units can be constructed on one level, or be stacked on the same portion of the lot. This adjustment alters the NAHB construction percentages, allowing a slight decrease in overall project costs per unit as unit count increases.

The second section of Table 9 is Operating Assumptions. Here the rent is adjusted until the monthly cash flow can support the development. The resultant rent cost per SF can be compared to the comparable local rent rate. This is an indicator of marketability of the unit. Rent increase is set at a normal rate of inflation and vacancy rate considers the amount of time averaged out per year that the unit is not earning, these factor into the monthly cash flow of the project over the life of the loan. Annual operating costs are set to a level that assumes the homeowner is managing the property and not paying for that service. Cost escalation is set at the rent increase rate and assumes that through the years, the ratio of rent to operating costs will remain constant. Post build increase and appreciation rate are set to account for the value add of the project on the property in order to figure property taxes. Property taxes and insurance rates for each Case City are set the same, at 0.5 percent and 0.05 percent of TPC respectively. Property taxes are normally closer to 1 percent, but reductions or elimination of property taxes for affordable infill projects has been waived as an incentive in some jurisdictions. For this reason, I am using half the standard rate. The precise value may be considered for more detailed cost estimates, but for preliminary pro forma analysis, as long as the rate is equal across markets, the differences in land values and construction costs will provide the variability between markets. The third section of Table 9 is Project Financing. The terms of the mortgage are the standard 20 percent down on a 30 year fixed rate mortgage, with the interest rate set at October 2024 levels. The number of income earning owners can be adjusted to

account for two income households. The monthly principal and interest payment is added to costs from the Operating Assumptions section to produce an "All In" payment to determine the cash flow of the investment. The final section of Table 9 is Revenue Assumptions, with number of Income Earning Residents as the only adjustable variable. The median income and ERAI are multiplied by the number of Income Earning Residents to determine a HH affordability threshold for tenants.

Table 10 is broken into five sections: Project Vitals, Owner Viability, Location Characteristics, Tenant Viability, and Unit Viability. Project Vitals are a reflection of key indicators from Table 9. Total area is the unit area multiplied by the number of units. The Resultant Lot Size reflects the area of land the project financially supports. In my model, this does not impact viability, but allows a homeowner to include it as a factor in the final decision. The Owner Viability section tests whether the owner produces sufficient income to secure lending for the project.

On the supply-side, costs for viability are measured against the ERAI, both one income households and two income households, to determine development feasibility based on a 3:1 HH price-to-income ratio to qualify for a mortgage. This is calculated for both a "no existing debt" scenario and one considering the state average individual monthly debt payment provided by Experian, a global credit and data analytics firm. In this example, a two income HH can easily afford the mortgage, not considering other debt. The mortgage is only 8 percent of gross monthly income for a two ERAI HH. This financing assumes the homeowners are able to pay the 20 percent downpayment and have zero debt. For a more realistic perspective, I also tested owner viability considering the average individual monthly debt payment for the state, provided by the credit rating firm Experian. Lenders prefer a monthly debt-to-income (DI) ratio of 30 percent, or 1:3 including the proposed mortgage, to mitigate risk. If the addition of the monthly mortgage payment exceeds this, the owner is not a viable candidate for the project. For two income households, the debt payment for each individual owner was factored. The analysis with and without debt are shown in adjacent columns.

Median Remaining Land in the Location Characteristics section is 50 percent of the median lot size for new homes, less the median area of a new home. In the case of Seattle, 1,050 SF is the median buildable area available for development on a previously developed lot, and the total value of that remaining land. This is a reference for both whether the project can fit on a single level or may need to be stacked, and also whether the option of creating a small lot to sell the completed property is a potential course of action.

PROJECT COSTS

Unit Size (SF) & Number of Units	225 SF	1
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Land Included: 1 Yes, 0 No	1
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NAHB Residential Cost Breakdown

	Cost	of Total	\$ / sf
Hard Costs	\$98,241	60.8%	\$437
Soft Costs	\$34,578	21.4%	
Residual Land Value	\$28,762	17.8%	\$130
Total Project Cost (TPC)	\$161,581	100%	\$718

Home Builder Digest Cost Guide

COMPARIBLES

Median Construction Costs	\$437
Variable	-
Median Available Land Costs \$ / sf	\$130
New Homes October 2024	\$709
Local Rents	\$3.40 / sf

Zillow

OPERATING ASSUMPTIONS

Per Unit Monthly Rent	\$1,182	\$5.25 / sf
Annual Rent Increase	2.5%	
Annual Vacancy Rate	2%	7 days / year
Annual Operating Costs	5%	\$695 / year
Annual Costs Escalation	2.5%	
Post Build Increase	10%	
Appreciation Rate	2.5%	

OTHER FEES (ADU Only)

Property Tax Increase	\$808
Annual Home Insurance	\$81
Annual Flood Insurance	\$81

PROJECT FINANCING

Financing for ADU	Yes
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Income Earning Owners	2
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FINANCING TERMS

Loan Downpayment %	20%
Loan Term (Years)	30
Rate of Interest	6.49%

Mortgage Interest

Loan Amount	\$129,265
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FINANCING OUTPUTS

Down Payment	\$32,316
Monthly P+I Payment	\$816
Monthly All In Payment	\$897
Total Interest Paid	\$164,564
Total Loan Cost	\$293,829

REVENUE ASSUMPTIONS

RESIDENT CHARACTERISTICS

Income Earning Residents per Unit	1
Total Median Income per unit	\$116,068
Total ERAI per Unit	\$67,171
Affordable for Total Median Income	\$2902
Affordable for Total ERAI	\$1679

UNIT CHARACTERISTICS

Total Rent Required for Viability	\$1,182
Per Unit Monthly Rent for Viability	\$1,182

TABLE 9: SEATTLE: PRO FORMA ANALYSIS

RENTAL VIABILITY

SEATTLE, WASHINGTON

PROJECT VITALS		Project Viability		VIABLE
Total Area	225 SF	LOCATION CHARACTERISTICS		
Number of Units	1	Median Remaining Land at 50% Coverage		1,050 SF
Unit Size	225 SF	Value at Median Land Cost		\$136,720
Per Unit Monthly Rent	\$1,182	TENANT VIABILITY		
Resultant Lot Size (RLV / Land Costs)	221 SF	YES	Target	Project
Required Stories at <50% Coverage	1	Number of Residents per Unit		1
OWNER VIABILITY		Rent as Percent Median Income	30%	12%
Number of Owners	2	Rent as Percent ERAI	30%	21%
Required Cash Down Payment	\$32,316	Rent as Percent of 60% AMI	30%	20%
Total Debt	\$129,265	UNIT VIABILITY		
Minimum Required Income (No Debt)	\$43,088	YES	Target	Project
Monthly All In Payment	\$897	Total Rent Required for Viability	\$1,182	\$1,182
Total Median Income	\$232,136	Per Unit Monthly Rent for Viability	\$1,182	\$1,182
Total ERAI	\$134,342	Compared to Local Rent per SF	100%	154%
Mortgage as Percent Median Income	5%	Affordable for Total Median Income	\$2,902	\$1,182
Mortgage as Percent ERAI	8%	Affordable for Total ERAI	\$1,679	\$1,182
PI Ratio Median Income	0.6	Debt Service Coverage Ratio (DSCR)	1.25	1.25
PI Ratio ERAI	1.0	Monthly Cash Flow	\$148	\$203

TABLE 10: SEATTLE: VIABILITY ANALYSIS

The Tenant Viability section signals the affordability of the unit and is also an indicator of the marketability or target demographic this project could attract. This also allows the owner to size and price the units to comply with income-based incentives. Tenant viability was determined as no more than 30 percent gross monthly ERAI. As was mentioned, all scenarios were affordable at the 60 percent AMI threshold, but in some cities, this threshold was above the ERAI and in other markets it was below. For larger units, I ran the viability analysis with two ERAI renters. Unit Viability was set as the rent required to produce positive cash flow, after covering monthly operating expenses and lending costs. Together this table quickly provides feedback on whether a project can be financed, built, and leased within a market. In the example shown in Table 10, under Unit Viability, the owner would need to rent the unit at 154 percent of market rate to produce the cash flow required to support the project. It is common for rents of new projects to exceed market rate, and this would be determined with market share for the immediate area in consideration. Distance to amenities within a city have a value, and this value is determined on a lot-by-lot basis. The debt service coverage ratio (DSCR) for the project is also given for reference. Many lenders require a DSCR of 1.25 or above for lending viability. A DSCR of 1.25 means that the cash flow is 25 percent more than associated costs.

SCENARIO TESTING

For development scenarios, the first step is determining the number of units and area of each unit to be developed. Minimum unit sizes vary by city. The minimum unit size in Seattle is 220 SF, but in Eugene, Oregon, where I live, it is 350 SF. For all scenarios I used a bottom threshold of 225 SF as the smallest possible unit (Tables 12-14) to provide a common unit size to compare markets. The remaining unit areas are derived from the HUD rent limits for that market. Rent limits provide a range of rents to account for the potential of more than one income producing person in the household. As such, the pro forma analysis included multiple units of varying sizes where the allowed rents were sufficient to produce positive cash flow for the project. For example, the rent limit for a 1BR apartment in Houston is \$1,065. That rent would be sufficient to build a single 470 SF unit and produce positive cash flow. However, the rent limit for a 1 BR in Seattle, \$1,694, is only sufficient to build a 320 SF unit. In both cases, the units met the 60 percent AMI affordability requirement, and the marketability of the resulting unit would be determined when compared to rentals in the area. Again, location of the lot changes the value of the unit in the marketplace, and is therefore is a lot-by-lot determination. As there is are economies of scale in building multiple units, I used the pro forma to determine the unit characteristics for one unit, two unit, and three unit conditions. Unless noted, each condition in the pro forma was based on a single ERAI HH tenant. Cash flow varies by unit size, but are positive in all reported conditions.

The current median size for a Studio in Seattle is 408 SF and 653 SF for a 1BR (Table 11).¹⁰⁴⁵ The results in Seattle are undersized units with considerably higher rent per SF (Table 12). While financially viable, absent some value add amenity, only a market study would determine the share of the market that would be viable tenants. Rents allowing unit viability ranged from 136% to 154% higher than market rate. The most profitable two options are a building a 265 SF Studio or two 350 SF 1 BR units, with the latter at the limit for ERAI affordability. A container-sized 2 BR is feasible at 385 SF, but such a unit would only be affordable for a two ERAI HH tenant. Higher WRLURI values produced smaller units at more inflated rents, and were less affordable to essential residents overall. At the minimum size of 225 SF, a single ERAI HH could afford to build two units in Denver, where no two-unit options were viable in Seattle (Table 13).

	Seattle	Denver	Houston	Average
Studio	408 SF	519 SF	526 SF	484 SF
1BR	653 SF	692 SF	722 SF	689 SF
2BR	942 SF	1,037 SF	1,049 SF	1,009 SF
3BR	1,212 SF	1,345 SF	1,360 SF	1,306 SF

TABLE 11: EXISTING RENTAL AREAS

			2 ERAI HH		1 ERAI HH		Monthly Cash Flow	Percent above Market Rate	Percent Monthly ERAI
			Without Debt	With Debt	Without Debt	With Debt			
3 Units	Studio	225 SF	Y	N	N	N	\$536	136%	19%
	Studio	265 SF	Y	N	N	N	\$634	136%	22%
2 Units	Studio	225 SF	Y	N	N	N	\$371	141%	19%
	Studio	330 SF	Y	N	N	N	\$543	141%	28%
	1BR	350 SF	Y	N	N	N	\$577	141%	30%
1 Unit	Studio	225 SF	Y	N	Y	N	\$203	154%	21%
	Studio	300 SF	Y	N	Y	N	\$270	154%	28%
	1BR	320 SF	Y	N	Y	N	\$289	154%	30%
	2BR	385 SF	Y	N	N	N	\$348	154%	18%
	3BR	445 SF	Y	N	N	N	\$402	154%	21%
	MAX	635 SF	Y	N	N	N	\$573	154%	30%

\$1,491 Monthly Debt Payment per Individual

2 ERAI HH Tenant

TABLE 12: SEATTLE: VIABLE UNIT OPTIONS WITH 6.49 PERCENT MORTGAGE INTEREST RATE

			2 ERAI HH		1 ERAI HH		Monthly Cash Flow	Percent above Market Rate	Percent Monthly ERAI
			Without Debt	With Debt	Without Debt	With Debt			
3 Units	Studio	225 SF	Y	N	N	N	\$383	124%	14%
	Studio	345 SF	Y	N	N	N	\$589	124%	22%
2 Units	Studio	225 SF	Y	N	Y	N	\$266	128%	15%
	Studio	395 SF	Y	N	N	N	\$471	128%	26%
	1BR	428 SF	Y	N	N	N	\$504	128%	28%
	MAX	505 SF	Y	N	N	N	\$596	128%	16%
1 Unit	Studio	225 SF	Y	N	Y	N	\$146	141%	16%
	Studio	365 SF	Y	N	Y	N	\$232	141%	26%
	1BR	390 SF	Y	N	Y	N	\$252	141%	28%
	2BR	465 SF	Y	N	N	N	\$300	141%	17%
	3BR	540 SF	Y	N	N	N	\$349	141%	19%
	MAX	850 SF	Y	N	N	N	\$549	141%	30%

\$1,472 Monthly Debt Payment per Individual

2 ERAI HH Tenant

TABLE 13: DENVER: VIABLE UNIT OPTIONS WITH 6.49 PERCENT MORTGAGE INTEREST RATE

The units in Denver are still undersized and overpriced based on current rentals, but the gap is narrowed. Like Seattle, no 2 BR units are viable to single ERAI HHs, tenants or owners, and the 1 BR units are only slightly larger than Studio apartments. Building three 345 SF studio units is the most profitable option, but the Median Remaining Land in Denver is 1,100 SF and this option would likely need at least one unit on a second level. This would bring in stair construction costs that are not factored into this pro forma. There were multiple options for development for both one income and two income owner HHs across markets, but only in Houston could a single ERAI HH afford to build three units (Table 14). A 5 percent - 10 percent rent premium for a newly built unit is common, and the Houston market allows numerous viable options within that range. The current median Studio apartment is 526 SF and a 1 BR is 723 SF, which is larger than the viable options, but the largest Studio unit is less than 10 percent smaller than the current median rental.

