

The Honorable Ben Carson
Secretary, US Department of Housing and Urban Development
451 7th Street SW
Washington, DC 20410

To: Department of Housing and Urban Development

I appreciate the opportunity to respond to Housing and Urban Development's request for input on potential improvements toward effectively achieving its strategic plan. HUD's mission to support affordable housing is one of the most important issues facing policymakers today. Home prices and rental rates in the country's most productive cities are increasingly out of reach for typical households. State and local regulatory constraints on housing supply are the primary cause of high and rising house prices, so HUD cannot achieve its mission without reform of these rules that prevent new construction.

Rising home prices in cities with growing populations are not a law of nature. Until the 1970s, regions generally accommodated new residents by allowing new housing construction and maintaining a housing stock affordable to households with a range of incomes.¹ And cities that allow housing construction see this same pattern today. For example, in Houston, housing supply elasticity was 0.42 percent for the period of 1996 to 2016, well above the national average of 0.17 percent.² During this period, the city's population increased by half a million people, but today the median Houston home price is \$235,000.³ Households across a broad range of incomes can find housing that's affordable.

When housing is available at prices accessible to low- and middle-income households, subsidies from HUD can be reserved as a safety net for those with serious temporary or permanent hardships. But in many American cities, it's not just a community's most vulnerable residents who struggle with access to housing. Most economists researching housing prices agree that zoning, other land use regulations, and complex approval processes are constraining housing supply and putting upward pressure on housing prices in growing regions where the best job opportunities are located.⁴ In the most productive cities in the country—San Francisco, San Jose,

¹ William A. Fischel, "The Rise of the Homevoters: How the Growth Machine Was Subverted by OPEB and Earth Day" (working paper, Dartmouth College Economics Department, Hanover, NH, November 2016).

² Ralph McLaughlin, "Is Your Town Building Enough Housing?," *Trulia*, July 9, 2016.

³ Olivia Pulsinelli, "Houston's Median Home Prices Hit All-Time Record, Leases Skyrocketed in May," *Houston Business Journal*, June 13, 2017.

⁴ For a review of the economic literature on the relationship between land use regulations and housing supply, see Joseph Gyourko and Raven Molloy, "Regulation and Housing Supply" (NBER Working Paper No. 20536, National Bureau of Economic Research, Cambridge, MA, October 2014). Matthew A. Turner, Andrew Haughwout, and Wilbert van der Klaauw identify a causal relationship between land use regulation and home prices. They find that a one-standard-deviation increase in the level of land use regulations reduces land prices by 36 percent. These lower land prices reflect that developers have fewer opportunities to put land to more intensive uses under more binding regulations, resulting in higher housing prices. Matthew A. Turner, Andrew Haughwout, and Wilbert van der Klaauw, "Land Use Regulation and Welfare," *Econometrica* 82, no. 4 (2013): 1341–1403.

and New York City—even high-income households may struggle to find housing. In the Bay Area roughly one-third of units are affordable to the median renter, and in New York City the proportion is less than one-quarter.⁵

When supply constraints prevent new construction in the places where people want to live, only zoning reform can increase access to housing. Using taxpayer dollars to subsidize the housing of a large portion of a city’s population would be self-defeating, as the subsidies would further drive up the price of housing while supply is held constant. The costs of land use regulation fall hardest on low-income residents who are least able to compete for scarce housing in the markets where the best jobs are located. One estimate finds that hourly wage inequality could be 10 percent lower if housing supply in high-income states allowed for more in-migration from low-income states.⁶

Why do cities pursue policies that burden their renters and restrict population growth by limiting housing construction? It’s a problem of social benefit-cost myopia. Population growth in productive places produces social benefits and costs, and local jurisdictions take only a fraction of the total benefits while absorbing the full burden of the costs. Consequently, local governments prioritize homeowners’ preferences (to constrain new developments) at the expense of regional welfare gains.⁷ Economists use the term “agglomeration benefits” to describe the social benefits of population growth. Denser urban areas have higher productivity because of spillover and network effects. The higher productivity extends beyond political boundaries because it invigorates economic activity in adjoining cities and fosters innovation with a regional and even global impact potential; in other words, cities receive but a fraction of all the agglomeration benefits they ignite.

The opportunity for residents to “vote with their feet” by choosing to live and work in the places where they can best pursue prosperity and happiness is essential to the American system of competitive federalism.⁸ When local land use regulations limit this process, higher levels of government have a responsibility to preempt them.⁹ At the state and federal levels, policymakers can better internalize the costs of weighing homeowners’ demands for zoning against the value of agglomeration benefits and economic opportunity.

Facilitating access to affordable housing proximate to economic opportunities is an essential component of a growing economy and income mobility. Without reform to supply constraints,

⁵ Ingrid Gould Ellen and Brian Karfunkel, *Renting in America’s Largest Metropolitan Areas* (New York: NYU Furman Center/Capital One National Affordable Rental Housing Landscape, 2016).

⁶ Peter Ganong and Daniel Shoag, “Why Has Regional Income Convergence in the U.S. Declined?” (HKS Working Paper No. RW12-028, John F. Kennedy School of Government, Harvard University, Cambridge, MA, May 2013).

⁷ For an exploration of homeowners’ outsized influence in elections and the political process more generally, see William A. Fischel, *The Homevoter Hypothesis: How Home Values Influence Local Government Taxation, School Finance, and Land-Use Policies* (Cambridge, MA: Harvard University Press, 2005).

⁸ Michael S. Greve, *Federalism and the Constitution: Competition versus Cartels* (Arlington, VA: Mercatus Center at George Mason University, 2015).

⁹ David Schleicher, “The City As a Law and Economic Subject” (Faculty Scholarship Series Paper No. 4953, Yale Law School, New Haven, CT, 2010).

however, HUD will not be able to increase the number of people who are able to live in job centers. Because local policymakers are incentivized to prioritize homeowners' preferences over those of potential future residents, they pursue policies that restrict both housing supply and economic opportunity. Please see the enclosed research for a literature review on the regressive effects of land use regulations that lead to price increases, as well as a policy essay on the role that state governments have to preempt local rules.

Sincerely,

Emily Hamilton
Policy Research Manager, State and Local Policy Project, Mercatus Center at George Mason University

Attachments (2)

“The Case for Preemption in Land-Use Regulation” (Mercatus Colloquium)

“How Land-Use Regulation Undermines Affordable Housing” (Mercatus Research)



Capitol Hill, State House, or City Hall: Debating the Location of Political Power and Decision-Making

July 20, 2017

The Case for Preemption in Land-Use Regulation

Authors: Emily Hamilton

Zoning and related land-use controls became common in American municipalities in the early 20th century, but these rules have constrained housing supply on a large scale only in recent decades. Today, several US cities have land-use regulations that account for at least 10 percent of housing costs. In San Francisco, land-use regulations account for half of home values. Zoning and other land-use rules are a barrier for people who wish to live in high-productivity cities, because they increase the cost of housing and reduce the benefits of relocation. Preemption by state governments of local land-use controls is justified to preserve the American system of competitive federalism.

The opportunity for residents to “vote with their feet” by choosing to live and work in the places where they can best pursue prosperity and happiness is essential to the American system of competitive federalism. When jurisdictions must compete with each other for residents and wealth, they tend to enact policies that support broad-based economic development. Absent this competitive pressure, policymakers are more likely to implement policies that privilege special interests because they face a diminished threat of their tax base’s leaving the state. Empirical research demonstrates that restrictive zoning rules reduce the rate at which people are moving from low-income, low-productivity states. The policies that protect homeowners from asset volatility come with the cost of shutting low-income people out of job opportunities.

Rules that limit housing development include minimum lot requirements, minimum setback, and height restrictions. Cities also mandate parking requirements and enforce historic preservation. Empirical studies have found that these regulations increase housing prices by making it more difficult for developers to build new housing where it is needed rather than in less desirable greenfield areas on the periphery of major cities.

Some states have implemented growth management rules on top of local zoning ordinances. For example, Oregon requires its municipalities to preserve green space around their borders, preventing development from expanding outward with population growth. State-level growth management rules interact with local-level limits on building density. Both types of rules make land less valuable by limiting what can be built on it. In turn, both types of rules drive home prices up by restricting supply.

These limits on housing development tend to be most binding in the country’s most productive cities with the greatest economic opportunities—precisely where additional housing supply is most valuable. The high cost of real estate in these otherwise desirable locations dampens the options for exit, the ability to move from one jurisdiction to another that presents a more favorable political or economic environment. Because land-use regulations put artificial supply constraints on housing, they limit opportunities for people to enter their preferred job market.

