Cityscape

A Journal of Policy Development and Research

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Guest Editor's Introduction

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The theme of this issue's symposium, regulatory innovation and affordable housing, evaluates the extent to which state and local governments are committed to removing barriers to affordable housing. Many of the most restrictive barriers are exclusionary zoning regulations that are permitted under state-enabling legislation and adopted at the local level. The articles in the symposium challenge traditional assumptions about the costs of urban sprawl, the resistance involved in the contemporary planning and review process, and the success and failure of programs that seek to provide solutions to the housing and transportation crises. Many state and local governments recognize the need for more affordable housing. In addition to raising awareness of this issue among fellow citizens through community organizing, our governing partners at the state and local levels have come to believe that restrictive local regulations are part of the problem.

Land use regulations and zoning requirements may impede access to housing and jobs, especially for low- and moderate-income families. Increasing the supply of affordable rental units and owner-occupied affordable housing is the U.S. Department of Housing and Urban Development's (HUD's) highest policy priority. Unnecessary, duplicative, excessive, or discriminatory planning and zoning practices significantly increase the cost of housing development. Many public statutes, ordinances, regulatory requirements, standards, and procedures substantially impede the development or availability of affordable housing without providing commensurate or demonstrative health and safety benefits.

Addressing these regulatory barriers to housing affordability is a critical component of any overall national housing policy agenda. New, innovative policy tools, such as inclusionary zoning (IZ) and smart growth, have been implemented in various communities across the country as state and local governments continue to reform their regulatory environments. Unfortunately, well-intended reforms might actually impose additional constraints on the construction of affordable housing. The need to measure their effects is clear.

The articles selected for this symposium address three underlying issues that, taken together, advance our knowledge of the effect of land use regulations and their impact on housing:

1. What challenges to affordable housing are present as a result of outdated, unnecessary land use regulations?

2. What strategies have been used to address and achieve regulatory reform at the local level?

3. Are these strategies effective in achieving affordable housing goals?

HUD's Role in Addressing Innovative Strategies for Achieving Regulatory Reform

HUD has been a leader in addressing barriers to affordable housing through its research and development efforts. During the George W. Bush Administration, these efforts took the shape of the National Call to Action for Affordable Housing Through Regulatory Reform campaign, also known as the National Call to Action (NCA). In previous years, the NCA has been a major component of the America's Affordable Communities Initiative, which encourages state and local governments across the nation to create task forces to examine their local zoning and housing ordinances and identify regulations that may impose barriers to the construction of affordable housing. The NCA recognized innovative approaches for achieving affordable housing at the state and local levels and acknowledged for-profit and nonprofit organizations that also engage local political offices in the planning and growth management process to raise awareness about outdated land use standards and requirements. Reducing barriers to affordable housing and promoting sustainable development continue to be important departmental priorities of the Obama Administration.

In 1990, for the first time, Congress recognized the effect of public policy decisions and processes on the supply of affordable housing. Section 105(b)(4) of the Cranston-Gonzalez National Affordable Housing Act required state and local governments to explain whether housing affordability was affected by their planning and development decisions reflected in their Comprehensive Housing Affordability Strategies. They were also required to describe each jurisdiction's strategy for removing or mitigating the negative effects, if any, of such decisions. This requirement remains in effect to this day. Congress continues to realize this commitment in Title XII of the Housing and Community Development Act of 1992, reiterating its interest in this important subject by authorizing grants for regulatory barriers removal and through the establishment of HUD's Regulatory Barriers Clearinghouse. The clearinghouse continues to receive congressional reauthorization to carry out its mandate to provide updated information on regulatory reform.

Due to the generally accepted view that inappropriate, excessive, or exclusionary practices have an adverse effect on housing development, the challenge to remove barriers to affordable housing continues to be a pressing issue. Over the years, HUD's Office of Policy Development and Research has sponsored a series of studies that have all concluded that excessive, unnecessary, or duplicative regulations are major contributors to rising housing costs. The costs of complying with these regulations continue to rise as more rules and restrictions are adopted, making new homes unaffordable and preventing potential homeowners from buying homes. Although housing affordability is a critical issue of national concern, local communities are responsible for developing sound policy solutions. HUD therefore continues to support state and local

governments' efforts to identify and examine the effect of their regulations on housing and homeownership through its formula and competitive grant programs.

In 2005, HUD published "*Why Not in Our Community?" Removing Barriers to Affordable Housing,* an update of a 1991 report, to provide an overview of how regulatory barriers continue to pose serious impediments to providing affordable housing throughout the country and how federal, state, and local governments are beginning to address these issues and to outline the additional actions needed at all levels of government to make progress. As part of this larger effort, in 2006 HUD published a report entitled *A "Smart" Start for Regulatory Reform: Successful Strategies for Overcoming Barriers to Affordable Housing*, which provided assistance to and policy strategies for local public-private partnerships to improve their institutional capacity to implement plans for regulatory reform. This initiative established a toolkit for mitigating regulatory barriers and other guidance materials, which are available on the HUD USER website (http://www.huduser.org).

To address issues affecting the supply and provision of multifamily housing, in 2007 HUD published the report *Zoning as a Barrier to Multifamily Housing Development,* which evaluates how communities, through exclusionary zoning, may limit the development of multifamily housing and thus limit the supply of affordable housing in communities. In addition, to address barriers to developing affordable single-family housing, HUD published the 2007 report *Study of Subdivision Requirements as a Regulatory Barrier,* which provides a thorough investigation of how local subdivision requirements, which establish specifications for site plans and infrastructure (for example, streets, sidewalks, and water systems), exceed what is necessary to meet health and safety requirements and thereby act as a regulatory barrier to affordable housing. The study presents a national estimate of the cost of excessive requirements for single-family housing built in this country.

Most recently, HUD undertook the Regulatory Barriers Database project in 2008 to support the development of a national regulatory barriers database for researchers who want to learn more about how excessive regulations have affected the housing market. Finally, the researchers for *A Review of Regulatory Barriers to Employer Ability to Recruit and Retain Employees*, which was published in 2008, developed a research framework for evaluating the effects of high housing costs on employers and on regional economic competitiveness.

Overview of the Symposium Articles

Inclusionary zoning, also known as inclusionary housing, is a policy tool that links affordable housing to the production of market-rate housing. IZ policies either require or encourage builders of new residential developments to set aside a certain percentage of their housing stock for low- or moderate-income residents. In exchange, many IZ programs provide cost offsets to developers, such as density bonuses, that enable developers to build more units than would normally occur under conventional zoning. Some IZ programs promote fast-track permitting so that developers can build affordable housing more quickly.

Although IZ programs have grown in scope and popularity over the past decade, relatively little is known regarding their overall results and effect (that is, costs and benefits). Recent studies have begun to shed light on these issues, but the assessments are neither comprehensive nor definitive. Three overriding policy questions to be answered are (1) how well IZ programs have fared in providing affordable housing options to individuals and families who reside in communities that have affordable housing, (2) what costs are associated with the implementation of these programs, and (3) whether IZ programs restrict the supply and increase the cost of market-rate housing in these communities.

In the introductory article, "Housing Market of Inclusionary Zoning," Antonio Bento and his colleagues get us closer to an answer. Although the authors acknowledge that inclusionary zoning has yielded positive results, they find that these programs increase housing prices and restrict the production and supply of single-family housing. Based on a longitudinal evaluation of the costs associated with inclusionary housing programs in cities across Northern California, the researchers' findings also show that local land use regulations have the effect of reducing available housing options solely to multifamily housing, with the number of affordable units also restricted by those regulations. Subdivision zoning standards that specify house size have a greater effect on the production of housing. Similarly, inclusionary zoning requirements that mandate the provision of below-market units lead developers to shift the burden of providing those affordable units onto consumers in the form of higher housing prices.

The good news, however, is that inclusionary zoning programs were successful in increasing opportunities for multifamily housing. Thus, it is safe to conclude that, although inclusionary zoning may have the effect of depressing the number of housing starts or restricting single-family options, researchers should shift their focus on how to design an inclusionary zoning ordinance that accounts for changes in the local housing market. Some attention should also be devoted to how existing zoning regulations may hinder the development of an inclusionary zoning program that works to create more housing options for consumers and families. The next step is to consider a more extensive evaluation of existing programs, given these mixed results, and to consider a broader range of methodological approaches for investigating the costs and benefits of inclusionary zoning that would lead to a better understanding of how well these programs work.

Douglas Porter and Elizabeth Davison shed some light on how communities may overcome the challenges highlighted by Bento et al. and other skeptics who question the effectiveness of IZ programs. In their timely article, "Evaluation of In-Lieu Fees and Offsite Construction as Incentives for Affordable Housing Production," the authors discuss the results of their pilot study of IZ programs that exist in three communities: Boulder, Colorado; Montgomery County, Maryland; and Pasadena, California. The IZ programs under review are unique in their approach and response to the specific housing needs of their respective communities. In addition, they all enable builders to take advantage of incentives for the offsite construction of affordable housing units.

In-lieu fees provide opportunities for builders to satisfy IZ requirements by giving them the opportunity to transfer payments to a local housing trust fund or land grant program. Local

government can then use these funds to build affordable housing, according to where housing is most needed. Alternately, builders may reserve the option to locate the required affordable units at a less costly, designated site instead of including those units in the same development as the market-priced units. These incentives offer some flexibility in how builders provide affordable housing and, in theory, are meant to encourage them to continue to satisfy mixed-income housing goals.

After a careful review of the local regulatory environment, laws, procedures, and requirements of the respective IZ programs in the selected communities, Porter and Davison conclude that the success of these programs greatly depends on the confluence of factors such as (1) the trends in the local housing market that may affect land costs; (2) the existing political climate or governing structure (Maryland); and (3) the influence of the types of housing desired, where the demand for owner-based, market-rate housing is preferred over below-market housing targeted to renters (Pasadena). The review of in-lieu fees demonstrates that incentives are generally effective for encouraging builders to provide affordable housing in all three communities, with some minor exceptions in Maryland. In short, IZ works when the economic, political, and social conditions under which IZ programs operate generate favorable opportunities for the provision of affordable housing. They fail not entirely due to the mandate to provide affordable housing; rather, they are unsuccessful when external factors, such as a housing bubble or crisis or resistance from the community at large, interfere with carrying out that mandate.

Sam Casella and Stuart Meck offer a glimpse of the planning review and development process at the local level. In their article, "Removing Regulatory Barriers to Affordable Housing in Development Standards, Density Bonuses, and Processing of Permits in Hillsborough County, Florida," the authors devise a strategy for local governments that want to refine and streamline their regulatory processes by implementing innovative tools for overcoming regulatory barriers, using Hillsborough County, Florida, as a case study. The results of their case study yield some insight about why the community has been unable to respond to its critical housing needs. Unnecessary, antiquated, or duplicative regulations have crippled the housing market and placed a strain on the development community in its efforts to provide high-quality affordable housing. Specifically, the authors find that the county's Comprehensive Plan and Land Development Code do not provide flexibility due to strict requirements for minimum lot size, lot width, and yard setbacks, among other subdivision standards; the arbitrary minimum thresholds that govern density bonuses; and excessive red tape provisions involved in the review and permitting process. Reform must take place in these three areas, which are often cited as regulatory barriers that restrict the construction of affordable housing. The Hillsborough County example may provide teachable lessons for communities that face similar challenges.

Smart growth efforts have expanded greatly in the past 15 years. Advocates contend that antisprawl programs have successfully addressed major challenges stemming from unplanned development, such as traffic congestion, lack of housing mix, the obesity epidemic, and energy consumption. Smart growth policies call for more compact land development that offers a variety of housing and transportation options. To be effective, smart growth strategies should promote a range of mixed-use, mixed-income housing with a variety of densities for residential and commercial development. They should also encourage the construction of high-quality

affordable housing and public facilities near transit and within walking distance. This "smarter" mode of growth management lessens the effect of sprawl by reducing automobile use, thereby saving energy and improving air quality. It also conserves valuable land and other natural resources while supporting community goals for growth, development, and economic prosperity.

Throughout the 1990s the smart growth movement was well under way. With the support of HUD and the Henry M. Jackson Foundation, the American Planning Association encouraged states to conduct comprehensive reviews of their growth management laws to ensure that states paid attention to fair and affordable housing, improved their transportation systems, and enacted environmental protection. Although most smart growth activities took root at the state and local levels, President William Clinton and Vice President Albert Gore promoted their Livability Agenda, which highlighted smart growth objectives such as the protection of farmland and the preservation of valuable land and water resources. Under smart growth, the primary focus was on how states, local jurisdictions, and their federal partners could balance growth and environmental goals simply by making better, more effective planning decisions. Planning under the smart growth concept incorporated many new urbanist principles, such as creating walkable streets and mixed-used communities that provide a diversity of commercial development, offices, apartments, and onsite housing.

The final article in this symposium provides a timely discussion on the smart growth approach to land use planning and evaluates how well smart growth policies have responded to housing and planning needs. In "Urban Sprawl and the Transition to First-Time Homeownership," Casey Dawkins presents an alternative view of the effect of urban sprawl on housing. The traditional assumption about sprawl, Dawkins notes, is that it creates a mismatch between jobs and housing, leads to ineffective transportation systems, and restricts housing choice. He argues that sprawl actually enhances housing opportunities, particularly for low-income, working minorities who make the transition from renters to first-time homeowners. After constructing a database that consists of panel data used to construct various measures of density, the author finds that a broader range of various public service options commonly found in sprawling metropolitan areas may be available to first-time homeowners.

Using economic theory first advanced by Charles Tiebout, Dawkins finds that exclusionary zoning practices constrain housing choices for lower income families hoping to move to suburban enclaves. Thus, the sprawl that results from excessive development, ineffective planning, and governing structures in suburbs may in fact provide more, not fewer, valuable amenities for those who reside within the urban core. The most compelling argument is that containment policies do not lead to higher housing prices in central cities, as many previous studies contend. To the contrary, the presence of a containment strategy, such as a regional growth boundary, may actually decrease housing prices, which creates many affordable options for first-time buyers who tend to earn less and rely more on public transportation. The reason for this anomaly is that local officials often face political pressure to provide affordable housing and resist planning decisions that have exclusionary effects. Dawkins' findings shed some light on the complex nature of the relationship between sprawl and the governing structure within which planning and growth management decisions are rendered.

Housing Market Effects of Inclusionary Zoning

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Abstract

This article presents an empirical analysis of the effects of inclusionary zoning policies on housing prices and starts in California during the period from 1988 through 2005. The analysis compares cities with and without such policies and isolates the effects of inclusionary zoning programs by carefully controlling for spatial and temporal condi-tions, such as the neighborhood or school district within which the house is located and changing market conditions over time. The analysis found that inclusionary zoning policies had measurable effects on housing markets in jurisdictions that adopt them; specifically, the price of single-family houses increases and the size of single-family houses decreases. The analysis also found that, although the cities with such programs did not experience a significant reduction in the rate of single-family housing starts, they did experience a marginally significant increase in multifamily housing starts. The magnitude of this shift varied with the stringency of the inclusionary requirements. Finally, the analysis found that the size of market-rate houses in cities that adopted inclusionary zoning increased more slowly than in cities without such programs. The results are fully consistent with economic theory and demonstrate that inclusionary zoning policies do not come without costs.

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Introduction

As concerns about affordable housing have grown across the country, local governments have responded by adopting a variety of affordable housing programs. An increasing number of local governments are considering an inclusionary zoning approach, which requires developers to sell a certain percentage of newly developed housing units at below-market rates to lower income households. Although specific details of these programs vary widely, they are politically attractive because they are viewed as a way to promote housing affordability without raising taxes or using public funds.

No program, of course, is cost free. According to standard economic theory, inclusionary zoning acts like a tax on housing construction. And just as with other taxes, the burdens of inclusionary zoning are passed on to housing consumers, housing producers, and landowners. More specifically, economic theory suggests that inclusionary zoning requirements act to decrease the supply of housing at every price, raise housing prices, and slow housing construction. As a result, inclusionary zoning policies could exacerbate the affordable housing problem that they are designed to address.

Although debate over the merits of inclusionary zoning has continued for nearly three decades, no rigorous studies have been done on their effects on housing prices and starts. This article offers such an analysis. Specifically, this article presents an analysis of the effects of inclusionary zoning policies on single-family housing prices, single-family and multifamily housing starts, and the size of single-family housing units in California during the period from 1988 through 2005.

The analysis found that inclusionary zoning policies have measurable effects on housing markets. Specifically, it found that, in jurisdictions that adopt inclusionary zoning, the share of multifamily housing increases, the price of single-family houses increases, and the size of single-family houses decreases. The analysis did not examine the purported benefits of inclusionary zoning, such as whether these policies increase the supply of affordable housing or serve to integrate low- and high-income residents. Therefore, the analysis cannot ascertain whether inclusionary zoning increases social welfare. It demonstrates, however, that such benefits do not come without measurable costs.

Background

The first inclusionary zoning program was adopted in 1974 by Montgomery County, Maryland. The original Montgomery County ordinance required that 15 percent of new developments with more than 50 housing units be sold at a price affordable to low-income households. In return, the county provided developers with a density bonus that allowed them to build at a density up to 20 percent higher than the maximum density allowed by zoning. Since then, inclusionary zoning policies have grown in number and variety across the country. For example, between 1990 and 2003, the number of California communities with inclusionary zoning grew from 29 to 107 (Powell and Stringham, 2004). As of 2004, an estimated 350 to 400 local jurisdictions had inclusionary zoning programs, with the vast majority of these programs enacted in California, Massachusetts, and New Jersey (Porter, 2004).

The economic effects of inclusionary zoning are similar to those of a tax on housing construction, as show in exhibit 1. As more units are sold at a discount, the cost of development increases. Developers must raise the price on market-rate units to compensate for the cost of discounted units. As a result, the price of market-rate housing rises and the production of such housing declines. This decline in housing production can manifest as both a reduction in housing starts and as a reduction in housing size.

The features of inclusionary zoning programs vary widely, as shown in exhibit 2. The economic impacts of inclusionary zoning vary based on the different program features. A voluntary program that relies on incentives might not have any economic impacts, while a mandatory program that requires many, deep, and long-term discounts could have significant adverse economic effects.

Exhibit 1

The Economic Effects of Inclusionary Zoning
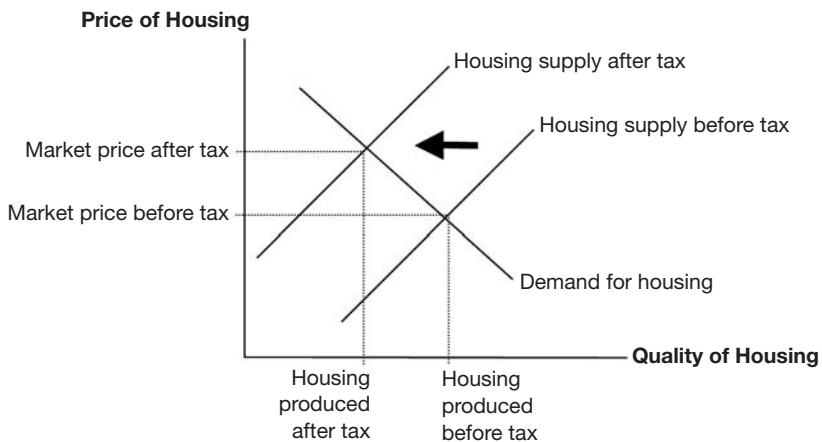
Exhibit 2

Distinguishing Features of Inclusionary Zoning Programs

Feature	IZ Programs
Size and types of developments subject to inclusionary requirements	Some programs are voluntary; others impose inclusionary requirements only on large, single-family projects; and others impose inclusionary requirements on all types of projects of all sizes.
Percent of units that must be affordable	Some programs require only 5 percent of new units to be sold at a discount; others require percentages as high as 30 percent.
Depth and duration of price discounts	The depth of price discounts often varies by the target population. For example, many programs require that units be made affordable to those at 80 percent of median household incomes, while others set different standards. The period of affordability often varies from 10 to 99 years.
Incentives or allowances offered in compensation	Most programs offer some form of incentives or compensation for providing affordable units. Incentives and compensation often include density bonuses, waivers of subdivision requirements, or fee reductions. Some programs permit payments in lieu of inclusionary units.

IZ = inclusionary zoning.

Previous research on inclusionary zoning has produced mixed results. Although most research has been theoretical and dominated by case studies, some studies have sought to quantify the benefits and potential costs.

An early study by Clapp (1981) described the potential reaction of developers to inclusionary zoning programs. Tombari (2005) similarly described the potential adverse effects on housing prices and starts. Powell and Stringham (2004), in their study for the Reason Public Policy Institute, provided quantitative support for the concerns raised by Clapp and Tombari. Specifically, using data from the San Francisco Bay area, they provided evidence to suggest that inclusionary zoning makes market-priced homes more expensive, restricts the supply of new homes, and produces few affordable units.

A considerable volume of case study research, however, comes to quite opposite conclusions. Using data from Los Angeles, Rosen (2002) found no correlation between the adoption of an inclusionary housing policy and housing starts in 28 California cities. Multiple case studies by Calavita (Calavita, 2004; Calavita and Grimes, 1998; Calavita, Grimes, and Mallach, 1997) and his colleagues in California and New Jersey concluded that inclusionary zoning is a viable strategy for increasing the supply of affordable housing and mixing low- and high-income residents. The National Housing Conference (2002) drew similar conclusions in case studies conducted in Massachusetts.

In a study of the inclusionary zoning programs in the Greater Washington metropolitan area, Brown (2001) concluded that inclusionary zoning programs work best in jurisdictions with large amounts of undeveloped land and less effectively in dense, more mature metropolitan areas. The Non-Profit Housing Association of Northern California (NPH) and the California Coalition for Rural Housing (2003) published the results of a survey on the prevalence and components of inclusionary housing programs in California. The study found significant variation in both the prevalence and the components of the programs in California and concluded that the effects of such programs depend in part on such programmatic details. The study presented in the following section tests this proposition using data from the NPH survey.

Scope and Context of the Study

This article examines housing markets in local jurisdictions in California during the period from 1988 through 2005. During this period, for a number of reasons, California offers a good setting for examining the effects of inclusionary zoning. First, the state is large and includes many municipalities with distinct regulatory environments. Second, California is an often-studied state with very good data available for housing market analysis. Third, and most importantly, inclusionary zoning programs became increasingly common in California during the study period. Time-series analyses of housing markets in California from 1988 through 2005 included observations of many cities with existing inclusionary zoning policies, cities without inclusionary zoning policies, and cities that adopted inclusionary zoning policies within the study period. For each individual city in this sample we controlled for unobserved, time-invariant characteristics that might affect housing starts or the types of houses that are built. By doing so, we were able to isolate the effects of the

inclusionary zoning programs, relative to other factors that might be influencing new housing developments. It is the variation in the use of inclusionary zoning across the state and over time that helps to isolate the effects of this policy from other factors.

Although the study setting is well suited for this analysis, any such analysis must be interpreted in the context of prevailing market conditions. As shown in exhibits 3 and 4, housing starts in California were strongly influenced by national business cycles during the study period. Housing starts bottomed in the early 1990s as the national economy fell into recession but increased fairly consistently as the economy recovered. New housing prices were similarly affected by national business cycles, as shown in exhibit 5 for the San Francisco and Sacramento metropolitan areas, but did not rise until 1996. The average size of a new, single-family house, however, rose slowly but consistently during the study period, as shown in exhibit 5.