The most important finding is that, when the Experian average monthly individual debt was factored into the pro forma, development was no longer viable for all but one unit size in Houston at the ERAI level. Despite the tenant and unit viability in each market, adding existing owner debt to the equation increased the DI ratio beyond what is preferred for lending. The finances of each homeowner are distinct, and therefore, we could assign these as marginally viable. There has certainly been lending beyond what is preferred, and this is not a hard 'no.' An ERAI HH owning a home with zero debt is largely unrealistic, and the debt added to the pro forma was an average for the state. Debt and income variability in a market is an unknown gradient that is unique to each household. However, what this means is that essential residents are generally excluded from the income and equity potential on their properties through incremental development. The added cash flow would be a larger share of additional income than those median income HHs that are financially able to develop. Figure 45 is an example of this potential income and equity growth for one unit size in one city, but this would change for each unique condition.

			2 ERAI HH		1 ERAI HH		Monthly Cash Flow	Percent above Market Rate	Percent Monthly ERAI
			Without Debt	With Debt	Without Debt	With Debt			
3 Units	Studio	225 SF	Y	N	Y	N	\$229	106%	9%
	Studio	275 SF	Y	N	Y	N	\$285	106%	11%
	MAX	525 SF	Y	N	N	N	\$536	106%	21%
2 Units	Studio	225 SF	Y	N	Y	N	\$160	110%	9%
	Studio	405 SF	Y	N	Y	N	\$286	110%	16%
	Studio	485 SF	Y	N	N	N	\$341	110%	20%
	1BR	520 SF	Y	N	N	N	\$366	110%	21%
	2BR	620 SF	Y	N	N	N	\$437	110%	25%
	3BR	720 SF	Y	N	N	N	\$506	110%	29%
	MAX	810 SF	Y	N	N	N	\$569	110%	16%
1 Unit	Studio	225 SF	Y	Y	Y	N	\$87	121%	10%
	Studio	440 SF	Y	N	Y	N	\$170	121%	20%
	1BR	470 SF	Y	N	Y	N	\$181	121%	21%
	2BR	565 SF	Y	N	Y	N	\$218	121%	25%
	3BR	655 SF	Y	N	Y	N	\$315	121%	30%
	MAX	1,365 SF	Y	N	N	N	\$527	121%	30%

\$1,305 Monthly Debt Payment per Individual

2 ERAI HH Tenant

TABLE 14: HOUSTON: VIABLE UNIT OPTIONS WITH 6.49 PERCENT MORTGAGE INTEREST RATE

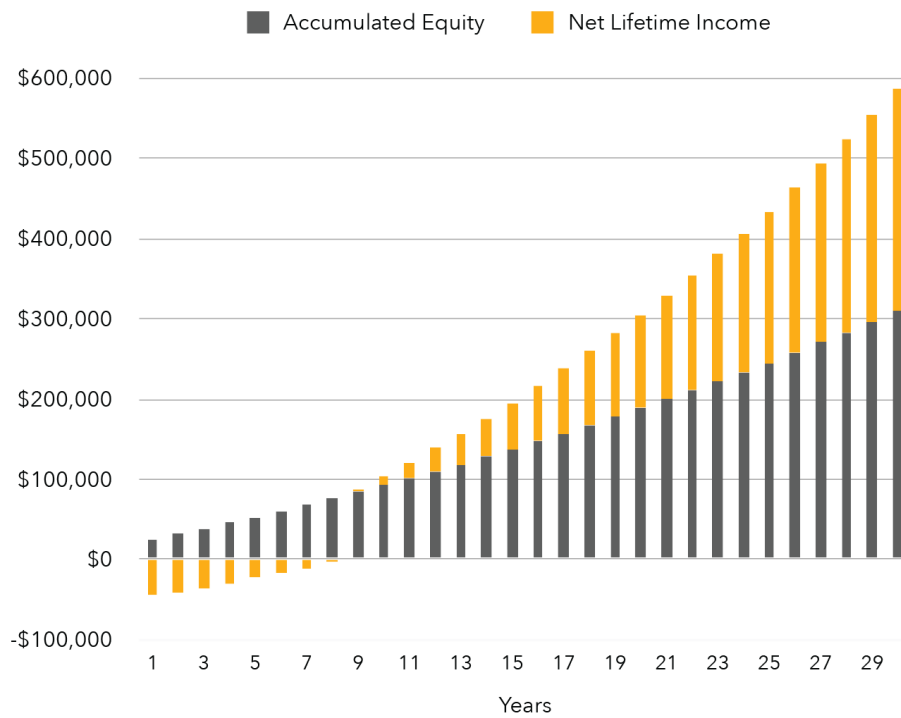


FIGURE 45: SEATTLE: FINANCIAL GAINS FOR 385 SF UNIT ASSUMING 2.5 PERCENT ANNUAL APPRECIATION AND RENT INCREASE

CHAPTER FIVE: Conclusion

CONCLUSION

VIABLE OR JUST MORE REGULATION TO SIFT THROUGH

When it comes to how we live our lives, it's in our nature to be a bit libertarian. "Nobody is going to tell me how to live my life," is our teenage mantra. As young adults this attitude extends to restrictions on our potential to earn a living, with the introduction to taxes and a disbelief of the amount being garnered. However, segregated land use zoning imposes precisely these same type of constraints on our property. Rather than highest and best use, we are unjustifiably limited in what we can do with our personal property. Worse yet, these limits can be inefficient and require more government spending on infrastructure and social support, raising taxes ever higher. In many cities, there are large sections of SFD housing, between the core of the city and the periphery, where multi-unit structures are prohibited. Urban economics tells us that there is a line of equilibrium where it becomes affordable to live, at some unknown distance from the urban core, as an inverse function of commuting costs. However, land use policies that restrict development to low-density SFD housing, interrupts this gradient of affordability and inflates the value and cost of housing. This is because of exclusion. Excluding additional housing creates an amenity effect for that neighborhood that increases the value of housing for the few able to live there, and increases costs for everyone else. For many essential residents, this leads to longer commutes between where they can afford to live and the neighborhoods they serve. This exclusion of increased density also forces development outward, where land costs are not inflated, but where society pays the increased costs of infrastructure to push ever further as a city grows. With the goal of increasing affordability and decreasing commuting costs, and reversing the current vector, land use must be altered or replaced to allow incremental density in exclusive neighborhoods. This does not invite those manifested extremes into middle-class neighborhoods, it invites grandmothers, recent graduates, police and firefighters, teachers and nurses, those essential residents of a thriving community.

The emerging trend to amend zoning policies for this purpose is intended to increase the supply of housing and tamp rapidly escalating housing costs. However, the validity of these changes to address housing affordability has received minimal attention in urban planning scholarship. The way out of a mess that land use policies created is not simply correcting the errors of the past. This land is already built-out, the same rules don't apply. There is no corporate developer to buy large swaths of land to build a new and walkable neighborhood. These are already neighborhoods, and development requires each individual homeowner to develop independantly. Homeowners have other jobs, other debts, an established life. They don't have the leverage or knowledge of real estate development to support this process. Therefore governing

bodies must find a way to bridge that gap if their goals are really increasing supply to the point that it makes an impact to housing costs. This research considers the role land use policies play in a worsening housing affordability crisis, and whether attempts to mitigate the issue at the local level are viable or just more regulation for us to sift through.

VECTOR & CATALYSTS

VECTOR

Current housing affordability challenges are grave and volatile. Today, a family needs \$106,500 to buy a typical home, 80 percent more than the \$59,000 required in 2020.¹⁰⁴⁶ The confluence of rising mortgage rates, disrupted supply chains, high inflation, and increased home prices has left single-family home affordability at an all-time low. Essential workers are increasingly priced out of the housing market, and can't afford to rent a one-bedroom apartment in cities they serve. Rents have jumped 26 percent since early 2020 alone, and half of all renters spend over 30 percent of their income on housing. This market instability contributes to housing instability, particularly for those with tight budgets, potentially leading to the inability to maintain current housing arrangements. The escalation of home prices and rents across the nation is associated with pandemic-induced demand, limited supply, and elevated interest rates resulting from the Federal Reserve's inflation control measures. Recent research by the National Association of Home Builders, using 2021 data, indicates a shortage of 1.5 million homes, while FreddieMac, using a different methodology, estimates the deficit at 3.8 million.

CATALYSTS

Market instability, both supply- and demand-side, and elevated interest rates, have triggered a volatile rise of housing costs across the nation, particularly when combined with legacy effects of the Great Recession and housing bust of the late 2000s. While COVID-19 uniquely contributed to this situation, it primarily amplified existing housing issues. The onset of the pandemic in March 2020 triggered a sharp rise in SFD housing demand and supplies plummeted nationwide. Economists and central bankers underestimated the impact of COVID-era spending, \$5 trillion between President Trump and President Biden. Due to multiple rounds of stimulus and tax cuts, the inflation rate surged to 7.5 percent, with home prices outpacing inflation by 165 percent due to limited supply. Worse yet, the Fed's necessary but consequential efforts to curb excessive growth in housing costs inadvertently led to a decline in new construction—a crucial element for market equilibrium. High interest rates impede builders' ability to secure Acquisition, Development and Construction lending, further restricting production and increasing overall housing costs. High interest rates also impede buyers, who are a necessary element for spurring production.

DRIVERS & ENABLERS

It is widely recognized in the housing industry that regulations, such as land use policies, building codes, environmental laws, as well as government enforcement of these rules, hinder housing production, limit housing supply, and create significant costs.¹⁰⁴⁷ As costs rise, projects become less viable, slowing housing production. Impediments to production limit supply, and supply shortages drive up prices. The decrease in availability leads to a decrease in affordability. Identifying these impediments, and whether they can be adjusted to increase supply becomes vital. Federal immigration and trade policies can add upward pressure to construction costs. Stricter immigration laws during the Trump administration slowed construction by reducing both high-skilled immigrant labor and complementary low-skilled domestic labor.¹⁰⁴⁸ In 2021, the price of lumber hit a record high, up more than 170 percent over the prior 10 months.¹⁰⁴⁹ The disruption of global supply chains during the pandemic had some impact on these elevated material costs, but conditions worsened as a result of the trade conflicts with China and Canada during the Trump administration.

Restrictive and complex regulations, coupled with laborious permit approval processes, limit a market's response to demand shifts. The volume of applicable regulations and reviews for compliance adds both cost and time that curbs project viability and restricts production. Despite attempts to amend or simplify the quagmire of regulations on multiple levels of government, efforts have themselves created more fractured and inefficient regulatory conditions.

DRIVERS

Dr. Robert Dietz, chief economist for the National Association of Home Builders (NAHB), says the structural impediments to project viability and drivers of the housing crisis come down to the five L's:

- Lots
- Labor
- Lumber (materials)
- Lending (for development/construction)
- Legal (regulatory barriers)

The five L's can also be thought of as costs. Lots are land costs. Growth controls, segregated land use regulations, or minimum lot sizes all limit the land available for development. In 2021, nearly 80 percent of home builders reported low or extremely low lot supplies.¹⁰⁵⁰ Labor and lumber are the materials and trades, these are the construction costs. The residential construction

industry faces a significant labor shortage, amplifying construction costs and extending project timelines. A 2017 Freddie Mac report links this shortage to the 1.5 million construction jobs lost during the Great Recession and a weak recovery thereafter.¹⁰⁵¹ Changes in lumber prices and the availability and expense of other construction materials have slowed down home building. Softwood lumber has experienced a significant rise in prices, nearly 10 percent annually since the 2009 housing bust and almost doubling in 2020 alone.¹⁰⁵² Lending represents the financial services costs. Higher interest rates can increase lending costs, and as funding from smaller banks tightens quickly during economic downturns, the availability of lending may be limited itself. Legal can be thought of as the processes and development costs involved from initial zoning reviews to the final certificate of occupancy. NAHB and the National Multifamily Housing Council found that regulations account for 40.6 percent of development costs for multifamily projects.¹⁰⁵³ A reduction in any of the L's reduces the cost of housing production, making projects more viable. Alternatively, an increase in any of these elements drives up housing costs. Demand can also be a driver. Changes in demand can be due to changes in population, which are typically predictable and long-term trends. Or, a shift in preference and housing consumption, which can be rapid and unpredictable. In either case, unless a market is able to respond, affordability will be impacted.

ENABLERS

There are the two enabling elements, restrictive and complex regulations and a protracted development processes, that influence housing prices by inflating land values and limiting affordable vacant land for development.¹⁰⁵⁴

Restrictive and Complex Regulations

There is an inverse relationship between restrictive land use policies and affordability. Overly tight land use regulations and complex environmental regulations, legal tools, can drive up land costs. In 1990, President George H.W. Bush ordered the formation of the Advisory Commission on Regulatory Barriers to Affordable Housing, which he characterized as "excessive rules, regulations, and red tape that add unnecessarily to the cost of housing...". Subsequent administrations, Republican and Democrat, have tried to address housing affordability and excessive regulation,^{1055,1056,1057} but at the local level, residents, both Republican and Democrats, have pushed back against reforms that open up communities to more housing production or a change in the status quo. The separation of single-family and multi-family homes, remains central to understanding the core of housing affordability. Common regulations that limit production include:

- SFD Zoning
- Minimum Lot Size

- Form Restrictions
- Parking Requirements
- Impact Fees
- Property Taxes
- Growth Controls/UGBs
- Rent Control and Inclusionary Zoning

Prior to segregated SFD zoning, there was already use zoning, economic zoning, and bulk zoning. Use, economic, and bulk zoning were sufficient to govern our cities, but there was still an aspect of control not being met. Exclusion. The predominant desire for exclusion by many Americans and their representatives was pursued three ways: exclusion of land, exclusion of race/class, and exclusive investment.

American SFD zoning has predominantly been linked to exclusion based on race, ethnicity, and socioeconomic status, and continues with today's NIMBY conflicts over middle housing. Those meant as insiders used devices like segregated use zoning, minimum lot sizes, and more, to keep out immigrants, minorities, working class essential workers, students, and the elderly. Housing for one segment of the population was and is subsidized and incentivized, building wealth and generation opportunity, while others faced urban renewal and segregation by infrastructure, for the past one hundred years. Cities throughout the United States swiftly embraced zoning practices in an effort to rectify contentious building and planning decisions, while also realizing veiled segregationist intents. Zoning was heralded as a cure-all solution, implemented so hastily that their potential repercussions were not fully understood.¹⁰⁵⁸ It caused economic, social, and environmental disparities between demographic groups. To some extent, use, economic, and bulk zoning all serve a purpose, but segregational zoning, overt or not, has no constitutional purpose.