A home is often a household’s largest financial asset, so homeowners lobby in favor of policies they think will

promote a stable real estate market. Because homeowners are more likely to vote and less likely to change jurisdictions, their preferences are a salient force in shaping policymakers' behavior. Economist William Fischel describes homeowners as "homevoters" because of their outsize influence on shaping how much housing will be built near their assets. Incumbent policymakers face little incentive to create opportunities for new people to move into their jurisdictions because current residents can depose politicians, and the marginal increase of new voters that will come with land-use liberalization will do little to keep these politicians in office.

Although current limitations on real estate development may reflect the preferences of homevoters for their own neighborhoods, these land-use regulations have unseen victims in renters who must pay inflated prices for housing and, perhaps worse, people who choose to permanently live in low-productivity places because of prohibitive housing costs in more productive places. One empirical source estimates GDP lost to suboptimal worker location due to zoning regulations at \$1.4 trillion annually.

Although states issue some land-use regulations, local governments are the primary source of restrictive, binding regulations that affect housing supply. At the local level, a policymaker may represent a constituency opposed to all growth, making the inefficiency of land-use policy a permanent feature. State-level policymakers have larger constituencies and are more likely to care about drags on regional growth. In addition, it is more difficult to write parcel-specific land-use controls at the state level. Pro-growth policies therefore may more likely be implemented at the state level because interests and legislation there tend to be more encompassing.

Land-use scholars have proposed various types of state-imposed "zoning budgets" for cities. These "budgets" would set hard limits on how restrictive local regulations can be. Economist Edward Glaeser has proposed that a historic preservation budget would force municipalities to make tradeoffs on which buildings are preserved. A state rule could put a cap on the number of individual buildings that cities can landmark for historic preservation. Legal scholars Roderick Hills and David Schleicher have proposed minimum requirements on the amount of new housing that cities must accommodate each year. They suggest that city mayors propose housing targets at the beginning of each year subject to city council approval. Under the zoning budget, new rules that would reduce the potential housing supply through downzoning in one part of the city would have to be offset with upzoning in another part of the city. Both types of preemption leave municipalities with broad authority over their regulatory environment but set a maximum level of restriction.

State-level preemption of local land-use rules has perhaps the strongest potential to reduce regulatory burdens on mobility, with a lower risk of increasing the total size of the administrative state. While local elected officials must answer to homeowners in a relatively small geographical area, state policymakers have a broader geographical constituency and are further removed from opposition to development at the local level. State rules that limit the extent to which local governments restrict development could increase housing supply and affordability in the country's most productive cities.

Local governments that implement land-use regulations restrict housing supply, drive up housing costs, and reduce the potential for entry and exit across jurisdictions. By privileging homeowners, policymakers help ensure their continued stay in office. But the costs of land-use regulations are borne by people who are unable to move to opportunity and, ultimately, by everyone who suffers from lower innovation and economic growth relative to what a freer market could produce. Because land-use regulations interfere with the American system of competitive federalism that is designed to discipline policymakers, a strong case exists for preemption at the state level.

How Land-Use Regulation Undermines Affordable Housing

Sanford Ikeda and Emily Washington



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Sanford Ikeda and Emily Washington. "How Land-Use Regulation Undermines Affordable Housing." Mercatus Research, Mercatus Center at George Mason University, Arlington, VA, November 2015.

ABSTRACT

To varying degrees, most municipalities regulate urban development with zoning, density restrictions, and parking requirements. Such policies restrict the housing supply and urban density relative to what it could be in a free market. In this paper, we review the literature that measures the price effects of a variety of land-use regulations. Most of these studies find that both traditional land-use policies and newer policies, such as smart growth and inclusionary zoning, increase the cost of housing. And because housing takes up a larger share of the budgets of lower-income households relative to higher-income households, these policies are regressive—a disproportionate share of their costs falls on the relatively poor.

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Keywords: land-use regulation, zoning, regressive effects, parking requirements, historic preservation, smart growth, new urbanism

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Do land-use regulations restrict housing supply and drive up housing prices? This is a crucial public policy question because housing affordability strains the budgets of low- and middle-income residents of the country’s most expensive cities, which are also home to some of the highest-paying jobs.

Despite the economic opportunities afforded by places such as New York and San Francisco, many such cities are not experiencing the population growth one would expect to see because regulations make it difficult to expand building in coastal cities. Rather than moving to where the best opportunities are, people are moving to where new housing is abundant, such as the rapidly growing Sun Belt cities of Houston and Atlanta. As Ryan Avent explains in *The Gated City*, “America has made its most productive locations ever less accessible. The best opportunities are found in one place, and for some reason most Americans are opting to live in another.”¹ In this paper we review the literature on the cost of land-use regulations and the burden of that cost borne by low-income households.

EXCLUSIONARY ZONING AND THE ORIGINS OF LAND-USE REGULATION

Zoning was one of the earliest forms of land-use regulation. The first US zoning ordinance appeared in 1916 when policymakers in New York City implemented regulations limiting the height and mass of buildings in an effort to protect the “light and air” at the street level.² They also separated building

1. Ryan Avent, *The Gated City: How America Made Its Most Productive Places Ever Less Accessible* (2011), Kindle e-book, Loc 79.

2. Specifically, the rules required skyscrapers to be ziggurats, resulting in the wedding cake-shaped buildings so common in New York City. For more on the effects of this code, see Andrew S. Dolkart, “The Birth of the Skyscraper: The First U.S. Zoning Law,” Columbia University Digital Knowledge Ventures, http://ci.columbia.edu/0240s/0242_2/0242_2_s7_text.html.

“Some zoning regulations are designed to price certain demographics out of particular neighborhoods or jurisdictions, making these locations inaccessible to low- or middle-income individuals.”

uses by creating designated zones for residences and businesses. The new regulations were a response to progressive concerns that the taller buildings—made possible with new elevator technology—would make cities unhealthy. As the progressive reformer Adna Weber wrote in 1902, reformers thought that living in single-family homes promoted moral virtue and community, and that new developments in rapid transit offered the opportunity to separate workers’ homes from their workplaces.³ Progressives saw suburban development as a key to promoting health and good citizenship.

Efforts to implement zoning ordinances were already underway in other cities when New York’s went into effect. Even small towns around the country rapidly adopted land-use rules to create separate zones for single-family homes, commercial districts, and higher-density housing.

But the new regulations were not without their critics. Some saw land-use regulation as a violation of states’ police powers. In 1926 the US Supreme Court decided in *Euclid v. Ambler* that local governments have the authority to determine permissible land uses. In that case, the Ambler Realty Company sued for the right to develop for industry its parcel of land, which was divided into several different use categories.⁴ The court ruled in the town’s favor, and now the term “Euclidean zoning” refers to the division of municipalities into separate zones for various land uses and residential densities. Today, the vast majority of cities have Euclidean zoning codes along with other land-use regulations, including parking requirements, setback requirements, and historic-preservation requirements, among other design guidelines.

While the original justification for zoning codes was to prevent unhealthy overcrowding, many economists have also found a relationship between zoning rules and housing

3. Adna F. Weber, “Rapid Transit and the Housing Problem,” *Municipal Affairs* 6, no. 1 (1902). See also the work of Jacob Riis.

4. *Euclid v. Ambler Realty Co.*, The Oyez Project at IIT Chicago-Kent College of Law, http://www.oyez.org/cases/1901-1939/1925/1925_31.

costs.⁵ These rules are often referred to as “exclusionary zoning” to describe their practical effects.⁶ In many instances, the exclusionary effect was intentional. For example, before the passage of the Civil Rights Act of 1968, some municipalities had explicitly race-based exclusionary land-use regulations.⁷

Today, while race-based exclusionary zoning policies are illegal, some zoning regulations are designed to price certain demographics out of particular neighborhoods or jurisdictions, making these locations inaccessible to low- or middle-income individuals. Policies whose costs fall disproportionately on low-income people are considered regressive. For example, a sales tax on staple goods has regressive effects because people with low incomes spend a greater proportion of their incomes on such goods. As Diana Thomas explains,

Well-intentioned regulation often represents the preferences of the wealthy by regulating otherwise negligible risks. By driving up prices for all consumers, such regulation is likely to have disproportionately negative or regressive effects on the poor. . . . Compared to potential private risk-reduction strategies, regulation tends to target low risks that are extremely expensive to mitigate. Such regulations, therefore, represent the preferences of the wealthy and come at the expense of low-income households.⁸

Similarly, if land-use regulations—including zoning, parking requirements, and aesthetic rules—increase overall housing costs, the burden of these rules falls disproportionately on low-income households that typically dedicate a higher proportion of their income to housing relative to higher-income people.

5. For an overview of this literature, see John M. Quigley and Larry A. Rosenthal, “The Effects of Land Use Regulation on the Price of Housing: What Do We Know? What Can We Learn?,” *Cityscape: A Journal of Policy Development and Research* 8, no. 1 (2005).