Although these trends primarily reflect national business cycles, housing markets in California have several location-specific characteristics of note. According to Landis et al. (2000), since the 1980s, housing markets in California have not produced housing units commensurate with the rapid growth in demand. The specific reasons for this are numerous, although limitations in the supply of land, capital, and infrastructure are all likely factors. Regulatory constraints probably also played a role. According to Pendall, Puente, and Martin (2006), local governments in California have adopted more growth management instruments than their counterparts in other parts of the country. Thus, it is important to note that this study was conducted in markets characterized by strong demand-side pressures and significant and varied supply-side constraints.

Exhibit 3

New Housing Construction for All Cities in California
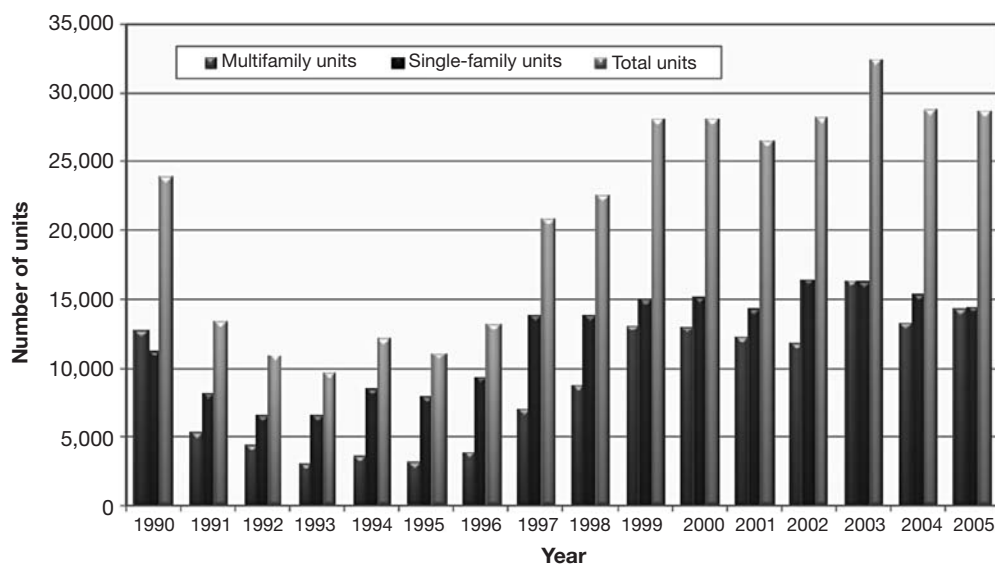
Exhibit 4

New Housing Construction for Cities in California With Inclusionary Zoning
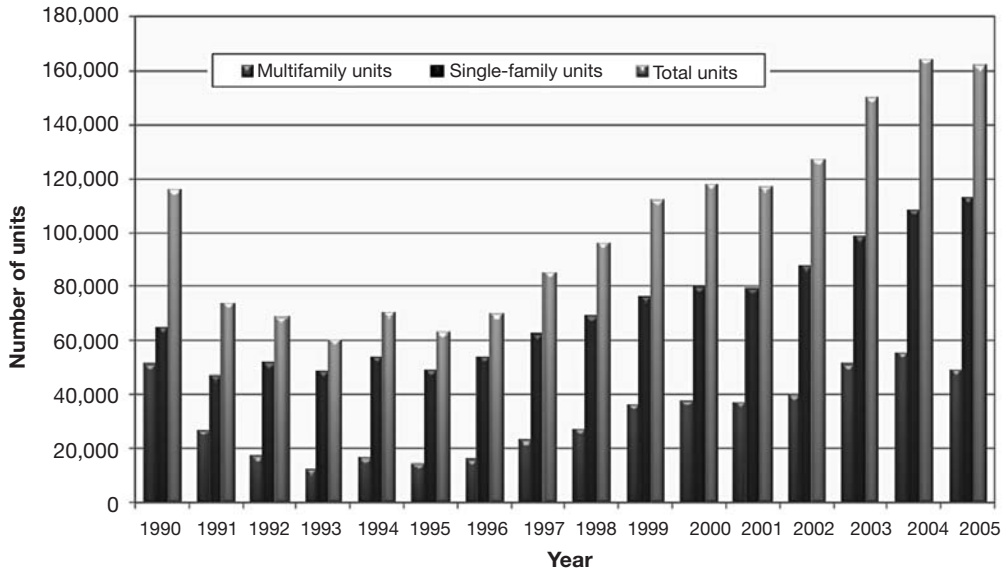
Exhibit 5

Square Footage and New House Prices in the San Francisco and Sacramento Metropolitan Areas
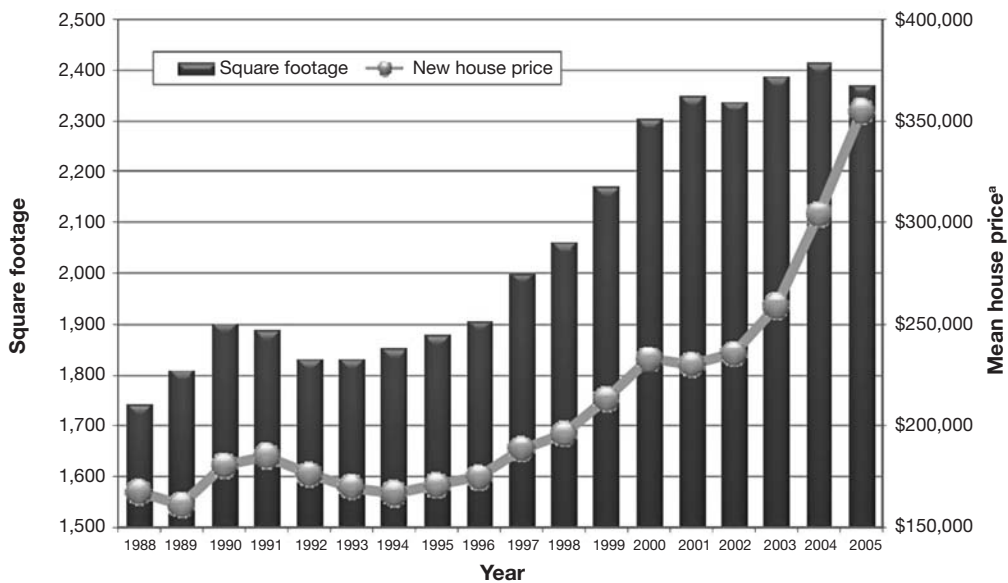
[a] In 1988 dollars.

Data and Descriptive Statistics

The data for this analysis, derived from a variety of sources, are used to compile two distinct data sets. The primary sources of these data include the California Construction Industry Research Board (CIRB), the Census Bureau, and DataQuick News Service Custom Reports. (Appendix A presents details of the data.) The first data set uses municipalities as the unit of analysis and includes information about the physical, demographic, and economic characteristics of cities throughout California, including information on location, regulatory environment, and natural setting. In addition, the data set includes information about whether the municipality had an inclusionary zoning program and, if so, when the program was first adopted. Data were obtained for the period 1988 through 2005. This first data set is used to study the effects of inclusionary zoning on the number and composition (single family vs. multifamily) of housing units built, controlling for other factors.

As shown in exhibit 6, 65 municipalities included in this study had adopted an inclusionary zoning program after 1989 but before the end of the study period. On average, the minimum project size at which a development became subject to inclusionary requirements was 12 housing units and the percentage of units that had to be made available to low-income households was 12 percent. Of the 65 municipalities with inclusionary policies, 57 percent allowed offsite allowances, 76 percent allowed in-lieu fees, 25 percent offered land dedication allowances, and 13 percent allowed developer credit transfers. The average length of time affordable units must remain affordable is 34 years, although many municipalities have stipulated that the units remain affordable in perpetuity.

As illustrated in exhibit 7, cities that adopted inclusionary programs are located throughout the state but are most common in the coastal areas, especially in the San Francisco and Sacramento metropolitan areas and the Los Angeles metropolitan area. In general, municipalities that had inclusionary zoning programs, relative to those that did not, had higher incomes, higher housing

Exhibit 6

Descriptive Statistics

Variable	Inclusionary Zoning Cities			
	Mean	**Sd**	**Min.**	**Max.**
Offsite allowances	57%	50%		
In-lieu fees	76%	43%		
Land dedications	25%	43%		
Developer credit transfers	13%	34%		
Target population very low income	41%	49%		
Target population low income	77%	42%		
Target population moderate income	61%	49%		
Period of affordability[a]	34	12	10	55
Minimum project size to qualify[b]	12	50	0	400
Percent of units as part of IZ	12%	6%	0%	30%
Cities (N)	65			
Observations[c]	1,011			

IZ = inclusionary zoning. N = number. Sd = standard deviation.

[a] In years.

[b] Number of units.

*[c] Years of data * N.*

Note: The study included 65 municipalities.

Exhibit 7

Inclusionary Zoning Programs in California

IZ = inclusionary zoning.

prices, higher growth rates, and more neighbors with similar policies. In addition, these munici-palities were closer to the coast.

The second data set uses new single-family home sales as the unit of analysis. This data set includes information about newly constructed housing units in the San Francisco and Sacramento metropolitan areas, and it includes the physical features of the house, the neighborhood in which the house is located, and the policies of the pertinent governmental jurisdiction—including the features of any applicable inclusionary zoning programs. The second data set was used to estimate the impacts of inclusionary zoning on the price and size of new homes sold.

Descriptive statistics of the new homes sold from 1988 through 2005 in the San Francisco and Sacramento metropolitan areas are presented in exhibit 8. The costs and size changes, mirrored in exhibit 5, indicate the recession of the early 1990s and the upward trend toward larger homes. The mean price of new home sales, even after correcting for inflation, increased steadily after 1995.

Exhibit 8

Descriptive Statistics—San Francisco and Sacramento Metropolitan Areas New Home Sales

Year	Number	Mean Cost[a] ($)	Mean Number of Bathrooms	Mean Number of Bedrooms	Mean Floor Space[b]
1988	14,580	167.68	2.31	3.07	1.74
1989	21,165	161.31	2.36	3.22	1.81
1990	18,694	180.66	2.42	3.35	1.90
1991	12,526	185.27	2.41	3.28	1.89
1992	11,158	176.67	2.36	3.24	1.83
1993	8,022	170.02	2.38	3.30	1.83
1994	13,189	167.12	2.39	3.35	1.85
1995	11,718	170.87	2.42	3.39	1.88
1996	13,813	175.26	2.43	3.37	1.91
1997	15,482	188.78	2.48	3.47	2.00
1998	15,768	195.86	2.49	3.49	2.06
1999	17,834	213.63	2.55	3.57	2.17
2000	17,977	233.04	2.61	3.62	2.30
2001	18,967	230.40	2.64	3.67	2.35
2002	21,954	235.82	2.60	3.58	2.34
2003	20,773	259.16	2.63	3.58	2.39
2004	21,827	304.15	2.68	3.61	2.41
2005	23,268	354.67	2.67	3.50	2.37
Avg.	16,595	209.46	2.49	3.43	2.06

[a] *Thousands of dollars in 1988 dollars.*
[b] *Thousands of square feet.*

Methods

To explore the effects of inclusionary zoning, we conducted a multivariate statistical analysis of housing starts, prices, and size. The results are presented in exhibits 9 through 12. Exhibits 9 and 10 present the stock and composition effects of inclusionary zoning on housing starts. Exhibit 11 presents the effects of inclusionary zoning on housing prices. Exhibit 12 presents the results of the

analysis on housing size. Each analysis includes city-level "fixed" effects to capture market-specific differences between jurisdictions that are assumed constant over time.

This analysis of housing starts specified the dependent variable as the percentage change in housing units so that the coefficients could be interpreted as elasticities—that is, the percentage change in starts resulting from a percentage (or unit) change in the dependent variable. Controls included city and year fixed effects that allowed us to account for any unobserved city-level characteristics (such as proximity to the coast, elevation, or desirable amenities) and for characteristics that are uniform across cities but vary across time (such as changing market conditions or statewide recessionary periods).

The analysis of housing prices specified the dependent variable as the logarithm of the sales price, and the analysis of house size specified the dependent variable in 1,000 square feet of living space.[1] As with the housing starts models, we controlled for unobserved spatial and temporal characteristics of the houses that might affect their prices. Specifically, we controlled for the year and quarter the home was sold and for the neighborhood and school district within which the house is located. These controls allowed us to carefully account for any outside factors that may have influenced housing prices, thus isolating the effects of the inclusionary zoning programs.

Results

In this section, we present the key results of this study. We focus on effects on housing starts, composition of housing starts, prices of new homes sold, and the size of new homes sold.

Effects on Housing Starts

As column 1 of exhibit 9 shows, our findings indicate that inclusionary zoning programs had a small and insignificant effect on total housing starts during the study period. The analysis suggests that housing starts in municipalities were 0.15 percent greater in municipalities with an inclusionary zoning program compared to those without. This estimate, however, is not statistically significant at the 90-percent confidence level.

As column 2 of exhibit 9 shows, our findings indicate that inclusionary zoning programs had a small and statistically insignificant effect on single-family housing starts. The analysis suggests that single-family housing starts were 0.19 percent lower in municipalities that had an inclusionary zoning program compared with those that did not. This estimate, however, also is not statistically significant at the 90-percent confidence level.

As column 3 of exhibit 9 shows, our findings indicate that inclusionary zoning programs had a small and statistically insignificant positive effect on multifamily housing starts. The estimate indicates that multifamily housing starts were 0.36 percent higher in municipalities that had an

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[1] To capture the potential endogeneity of the inclusionary zoning variable, we included a 1-year lag of the dependent variable in the regression. Although lagging the dependent variable is not the ideal instrument for treating endogeneity, we had no better variables that should be correlated with the inclusionary zoning variable and not with the dependent variable.

Exhibit 9

New Housing Stock Change Models

Model Dependent Variable: $([HU_{t+1} - HU_t] / HU_t)(*100)$	(1) Total Housing Units	(2) Single-Family Housing Units	(3) Multifamily Housing Units
Inclusionary zoning program	0.1536	– 0.1885	0.3601
	(0.1478)	(0.1918)	(0.2605)
$[HU_t - HU_{t-1}]$	1.03e-05	4.32e-05	3.93e-06
	(2.22e-06)***	(4.00e-06)***	(1.71e-06)**
Observations	5,509	5,509	5,509
City fixed effects	Yes	Yes	Yes
Year controls	Yes	Yes	Yes
R-squared	0.07	0.14	0.01

HU = housing units.
* Significant at 10%.
** Significant at 5%.
*** Significant at 1%.
Note: Robust standard errors are in parentheses.

inclusionary zoning program compared with those that did not. Once again, however, this estimate is not statistically significant at the 90-percent confidence level.

Effects on Composition of Housing Starts

As column 1 of exhibit 10 shows, our estimates indicate that the adoption of inclusionary zoning had a significant effect on the share of single-family housing starts. Holding all other variables constant, the share of single-family housing starts in municipalities that implemented inclusionary zoning programs was nearly 7 percentage points lower than the share in those municipalities that did not implement such a program. This result is very significant: the chances are less than 0.01 percent that there was no effect of inclusionary zoning on this ratio of housing mix.

As columns 2 and 3 of exhibit 10, respectively, show, the effect of inclusionary zoning on housing mix varied significantly with the percentage of housing units required to be sold to low-income households and with the minimum project size subject to inclusionary zoning requirements. Compared with jurisdictions without inclusionary zoning programs, municipalities with an inclusionary zoning program in which the percentage of new homes to be sold at a discount requirement was more severe (greater than 10 percent of a project's units) experienced a 12-percent shift from single-family to multifamily housing starts. Similarly, the inclusionary zoning regulation resulted in a 10-percent shift from single-family to multifamily housing starts in jurisdictions with an inclusionary zoning program in which the threshold that required participation in the inclusionary zoning program was more severe (for example, inclusionary zoning regulations that apply only to projects with fewer than 10 units).

Exhibit 10

New Housing Composition Change Models

Dependent Variable: % Single-Family Units$_t$+1 (*100)	(1)	(2)	(3)
Inclusionary zoning program	– 6.8868 (1.9365)***		
Inclusionary zoning program requiring 10% or less of the units for low-income households		– 2.9150 (2.5151)	
Inclusionary zoning program requiring more than 10% of the units for low-income households		– 12.1033 (2.8076)***	
Inclusionary zoning program and a threshold of less than 10 units			– 9.6961 (2.1297)***
Inclusionary zoning program and a threshold of 10 or more units			– 0.9995 (3.7497)
Percent of single-family units$_t$	0.0671 (0.0173)***	0.0664 (0.01734)***	0.0663 (0.01734)***
Observations	5,880	5,880	5,880
City fixed effects	Yes	Yes	Yes
Year controls	Yes	Yes	Yes
R-squared	0.03	0.03	0.03

* Significant at 10%.
** Significant at 5%.
*** Significant at 1%.
Note: Robust standard errors are in parentheses.

Effects on Prices of New Homes Sold

Estimates of the effects of inclusionary zoning programs on housing prices are presented in exhibit 11. As column 1 shows, our estimates indicate that inclusionary zoning programs raise housing prices by approximately 2.2 percent. Also, as columns 2 and 3 show, our estimates indicate that the effects on inclusionary zoning are greater in higher priced housing markets. Specifically, our estimates indicate that inclusionary zoning programs lowered the price of housing that sold for less than $187,000[2] (in 1988 dollars) by about 0.8 percent and increased the price of housing that sold for more than $187,000 by about 5.0 percent.

Effects on the Size of New Homes Sold

Estimates of the effects of inclusionary zoning on the size of single-family housing are presented in exhibit 12. As column 1 shows, our estimates indicate that the implementation of an inclusionary zoning program lowers the mean housing size by approximately 48 square feet. Further, as columns 2 and 3 show, the effects of inclusionary zoning on housing size are greater on lower priced homes. Specifically, our estimates indicate that houses that sold for less than $187,000 are approximately 33 square feet smaller in inclusionary zoning jurisdictions, while houses that sold for more than $187,000 are larger in inclusionary zoning jurisdictions by a statistically insignificant amount.

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[2] Using the Federal Housing Finance Agency's house price index for California, this amount is equivalent to $657,090 in 2007 dollars.

Exhibit 11

The Effect of Inclusionary Zoning on New Housing Values

Dependent Variable: Cost in 1988 Dollars	(1)	(2)	(3)
House price sample[a]	All	< $187,000	> $187,000
Inclusionary zoning program	0.022	− 0.008	0.050
	(0.003)***	(0.004)***	(0.003)***
Observations	298,715	149,253	149,462
Beds, baths, and floor space included	Yes	Yes	Yes
Census block group boundary fixed effects	Yes	Yes	Yes
Year of sale controls	Yes	Yes	Yes
Quarter of sale controls	Yes	Yes	Yes
School district boundary controls	Yes	Yes	Yes
Lot size controls	Yes	Yes	Yes
Dummies for missing data	Yes	Yes	Yes
Clustered errors at the block group level	No	No	No
R-squared (within)	0.60	0.31	0.58

[a] In 1988 dollars.

* Significant at 10%.

** Significant at 5%.

*** Significant at 1%.

Notes: Robust standard errors are in parentheses. Sample includes all Bay Area and Sacramento new house sales of homes with fewer than 12 bedrooms or bathrooms, less than 30,000 square feet of living space, and more than 250 square feet of living space and that cost more than $20,000.

Exhibit 12

The Effect of Inclusionary Zoning on Square Footage of New Houses

Dependent Variable: New House Interior Square Footage (Floor Space)/1,000	(1)	(2)	(3)
House price sample[a]	All	< $187,000	> $187,000
Inclusionary zoning program	− 0.048	− 0.033	0.001
	(0.006)***	(0.007)***	(0.008)
Observations	298,715	149,253	149,462
Beds and baths included	Yes	Yes	Yes
Census block group boundary fixed effects	Yes	Yes	Yes
Year of sale controls	Yes	Yes	Yes
Quarter of sale controls	Yes	Yes	Yes
School district boundary controls	Yes	Yes	Yes
Lot size controls	Yes	Yes	Yes
Dummies for missing data	Yes	Yes	Yes
Clustered errors at the block group level	No	No	No
R-squared (within)	0.53	0.52	0.46

[a] In 1988 dollars.

* Significant at 10%.

** Significant at 5%.

*** Significant at 1%.

Notes: Robust standard errors are in parentheses. Sample includes all Bay Area and Sacramento new house sales of homes with fewer than 12 bedrooms or bathrooms, less than 30,000 square feet of living space, and more than 250 square feet of living space and that cost more than $20,000.

Conclusions

Although inclusionary zoning programs have been around for some time, they remain controversial. Proponents argue that such programs are effective tools for increasing the supply of affordable housing and for helping to integrate low- and high-income residents. Opponents argue that such programs impose cost burdens on developers, increase the price of market-rate units, and lower the supply of market-rate housing. This study provides no new information about the validity of the arguments of the proponents; however, it does offer new information about the arguments of the opponents.

Overall, our findings show that inclusionary zoning programs had significant effects on housing markets in California from 1988 through 2005. Although cities with existing or new programs during the study period did not experience a significant reduction in the rate of single-family housing starts, they did experience a statistically insignificant increase (at a 90-percent confidence level) in multifamily housing starts. As a consequence, our findings show that cities with inclusionary housing programs experienced a significant and relatively large increase in the ratio of multifamily to single-family housing production. That is, having an inclusionary housing program increased a city's multifamily housing starts share by 7 percent. The reasons for this shift are relatively clear. Housing markets in California cities, persistently constrained by regulatory barriers, expanded rapidly during the 1990s as the national and California economies recovered from the 1991 recession. Inclusionary zoning programs in cities where they were adopted placed a small additional burden on single-family development and less of a burden on multifamily development. Under the pressure of growing demand, single-family starts declined slightly and multifamily starts increased significantly. The economic recovery, paired with a more rigid regulatory environment, caused a significant shift toward multifamily housing development during the 1990s. This shift was greater in cities that required a larger percentage of the new units to be sold at below-market rates and in cities that required inclusionary units in developments with smaller numbers of units. No net effect, however, was evident on total housing starts.

Findings also indicate that housing prices in cities that adopted inclusionary zoning increased approximately 2 to 3 percent faster than in cities that did not adopt such policies. In addition, our findings show that housing price effects were greater in higher priced housing markets than in lower priced markets. That is, housing that sold for less than $187,000 (in 1988 dollars) decreased by only 0.8 percent, but housing that sold for more than $187,000 increased by 5.0 percent. These findings suggest that housing producers, in general, did not respond to inclusionary requirements by slowing the rate of construction of single-family housing but did pass the increase in production costs on to housing consumers. Further, housing producers were better able to pass on the increase in costs in higher priced housing markets than in lower priced housing markets.

Finally, our findings indicate that the size of market-rate houses in cities that adopted inclusionary zoning increased more slowly than in cities without such programs. Specifically, our findings show that housing size in cities with inclusionary zoning programs was approximately 48 square feet smaller than in cities without inclusionary programs. Further, most of the reductions in housing size occurred in houses that sold for less than $187,000. These findings suggest that inclusionary zoning programs caused housing producers to increase the price of more expensive homes in markets in which residents were less sensitive to price and to decrease the size of less expensive homes in markets in which residents were more sensitive to price.

