A National Survey of Development Standards and the Impact on Housing Affordability

By Terry Moore, FAICP, Robert Parker, AICP, Beth Goodman, and Gerrit-Jan Knaap

Reports and journal articles about the relationship between regulation and housing costs leave many questions unanswered.

What regulations have the biggest impact on housing costs? Which are most prevalent in U.S. cities? Are there differences in regulations between urban and rural jurisdictions or between regions of the U.S.? This article discusses (1) the impact of the requirements of zoning and subdivision ordinances that are most likely to impact the cost of new housing, and (2) the occurrence and magnitude of land-use regulations that go beyond minimum standards and, in doing so, increase the cost of housing. The literature refers to such standards as “regulatory barriers to affordable housing” and as “excessive” regulation.

A cornerstone of local policy for land use is the belief that regulation can improve the efficiency of land development and use by reducing the negative effects of these activities. Even though planners and policy makers acknowledge that the proper scope of such regulation is empirical and that regulations can go “too far,” the number and scope of regulations consistently grows. Ultimately, theory cannot answer questions about the proper scope of a specific policy. Because theory can be marshaled on both sides of the question, some careful empirical work is necessary.

EXCESSIVE VERSUS REASONABLE

The empirical work we report is from a study sponsored by the U.S. Department of Housing and Urban Development, part of a larger National Association of Home Builders study, Study of Subdivision Requirements as a Regulatory Barrier. The study attempted to quantify the cost of “excessive” regulation based on the survey of regulatory standards, benchmarks of “reasonable” development standards, and estimates of development costs. Defining both “excessive” and “reasonable” is a slippery proposition. “Excessive” implies more regulation than is “reasonable,” but how does one define “reasonable”? We continue to use both words in quotes to emphasize the preliminary nature of the definitions used in the study.

The study used the following methods to produce an order-of-magnitude estimate for the cost of “excessive” regulation:

1. The NAHB developed benchmarks of “reasonable” development standards for urban and rural jurisdictions, based on a survey of development professionals. It compared the results of the national survey of regulations against benchmarks of “reasonable” development standards to determine the average amount of regulation required in excess of the benchmark standards (i.e., “excessive” regulation).
2. The NAHB estimated the unit cost of regulations exceeding the benchmark standards for each development standard based on the costs of raw land and construction.

3. The NAHB and ECONorthwest applied the unit costs to the regulations in excess of the benchmark standards to the survey results to estimate the average cost of “excessive” regulation for jurisdictions in the survey.

4. The NAHB and ECONorthwest used the average cost of regulation in excess of the benchmark standards to estimate the national cost of “excessive” regulation based on the number of building permits issued in 2004.

The study investigates the influence of zoning and subdivision regulations on the cost of new housing construction. It (1) selects certain housing inputs that are often regulated in zoning and subdivision regulations (e.g., lot size, setbacks, open space, street width); (2) uses a national survey to measure and describe how those regulations vary across the county; and (3) compares the national practice to what a panel of housing experts judged to be “reasonable” standards. The study defines “excessive” regulation as actual standards that exceed theoretical “reasonable” standards, and this definition allows us to estimate the costs associated with “excessive” standards.

We’re not saying that the standards chosen by the panel are “right” or that the additional costs are without benefit or are even a deadweight loss. The study does estimate, however, how much the cost of housing production could be reduced if the national average standards were lowered to those judged by the panel to be reasonable.

Despite a lack of comprehensive national studies, few would debate that regulations can have measurable impacts on housing cost.

A FRAMEWORK FOR THINKING ABOUT HOUSING COST

Many studies have tried to estimate the effects of land and development regulations on housing costs. Most of them focus on the effects of either whole categories of regulations or general development patterns. Few studies have attempted to estimate the cost impacts of the development standards in subdivision and zoning regulations, and none has tried to do so on a national scale. There has been no comprehensive national survey of development standards affecting the provision of affordable housing. Despite a lack of comprehensive national studies, few would debate that regulations can have measurable impacts on housing cost.