6. Richard F. Babcock and Fred P. Bosselman, *Exclusionary Zoning: Land Use Regulation and Housing in the 1970s* (New York: Praeger Publishers, 1973), 25.

7. See, for example, Charles E. Connerly, *The Most Segregated City in America: City Planning and Civil Rights in Birmingham, 1920–1980* (Charlottesville: University of Virginia Press, 2005). In lieu of explicitly race-based regulations, some cities pursued more subtle forms of exclusionary zoning that did not explicitly regulate by race. Several California municipalities, for example, prohibited laundry businesses from operating in certain zones. While these rules were not explicitly race-based, their practical effects were intended to fall on the cities’ Chinese residents who dominated the laundry-service industry. See David E. Bernstein, “Lochner, Parity, and the Chinese Laundry Cases,” *William and Mary Law Review* 41 (1999): 211; and Henry A. Span, “How the Courts Should Fight Exclusionary Zoning,” *Seton Hall Law Review* 1 (2001–2003).

8. Diana Thomas, “Regressive Effects of Regulation” (Mercatus Working Paper No. 12-3, Mercatus Center at George Mason University, Arlington VA, November 2012).

To counter the ill effects of exclusionary zoning, local governments in many states have adopted a policy requiring builders to set aside a portion of any new construction to be priced below market. Benjamin Powell and Edward Stringham argue, however, that this so-called “inclusionary zoning” also effectively restricts the supply of housing to the detriment of the very households it is intended to help.⁹

Powell and Stringham define inclusionary zoning as a program that “places a price control on a percentage of new development, requiring builders to sell or rent those homes which are deemed affordable to very low-, low-, or moderate-income households.” They then apply basic economic logic to critique the most economically informed arguments offered in its favor. They show that “the price-controlled portion of such developments will have many of the same characteristics of markets with rent control, such as shortages and discouragement of production”; that if builders are offered subsidies to cover their losses, then to the extent that they “do not cover the costs of below-market units, inclusionary zoning, much like development impact fees, will act like a tax on market-rate development”; that in fact inclusionary zoning has discouraged construction and consequently “few families end up getting below-market units”; and that such mandates raise builders’ costs at the margin, so the notion that “the cost of affordable housing will be absorbed by builders without decreasing the amount of construction is highly questionable.”¹⁰

Powell and Stringham then offer two forms of empirical support for their arguments. First, they show that where builders are given the option to include below-market units in exchange for things such as density bonuses (i.e., permission to build more units per acre than the legal maximum), “the builders do not flock to participate,” which the authors see as casting doubt on whether the option really is profitable for the builders. Moreover, from a public-choice perspective, “if mandatory inclusionary zoning really benefited the building industry, one would expect to see builders lobbying for it, yet they do not,” again indicating that builders do not see such zoning to be in their interests. Contrary then to even the sophisticated advocates for inclusionary zoning, Powell and Stringham conclude that “despite the nice-sounding name, inclusionary zoning

9. Benjamin Powell and Edward Stringham, “The Economics of Inclusionary Zoning Reclaimed: How Effective are Price Controls?,” *Florida State University Law Review* 33 (2005): 471–99. See also Tom Means and Edward Peter Stringham, “Unintended or Intended Consequences? The Effect of Below-Market Housing Mandates on Housing Markets in California,” *Journal of Public Finance and Public Choice* 30, no. 1–3 (2012): 39–64.

10. Powell and Stringham, “Economics of Inclusionary Zoning Reclaimed,” 472–85.

is still a price control that leads to a decrease in the amount of housing.”¹¹ Along with concerns about housing scarcity and unaffordability, traditional zoning regulations have been widely criticized for promoting urban sprawl and causing long commutes.¹² Movements to counter these trends in land use have emerged, including smart growth and new urbanism. However, researchers have demonstrated that smart growth regulations have the potential to increase costs by restraining supply, just as their traditional zoning precursors have. In this literature review, we examine the research on the relationship between land-use regulations and housing costs. We find that a wide majority of empirical studies demonstrate that the more regulated jurisdictions have higher housing costs.

We first review the literature on minimum lot sizes and density restrictions. Next, we examine the literature on the economic consequences of parking requirements. We then explore the smaller body of research on smart growth regulations. Finally we review some of the proposals to limit the detrimental consequences of current land-use policy. Empirical studies of the effects of land-use regulations face many challenges, including collecting data on municipal regulations and potential endogeneity problems if both house prices and land-use regulations are correlated with other variables. An additional statistical challenge is that, like many regulations, land-use restrictions have both costs and benefits. A parking requirement might make the lot it applies to less valuable if it prevents that lot from being developed for its highest-valued use, but the same parking requirement might make an adjacent lot more valuable if it results in more abundant parking. Binding parking requirements that alter parking policies across a municipality will also increase the price of real estate by reducing the supply of developable land. In this case, parking requirements can cause inefficient outcomes by devoting more land to parking than a freer market would. We discuss studies that rely on various statistical techniques that attempt to overcome these challenges to identify the costs of various types of land-use restrictions.

11. *Ibid.*, 486–99.

12. Theory would lead us to believe that sprawl that increases the distance between the average resident’s home and workplace would lead to longer commute times. This argument for reducing sprawl has been a key criticism of traditional zoning. However, empirical work has found little correlation between city size and commute times. See Qian An, Peter Gordon, and James E. Moore, “A Note on Commuting Times and City Size: Testing Variances as Well as Means,” *Journal of Transport and Land Use* 7, no. 2 (2014).

MINIMUM LOT SIZES AND MAXIMUM DENSITY RULES

Some of the first studies on the regressive effects of zoning appeared in the 1950s, when urban planners identified the phenomenon of “snob zoning.” In a 1953 study of Wayne Township, New Jersey, Charles Haar showed that the municipality’s minimum-house-size rules were intentionally designed to prevent low-income families from moving in. The rule set the minimum living area at 768 square feet, which at the time was larger than 30 percent of the township’s existing housing.¹³ Haar explains that municipalities in New Jersey and other states adopted increasingly binding zoning rules after state courts found direct price floors on buildings unconstitutional.¹⁴ Haar writes, “The preservation of expensive homes (whose assessed valuation can be maintained at a high level and which cost little for the community to service) apparently becomes a proper function if suitably dressed up as a zoning ordinance.”¹⁵

For almost as long as legal scholars have been writing about the constitutionality of land-use regulations, economists have been trying to determine their costs. Studying the costs of any regulation is difficult because a good’s price reflects the array of inputs that go into its manufacture in addition to the costs that regulation imposes. Because municipal regulators are not required to conduct any sort of benefit-cost analysis before implementing new rules, urban economists have taken up the challenge of estimating the costs of these rules.

In 2007, Joseph Gyourko, Albert Saiz, and Anita Summers created a tool for measuring the burden of rules across municipalities called the Wharton Residential Land Use Regulatory Index.¹⁶ The authors received survey responses on the land-use policies from 2,600 municipalities. The survey included 15 questions focused on identifying the types of land-use regulations in each municipality for the purpose of comparing the burden of compliance across cities. The survey also included questions about local stakeholders involved

13. Charles M. Haar, “Zoning for Minimum Standards: The Wayne Township Case,” *Harvard Law Review* 66 (1953): 1051–63.

14. A regulation is considered binding if it alters behavior from what it would be in the free market. For example, a minimum home size of 10,000 square feet would be much more binding than a minimum home size of 100 square feet.

15. Haar, “Zoning for Minimum Standards.”

16. Joseph Gyourko, Albert Saiz, and Anita A. Summers, “A New Measure of the Local Regulatory Environment for Housing Markets: The Wharton Residential Land Use Regulatory Index,” *Urban Studies* 45, no. 3 (March 2008): 693–729. While the Wharton Index is the best available measure of land-use regulations across cities, it has some shortcomings. For example, real estate is known to be an industry in which government-granted privilege plays an important role in firms’ success, yet the index does not include any measure of how regulators’ subjectivity affects the enforcement of its rules. In addition, the index is not updated regularly, so it is not conducive to panel data analysis.

in both approving land-use regulations and implementing those regulations, as well as state rules affecting land use and state court involvement in land use.¹⁷ The index enables economists to study how regulatory environments affect housing costs across cities.