Once again, these results must be understood in context. The California housing market expanded rapidly over the 1990s as pent-up demand exploded following the 1991 recession. The imposition of inclusionary zoning requirements was not strong enough to slow the overall rate of housing production but did cause a measurable shift from single-family to multifamily housing production. The magnitude of this shift varied with the stringency of the inclusionary requirements. The imposition of inclusionary requirements was strong enough, however, to cause a rise in housing prices and a reduction in housing size. Price effects were larger in high-priced markets, and size effects were larger in low-priced markets.

These results are fully consistent with economic theory and demonstrate that inclusionary zoning policies do not come without cost. In robust housing markets, such as those of California during the 1990s, inclusionary zoning requirements were not strong enough to slow the rate of housing production, although they did cause housing prices to rise and housing size to fall. In less robust markets, it is more likely that inclusionary requirements have stronger effects on housing starts than on housing prices and size. Confirmation of such speculation, however, is beyond the scope of this study.

Appendix A

The data set used for this analysis has four main components: (1) California housing construction data—measures of housing construction in California's cities from 1988 through 2005; (2) city-specific housing attributes—data relating to the physical, demographic, and economic characteristics of California's cities; (3) inclusionary zoning data—city-specific data relating to the inclusionary zoning regulations that have been implemented in California's cities; and (4) Consumer Price Index (CPI) data.

California Housing Construction Data

This section provides details on the data that were used to construct the stock and composition of housing in California as well as the data that were used to analyze new housing construction in the San Francisco and Sacramento metropolitan areas.

Changes in Housing Stock and Composition

The California Construction Industry Research Board (CIRB) provided aggregate house construction data. The data include total new residential building permit counts, by number of units, for all cities in the 58 California counties from 1988 through 2005. CIRB provided the building classification, in which the new residential building permits were divided into two groups: (1) single-family housing, which includes detached, semidetached, rowhouse, and townhouse units; and (2) multifamily housing, which includes duplexes, three- to four-unit structures, and apartment-type structures with five units or more.[3]

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[3] Rowhouses and townhouses are included as single-family housing when each unit is separated from the adjacent unit by an unbroken ground-to-roof wall or firewall. Condominiums are included as single-family housing when they are of zero-lot-line or zero-property-line construction; when units are separated by an air space; or, when units are separated by an unbroken ground-to-roof or firewall. Multifamily housing also includes condominium units in structures of more than one living unit that do not meet the single-family housing definition above.

The data detailing the existing housing stock in each city were collected from the Census Bureau for the 1990 census year. These estimates include a measure of the number of single-family houses and multifamily houses in each city in 1990. The intra-annual housing stock totals for the 1991–2005 housing years were calculated by adding the 1990 Census housing stock to the number of homes constructed in the previous year.[4] These estimates were calculated for single-family and multifamily units and for the total number of housing units.

New House Construction in the San Francisco and Sacramento Metropolitan Areas

Individual new house sales data were collected from DataQuick News Service Custom Reports. The initial data set received from DataQuick included 415,303 observations, covering all new house sales in the San Francisco and Sacramento metropolitan areas for the 1988-through-2005 timeframe. Specifically, the data include new single-family and multifamily housing sales in 11 counties in the San Francisco area (Alameda, Contra Costa, Marin, Monterey, Napa, San Francisco, San Mateo, Santa Clara, Santa Cruz, Solano, and Sonoma Counties) and 8 counties in the Sacramento area (Butte, El Dorado, Fresno, Nevada, Placer, Sacramento, San Joaquin, and Stanislaus Counties).

Unfortunately, a number of observations in the initial data set were missing house characteristics data.[5] Of the initial data provided by DataQuick, approximately 298,715 observations were of a quality that they could be used in the hedonic estimation. Of the 298,715 observations, each sale included the following data: the parcel number of the house; the date of sale (day, month, and year); the price of sale; the city, ZIP Code, and latitude/longitude of the house; and the lot size, number of bathrooms, number of bedrooms, and square footage of the house.

City-Specific Housing Attributes

This section provides details on the geography and census data associated with each individual city in the data set as well as the school district boundary data associated with each individual new house sold in the San Francisco and Sacramento metropolitan areas.

Geographic Characteristics of the Data

The process for creating the data set used four different levels of geography from the U.S. census: census block group, ZIP Code, city, and county. The census geographic files were provided in a geographic projection as ArcView Geographic Information System (GIS) Cartographic Boundary Files and were normalized to the 2000 geography by GeoLytics, Inc.

The main unit of measurement in the analysis of the supply of housing is the consolidated city. A total of 468 cities were reported in the year 2005, 4 of which (Aliso Viejo, Elk Grove, Goleta, and

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[4] Therefore, the housing stock in year t is represented by: $HS_{1990+t} = HS_{1990} + \sum_{t=1}^{16} HG_{1989+t}$ where *HS* is the total housing stock in year t, and *HG* is the number of homes built in year t. This process assumes that there is no loss in the existing housing stock and that the new housing stock is not a replacement of the old stock.

[5] Of the initial 415,303 observations received from DataQuick, 5,679 were missing sales price information; 98,805 were missing bed, bath, and square-footage information; and 67,788 were missing latitude and longitude information. (Note that some of the observations listed above overlap in terms of omitted information.) An additional 438 observations with latitude and longitude information were located outside the San Francisco and Sacramento areas.

Rancho Cordova) do not match with the census geographies because they were incorporated after the year 2000.

The ArcView GIS consolidated city shapefiles were used with a GIS line shapefile that was constructed to represent the California coast. The shortest distance (in kilometers) from the centroid of each city to the coast was then calculated using ArcView GIS, with a range from a maximum of 312 km (the city of Needles, in San Bernardino County) to less than a few hundred meters.

Census Data

The demographic variables in the analysis come from GeoLytics' provision of the 1990 Census long form files and include "places" data (cities, towns, and incorporated places that have legally prescribed boundaries, powers, and functions) for the cities and towns in California. The data include the following:

1. Total population.

2. Total land area.

3. Ethnicity (percent White, Hispanic, Black, Asian, and other for each city).

4. Per capita income.

5. Household income.

6. Total housing units.

7. Percent vacant housing units.

8. Percent owner-occupied housing units.

9. Percent single-family detached housing units.

10. Median year of construction for all housing units.

The total population and total land area variables were used to construct a population density value for each city. This variable is measured as the total population of the city divided by the total land area of the city in square kilometers.

School District Boundaries

In California, a student's "home school district," be it elementary or secondary, is assigned by virtue of the residential location. More often than not, a student will attend the nearest school in the district, but this is not uniformly true. Any student can attend any school within the district, as long as space is available; likewise, a student may petition to attend a school outside the district, again dependent on available space. For this reason, the 1:1 assignment of a school to a student without information on that assignment was impossible to create.

The analysis, however, controlled for the different school district boundaries. In the individual house sales model, each observation was spatially matched to its respective elementary and secondary school district. Cartographic boundary files of the school districts, as defined in the year 2000, were collected from the Census Bureau.

Inclusionary Zoning Data

City-level data on inclusionary zoning regulations were taken from the *Inclusionary Housing in California: 30 Years of Innovation* study (2003), conducted by the California Coalition for Rural Housing and the Non-Profit Housing Association of Northern California, during 2002 and early 2003. The survey includes detailed information about how local inclusionary zoning programs are structured.[6] The data collected from the survey include the following:

1. The year the inclusionary zoning policy was adopted.

2. The minimum project size.

3. The percentage of units required.

4. The targeted income group (very low, low, middle income).

5. Alternatives to construction (offsite allowances, in-lieu fees, land dedication allowances, and developer credit transfers).

6. The length of affordability.

Missing information from the survey was collected through personal contact with those cities or counties that did not respond to the survey or was taken from the Reason Public Policy Institute's "Housing Supply and Affordability: Do Affordable Housing Mandates Work?" (The list of unresponsive cities includes Fairfax, Los Gatos, Port Hueneme, Del Mar, Gonzales, Long Beach, Morro Bay, Vista, Woodland, and Menlo Park.)

Consumer Price Index Data

Consumer Price Index data were used to normalize the house sales price to a base year of 1988. The CPI statistics were provided by the U.S. Department of Labor, Bureau of Labor Statistics. The annual average CPI was calculated for all urban consumers, using all consumable items, for residents of the San Francisco-Oakland-San Jose Metropolitan Statistical Area in California, using a base year of 1988. These data are publicly available from the U.S. Department of Labor's Bureau of Labor Statistics under series IDs (CUURA422SA0) and (CUUSA422SA0).[7]

Acknowledgments

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[6] The Inclusionary Housing Policies sample includes 95 cities and 12 counties (not including San Francisco County, which incorporates a single city). These 95 cities represent roughly 20.3 percent of the total sample of cities in California.

[7] As a robustness check, different CPI values were used to normalize the house sales price data, including an all-U.S. urban average, a West Coast urban average, and the all-U.S. housing average (which is available only at the all-U.S. average level of aggregation). The San Francisco-Oakland-San Jose CPI is, on average, 1.5 to 3.7 percent larger than the other CPIs used, with a maximum difference of +7.1 percent and a minimum difference of -2.3 percent, depending on the year. Our model results are robust to the type of CPI used, but the Akaike information criterion goodness-of-fit test prefers the San Francisco-Oakland-San Jose CPI for the normalization method.

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Evaluation of In-Lieu Fees and Offsite Construction as Incentives for Affordable Housing Production

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Abstract

Communities are beginning to offer options of in-lieu payments and offsite construction of affordable housing units required by inclusionary housing programs. An examination of experience with these options in Boulder, Colorado; Montgomery County, Maryland; and Pasadena, California, analyzed patterns of affordable housing production through the use of these options and explored reactions by program administrators, developers, and housing advocates. The findings indicate that the options can be effective in producing affordable units in satisfactory locations, while enabling developers to mitigate costs of supplying affordable units in high-cost neighborhoods. The programs that established specific in-lieu fees (periodically updated) appeared to avoid the controversies engendered by site-by-site determination of appropriate fees, especially for highrise construction.

Introduction

More and more communities are adopting programs that require or offer incentives for developers to build affordable, below-market-rate priced housing in market-rate residential projects. Often termed "inclusionary zoning," the programs are intended to increase the stock of affordable housing. The programs typically offer incentives such as increased density and waivers of fees to offset the additional development costs of such projects. Increasingly, communities are also providing options to the construction of affordable units within market-rate projects as a means of

lowering development costs for affordable housing. Two such alternatives allow the developer to pay an "in-lieu fee" into a housing fund or develop affordable units on other, perhaps less costly, sites.

Information about the use and effectiveness of these alternatives to onsite inclusionary housing is not widely available; therefore, this pilot study seeks to determine the extent to which these alternative methods are effectively substituting for onsite development of affordable housing in three communities—that is, this study evaluates the successful use of these incentives. The authors hope that the study's indepth evaluation of experience with these incentive-zoning options will help other communities understand the rationales for offering such options, the procedures and requirements established to ensure production of below-market-rate units either on site or off site, and the successes and issues that have resulted from use of the options.

Goals and Requirements of Inclusionary Housing Programs

Communities adopt regulations and incentives in inclusionary housing programs to increase the stock of housing affordable to local and regional households and to promote development of mixed-income neighborhoods. Such programs can involve all types of residential development, including single-family and multifamily units; lowrise, midrise, and highrise structures; "stick-built" and manufactured housing; and housing mixed with retail and other uses. Inclusionary programs often are administered jointly through zoning requirements and procedures in combination with housing agency programs. They are contributing significantly to the supply of housing for low- and moderate-income households and, in addition, are helping communities to revitalize and stabilize urban and suburban neighborhoods.

Typical programs provide incentives for developers to incorporate housing for a mix of household incomes in their market-rate developments. Incentives often include zoning density increases, fast-track permitting, reductions in administrative and impact fees, relaxed parking requirements, and code requirements that allow adaptive reuse. These incentives may be employed across a community or within neighborhoods designated for revitalization.

Increasingly, some incentive-zoning programs also provide some flexibility in financing and siting the lower priced components of such developments. Developers are offered the option of paying fees into housing and/or land trusts or developing below-market-rate units on separate but nearby sites. These options appear particularly appropriate in cities and built-up suburban areas in which proposed developments involve highrise buildings that are costly to construct and include condominiums and apartment units that will charge monthly service fees. Such high unit costs complicate financing of a mix of market-rate and below-market-rate units. The option of making in-lieu payments can channel funds into housing trust funds and community land trusts that help cities and community organizations produce housing for lower income households. The offsite option allows developers to build on less costly but nearby sites and to contract the construction of affordable units with developers or housing organizations that specialize in developing and providing services for below-market-rate housing.

Some communities, however, decide against the use of fee payments and offsite production of below-market-rate units. They prefer that developers produce a mix of market-rate and below-market-rate housing within one site as a more certain and timely generator of below-market-rate

units and a means of ensuring household diversity within projects. To date, however, little information has been made available, except by word-of-mouth, to document the effectiveness or difficulties of fee payments and offsite options in producing affordable housing that meets community goals. So-called "linkage" programs in San Francisco and Boston have generated substantial numbers of below-market-rate units by requiring fee payments or optional siting arrangements, but these programs have been directed primarily to requiring developers of commercial and institutional properties to produce below-market-rate units rather than develop mixed-income residential developments. It remains unclear whether separating the development financing or location of below-market-rate and market-rate units satisfactorily meets affordable housing goals.

Research Procedure

The study proposed to evaluate the pros and cons of alternatives to onsite development of affordable housing within market-rate developments by evaluating the experience of three communities that allowed developers to meet their inclusionary housing obligation by paying in-lieu fees or building affordable units at offsite locations. Through a review of existing studies of inclusionary programs, by networking with experts in the field, and in consultation with U.S. Department of Housing and Urban Development (HUD) staff, we selected for study three communities that have authorized fee and siting options within their inclusionary programs. We chose the following communities, which represent a variety of geographic areas, with varying housing markets and regulatory outlooks, with substantial production of affordable units, and with a history of allowing alternatives to onsite construction of affordable units:

- Boulder, Colorado, a city of 92,000 residents located 35 miles northwest of Denver, established a program in 2000 that has produced more than 306 affordable units as of 2007.

- Montgomery County, Maryland, a suburban county of 930,813 residents (in 2007), located north of Washington, D.C., has managed one of the best known programs in the nation, which has generated more than 11,400 moderate-income housing units; the county has permitted alternatives to onsite development since the program was established in 1974.

- Pasadena, California, a city of 151,000 residents in the Los Angeles metropolitan area, authorized a program in 2001 that has produced 351 affordable units and has another 250 units authorized or under construction.

The examination of each community's incentive-zoning process includes basic data describing the community's character and housing needs; the gestation, adoption, and administration of the program the area affected (if not the whole community); the targeted household types and incomes; the requirements and incentives included; the number of market-rate and below-market-rate units approved through the program; and the rental/for-sale breakdown of units actually constructed and occupied. The use of fee payments and offsite options to the onsite provision of affordable units is documented, including the procedures to approve such options; the involvement of organizations and other developers in financing, constructing, or otherwise participating in the production of below-market-rate units; and the current status of the program in the community's affordable housing efforts.

The research process included reviews of the local laws, regulations, and procedural steps to decisionmaking in each community, as well as project site visits, interviews with program staff and the developers involved in previous and ongoing projects, and reviews of staff and consultant studies that supported proposals for use of the options. Local program staff reviewed the resulting reports about each community's experience.

The Options

The study described in this article centers on the communities' experience with the use of the in-lieu fee and offsite development options.

In-Lieu Fee

The in-lieu-fee approach allows developers to contribute cash to the jurisdiction, its housing trust fund, or sometimes a designated nonprofit organization instead of building affordable units. The fee represents the construction cost for a developer to add one market-rate unit to a proposed development. In general, the fee does not include land costs and a variety of other costs incurred by the developer in preparing the site for the entire project. Communities have used three methods to calculate an in-lieu fee.

1. Measuring the difference between the cost to build a market-rate unit (excluding developer profit) and the sales price of a unit affordable to moderate-income households.

2. Determining the gap between the cost to build an affordable unit and the construction loan available to a developer of affordable housing.

3. Identifying the subsidy that public funds have provided for local developers of affordable housing in recent years, including new construction, acquisition and rehabilitation, and land costs.

The third method generally is considered inappropriate, because subsidies alone typically are not sufficient to construct an affordable unit. The other two methods require a financial "affordability gap" analysis that estimates the difference between operating costs and incomes for a variety of housing types (for example, single-family home, rental apartment) expected to be built in the jurisdiction (usually based on local project experience) and the sales prices or rents affordable by various types of households. The analysis then translates the affordability gaps into in-lieu fee amounts. In many cases, the outcome of the financial analysis is then subjected to intensive public discussion that determines the final fee. As with Pasadena, some jurisdictions adjust the fee according to designated areas with differing housing characteristics. Annual fee revisions generally are tied to the consumer price index, increases in household incomes, or a similar measure of economic conditions. Fees often are collected with funds from other sources to provide financing for city-managed development of affordable units.[1]

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[1] This summarized methodology of determining in-lieu fees is drawn from two studies: Keyser Marston Associates (2005) and Bay Area Economics (2007).

Offsite Development

Developers may choose to produce affordable units in other areas of the jurisdiction where land costs are lower, housing characteristics are more compatible, or existing improved lots, city-owned properties, or housing suitable for renovation are available. Some inclusionary programs provide incentives, such as density bonuses and public subsidies, to encourage production or improvement of affordable housing that spurs neighborhood revitalization. In addition, city-owned sites may be involved. The programs may require that locations of offsite development be near the proposed market-rate developments. Pasadena, for example, requires that offsite units be provided in the same subarea as the market-rate development site, and Montgomery County calls for locating offsite affordable housing units "nearby."

Each of the jurisdictions reaches agreements with developers that may mix and match these alternatives with other incentives and provision of onsite affordable units. The developer of One Boulder Plaza, for example, was granted the right to transfer density from one parcel to another and was allowed to provide one-half of the required affordable units on the site and the remainder on other sites, by acquiring and renovating three existing single-family homes.

Research Findings

1. The strong housing market in recent years has presented challenges to inclusionary programs that often focused on leveraging the development of single-family detached and attached homes in developing areas. Changing demographic factors and increasing land prices have generated market interest in higher density development, including midrise and highrise residential buildings, and in infill sites considerably more expensive than rural land. Concerned about constructing affordable units in high-cost developments, developers have sought alternatives, especially for sites where density ceilings and environmental offsets impose limits on construction.

2. The alternative zoning incentives allowed in the three communities' inclusionary programs reflect a common underlying policy—explicitly expressed in Montgomery County's law and acknowledged by the administrators of Pasadena's and Boulder's programs—that the financial burden of providing affordable units should not erase developers' profit margin in their development of residential projects. The jurisdictions have therefore sought to widen developers' financial and locational choices for affordable housing production through a variety of incentives.

3. Boulder and Pasadena, in particular, have found that the availability of alternatives to onsite construction of affordable housing has provided acceptable incentives for producing affordable housing in association with market-rate residential development. Although individual project decisions about use of alternatives have proven politically fractious in Montgomery County, the jurisdiction has allowed 21 projects to provide in-lieu fees. The opportunity to offer in-lieu fees or offsite construction has proven especially significant for coping with escalating land and development costs in communities recognized as highly desirable residential and employment locales. Offsite production has gained attention as a means of improving the existing housing stock and generating neighborhood revitalization. In addition, the localities have succeeded in collecting and disbursing fee payments and managing offsite production to generate affordable units. (Specific production numbers are detailed in the individual case studies.)

4. The case-study research shows that developers clearly make choices of onsite production, fee payments, or offsite production that depend on the types of units involved, financial factors such as land and development costs, and city administrative procedures that promise an efficient means of meeting their affordable housing obligations. Developers' choices, however, can be subject to influence or negation by the local government.

Pasadena's experience indicates that developers will make decisions about when, where, and how to meet affordable housing requirements based on the factors mentioned previously. In the first years of Pasadena's program, when developers were mostly building rental housing, they found it feasible to provide affordable units on the site. As development of ownership units boomed in the mid-decade years, especially in and near downtown and largely on infill sites, land and construction costs and sales prices escalated quickly. The market preference for condominiums also added sizeable service fees to housing prices. These factors encouraged developers to contribute fees rather than choose onsite production of affordable units. In recent years, as more developers have returned to producing rental housing, onsite development of affordable housing has increased. The flexibility of the program is demonstrated through the changing choices of developers, although Pasadena's program administrators have played a significant role in working out details of the resulting developments.

Montgomery County officials, however, have taken a more active part in approving or limiting developers' choices. Theirs is fundamentally a case-by-case approval process in which citizens' concerns and attitudes have affected the county's decisions.

5. These programs in upscale communities have not yet included manufactured housing. Possibly, the absence of such housing is due in part to the small number of units in most projects and the project locations in built-up central areas in which manufactured housing is uncommon. Communities could readily apply inclusionary approaches and incentives that could be productive in housing markets suitable for manufactured housing.

Current Issues With Incentives

1. Montgomery County's experience highlights one difficulty with the use of in-lieu fees: the problem of explaining the basis for the fees. The economic relationships between the price or rental levels of market-rate and affordable units are complex, especially given the variety of housing types that may be developed over time. Experts can produce financial analyses that propose presumably valid fees, but the average person seldom cares to peruse the reports and relies instead on trusted officials to make the right decisions. Pasadena's fee levels might be questionable to some but appear acceptable to developers and to most citizens. Montgomery County officials, however, have encountered political turmoil over the use of in-lieu fees. In part, this problem may arise from the county's project-by-project studies and procedures that define appropriate fees based on individual project characteristics, rather than a single "master" study that establishes fees for development of certain types in certain areas, as is the case in Pasadena. According to interviews conducted for this study, it also appears that developers' use of in-lieu fees have become popular targets for antigrowth or slow-growth groups, which

characterize fees as developer "buyouts." To some extent, to such groups, the use of fees has become an unwelcome symbol of the eagerness of county officials to support new development in built-up areas.

2. Both in-lieu fees and offsite production tend to reduce the inclusionary aspect of the programs by allowing production of market-rate developments with less or no incorporation of lower income households. Some programs, however, require location of affordable units in nearby areas that can widen the neighborhood mix of housing. Also, to the extent that offsite development stimulates rehabilitation of existing housing and revitalization of neighborhoods, such development provides value for the community as a whole.

3. The three programs have demonstrated in a number of cases the willingness of administrators and public officials to combine a variety of measures for developers to contribute to the production of affordable housing—trading off some onsite development for construction or renovation of desirable housing types in other locations, for example. More applications of this flexible approach to reaching agreements with developers to improve the mix and location of affordable units would add value to the inclusionary concept.

4. The program managers in all three communities repeatedly underscored the fact that inclusionary program incentives for producing affordable housing should be considered as only one effort in an array of programs that provide financial support and management of the jurisdiction's stock of affordable housing.

Case Study 1
Boulder, Colorado
Inclusionary Zoning Program

Boulder, Colorado, lies about 35 miles northwest of Denver, in the Front Range of the Rocky Mountains. Its scenic setting has drawn many high-income residents and attracted substantial development of major corporations and technology companies. It is also the home of the University of Colorado at Boulder, which has a student body of about 30,000 students and about 7,000 faculty members. In the 1970s, Boulder won national attention because its citizens voted for a variety of regulatory controls on development that have successfully tempered its rate of growth. Arguably, growth controls contributed to a housing market featuring many high-cost homes and, at the same time, many low-priced rental units. In 2000, the increasing shortage of affordable housing led the Boulder City Council to adopt a housing policy to make 10 percent of Boulder's housing affordable by 2011. According to growth projections, this action would require the creation of 2,700 additional affordable units. In 2000, the council adopted an inclusionary zoning program as part of a series of programs to reach that goal. In 8 years, the program's requirements and incentives have resulted in the production of 306 residential units.