The legality of zoning in the United States has been a subject of controversy since its inception due to the convoluted control mechanisms and the effects it has on communities. Within the constraints set by the state enabling legislation, the key decision maker in the zoning process is the "local elected body," such as a city council, or county commissioners. With a planning department, they create land use regulations. However, today's regulations have little resemblance to the simple regulations of the early 21st century. They are exceedingly complex, often spanning thousands of pages and requiring teams of experts to interpret and comply with them.

Protracted Development Processes

The weight of regulatory costs in municipalities can also be linked to inefficient and

redundant governmental procedures, with the complexity intensifying as developers navigate multiple agencies for permits and approvals. The increased number of government touchpoints correlates with a higher likelihood of political intervention. Discretionary approvals are particularly susceptible to public pressure, be it from community residents or competing developers. Each approval juncture provides an opportunity for citizens to voice concerns, oppose projects, or initiate legal action. Regulation that allows individual residents to halt a project for additional review provides an effective tool to halt all housing production in a given area through attrition. Environmental regulations are a common vehicle in this process. The uncertainty stemming from this process can be more detrimental to a project than the regulations themselves. There are numerous factors that, one-by-one add costs or require time, and cumulatively, have become a drag on production.

RECOURSE AND CONSTRAINTS

The federal government has adopted, reformed, replaced, and rescinded many programs and policies, over the past 100 years to address imbalances in housing costs. Today, Congress funds many programs, and HUD manages most of these, with some rural aid from the Department of Agriculture and tax benefits from the Treasury Department. The U.S. government offers three main types of housing support, which are not mutually exclusive:

Help with home buying and financing

- Direct aid for home purchase costs
- Tax credits
- Mortgage insurance

Rental aid

- Direct aid through rent vouchers for the private market
- Low-cost units owned by public housing agencies or private landlords under contract
- Limited developer support for the construction of new affordable rentals

Support for state and local governments

- Flexible block grants for rental, homeownership, or community development
- Special-purpose grants
- Tax-based programs

These programs can support both single-family and multi-family housing, help eligible buyers to secure mortgages, and provide support for developers to finance the construction of affordable rentals.

Homeownership has been central to U.S. housing policy for 80 years. Experts disagree on whether promoting homeownership has been a beneficial policy goal for the U.S., given the segregational impacts. All agree that owning land and a home has long been part of the American dream.¹⁰⁵⁹ However, according to Redfin, as of Q1 2023, there were only four major metropolitan areas in the U.S. where a typical home has a lower monthly mortgage cost than its estimated rent: Detroit, Philadelphia, Cleveland, and Houston.¹⁰⁶⁰ For most, renting is the only option. With the lack of land zoned multifamily, rental units are becoming more scarce, and governments on all levels should work together to loosen tight markets.

RECOURSE

Cities and states that have taken recent steps to open SFD neighborhoods to incremental development. However, Former President Trump and Secretary Carson penned an Op-Ed in the Wall Street Journal vowing to stop the:

*"radical social engineering project...to abolish single-family zoning and compel the construction of stack and pack apartment buildings in residential neighborhoods, and forcibly transform neighborhoods...the way far-left ideologues...think they should."*¹⁰⁶¹

This describes an increase in regulation and government control, applied in an authoritarian way, possibly a neo-conservative view. Another side of conservatism, libertarianism, promotes less regulation and less centralized control of our neighborhoods, resulting in greater rights of individual homeowners to determine the highest and best use of their property. On this topic, there are complementary views between liberals and libertarians. Generally, liberals support collective protection of individual rights from bad actors. and libertarians wish to preserve individual rights from collective control. It is from this liberal libertarian perspective that land use regulations should be written. They should not allow the public to restrict a landowner's rights to exclusive use of property, as long as what is done does not infringe on the rights of others. The bulk, economic, and use regulations of the 19th century accomplish this, and in many neighborhoods, the current bulk restrictions can remain. They designate economic areas and corridors, govern general hierarchical uses (as opposed to hierarchical zoning that excludes multi-family) to mitigate conflicting uses, and ensure owners do not infringe on the proportions of the public realm, based on the scale of the streets and sidewalks that belong to all residents. If an owner wishes to have three units or one, as long as it respects the general form and use, it should be permitted. Reform or replacement of regulations that govern the production of middle housing is needed at the local level. Whether self-initiated or due to state pressure, internal growth through densification cannot occur on most of the land zoned residential in the nation.

The goals for reform should be developed within the community, with both vertical and horizontal alignment of government policies. The reformed regulation text should be easily digestible and focused on the incremental development of middle housing. The alternative to reform of existing regulations is the adoption of new regulation to guide the development of infill housing. Governing general use and bulk, form-based codes are well-suited. Whether reform or replace, development processes should have their own expedited permitting streams to streamline production and limit delays and interference. Incentives may be needed to spur production, and there are paths forward with a coordinated effort by federal, state, and local officials. The President's Budget includes investments and actions to lower costs and increase production, however, they remain unfunded.¹⁰⁶² This falls largely on partisan gamesmanship. There is middle ground, between liberals and libertarians, where income neutral simplified legislation could find bipartisan support.

CONSTRAINTS

SFD zoning, restricts housing supply and increase prices. This has led to debates about eliminating single-family zoning or replacing segregated land use zoning to improve housing affordability. Form-based codes have emerged as an alternative tool to guide development and address housing affordability. However, as part of the development stages, both often face pushback from citizens¹⁰⁶³ a major hurdle to zoning reform. Comprehensive policy interventions are vital to addressing the concerns of residents and mitigate pushback. Concerns of residents include:

- Housing Affordability
- Property Value
- Infrastructure and Taxes
- Citizen Housing and Transportation Options
- Neighborhood Character and Instability

At the local level, the impediments to implementation are less partisan and more territorial, hence the phrase "Not in My Back Yard." State mandate may provide the most cover at the ballot box for both federal and local politicians. However, research finds that the success of strategies to overcome barriers to implementation hinges on building strong coalitions with key stakeholders, housing advocates, developers, business groups, and public officials.¹⁰⁶⁴ The costs and benefits of density are not equitably shared between land owners and renters. Local officials should be selective with the inclusion of strengths and weaknesses of density in order to frame the argument

for changes to the status quo. Development of middle housing on existing lots can increase property values, while mitigating rent escalation. Densification through incremental development maintains the character of neighborhoods without the rapid changes that lead to displacement. It is a more efficient form of development with respect to infrastructure spending, and resulting property tax rates. Given the prime location of SFD neighborhoods, it increases access to jobs and amenities, simultaneously increasing support for public transit and reducing the need for it by creating more walkable neighborhoods.

VIABILITY ANALYSIS

The construction of new housing in established neighborhoods typically involves replacing demolished structures with more expensive alternatives. While these replacements may be larger, the net increase in supply is marginal. While there are some localities that now allow additional units on lots,¹⁰⁶⁵ the potential of densification through incremental development is not possible in the vast majority of land zoned residential in the United States. A 2019 article from the New York Times showed the following statistics for percentage of residential land zoned exclusively for SFD homes:¹⁰⁶⁶

- 84 percent Charlotte, N.C.
- 89 percent Arlington, TX
- 77 percent Portland, OR
- 81 percent Seattle, WA
- 94 percent San Jose, CA

SFD zoning has led to inefficient development in most U.S. cities, but the upside is that there is an abundance of mid-sized lots, underutilized, that can absorb increases in density over time, organically. Increasing supply to the critical mass needed to impact housing costs will be distinct for each locality, and will require incintivation. This densification need not alter the character of neighborhoods, provided policy is adopted to maintain the scale and proportion. This incremental development also can help keep investments local, allowing the recirculation of capital and a boost to economic development. The reform or replacement of land use policies that permit incremental development, preserves less expensive housing while increasing absolute supply. This is meant to address the overarching goal of increasing the number and diversity of housing units available for rent in a given market, applying downward pressure to housing cost escalation. However, it is important to note that the adoption of such reforms does not guarantee their effectiveness. Changes to regulations may allow the development of infill housing, but market conditions must be conducive to project viability.

PRO FORMA ANALYSIS

The static pro forma financial feasibility framework, is a well-accepted methodology based on realistic development scenarios, and serves as the foundation to assess the viability of owners, tenants, and units across various market alternatives. This analysis was conducted for Seattle, Denver, and Houston, which represent levels of restrictiveness of land use regulations, from most strict to least, respectively. This approach compares the lending eligibility of potential owner/developers, affordability for residents at varied income levels, and revenue against the aggregate costs of project development. Development costs reflect standardized, location-adjusted construction expenses, typical project soft costs, conventional operating expenses, and anticipated return on investment through monthly cash flow. The use of this framework illustrates the economic dynamics inherent in owner-occupied incremental development projects. A benefit to pro forma analysis is that the process is iterative, where new information can replace generalized data and be integrated by the end user.

The most important finding of the initial analysis is that, when average monthly individual debt payments were factored into the pro forma, development was no longer viable in any market. Adding existing owner debt to the equation decreased lending eligibility for the owner, increased rents required produce positive monthly cash flow, and this increase in rents often exceeded affordability of essential residents. The finances of each homeowner are distinct, and therefore, these may be considered marginally viable. Excluding policy reform, the key impediments to viability are potential owner debt and financing costs associated with high interest rates.

Limitations

The research design exhibits certain constraints. The uniqueness of developments, similar to other scenario-based studies, cannot account for all potential development options or owner/tenant financial situations. For instance, existing landowners are insulated from recent price surges, and their decision to incorporate current land costs in pro formas, reduced rates, or omit them entirely can significantly alter the analysis outcomes. Pro forma analysis serves to provide a broad understanding of feasibility, particularly in relation to various unit types and markets. While the study encompasses what I consider the most crucial elements of pro forma analysis, it is not exhaustive, and does not consider the numerous incentives available at the local, state, and federal level. Furthermore, there are myriad other factors, including local political landscapes, local economic conditions, and site-specific attributes, that exert influence on development feasibility. Lastly, Lots, Labor, Lumber, Lending, and Legal costs can shift quickly.

RECOMMENDATIONS

A coordinated approach from all governmental levels and the private sector is needed to mitigate supply-side constraints. Locally, the escalation in housing costs is firmly linked to regulatory constraints, with a notable correlation between the WRLURI and key housing metrics. These constraints increase land costs, costs of construction, and increase housing costs through supply shortages. Policy driven limits to development include, restrictive and complex zoning codes and drawn-out approval processes. More immediate fixes like demand subsidies and rent control don't resolve the lack of available and affordable housing. Cities must take steps to alter the trends towards decreasing affordability.

It is impossible to make a change in bearing without an end in mind. This takes the form of a preferred city structure. The relevant definition for the word structure is the arrangement of and relations between the parts or elements of something complex, the quality of being organized. This describes the economic and morphologic densities, the density of use variability, the gradient and organization of those densities, and associated development means and methods. The next step is determining how to get there, the regulatory shifts that enable localities to reach this preferred structure. These regulatory shifts must include federal, state, and local governments. It's easy to point to what's wrong, it's more of a challenge to propose what's viable, and impossible to know what's right. For this reason, solutions should be evidence-based, not race-based, and focus on number values, not moral values.

PREFERRED CITY STRUCTURE

My research suggests a preferred city structure, generally, but as environments vary, as should the structure. There is a need for flexibility in ourselves, our cities, and the regulations that govern them so that the fit is complementary. This plasticity enables the resulting structure for each unique condition, but should be based on the same simple general density template.

The goals of this structure is to address resident concerns:

- Increase Housing Supply and Affordability
- Maintain Stable Property Values
- Revise/Reduce Property Tax / Develop Efficient Infrastructure
- Sustainable Transportation Mode Choice
- Refocus Income from Transportation to Housing
- Preserve Character & Avoid Displacement

To increase affordability, additional supply is needed. Simplifying the local regulatory process, by reform or replacement, to allow multiple units on each lot is more effective than allowing a few developers to build high-density projects. Generally, the residential areas should increase to a threshold of 3-4 stories and then spread in a more uniform manner. This is supported by both the most efficient density for infrastructure and the threshold for less expensive construction methods and corresponding building codes. This is not altering existing neighborhoods, many SFD neighborhoods already allow three story construction. Residential densification allows homeowners and smaller scale builders to incrementally develop in existing neighborhoods and keep investments local, while also providing an avenue for homeownership of small-lot housing to allow residents to accumulate wealth and equity. This approach also encourages more builders to compete, which lowers housing prices and boosts the local economy. A report by the Millennial Housing Commission shows that new home construction created about 3.5 million jobs in 2001, and that the nearly \$400 billion spent per year on building and remodeling homes, mostly stays in local communities.¹⁰⁶⁷

Clustered mixed use mid-rise centers can serve as transportation hubs. This has the least impact to housing costs, while allowing development in all parts of a city. Ahlfeldt and Wendland (2013) argue that a compact monocentric city structure is more resilient to external shocks such as natural disasters, or even transport innovations that can alter the urban landscapes of more polycentric cities.¹⁰⁶⁸ As each sub-center grows, there is a greater need for connectivity to maintain synergy. However, additional research examines the transformation of Berlin's urban spatial structure, from historically monocentric before the wall fell, to a more polycentric form as the economy transitioned.¹⁰⁶⁹ Initial location decisions were influenced by proximity to the CBD, agglomeration economies, low transport costs, and industrial growth. Berlin's transformation into a modern, service-based economy, accompanied by the development of a dense rapid transit network, and increased spatial interactions, led to dispersed local micro-agglomerations of economic activity beyond the historic city center. This functional form is complementary to ideal densities for infrastructure investments and public transit, and provides a modular expansion that a monocentric form lacks.

In higher density areas, it is much simpler to increase commercial development to compensate for higher land prices than residential, as developer finish-outs are spare, and commercial space has less of an impact to land prices overall. Ahlfeldt and McMillen find the elasticity of substitution between land and capital to be 76 percent for commercial use and 47 percent for residential use.¹⁰⁷⁰ These clustered economic/commercial centers should include the

same or more share of residential use density as the rest of the city. The corridors between these centers should allow mixed use mid-rise (4-7 stories) development between the larger commercial hubs and along corridors as proving grounds for micro-agglomeration to support entrepreneurship and innovation. This scale allows three construction methods:



IMAGE 6: WOOD FRAME OVER COMMERCIAL PLATFORM¹⁰⁷¹

Dedicated stick-frame residential construction over a 1-2 level commercial platform. This can reduce overall construction costs, but limits the flexibility of shifting uses to adjust to market conditions.



IMAGE 7: CROSS LAMINATED TIMBER OVER COMMERCIAL PLATFORM¹⁰⁷²

Cross-laminated timber construction. A more sustainable construction method that is cost effective for mid-rise mixed-use development. This retains the possibility of shifting uses between commercial and residential as needed.