Edward Glaeser is perhaps the best-known researcher on the costs of land-use regulation to consumers. He, Gyourko, and Raven Saks have done pioneering research on quantifying the costs of land-use regulations. They point out that housing affordability is not a problem in many parts of the United States, but that it's a severe problem in select cities, particularly in California and on the East Coast.¹⁸ Their research focuses primarily on Manhattan, but they also study a sample of the 21 metropolitan areas included in the metropolitan files of the American Housing Survey. In their 2003 paper, they estimate that the cost of construction in Manhattan is roughly \$200 per square foot. The authors argue that construction should be a very competitive industry because of its low barriers to entry and the existence of thousands of construction firms in the country and hundreds in New York alone. Given this competitive environment, we would expect that, in a free market, real estate prices would be very close to construction costs.¹⁹ In reality, however, they find that the mean price of Manhattan condos is \$468 per square foot. The authors attribute the 134 percent price difference to the “regulatory tax” of zoning and other land-use regulations that increase the cost of obtaining building permits and also restrict housing supply.

“The authors attribute the 134 percent price difference to the ‘regulatory tax’ of zoning and other land-use regulations that increase the cost of obtaining building permits and also restrict housing supply.”

17. Ibid.

18. Edward L. Glaeser, Joseph Gyourko, and Raven Saks, “Why Is Manhattan So Expensive? Regulation and the Rise in House Prices” (NBER Working Paper 10124, National Bureau of Economic Research, November 2003).

19. Ibid. Glaeser, Gyourko, and Saks argue that the number of construction firms in New York City makes it likely that the city would see real estate prices close to construction costs absent zoning. However, it's possible that other factors, such as construction firms' political connections and construction workers' union influence, could drive prices above construction costs even without zoning.

While Manhattan is one of the most liberally zoned cities in the country—higher building density is permitted there than is allowed in most other US cities—its regulations are also among the most binding. Glaeser, Gyourko, and Saks use statistical analysis to determine the percentage of residential real estate cost that is due to limitations on supply. They find that not only New York, but Boston, Los Angeles, Newport News, Oakland, Salt Lake City, San Francisco, San Jose, and Washington, DC, all have “zoning taxes” that account for more than 10 percent of housing costs.²⁰ Cities with high housing costs correlate closely with those that rank high on the Wharton Index.

When cities implement rules that make it difficult to secure permits to build new housing, land that is already built on becomes much more valuable than relatively vacant land. In a 2006 study, Glaeser, Schuetz, and Ward find that the factor that contributes most to restricting the supply and increasing the cost of housing is minimum-lot-size requirements.²¹ Based on Glaeser and Gyourko’s 2002 findings, land in the Boston area that is built on is worth 20 times more than portions of vacant land in the same lot. When it comes to new construction, they write, “surviving the regulatory process adds enormous value.”²²

We note that Quigley and Rosenthal’s 2005 study challenges Glaeser and Gyourko’s methodology, pointing out that high levels of regulation may be endogenous with high housing costs: people who live in expensive communities may demand higher levels of regulation relative to those who live in less expensive areas.²³ Because no natural experiments are available to test whether new, more restrictive zoning regulations increase housing costs, determining definitively which way causality runs is a statistical challenge.

While natural experiments aren’t available in land-use policy, economists have found innovative ways to provide evidence that, in fact, regulations cause higher prices rather than the other way around. Matthew Turner, Andrew Haughwaut, and Wilbert van der Klaauw developed such a model by studying land prices of nearby parcels on opposite sides of state lines.²⁴ They divide the effects of land-use regulations into three categories: “the cost to a landowner

20. Ibid., 49.

21. Edward L. Glaeser, Jenny Schuetz, and Bryce Ward, “Regulation and the Rise of Housing Prices in Greater Boston,” Pioneer Institute for Public Policy Research and Rappaport Institute for Greater Boston, January 5, 2006, http://www.hks.harvard.edu/content/download/68821/1248094/version/1/file/regulation_housingprices.pdf.

22. Ibid.

23. Quigley and Rosenthal, “Effects of Land Use Regulation on the Price of Housing.”

24. Matthew A. Turner, Andrew Haughwaut, and Wilbert van der Klaauw, “Land Use Regulation and Welfare,” *Econometrica* 82, no. 4 (July 2014): 1341–403.

of regulations on the use of their own parcel, the benefit or cost to a landowner from restrictions on their neighbor's parcel, and the effect of regulations on the supply of land that is available for development."²⁵ In order to deal with the endogeneity that often plagues studies attempting to determine the costs of land-use regulation, Turner, Haughwaut, and van der Klaauw use the Wharton Index to study land prices near municipal borders in order to isolate the effect that regulations have on prices. They find that, taken as a whole, land-use regulations' costs exceed their benefits, and a reduction in land-use regulations would result in more efficient land-use development.

Vicki Been and her colleagues, for example, find that outside Manhattan, historic designation raises property values, but this effect is smaller in areas where demand for denser development is higher.²⁶ Their findings indicate that a specific land-use regulation will have different effects depending on where it's implemented: neighborhoods with high house prices are also those in which historic preservation has the largest effects on house prices. They find that real estate values adjacent to a historic district rise following the historic designation while those within the district fall due to the new use limitations on the preserved properties. The authors acknowledge that the direction of causality in their model is unclear because the creation of historic districts may be endogenous with house prices; neighborhoods that seek historic status may have higher real estate values to begin with relative to other neighborhoods. Their study demonstrates that the same regulation will have different effects depending on the supply and demand conditions of the neighborhood where the rule is implemented.

Those Sun Belt cities that score very low on the Wharton Index have remained affordable in spite of their significant population growth because their housing supply has expanded in response to increases in demand.²⁷ And it's not just newer cities designed to accommodate car transportation that enable the housing supply to increase and assuage increases in house prices. In his book *Triumph of the City*, Glaeser points out that Chicago has been more inclined to permit building relative to expensive coastal cities. He writes,

25. Matthew Turner, "The Economics of Land-Use Regulations," *PERC Report* 33, no.2 (Property and Environment Research Center, Fall/Winter 2014), <http://www.perc.org/articles/economics-land-use-regulations>.

26. Vicki Been et al., "Preserving History or Hindering Growth? The Heterogeneous Effects of Historic Districts on Local Housing Markets in New York City" (NBER Working Paper 20446, National Bureau of Economic Research, September 2014).

27. Matthew Yglesias, *The Rent Is Too Damn High: What to Do about It, and Why It Matters More Than You Think* (New York: Simon & Schuster, 2012), Kindle edition.

Chicago's real estate is both newer and cheaper than either Boston's or New York's. Census data shows that median rents are 30 percent higher in Boston than in Chicago, and housing prices are about 39 percent higher. According to the National Association of Realtors, the median sales price of a condominium in the Chicago metropolitan area in the second quarter of 2010 was \$186,000, as opposed to \$290,000 in the Boston area and \$405,000 in the San Francisco area. In downtown Chicago, \$650,000 can get you a three-bedroom condominium with 1,650 square feet in a new glassy tower. An equivalent unit in New York City would cost at least twice as much.²⁸

It's true that some land-use scholars interpret the effects of zoning differently, finding that rules such as minimum lot sizes, setback requirements, and minimum house sizes replicate what the market would provide rather than acting as a binding constraint on what developers are able to provide. According to this line of thinking, land-use regulations are not binding and do not have an effect on market outcomes. For example, in a 1988 paper, Nancy Wallace finds that Euclidean zoning rules mimic what the market would provide with the important exception of minimum lot sizes.²⁹ Thus, while she argues that a free market would separate residential and commercial uses, even Wallace finds that minimum lot sizes are binding and therefore increase housing costs.

PARKING REQUIREMENTS

Like maximum-density and minimum-lot-size regulations, parking requirements lower residential densities and increase per-unit costs. Donald Shoup is a pioneer in the study of the costs of parking requirements. In a 1997 article, "The High Cost of Free Parking," Shoup reviews the research quantifying these costs:

The only research on how parking requirements affect housing shows that they raise housing costs, reduce urban density, and reduce land values. In 1961, Oakland, California, began to require one parking space per dwelling unit for apartment buildings. Brian Bertha (1964) collected data for 45 apartment

28. Edward Glaeser, *Triumph of the City: How Our Greatest Invention Makes Us Richer, Smarter, Greener, Healthier, and Happier* (New York: Penguin, 2011), 242.

29. Nancy E. Wallace, "The Market Effects of Zoning Undeveloped Land: Does Zoning Follow the Market?," *Journal of Urban Economics* 23, no. 3 (May 1988).

projects developed in the four years before Oakland introduced the parking requirement, and for 19 projects developed in the two years after. After parking was required, the construction cost per dwelling unit rose by 18 percent, housing density fell by 30 percent, and land values fell by 33 percent.³⁰

While developers can both maintain high housing densities and comply with parking requirements by building underground garages, all structured parking—and particularly underground parking—is very expensive and contributes significantly to the cost of housing. In a 2001 study, Ryan Russo found that a single underground parking space can cost over \$50,000.³¹

Parking requirements add significantly to the cost of housing, particularly in areas with high land value. For example, Shoup finds that in Los Angeles, parking requirements can add \$104,000 to the cost of each apartment. People would of course demand parking in Los Angeles in a free market, but it's likely that some residents would choose to rent less-expensive apartments with fewer parking spaces than the legal minimum if regulations permitted them to do so.³² It's also likely that low-income residents would be among those to trade parking for less-expensive housing.