Overview of Boulder

As of 2006, the city of Boulder estimated a population of 92,474 (not including many university students in dormitories not counted by the Census Bureau). As the largest municipality in Boulder

County and its economic center, Boulder is home to the University of Colorado at Boulder and to a number of major corporations and technology companies. Because of Boulder's desirable location and the growth of the local economy, which has brought many new jobs to the area, demand for housing has increased rapidly.

Boulder is a wealthy community by many standards. As of 2006, the median household income in Colorado was $64,614, while in Boulder it was substantially higher at $89,184. According to the Census Bureau, more than 28 percent of Boulder household incomes topped $100,000, compared with about 20 percent of the households in Colorado. Boulder's high median income, however, is matched with a high poverty rate.

The Boulder housing market reflects the household and income distribution with many high-cost homes and many low-priced rental units. Owner-occupied housing is a smaller portion of the housing stock than in the county or state. The prices of single-family units are the highest in the county, but prices for attached housing, condominiums especially, have a wide range, depending on location and age. Rental units form a large portion of the stock, with rental rates close to the county average.

The housing market is strongly affected by the university population. Many students seek affordable rental housing. Also, many of the middle-income staff and faculty who work at the university seek housing affordable at their income level. Because of regulatory restrictions on the annual level of new construction and an urban growth boundary that restricts the area where new development can occur, the housing supply has grown very slowly. All these factors tend to push up the price of housing overall.

Housing Concerns

Boulder adopted an inclusionary zoning ordinance in 2000 in response to growing concerns about the lack of affordable housing and the declining diversity of the city's population. The shortage of affordable housing resulted in most of the labor force for Boulder's employers having to commute from more affordable locations, leading to traffic congestion, pollution, and urban sprawl. With housing construction not keeping pace with job growth, the price of housing has increased rapidly at the rate of 4.8 percent a year since 1980. In 2006, the median price of a single-family home in Boulder was $455,900, nearly double the median price of $232,900 in the state. Only 8 percent of the for-sale units in the city are affordable to the median-income household in Boulder. As of 2006, a more affordable segment of the housing market was the stock of condominiums, in which the median value was about $192,000. In addition, rents in the city of Boulder were comparable to rents in Boulder County, at $948 and $924, respectively. In addition, a very large portion of the households in Boulder is composed of unrelated individuals—58 percent—much higher than the percentage of households in that category in the state. The influence of the university, with many students living off campus, is a big part of this unrelated individuals household segment.

In 2000, the City Council began implementing recommendations in the *Housing Implementation and Funding Task Force Report*. The new housing policy called for 10 percent of the housing in Boulder to be "permanently affordable" by the year 2011. The city has defined "permanently affordable" housing as housing units under covenants recorded against the deed of the property

that restrict the future rents or sale prices to be affordable to people within the income ranges specified. The city's definition of affordable is quite broad, and the categories of housing that come under this rubric are quite varied. The targeted household incomes range from under 30 percent up to 80 percent of the Area Median Income (AMI). The desired mix of household incomes served is to be as follows:

- 14 percent of new affordable housing available to households below 30 percent of AMI.

- 48 percent of new affordable housing available to households between 30 and 60 percent of AMI.

- 38 percent of new affordable housing to households between 60 and 80 percent of AMI.

The proposed affordable housing types range from homeless shelters, group homes, congregate care, and rental housing to homeownership.

The policy translates into a goal of 4,500 affordable units, based on the projection of 45,000 total households in the city by 2010. In 2000, 1,800 permanently affordable units existed, resulting in a need for 2,700 additional units to be provided. The goal is further broken down to a mix of 39 percent owner-occupied and 61 percent renter-occupied units. The city also recognized that the combination of growth restrictions and a shortage of developable land would require that 55 percent of the additional affordable housing, or about 1,500 units, would come from the existing stock, and 45 percent, or about 1,200 units, from new construction.

To achieve this goal, the city is using several housing programs in the Boulder toolbox, including the inclusionary ordinance. Other housing programs include the Community Development Block Grant (CDBG) program, HOME, federal Low-Income Housing Tax Credit (LIHTC) Program, Housing Choice Voucher Program (HCVP), public housing programs, local and state homeownership programs, and housing trust funds. The Department of Housing and Human Services of the City of Boulder administers these programs.

Annually, the city measures progress toward the affordable housing goal. As of early 2008, the city believes it is 65 percent of the way toward achieving the goal, with a little more than 1,000 units produced since 2000. The remaining units required to meet the goal would include 900 units from the existing housing stock and 571 units of new construction.

Inclusionary Requirements and Incentives

The inclusionary ordinance affects only developments of for-sale housing. For rental developments, no onsite units are required due to a state law that prohibits the city from controlling rents. Developers can purchase and rehabilitate units, however, and sell them to the Boulder Housing Authority for rental as HCVP units or public housing.

Minimum Development Size

Five units for onsite units. Some restrictions also apply to developments ranging from single units to four units.

Percent Affordable Required

20 percent.

Maximum Income Level

HUD low income or 68.5 percent of AMI (in Boulder, $41,700 for a one-person household to $53,650 for a three-person household).

Also includes an asset test. Adjusted periodically with new income statistics.

Term of Affordability

Permanent affordability is required, but no minimum time of occupancy by one household is established.

Sale Prices

Set by the city, based on size, number of bedrooms, and type of unit; based on affordability to people in the income range.

Maximum Size

1,200 square feet or 80 percent of the size of the market-rate units. Livability guidelines have also been developed to make sure the units are well designed.

Selection of Purchaser

After the city advertises the units, people who are interested in the housing units may sign up to be considered as purchasers. If more households are interested and qualified than the number of units available, the city conducts a lottery. Preferences are given to those who live and work in the city, with six categories of preference levels. Purchasers may not own another home at the time of purchase. Homeownership classes are required.

Resales

The city has a listing of resales available to the public in the designated income categories. Resale prices are set by including an appreciation rate equivalent to the increase in the median income and based on any capital improvements made by the owner that can be documented. Appreciation allowed per year has averaged 1.75 percent from inception of the program through 2006. In some circumstances, the city provides a downpayment assistance grant.

As of the end of 2007, the inclusionary housing program had produced 241 for-sale units and 65 rental units through onsite or offsite construction. In-lieu fees, however, are paid into a fund that includes other funding sources, and the production of affordable units by this fund cannot be traced directly to the in-lieu payments. Therefore, the total production by the inclusionary program is somewhat larger than the 306 units specified above.

Options Available to Developers

If developers want to avoid building for-sale affordable units on the site, they must fulfill one of the other affordability options, including making a cash payment, donating land, or rehabilitating an existing unit and selling it to an eligible household or turning it over to the city for low-income rentals. (According to city staff, the council wanted to give developers their choice of options to make the policy more flexible and not discourage new development.) In some unusual cases, the city manager must approve the agreement. For-sale developments are strongly encouraged to provide at least 50 percent of the affordable units on the site. The onsite portion is required to provide new homeownership units available to people whose incomes are 60 to 80 percent of AMI. A building permit cannot be obtained until the agreement between the city and the developer is executed. The options include the following.

Cash Payment

Called cash in lieu, or CIL, this fee is set each year as the required payment in lieu of providing an affordable unit on site. The fee in place in 2008 for the 50 percent of units not provided on site is $106,149.47 per unit for townhouses and multifamily units and $123,133.78 per unit for detached, single-family homes. If the developer chooses to provide less than 50 percent of units on site, the fee per affordable unit increases by 50 percent. The fee goes into an affordable housing fund administered by the city. The fund is used to subsidize other developments targeted to households under 68.5 percent of AMI, developed by nonprofit organizations or the Boulder Housing Authority. The cash-in-lieu payments typically are used to fund rental units for lower income households.

Because many developers have opted to pay the cash in lieu, $8.6 million has been collected since the program's inception. These funds have been merged with other funds, making it impossible to determine how many units or what type of units this money has provided.

Land Dedication

Credit for the number of units required is based on the value of the land plus a 50-percent add-on for development expenses. Land donations have not occurred to date, but, if they had, they could provide for new construction of units in a variety of income ranges.

Provision of Offsite Units

The offsite option allows a developer to acquire existing units and sell them to households with incomes up to 68.5 percent of AMI, thereby providing units out of the existing stock of housing. If a developer building a condominium buys and rehabilitates a single-family unit that the city views as desirable for affordable housing, the city may reduce the number of units required, because the single-family house is larger and more suitable for a family. Two developments have provided offsite units: one provided eight units and the other four units.

Project Examples

- One Boulder Plaza, a development of 300,000 square feet, is located in the heart of downtown Boulder on a redevelopment site. Completed in 2003, it is a mixed-use development, with

office, retail, and residential development, served with structured parking. The site is close to all the desirable amenities of Boulder and many employment opportunities. The 3-acre site has a permitted floor-area ratio (FAR) of 2.2. It is divided by 13th Street, creating two parcels. The developers were granted the right to transfer residential and nonresidential densities between the two parcels. The residential units are on the eastern parcel. Of the 27 residential units, 3 are permanently affordable. The developer chose to provide one-half of the required units on site and to provide the remainder of the requirement by buying 5 existing single-family homes and making them permanently affordable. Because the single-family units were large enough for families, the city regarded them as "equivalent" to eight one- or two-bedroom condominiums on site. Recently, the developer asked to repurchase the onsite affordable units and sell them at market rates, then donate the proceeds to the city, a proposal that was turned down.

• The Holiday Neighborhood development is a redevelopment of a former drive-in theater in North Boulder at Lee Hill Road and US Route 36. The Boulder Housing Authority is the master developer of the property, known as Boulder Housing Partners (BHP). The city originally bought the property with a CDBG Section 108 loan. The city eventually sold the site to BHP, with the understanding that affordable housing would be a major element of the development. BHP selected four builders to build the units. The total number of units will be 333, of which 138 will be permanently affordable, a higher number than required by the inclusionary housing ordinance. These units are scattered throughout the development and include 56 rental units and 82 ownership units. The prices of the affordable ownership units range from $89,000 to $165,000. The prices of the market-rate units range from $240,000 to $500,000.

The city provided several subsidies, such as reduced development fees, a density bonus, and waiver of excise taxes. These benefits allowed BHP to sell the lots at reduced prices to the four builders: Peak Properties, Coburn Development, Wolff/Lyon, and the Affordable Housing Alliance. The development also includes a cohousing development, a mixed-use main street area, and carriage houses over the garages of some units.

• The Dakota Ridge development of 57 acres was begun in 2001 and completion is expected in 2010. The development consists of 390 units, 260 of which will be multifamily. Of these units, 78 will be permanently affordable, at a price of $150,000 for an 1,100-square-foot house. In an earlier phase, the developer provided a cash payment of $220,000 to the city as a subsidy to the Boulder Housing Authority to purchase 13 townhomes, which will be made available and affordable to low-income renters as part of the Reduced Rent Program, which accepts HCVP vouchers.

Current Issues About Options

Based on discussions with city staff and several developers, reviews of city reports, and an indepth study prepared by the University of Colorado Real Estate Center and Leeds School of Business (Lewandowski, Thibodeau, and Wobbekind, 2008), three issues can be raised about the use of the alternatives offered as incentives in Boulder's inclusionary program:

1. The cash-in-lieu payment amount is the same for all areas of the city. Because values of units vary considerably across neighborhoods, the cash option is very appealing in the expensive

areas of the city, such as downtown. This area tends to be developing with high-priced condominiums, which are not family oriented and have high condominium fees. In addition, Boulder's strong preference for the onsite location of one-half of the required affordable units may not be appropriate in these areas, where it might be better for the city to discourage onsite units and to accept cash-in-lieu payments.

2. Given the shortage of available land, the land donation option is not a realistic option for most developers.

3. The offsite option has been used only twice. Reportedly, the cost of buying an existing unit, the effort of renovating it to city standards, and the time and difficulty involved create financial uncertainty and extended effort by a developer. These factors may lead the development community to avoid using this option.

As a result of these issues being raised after several years of experience with the program, the city plans to reevaluate how the program is working within the broader context of the city's affordable housing needs.

Overall Program Issues in Boulder

Discussions with city officials indicated a number of issues arising from the inclusionary program to date. These issues may lead to future program alterations.

1. Targeted Households

The city's policy is oriented to serving low- and moderate-income workers, particularly those with families, yet the program is generating a substantial number of small condominiums that do not serve families. Developers are building apartments near the university intended for students, whereas the offsite option could produce units located in areas more desirable for the citywide needs of families and working people.

2. Condominium Prices and Fees

High condominium fees may make it difficult for moderate-income households to afford both the mortgage and the fees. The current pricing formula uses an average condominium fee. A requirement for payment of the full condominium fee would drive down the sales price of the unit, which then could lead developers to build fewer onsite units and pay the cash in lieu instead.

3. Price Appreciation

The current policy allows the unit owner to capture only 3.5 percent of home-price appreciation, and average annual appreciation allowed has been 1.7 percent, which increases the effective cost of housing and may discourage some buyers from purchasing affordable units. In comparison, the Leeds School of Business study observes the irony that it is more cost-effective for lower income householders to buy a market-rate unit in nearby areas, which defeats one purpose of the program.

4. Restrictive Conditions

A combination of factors has dampened production in the inclusionary program, including the lack of available land, the capping of the city's annual growth rate, and the 55-foot cap on building

height that constrains density. Although the growth cap can be overridden if a development provides 35 percent or more affordable units, this approach may work well only for nonprofit developers or those using programs such as the LIHTC Program. In addition, the lack of available land has prevented the use of the option of providing land to the city.

5. Private vs. Public Subsidy

The Leeds School of Business study makes the point that the actual cost to the developer to produce units is much higher than the affordable unit sales price. Depending on the market, this privately borne subsidy could drive up housing costs for market-rate buyers. Others argue that the program decreases what developers will pay for land, or that a developer will charge what the market will bear anyway, so the cost of the market-rate units is no higher than it would be without the program; instead, the landowner's or developer's profit would decrease.

6. Narrow Range of Affordability

The program is expected to serve workers in critical industries, such as city employees, and those in needed industries, such as the university, health care, and retail. The narrow income range of the households allowed to participate in the program may not serve the full range of employees who are being targeted for assistance.

7. Consideration of Existing Assets

Potential owners and tenants can skirt the limits on their existing assets by transferring them to their businesses. The asset test allows some retirement savings but may be so strict as to rule out many people who are near retirement.

8. REALTORS'® Role

New buyers' limited use of a REALTOR® leaves buyers without an advocate, putting first-time buyers at a disadvantage. The city provides homebuyer counseling, and the REALTORS® have agreed to limit their commission to 2.5 percent, well below the typical commission rate of 6 percent.

Case Study 2
Montgomery County, Maryland
Moderately Priced Dwelling Unit Program

The Moderately Priced Dwelling Unit (MPDU) program of Montgomery County is one of the best known and most productive inclusionary zoning programs in the nation. The county's experience with the program, established 34 years ago, has been studied and written about by dozens of researchers, and many communities throughout the United States have borrowed aspects of the program. *Governing Magazine*'s cover story in April 2000 called MPDU the "nation's most innovative affordable housing program" (Swope, 2000: 18–22).

The Jurisdiction

Montgomery County, Maryland, lies on the northwestern boundary of the District of Columbia and is bordered on its western edge by the Potomac River. Once primarily agricultural, the county began suburbanizing in the 1890s with the development of Chevy Chase and other communities connected by trolley lines to the District of Columbia. The tremendous expansion of the Washington, D.C. metropolitan area following World War II spread quickly into Montgomery and other close-in counties in Maryland and Virginia, turning sedate older communities, such as Bethesda and Rockville, into bustling regional centers. Over a period of more than 60 years, the county has earned a reputation for comprehensive, imaginative, and aggressive planning and growth management. Basing development plans on its "Wedges and Corridors" General Plan approved in 1969, the county has actively promoted transit-oriented development and designated the northern one-third of the county as a farmland protection area conserved through zoning and transferable development rights.

The Census Bureau estimated the county's population at 932,000 in 2006. As much urban as suburban in character, the county represents the Washington, D.C. region's second largest employment base. Nearly 60 percent of the county's residents work within the county, and substantial intensification of development is taking place in regional commercial, employment, and residential centers. The residents of Montgomery County are well educated and receive high incomes relative to the region, the state, and the United States as a whole. The county's excellent educational and park systems continue to mark it as one of the most desirable residential areas in the Washington, D.C. region.

Especially during the past two decades, the county's population has been diversifying. In 2006, 17 percent of its residents were African American, 13 percent Asian, and nearly 9 percent Hispanic. Residents' housing needs also have been diversifying: townhouses and apartments now comprise nearly one-half of all homes.

Concerns for Affordable Housing

Like many other jurisdictions viewed as desirable residential areas, Montgomery County has experienced a continuing increase in housing prices over several decades. By 2006, the median price of a new single-family detached home was $881,600 and for a townhouse was $518,510. Through 2007, prices for older homes in some down-county desirable neighborhoods escalated by 10 or more percentage points per year. As early as the late 1960s, however, housing advocacy groups were concerned about the diminishing supply of affordable housing, especially for lower income workers migrating to the county. In 1970, a grassroots coalition led by the League of Women Voters and Suburban Maryland Fair Housing encouraged the Montgomery County Council to introduce a bill that called for builders to supply a share of all units in new residential developments at affordable prices—an inclusionary zoning program.

The idea was received with faint enthusiasm. At that time, a similar proposal introduced in Fairfax County, Virginia, just across the Potomac River, was successfully challenged in court as an unfair taking of private property. Other issues about Montgomery County's program quickly surfaced: resistance to the idea of requiring owners of expensive homes to live alongside lower income

neighbors, possibly reducing the value of market-rate homes; the views of civic associations that density bonuses amounted to wholesale rezoning that left large-lot development unprotected; and the certainty of liberal groups that developers reaped earnings that made density bonuses unnecessary.

Nevertheless, the legislation was introduced in the spring of 1972 and the County Council worked for more than a year to assuage concerns. Several events helped swing council opinion in favor of the bill: A report issued by the Montgomery County Project for Low- and Moderate-Income Housing linked the county's continued economic growth to the availability of affordable housing; a housing advocate was elected County Council president; and the legal issues posed by the Virginia law (in a Dillon Rule state) were seen to be irrelevant in powerful Maryland counties, especially with the provision for compensatory density bonuses. Ultimately, the law was rewritten to emphasize its intent to aid young working families rather than to overcome racial and economic exclusion. The council unanimously approved the bill in October 1973. Although the probusiness Montgomery County Executive vetoed it, the council overrode the veto and the bill became law on January 21, 1974.[2]

As of 2005, the program had produced more than 12,000 MPDU units. The program has generated 8,527 for-sale units and 3,520 rental units since 1976. The average annual MPDU production rate of for-sale units has been about 280 units; another 200 units a year are protected from resale under the county's right-of-first-refusal policy. The county's housing programs have also produced a similar number of low- to moderate-income units through funding by federal and state subsidy programs. The Housing Opportunity Commission (HOC) of Montgomery County purchases units that are rented to households with low or very low incomes. The HOC currently owns more than 1,600 MPDUs, some of which are rented at market or moderate-income rates, and it has a waiting list for HCVP certificates of about 14,000 households. About 8 percent of residential construction permits per year are for MPDUs, and the average production rate ranges from 200 to 400 units per year, depending on levels of market-rate housing development.

The Evolution of the MPDU Program

Both public administrators and the private developers and builders who produce the housing units implement the MPDU program. For residential projects affected by program requirements, the county's MPDU office within the Department of Housing and Community Affairs (DHCA) enters into agreements with builders for staging the construction of the required units, establishes the MPDU sales and rental prices, and oversees the selection of potential buyers and renters. Builders acquire sites and prepare subdivision plans, obtain building permits, and construct the housing. DHCA, often working with the landlord/tenant section of the county attorney's office, enforces the occupancy and resale provisions of the law.

The basic program elements established in 1973 are as follows.

Application to Residential Projects

At the outset, all new residential developments of 50 units or more in areas zoned for 1/2 acre or smaller lots were required to include MPDUs. The law called for 15 percent of total units to be

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[2] Montgomery County Zoning Ordinance (Chapter 59, Montgomery County Code 1994, as amended).

MPDUs and allowed a density bonus of 20 percent. In zoning districts for single-family detached homes, up to 60 percent of the MPDU units could be attached units. All MPDUs in for-sale subdivisions were required to be for-sale units.

Other Incentives

The law provided opportunities for developers to gain density bonuses, obtain waivers of code and impact fees, skirt limits established by adequate public facility requirements, and benefit from fast-track permitting procedures and cooperation in obtaining variances.

Eligible Occupants

Households with incomes at or below 60 percent of the AMI were eligible to apply for MPDUs. The county gave priority to buyers who live and/or work in the county. The council allowed the county's HOC and nonprofit housing organizations to purchase up to 40 percent of new units for rentals to households eligible for public housing.

Resale Controls

Unit resale was allowed after 5 years of occupancy. The owner and county split any profits from value escalation (accounting for owner improvements) with the county's share flowing into the Montgomery County Housing Initiative Fund (HIF) for reinvestment in affordable housing. In 2005, 1,881 for-sale units and 1,153 rental units remained under price controls. Eric Larsen, Montgomery County's former MPDU program director, reports that the county repurchases about 60 percent of recent resales through this procedure, but funding is inadequate to pay for many high-priced homes (Larsen, 2003).

Timing, Distribution, and Appearance of MPDUs

The agreements between developers and the county called for all required MPDUs to be constructed and offered for sale when one-half of the total units in a development have been built. MPDU units must be dispersed throughout the project and appear similar in design to market-rate units. MPDU units may be smaller in size (controlled by county minimum size schedules) and may have basic, rather than top-of-the-line, kitchen, heating, and other equipment.

Significant program changes have occurred based on administrative experience and political support over time. The principal modifications of the law occurred in 1981, 1989, and 2005, as follows:

- Building industry requests in 1981 for reduction of the proportion of MPDU units in subdivisions from 15 percent to 10 percent resulted in County Council approval of a 12.5-percent requirement, but the council also approved extension of the price control period from 5 years to 10 years and a requirement that all MPDUs be for-sale units unless located in an all-rental subdivision.

- In 1989, after a thorough program review, the county approved six modifications: (1) the bonus density was raised to a maximum of 22 percent, (2) the required percentage of MPDUs was set on a sliding scale of 12.5 to 15 percent depending on the bonus density achieved, (3) the rental control period was extended to 20 years, (4) a part of the appreciation in resale price after expiration of the price control period was required to be paid into the HIF, (5) permitted MPDU

sales prices were increased to enable builders to improve the compatibility of MPDU designs with market-rate units, and (6) alternative methods were adopted for meeting the MPDU requirement where high condominium or homeowner's association fees made units unaffordable.

- In 2005, the county lengthened the control period for sales units to 30 years and rental units to 99 years and reduced from 35 to 20 the number of units in a development that triggered MPDU requirements.