IMAGE 8: CONCRETE COMMERCIAL CONSTRUCTION¹⁰⁷³

Standard commercial construction methods. This also retains use flexibility, but is a less environmentally friendly construction method.

In their meta-analysis of literature on the economic effects of density, Ahlfeldt & Pietrostefani (2017) find that the positive agglomeration benefits associated with economic and use densities are not present for morphological density alone, and that job access and pollution (particulates) are only worsened for morphological density.¹⁰⁷⁴ They also note that the elasticity of value of space, or costs to rent space, is highest for raw morphological density, only slightly lower for economic density, but is negative for mixed use density. This suggests that areas of higher density restricted to commercial or residential use alone (not mixed) have higher land costs, higher price volatility, and a lower accessibility between residents and jobs. Restricting residential development at the frontier, while also restricting it to higher density clusters not only increases land prices, it increases the rent per unit of floor area as well.¹⁰⁷⁵ Albouy et al. find there is a strong correlation between the population of a metropolitan area and the height of its tallest buildings, driven by land values, suggesting that economic incentives drive the construction of taller buildings.¹⁰⁷⁶ They also suggests that buildings are taller in places where geography or policy restricts city sprawl, leading to inflated land values.

Economic development goals should support a vibrant and resilient local economy where a focus on the recirculation of capital is of principal concern, and corridors of live/work development that connect economic/commercial hubs provides flex space for multiple types of uses. When

increases in density result in a reduction of distance between home and work, there is a corresponding increase in productivity.¹⁰⁷⁷ This proximity increases walkability and the viability of public transit along these corridors, potentially reducing the costs of transportation,¹⁰⁷⁸ the negative effects of congestion,¹⁰⁷⁹ and total pollution.¹⁰⁸⁰ In their meta-analysis of literature on the economic effects of density, Ahlfeldt & Pietrostefani (2017) find that the positive elasticity of energy efficiency, and negative elasticity of traffic congestion, are greatest with mixed use density.¹⁰⁸¹ Aside from civic, sports and hospitality, and healthcare, which are unique conditions, this general template is simple to convey.

Increasing housing production will require densification, expansion, and the application of complementary policies that don't just allow for development, but promote and incentivize it. There is a pressing need for diverse and affordable housing options that cater to those whose incomes are similar to our essential residents. In addition to increasing supply overall, and specifically affordable housing, this incremental development helps residents accrue wealth through the ownership of rental property or reducing the need to own an automobile, it helps to restore municipal solvency by limiting infrastructure investment and maintenance costs, and it can help to stabilize the local housing market and avoid housing insecurity. The simplification of regulations and processes specifically for middle housing, along with incentives and information centers can help provide more housing options in the immediate future and improve affordability for residents over time.

LOCAL GOVERNMENTS

The best way to improve regulations is to create a dedicated infill housing code exclusive to SFD neighborhoods, forming "as-of-right" development zones. In these areas, builders who meet zoning rules can start projects without long approval processes. I would argue that opt-in FBCs geared towards infill housing would serve this function well. A form-based code, when properly constructed, will codify community preferences, thereby reducing the uncertainty inherent in development processes. The reform of existing regulations to simplify policy may be a less immediate and drastic shift, and may be more cost effective than replacement. In either case, localities should consider providing technical and financial support and have a infill housing advisor that helps with pro forma analysis to show owners what is possible on their specific lot. Local governments must also streamline the approval process for infill housing. Unlike large corporate developers, owners don't have architects to decipher code. Ultimately, the goal is an increased quantity of permit applications and planning approvals leading to increased supply. Regulatory changes alone won't solve affordable housing problems for low and middle-income

renters. The gap between market and affordable rents is too broad, and the only way to provide affordable housing, even for moderate-income households in many markets, is through subsidies and incentives.

Incentives can reduce costs, or increase revenue. Reducing costs, improves the overall ROI, and lowers the entry point for development and viability. Increased revenue helps cash flow or increases profit. Assistance with Labor, Lumber, Lending, or Legal are the avenues for front end incentives, the barriers to housing development. These include grants, low-interest loans, and reductions in permitting costs. While tax credits (income or property) and rent vouchers are back end, increasing profit for developers and supporting demand. Municipalities with less money to throw at housing prefer back end, and that suits larger developers. Back end incentives are beneficial for large developers, or those with the money to push the project through, but for individual homeowners, front end incentives help incite incremental development.

FEDERAL

Looking to history, Section 221 of the Housing Act of 1961, the Below Market Interest Rate (BMIR), insured mortgages and offered low-interest loans to private developers. Section 23 of the Housing and Urban Development Act of 1965, like Section 8 today, subsidized low-income family housing. Section 8 provides vouchers for eligible families to help pay rent. Section 23, however, leased units from private owners, then subleased them to low-income families, seniors, and people with disabilities. In this way, the owner was guaranteed the revenue, and local public housing agencies (PHAs) were responsible for leasing and securing rent from the resident. Section 235 of the Urban Development Act of 1968, helped individual homeowners by reducing mortgage interest payments to as low as 1 percent.

Federally, based on these prior programs, HUD should create a comprehensive consolidated program that works in unison. This approach should provide low-interest construction loans to homeowner/developers, like Section 221, and then provide a consolidated loan, combining the existing mortgage with the development costs, once the unit is complete, like Section 235. Mortgage rates would remain low-interest as long as the units remained available to essential residents in the HERO program. Increased production of any kind, even if targeted to essential residents, opens up more affordable housing as essential residents shuffle within the market, and therefore would be beneficial for the overall housing affordability crisis, and lower-income residents.¹⁰⁸² This front end incentive would lower the price of entry for homeowner/developers. On the back end, this could be coupled with the Low-Income Housing Tax Credit (LIHTC) and local incentives that waive increases in property tax. Through local Public Housing Agencies, HUD can

pay owners the difference between market rate and the tenant contribution, minus the mortgage payment. In this way, the mortgage payment is assured, and the homeowner does not need to follow the traditional lending options for primary mortgages. Under this model, the rental unit would be designated for essential residents, ensuring consistent rental income for the property owner throughout the agreement period, with the option to renew. This arrangement would allow eligible tenants the flexibility to relocate as needed, whether due to changing space requirements or employment opportunities, while the property would maintain its status on the government-sponsored low-income housing inventory list, speeding up placement and minimizing vacancies. The voucher would remain with the unit rather than being tied to the tenant, forming a private-owned public housing stock, and removing risk for homeowners. Those homeowners that already have additional units should be able to opt-in to the program, like Section 23.

Enacting a similar program to section 21 would improve three issues with the pro forma analysis: overpriced rental rates (Table 15-1), undersized units (Table 15-2), and despite these shifts, at more favorable margins that increase owner viability (Table 15-3). Providing low-interest loans to homeowners for incremental development would increase cash flow and reduce DI ratios (Tables 15-17). Reducing the interest rate to 2 percent, which is the Fed's goal for inflation, symbolically sets this as neither a new tax nor a "handout." It is simply a means to an end. For the 350 SF unit in Seattle, it increases cash flow 21 percent, increases unit size by 10 percent, and reduces rental rates from 154 percent over, to market rate (Table 15). While the DI ratio for this scenario is still above 1:3, it decreases from 1:4.8 to 1:4. Which is below the national average of 1:4.3, increasing the potential for owner viability. It also allows for the addition of a 2 BR unit that is affordable to a one ERAI HH tenant. This provides single parent essential residents with children, an affordable and appropriately sized unit in Seattle.

		6.49% Interest			2% Interest & Market Rate
		Monthly Cash Flow		Percent above Market Rate	1 Monthly Cash Flow
3 Units	Studio	225 SF	\$536	136%	\$663
	Studio	265 SF	\$634	136%	\$780
2 Units	Studio	225 SF	\$371	141%	\$409
	Studio	330 SF	\$543	141%	\$598
	1BR	350 SF	\$577	141%	385 SF \$700
1 Unit	Studio	225 SF	\$203	154%	\$155
	Studio	300 SF	\$270	154%	460 SF \$316
	1BR	320 SF	\$289	154%	490 SF \$336
	2BR				490 SF \$336
	2BR	385 SF	\$348	154%	595 SF \$409
	3BR	445 SF	\$402	154%	690 SF \$474
					2 ERAI HH Tenant

TABLE 15: SEATTLE: IMPACT OF INTEREST RATE ON DEVELOPMENT

In Denver, a homeowner that builds a 365 SF affordable Studio unit at 6.49 percent interest, must rent it for 141 percent above market rate per SF, at \$1,370 per month. At 2 percent interest, for the same HUD provided monthly rent limit, the unit is increased to 510 SF (Table 16). Or, the 365 SF unit can rent below the rent limit for \$974 at market rate and remain a viable investment. The benefit to this is that, within the range of 365 SF to 510 SF, a homeowner has the flexibility to adjust the size of the unit to achieve a DI ratio that best fits their unique income level. The monthly "All In" payment for the 365 SF unit, assuming a 30 year note with a 2 percent fixed rate loan, is \$649 per month, and has a monthly cash flow of \$258. The monthly payment for a 510 SF unit with the same terms is \$906, with a positive cash flow of \$361.

In Houston, as the rental rates at 6.49 percent were only slightly higher than market rate, more flexibility between unit sizes and cash flow from the 2 percent interest rate provides homeowners with many options to fit their income levels (Table 17). However, the most common homeowner will likely just develop one unit. Even with the interest reduction, the 225 SF single unit for all markets cash flows between \$150-\$160 per month. That may not be a sufficient return for the effort of constructing and managing a unit. The pro forma provides the cash flow for the project, including all costs. However, while the price of land needs to be accounted for in the viability of the project, a homeowner would not borrow money, or pay themselves back, for land they already own. The pro forma is configured to allow the removal of land costs and return adjusted values. This increases cash flow and increases the lending eligibility of owners. The pro forma allows for the testing of additional scenarios in order to maximize the potential for development, leading to increased supply and availability of affordable units.

		6.49% Interest			2% Interest & Market Rate	
			Monthly Cash Flow	Percent above Market Rate	Monthly Cash Flow	
3 Units	Studio	225 SF	\$383	124%	\$619	
	Studio	345 SF	\$589	124%	\$949	
2 Units	Studio	225 SF	\$266	128%	\$389	
	Studio	395 SF	\$471	128%	\$684	
	1BR	428 SF	\$504	128%	505 SF	\$873
1 Unit	Studio	225 SF	\$146	141%	\$159	
	Studio	365 SF	\$232	141%	510 SF	\$361
	1BR	390 SF	\$252	141%	550 SF	\$388
	2BR	465 SF	\$300	141%	590 SF	\$417
	2BR				660 SF	\$467
	3BR	540 SF	\$349	141%	762 SF	\$539
	MAX	850 SF	\$549	141%	920 SF	\$651
		2 ERAI HH Tenant				

TABLE 16: DENVER: IMPACT OF INTEREST RATE ON DEVELOPMENT

		6.49% Interest			2% Interest & Market Rate	
			Monthly Cash Flow	Percent above Market Rate	Monthly Cash Flow	
3 Units	Studio	225 SF	\$536	136%	\$663	
	Studio	265 SF	\$634	136%	\$780	
2 Units	Studio	225 SF	\$371	141%	\$409	
	Studio	330 SF	\$543	141%	\$598	
	1BR	350 SF	\$577	141%	385 SF	\$700
1 Unit	Studio	225 SF	\$203	154%	\$155	
	Studio	300 SF	\$270	154%	460 SF	\$316
	1BR	320 SF	\$289	154%	490 SF	\$336
	2BR				490 SF	\$336
	2BR	385 SF	\$348	154%	595 SF	\$409
	3BR	445 SF	\$402	154%	690 SF	\$474
2 ERAI HH Tenant						

TABLE 17: HOUSTON: IMPACT OF INTEREST RATE ON DEVELOPMENT

OPTIMAL DEVELOPMENT CONDITIONS

Assuming the revised or replaced legislation allowing the development of additional units has been adopted at the local level, and assuming the proposed lending program based on Section 221 of the 1961 Housing Act has passed on the federal level, the variables of the pro forma can be manipulated towards optimization. The goals of this optimization are owner, tenant, and unit viability. For owner viability, the interest rate will be set at 2 percent, and while the unit must be theoretically viable including the land, land cost payments will be excluded from the cash flow. The national average DI ratio is 1:4.3,¹⁰⁸³ and will form the upper limit for development viability, while 3.0 or lower is still preferred. All options are for single unit development with larger units assumed to be viable with either two ERAI owners or two ERAI tenants where needed. Otherwise, rents are affordable for 60 percent AMI, to maximize eligibility for government programs, and also ERAI. As was noted, it is common for rents of newly constructed units to exceed the market rate. Mamre and Sommervoll (2024) find that newly renovated units rent for a 5 percent - 7 percent premium over average priced units.¹⁰⁸⁴ This scenario testing allowed for a 10 percent premium for new construction, and use the HUD rent limits for each market as a constant. Unit areas were derived, based on viability at local development costs. After multiple scenarios were tested, Table 18 includes a minimum sized unit, a Studio or Efficiency, a one bedroom unit, and a two bedroom unit for each market.

At the listed sizes and rental rates, no option provided sufficient cash flow for a Debt Rate Coverage Ratio of 1.25 when including the cost of land at 6.49 percent interest. And simply removing land from these non-viable options produced meager positive cash flow, most still below the DRCR of 1.25. However, all options were viable with 2 percent interest, and including land.

Land costs were then removed from the pro forma to create more accurate cash flow calculations. Using the viability thresholds above, essential resident homeowners, and essential resident tenants would qualify in all scenarios.