In a study of San Francisco neighborhoods, Wenyu Jia and Martin Wachs find that housing that's built to comply with parking requirements costs 10 percent more than housing with no off-street parking.³³ Jia and Wachs estimate that 24 percent more San Francisco residents would qualify for mortgages to purchase homes in San Francisco absent parking requirements.³⁴

The high cost of parking alone does not demonstrate that parking requirements are binding—that in a free market developers would provide fewer parking spots and less expensive housing. However, developers' behavior suggests that regulation, rather than perceived demand, is driving the supply of parking. Simon McDonnell, Josiah Madar, and Vicki Been find that “by and large, developers tend to build only the bare minimum of parking required

30. Donald C. Shoup, “The High Cost of Free Parking,” *Journal of Planning Education and Research* 17 (1997): 3–20; Brian Bertha, “Appendix A,” in *The Low Rise Speculative Development* by Wallace Smith (Berkeley: Institute of Urban and Regional Development, University of California, 1964).

31. Ryan Russo, “Rethinking Residential Parking: Myths and Facts” (Non-profit Housing Association of Northern California, San Francisco, 2001).

32. Donald C. Shoup, *The High Cost of Free Parking* (Chicago: American Planning Association, 2011).

33. Wenyu Jia and Martin Wachs, “Parking Requirements and Housing Affordability: A Case Study of San Francisco,” University of California Transportation Center No. 380, eScholarship University of California, July 1998, <http://escholarship.org/uc/item/0fm8k169#page-3>.

34. Ibid.

“A study from the Furman Center at New York University provides empirical evidence that New York’s parking requirements do in fact change developers’ behavior.”

by zoning, suggesting that the minimum-parking requirements are binding for developers, as argued by critics, and that developers do not simply build parking out of perceived marked need.”³⁵

A study from the Furman Center at New York University provides empirical evidence that New York’s parking requirements do in fact change developers’ behavior. Parking requirements were waived for all but one-third of the developments in the study. Of the one-third subject to parking requirements, only 23 percent provided substantially more parking than was required, which the authors cite as evidence that most builders would probably like to provide less parking if they were able to.³⁶ New Yorkers own cars at a lower rate than people in any other American city,³⁷ so it’s possible that the same parking requirements that alter developers’ behavior in New York might not change behavior in cities with greater car ownership. However, we show below that parking restrictions do appear to change behavior in cities that are much more dependent on cars.

While minimum-parking regulations add to the cost of urban housing, parking regulations can also drive up the cost of suburban development because many municipalities require suburban homes to include garages. Those requirements can significantly add to the cost of housing, even though they sometimes fail to add to the supply of parking, as a garage requires a curb cut that takes away an on-street parking spot.

Parking requirements are ubiquitous in most of urban America. But Randal O’Toole, a senior fellow at the

35. Simon McDonnell, Josiah Madar, and Vicki Been, “Minimum Parking Requirements and Housing Affordability in New York City,” *Housing Policy Debate* 21, no. 1 (2011).

36. Vicki Been et al., “Searching for the Right Spot: Minimum Parking Requirements and Housing Affordability in New York City,” Furman Center for Real Estate and Urban Policy at New York University and the Institute for Affordable Housing Policy, March 2012.

37. Michael Sivak, “Has Motorization in the U.S. Peaked? Part 4: Households without a Light-Duty Vehicle” (Report No. UMTRI-2014-5, University of Michigan Transportation Research Institute, January 2014).

Cato Institute, points out that micropolitan areas in some states—including Texas, Nevada, and Indiana—do not have parking requirements. “Virtually all counties in Texas, most counties in Nevada, and many counties in Indiana have no minimum-parking requirements,” he writes.³⁸ O’Toole hypothesizes that the provision of free parking in these counties in the absence of parking requirements demonstrates that developers would provide free parking even if they weren’t required to do so. However, while Texas counties may not have parking rules, the state’s largest cities do. Even Houston, often cited as an example of what a city would look like without zoning,³⁹ requires 1.25 spaces for each efficiency apartment and 10 spaces for every 1,000 square feet of gross floor area in bars.⁴⁰ In Texas counties where land prices may be near zero, developers may provide surface parking at zero price because land values are so low. However, Houston property owners’ resistance to increased parking requirements provides some evidence that those requirements are binding, forcing property owners to provide more parking than they would in a free market.⁴¹

SMART GROWTH REGULATIONS

For decades after 1910, cities had enacted zoning regulations in largely the same way. City planners used Euclidean zoning to separate commercial and industrial uses from residential areas and to separate higher-density housing from single-family homes. However, in the 1970s opposition to regulations that required suburban-style development emerged with a movement called smart growth. Many tenets of smart growth are deregulatory, including support for greater density and the reduction of parking requirements. While the objectives of traditional zoning include controlling communities’ growth and preempting nuisances between neighbors, the principles of smart growth include mixed-use neighborhoods; compact urban design; transportation infrastructure for walking, cycling, and transit in addition to driving; and preserving open space.⁴²

38. Randal O’Toole, “Free Markets for Free Parking,” *Cato at Liberty* (Cato Institute), August 16, 2010, <http://www.cato.org/blog/free-markets-free-parking>.

39. Zhu Qian, “Without Zoning: Urban Development and Land Use Controls in Houston,” *Cities* 27, no. 1 (February 2010).

40. Parking Requirements, City of Houston Planning Commission, accessed October 2, 2015, http://www.houstontx.gov/planning/DevelopRegs/docs_pdfs/parking_req.pdf.

41. Mike Morris, “Parking Proposals Have Restaurateurs on Edge,” *Houston Chronicle*, February 10, 2013, <http://www.houstonchronicle.com/news/houston-texas/houston/article/Parking-proposals-have-restaurateurs-on-edge-4267217.php#/0>.

42. “10 Smart Growth Principles,” Smart Growth BC, accessed October 2, 2015, <http://www.smartgrowth.bc.ca/Default.aspx?tabid=133>.

Additionally, advocates of historic preservation and smart growth frequently work together to preserve landmark buildings and districts.⁴³ Unlike traditional zoning rules, which mandate lower population densities, smart growth rules generally encourage building up rather than out.

Smart growth is more than a reaction to traditional zoning regulations; it has also led to new types of regulation designed to mandate smart growth objectives. The first smart growth-style rules were urban growth boundaries (UGBs). UGBs limit certain types of development to a designated area while designating the area outside the boundary as farmland or greenspace. More recently, some cities have enacted maximum-parking and minimum-density rules designed to achieve effects opposite to those of traditional zoning rules.

Portland's UGB is one of the oldest and best-studied smart growth policies. Oregon state law requires that municipalities create growth boundaries. These boundaries limit the supply of land on which development is permitted. The stated goal of Oregon's UGBs is to protect farms and forests from urban development.⁴⁴ UGBs provide an opportunity to study the cost of land-use regulations because they create something of a natural experiment: the only difference between vacant land selling on one side or the other of a UGB is that land outside the boundary cannot be developed.

Gerrit Knaap takes advantage of this policy design to study the prices of land inside and outside the Portland-area UGB:

The UGB was found to have a significant influence on land values in both counties; the effects of zoning and the UGB varied between Washington and Clackamas Counties. In Washington County, where the instruments to control growth were fixed and strictly enforced, the results strongly support the general model. Urban land values were higher than nonurban land values, and urban land values could not be shown divergent at a growth boundary. Thus, land-use restrictions on both current and future urban development were found to affect land values as expected.⁴⁵

43. United States Environmental Protection Agency, "Smart Growth and Sustainable Preservation of Existing and Historic Buildings," last updated October 1, 2015, http://www.epa.gov/smartgrowth/topics/historic_pres.htm.

44. "Urban Growth Boundary," Oregon Metro, August 8, 2014, <http://www.oregonmetro.gov/urban-growth-boundary>.

45. Gerrit J. Knaap, "The Price Effects of Urban Growth Boundaries in Metropolitan Portland, Oregon," *Land Economics* 61, no. 1 (February 1985).

In a study of 100 Florida cities, Keith Ihlanfeldt created an index of municipal restrictions on the supply of housing with a focus on regulations that restrict building on previously undeveloped land.⁴⁶ He finds that in those municipalities that place more restrictions on growth—including farm-preservation policies, development impact fees, large-lot zoning, and open-space zoning—housing is significantly more expensive. In more regulated communities, the price difference is greater for small houses relative to larger houses.⁴⁷ Not only do these regulations cause regressive effects by making all housing more expensive, the effect is greater for smaller houses, making housing even less accessible to those on lower incomes.