Montgomery County's program serves a diverse group of participants. The size and increasing diversity of the county's population are reflected in the ethnic mix of MPDU participants. The most recent data, from 2008, show that, since 2006, minority households purchased 82 percent of MPDU for-sale housing units.

Other information about the types of households served by the program includes the following:

- In 2008, 17 percent of occupants were Caucasian, 27 percent African American, 44 percent Asian, 5 percent Hispanic, and 7 percent unknown, reflecting a striking change from 1994, when occupants were 46 percent Caucasian, 20 percent African American, 26 percent Asian, 9 percent Hispanic, and 2 percent unknown.

- Of 314 certified households in 2008, 21 percent had one-person occupancy, 21 percent had two people, 23 percent had three people, 25 percent had four people, and 10 percent had five or more people.

- Of the units occupied in 1999 (the last year this data was available), 81 percent had three bedrooms and 19 percent had four bedrooms. (Unit sizes varied significantly from year to year.)

- In 2008, household incomes of participants averaged $44,130, about 45 percent of AMI household income in 2008. Incomes ranged from $14,800 to slightly more than $73,500. (A new minimum income limit of $35,000 was implemented in 2007, which applies to all new program participants, although some existing participants were "grandfathered" in the program.)

- The average sales price of townhouse units sold since 2006 was $165,000.

Occupations of owners and tenants are not available; however, Larsen believed in 2003 that most were blue-collar employees of service industries (Larsen, 2003). Although some public service workers, such as teachers and police and fire personnel, live in MPDU units, he said many county employees earn too much money to be eligible for MPDU housing.

Program Administration

Unlike similar programs in other jurisdictions that are administered by zoning departments, the DHCA administers Montgomery County's MPDU program as one of several housing programs. The MPDU office works with developers to produce units that meet county standards for design and distribution, calculates the sales prices and rent levels for those units, accepts and reviews applications from prospective occupants, runs a lottery for each project to select occupants, writes ownership and rental agreements with occupants, and works with owners on resale options. Initially, marketing the finished units was left to the developers, but the county found that some developers favored

friends and relatives and therefore assumed responsibility for occupant selection, which occurs through random-selection drawings.

The MPDU program enjoys broad general support from county residents and voters. After 28 years, the DHCA has developed a cadre of several dozen builders with experience in designing and completing MPDU projects. A typical year will see approximately 10 developers involved in projects (which proves that projects that include MPDUs can be profitable in many circumstances). Developers in Montgomery County sometimes claim that they either lose money or just break even on MPDU projects, but most accept the requirement as a cost of doing business in a highly desirable housing market. Developer David Flanagan of Elm Street Development, Inc., offered another view when he said that the willingness of county staff to work with developers to provide regulatory flexibility was the key to making projects financially viable. The principal obstacle to profitable MPDU production, he said, are limits on density posed by sites with environmental or compatibility issues, which fall under the Montgomery County Planning Board's purview (Flanagan, 2003).

Use of In-Lieu Fees and Offsite Development Options

Despite the regional bull market in residential development since the mid-1990s, Montgomery County's inclusionary program has experienced a slowdown in recent years. County officials agree that traditional suburban-style growth is tapering off, reducing the launching of projects that incorporate new MPDU housing. In part, this slowdown in new MPDU housing is occurring because fewer large, developable parcels are available for development, which has shifted much building activity in the county to small infill and redevelopment sites. Often such projects involve fewer units than covered by the MPDU requirements. Furthermore, especially during the housing boom in the years before 2007, proposed residential projects in built-up areas frequently proposed high-rise development of apartments and condominiums. These types of housing typically are expensive to build and maintain. In addition to high initial development unit prices, condominium or housing association maintenance fees can make units unaffordable for moderate-income families.

As a result, developers have objected to inclusion of moderate-cost units in these high-priced buildings. Increasingly, they turn instead to a previously little-used section of the law that provides alternative methods for satisfying MPDU requirements: developer payments, offsite development, or land donations in lieu of onsite production of moderate-income units. Many developers have proposed to pay in-lieu fees, which are directed into the county's HIF. They have hoped to pursue the alternative because of the financial impacts of including the required percentage of moderate-cost units in high-priced residential buildings, plus the ongoing owner/tenant cost of maintenance fees associated with such units. Some developers have claimed that the costs of providing onsite MPDUs would make projects infeasible. Nevertheless, the county has rejected a number of these proposals.

According to records provided by the MPDU office, from 1989 through 2006, 21 developments paid in-lieu fees as an alternative to providing all or some of required MPDUs on the site. Through this period, developers agreed to pay a total of about $2,010,000 into the county's HIF rather than include 332 MPDU units in their projects. Developers of 15 of these projects also agreed to provide a total of about 356 onsite or offsite MPDUs rather than make in-lieu payments. By agreement with

the director of the DHCA, three such developments included units at a rental rate that was reduced but exceeded standard MPDU requirements.

Elizabeth B. Davison, director of the DHCA from 1996 to 2006, generally was sympathetic to developers' concerns about the financial pressures raised by MPDU requirements for highrise development on infill sites and luxury condominiums with high condo fees (Davison, 2008). Citing the affordable-housing law's provision that developers should "have reasonable prospects of realizing a profit" on MPDU projects, as well as the need to keep condo fees affordable to MPDU certificate holders, she undertook to work out agreements with developers to pay in-lieu fees based on individual projects' land and development costs, taking into account the MPDU law's allowance of reducing MPDU requirements by offers of land, provision of MPDUs at alternative locations, and making payments to the HIF. In addition, the Planning Board sometimes waived or reduced some site and housing design standards and legal or other restraints on density increases to offset MPDU costs. According to Davison (2008), discussions to reach acceptable agreements among public officials, neighborhood groups, and project developers and their financial backers frequently were lengthy and posed difficult issues, especially as market conditions changed and developers altered their plans. Also complicating decisionmaking is the increasing opposition to such projects by community and neighborhood organizations pressing for slowing or halting further development of the county.

The County Council brought the issue to a head in July 2003 by releasing a staff report that tacitly criticized the housing department for accepting in-lieu fees for nearly one-half of the 400 affordable units developers committed to build in 2002. A *Washington Post* article by Matthew Mosk on July 22, 2003, headlined "Waiver Deals Cut Affordable Housing in Montgomery," asserted that the MPDU law was allowing developers to "buy their way out of requirements to build affordable housing." In addition, although admitting that so-called "buyouts" were legal, council members were concerned that fees varied from one development to another and that little information was available to indicate that fee payments were resulting in significant construction of affordable units. Some council members responded to these questions by proposing to eliminate the in-lieu fee option.

The situation was complicated by the difficulty in explaining the rational basis for determining an appropriate level of in-lieu payment, which involves a variety of financial factors. In an interview conducted for this study, Montgomery County Council Member Nancy Floreen said, "The math is not understandable to the average politician or his/her constituents" (Floreen, 2008). For example, the executive director of the HOC wrote to a council member that the average in-lieu payment of $21,000 was far lower than the actual cost to produce a moderate-income unit—an oversimplification of the appropriate cost relationships. For most projects, economic analyses estimated appropriate in-lieu payments for specific projects, reflecting such factors as land costs, project size, anticipated market prices or rental rates, and limits on potential density increases caused by environmental constraints or imposed by adopted plans, zoning, and/or community concerns about the compatibility of the proposed development with the surrounding neighborhood. Essentially, individual project economics tended to reflect a variety of intricately related factors that affected the potential financial impact of incorporating MPDU units. One outcome was that proposed in-lieu fees varied from project to project. (Apparently, establishing a single in-lieu fee per MPDU unit that might not reflect the financial factors affecting individual developments was not found acceptable.)

After a considerable amount of political wrangling over this issue, in November 2004, the county adopted a new procedure for determining appropriate alternative measures for compliance with the MPDU law, effective April 2005.[3] Several text amendments to the zoning ordinance were also adopted to provide greater flexibility for the county's Planning Board in approving development applications involving MPDUs. The procedure established a committee composed of the director of the DHCA, the director of the Planning Board, and the executive director of the HOC. Detailed directions for applications for alternative measures and reviews and decisions about these applications were spelled out.

Unfortunately, the three-person committee, each member of which had a full roster of scheduled meetings, found it difficult to meet in a timely manner to reach agreement on issues raised by specific projects, often prolonging decisionmaking. Meanwhile, local investments in residential development were being affected by the nationwide real estate financial downturn. Project starts have slowed considerably during 2007 and through 2008. In addition, several projects changing from for-sale condominiums to apartments have slowed MPDU production. Applications for consideration of projects involving MPDUs, however, are still being submitted regularly to the Planning Board for projects to be developed for 3 to 5 years after 2008.

With a change in the administration in the 2007 election, the housing director and 20 other senior officials were replaced. Several council members and the county executive elected in 2007 declared during their campaigns for office that the in-lieu payment program—and perhaps the entire MPDU program—requires rethinking and possible reorganization. County Council Member Nancy Floreen said that it appears that support for the MPDU program has weakened over the past few years, a conclusion echoed by other sources. Although county voters may support the general need for adding to the stock of affordable housing, Floreen cites the continued opposition of many neighborhood organizations to county efforts to encourage such development in or near their areas. "Affordable housing doesn't come very high on the list of voters' political priorities," Floreen said. "The community wants transparency in county decisionmaking," she adds, but is unwilling to allow the development tradeoffs that would promote development of affordable housing (Floreen, 2008).

Steven Robins, an attorney involved with several developments, has concluded that the use of in-lieu fees has become unacceptable to county officials and is essentially "a thing of the past" (Robins, 2008). In addition, he says, "the MPDU program has become very rigid," with little flexibility allowed to respond to concerns for project feasibility, an opinion echoed by other developers (Robins, 2008). Robins (2008) cites a development incorporating both highrise and midrise buildings. The developer suggested that required MPDUs be placed in the midrise section to reduce the cost for providing MPDUs in highrise buildings. This opportunity to reduce MPDU construction costs, without affecting their location, was refused by the county. Robins believes the program is "broken" by not allowing residential developers to make a reasonable profit—it is no longer "revenue neutral." By comparison, Robins cites the County Council's recent approval of a policy supporting development of "workforce housing," which will allow buildings that exceed height limits to achieve greater density and also allow somewhat higher prices and rents than MPDU units

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[3] For details, see "Requirements and Procedures for the Moderately Priced Dwelling Unit Program, Department of Community Affairs," Montgomery County Executive Regulation, No. 13-05AM effective on September 28, 2005.

(Robins, 2008). Another developer, Douglas Furstenburg of Stonebridge Development, agrees that the MPDU program has deteriorated and says that his current plans for development will focus on provision of workforce housing rather than MPDUs. In the next year or two, as the project plans come up for approval, he expects to engage in a "staring-down contest" with county officials to allow the higher prices and rents (Furstenburg, 2008).

Conclusion

Although Montgomery County's MPDU program has provided a model for many inclusionary programs across the nation, its future direction, for a time, seemed unclear. Although the need for improving the availability of affordable housing still receives broad support from county leaders and residents, the conduct of the MPDU program in recent years, especially the procedures allowing alternatives to onsite production, has touched off heated discussions, arising from residents' reactions to general growth issues and their tendency to believe the worst of developers' intentions. In the fall of 2008, county officials considered the elimination of alternative payments but eventually agreed to keep the option and to pursue additional approaches such as the production of workforce housing and accessory units.

One lesson from Montgomery County's experience is that even the most carefully tuned programs can be derailed in a turbid political environment. The double pressures of rapid development and a new focus on highrise development in the county threatened a backlash to a long-respected program.

Case Study 3
Pasadena, California
Inclusionary Housing Program
Requirements for In-Lieu Fees and Offsite Construction

Pasadena, a city of 145,000 residents located in the San Gabriel Valley 10 miles northeast of downtown Los Angeles, adopted an inclusionary housing program in 2001.[4] The program has produced 466 affordable units built by developers within market-rate projects over a 6-year period. In addition, developers paid fees into the city's Inclusionary Housing Trust Fund in lieu of building 160 housing units. The in-lieu payments, combined with substantial funds from state and federal programs, allowed the trust fund to create 1,575 additional affordable housing units, for a total production of 2,041 affordable units. This addition to the stock of affordable housing occurred during years when a strong housing market generated construction of more than 1,979 market-rate housing units. Recently approved projects will be constructing another 216 affordable units, and more affordable units are proposed in projects pending city approval.[5]

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[4] City of Pasadena, California. An Ordinance of the City of Pasadena Amending Title 17 (Revised Zoning Ordinance) of the Pasadena Municipal Code to Require Inclusionary Housing, Ordinance No. 6868, 2001.

[5] Based on data summarizing characteristics of affordable housing projects, compiled in 2008 by the staff of the city manager's housing program (Housing Development Office, 2008).

Pasadena's Inclusionary Housing Program requires that all residential and mixed-use projects include a share of housing that is affordable to low- and moderate-income households, but the ordinance provides for several options to onsite development, including payment of in-lieu fees and offsite construction. Many developers have chosen to pay in-lieu fees rather than build affordable units in their developments. The city has used these fees and federal and state housing funds to help construct 1,775 units of affordable housing in 35 projects other than those produced through the inclusionary program. Several developers have worked out arrangements to build affordable units on sites outside their market-rate developments.

The City of Pasadena

Pasadena is well known for its annual Tournament of Roses Parade, initiated in 1890, and the Rose Bowl postseason football competition. The city's other sources of fame include the California Institute of Technology, the National Aeronautics and Space Administration's Jet Propulsion Laboratory, and many other scientific and cultural institutions. A handsome grouping of ornate civic buildings constructed during the 1920s marks the city's center, which has undergone a remarkable revitalization over the past decade. The city's strong economic base and notable cultural and educational institutions attract many new residents and visitors from within and outside the region, accounting for a population increase of 22 percent from 1980 to 2007, two-fifths of which has occurred since 2000. Pasadena's pleasant neighborhoods, many architecturally distinctive buildings, and bustling downtown provide a highly desirable quality of life.

The Planning Center, a consulting group, submitted a report entitled *Housing Agenda for Action* to the city in March 2007 (The Planning Center, 2007). It noted that Pasadena, in contrast with the rest of the San Gabriel Valley region, had been successful in producing housing commensurate with its population growth from the 1970s to the present day. The 2000 Census found 51,844 households in Pasadena, up from 47,056 in 1980. About 48 percent of housing units were owned and 52 percent rented. Most of the household growth since the 1970s has been due to proportional increases in single-person households and unrelated individuals sharing housing, although the 2005 American Community Survey showed a significant increase in the number of married couples with no children. The economic status of residents also changed, with a 77-percent increase in household incomes above $75,000 from 1990 to 2000. Although much of this increase was due to inflation, overall, Pasadena residents were becoming wealthier, a factor that tended to increase housing prices. The 2000 Census found that the median value of owner-occupied units rose by about 2 percent, but the nationwide surge in housing prices was just starting.

The city's racial makeup is quite varied: 39 percent of its residents are White, 33 percent are Latino, 14 percent are African American, 10 percent are Asian, and the balance of 4 percent is from other races.

Housing Concerns

Pasadena's concerns for production of affordable housing stem from the historic shortage of housing relative to growth throughout the San Gabriel Valley, changes in the city's population makeup, and what The Planning Center accurately describes as "the emergence of Pasadena as the major city center for employment, history and culture, and education" in the San Gabriel Valley (The Planning Center, 2007: 5-3). The key housing production issues identified by the city's

Housing Affordability Task Force in 2003 focused on (1) the projected need for 54 percent of new housing to be priced for very low-, low-, and moderate-income households and (2) the approach of residential buildout in the downtown area while residents wished to maintain the lower density character of existing neighborhoods. The Housing Affordability Task Force noted Pasadena's singular achievement among surrounding jurisdictions was meeting its needs for affordable housing. Nevertheless, the rapid escalation of housing prices has challenged the affordability of housing for even high-wage earners, and high rental housing prices in Pasadena mean that more than one-half of renters overpay for housing. The Planning Center's report concludes that rising home prices may have contributed to a decline in lower income families in the city (The Planning Center, 2007).

The city's vigorous response to affordable housing needs has been led in large part by the response of the city administration and Pasadena City Council to concerns of local voters and has been reinforced by the California state requirements for local governmental attention to housing issues. Indicative of the city's concerns are its preparation of a "Housing 2000 Vision" in that year, followed by sponsorship in 2001 of a series of community workshops leading up to adoption of the Inclusionary Housing Ordinance (The Planning Center, 2007). In turn, in 2005 the council adopted a 10-year strategy to end homelessness, established the Housing Affordability Task Force, and organized a monthly series of Affordable Housing Luncheons convened by the Office of the City Manager, concluding with the Pasadena Housing Summit in 2006.

Reports by The Planning Center and the Urban Land Institute's (ULI's) Technical Assistance Panel defining proposals for new initiatives came in 2007. Convened at the city's request, the panel, organized by the ULI's advisory services division, confirmed the problems identified by The Planning Center (2007), concluding that Pasadena's affordable housing program has not been able to stem the impact of market conditions, which have led to displacement of the existing population, less housing and social diversity, higher prices, gentrification, and young families leaving (ULI, 2007).

Pasadena's Affordable Housing Program

The city of Pasadena administers a broadly conceived housing program to support development and financing of new construction, rehabilitation, and preservation of rental and ownership housing primarily for lower income households. It adopted a "housing vision" that states that "all Pasadena residents have an equal right to live in decent and safe affordable housing in a suitable living environment" and that the city aims to "maintain a socially and economically diverse community of homeowners and renters whom are afforded this right" (Office of the City Manager, 2006b: 1). The city has not established a public housing program, but, for assisting with the production of affordable housing, it receives funding from federal programs, such as the Community Development Block Grant, the HOME Investments Partnerships Program, and the Housing Choice Voucher Program, and from state sources, such as the California "Cal Home Program" for first-time homebuyers. The city also seeks opportunities to leverage nongovernmental and private resources to make homes affordable. Aside from developments involving the inclusionary program, the city assists with the construction of affordable units by requesting proposals or responding to "walk-in" submissions of potential projects. Prospective developers submit housing development funding applications and reach development agreements with the city to undertake such projects (Office of the City Manager, 2006a).

In 2001, the city amended the zoning ordinance[6] to require developers to build inclusionary housing in residential and mixed-use projects, with options for paying in-lieu fees, building affordable units on other sites, or donating land. As of May 2008, the Inclusionary Housing Program had secured developers' construction of 466 affordable units within market-rate residential projects and approved additional projects in which developers will construct 216 affordable units (Pasadena Inclusionary Housing Program, 2008).

The ordinance also established the Inclusionary Housing Trust Fund to collect funds for affordable housing from various sources, including in-lieu fees that are paid into the trust fund.

Since 1999, the funding channeled through these various programs, including the developers' payments of in-lieu fees, has allowed the city to invest more than $21.5 million to assist with the creation of 1,575 affordable housing units.[7]

Affordable housing produced through the Pasadena Inclusionary Housing Program favors the city's residents. Attachment M of the city's regulations governing the affordable housing program provides that people who live and/or work in the city have priority over other people to rent or purchase affordable and workforce housing units sponsored by the city or the Pasadena Community Development Commission. Income-eligible households that both reside and work within the city have first priority for affordable housing. Income-eligible households that either reside or work within the city have second and third priority, respectively. Income-eligible households that have been involuntarily displaced from the city have fourth priority. The priority guidelines make no mention of allowing rental or purchase by citizens of other jurisdictions.

The Inclusionary Housing Program

The requirements of the Inclusionary Housing Ordinance apply to residential projects of 10 or more lots or units and mandate that 15 percent of newly constructed lots or units be affordable (although, for 1 year following adoption of the ordinance, that requirement was reduced to 6 percent for projects then undergoing review and approval). The ordinance allowed three alternatives to development of affordable units on the primary development site: constructing units on another site, donating a site, or paying a fee in lieu of constructing units.

Definitions of Affordability

The ordinance established four cost ceilings as a measure of affordability for inclusionary units, based on Los Angeles County AMI and adjusted in 2008 according to the household size.

1. **Very low-income households, rental units:** 30 percent of 50 percent of AMI—in effect, 15 percent of AMI, which in 2009 was determined as incomes no higher than $27,750 for one-person households and $39,650 for four-person households.

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[6] City of Pasadena, California. Zoning Code, Ordinance #7000, Chapters 17-42 and 17-43, adopted by the City Council on January 10, 2005, effective February 26, 2005, with amendments.

[7] Compiled from the city of Pasadena's *Inclusionary Housing Performance Reports* (Pasadena Inclusionary Housing Program, 2008), tables A–E, July 25, 2008.

2. **Low-income households, rental or for-sale units:** 30 percent of 80 percent of AMI—in effect, 24 percent of AMI, which in 2009 was determined as incomes no higher than $44,400 for one-person households and $63,450 for four-person households.

3. **Moderate-income households, for-sale and rental units:** 40 percent of 110 percent of AMI— in effect, 44 percent of AMI, which in 2009 was determined as incomes no higher than $52,150 for one-person households and $74,500 for four-person households.

If the residential development consists of ownership housing, inclusionary units must be sold to low- or moderate-income households. For developments with rental units, a minimum of 10 percent of the units in the development must be rented to low-income households and the remaining 5 percent to moderate-income households. Reductions in the required number of units are allowed for substitutions of very low-income units for low- or moderate-income units, or of low-income units for moderate-income units, to allow for the reduced return on investment for constructing these units.

Standards for Design, Construction, and Availability

The ordinance requires that inclusionary units must be (1) reasonably dispersed throughout the development; (2) proportional in number, bedroom size, and location to the market-rate units; and (3) comparable with the market-rate units in terms of the base design, appearance, materials, and finished quality. Inclusionary units must be constructed concurrently with or prior to the construction of market-rate units. Rental units must be reserved for the target income level in perpetuity. For-sale units must remain reserved for the target income level for 45 years, subject to a renewable covenant or, if resold to a moderate-income purchaser, must allow the city the right of first refusal for recapturing a proportion of any appreciation in price.

Procedures

The inclusionary requirements are executed through an Inclusionary Housing Agreement between developers and the city, involving the developers' submission of a detailed inclusionary housing plan for approval by the program director. Until the agreement is approved, no discretionary approval, building permit, or certificate of occupancy can be issued for any part of the proposed development.

Alternatives to Onsite Construction

As alternatives to building inclusionary units in the proposed development, the ordinance provides the following three options:

1. **Payment of in-lieu fees:** Developers may choose to pay a fee per required unit as determined by the fee schedule established by the City Council, the fee to be deposited in the city's Inclusionary Housing Trust Fund. At least one-half of the fee must be paid prior to issuance of building permits and the remainder before a certificate of occupancy is issued. The fee was reduced to 40 percent of the scheduled fee during the year after the effective date of the ordinance.

2. **Offsite construction:** At the discretion of the director of the Inclusionary Housing Program, developers may opt to construct or substantially rehabilitate all or some of the required inclusionary units at a site different from the proposed development site.

3. Land donation: At the discretion of the program director, developers may convey land to the city for construction of all or part of the required inclusionary units.

The second and third options can be offered by developers but are approved or disapproved at the discretion of the director of the Inclusionary Housing Program. To exercise any of the three options, a developer's proposal is subject to official review and agreement on a plan for providing the required number of units. The Inclusionary Housing Ordinance and regulations lay out a number of requirements that generally require significant negotiations and agreements on details of the plan. Pasadena's public officials and developers, however, appear to have worked out a fairly amicable relationship to reach understandings acceptable to both parties.