60% AMI				6.49% - Land	2% - Land	2% - Land DI Ratio	
Rent Limit				Cash Flow	Cash Flow	1 ERAI	2 ERAI
Seattle	Studio	225 SF	\$840*	\$45	\$323	3.3	3.0
	Studio	420 SF	\$1,581	\$96	\$615	3.9	3.3
	1BR	450 SF	\$1,694	\$102	\$659	4.0	3.3
	2BR	545 SF	\$2,034	\$108	\$781	4.2	3.5
Denver	Studio	225 SF	\$660*	\$87	\$286	3.3	3.0
	Studio	465 SF	\$1,369	\$184	\$595	3.8	3.3
	1BR	500 SF	\$1,467	\$193	\$635	3.9	3.3
	2BR	600 SF	\$1,761	\$232	\$763	4.0	3.5
Houston	Studio	225 SF	\$460*	\$113	\$232	2.9	2.7
	Studio	485 SF	\$994	\$246	\$502	3.2	2.9
	1BR	520 SF	\$1,065	\$263	\$538	3.2	2.9
	2BR	625 SF	\$1,278	\$314	\$644	3.3	3.0

Note: Allows 110% market rent for new construction, 2 BR are 2 ERAI * Rent, not limit

TABLE 18: OPTIMAL DEVELOPMENT CONDITIONS

The existing average studio efficiency in the three representative markets was 484 SF, as was shown in Table 11. Using this one sized unit, given the HUD rent limit for such units and spreading it to the nine case cities, the unit is not viable with today's interest rates, nor, if viable, would it be affordable for someone earning the ERAI in markets with higher WRLURI levels (Figure 46). Additionally, while the unit is close to viability in some markets, simply being viable isn't sufficient to spur development. Homeowners must find a return on their investment. At 2 percent interest, this unit is both viable and affordable for a single ERAI household, and it returns a cash flow to mitigate the additional costs of increased maintenance, insurance, and potential property tax increases (Figure 47, Figure 48).

SUMMATION

Well-conceived land use policies have far-reaching implications for the safety, health, and sustainability of urban environments. Incremental development retains less expensive existing housing while adding supply to the market in absolute terms. By increasing density and supply, and prioritizing mixed-use developments and cost efficient infrastructure, cities can create vibrant, economically resilient communities that are better equipped to meet the challenges of the future. Additionally, land use policies that prioritize this increased density, can help address issues of housing affordability and reduce the risk of homelessness by reducing housing instability. But, economic conditions for development are not ideal, and a project must be viable for homeowners

and tenants. Policymakers, urban planners, and community organizations must work together to ensure the availability and affordability of housing, by incentivizing production at the front end. Land use policies are a powerful tool that can either mitigate or exacerbate the vulnerabilities faced by urban residents. By carefully considering the impacts of these policies on housing, economic opportunities, safety, and food security, urban planners and policymakers can create more equitable, resilient, and thriving communities. This research adds to the growing scholarship by demonstrating and documenting, through viability testing, the continued barriers to incremental development. It also adds a face, essential residents, to efforts that increase affordability, rather than bland lingo for policy wonks. People care about people. Finally, it provides a potential path forward, if there is a modicum of coordinated policies at the federal, state, and local levels. (See the appendix for final static pro formas for each case city.)

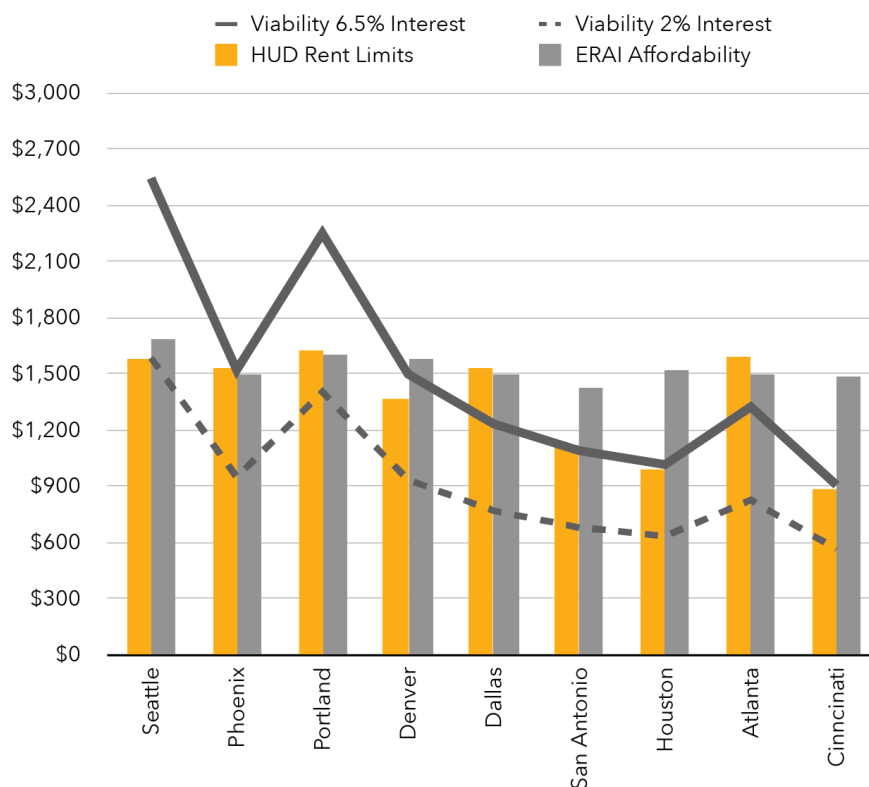


FIGURE 46: VIABILITY: AVERAGE SIZED STUDIO EFFICIENCY (484 SF)

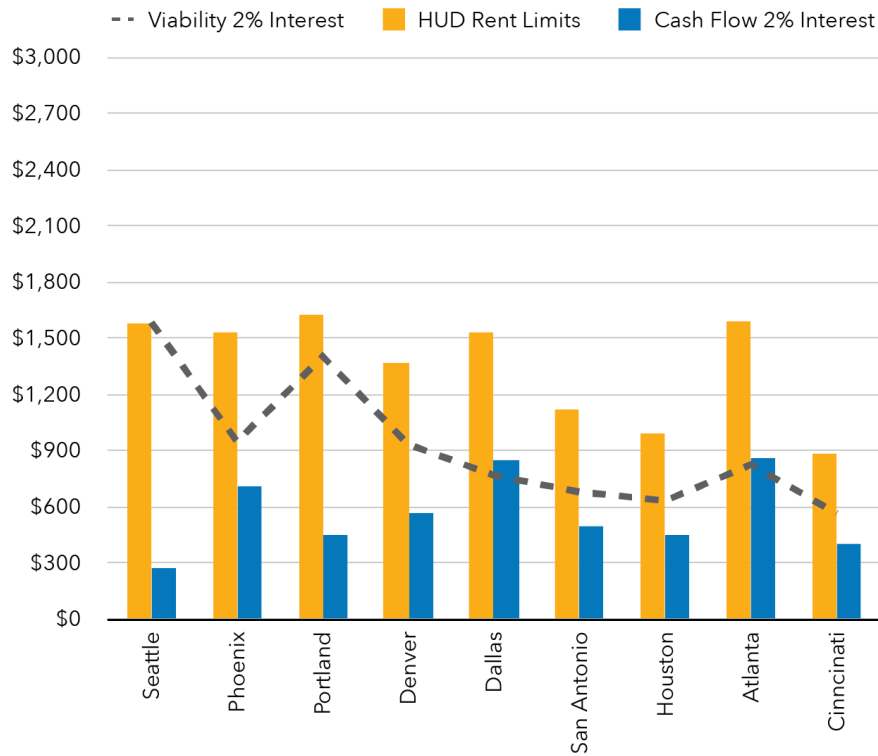


FIGURE 47: PROFITABILITY: AVERAGE SIZED STUDIO EFFICIENCY (484 SF)

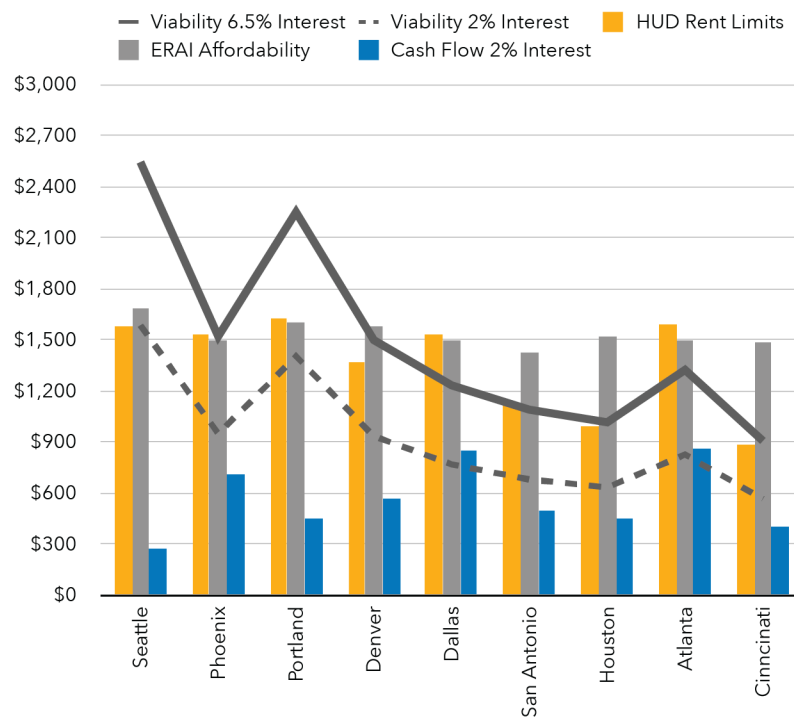


FIGURE 48: VIABILITY & PROFITABILITY: AVERAGE SIZED STUDIO EFFICIENCY (484 SF)

ADDITIONAL CONSIDERATIONS

There are aspects, included in this research, that could be expanded upon, such as Parking Requirements, Neighborhood Scale and Character, and Infrastructure. Parking requirements for infill housing limit valuable developable land and, on average, add 12.5 percent to development costs of affordable units, as was noted in Chapter Two. This has received considerable attention for those interested in a more detailed analysis. See: Schwartz (2021);¹⁰⁸⁵ Shoup (2018);¹⁰⁸⁶ Gabbe, Pierce, and Clowers (2020);¹⁰⁸⁷ Hananouchi and Nuworsoo (2010);¹⁰⁸⁸ Lehe (2018);¹⁰⁸⁹ Litman (2014);¹⁰⁹⁰ McDonnel, Madar, and Been (2011);¹⁰⁹¹ and for some of the early research, Shoup and Pickrell (1978). Neighborhood scale and character can encompass access to daylight from new housing, privacy issues, or the livability of an existing neighborhood. Neighborhood character can be thought of as the residents that live in a neighborhood, or the morphology, I discuss both in Chapter Three. For the former, my research discusses displacement, access to jobs and amenities, and safety of a neighborhood. For the latter, I explain how form-based codes can be used to codify scale and proportion to maintain the morphological scale and character in existing neighborhoods.

There is extensive research on this subject from: Fischel (2004);¹⁰⁹² Talen;¹⁰⁹³ Wegmann (2020);¹⁰⁹⁴ and Shaw (2018)¹⁰⁹⁵. For daylight and privacy, I would defer to existing codes. My perspective is that the height restrictions that exist can remain as the neighborhood begins to densify incrementally. There are typically solar access regulations to create increased setbacks or developmental envelopes to ensure one property does not block solar access to another. Again, I believe this can remain in place. When maintaining existing height, setback, and solar access is not changing the existing conditions of development, there should not be valid concerns for privacy. If someone lives up the hill or had built their house deeper into their lot, allowing visibility of the rear yard of their neighbor, and that was not considered in violation of existing regulations, then it should not be in violation of infill development policies. It's important to remember that were it not for the questionable legal maneuvers that used contingency events in order to push through segregationist policies, it is not constitutionally legal for one person to prohibit development on the lot of another, and certainly not due to one's perceived right to privacy in their back yard. As much as some may feel slighted, this is a common aspect of city life, especially as a city evolves.

Finally, for any increased burden on neighborhood infrastructure, it is more costly to build-out new infrastructure at the periphery than increasing capacity closer to the city center, as discussed in Chapter Four.¹⁰⁹⁶ Beske & Dixon (2018),¹⁰⁹⁷ Nelson (2022),¹⁰⁹⁸ and Prieto et.al. (2015)¹⁰⁹⁹ all find that this is a more efficient development pattern with incremental long-term benefits for roads, schools, and utilities.

APPENDIX

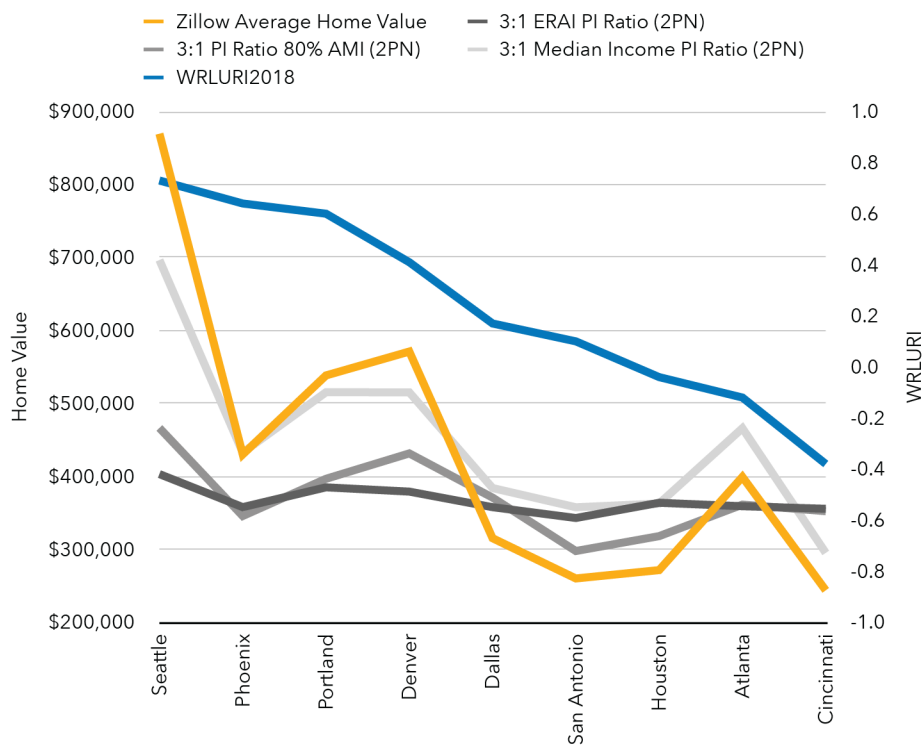


FIGURE 49: CASE CITIES: PI RATIO FOR ZILLOW AVERAGE PRICED HOME AND WRLURI

FUNDING FOR STATES AND MUNICIPALITIES	
Low Income Housing Tax Credit	Tax credits for the purchase, renovation, or construction of new rental housing targeted for lower-income households.
Mortgage Revenue Bonds	Private tax-free bonds sold to investors to help finance home mortgages for eligible buyers, creating an interest rate subsidy for homebuyers.
Community Development Block Grants	Intended to improve communities, by funding housing, neighborhood improvements, and economic development for residents, 70% of which must be allocated for low- and moderate-income groups.
HOME Block Grants	A HUD housing block grant program to increase the supply of affordable housing for low-income families. 60% goes to participating jurisdictions and the remaining 40% goes to states. Requires a 25% match from grantees, and 90% of funds must help families earning 60% or less of the area's median income. HOME funds serve four main purposes: repair owner-occupied homes, homebuyer assistance, construction and rehabilitation of rental housing, and rental assistance for tenants.