Historic preservation is another tenet of the smart growth platform. Like the other types of requirements discussed so far, binding historic preservation requirements can limit the supply of new housing and hinder developers' responses to increases in demand.⁴⁸ Nowhere are the costs of historic preservation more evident than in Manhattan, where more than 27 percent of buildings are landmarked for historic preservation.⁴⁹ Some of the island's most desirable housing is within historic districts. People who live within these historic districts are 74 percent wealthier than Manhattan residents who do not.⁵⁰ Not only do historic districts restrict the potential for increasing the housing supply, they also reduce the filtering effect of housing. In many cases, a neighborhood's new construction is most desirable and is therefore home to its wealthiest residents. Over time, as these once-new houses age, they become less desirable and thus available to lower-income residents; eventually they have the potential to become affordable, market-rate housing. When rules prevent new construction, however, the old housing in desirable neighborhoods is bid up.⁵¹

Smart growth-style regulations are becoming more prevalent as more cities and states adopt growth controls and experiment with minimum-density

46. Keith R. Ihlanfeldt, "The Effect of Land Use Regulation on Housing and Land Prices," *Journal of Urban Economics* 61, no. 3 (May 2007).

47. Ibid.

48. In "Preserving History or Hindering Growth?" Been and her colleagues demonstrate that historic preservation rules may have different effects, depending on the supply and demand conditions of the neighborhood in which they are implemented.

49. Real Estate Board of New York, "An Analysis of Landmarked Properties in Manhattan," June 2013, http://rebny.com/content/dam/rebny/Documents/PDF/News/Research/Policy%20Reports/Research_Analysis_of_Landmarked_Properties_in_Manhattan.pdf.

50. Glaeser, *Triumph of the City*, 150.

51. For a detailed explanation of the filtering process and its importance for housing affordability, see Thomas Bier, "Moving Up, Filtering Down: Metropolitan Housing Dynamics and Public Policy" (paper prepared for the Brookings Institution Center on Urban and Metropolitan Policy, September 2001).

requirements and parking maximums. Despite their opposing objectives, smart growth and traditional zoning rules both limit the supply of housing and decrease its elasticity, with the latter reducing the additional housing supply when demand increases. However, smart growth rules remain rare relative to the nearly ubiquitous traditional zoning rules in US municipalities, so the total cost of traditional zoning rules is likely much larger than the cost of smart growth rules.⁵² Our survey of the literature finds broad consensus that both smart growth and traditional zoning restrict the potential uses of land. When these rules are binding—that is, when they prevent developers from using the land as they would in a free market—they reduce the value of land by limiting its potential uses, restrict the supply of housing, and increase housing costs.

LAND-USE REGULATION AND REGRESSIVE EFFECTS

Both traditional zoning rules and smart growth regulations were conceived as tools for planners to achieve progressive objectives. In the early 20th century, planners wanted to see people living in suburban single-family homes, which they thought fostered health and morality relative to urban apartment living. Today, urban planners often frame rules as tools to limit congestion, to facilitate easy transportation, and to protect the environment by requiring cities to be more compact and walkable. However, absent from the conversation is any mention of the costs of those rules or who bears those costs.

William Fischel hypothesizes that today's land-use policies are the direct result of residents seeking to prevent low-income people from moving into their communities.⁵³ The incentive to exclude low-income people from high-income communities may be explained by the Tiebout-Hamilton model of local public goods. According to this model, unlike national public goods, locally provided public goods may be provided efficiently through the process of people “voting with their feet” to live in the jurisdiction that best meets their preferred bundle of public services and taxes. Under this model, cities with a high level of public services will face an incentive to exclude lower-income residents who would add to the burden on public services without proportionately increasing the tax base.

52. Michael Lewyn and Kristoffer Jackson, “How Often Do Cities Mandate Smart Growth or Green Building?” (Mercatus Working Paper, Mercatus Center at George Mason University, Arlington, VA, October 2014).

53. William A. Fischel, “An Economic History of Zoning and a Cure for Its Exclusionary Effects,” *Urban Studies* 41, no. 2 (February 2004).

Fischel points out that, while cities began implementing zoning rules in the early 1900s, it wasn't until the 1970s that the impact of those rules became large enough to reduce the housing supply and raise housing prices.⁵⁴ Before the 1970s, there were enough municipalities open to new, low-cost housing; when plans for low-cost housing were rejected in one suburb, developers simply built such housing in an adjacent community. That all changed when the widespread use of the automobile led to the decentralization of jobs. Now, both the wealthy and those on low incomes could commute by car. High-income communities began to rely on rules such as minimum house sizes and large-lot zoning to exclude less affluent residents from their communities.⁵⁵ Fischel asserts that homeowners are motivated to lobby for exclusionary zoning in order to protect the value of their homes, the largest asset that many households have, but blocking the construction of low-income housing for personal economic gain is not a sympathetic cause. As a result, many NIMBY groups have turned to environmental and quality-of-life justifications to block new development. As proof, Fischel points to the concurrent rise of environmental concerns and increase in land-use regulations in the 1970s. Whether genuine environmental concerns or narrow self-interest have been their motivation, NIMBY groups have succeeded in increasing antigrowth laws at the municipal and state levels.

As we've shown, strong empirical and theoretical evidence suggests that land-use controls—both traditional zoning rules and smart growth regulations—increase the cost of housing. This effect makes everyone in cities with high housing costs poorer by reducing the income that they have available to spend on other goods. For renters in expensive cities, the outcome is unequivocally bad. However, for homeowners, the results are less clear. Prospective

“High-income communities began to rely on rules such as minimum house sizes and large-lot zoning to exclude less affluent residents from their communities.”

54. Ibid.

55. See William A. Fischel, “Public Goods and Property Rights: Of Coase, Tiebout, and Just Compensation,” in *Property Rights: Cooperation, Conflict, and Law*, eds. Terry L. Anderson and Fred S. McChesney (Princeton: Princeton University Press, 2003).

homeowners would, of course, prefer to pay less rather than more for a home. However, current homeowners are often the vested interests who support land-use regulations that restrict the housing supply and increase the value of their own homes. For homeowners who plan to retire to an area with a lower cost of living or who are concerned about the bequest value of their estate, regulation is a powerful tool for increasing their net worth.

Land-use regulation that drives up housing costs thus benefits current homeowners at the expense of renters, those who would like to purchase a home in a highly regulated city for the first time, and those who would like to move into a highly regulated city to pursue economic opportunities. Land-use regulations also have disparate effects across a city's income distribution by taking a disproportionate bite out of the purchasing power of a city's lowest-income individuals.⁵⁶ On average, people in the lowest income quintile spend 25.6 percent of their income on shelter, compared to 17.6 percent in the highest income quintile.

Diana Thomas explains that risk-reduction regulation is typically crafted to reflect the preferences of high-income people.⁵⁷ Many federal regulations attempt to mitigate very small risks that are expensive to reduce. For example, current rules that limit asbestos in workplaces are estimated to save 74 lives each year, but each life saved as a result of asbestos reduction costs \$89 million.⁵⁸ Because regulations raise the costs of consumer goods, reducing the regulatory burden would increase the amount of money consumers would have available to purchase private risk reduction, such as moving to a safer neighborhood, shortening commuting distance, or buying healthier food.⁵⁹ Thomas explains that regulation “redistributes wealth from lower-income households to pay for risk reduction worth more to the wealthy.” Similarly, high-income individuals are likely to pay for housing amenities such as large lots and garages that lower-income individuals might choose to forgo in order to spend the savings on other things.

It may seem that, as long as households are free to select low-cost cities, not being able to afford to live in New York or San Francisco is not such a problem. However, preventing access to cities with the greatest economic growth and highest-paying jobs limits crucial opportunities for income mobility. In *The Gated City*, Ryan Avent points out that the areas of the country with the

56. US Bureau of Labor Statistics, “Consumer Expenditures in 2012” (BLS Report 1046, US Bureau of Labor Statistics, March 2014).