Density Bonuses

The state's density bonus law requires the city to provide for increases in residential density for affordable housing production.[8] The law includes densities above those established in the zoning ordinance, based on the percentage of housing units affordable at specified income levels that are proposed for inclusion in a residential development. Pasadena provides for density bonuses of up to 35 percent (and up to 50 percent in some parts of the city's Central District), depending on the percentage of units of the various household income levels to be incorporated in the project. Several developers received density bonuses for constructing about 200 affordable units, but, in general, the existing zoning has allowed sufficient density standards to meet developers' requests for proposed developments. The city also has approved concessions and waivers of standards in situations in which development would be precluded or hampered by the strict application of requirements.

Program Experience

In the 7 years since its inception, the Inclusionary Housing Program has generated production or development approval of 466 units of affordable housing. Developers submit plans for residential development and reach agreements with city officials as to the number, type, and location of the required inclusionary units. Covenants are placed on rental projects to ensure protection of their affordability in perpetuity. Many projects are quite small—two or three dozen units—and generate requirements for only a few lower income units. Some are much larger: one of the first, Trio Apartments, proposed 286 market-rate units that required 18 lower income units, which were built on the site. Another, Westgate, a pending project by the Sares-Regis Group, plans construction of 820 rental units, which will include 96 affordable units built on site. The developer asked for and received a density bonus based on the proposed building of 96 rather than 40 units for very low-income households, using private activity bonds that allowed the developer to finance the greater number of units. A number of projects have required extensive negotiations between developers and public officials to reach agreement on tradeoffs among types of units and their locations on or off the site.

Since its adoption in 2001, the program has passed through two quite different stages, capped most recently with yet another shift, as demonstrated in exhibit 1. In the program's first 3 years

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[8] California Government Code Sections 65915–65918 (date unknown).

(through 2003), all but one project (which paid a fee) was producing rental housing and all but two developers entered into agreements to include affordable units on the development sites. By 2004, the gathering strength of the condominium market enticed developers to undertake development of for-sale condominium apartments. Many developers, especially those building rather small projects, elected to make in-lieu payments or build offsite affordable units. Said one developer, "You pay your fee, you get approval to move ahead, and no worries about building affordable units. The time saved and pain avoided is worth it." The city's rather strenuous regulatory process may also affect the payment decision. The ULI panel noted that "more than one land use professional had described Pasadena as one of the most highly regulated and administratively restrained building environments within Southern California" (ULI, 2007: 13), including an emphasis on sustainable design guidelines and environmental considerations. Regardless of strong city staff support for projects generating affordable units, developers may choose to pay in-lieu fees rather than subject their projects to the intensive design and decisionmaking process associated with producing affordable units within market-rate projects. Other incentives for paying fees are the small size of many projects and the difficulty of obtaining density bonuses in many neighborhoods, both of which tend to mitigate against including affordable units on site.

Within the past 2 years, however, developers proposing new projects have made more balanced choices: developers of almost 40 percent of pending rental projects propose to pay in-lieu fees, while more than one-half of ownership project developers propose to build affordable units on site. Clearly, the city's program administration has won adherents to the notion of incorporating affordable units within market-rate developments. The housing industry's current market troubles,

Exhibit 1

Program Production of Inclusionary Units

Building	Rental			Ownership		
		Units			Units	
	Projects	Market Rate	Affordable	Projects	Market Rate	Affordable
Building at 6% requirement (2002–03)	8	939	64	0	0	0
Building at 15% requirement (2004–05)	5	73	268*	6	240	41**
Paying fees at 6% requirement (2002–04)	2	228	32	3	174	11
Paying fees at 15% requirement (2003–07)	1	32	6	26	927	131
Building offsite units at 15% requirement	0	0	0	2	90	16
Sum of constructed and approved units to May 2008	16	1,272	370	37	1,431	199
Pending building on site at 15% requirement	6	635	113	20	885	102
Pending payment of fees at 15% requirement	6	403	71	28	813	139

This "bump" in the production of affordable units came after city acquisition of an apartment complex to be occupied by low-income households.

**Project built 6 of 11 required affordable units off site and paid in-lieu fee for 5 units.*

however, suggest that a number of the pending projects will be altered or postponed, raising questions about the future production of affordable units through inclusionary requirements.

Every few years, the City Council formally establishes the levels of in-lieu fees and updates them annually according to changes in the housing price index published by the Federal Housing Finance Agency. Fees are based on a staff analysis of housing cost factors, which in turn are based on periodic financial analyses by real estate economic consultants who evaluate current market conditions and the "affordability gap" between market-rate and affordable housing prices and rents. (Keyser Marston Associates carried out the most recent study in 2005.) The fees are set separately for rental units and ownership units and vary across four city subareas, which are defined differently for rental and ownership units. Initially, in 2002, fees were set quite low—$10 per net square foot of floor space in proposed market-rate units in the most attractive subarea for development. The 2008 schedule set a fee of $40.55 for the same area. Fees for rental units have been highest in the southern, more developed half of the city. Exhibit 2 indicates the current range of in-lieu fees for rental and ownership units. The city's efforts to establish reasonable levels of in-lieu fees and to reflect differences in development costs among four city districts appear to be a worthwhile practice in an environment such as California, where legal challenges to municipal lawmaking are plentiful.

For example, fees for residential ownership projects proposed in subarea A, which is considered the most attractive area for development, are double those in subarea D south of the 210 Freeway. Fees for rental projects are highest in subareas C and D.

An example of a developer who elected to pay in-lieu fees is the MS Property Company, which in 2005 proposed construction of 56 condominium apartments on a 5.3-acre site in the Central District. The development, located in subarea D, was to include 175,000 square feet of net residential space. The fee schedule called for payment of $12 per square foot, or a total of $2,100,000, which was paid in full prior to issuance of a building permit. The first phase of 36 apartments was completed in the summer of 2008, and the developer is applying for the design review of the second phase of 20 units.

Few developers have opted to build affordable units off site, apparently because reasonably priced sites are difficult to find. At Delacey Place, however, a 34-unit condominium development approved in October 2004, Toledo Homes (as Delacey Place, LLC) built 5 moderate-income units as part of another project being developed by the same firm. On that site, the firm built 11 moderate-income units, which replaced some rundown commercial buildings.

Exhibit 2

In-Lieu Fee Schedule for Projects of 10 to 49 Units, 2008

Subarea	Rental Units	Ownership Units
A	TBD	$40.55
B	$ 1.07	$14.94
C	$23.48	$24.54
D	$21.34	$19.21

TBD = To be decided when sufficient market data are available.

Note: Fee per net square foot of floor space in market-rate units.

Current Affordable Housing Issues

Although Pasadena's affordable housing program has been quite productive, particularly in comparison to programs of nearby cities, high land prices driven by restricted supplies of developable land challenge production of affordable housing, especially in neighborhoods resisting the escalation of densities. In addition, the apparent preference of many developers to pay in-lieu fees rather than construct lower priced units makes the city, rather than experienced residential developers, responsible for producing much of the affordable housing. In effect, fee payments generate affordable units well after payments are collected rather than during development of the market-rate projects. To boost production of affordable units, the reports of The Planning Center (2007) and the ULI panel (ULI, 2007) identified several potential initiatives, such as the following, that city officials are considering:

• The ULI panel (ULI, 2007) strongly urged the city to leverage collected in-lieu and other funding by seeking grants and loans from corporate, nongovernmental, and other organizations to increase affordable housing investments and production.

• The Planning Center (2007) emphasized the need for generating affordable units large enough for families with children, in addition to the studio and one- and two-bedroom units now being developed by the program.

• The city could strengthen the Inclusionary Housing Program by allowing developers to meet requirements in three additional ways: by (1) encouraging rehabilitation of existing apartments for lower income households, (2) retaining affordable units in apartment developments being converted to condominiums, and (3) providing for production of workforce housing.

• The city should act to provide suitably priced sites for affordable housing in targeted areas best suited to accommodate higher density development, including city-owned properties and surplus school sites.

In addition, the development industry and the city will be adjusting to the current economic problems that suggest a possible major reduction in market-rate housing production. This situation may well change the course of the Inclusionary Housing Program and the city's overall housing program.

Conclusion

This preliminary investigation of three inclusionary housing programs that allow developers to pay in-lieu fees or develop offsite affordable housing finds that the availability of alternatives to onsite construction has won widespread program support from residential developers and residents alike; has helped to improve the existing housing stock, which has provided more housing options; and has contributed to the overall sustainability of the neighborhoods in which these programs were offered. In-lieu fees and offsite development options eased developers' concerns about building in high-cost areas, especially where density ceilings and environmental requirements imposed limits on construction. The communities under study established specific requirements and procedures for implementing these incentives. Future research intended to confirm these initial findings may want to focus on the clarity and specificity of the individual program requirements and various

contextual factors, such as the political, economic, and social conditions that would support such strategies.

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Removing Regulatory Barriers to Affordable Housing in Development Standards, Density Bonuses, and Processing of Permits in Hillsborough County, Florida

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Abstract

A recent project to evaluate comprehensive plans and development regulations and to review procedures to remove regulatory barriers to affordable housing in Hillsborough County, Florida, examined the use of 15 strategies. This article focuses on 3 strategies that were part of the larger study and that relate to removing barriers in connection with (1) subdivision/development standards; (2) density bonuses; and (3) the processing of permits, plans, and reviews. Recommendations relating to development standards address excessive requirements for lot size, lot width, yard setbacks, offstreet parking, and width of sidewalks and planting strips. Recommendations relating to density bonuses address an existing system crippled by rules that are confusing, contradictory, and of questionable economic value. Recommendations relating to processing of permits address unclear responsibilities and standards, insufficient advance planning and zoning, lack of waivers and uniformity, and an excessive number of hearings.

Introduction

The unincorporated area of Hillsborough County, Florida, which surrounds the city of Tampa, has an estimated population of 785,000 and an area of 923 square miles. In 2007, the county government undertook an initiative to identify and eliminate regulatory barriers to affordable housing and retained a consultant team to draft recommendations.[1] At the direction of the county's Affordable Housing Office (now called the Affordable Housing Department), the authors and other members of the consultant team evaluated more than a thousand pages of official documents, including the county's comprehensive plan, land development code, building code, and development review procedures; interviewed approximately 75 individuals involved in the development or regulation of housing; prepared a series of 15 discussion papers on a broad array of barrier-removal strategies that were circulated to stakeholders; and participated in approximately 15 meetings, including regular meetings with the county's Affordable Housing Advisory Board.[2] The entire process took approximately 16 months to complete. The final report, including more than 100 recommendations, was approved by the county's Affordable Housing Advisory Board, accepted by the county's governing body in December 2008, and submitted by the county to the state of Florida in fulfillment of the requirements of Florida Statute 420.9076(4). Amendments to the county comprehensive plan and the land development code have not yet occurred as of this writing (The Planning Authority et al., 2008).

This article reports on three strategies that were part of that study to remove regulatory barriers in connection with (1) subdivision/development standards; (2) density bonuses; and (3) the processing of permits, plans, and reviews. Development standards, such as minimum lot size, can drive up the cost of housing by requiring an excessive amount of land or additional construction expense. Density bonuses are incentive tools that are failing in their goal of promoting affordable housing in Hillsborough County. Processing of permits is a source of applicant complaints, despite the best efforts of the staff who issue them.

The authors believe that reporting their experience in Hillsborough County can be useful to others who may be seeking to understand similar issues elsewhere, by helping to identify where problems may be found and what solutions might be applied. We understand and caution that specific recommendations may not apply everywhere but may apply where the underlying circumstances are similar.

Literature Review

An extensive body of descriptive and empirical literature evaluates the impact of administrative processes, land use regulations, and building codes on housing costs and production, in addition to technical manuals that detail how to conduct assessments of local plans, policies, and regulation. Many of these reports, including self-assessments carried out by local governments, are available at

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[1] The county's initiative was guided by the University Partnership for Community and Economic Development (2006).

[2] The topics of the 15 discussion papers are listed in appendix A. Other authors of the discussion papers were Daniel Mandelker, Arianne Aughey, David Hattis, and Daniel Lauber.

the U.S. Department of Housing and Urban Development's (HUD's) Regulatory Barriers Clearinghouse on the HUD USER website (http://www.huduser.org/rbc/). In addition, several national commissions concerned with affordable housing have examined this topic (Advisory Commission on Intergovernmental Relations, 1966; Advisory Commission on Regulatory Barriers to Affordable Housing, 1991; Millennial Housing Commission, 2002; National Commission on Urban Problems, 1968).

Two comprehensive literature reviews are available. The first, by Quigley and Rosenthal (2005), surveyed the empirical literature on the effects of regulation on housing prices, finding that the literature varied widely in the quality of research method and strength of result. They observed that when local regulators effectively withdraw land from buildable supplies, the land factor and the finished product "become pricier." The literature failed, however, to establish a strong, direct, causal effect, "if only because variations in both observed regulation and methodological precision frustrate sweeping generalizations." A substantial number of land use control studies show little or no effect on price, "implying that sometimes, local regulation is symbolic, ineffectual, or only weakly enforced" (Quigley and Rosenthal, 2005: 69).

The second literature review, by Knaap et al. (2007), was completed to support a study on the qualitative and quantitative impacts of zoning as a barrier to multifamily housing development. Although the review covered some of the same territory as the Quigley and Rosenthal (2005) article, it was concerned more with the underlying motivations and policies that affected the production of multifamily housing. Knaap et al. (2007) divided the literature into five parts: (1) when zoning is exclusionary, (2) the building blocks of exclusionary zoning ordinances, (3) the motivations or reasons for exclusionary zoning, (4) housing density in the exclusionary zoning context, and (5) the remedies for exclusionary zoning. The review describes the nature of the literature but makes no conclusions about it.

Listokin and Hattis (2005) completed a detailed evaluation of a variety of empirical studies on the impacts of building codes and housing codes, concluding that "the more rigorous quantitative analyses indicate that codes increase housing costs by 5 percent or less" (Listokin and Hattis, 2005: 21) and had much less impact on housing costs compared with zoning and subdivision regulations.

May (2005) examined the literature surrounding regulatory processes for zoning and subdivision reviews. In particular, he evaluated the potential offered by electronic permitting and "one-stop permits," delegation of permit reviews to third parties and third-party certification, and administrative reorganization of regulatory agencies, including "permit czars" who can cut through regulatory red tape. He found that the effectiveness of all three of these techniques had not been studied adequately or systematically. Administrative simplification or coordination, May observed, "is necessary for reducing delays," but does not "guarantee that delays or other problems will be eliminated." May reasoned, "[R]earranging the organizational boxes does not necessarily reduce turf considerations and other bureaucratic hurdles. A transformation of organizational cultures and routines is necessary to overcome those constraints" (May, 2005: 217).

Vranicar, Sanders, and Mosena (1980) completed what is perhaps the earliest guidance document on regulatory simplification for HUD's Office of Policy Development and Research. This guidebook focused on how to streamline the local permit review process at three points: the preapplication stage, the staff review stage, and the lay review stage. It recommended how to revamp zoning

and subdivision regulation to lessen problems with discretionary reviews. Finally, it explored three alternatives to launching regulatory reform: hiring a consultant, establishing a task force or independent commission, and using inhouse staff.

The NAHB Research Center (1987), a subsidiary of the National Association of Home Builders, addressed similar issues in a guide for local government and developers based on a series of demonstration projects. The guide recommended, among other things, more extensive use of planned unit development, revisions in local zoning ordinances to increase residential density, increases in density in exchange for more site amenities, more flexibility for mixed-use develop-ment, allowance for density transfers, and a series of techniques to evaluate and reengineer the local approval process.

White (1992) described a set of proactive and reactive planning strategies for affordable housing, including inclusionary zoning, linkage fees, the promotion of infill, the preservation of existing affordable housing, and administrative and procedural reforms. Among the administrative and procedural reforms White identified were procedural manuals, master forms, interdepartmental reviews, ombudsmen/permit expediters, and fast-track procedures for small or noncontroversial projects. In addition, White listed joint reviews, the delegation of responsibilities to a planning commission or staff, the imposition of deadlines, and "deemed approved" provision (where applications are automatically approved after a certain period of time) to reduce delays in project approval. Finally, he advocated consolidating inspections by cross-training inspectors or arranging for inspections from different departments to occur simultaneously.

The Council of State Community Development Agencies and the National Conference of States on Building Codes and Standards (1994) prepared a self-assessment guide for states to break down regulatory barriers. In addition to the topics covered in the reports previously described, this report examined building codes and standards and infrastructure. In particular, this report advocated the use of a single statewide building code for single-family, multifamily, and modular housing and facilitation of manufactured housing.

Morris (2000) evaluated zoning incentives for affordable housing in four states (California, Florida, New Jersey, and Oregon) as part of a broader report on incentive zoning for a variety of public purposes. She concluded the following:

> What is clear from looking at the most extensive state programs is that provision of density bonuses and regulatory waivers of fees or development standards—while two of the most common tools used to implement mandatory housing plans—are not sufficient incentives in and of themselves to get developers to build affordable housing. What does work well are carefully crafted packages of financial and regulatory techniques that remove barriers to affordable housing but also meet the overall community planning objectives. (Morris, 2000: 44)

A study of subdivision requirements as a regulatory barrier that the NAHB Research Center (2007) conducted for HUD attempted to quantify, on a nationwide basis, the costs of excessive site development regulations on housing. The study calculated the following benchmarks for the most important development standards: lot size, floor space requirements, lot width, roadway width, sidewalk requirements, and curb and gutter drainage. The study found that the average

cost of excessive regulation resulting from subdivision standards for one dwelling unit was about 5 percent of the average cost of a new home. For the land development standards studied, the average regulatory barrier cost for one dwelling unit was $11,910. Lot size, lot width, and floor area accounted for the largest percentage of total costs. Excessive lot size regulations accounted for the largest percentage of costs (65 percent), followed by floor area (17 percent), and lot width requirements (9 percent). The report noted that because the cost of land is a major component of the cost of housing, "it should not be surprising that regulations mandating excessive lot sizes result in such a finding" (NAHB Research Center, 2007: 2).

Subdivision/Development Standards

Subdivision/development standards in a conventional zoning ordinance typically regulate the size and dimensions of residential lots and the size and placement of dwellings, accessory structures, pavements, and open space on the lot. When these standards are excessive, lots are larger and more costly than is needed. Excessive standards can also add to construction costs, as when extra parking spaces and wider sidewalks are required.

A 2007 study sponsored by HUD (NAHB Research Center, 2007) found that development standards required for the subdivision of land can have an effect on the cost of housing. The most significant effects were found to arise from minimum lot size, minimum lot width, and minimum floor area. Other standards that were found to have some effect on cost of housing included yard setbacks, off-street parking, open space, and the width of street rights-of-way, pavements, planting strips, and sidewalks.

To help communities adopt more cost-effective standards, the HUD study convened a panel of experts to establish two sets of benchmarks: one appropriate to "more dense" development and the other to "less dense" development. *More dense* was defined as a median lot size of 7,000 square feet (which would be similar to development in the RSC-6 single-family district in Hillsborough County). *Less dense* was defined as a median lot size of 22,000 square feet (which would be similar to the RSC-2 district).

For the study to eliminate regulatory barriers to affordable housing in Hillsborough County, the authors used the benchmarks in the HUD study as a reference point for amending the county's existing standards. First, the standards in Hillsborough County's RSC-6 district were adjusted to be relatively close to standards in the more dense benchmark, and RSC-2 was adjusted to be close to the less dense benchmark. Then, all other zoning districts were adjusted to be roughly proportional to the new standards for RSC-6 and RSC-2. The result was a set of tables similar to those in appendixes B through E that accompany this article, showing suggested standards next to the current standard. The authors then circulated these suggested standards to county staff, the affordable housing advisory board, and other stakeholders in the housing field and development industry in Hillsborough County, seeking comment.

The result was a recommended set of minimum standards that offer substantial reductions from the existing standards in Hillsborough County. Across a range of 12 residential zoning districts, including single-family, two-family, and multiple family districts, minimum standards can be reduced by an average of—

- 37 percent in lot size.[3]

- 45 percent in lot width.[4]

- 48 percent in front yard setback.

- 37 percent in side yard setback.

- 42 percent in rear yard setback.[5]

Reductions in offstreet parking can exceed 20 percent when applied to dwellings having fewer than four bedrooms.[6] (The standard for four-bedroom dwellings would be unchanged.) The minimum width of planting strips can be reduced by about 16 percent, and minimum width of sidewalks can be reduced by about 20 percent.[7]

Density Bonuses

An affordable housing density bonus program is described in detail in Hillsborough County's comprehensive plan and land development code. Barriers to the use of density bonuses for affordable housing in Hillsborough County's official documents, however, are numerous and varied. Among the barriers are the following.

Rezoning requirements. The comprehensive plan requires an official request to rezone to a site plan-controlled zoning district, which generally increases the time and cost of the development and creates a risk that opposition to affordable housing or density will surface to defeat the proposal.

Limited application outside of large-scale planned developments. The comprehensive plan defines density bonuses to apply only to large-scale planned developments.

Limited application in newly developing areas. The comprehensive plan appears to discourage use of density bonuses in conjunction with U.S. Department of Agriculture self-help housing.

Difficult site criteria. The comprehensive plan requires certain density bonuses to be used only where the surrounding area contains at least two of the following conditions: (1) substandard housing; (2) resident households of very low, low, or moderate income; (3) initiatives to create farmworker housing; or (4) proximity to an economic development that creates employment opportunities for project residents. The first two of these conditions can needlessly rule out integration of affordable housing into standard, middle-income neighborhoods.

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[3] Appendix B breaks out the minimum lot size in each zoning district.

[4] Appendix C breaks out the lot width minimum in each zoning district.

[5] Appendix D breaks out the minimum yard setbacks in each zoning district.

[6] Appendix E breaks out the offstreet parking requirements by dwelling size.

[7] Minimum width of planting strips ranges from 6 feet to 5 feet, and minimum sidewalk width ranges from 5 feet to 4 feet.

Disproportionately smaller bonus in smaller developments. In the floor-area ratio (FAR) density bonus, a mixed-use development is permitted a .005 increase in the maximum FAR for every housing unit reserved for very low-income households, up to a maximum FAR increase of .10. This formula works to offer less commercial square feet per affordable dwelling to smaller mixed-use projects. For example, a project on 1 million square feet of land would be eligible for an additional 5,000 square feet of commercial floor area for each affordable dwelling unit (that is, 1,000,000 x .005). But a project on 200,000 square feet of land would be eligible for only an additional 1,000 square feet of commercial floor area for each affordable dwelling unit (that is, 200,000 x .005). This example raises a larger question of whether the incentives have been tested economically.

Arbitrary minimum thresholds. Affordable housing density bonuses can be used only when at least 20 percent of the total dwelling units are reserved for low- or very low-income households. This threshold eliminates incentives to opportunities to add smaller percentages in market-rate developments.

Lack of proportionality in the bonus formula. As written, the bonus formula provides a density bump-up when 20 percent of the units are affordable, but no further density bump-up if more than 20 percent of the units are affordable. A proportional formula would provide some additional density for each affordable unit up to whatever proportion of affordable units is considered maximal.