Housing Trust Fund	A HUD block grant program 90% focused on rental housing, 10% for first-time homebuyers. The HTF is similar to the HOME program but has stricter rules. It targets rental housing more directly.
Homeless Assistance Grants	HUD managed grants to fund housing and services for homeless people.
Housing Opportunities for Persons with AIDS	Provides housing for people with AIDS and related illnesses.
The Native American Housing Assistance and Self-Determination Act of 1996	Block grant program for housing assistance to Native Americans separate from the public housing program, that recognizes the right of Indian self-determination and tribal self-governance.
HOUSING FINANCE AND HOMEOWNERSHIP ASSISTANCE	
Federal Housing Administration	Insurance that protects lenders if borrowers default and helps people get loans, especially those with small down payments or limited credit history. Covers single-family homes and multifamily buildings, including apartments, hospitals, and nursing homes.
Department of Veterans Affairs Loan Guarantees	A Department of Veterans Affairs program that insures mortgages from private lenders that helps veterans buy, build, or refinance homes.
Department of Agriculture Rural Homeownership Programs	A USDA loan programs to finance or repair rural owner-occupied and rental homes.
Federal Home Loan Banks' Affordable Housing and Community Investment Programs	Eleven regional banks and an Office of Finance that lends money to savings and loan associations, commercial banks, credit unions, and insurance companies to help very low- and low-income households rent or buy homes and community development projects.
Capital Magnet Fund	A Treasury Department managed fund that helps finance affordable housing and community development. CMF funds can support both rental and homeownership for low-income households. The program aims to attract other funding sources, bringing in at least 10 times its value from elsewhere. Fannie Mae and Freddie Mac fund the CMF, not taxpayers.
Mortgage Interest Deduction	Allows homeowners to reduce their taxable income by deducting mortgage interest.

TABLE 19: CURRENT SOURCES OF FEDERAL FUNDING

PRO FORMA ANALYSIS: Descriptions of the table format can be found in Chapter Four: Viability Analysis. Each table represents the optimal developmental conditions shown in Table 18.

SEATTLE

RENTAL VIABILITY

SEATTLE, WASHINGTON

PROJECT VITALS		Project Viability		VIABLE
Total Area	225 SF			
Number of Units	1			
Unit Size	225 SF			
Per Unit Monthly Rent	\$840			
Resultant Lot Size (RLV / Land Costs)	0 SF			
Required Stories at <50% Coverage	1			
OWNER VIABILITY		YES	Target	Project
Number of Owners	1			
Required Cash Down Payment	\$26,564			
Total Debt	\$106,256			
Minimum Required Income (No Debt)	\$35,419			
Monthly All In Payment	\$459			
Total Median Income	\$116,068			
Total ERAI	\$67,171			
Mortgage as Percent Median Income	5%			
Mortgage as Percent ERAI	8%			
PI Ratio Median Income	0.9			
PI Ratio ERAI	1.6			
LOCATION CHARACTERISTICS				
Median Remaining Land at 50% Coverage				1,050 SF
Value at Median Land Cost				\$136,720
TENANT VIABILITY		YES	Target	Project
Number of Residents per Unit				1
Rent as Percent Median Income		30%		9%
Rent as Percent ERAI		30%		15%
Rent as Percent of 60% AMI		30%		14%
UNIT VIABILITY		YES	Target	Project
Total Rent Required for Viability		\$605		\$840
Per Unit Monthly Rent for Viability		\$605		\$840
Compared to Local Rent per SF		100%		110%
Affordable for Total Median Income		\$2,902		\$840
Affordable for Total ERAI		\$1,679		\$840
Debt Service Coverage Ratio (DSCR)		1.25		1.82
Monthly Cash Flow		\$105		\$323

PROJECT COSTS

Unit Size (SF) & Number of Units		225 SF	1
Land Included: 1 Yes, 0 No			0
	Cost	of Total	\$ / sf
Hard Costs	\$98,241	74.0%	\$437
Soft Costs	\$34,578	26.0%	
Residual Land Value	\$1	0.0%	\$130
Total Project Cost (TPC)	\$132,820	100%	\$590
COMPARIBLES			
Median Construction Costs		\$437	
Variable		-	
Median Available Land Costs \$ / sf		\$130	
New Homes October 2024		\$709	
Local Rents		\$3.40 / sf	

OPERATING ASSUMPTIONS

Per Unit Monthly Rent	\$840	\$3.73 / sf	OTHER FEES (ADU Only)	
Annual Rent Increase	2.5%		Property Tax Increase	\$664
Annual Vacancy Rate	2%	7 days / year		
Annual Operating Costs	5%	\$494 / year	Annual Home Insurance	\$66
Annual Costs Escalation	2.5%		Annual Flood Insurance	\$66
Post Build Increase	10%			
Appreciation Rate	2.5%			

PROJECT FINANCING

Financing for ADU	Yes		
FINANCING TERMS		Income Earning Owners	1
Loan Downpayment %	20%		
Loan Term (Years)	30		
Rate of Interest	2.00%		
Loan Amount	\$106,256		
FINANCING OUTPUTS		Down Payment	\$26,564
		Monthly P+I Payment	\$393
		Monthly All In Payment	\$459
		Total Interest Paid	\$35,131
		Total Loan Cost	\$141,387

REVENUE ASSUMPTIONS

RESIDENT CHARACTERISTICS		UNIT CHARACTERISTICS	
Income Earning Residents per Unit	1	Total Rent Required for Viability	\$605
Total Median Income per unit	\$116,068	Per Unit Monthly Rent for Viability	\$605
Total ERAI per Unit	\$67,171		
Affordable for Total Median Income	\$2902		
Affordable for Total ERAI	\$1679		

RENTAL VIABILITY

SEATTLE, WASHINGTON

PROJECT VITALS		Project Viability		VIABLE
Total Area	420 SF	LOCATION CHARACTERISTICS		
Number of Units	1	Median Remaining Land at 50% Coverage		
Unit Size	420 SF	Value at Median Land Cost		
Per Unit Monthly Rent	\$1,581	TENANT VIABILITY		
Resultant Lot Size (RLV / Land Costs)	0 SF	YES	Target	Project
Required Stories at <50% Coverage	1	Number of Residents per Unit		1
OWNER VIABILITY		YES		
Number of Owners	1	Rent as Percent Median Income	30%	16%
Required Cash Down Payment	\$49,586	Rent as Percent ERAI	30%	28%
Total Debt	\$198,343	Rent as Percent of 60% AMI	30%	27%
Minimum Required Income (No Debt)	\$66,114	UNIT VIABILITY		
Monthly All In Payment	\$857	YES	Target	Project
Total Median Income	\$116,068	Total Rent Required for Viability	\$1,129	\$1,581
Total ERAI	\$67,171	Per Unit Monthly Rent for Viability	\$1,129	\$1,581
Mortgage as Percent Median Income	9%	Compared to Local Rent per SF	100%	111%
Mortgage as Percent ERAI	15%	Affordable for Total Median Income	\$2,902	\$1,581
PI Ratio Median Income	1.7	Affordable for Total ERAI	\$1,679	\$1,581
PI Ratio ERAI	3.0	Debt Service Coverage Ratio (DSCR)	1.25	1.84
		Monthly Cash Flow	\$198	\$615

PROJECT COSTS

Unit Size (SF) & Number of Units		420 SF	1
Land Included: 1 Yes, 0 No		0	
		Cost	of Total \$ / sf
Hard Costs	\$183,383	74.0%	\$437
Soft Costs	\$64,546	26.0%	
Residual Land Value	\$1	0.0%	\$130
Total Project Cost (TPC)	\$247,929	100%	\$590
		COMPARIBLES	
		Median Construction Costs	\$437
		Variable	-
		Median Available Land Costs \$ / sf	\$130
		New Homes October 2024	\$709
		Local Rents	\$3.40 / sf

OPERATING ASSUMPTIONS

Per Unit Monthly Rent	\$1,581	\$3.76 / sf	OTHER FEES (ADU Only)	
Annual Rent Increase	2.5%		Property Tax Increase	\$1,240
Annual Vacancy Rate	2%	7 days / year		
Annual Operating Costs	5%	\$930 / year	Annual Home Insurance	\$124
Annual Costs Escalation	2.5%		Annual Flood Insurance	\$124
Post Build Increase	10%			
Appreciation Rate	2.5%			

PROJECT FINANCING

Financing for ADU	Yes	Income Earning Owners	1
FINANCING TERMS		FINANCING OUTPUTS	
Loan Downpayment %	20%	Down Payment	\$49,586
Loan Term (Years)	30	Monthly P+I Payment	\$733
Rate of Interest	2.00%	Monthly All In Payment	\$857
Loan Amount	\$198,343	Total Interest Paid	\$65,578
		Total Loan Cost	\$263,922

REVENUE ASSUMPTIONS

RESIDENT CHARACTERISTICS		UNIT CHARACTERISTICS	
Income Earning Residents per Unit	1	Total Rent Required for Viability	\$1,129
Total Median Income per unit	\$116,068	Per Unit Monthly Rent for Viability	\$1,129
Total ERAI per Unit	\$67,171		
Affordable for Total Median Income	\$2902		
Affordable for Total ERAI	\$1679		

RENTAL VIABILITY

SEATTLE, WASHINGTON

PROJECT VITALS		Project Viability		VIABLE
Total Area	450 SF	LOCATION CHARACTERISTICS		
Number of Units	1	Median Remaining Land at 50% Coverage	1,050 SF	
Unit Size	450 SF	Value at Median Land Cost	\$136,720	
Per Unit Monthly Rent	\$1,694	TENANT VIABILITY		
Resultant Lot Size (RLV / Land Costs)	0 SF	YES	Target	Project
Required Stories at <50% Coverage	1	Number of Residents per Unit		1
OWNER VIABILITY		YES		
Number of Owners	2	Rent as Percent Median Income	30%	18%
Required Cash Down Payment	\$53,128	Rent as Percent ERAI	30%	30%
Total Debt	\$212,511	Rent as Percent of 60% AMI	30%	29%
Minimum Required Income (No Debt)	\$70,837	UNIT VIABILITY		
Monthly All In Payment	\$918	YES	Target	Project
Total Median Income	\$232,136	Total Rent Required for Viability	\$1,210	\$1,694
Total ERAI	\$134,342	Per Unit Monthly Rent for Viability	\$1,210	\$1,694
Mortgage as Percent Median Income	5%	Compared to Local Rent per SF	100%	110.6%
Mortgage as Percent ERAI	8%	Affordable for Total Median Income	\$2,902	\$1,694
PI Ratio Median Income	0.9	Affordable for Total ERAI	\$1,679	\$1,694
PI Ratio ERAI	1.6	Debt Service Coverage Ratio (DSCR)	1.25	1.84
		Monthly Cash Flow	\$212	\$659

PROJECT COSTS

Unit Size (SF) & Number of Units	450 SF	1
Land Included: 1 Yes, 0 No		0

	Cost	of Total	\$ / sf
Hard Costs	\$196,481	74.0%	\$437
Soft Costs	\$69,156	26.0%	
Residual Land Value	\$1	0.0%	\$130
Total Project Cost (TPC)	\$265,638	100%	\$590

COMPARIBLES	
Median Construction Costs	\$437
Variable	-
Median Available Land Costs \$ / sf	\$130
New Homes October 2024	\$709
Local Rents	\$3.40 / sf

OPERATING ASSUMPTIONS

Per Unit Monthly Rent	\$1,694	\$3.76 / sf	OTHER FEES (ADU Only)	
Annual Rent Increase	2.5%		Property Tax Increase	\$1,328
Annual Vacancy Rate	2%	7 days / year		
Annual Operating Costs	5%	\$996 / year	Annual Home Insurance	\$133
Annual Costs Escalation	2.5%		Annual Flood Insurance	\$133
Post Build Increase	10%			
Appreciation Rate	2.5%			

PROJECT FINANCING

Financing for ADU	Yes	Income Earning Owners	2
FINANCING TERMS		FINANCING OUTPUTS	
Loan Downpayment %	20%	Down Payment	\$53,128
Loan Term (Years)	30	Monthly P+I Payment	\$785
Rate of Interest	2.00%	Monthly All In Payment	\$918
Loan Amount	\$212,511	Total Interest Paid	\$70,262
		Total Loan Cost	\$282,773

REVENUE ASSUMPTIONS

RESIDENT CHARACTERISTICS		UNIT CHARACTERISTICS	
Income Earning Residents per Unit	1	Total Rent Required for Viability	\$1,210
Total Median Income per unit	\$116,068	Per Unit Monthly Rent for Viability	\$1,210
Total ERAI per Unit	\$67,171		
Affordable for Total Median Income	\$2902		
Affordable for Total ERAI	\$1679		

RENTAL VIABILITY

SEATTLE, WASHINGTON

PROJECT VITALS		Project Viability		VIABLE
Total Area	545 SF			
Number of Units	1			
Unit Size	545 SF			
Per Unit Monthly Rent	\$2,034			
Resultant Lot Size (RLV / Land Costs)	0 SF			
Required Stories at <50% Coverage	2			
OWNER VIABILITY		YES	Target	Project
Number of Owners	2			
Required Cash Down Payment	\$64,344			
Total Debt	\$257,374			
Minimum Required Income (No Debt)	\$85,791			
Monthly All In Payment	\$1,112			
Total Median Income	\$232,136			
Total ERAI	\$134,342			
Mortgage as Percent Median Income	6%			
Mortgage as Percent ERAI	10%			
PI Ratio Median Income	1.1			
PI Ratio ERAI	1.9			
LOCATION CHARACTERISTICS				
Median Remaining Land at 50% Coverage			1,050 SF	
Value at Median Land Cost			\$136,720	
TENANT VIABILITY		YES	Target	Project
Number of Residents per Unit				2
Rent as Percent Median Income		30%		11%
Rent as Percent ERAI		30%		18%
Rent as Percent of 60% AMI		30%		35%
UNIT VIABILITY		YES	Target	Project
Total Rent Required for Viability		\$1,465		\$2,034
Per Unit Monthly Rent for Viability		\$1,465		\$2,034
Compared to Local Rent per SF		100%		109.6%
Affordable for Total Median Income		\$5,803		\$2,034
Affordable for Total ERAI		\$3,359		\$2,034
Debt Service Coverage Ratio (DSCR)		1.25		1.82
Monthly Cash Flow		\$254		\$781