Schuetz and White conducted one of the few studies to examine the costs of individual regulation and identified three ways in which subdivision and zoning regulations can affect housing costs: land, lot improvement, and housing construction. The subdivision regulations that were found to have a significant impact on costs include sidewalk, curb and gutter, and storm sewer requirements; impact fees; and excessive right-of-way widths. Additionally, they found that “excessive” zoning regulations increase the costs of certain subdivision elements by increasing the amount of materials needed. Excessive lot widths increase the costs of sewer mains, water mains, streets, sidewalks, storm sewers, and curbs and gutters; excessive front yard setbacks increase the costs of sewer and water laterals.

Regulations can cause the cost and price of housing to increase by amounts that are not worth the value of the benefits that the regulations intend to provide. In other words, price effects are at the heart of the issue of regulatory barriers to housing. But housing price is affected by many variables—only some of which are public policies—and only a subset of those are the ones focused on in allegations of regulatory barriers. Figure 1 on page 4 shows the main factors that influence the price of new housing. Some observations:

- Housing supply and demand factors include the existing supply of housing and the demand for residential space resulting from...
Labor and materials account for roughly 50 percent of housing costs, and other factors (e.g., financing, overhead, sales, and profit) account for remaining costs.

Land-use regulation has several effects on housing costs. First, it tends to increase housing costs by restricting the supply of land. It restricts development on certain lands (e.g., where there are physical constraints or high-value environmental resources) and allows housing on some of the land not so restricted. Second, regulation can also add conditions to development that a developer would not otherwise meet, and those conditions have a cost (e.g., landscaping to create a visual buffer). Other types of costs include permitting fees, systems development charges, and other regulatory charges. Third, developers may spend time and resources in the process of trying to comply with land-use regulations.

A final caution: The funding for and research into regulatory barriers is primarily about identifying and estimating the costs of barriers, not about estimating the net impacts (costs and benefits) of public policy. Land-use regulation does not just increase the cost of development. It may, and most often probably does, increase the value of the development (even when the costs are greater than the increases in market value). Moreover, even if the regulatory costs do not translate into higher prices and bigger returns for the developer, the off-site benefits to larger groups of citizens (e.g., those downstream from a development that must pay the regulatory costs of better stormwater management) may exceed, perhaps substantially, the costs borne by the developer and home buyers in the development. Identifying and estimating the costs of “excessive” regulations is an important piece of the policy puzzle, but it is only one piece.

A NATIONAL SURVEY OF REGULATORY STANDARDS

The broader purpose of the HUD study was to explore the connection between subdivision and zoning regulations and housing cost. A national survey of regulatory standards that impact the cost of residential development was the foundation of the study. The survey focused on regulatory standards and requirements that raise the cost of residential development and examined regulatory standards amenable to

growth and economic factors (e.g., change in income). These are significant influences on price, but are usually outside the scope of the debate about regulatory barriers.

- Land costs depend on market conditions—the demand for land, the amount of land available on the market, and the resulting price of land. The cost of land can be divided into the cost of raw land and the cost of providing infrastructure and services to that raw land. A simple inference is that regulations that increase the amount or unit price of land, or the infrastructure necessary to support residential development, are barriers to that development. Here, and throughout the slippery terrain of regulatory barriers, we must step carefully. It is not enough to show, for example, that requirements for off-site and on-site infrastructure increase housing price; Of course they do. Instead, we must ask three relevant questions. (1) What is the efficient level of infrastructure to provide? (2) What would the developer have provided in the absence of the regulations? And (3) what would be the difference in spillover impacts between the efficient level of infrastructure and the infrastructure that developers would have provided in the absence of regulations (i.e., both short- and long-term external costs)?

- Construction costs depend heavily on the costs of labor and materials. The structure of the local construction industry can be an important factor because the size and number of construction firms can influence costs through competition for labor, through a lack of expertise in large-scale projects (requiring the importation of expert labor), or through economies of scale.

- Other cost factors include financing costs (both for the developer and the home buyer), construction overhead, and profit. The contribution of each of these factors can vary substantially according to housing market conditions, but historically, in suburban, single-family, residential markets, serviced land generally accounts for 20 to 25 percent of housing costs. Labor and materials account for roughly 50 percent of housing costs, and other factors (e.g., financing, overhead, sales, and profit) account for remaining costs.