Inconsistent guarantees of affordability. Hillsborough County's comprehensive plan requires that rental units, but not owner-occupied units, created through a density bonus be reserved for eligible households for a period of at least 12 years, "or for some other time period as determined by the County." In an apparent inconsistency, the county's land development code requires a 15-year assurance for affordable housing, making no distinction between rental and owner-occupied units.

Inconsistent or competing housing bonuses. In addition to offering three affordable housing density bonuses, the comprehensive plan offers density bonuses for traditional neighborhood development (TND) and infill development. The TND density bonus offers incentives that are as large as or larger than those available for affordable housing but does not explicitly require affordable housing.

No bonus formula in the land development code. The land development code does not include the formula for calculating an affordable housing density bonus, although the formula is in the comprehensive plan and the land development code references the comprehensive plan. This arrangement is not user friendly and could be remedied easily.

Inconsistent policies regarding neighborhood appropriateness. The land development code and the comprehensive plan take differing positions on administrative review of the appropriateness of affordable housing to the neighborhood's character. The comprehensive plan appears to require that density increases be compatible with surrounding development. The land development code appears to rule out administrative review of the appropriateness of the affordable housing

unit to the neighborhood's character. These policies can be confusing and are potentially a source of contention.

Comprehensive Plan Revision

A user-friendly density bonus can benefit enormously from a comprehensive plan that has already addressed the economic value of the bonus, sorted out the options, and articulated policies that can succeed in the marketplace. The following goals, objectives, and policies are suggested in revising the comprehensive plan and incorporate the recommendations previously listed.

Density Bonus Goal 1

An effective system of affordable housing density bonuses. Effectiveness requires density bonuses to be financially feasible in a wide variety of circumstances, barrier free, easy to use, monitored against benchmarks, and adjusted as necessary.

Objective 1.1. Make affordable housing density bonuses economically feasible in a wide variety of circumstances.

Policy 1.1.1. As part of the planning process, conduct an economic analysis to determine the level of incentive necessary to achieve the county's affordable housing goals.

Policy 1.1.2. Offer density bonuses in which the number of affordable housing units created is proportional to the economic value of the increased density.

Policy 1.1.3. In developments in which location presents severe practical difficulties to affordable housing (such as a lack of jobs or public transit nearby), offer density bonuses in exchange for "in lieu of" contributions to an affordable housing trust fund or for prior construction of affordable housing at offsite locations.

Objective 1.2. Make affordable housing density bonuses barrier free in concept and execution.

Policy 1.2.1. Coordinate the comprehensive plan with the land development code so that the comprehensive plan provides effective strategies and policies and the land development code implements those policies with clarity, completeness, and a minimum of legal barriers.[8]

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[8] Examples of the division of labor between comprehensive plan and land development code are as follows:

The comprehensive plan can establish policies for computing a density bonus. The land development code can include a specific density bonus formula.

The comprehensive plan can include policies addressing guarantees of affordability, such as whether the guarantee will apply for a number of years or in perpetuity. The land development code implements those policies by including specific terms and procedures for implementation and monitoring.

The comprehensive plan can discuss the strategic issues relating to the appropriateness of affordable housing to neighborhood character and set out a general policy. The land development code can implement that policy with specific language governing if, when, and how the county's development procedures may consider the appropriateness of affordable housing to neighborhood character.

Policy 1.2.2. In the land development code, communicate density bonuses using simple, direct formulas.[9]

Policy 1.2.3. Do not limit density bonuses (and affordable housing) to disadvantaged areas or low-income housing developments. Encourage affordable housing in a wide range of neighborhoods, including market-rate developments.

Policy 1.2.4. Do not require a minimum number of affordable housing units where a minimum would result in none at all. Building 10 or 15 percent of the housing as affordable housing in a development is better than building none.

Policy 1.2.5. Do not limit density bonuses to large-scale planned developments. Offer density bonuses in any size development. Density bonuses can be more attractive to smaller developments if they include reduced lot sizes and setbacks.

Policy 1.2.6. Allow an affordable housing unit as an addition to a single house for situations in which the total square footage of both units will be within the size allowable for a single-family house and one unit will be owner occupied.

Objective 1.3. Ensure that affordable housing density bonuses are monitored against benchmarks and adjusted as necessary to achieve affordable housing goals.

Policy 1.3.1. As part of the comprehensive planning process, develop quantitative goals for affordable housing production through density bonuses. Establish yearly benchmarks to measure future effectiveness of density bonuses.

Policy 1.3.2. Develop a set of uniform affordability documents.[10] The objective of affordability controls is to conserve affordable housing created through subsidies or density bonuses and, when appropriate, to partially recapture value from units that may leave the affordable inventory for replacement housing. Uniform documents may include, but are not limited to, deed restrictions and covenants and, when created, need to be audited on a regular basis for continued compliance. Uniformity can reduce the cost of drafting documents individually for each development and can make auditing more efficient.

Policy 1.3.3. When helpful in achieving affordable housing goals, use development agreements to coordinate density bonuses with other incentives.[11]

Policy 1.3.4. Allow an affordable housing bonus in addition to any other density bonuses available to TNDs.

Policy 1.3.5. Monitor affordable housing production and the use of density bonuses, and periodically recommend adjustments to maintain the effectiveness of density bonuses. It is critical that the adopted monitoring and adjustment schedule is followed.

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[9] An example (and only an example) would be "one market-rate unit for each moderate-income dwelling unit; two market-rate units for each low-income unit; and three market-rate units for each very low-income unit."

[10] An example would be New Jersey's Uniform Housing Affordability Controls, N.J.A.C. 5:80-26.1 et seq., which is available at http://www.state.nj.us/dca/affiliates/coah/regulations/uhac/uhac.pdf.

[11] Development agreements are used in Tallahassee's density bonus program for similar purposes.

Land Development Code Revision

Ordinarily, a land development code's role is to regulate development; however, voluntary density bonuses *encourage* rather than mandate affordable housing and therefore must be written in a way that is easier to understand; must communicate a clear, complete process that facilitates implementation by being as barrier free as possible; and must minimize administrative delays or costs, whether real or perceived.

Implementation of density bonus ordinances would benefit from a policy of advance consultation and pretesting. Pretesting should involve a sample of those who are likely to refer to the density bonus ordinance for information and guidance during planning and development of affordable housing (for example, developers, architects, builders, housing economists, housing advocates, and others involved in the development of housing) and would seek to verify the bonus's clarity, flexibility, proportionality, and freedom from perceived barriers or delays. In this connection—

> *Clarity* refers to whether the intended users find the bonus to be free of language or illustrations that are confusing, ambiguous, incomplete, or inconsistent.

> *Flexibility* refers to whether the intended users find the bonus to be useful in varying locations and circumstances.

> *Proportionality* refers to whether the intended users find the bonus's incentives to be pragmatic and calibrated to serve as an effective inducement to the development of affordable housing.

> *Perceived barriers and delays* refer to whether the intended users find the bonus to be excessively narrow, restrictive, time consuming, or onerous.

Recommendations

The following policies are recommended to improve affordable housing density bonuses and allow increased flexibility in densities that will promote affordable housing in Hillsborough County:

- Conduct an economic analysis to determine the level of incentive necessary to achieve the county's affordable housing goals.

- Offer density bonuses in which the number of affordable housing units created is proportional to the economic value of the increased density.

- In developments in which location presents severe practical difficulties to affordable housing (such as a lack of jobs or public transit nearby), offer density bonuses in exchange for "in lieu of" contributions to an affordable housing trust fund or for prior construction of affordable housing at offsite locations.

- Coordinate the comprehensive plan with the land development code so that the comprehensive plan provides effective strategies and policies and the land development code implements those policies with clarity, completeness, and a minimum of legal barriers.

- In the land development code, communicate density bonuses using simple, direct formulas.

- Offer density bonuses in a diverse range of neighborhoods, including market-rate developments. Do not limit density bonuses (and affordable housing) to disadvantaged areas or low-income housing developments.

- Offer density bonuses in any number that will result in affordable housing production. Do not require a minimum number of affordable housing units where a minimum would result in none at all. Building 10 or 15 percent of the housing as affordable housing in a development is better than building none.

- Offer density bonuses in any size development. Do not limit density bonuses to large-scale planned developments. Density bonuses can be more attractive to smaller developments if they include reduced lot sizes and setbacks.

- Allow an affordable housing unit as an addition to a single house for situations in which the total square footage of both units will be within the size allowable for a single-family house and one unit will be owner occupied.

- As part of the comprehensive planning process, develop quantitative goals for affordable housing production through density bonuses and establish annual benchmarks to measure future effectiveness of density bonuses.

- Develop a set of uniform affordability documents to conserve affordable housing created through density bonuses, and audit them on a regular basis for continued compliance.

- Use development agreements to coordinate density bonuses with other incentives when helpful in achieving affordable housing goals.

- Allow an affordable housing bonus in addition to any other density bonuses available to TNDs.

- Monitor affordable housing production and the use of density bonuses, and periodically recommend adjustments to maintain the effectiveness of density bonuses.

- Pretest the density bonus ordinance with a sample of those who are likely to refer to it for information and guidance during planning and development of affordable housing. Pretesting will seek to verify the following:
  - Clarity.
  - Flexibility in varied locations and circumstances.
  - Proportionality and effectiveness as an inducement to affordable housing.
  - Freedom from perceived barriers or delays.

- Implement a cottage housing development program (that is, attractively designed small homes on very small lots) that includes affordable units, by amendments to the comprehensive plan and land development code.

Expediting Processing of Permits, Plans, and Reviews

This type of examination is intended to identify the potential for "regulatory streamlining," which refers to a collection of approaches to simplify and accelerate the review process for permits, plans, and reviews for development. These approaches have the following purposes:

- Containing administrative costs by reducing the number of steps for development approval.

- Controlling the factors that increase the price of new housing by reducing the delay and uncertainty in the development review process. This is particularly important for affordable housing projects, in which a delay in the project or unreasonable conditions imposed on it can affect whether it remains affordable.

- Saving time for public officials by reducing the volume of projects they must consider and allowing time for planning and policymaking.

- Establishing better working relationships between applicants for development approval and reviewers.

- Making the regulatory system more accountable for the timeliness of its decisions.

- Ensuring fairness in the consideration of applications for development (Arimes, 2003; Vranicar, Sanders, and Mosena, 1980).

The authors present 14 recommendations for expediting processing of affordable housing permits, plans, and reviews. Although these recommendations relate specifically to the plans, regulations, and procedures in place in one county, they may help other jurisdictions identify where problems can be found and how to address them.

1. Amend the Development Review Procedures Manual (DRPM) to establish a single formal policy for the consideration of applications for affordable housing development.

The DRPM, which synthesizes the steps and requirements for the development approval process in Hillsborough County, needs to be amended to clarify the process by which the county considers applications for affordable housing projects. Although the policy may exist informally in the minds of the reviewing officials, it does not exist on paper. At a minimum, the policy needs to identify the roles of the county's Affordable Housing Office, the Planning Commission, the Planning and Growth Management staff, time limits, forms by which the approval of an affordable housing development can be affirmed (including the possible use of a stamp denoting that it is an affordable project, as described previously), and procedures to obtain design exceptions and other departures from county rules.

It is important that the DRPM encompass the process to obtain design exceptions and shorten the process to incorporate bona fide affordable housing projects. According to Robert Campbell, director of the Transportation and Land Development Review Division, the design exception process currently works as follows:

All design exceptions for any type development must stand on the merits of the exceptions. Affordable housing projects are treated the same as other projects for design exceptions to transportation and stormwater requirements. These issues involve safety and welfare considerations.

The determination to authorize a design exception is based on a licensed design professional's formal written request, which includes a description of the specific exception and a professional evaluation of safety and operational factors. The request is thereafter evaluated by the appropriate county licensed design professionals and a formal determination is issued. (Campbell, 2008)

Thus, under the current procedures, market-rate and affordable housing projects are treated identically in terms of timeframes for a determination.

2. Amend the Hillsborough County Comprehensive Plan to clarify appropriate standards for consistency reviews in rezoning and applications for development.

Florida legislation (Ch. 163.3194) contains language that deals with the relationship of the comprehensive plan to the land development regulations and decisions flowing from it:

[In subsection 2] After a comprehensive plan for the area, or element or portion thereof, is adopted by the governing body, no land development regulation, land development code, or amendment thereto shall be adopted by the governing body until such regulation, code, or amendment has been referred either to the local planning agency or to a separate land development regulation commission created pursuant to local ordinance, or to both, for review and recommendation as to the relationship of such proposal to the adopted comprehensive plan, or element or portion thereof. Said recommendation shall be made within a reasonable time, but no later than within 2 months after the time of reference. If a recommendation is not made within the time provided, then the governing body may act on the adoption.

[Subsection (3) (a)] A development order or land development regulation shall be consistent with the comprehensive plan if the land uses, densities or intensities, and other aspects of development permitted by such order or regulation are compatible with and further the objectives, policies, land uses, and densities or intensities in the comprehensive plan and if it meets all other criteria enumerated by the local government.

[Subsection (3) (b)] A development approved or undertaken by a local government shall be consistent with the comprehensive plan if the land uses, densities or intensities, capacity or size, timing, and other aspects of the development are compatible with and further the objectives, policies, land uses, and densities or intensities in the comprehensive plan and if it meets all other criteria enumerated by the local government.

It is not clear from reading the county comprehensive plan, particularly the future land use element, or the land development code itself, what the formal system is for the assessment of development proposals against the backdrop of the plan. Nor is it clear how the Planning Commission staff is to determine the consistency of development proposals when applying mapped policies on location,

use, intensity, and density and on written goals, objectives, policies, and criteria. It is also unclear, when discretion is involved in the selection and weighting of certain policies, how that discretion is to be employed.

Several people the consultant interviewed made it clear that they had a problem with being bargained down over density, which was important to the feasibility of an affordable housing project, even though such density was authorized by the land development code. A clear statement in the comprehensive plan of how the plan is to interact with development decisions would enhance certainty predictability and ensure accountability in how recommendations on consistency are made.

3. Revise the methodology by which the need for affordable housing is projected in the comprehensive plan to reflect employment growth as well as population growth.

As noted, the comprehensive plan does not contain any economic projections. It does, however, influence decisions regarding job-related land use, such as commercial, office, and industrial land use. Job growth from such land uses in turn influences the demand for housing in Hillsborough County. Focusing on population growth as the only driver in land use change may understate the need for housing, or may result in housing projections that are aimed at the income groups that are not reflective of the job market in Hillsborough County. A variety of techniques exist for forecasting economic growth and relating it to land use.[12]

4. Establish production goals for affordable housing in the housing element of the comprehensive plan that are revisited on an annual basis, and assign the responsibility for tracking provision of affordable housing to the Affordable Housing Office.

Currently, the housing element does not contain any express production goals for affordable housing, only recognition of need. Establishing goals would provide Hillsborough County with a mechanism for monitoring how well it is doing with respect to needs identified in the housing element. Moreover, no single agency is responsible for tracking and reporting on the production of affordable housing in the county.[13] The assignment of this responsibility would eliminate any ambiguity and provide better information on progress.

5. Establish a standard template for community plans that would include an analysis of housing affordability, specific goals, objectives, and policies and the selection of areas where affordable units should be located.

The consultant's review of the community plans for subareas of the county indicated haphazard, weak, or nonexistent consideration of affordability issues, despite the importance given to them

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[12] See Berke et al. (2006), especially chapter 6; Econosult Corporation (2008); Greenberg, Krueckeberg, and Michaelson (1978); and Nelson (2004) for discussion of allocation of statewide population and employment projections to municipal levels.

[13] The Consolidated Impact Assessment Ordinance calls for a quarterly report by the administrator on the "number of housing units sold in the county which qualified as affordable housing" but only for the purposes of relief from impact fees. Hillsborough County, Florida, Consolidated Impact Assessment Ordinance, Ordinance No. 96-29, as amended by No. 96-36, as amended, Article 8, Section O, Subsection 7a (Quarterly Review).

in the housing element. It is important that the policies in the housing element with respect to housing needs for low- and moderate-income people be reflected in the community plans and that these plans do not frustrate broader communitywide policies.

6. Initiate advanced zoning of areas to higher residential density to facilitate development of affordable housing.

This action appears to be supported by the following policy in the previously discussed land use element:

> Policy 1.2.6: The County shall designate land areas available for housing opportunities on the Future Land Use Map (FLUM) and provide incentives that will encourage the production of housing units for very low, low and moderate income households in unincorporated Hillsborough County.

If areas can be designated for "housing opportunities" on the FLUM, they should be zoned for such opportunities as well, at suitable densities. Advanced zoning would eliminate the need for applicants to petition the county for zoning map changes (and relieve them of the cost) and therefore eliminate the 4- to 6-month wait that such requests entail. Moreover, rezoning for affordable housing developments in advance would be added insurance that county production goals for such housing can be satisfied. Consequently, rezoning should take into consideration lands and structures of developers who have expressed a commitment to provide low- and moderate-income housing.[14]

7. Closely monitor the $800,000 appropriation level for affordable housing impact fee waivers to maximize its effectiveness.

Nonprofit housing providers indicated that the current appropriation level for fee waivers by the county for low- and moderate-income households was insufficient and that impact fees (as well as offsite improvements) are a major roadblock to affordability. The current version of the Consolidated Impact Assessment Ordinance dates from 1996, and the appropriation figure, which is $800,000, apparently unchanged from that date, appears in Article 8, Section 0. Information from the Planning and Growth Management Department indicated that, in fiscal year 2007, the total amount expended for impact fee relief was $799,069, and, as of April 2008, $333,046 had been expended (Perrine, 2008). Monitoring this appropriation will facilitate future adjustments in response to changing needs and resources.[15]

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[14] On October 6, 2008, a member of the Affordable Housing Advisory Board commented that county-initiated zoning map changes for affordable housing might result in segregation of affordable housing into those areas. This comment points to the necessity of making such map changes in a way that (1) integrates affordable housing into areas of higher cost housing and (2) encourages a mixture of affordable and higher cost housing within proposed developments. In effect, advanced zoning should be a technique for assisting the developer who otherwise may have to face strong opposition for attempting to integrate affordable housing into higher cost communities.

[15] Discussion among the Affordable Housing Advisory Board on November 3, 2008, clarified the Affordable Housing Advisory Board's recommendation relating to impact fee waivers.

8. Commission the preparation of architectural plans for entry-level housing that would be preapproved for building permits and offered to builders/developers free of charge.

In Portland, Oregon, a similar program, which has been under way since 2004, has permit-ready plans (resulting from a design competition sponsored by the city) available (City of Portland Bureau of Planning, 2006, 2004). Having such plans available in Hillsborough County would reduce both time and cost for applicants who are building affordable housing.

9. Waive performance bond requirements for affordable housing projects in which the county has invested monies.

This recommendation, which came from the nonprofit housing groups and the Hillsborough County Affordable Housing Task Force, would require an amendment to the land development code, Sections 10.01.05.C.4 (Subdivision) and 10.01.06.E (Site Development) and possibly to other places.

10. Develop a set of uniform affordability controls to conserve affordable housing created through subsidies or density bonuses.[16]

The objective of affordability controls is to conserve affordable housing created through subsidies or density bonuses and, when appropriate, to partially recapture value from units that may leave the affordable inventory and use those funds for replacement housing. These controls may include, but are not limited to, deed restrictions and covenants and, when created, need to be audited on a regular basis for continued compliance. Uniformity can reduce the cost of drafting controls individually for each development and can make auditing more efficient.[17]

11. Revise design standards for affordable housing development.

Subdivision development standards are addressed elsewhere in this article, where specific recommendations are made. A policy in the previously discussed housing element supports annual review of land development regulations:

> Policy 1.2.4: The County shall continue annual review of ordinances, codes, regulations and the permitting process to eliminate excessive requirements, and amend or add others in order to increase appropriate private sector housing production.

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[16] An example would be New Jersey's Uniform Housing Affordability Controls, N.J.A.C. 5:80-26.1 et seq., which is available at http://www.state.nj.us/dca/affiliates/coah/regulations/uhac/uhac.pdf.

[17] On October 6, 2008, a member of the Affordable Housing Advisory Board commented that there should be no affordability restrictions because they can discourage maintenance and they destroy the financial rewards of home ownership. Another member, however, pointed out that shared-equity provisions are commonly in use and those provisions make it possible for homeowners to reap a reasonable share of housing equity growth. These comments point to a need for additional discussion in Hillsborough County regarding the term of affordability restriction in years, but, whatever term is finally adopted, standard covenants and deeds will make their enforcement less costly and more uniform.

12. Amend the land development code to allow affordable housing projects "as of right" on nonconforming lots.

The planning commission staff originally recommended this amendment, which would eliminate a barrier to development by removing the requirement for a variance and would take advantage of the resource presented by nonconforming lots. This change would require an amendment to land development code, Section 11.03.03. The procedure for processing development applications on nonconforming lots could be combined with the procedure for processing affordable housing applications in the Land Development Procedures Manual, described in recommendation 1.

13. Eliminate the second noticed hearing before the Board of County Commissioners on rezoning that involves affordable housing projects only.

The land development code, Section 10.03.04, allows the Board of County Commissioners to conduct what amounts to a second noticed hearing to review the record and recommendation created by the land use hearing officer. Specifically, Section 10.03.04D allows the board to take additional evidence and hear oral argument. Technically, this is not a public hearing, but nonetheless it requires notice. It seems unnecessary, however, to have a hearing officer conduct a hearing, take evidence, and prepare written findings and a recommendation if another hearing will be conducted, on the theory that it is necessary to correct the record. Although the use of a hearing officer is a commendable way of making land use decisions, the presence of these provisions encourages applicants and others to participate in the creation of a record that later needs to be modified or supplemented to correct, in the land development code's terms, "mistakes" and ambiguities" and introduce "additional evidence."[18] Modification of this section to eliminate the second hearing, at least as it applies to affordable housing projects, would eliminate a potential source of delay.

14. Establish and implement a separate track for construction code enforcement for affordable housing.

The county should formalize the unwritten administrative policy to expedite the processing of building permit application and code enforcement for affordable housing. This separate track could include several independent features that could reduce the costs of code enforcement to the applicants and/or the county.

First, the building permit fee for affordable housing, currently based on occupancy and building area, could be reduced. This change may require an amendment to Section 104.6, Fees, of the Hillsborough County Construction Code.

Second, the practice of using cross-trained combination inspectors (reportedly used on occasion in the county) could be formalized for application to affordable housing projects. This revision could result in the reduction of the number of separate inspections from a maximum of 19 (7 building and 3 each of electrical, plumbing, mechanical, and gas inspections) to as few as 7 to 10, and may require amendment to Section 102.2, Employee Qualifications, of the Hillsborough County Construction Code.

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[18] For a discussion of this problem, known as "supplementation of the record," see Mandelker (2003: 664–666).

Appendix A

This article was preceded by 15 discussion papers that evaluated local policies and recommended actions to remove barriers to affordable housing. The discussion papers provided an opportunity for review and comment by Hillsborough County's Affordable Housing Advisory Board and by the county's planning and affordable housing staff. The topics covered by the discussion papers included the following:

Mixed-use development.
Zero lot line development.
Manufactured housing (mobile homes).
Small lots and small lot districts.
Adaptive reuse.
Performance/impact zoning.
Modular, panelized, and steel housing.
Subdivision/development standards.

Planned developments.
Rezoning vacant land.
Accessory dwellings.
Methods to expedite processing of permits.
Density bonuses.
Infill development.
Resolving concurrency issues.