PROJECT COSTS

Unit Size (SF) & Number of Units		545 SF	1
Land Included: 1 Yes, 0 No			0
	Cost	of Total	\$ / sf
Hard Costs	\$237,961	74.0%	\$437
Soft Costs	\$83,756	26.0%	
Residual Land Value	\$1	0.0%	\$130
Total Project Cost (TPC)	\$321,718	100%	\$590
COMPARIBLES			
Median Construction Costs		\$437	
Variable		-	
Median Available Land Costs \$ / sf		\$130	
New Homes October 2024		\$709	
Local Rents		\$3.40 / sf	

OPERATING ASSUMPTIONS

Per Unit Monthly Rent	\$2,034	\$3.73 / sf	OTHER FEES (ADU Only)	
Annual Rent Increase	2.5%		Property Tax Increase	\$1,609
Annual Vacancy Rate	2%	7 days / year		
Annual Operating Costs	5%	\$1,196 / year	Annual Home Insurance	\$161
Annual Costs Escalation	2.5%		Annual Flood Insurance	\$161
Post Build Increase	10%			
Appreciation Rate	2.5%			

PROJECT FINANCING

Financing for ADU	Yes	Income Earning Owners	2
FINANCING TERMS		FINANCING OUTPUTS	
Loan Downpayment %	20%	Down Payment	\$64,344
Loan Term (Years)	30	Monthly P+I Payment	\$951
Rate of Interest	2.00%	Monthly All In Payment	\$1,112
Loan Amount	\$257,374	Total Interest Paid	\$85,096
		Total Loan Cost	\$342,470

REVENUE ASSUMPTIONS

RESIDENT CHARACTERISTICS		UNIT CHARACTERISTICS	
Income Earning Residents per Unit	2	Total Rent Required for Viability	\$1,465
Total Median Income per unit	\$232,136	Per Unit Monthly Rent for Viability	\$1,465
Total ERAI per Unit	\$134,342		
Affordable for Total Median Income	\$5803		
Affordable for Total ERAI	\$3359		

DENVER

RENTAL VIABILITY

PROJECT VITALS			
Total Area	225 SF		
Number of Units	1		
Unit Size	225 SF		
Per Unit Monthly Rent	\$660		
Resultant Lot Size (RLV / Land Costs)	0 SF		
Required Stories at <50% Coverage	1		
OWNER VIABILITY		YES	
Number of Owners	1		
Required Cash Down Payment	\$19,015		
Total Debt	\$76,059		
Minimum Required Income (No Debt)	\$25,353		
Monthly All In Payment	\$329		
Total Median Income	\$85,853		
Total ERAI	\$63,171		
Mortgage as Percent Median Income	5%		
Mortgage as Percent ERAI	6%		
PI Ratio Median Income	0.9		
PI Ratio ERAI	1.2		

Project Viability		VIABLE		
LOCATION CHARACTERISTICS				
Median Remaining Land at 50% Coverage		1,100 SF		
Value at Median Land Cost		\$94,969		
TENANT VIABILITY		YES	Target	Project
Number of Residents per Unit				1
Rent as Percent Median Income			30%	9%
Rent as Percent ERAI			30%	13%
Rent as Percent of 60% AMI			30%	15%
UNIT VIABILITY		YES	Target	Project
Total Rent Required for Viability			\$433	\$660
Per Unit Monthly Rent for Viability			\$433	\$660
Compared to Local Rent per SF			100%	109.9%
Affordable for Total Median Income			\$2,146	\$660
Affordable for Total ERAI			\$1,579	\$660
Debt Service Coverage Ratio (DSCR)			1.25	2.02
Monthly Cash Flow			\$83	\$286

PROJECT COSTS

Unit Size (SF) & Number of Units	225 SF	1
Land Included: 1 Yes, 0 No	0	

RENTAL VIABILITY

DENVER, COLORADO

PROJECT VITALS		Project Viability		VIABLE
Total Area	465 SF			
Number of Units	1			
Unit Size	465 SF			
Per Unit Monthly Rent	\$1,369			
Resultant Lot Size (RLV / Land Costs)	0 SF			
Required Stories at <50% Coverage	1			
OWNER VIABILITY		YES	Target	Project
Number of Owners	1			
Required Cash Down Payment	\$39,297		30%	19%
Total Debt	\$157,189		30%	26%
Minimum Required Income (No Debt)	\$52,396		30%	32%
Monthly All In Payment	\$679			
Total Median Income	\$85,853			
Total ERAI	\$63,171			
Mortgage as Percent Median Income	9%			
Mortgage as Percent ERAI	13%			
PI Ratio Median Income	1.8			
PI Ratio ERAI	2.5			
LOCATION CHARACTERISTICS				
Median Remaining Land at 50% Coverage				1,100 SF
Value at Median Land Cost				\$94,969
TENANT VIABILITY		YES	Target	Project
Number of Residents per Unit				1
Rent as Percent Median Income			30%	19%
Rent as Percent ERAI			30%	26%
Rent as Percent of 60% AMI			30%	32%
UNIT VIABILITY		YES	Target	Project
Total Rent Required for Viability			\$895	\$1,369
Per Unit Monthly Rent for Viability			\$895	\$1,369
Compared to Local Rent per SF			100%	110.3%
Affordable for Total Median Income			\$2,146	\$1,369
Affordable for Total ERAI			\$1,579	\$1,369
Debt Service Coverage Ratio (DSCR)			1.25	2.02
Monthly Cash Flow			\$171	\$595

PROJECT COSTS

Unit Size (SF) & Number of Units	465 SF	1
Land Included: 1 Yes, 0 No		0

	Cost	of Total	\$ / sf
Hard Costs	\$145,332	74.0%	\$313
Soft Costs	\$51,153	26.0%	
Residual Land Value	\$1	0.0%	\$86
Total Project Cost (TPC)	\$196,486	100%	\$423

COMPARIBLES	
Median Construction Costs	\$313
Variable	-
Median Available Land Costs \$ / sf	\$86
New Homes October 2024	\$471
Local Rents	\$2.67 / sf

OPERATING ASSUMPTIONS

Per Unit Monthly Rent	\$1,369	\$2.94 / sf
Annual Rent Increase	2.5%	
Annual Vacancy Rate	2%	7 days / year
Annual Operating Costs	5%	\$805 / year
Annual Costs Escalation	2.5%	
Post Build Increase	10%	
Appreciation Rate	2.5%	

OTHER FEES (ADU Only)	
Property Tax Increase	\$982
Annual Home Insurance	\$98
Annual Flood Insurance	\$98

PROJECT FINANCING

Financing for ADU	Yes	Income Earning Owners	1
FINANCING TERMS		FINANCING OUTPUTS	
Loan Downpayment %	20%	Down Payment	\$39,297
Loan Term (Years)	30	Monthly P+I Payment	\$581
Rate of Interest	2.00%	Monthly All In Payment	\$679
Loan Amount	\$157,189	Total Interest Paid	\$51,971
		Total Loan Cost	\$209,160

REVENUE ASSUMPTIONS

RESIDENT CHARACTERISTICS		UNIT CHARACTERISTICS	
Income Earning Residents per Unit	1	Total Rent Required for Viability	\$895
Total Median Income per unit	\$85,853	Per Unit Monthly Rent for Viability	\$895
Total ERAI per Unit	\$63,171		
Affordable for Total Median Income	\$2146		
Affordable for Total ERAI	\$1579		

RENTAL VIABILITY

DENVER, COLORADO

PROJECT VITALS		Project Viability		VIABLE
Total Area	500 SF			
Number of Units	1			
Unit Size	500 SF			
Per Unit Monthly Rent	\$1,467			
Resultant Lot Size (RLV / Land Costs)	0 SF			
Required Stories at <50% Coverage	1			
OWNER VIABILITY		YES	Target	Project
Number of Owners	1			
Required Cash Down Payment	\$42,255			
Total Debt	\$169,020			
Minimum Required Income (No Debt)	\$56,340			
Monthly All In Payment	\$730			
Total Median Income	\$85,853			
Total ERAI	\$63,171			
Mortgage as Percent Median Income	10%			
Mortgage as Percent ERAI	14%			
PI Ratio Median Income	2.0			
PI Ratio ERAI	2.7			
LOCATION CHARACTERISTICS				
Median Remaining Land at 50% Coverage	1,100 SF			
Value at Median Land Cost	\$94,969			
TENANT VIABILITY		YES	Target	Project
Number of Residents per Unit	1			
Rent as Percent Median Income	30%		21%	
Rent as Percent ERAI	30%		28%	
Rent as Percent of 60% AMI	30%		34%	
UNIT VIABILITY		YES	Target	Project
Total Rent Required for Viability	\$962		\$1,467	
Per Unit Monthly Rent for Viability	\$962		\$1,467	
Compared to Local Rent per SF	100%		110.0%	
Affordable for Total Median Income	\$2,146		\$1,467	
Affordable for Total ERAI	\$1,579		\$1,467	
Debt Service Coverage Ratio (DSCR)	1.25		2.02	
Monthly Cash Flow	\$183		\$635	

PROJECT COSTS

Unit Size (SF) & Number of Units	500 SF	1
Land Included: 1 Yes, 0 No	0	

	Cost	of Total	\$ / sf
Hard Costs	\$156,271	74.0%	\$313
Soft Costs	\$55,003	26.0%	
Residual Land Value	\$1	0.0%	\$86
Total Project Cost (TPC)	\$211,275	100%	\$423

COMPARIBLES	
Median Construction Costs	\$313
Variable	-
Median Available Land Costs \$ / sf	\$86
New Homes October 2024	\$471
Local Rents	\$2.67 / sf

OPERATING ASSUMPTIONS

Per Unit Monthly Rent	\$1,467	\$2.93 / sf
Annual Rent Increase	2.5%	
Annual Vacancy Rate	2%	7 days / year
Annual Operating Costs	5%	\$863 / year
Annual Costs Escalation	2.5%	
Post Build Increase	10%	
Appreciation Rate	2.5%	

OTHER FEES (ADU Only)	
Property Tax Increase	\$1,056
Annual Home Insurance	\$106
Annual Flood Insurance	\$106

PROJECT FINANCING

Financing for ADU	Yes	Income Earning Owners	1
FINANCING TERMS		FINANCING OUTPUTS	
Loan Downpayment %	20%	Down Payment	\$42,255
Loan Term (Years)	30	Monthly P+I Payment	\$625
Rate of Interest	2.00%	Monthly All In Payment	\$730
Loan Amount	\$169,020	Total Interest Paid	\$55,883
		Total Loan Cost	\$224,903

REVENUE ASSUMPTIONS

RESIDENT CHARACTERISTICS		UNIT CHARACTERISTICS	
Income Earning Residents per Unit	1	Total Rent Required for Viability	\$962
Total Median Income per unit	\$85,853	Per Unit Monthly Rent for Viability	\$962
Total ERAI per Unit	\$63,171		
Affordable for Total Median Income	\$2146		
Affordable for Total ERAI	\$1579		

RENTAL VIABILITY

DENVER, COLORADO

PROJECT VITALS		Project Viability		VIABLE
Total Area	600 SF			
Number of Units	1			
Unit Size	600 SF			
Per Unit Monthly Rent	\$1,761			
Resultant Lot Size (RLV / Land Costs)	0 SF			
Required Stories at <50% Coverage	2			
OWNER VIABILITY		YES	Target	Project
Number of Owners	2			
Required Cash Down Payment	\$50,706			
Total Debt	\$202,824			
Minimum Required Income (No Debt)	\$67,608			
Monthly All In Payment	\$876			
Total Median Income	\$171,706			
Total ERAI	\$126,342			
Mortgage as Percent Median Income	6%			
Mortgage as Percent ERAI	8%			
PI Ratio Median Income	1.2			
PI Ratio ERAI	1.6			
LOCATION CHARACTERISTICS				
Median Remaining Land at 50% Coverage	1,100 SF			
Value at Median Land Cost	\$94,969			
TENANT VIABILITY		YES	Target	Project
Number of Residents per Unit	2			
Rent as Percent Median Income	30%		12%	
Rent as Percent ERAI	30%		17%	
Rent as Percent of 60% AMI	30%		41%	
UNIT VIABILITY		YES	Target	Project
Total Rent Required for Viability	\$1,155		\$1,761	
Per Unit Monthly Rent for Viability	\$1,155		\$1,761	
Compared to Local Rent per SF	100%		110.0%	
Affordable for Total Median Income	\$4,293		\$1,761	
Affordable for Total ERAI	\$3,159		\$1,761	
Debt Service Coverage Ratio (DSCR)	1.25		2.02	
Monthly Cash Flow	\$220		\$763	

PROJECT COSTS

Unit Size (SF) & Number of Units	600 SF	1
Land Included: 1 Yes, 0 No	0	

	Cost	of Total	\$ / sf	COMPARIBLES	
Hard Costs	\$187,525	74.0%	\$313	Median Construction Costs	\$313
Soft Costs	\$66,004	26.0%		Variable	-
Residual Land Value	\$1	0.0%	\$86	Median Available Land Costs \$ / sf	\$86
Total Project Cost (TPC)	\$253,530	100%	\$423	New Homes October 2024	\$471
				Local Rents	\$2.67 / sf

OPERATING ASSUMPTIONS

Per Unit Monthly Rent	\$1,761	\$2.94 / sf	OTHER FEES (ADU Only)	
Annual Rent Increase	2.5%		Property Tax Increase	\$1,268
Annual Vacancy Rate	2%	7 days / year		
Annual Operating Costs	5%	\$1,035 / year	Annual Home Insurance	\$127
Annual Costs Escalation	2.5%		Annual Flood Insurance	\$127
Post Build Increase	10%			
Appreciation Rate	2.5%			

PROJECT FINANCING

Financing for ADU	Yes	Income Earning Owners	2
FINANCING TERMS		FINANCING OUTPUTS	
Loan Downpayment %	20%	Down Payment	\$50,706
Loan Term (Years)	30	Monthly P+I Payment	\$750
Rate of Interest	2.00%	Monthly All In Payment	\$876
Loan Amount	\$202,824	Total Interest Paid	\$67,060
		Total Loan Cost	\$269,884