This exposition substantially oversimplifies the complexity of the land market. A model would have to be disaggregated by types of uses (e.g., residential, industrial) and types of products within those uses (e.g., SF, MF) and types of households with effective demand for those uses (e.g., by size of HH, age of head, income).
direct measurement and cost implication analysis. Based on previous research, we selected standards likely to increase the amount of land required or likely to increase the cost of providing infrastructure (i.e., sewer or water lines) for residential development in subdivisions.

The Sample
We based our survey on a sample of 500 jurisdictions across the U.S. Of those, we were able to obtain ordinances from 469. The sampling challenge was to develop a methodology that resulted in a random sample representative of the population of all 38,966 jurisdictions in the U.S. The objective was to develop a sample that (1) was geographically representative of communities across the nation, (2) reflected the national distribution of population (including jurisdiction size), (3) reflected both fast- and slow-growing jurisdictions, and (4) represented a range of government types.

We weighted the sample by population in states (e.g., the number of samples for each state is proportional to its population) and then by amount of population growth in each jurisdiction between 1996 and 2000. This methodology placed emphasis on the amount of population in each state, and ensured that both fast- and slow-growing communities were represented.

The key weighting criteria did not include the number of local governments. If we had used the number of local governments as a weighting criterion, then states like North Dakota with 1,744 jurisdictions would have had many more samples than states like California, which has 532. We focused on population and growth rate rather than the number of jurisdictions because the focus of the study was the cost of “excessive” regulation on new development, which occurs more frequently in areas with more population and higher growth rates. While the survey represented slightly more than one percent of the population of local governments, it represented 26 percent of the U.S. population.

We divided jurisdictions into urban (those belonging to a Metropolitan Statistical Area (MSA)) and rural (those not belonging to an MSA). More than two-thirds of the sample (323 jurisdictions) belonged to an MSA; less than one-third of the sample (146 jurisdictions) was not part of an MSA.

The Ordinance Review
The survey consisted of obtaining and reviewing subdivision and land-use ordinances from the sample jurisdictions. We used four steps to review the ordinances: selecting the residential district to review, gathering data from the zoning ordinance, gathering data from the subdivision ordinance, and searching both ordinances for missing data.

Since it was not feasible or practical to collect data about all residential districts, this study focused on the requirements found in the densest residential zone that permits detached single-family housing by right. This zone represents the “border” between multifamily housing and low-density single-family housing. The requirements for less land in this zone increase the likelihood of affordable housing being developed because land accounts for a substantial share of the costs of residential development. Thus, choosing the residential district to review was critical because most jurisdictions have multiple residential zones with differing development standards.

THE RESULTS OF THE SURVEY
Lot Standards
Regulation of lot size and configuration is important because these standards determine the density of residential development, which directly impacts housing affordability. Table 1 shows the lot standards collected for this study: size, setbacks, floor area, and off-street parking. Lot size is the key lot standard in this study because the minimum lot size determines the amount of land required for a single-family detached dwelling. Most of the other lot variables are related to size and placement of the dwelling on the lot.

The first and third quartiles show the range of responses between the bottom 25th percent and upper 75th percent of jurisdictions’ standards. The quartiles show the range of standards that the majority of jurisdictions fit into, without emphasizing the smallest and largest standards.

About 95 percent of jurisdictions with zoning or subdivision ordinances had minimum lot size standards. The mean lot size was 9,924 square feet, with 50 percent of the jurisdictions having minimum lot size standards between 5,000 and 8,500 square feet. The lot size requirements in urban juris-
dictions were less than half the size of rural jurisdictions’ requirements: an average of 7,578 square feet compared to the rural average of 15,507 square feet.

Lot width and setbacks varied across jurisdictions but not as much as lot size. The mean lot width requirement was 62 feet, with 50 percent of jurisdictions’ lot width requirements varying from 50 to 70 feet. Average urban lot width requirements were three-quarters as large as rural requirements. We examined front, side, and rear setbacks; front setbacks had the largest mean requirement at 25 feet. Side setbacks averaged eight feet per side. Urban jurisdictions’ requirements for front and side setbacks were about two-thirds as large as rural jurisdictions’ requirements. Rear setbacks averaged 21 feet, with average urban requirements about 80 percent as large as rural requirements.