57. Thomas, “Regressive Effects of Regulation.”

58. Ibid.

59. Ibid.

highest wages and wage increases are seeing little population growth. He writes,

The average wage per job in the San Jose metro is the highest in the country, at just over \$80,000, and yet from 2000 to 2009, the Silicon Valley area grew by just 100,000 people. Phoenix, by contrast, with an average wage of just \$46,000, added over 1 million people during that time period. And the gain in Silicon Valley was almost entirely the product of international migration. Looking at domestic migration alone, San Jose's population declined by nearly a quarter of a million people.⁶⁰

In Phoenix, households spend 27 percent of their income on housing relative to 35 percent in the Bay Area. While an individual may make a higher salary doing the same job in the Bay Area relative to Phoenix, that salary will likely not go as far, making low-cost cities with elastic housing supplies an attractive choice for many households.⁶¹

Glaeser reinforces this point in *Triumph of the City*. He explores why the Houston metropolitan area is gaining population at a much faster rate than the New York metropolitan area (1.6 percent relative to 0.7 percent from 2012 to 2013, according to Mike Maciag),⁶² even though the labor force in the New York region is better educated (36 percent of New Yorkers have a college degree relative to 28 percent of Houstonians)⁶³ and New Yorkers earn higher wages (an average of \$26.56 per hour relative to \$23.73).⁶⁴ Glaeser points out that average home prices in cities like New York, Boston, and Los Angeles are unaffordable for households earning average salaries in these cities. In contrast, Houston households earning average salaries can afford higher-quality housing.⁶⁵ Over time, regulations that prevent people from living in the cities where they can be the most productive may result in decreased economic growth. Glaeser

60. Avent, *Gated City*.

61. Ibid.

62. Mike Maciag, "New Population Estimates Highlight Nation's Fastest-Growing Cities," *Governing*, May 22, 2014, <http://www.governing.com/news/headlines/gov-population-estimates-highlight-nations-fastest-growing-cities.html>.

63. Sabrina Tavernise, "A Gap in College Graduates Leaves Some Cities Behind," *New York Times*, May 30, 2012, <http://www.nytimes.com/2012/05/31/us/as-college-graduates-cluster-some-cities-are-left-behind.html>.

64. Bureau of Labor Statistics, "National Compensation Survey—Wages," June 2009, <http://www.bls.gov/ncs/ocs/compub.htm>.

65. Glaeser, *Triumph of the City*, 186.

“Between 1960 and 2000, housing prices across states have diverged more rapidly than incomes across states.”

emphasizes that workers are more productive when they are surrounded by highly skilled workers.⁶⁶ To the extent that regulations prevent agglomerations of highly skilled people with diverse backgrounds, these local rules can limit economic growth.⁶⁷

In more recent research, Peter Ganong and Daniel Shoag demonstrate that land-use regulations have played a role in reducing income convergence between more and less productive areas of the United States.⁶⁸ As house prices have increased more rapidly in the country’s most productive cities, fewer low-skilled workers are living in these cities. The authors point out that, between 1960 and 2000, housing prices across states have diverged more rapidly than incomes across states. They hypothesize that living in more productive cities yields lower incomes net of housing costs for low-skilled workers. To test this hypothesis, they developed a panel dataset of land-use regulations, house prices, and productivity and find that the pace of convergence of wage equality across states has slowed markedly as the housing supply has become less elastic. They write, “Cross-state convergence accounted for approximately 30% of the drop in hourly wage inequality from 1940 to 1980 and accounted for approximately 30% of the drop in hourly wage inequality from 1940 to 1980 and . . . had convergence continued apace through 2010, the increase in hourly wage inequality from 1980 to 2010 would have been approximately 10% smaller.”⁶⁹

66. Edward L. Glaeser, “Smart Growth: Education, Skilled Workers, & the Future of Cold-Weather Cities” (Policy Brief 2005-1, Rappaport Institute for Greater Boston, John F. Kennedy School of Government, Harvard University, April 27, 2005).

67. For further discussion of the relationship between land-use regulations and economic growth, see Peter van Doren, “No Easy Answers,” *Cato Online Forum* (Cato Institute), November 2014, <http://www.cato.org/publications/cato-online-forum/no-easy-answers>.

68. Peter Ganong and Daniel Shoag, “Why Has Regional Income Convergence in the U.S. Declined?” (HKS Working Paper No. RW12-028, John F. Kennedy School of Government, Harvard University, Cambridge, MA, May 2013), available through SSRN at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2081216.

69. *Ibid.*

While Ganong and Shoag focus on the effects that land-use regulations have had on income mobility, research by Chang-Tai Hsieh and Enrico Moretti looks at how the regulations that prevent workers from living in higher-productivity cities reduce economic output at the national level.⁷⁰ Within the United States New York, San Francisco, and San Jose are the three cities with the highest labor productivity. Because housing supply is relatively inelastic in these cities, however, this high labor productivity has been realized through higher wages and higher housing costs rather than through employment growth. The authors find that lowering the level of regulation in these three cities to the level of regulation in the median US city would be expected to increase GDP by 9.5 percent.⁷¹ In other words, if the nation's most productive cities could expand housing to accommodate more employment growth, average wages could rise significantly.

The rules we discuss above each have their own justifications. Progressives in the early 20th century built support for traditional zoning requirements covering separate uses, minimum lot sizes, and setbacks because they thought that blocking light and air with dense building made people unhealthy and that single-family homes were a key to producing good citizens. Today, parking regulators around the country justify parking requirements by arguing that, if businesses do not provide enough free parking for all their customers, those customers will park in adjacent neighborhoods that have free street parking.⁷² And smart growth rules are justified with the explanation that suburban sprawl creates negative externalities in the form of environmental degradation and automobile use that regulations can ameliorate.

But municipal elected officials answer only to their jurisdictions' current residents and in particular to homeowners, who are more likely to vote than renters.⁷³ This leaves those who would like to move into an area in pursuit of economic opportunity or other amenities without an outlet to express their preference for a greater supply of housing. Jonathan Levine explains the political process through which these regressive effects persist:

70. Chang-Tai Hsieh and Enrico Moretti, "Why Do Cities Matter? Local Growth and Aggregate Growth" (working paper, Econometrics Laboratory, University of California, Berkeley, April 2015).

71. Ibid.

72. In his book *The High Cost of Free Parking*, Donald Shoup notes that free street parking, or street parking priced at such a low level that drivers cruise looking for a spot rather than paying for one elsewhere, drives demand for parking requirements. By setting street prices high enough so that drivers don't queue for those scarce spots, the pressure for off-street spaces beyond what the market provides would be reduced. Donald Shoup, "Cruising for Parking," *Access* no. 30 (Spring 2007).

73. For an exploration of homeowners' outsize influence in elections and the political process more generally, see William A. Fischel, *The Homevoter Hypothesis: How Home Values Influence Local Government Taxation, School Finance, and Land-Use Policies* (Cambridge, MA: Harvard University Press, 2005).

A land-use regime predicated on regulatory exclusion opens a gap between the preferences and actual neighborhood choices of excluded households. Low-density land-use regulations tend to be put in place by the first-comers to suburban territory at the metropolitan fringe. . . . These land-use regulations are ultimately too restrictive from the standpoint of economic efficiency. That is, they compel development whose density is inefficiently low even after conditions change and development pressure on the community grows. The initial low-density development pattern, which might have been altered by the market as metropolitan conditions changed, becomes locked in by regulation.

Households excluded from these areas are hardly a potent political force, since they are not likely to be voters in the municipality in question. Even more importantly, they are probably not even aware of the processes by which they were excluded from their first-choice residential location; all they perceive are high housing prices.⁷⁴

The political process that favors homeowners' interests over renters' interests systematically favors older constituents over younger constituents, as 73.6 percent of homeowners are over 45 years old,⁷⁵ whereas this age group makes up just 40 percent of the population. Based on this age distribution, land-use policy favors a relatively older demographic. In this way, the distribution of the costs and benefits of land-use policy is regressive because it tends to benefit those ages 45–54, the highest-income earners, while harming many under 35 who tend to earn less.⁷⁶ Because policymakers face strong incentives to formulate housing policies that cater to incumbent homeowners, those policies tend to benefit wealthier and older people at others' expense.

CONCLUSION AND POLICY RECOMMENDATIONS

We've shown that density restrictions, parking requirements, and smart growth regulations all tend to increase the cost of housing by restricting the supply of

74. Jonathan Levine, *Zoned Out: Regulation, Markets, and Choices in Transportation and Metropolitan Land Use* (Washington, DC: RFF Press, 2005), 70.

75. Josh Miller, "Characteristics of Owners and Renters," National Association of Home Builders, April 18, 2014, <http://eyeonhousing.org/2014/04/characteristics-of-owners-and-renters/>.