REVENUE ASSUMPTIONS

RESIDENT CHARACTERISTICS		UNIT CHARACTERISTICS	
Income Earning Residents per Unit	2	Total Rent Required for Viability	\$1,155
Total Median Income per unit	\$171,706	Per Unit Monthly Rent for Viability	\$1,155
Total ERAI per Unit	\$126,342		
Affordable for Total Median Income	\$4293		
Affordable for Total ERAI	\$3159		

HOUSTON

RENTAL VIABILITY

HOUSTON, TEXAS

PROJECT VITALS		Project Viability		VIABLE
Total Area	225 SF			
Number of Units	1			
Unit Size	225 SF			
Per Unit Monthly Rent	\$460			
Resultant Lot Size (RLV / Land Costs)	0 SF			
Required Stories at <50% Coverage	1			
OWNER VIABILITY		YES	Target	Project
Number of Owners	1			
Required Cash Down Payment	\$11,359			
Total Debt	\$45,437			
Minimum Required Income (No Debt)	\$15,146			
Monthly All In Payment	\$196			
Total Median Income	\$60,440			
Total ERAI	\$60,621			
Mortgage as Percent Median Income	4%			
Mortgage as Percent ERAI	4%			
PI Ratio Median Income	0.8			
PI Ratio ERAI	0.7			
LOCATION CHARACTERISTICS				
Median Remaining Land at 50% Coverage	1,049 SF			
Value at Median Land Cost	\$37,240			
TENANT VIABILITY		YES	Target	Project
Number of Residents per Unit	1			
Rent as Percent Median Income	30%		9%	
Rent as Percent ERAI	30%		9%	
Rent as Percent of 60% AMI	30%		15%	
UNIT VIABILITY		YES	Target	Project
Total Rent Required for Viability	\$259		\$460	
Per Unit Monthly Rent for Viability	\$259		\$460	
Compared to Local Rent per SF	100%		110%	
Affordable for Total Median Income	\$1,511		\$460	
Affordable for Total ERAI	\$1,516		\$460	
Debt Service Coverage Ratio (DSCR)	1.25		2.38	
Monthly Cash Flow	\$58		\$232	

PROJECT COSTS

Unit Size (SF) & Number of Units	225 SF	1
Land Included: 1 Yes, 0 No	0	

	Cost	of Total	\$ / sf
Hard Costs	\$42,009	74.0%	\$187
Soft Costs	\$14,786	26.0%	
Residual Land Value	\$1	0.0%	\$36
Total Project Cost (TPC)	\$56,797	100%	\$252

COMPARABLES	
Median Construction Costs	\$187
Variable	-
Median Available Land Costs \$ / sf	\$36
New Homes October 2024	\$225
Local Rents	\$1.86 / sf

OPERATING ASSUMPTIONS

Per Unit Monthly Rent	\$460	\$2.04 / sf	OTHER FEES (ADU Only)	
Annual Rent Increase	2.5%			
Annual Vacancy Rate	2%	7 days / year		Property Tax Increase \$284
Annual Operating Costs	5%	\$270 / year	Annual Home Insurance	\$28
Annual Costs Escalation	2.5%		Annual Flood Insurance	\$28
Post Build Increase	10%			
Appreciation Rate	2.5%			

PROJECT FINANCING

Financing for ADU	Yes	Income Earning Owners	1
FINANCING TERMS		FINANCING OUTPUTS	
Loan Downpayment %	20%	Down Payment	\$11,359
Loan Term (Years)	30	Monthly P+I Payment	\$168
Rate of Interest	2.00%	Monthly All In Payment	\$196
Loan Amount	\$45,437	Total Interest Paid	\$15,023
		Total Loan Cost	\$60,460

REVENUE ASSUMPTIONS

RESIDENT CHARACTERISTICS		UNIT CHARACTERISTICS	
Income Earning Residents per Unit	1	Total Rent Required for Viability	\$259
Total Median Income per unit	\$60,440	Per Unit Monthly Rent for Viability	\$259
Total ERAI per Unit	\$60,621		
Affordable for Total Median Income	\$1511		
Affordable for Total ERAI	\$1516		

RENTAL VIABILITY

HOUSTON, TEXAS

PROJECT VITALS		Project Viability		VIABLE
Total Area	485 SF	LOCATION CHARACTERISTICS		
Number of Units	1	Median Remaining Land at 50% Coverage		1,049 SF
Unit Size	485 SF	Value at Median Land Cost		\$37,240
Per Unit Monthly Rent	\$994	TENANT VIABILITY		
Resultant Lot Size (RLV / Land Costs)	0 SF	YES	Target	Project
Required Stories at <50% Coverage	1	Number of Residents per Unit		1
OWNER VIABILITY		YES		
Number of Owners	1	Rent as Percent Median Income	30%	20%
Required Cash Down Payment	\$24,485	Rent as Percent ERAI	30%	20%
Total Debt	\$97,942	Rent as Percent of 60% AMI	30%	33%
Minimum Required Income (No Debt)	\$32,647	UNIT VIABILITY		
Monthly All In Payment	\$423	YES	Target	Project
Total Median Income	\$60,440	Total Rent Required for Viability	\$558	\$994
Total ERAI	\$60,621	Per Unit Monthly Rent for Viability	\$558	\$994
Mortgage as Percent Median Income	8%	Compared to Local Rent per SF	100%	110%
Mortgage as Percent ERAI	8%	Affordable for Total Median Income	\$1,511	\$994
PI Ratio Median Income	1.6	Affordable for Total ERAI	\$1,516	\$994
PI Ratio ERAI	1.6	Debt Service Coverage Ratio (DSCR)	1.25	2.39
		Monthly Cash Flow	\$124	\$502

PROJECT COSTS

Unit Size (SF) & Number of Units	485 SF	1
Land Included: 1 Yes, 0 No		0

	Cost	of Total	\$ / sf
Hard Costs	\$90,554	74.0%	\$187
Soft Costs	\$31,872	26.0%	
Residual Land Value	\$1	0.0%	\$36
Total Project Cost (TPC)	\$122,427	100%	\$252

COMPARABLES	
Median Construction Costs	\$187
Variable	-
Median Available Land Costs \$ / sf	\$36
New Homes October 2024	\$225
Local Rents	\$1.86 / sf

OPERATING ASSUMPTIONS

Per Unit Monthly Rent	\$994	\$2.05 / sf
Annual Rent Increase	2.5%	
Annual Vacancy Rate	2%	7 days / year
Annual Operating Costs	5%	\$584 / year
Annual Costs Escalation	2.5%	
Post Build Increase	10%	
Appreciation Rate	2.5%	

OTHER FEES (ADU Only)	
Property Tax Increase	\$612
Annual Home Insurance	\$61
Annual Flood Insurance	\$61

PROJECT FINANCING

Financing for ADU	Yes	Income Earning Owners	1
FINANCING TERMS		FINANCING OUTPUTS	
Loan Downpayment %	20%	Down Payment	\$24,485
Loan Term (Years)	30	Monthly P+I Payment	\$362
Rate of Interest	2.00%	Monthly All In Payment	\$423
Loan Amount	\$97,942	Total Interest Paid	\$32,382
		Total Loan Cost	\$130,324

REVENUE ASSUMPTIONS

RESIDENT CHARACTERISTICS		UNIT CHARACTERISTICS	
Income Earning Residents per Unit	1	Total Rent Required for Viability	\$558
Total Median Income per unit	\$60,440	Per Unit Monthly Rent for Viability	\$558
Total ERAI per Unit	\$60,621		
Affordable for Total Median Income	\$1511		
Affordable for Total ERAI	\$1516		

RENTAL VIABILITY

HOUSTON, TEXAS

PROJECT VITALS		Project Viability		Viable
Total Area	520 SF			
Number of Units	1			
Unit Size	520 SF			
Per Unit Monthly Rent	\$1,065			
Resultant Lot Size (RLV / Land Costs)	0 SF			
Required Stories at <50% Coverage	1			
OWNER VIABILITY		YES	Target	Project
Number of Owners	1			
Required Cash Down Payment	\$26,252			
Total Debt	\$105,009			
Minimum Required Income (No Debt)	\$35,003			
Monthly All In Payment	\$454			
Total Median Income	\$60,440			
Total ERAI	\$60,621			
Mortgage as Percent Median Income	9%			
Mortgage as Percent ERAI	9%			
PI Ratio Median Income	1.7			
PI Ratio ERAI	1.7			
LOCATION CHARACTERISTICS				
Median Remaining Land at 50% Coverage				1,049 SF
Value at Median Land Cost				\$37,240
TENANT VIABILITY		YES	Target	Project
Number of Residents per Unit				1
Rent as Percent Median Income		30%		21%
Rent as Percent ERAI		30%		21%
Rent as Percent of 60% AMI		30%		35%
UNIT VIABILITY		YES	Target	Project
Total Rent Required for Viability		\$598		\$1,065
Per Unit Monthly Rent for Viability		\$598		\$1,065
Compared to Local Rent per SF		100%		110%
Affordable for Total Median Income		\$1,511		\$1,065
Affordable for Total ERAI		\$1,516		\$1,065
Debt Service Coverage Ratio (DSCR)		1.25		2.39
Monthly Cash Flow		\$133		\$538

PROJECT COSTS

Unit Size (SF) & Number of Units	520 SF	1
Land Included: 1 Yes, 0 No		0

	Cost	of Total	\$ / sf
Hard Costs	\$97,088	74.0%	\$187
Soft Costs	\$34,173	26.0%	
Residual Land Value	\$1	0.0%	\$36
Total Project Cost (TPC)	\$131,262	100%	\$252

COMPARIBLES	
Median Construction Costs	\$187
Variable	-
Median Available Land Costs \$ / sf	\$36
New Homes October 2024	\$225
Local Rents	\$1.86 / sf

OPERATING ASSUMPTIONS

Per Unit Monthly Rent	\$1,065	\$2.05 / sf
Annual Rent Increase	2.5%	
Annual Vacancy Rate	2%	7 days / year
Annual Operating Costs	5%	\$626 / year
Annual Costs Escalation	2.5%	
Post Build Increase	10%	
Appreciation Rate	2.5%	

OTHER FEES (ADU Only)	
Property Tax Increase	\$656
Annual Home Insurance	\$66
Annual Flood Insurance	\$66

PROJECT FINANCING

Financing for ADU	Yes	Income Earning Owners	1
FINANCING TERMS		FINANCING OUTPUTS	
Loan Downpayment %	20%	Down Payment	\$26,252
Loan Term (Years)	30	Monthly P+I Payment	\$388
Rate of Interest	2.00%	Monthly All In Payment	\$454
Loan Amount	\$105,009	Total Interest Paid	\$34,719
		Total Loan Cost	\$139,729

REVENUE ASSUMPTIONS

RESIDENT CHARACTERISTICS		UNIT CHARACTERISTICS	
Income Earning Residents per Unit	1	Total Rent Required for Viability	\$598
Total Median Income per unit	\$60,440	Per Unit Monthly Rent for Viability	\$598
Total ERAI per Unit	\$60,621		
Affordable for Total Median Income	\$1511		
Affordable for Total ERAI	\$1516		

RENTAL VIABILITY

HOUSTON, TEXAS

PROJECT VITALS		Project Viability		VIABLE	
Total Area	625 SF				
Number of Units	1				
Unit Size	625 SF				
Per Unit Monthly Rent	\$1,278				
Resultant Lot Size (RLV / Land Costs)	0 SF				
Required Stories at <50% Coverage	2				
OWNER VIABILITY		YES			
Number of Owners	1				
Required Cash Down Payment	\$31,553				
Total Debt	\$126,213				
Minimum Required Income (No Debt)	\$42,071				
Monthly All In Payment	\$545				
Total Median Income	\$60,440				
Total ERAI	\$60,621				
Mortgage as Percent Median Income	11%				
Mortgage as Percent ERAI	11%				
PI Ratio Median Income	2.1				
PI Ratio ERAI	2.1				
LOCATION CHARACTERISTICS					
Median Remaining Land at 50% Coverage		1,049 SF			
Value at Median Land Cost		\$37,240			
TENANT VIABILITY		YES	Target	Project	
Number of Residents per Unit				1	
Rent as Percent Median Income		30%		25%	
Rent as Percent ERAI		30%		25%	
Rent as Percent of 60% AMI		30%		42%	
UNIT VIABILITY		YES	Target	Project	
Total Rent Required for Viability		\$718		\$1,278	
Per Unit Monthly Rent for Viability		\$718		\$1,278	
Compared to Local Rent per SF		100%		110%	
Affordable for Total Median Income		\$1,511		\$1,278	
Affordable for Total ERAI		\$1,516		\$1,278	
Debt Service Coverage Ratio (DSCR)		1.25		2.38	
Monthly Cash Flow		\$160		\$644	

PROJECT COSTS

Unit Size (SF) & Number of Units	625 SF	1
Land Included: 1 Yes, 0 No		0

	Cost	of Total	\$ / sf
Hard Costs	\$116,693	74.0%	\$187
Soft Costs	\$41,073	26.0%	
Residual Land Value	\$1	0.0%	\$36
Total Project Cost (TPC)	\$157,766	100%	\$252

COMPARIBLES	
Median Construction Costs	\$187
Variable	-
Median Available Land Costs \$ / sf	\$36
New Homes October 2024	\$225
Local Rents	\$1.86 / sf

OPERATING ASSUMPTIONS

Per Unit Monthly Rent	\$1,278	\$2.04 / sf
Annual Rent Increase	2.5%	
Annual Vacancy Rate	2%	7 days / year
Annual Operating Costs	5%	\$751 / year
Annual Costs Escalation	2.5%	
Post Build Increase	10%	
Appreciation Rate	2.5%	

OTHER FEES (ADU Only)	
Property Tax Increase	\$789
Annual Home Insurance	\$79
Annual Flood Insurance	\$79

PROJECT FINANCING

Financing for ADU	Yes	Income Earning Owners	1
FINANCING TERMS		FINANCING OUTPUTS	
Loan Downpayment %	20%	Down Payment	\$31,553
Loan Term (Years)	30	Monthly P+I Payment	\$467
Rate of Interest	2.00%	Monthly All In Payment	\$545
Loan Amount	\$126,213	Total Interest Paid	\$41,730
		Total Loan Cost	\$167,943

REVENUE ASSUMPTIONS

RESIDENT CHARACTERISTICS		UNIT CHARACTERISTICS	
Income Earning Residents per Unit	1	Total Rent Required for Viability	\$718
Total Median Income per unit	\$60,440	Per Unit Monthly Rent for Viability	\$718
Total ERAI per Unit	\$60,621		
Affordable for Total Median Income	\$1511		
Affordable for Total ERAI	\$1516		

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