The variables examined so far relate to the size of the lot and placement of the dwelling on the lot. The next lot variable, floor area, is related to the amount of living space within the dwelling unit, expressed as the minimum number of square feet of floor space within the dwelling. Floor area is a key variable because large floor area requirements decrease housing affordability by requiring larger homes than the market might otherwise build. Only 18 percent of jurisdictions with ordinances had requirements for floor area, with a mean requirement of 1,060 square feet.

The final lot variable was requirement of off-street parking spaces. Table 1 shows that 83 percent of the jurisdictions had off-street parking requirements and that more than three-quarters of jurisdictions with standards required two spaces. Urban and rural jurisdictions’ requirements for off-street parking were similar, with off-street parking requirements more common in urban jurisdictions.

**Street and Sidewalk Standards**

Because transportation is essential to residential development, jurisdictions commonly regulate street and sidewalk standards in residential subdivisions. We collected information about street pavement width, street right-of-way width, requirements for curbs and gutters, planting strip requirements, and sidewalk requirements.

More than half of all jurisdictions surveyed regulated street widths in their zoning or subdivision ordinance. Table 1 shows that the mean street pavement width requirement was 28 feet. Street right-of-way requirements have an average width of 53 feet, which includes pavement width, curb and gutter, planting strip, and sidewalk requirements, as well as public easements. Pavement and right-of-way widths varied only slightly between urban and rural jurisdictions.

![Table 1. Survey of Selected Standards](image-url)
Half of the jurisdictions surveyed required curb and gutters in their zoning or subdivision ordinances. Fewer than 10 percent of jurisdictions required planting strips (landscaped areas between the curb and sidewalk). Among ordinances requiring planting strips, the mean width was five feet. Half of jurisdictions also required sidewalks on one or both sides of the street and 26 percent required sidewalks on both sides of the street, with a mean width requirement of four feet.

Open Space and Landscaping Standards
We evaluated the amount of land required for open space, which includes requirements for devoting undeveloped land to public uses, such as parkland. About 28 percent of the jurisdictions in the sample had regulations requiring dedication of land for open space uses. Of these jurisdictions, 59 percent, or 78 jurisdictions, allowed payments (fee-in-lieu) of land dedications.

Open space requirements varied but generally fell into one of three patterns: (1) requirements for a fixed percentage of land within the subdivision, (2) a set amount of land per dwelling unit in the subdivision, or (3) a set amount of land per person expected to live in the subdivision. Open space requirements in urban and rural jurisdictions were relatively similar although requirements were more prevalent in urban jurisdictions.

The final standard we examined was landscaping requirements in subdivisions. They varied from complex, extensive requirements to general ones. Some jurisdictions had specific requirements about the type, location, and size of plants used in landscaping. Others were general, merely requiring some sort of landscaping. Quantifying these requirements posed significant difficulties because of the variability in requirements. As a result, we simply tracked whether jurisdictions had landscaping requirements. About 40 percent of jurisdictions had landscaping standards in their subdivision or zoning ordinance.

CONCLUSION: THE IMPACT OF REGULATION ON HOUSING AFFORDABILITY
The regulations with the greatest impact on housing cost were lot size and floor area. Excessive lot-size requirements accounted for about three-quarters of the cost of “excessive” regulation and floor area requirements accounted for about 10 percent of the costs.

All other development standards examined in the survey (lot width, setbacks, number of parking spaces, street standards, etc.) account for approximately 15 percent of the cost of “excessive” regulation. For the most part, these costs are related to additional land costs and the provision of services. Of the remaining standards, lot widths, front setbacks, and street pavement width had the largest effect on cost.

We end with a reminder that even if one were to accept our definitions and resulting estimates of “excessive” costs as approximately correct, the costs are not a deadweight loss. Our definition of “excessive” costs clearly implies that the incremental costs of the higher standards are greater than the incremental benefits, but there are usually benefits. Bigger setbacks may require bigger lots that cost more, but the purchaser is, in fact, getting a bigger lot that has some value. Thus, the estimate of an aggregate cost impact of $14 billion cited above would be, all other things being equal, an overestimate (perhaps a substantial one) of the net impact on the regulations on the purchasers and users of housing.
DOES YOUR COMMUNITY HAVE REGULATORY BARRIERS TO AFFORDABLE HOUSING?