76. United States Census Bureau, Historical Income Tables: Households, accessed October 2, 2015, <http://www.census.gov/hhes/www/income/data/historical/household/index.html>.

new housing and by raising construction costs. Perversely, the Wharton Index reveals that these rules are most binding in cities that are centers of innovation and job growth, thereby limiting opportunities for people to move to those areas in pursuit of economic opportunity. Restricting access directly hurts individuals who would like to move to a specific city in pursuit of economic opportunity if the housing supply were not a barrier. However, in the long run restricting access to urban centers of job growth and innovation is also detrimental to national economic growth and income mobility as people are barred from living where they could be most productive.⁷⁷

As Fischel demonstrates, land-use regulations likely reflect the will of a municipality's homeowners, who rationally seek to protect or inflate the value of their largest asset.⁷⁸ The policies that they implement to maintain the character of their neighborhoods and to restrict the supply of new housing have benefits in the form of preservation and perhaps in facilitating the ease of travel by automobile.⁷⁹

In a 2001 paper, Edward Glaeser, Jed Kolko, and Albert Saiz argue that cities provide many consumption benefits, including interesting architecture, cultural amenities, and a variety of consumer services.⁸⁰ To some extent, the regulations discussed in this paper may improve these consumer amenities, making cities more desirable as consumer goods. And the demand for limiting aesthetic outcomes in cities may fuel some demand for land-use regulations, including density restrictions and historic preservation. While these policies have some benefits for current residents and other stakeholders, they undeniably impose costs on others, in particular on the least-advantaged, would-be residents of expensive cities. We've cited many instances of these costs, but they are often not well understood. They vary greatly by location, and municipalities are not required to conduct any sort of cost-benefit analysis before restricting development.

77. For a discussion of how land-use regulations restrict economic development and income mobility, see Enrico Moretti, *The New Geography of Jobs* (New York: Houghton Mifflin, 2012).

78. Fischel, "Economic History of Zoning."

79. In some cases, traditional zoning regulations support transportation by ensuring that drivers have ample parking at their homes and various destinations. However, regulations mandating accommodations for cars, such as parking requirements and wide streets, can perversely worsen traffic congestion by leading people to drive more rather than choosing alternate modes of transportation. See Arizona Department of Transportation Research Center, *Land Use and Traffic Congestion*, Final Report 618, March 2012, <http://repository.asu.edu/attachments/108918/content/Land%20Use%20and%20Traffic%20Congestion.pdf>.

80. Edward L. Glaeser, Jed Kolko, and Albert Saiz, "Consumer City" (Discussion Paper No. 1901, Harvard Institute of Economic Research, June 2000).

Various scholars have proposed limiting land-use restrictions, with the goals of opening up the country’s economic centers to population growth and creating more opportunities for the market to provide affordable housing.

William Fischel proposes a financial instrument, home equity insurance, as a way for homeowners to know that the value of their home is protected even if an increase in the supply of housing in their area drives home prices down.⁸¹ Several government policies—including the mortgage-interest tax deduction, the home-sale exclusion from capital gains taxes, and subsidized mortgage rates—encourage people to store their wealth in their housing. Such federal policies encourage homeowners to lobby for ever-more-exclusive zoning. Fischel’s proposal would reduce the incentive for homeowners to support land-use restrictions, and thereby reduce some of the inefficiencies associated with rent-seeking.

Fischel’s policy recommendation has some limitations, however. While home equity insurance could prevent homeowners from taking a financial hit through deregulation, it doesn’t remove their incentive to seek a faster growth rate in housing prices than they would see in a free market. Additionally, the insurance would likely have to be a government creation, subject to the usual political inefficiencies, and it would also carry risks to taxpayers, should a systemic decrease in home prices—such as the 2008 financial crisis—require large payouts.

Others have promoted “regulatory budgets” as a way to set a limit on how much policymakers can restrict growth. In *Triumph of the City*, Glaeser suggests a historic preservation budget under which only a fixed number of a city’s buildings could be subject to landmarking.⁸² To add a property to the list of preserved buildings, regulators would have to take another building off the preservation roles, giving the regulators an incentive to select for protection only those buildings with the most historic importance, and allow the housing supply to expand in areas deemed less important.

Similarly, law professors Roderick Hills and David Schleicher recommend “zoning budgets.”⁸³ They point out that municipalities commonly implement low-density building rules and even downzone prime land without consideration for the costs of these rules:

On any given zoning vote, the supporters of restrictive zoning have an advantage over the supporters of additional housing

81. Fischel, “Economic History of Zoning.”

82. Glaeser, *Triumph of the City*, 161–62.

83. Roderick J. Hills Jr. and David Schleicher, “Balancing the ‘Zoning Budget,’” *Regulation* 34 (2011).

supply even when less restrictive zoning across a given local government might be preferred by city residents. In effect, local governments exceed their “zoning budgets,” imposing restrictions in excess of what their own planners and politicians declare to be the optimal amount of regulation, because land-use regulation procedure causes them to ignore the long-term effects of individual zoning decisions.⁸⁴

A municipal budget ordinarily forces policymakers to make tradeoffs between potential spending projects, but matters of regulation face no similar constraint. Hill and Schleicher propose that municipal executives be required to set a goal for population growth and this growth rate be put to a vote by the city council. If the object is for the population to increase above its current size, some amount of upzoning would be required, and all downzoning would need to be offset by upzoning elsewhere in the municipality.

While a zoning budget or a historic preservation budget could force policymakers to make choices among potential regulations, they are not necessarily tools that will move a city toward an efficient level of housing—that is, the amount that the free market would provide. Like other tools designed to set restraints on rule promulgation, a zoning budget would be subject to the arbitrary, politically determined level of new development that legislators select. Setting an allowable amount of development requires an implicit cost-benefit analysis by policymakers rather than using the market’s signals about whether new housing should be provided. A zoning budget might lead to an increase in the housing supply over what would be provided in a given city without such a budget because it would internalize some of the tradeoffs for policymakers of allowing new housing. However, it would still set the amount of housing through the political process rather than allowing demand to determine the quantity of housing supplied.⁸⁵

Schleicher has offered creative solutions to the interest-group problems that lead to inefficient land uses.⁸⁶ In a 2012 paper he proposes a policy he calls Tax Increment Local Transfers (TILTs). Allowing more development within a jurisdiction increases the size of its tax base, and TILTs would allow those

84. *Ibid.*

85. For a discussion of some of the challenges inherent in regulatory processes, see Jerry Ellig, “Regulatory Impact Analysis: Four Decades of Foibles” (Mercatus on Policy, Mercatus Center at George Mason University, Arlington VA, January 2015).

86. See Hills and Schleicher, “Balancing the ‘Zoning Budget,’” and David Schleicher, “City Unplanning,” *Yale Law Journal* 122, no. 7 (May 2013).

property owners near the new development to share in the gains by dividing some portion of the increase among them.⁸⁷ TILTs would provide an incentive for neighbors to support new development that could be profitable, whereas currently they have little reason not to oppose any new development that might lower their property values or increase congestion.⁸⁸

By allowing more development, policymakers could ensure that the housing supply would keep pace with housing demand, providing lower-cost housing and reducing the regressive effects of land-use policy. At the local level, a policymaker may represent a constituency opposed to all growth, making the inefficiency of land-use policy a permanent feature. Progrowth policies therefore may more likely be implemented at the state level because interests there tend to be more encompassing.⁸⁹

Homeowners are a powerful political force in any municipality, whereas people who cannot afford to move into a jurisdiction have no political voice at all in that jurisdiction. Institutional reforms such as zoning budgets, TILTs, or other rules that place limits on how much municipal policymakers can restrict growth have the potential to improve the efficiency of land-use policy, and they would reduce the regressive effects of current policy. Permitting people to move to the cities where they have access to the best opportunities will not only benefit these individuals, but it also will ultimately facilitate greater economic growth overall.

If implemented, reform proposals, including zoning budgets and TILTs, have the potential to increase efficiency in land use and reduce the regressive effects of land-use regulations. However, the same vested interests that have led to the current, inefficient regulatory regime also pose political challenges to passing these proposed reforms. One possible way to reduce the strength of local opposition to additional housing is to move the implementation of zoning budgets or TILTs from the local to the state level. While mayors must answer to homeowners in a relatively small geographical area, state policymakers have a broader geographical constituency, and are farther removed from opposition to development at the local level. Schleicher observes that more development

87. In this case the tax increment is the difference between property taxes once new development is permitted and constructed and the property tax level before the development was allowed. Under Schleicher's recommendation, some portion of this increment would be shared with property owners near the new development.

88. As new development increases the local tax base, it also imposes new needs for services on the municipal government. If a new development increases total tax revenues by less than the amount of the new need for services plus the TILT payment, then a TILT would require a municipal budget allocation.

89. Mancur Olson, *The Logic of Collective Action* (Cambridge, MA: Harvard, 1965).

is permitted in cities where mayors have relatively more authority over development because mayors are less influenced by residents with hyper-local concerns about new development.⁹⁰ This effect is even greater at the state level, where policymakers are even less subject to NIMBY pressure and more likely to be motivated to pursue policies that will foster economic growth across the state. While Schleicher and others have done interesting work on land-use reforms, identifying politically feasible policies that will permit more efficient land-use outcomes is an area ripe for further research.

90. Schleicher, “City Unplanning.”

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