Appendix B

Exhibit B-1

Minimum Lot Size per Dwelling Unit (Current and Suggested)
Hillsborough County, Florida

District	Minimum Lot Size (square feet)		Percent Reduction
	Current	Suggested	
RSC-2	21,780	10,000	54.1
RSC-3	14,520	10,000	31.1
RSC-4	10,000	7,000	30.0
RSC-6	7,000	4,300	38.6
RSC-9	5,000	3,500	30.0
RDC-6	7,260	4,300	40.8
RDC-12	3,500	2,700	22.9
RMC-6	7,260	4,300	40.8
RMC-9	4,840	3,500	27.7
RMC-12	3,630	2,700	25.6
RMC-16	2,725	2,100	22.9
RMC-20	2,180	1,800	17.4
Average	**7,475**	**4,683**	**37.3**

Appendix C

Exhibit C-1

Minimum Lot Width (Current and Suggested)
Hillsborough County, Florida

District	Minimum Lot Width (feet)		Percent Reduction
	Current	Suggested	
RSC-2	100	60	40
RSC-3	75	50	33
RSC-4	75	50	33
RSC-6	70	40	43
RSC-9	50	30	40
RDC-6	60	40	33
RDC-12	40	30	25
RMC-6	70	30	57
RMC-9	70	30	57
RMC-12	70	30	57
RMC-16	70	30	57
RMC-20	70	30	57
Average	**68.3**	**37.5**	**45.1**

Appendix D

Exhibit D-1

Minimum Yard Setbacks (Current and Suggested)
Hillsborough County, Florida

District	Current Yard Setbacks (feet)			Suggested Yard Setbacks (feet)			Percent Reduction		
	Front	Side	Rear	Front	Side	Rear	Front	Side	Rear
RSC-2	25	10	25	20	8	20	20	20	20
RSC-3	25	7.5	25	20	5	20	20	33	20
RSC-4	25	7.5	25	15	5	15	40	33	40
RSC-6	25	7.5	25	15	5	15	40	33	40
RSC-9	20	5	20	10	5	10	50	0	50
RDC-6	25	7.5	20	10	5	10	60	33	50
RDC-12	20	5	20	10	5	10	50	0	50
RMC-6	25	10	20	10	5	10	60	50	50
RMC-9	25	10	20	10	5	10	60	50	50
RMC-12	25	10	20	10	5	10	60	50	50
RMC-16	25	10	20	10	5	10	60	50	50
RMC-20	25	10	20	10	5	10	60	50	50
Average	**24.2**	**8.3**	**21.7**	**12.5**	**5.3**	**12.5**	**48**	**37**	**42**

Appendix E

Exhibit E-1

Suggested Offstreet Parking Requirements
Hillsborough County, Florida

Residential Dwelling Size	Required Parking Spaces		
	Current	**Recommended**	**Percent Reduction**
Efficiency and one bedroom	1.25	1.00	20.0
Two bedrooms	1.50	1.25	16.7
Three bedrooms	2.00	1.50	25.0
Average	**1.58**	**1.25**	**21.1**

Note: Four-bedroom dwellings currently require two parking spaces and would remain at two.

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Authors

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Urban Sprawl and the Transition to First-Time Homeownership

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Abstract

This article relies on data from the Panel Study of Income Dynamics matched to U.S. census data to explain the factors contributing to homeownership transitions for a sample of renters who first left their parents' homes during the years 1978 through 1987. The article employs continuous time duration models to explain first-time homeownership transitions as a function of various individual and household-level variables, along with measures of urban sprawl. The article finds that for the average renter in the sample, first-time homeownership occurs sooner in areas with lower urban densities, increased local government fragmentation, and the presence of a regional urban growth boundary (UGB). The effects of UGB presence and local government fragmentation are largest among suburban low-income households.

Introduction

In a recent issue of *Housing Policy Debate*, Matthew Kahn (2001) empirically documented a negative relationship between urban sprawl and the "black/white" homeownership gap (among other measures of housing consumption). His explanation for this finding is that urban sprawl is associated with increased housing affordability in both the central city and suburbs. According to Kahn (2001: 84), "One reason sprawl reduces the black/white gap in unit size and ownership rates is that increased fringe urbanization leads to a greater supply of land for development, which increases affordability. A second explanation is that, as jobs move to the fringe in older sprawling metropolitan areas such as Detroit and Philadelphia, the durable inner-city housing stock becomes even cheaper."

This article extends Kahn's (2001) findings by investigating the effect of sprawl on the timing of first-time homeownership transitions. If sprawl influences regional housing affordability, then prospective first-time homebuyers may be able to move into homeownership sooner than they would otherwise in metropolitan areas exhibiting lower levels of urban sprawl. As with African-American households, first-time homebuyers as a group tend to exhibit lower incomes and lower levels of accumulated wealth (Boehm, 1993; Haurin, Hendershott, and Wachter, 1997). Thus, one might expect that, just as homeownership becomes more likely among all African Americans living in more sprawled metropolitan areas, homeownership may also occur sooner for those purchasing their first home in more sprawled metropolitan areas, if income increases monotonically over the course of the household life cycle.

This article also examines the homeownership effects of three alternative measures of sprawl not considered by Kahn (2001): (1) a measure of the density of the urban settlement pattern, (2) a measure of local government fragmentation, and (3) a measure of the presence or absence of regional urban growth boundaries (UGBs). It also examines variability in the effects of each measure across central city and suburban locations.

The investigation of this issue relied on data from the Panel Study of Income Dynamics (PSID) matched to U.S. census data to explain the factors contributing to homeownership transitions for a sample of renters who first left their parents' homes during the years 1978 through 1987. Continuous time duration models are employed to explain first-time homeownership transitions as a function of various individual, household, and location-specific variables, including measures of urban sprawl.

Findings show that for the average renter in the sample, first-time homeownership occurs sooner in areas with lower urban densities, increased local government fragmentation, and the presence of a regional UGB. The effects of UGB presence and local government fragmentation are largest among suburban low-income households. These results provide new insights into the dimensions of sprawl that are most important to first-time homebuyers.

Urban Sprawl and the Timing of First-Time Home Purchase

Urban sprawl has been defined as any development pattern exhibiting an excessively large development footprint for a given metropolitan resident population (Brueckner, 2000; Nechyba and

Walsh, 2004). Urban economic theory points to three primary ways in which large development footprints may affect the timing of first-time homeownership transitions. First, as suggested by Kahn (2001), urban sprawl may affect the user cost of owner occupancy. In the traditional mono-centric model of urban land use (Alonso, 1964; Mills, 1972; Muth, 1969), housing that is located farther from the region's employment center commands a lower price, due to the capitalization of reduced accessibility into the price of housing. Thus, holding population constant, an increase in the outer extent of a given urban development pattern and a concomitant increase in the total development footprint would tend to drive housing prices downward throughout the metropolitan area as more households occupy housing located farther from the region's employment center. Facing lower user costs of owner occupancy, renters residing in more sprawling cities should enter home-ownership sooner than otherwise equivalent renters searching for housing in more compact cities.

Filtering models of housing supply suggest another explanation for the link between urban sprawl and housing affordability. As metropolitan areas expand and new housing is built at the fringe of the metropolitan area, existing housing located closer to the central business district ages and depreciates in value, thus opening up affordable housing opportunities near the central city (Sweeney, 1974). Again, facing lower user costs of owner occupancy near the central city, renters in metropolitan areas that have an increased supply of older central city housing may accelerate entry into home-ownership, provided the cost of maintaining older central city housing is not prohibitively high.

A final hypothesized link between sprawl and first-time homeownership comes from Charles Tiebout (1956). Sprawled metropolitan areas tend to exhibit higher degrees of local government fragmentation. As the population decentralizes, new suburban communities are often created to satisfy the local public service demands of new residents. The proliferation of local governments within sprawled metropolitan areas increases the range of local public service options available to prospective homeowners. Facing increased "Tiebout choice," (Hoxby, 2000) first-time homebuyers may move into homeownership sooner, because they may be more likely to find a housing service package that includes, as part of the bundle, their ideal quantity and mix of local public services.

To date, no study has examined the effects of these three dimensions of urban sprawl on the dynamics of first-time homeownership transitions. First-time homebuyers are an interesting group to consider because, although affordability constraints are most likely to affect this group, they are among those most likely to value the accessibility provided by more compact cities. Consider exhibit 1, which describes the characteristics of first-time homebuyers compared to other recent homebuyers using the 2001 American Housing Survey (AHS) as summarized in the U.S. Department of Housing and Urban Development's (HUD's) fourth quarter 2003 *U.S. Housing Market Conditions* report (HUD, 2004).

Compared with other homebuyers who moved into their homes within the year preceding the 2001 AHS, first-time homebuyers were more likely to be non-White and belong to single-parent family or nonfamily households with a combined household income of about $12,000 less than the income earned by other recent homebuyers. The average first-time homebuyer household head is also approximately 12 years younger than other recent homebuyers.

Exhibit 1

Demographic and Housing Stock Characteristics of First-Time Homebuyers and Other Recent Buyers

	First-Time Homebuyers		Other Recent Buyers	
	Number	Percent	Number	Percent
Demographic characteristics				
Race and ethnicity				
White, non-Hispanic	1,568,866	68	2,689,900	83
Black, non-Hispanic	258,036	11	176,148	5
Other, non-Hispanic	171,979	7	132,899	4
Hispanic	297,248	13	256,467	8
Family and household type				
Husband-wife families	1,245,991	54	2,147,071	66
Other families	402,086	18	380,937	12
Nonfamily households	648,052	28	727,406	22
Median age of householder	31		43	
Median household income[a]	49,300		61,648	
Housing stock characteristics				
Location in central city	598,975	26	657,634	20
Single-family, detached	1,615,226	70	2,528,880	78
Condominium/cooperative ownership	251,716	26	244,188	15
Built in 1990 or later	710,405	31	1,436,076	44
Median number of rooms	6.2		6.8	
Median value of home[a]	113,200		151,500	

[a] *In dollars.*

Source: 2001 American Housing Survey, summarized in HUD (2003)

These characteristics imply that first-time homebuyers may exhibit unique housing preferences. Consider the tradeoff between housing costs and savings in leisure time predicted by the monocentric model. In this case, first-time homebuyers, who are more likely to be young, single, and childless, may exhibit stronger tastes for leisure time and interactions with other young adults relative to households with children. If this is the case, then these individuals may be willing to pay more for housing that is accessible to the region's central business district. Because a greater supply of accessible housing exists within more compact metropolitan areas, first-time homebuyers may be more willing to move into these units sooner. Similarly, given that the existing housing stock in the central city likely filters down to lower quality submarkets more slowly in more compact metropolitan areas, first-time homebuyers may perceive central city housing to be of higher quality in more compact metropolitan areas relative to sprawled metropolitan areas. Finally, the increased number of suburban government choices available in more fragmented metropolitan areas may be less appealing to those who do not value suburban amenities such as the high quality of local public schools.

The differences in housing characteristics of first-time homebuyers and other recent homebuyers shown at the bottom of exhibit 1 provide some support for these arguments. Note that first-time homebuyers are more likely to reside in accessible central city locations. First-time homebuyers

also are more likely to reside in housing types (older, non-single-family detached, condominium) that are more commonly found in areas within close proximity to central business districts.

To conclude, the theoretical link between urban sprawl and the timing of first-time homeownership transitions is ambiguous. Although first-time homebuyers typically earn lower incomes and consume less expensive housing than those purchasing their second or third home, first-time homebuyers may exhibit unique preferences for accessible housing found only in more compact urban areas. The following sections examine this issue empirically, using data from a national sample of renters.

Data and Empirical Strategy

The empirical analysis relies on data from the PSID from waves 1978 through 1997. The sample used to estimate the determinants of first-time homeownership includes all individuals who were children or grandchildren of PSID families in 1977 and who subsequently moved out of their parents' home for the first time during the period 1978 through 1987. This sample follows these individuals from their initial "splitoff" (move out of the parents' residence) until the year in which an individual purchased his or her first home. Individuals who did not reside in metropolitan areas during any portion of the study period were omitted from the analysis. Individuals who moved into homeownership within a metropolitan area that was different from their rental neighborhood were also omitted from the analysis, because, for those households, the metropolitan characteristics while renting would not accurately describe the metropolitan characteristics they faced at the time they made a tenure transition.

For this sample, estimated regression models explain the duration of time from splitoff until transition to first-time homeownership. Several parametric duration models with time-varying covariates are examined. In previous investigations of first-time homeownership, Boehm (1993) has examined the exponential model extensively. This article examines this model and three other more flexible functional forms that allow for heterogeneous survival distributions across individuals' (exponential with gamma heterogeneity) duration dependence (Weibull) and nonmonotonicity in the estimated duration dependence parameter (log-logistic). The log-likelihood functions for all estimated models are adjusted to account for right-censoring resulting from uncompleted rental tenure duration spells. See Dawkins (2005a) for a more detailed description of the empirical approach employed.

To explain rental tenure durations, the article relies on traditional variables used in previous tenure choice studies. Descriptive statistics and variable definitions are shown in exhibit 2.

The estimated models include information on a variety of personal and household characteristics, including gender, age, marital status, and number of children in the individual's household that have been shown to be correlated with housing demand. Of those characteristics, marital status and number of children vary with rental tenure duration, while gender and age are measured at the time of splitoff and do not vary with time. Two measures of education are included: (1) a time-varying measure of the number of years of education attained by time t and (2) a dummy variable

Exhibit 2

Descriptive Statistics[a] (1 of 2)

Variable	Definition	Mean	Std. Dev.
Rental tenure duration	Years from splitoff until first-time homeownership transition	8.662	5.362
Splitoff indicators			
Splitoff in 1978	Dummy variable equal to 1 if the individual left their parents' home in 1978, 0 otherwise	0.100	0.301
Splitoff in 1979	Dummy variable equal to 1 if the individual left their parents' home in 1979, 0 otherwise	0.131	0.338
Splitoff in 1980	Dummy variable equal to 1 if the individual left their parents' home in 1980, 0 otherwise	0.118	0.322
Splitoff in 1981	Dummy variable equal to 1 if the individual left their parents' home in 1981, 0 otherwise	0.089	0.285
Splitoff in 1982	Dummy variable equal to 1 if the individual left their parents' home in 1982, 0 otherwise	0.090	0.287
Splitoff in 1983	Dummy variable equal to 1 if the individual left their parents' home in 1983, 0 otherwise	0.093	0.291
Splitoff in 1984	Dummy variable equal to 1 if the individual left their parents' home in 1984, 0 otherwise	0.087	0.282
Splitoff in 1985	Dummy variable equal to 1 if the individual left their parents' home in 1985, 0 otherwise	0.111	0.314
Splitoff in 1986	Dummy variable equal to 1 if the individual left their parents' home in 1986, 0 otherwise	0.085	0.279
Splitoff in 1987	Dummy variable equal to 1 if the individual left their parents' home in 1987, 0 otherwise	0.095	0.293
Personal and household characteristics			
Black	Dummy variable equal to 1 if the individual is Black, 0 otherwise	0.548	0.498
Age at splitoff	Age of individual at time of splitoff	22.337	3.328
Male	Dummy variable equal to 1 if the individual is male, 0 otherwise	0.552	0.498
Student at splitoff	Dummy variable equal to 1 if the individual is a student at splitoff, 0 otherwise	0.051	0.220
Years of education	Individual's years of education completed at time t	12.355	2.966
Marital status	Dummy variable equal to 1 if the individual is married at time t, 0 otherwise	0.430	0.495
Number of children	Number of children in household at time t	0.947	1.283
Parents' ownership status	Dummy variable equal to 1 if the parents of the individual are owner occupants at time of splitoff, 0 otherwise	0.610	0.488
Parents' nonhousing wealth[b]	Parents' income from nonhousing wealth at time of splitoff	0.991	7.799
Permanent income[b]	Predicted value from an equation where current income is regressed on various human capital variables at time t	20.183	8.540
Transitory income[b]	Residual of current family income and expected income at time t	7.331	21.223
Nonhousing wealth[b]	Value of nonhousing assets at time t	2.226	44.791
Employment status	Dummy variable equal to 1 if the individual is employed at time t, 0 otherwise	0.502	0.500

Exhibit 2

Descriptive Statistics[a] (2 of 2)

Variable	Definition	Mean	Std. Dev.
Regional controls			
Northeast Region	Dummy variable equal to 1 if the individual resides in the Northeast, 0 otherwise	0.130	0.336
Midwest Region	Dummy variable equal to 1 if the individual resides in the Midwest, 0 otherwise	0.261	0.439
South Region	Dummy variable equal to 1 if the individual resides in the South, 0 otherwise	0.434	0.496
West Region	Dummy variable equal to 1 if the individual resides in the West, 0 otherwise	0.175	0.380
MSA controls			
Central city	Dummy variable equal to 1 if the household resides in the central city, 0 otherwise	0.418	0.493
Log MSA population	Log of total MSA population, 1980	14.203	1.093
MSA population growth, 1980–90	Log (1990 MSA population/1980 MSA population)	0.093	0.204
Percent MSA owner occupant	Percent of MSA occupied housing that is owned, 1980	0.679	0.306
MSA average owner-occupied housing value[b]	Average value of MSA owner-occupied housing, 1980	64.712	19.747
Urban density	Total MSA population/total MSA urbanized land area	5.637	2.684
Local government fragmentation	MSA Herfindahl index (see text)	0.472	0.285
UGB	Dummy variable equal to 1 if the household resides in an MSA surrounded by a regionwide UGB, 0 otherwise	0.074	0.261
N		1,494	

MSA = metropolitan statistical area. UGB = urban growth boundary.

[a] All descriptive statistics are evaluated at time of homeownership transition.

[b] In thousands of dollars.

equal to 1 if the individual became a student at the time of splitoff. Finally, the models include a time-varying measure of employment status.

The models also include several measures of income and wealth. Permanent income is estimated as the predicted value of family income in a regression of income on various human capital controls. Estimates from the auxiliary regression used to estimate permanent income are included in appendix A. Transitory income is the residual of current family income and expected family income at time *t*. Both of these measures vary with time. A time-varying measure of nonhousing wealth is calculated as the total value of nonhousing assets, including rent, interest, dividends, trust funds, and royalties. This measure, along with a dummy variable indicating the parents' homeownership status, is also calculated for each individual's parents by matching the individual to his or her original 1977 PSID family and extracting the value of the household head's nonhousing wealth and homeownership status. All monetary values are adjusted to 1997 values using the Consumer Price Index deflator.

The models use three different measures of urban sprawl. The first is a measure of urban density, measured as the total 1980 metropolitan statistical area (MSA) population divided by the total 1980 urbanized land area for the metropolitan area. This measure is discussed extensively in Fulton et al. (2001). The advantage of this measure, as opposed to most traditional measures of urban density, is that the denominator (urbanized land area) is based on the total area of urbanized land rather than the commonly used Census "urbanized area," which does not consider actual land use. The data on urbanized land area were constructed from satellite imagery information available from the National Resources Inventory. Rolf Pendall from the Fulton et al. (2001) team kindly provided these measures for use in this analysis.

The second measure of urban sprawl is an index of local government fragmentation based on the Herfindahl index. This index is calculated as $1-\Sigma_i h_i^2$, where h_i is the ith municipality's share of total 1980 MSA population. A value of 0 for this index implies that all of the MSA population resides in one municipality, while 1 implies that the population is evenly distributed across many equal-sized districts. This measure has been used extensively in other similar studies of local government fragmentation (Dawkins, 2005b; Hoxby, 2000).

The final measure of urban sprawl is a dummy variable equal to 1 if the household resides in a metropolitan area surrounded by a regional UGB and equal to 0 otherwise. Values of 1 are assigned to those households that reside in a region that adopted a UGB before the households' move from their parents' residence. UGBs are designed to contain the extent of fringe urbanization through a mix of policies designed to encourage urbanization within a defined boundary and discourage urbanization outside the boundary. Such policies include urban service area boundaries, mixed-use urban zoning, restrictions on rural lot subdivisions, large-lot rural zoning, and rural land acquisition, among others. The data on UGB presence were obtained as part of ongoing research examining the effects of urban containment policies, initiated with a nationwide survey of metropolitan planning organizations. This survey instrument is described in Nelson, Dawkins, and Sanchez (2004).

Because the sprawl measures are likely highly correlated with one another, each measure is entered separately into each regression model. Each measure of urban sprawl is also allowed to vary with the central city—suburban location status of the renter—to determine if the effects of sprawl vary based on the intrametropolitan location of renters. All models also include several MSA location controls, including log of MSA population, MSA population growth rate, MSA average value of owner-occupied housing, and percentage of MSA occupied housing that is owned. A dummy variable measuring the renter's residential location relative to the central city is also included to control for the direct effect of central city location. Finally, regional controls are entered to account for region-specific heterogeneity. Each location-specific control is time varying in the following sense: Each time that an individual moves from his or her initial residence following splitoff, the location measures are updated to accurately describe the individual's new residence.

Results

Exhibit 3 reports the results from the baseline rental tenure duration model. Although all estimated models include controls for year of splitoff and Census Bureau region of residence, these coefficient

Exhibit 3

Baseline Log-Logistic Rental Tenure Duration Model

Variable	Coef.	Sig.
Personal and household characteristics		
Constant	4.344	***
Black	0.294	**
Age at splitoff	– 0.051	***
Male	0.003	
Student at splitoff	0.291	
Years of education	– 0.036	
Marital status	– 0.308	***
Number of children	– 0.020	
Parents' ownership status	– 0.382	***
Parents' nonhousing wealth[a]	0.013	
Permanent income[a]	– 0.009	
Transitory income[a]	– 0.030	***
Nonhousing wealth[a]	– 0.039	
Employment status	– 0.186	
Location controls		
Central city	0.499	***
Log MSA population	0.006	
MSA population growth, 1980–90	0.051	
Percent MSA owner occupant	– 0.199	
MSA average owner-occupied housing value[a]	0.011	**
Urban density	0.037	
Sigma	0.654	***
Log-likelihood	– 1,445.780	
LR test of model significance	341.382	***
N*T	10,350	

MSA = metropolitan statistical area.
[a] In thousands of dollars.
* p < .10.
** p < .05.
*** p < .01.
Note: All models also include controls for year of splitoff and U.S. census region.

estimates are suppressed for brevity. The baseline model and all subsequent models rely on the log-logistic parameterization. Initial examinations of the Akaike Information Criterion (AIC) suggest that this model provides the best fit to the data, with an AIC of 2991 compared to 3053 for the exponential model, 3019 for the exponential model with gamma heterogeneity, and 3017 for the Weibull model. The likelihood ratio test statistic is also significant at a better than .01 level.

The results from the baseline model suggest that the amount of time until first-time homeownership becomes shorter with non-African-American household head status, age at time of splitoff, marital status, parents' ownership status, and increases in transitory income. Consistent with Cooperstein (1989), transitory income, but not permanent income, influences the transition to first-time homeownership. Regarding the effect of location controls, residence in the central city and higher MSA housing values both increase the time until first-time homeownership transition.

Controlling for the full set of location controls, urban density is not statistically significant at conventional levels.

Exhibit 4 reports the estimated coefficients and the exponentiated coefficients from six different specifications of the baseline model, each employing different measures of urban sprawl. The estimates shown in the bottom three models (4 through 6) omit MSA housing values to determine whether controls for housing costs influence the magnitude of the effect of urban sprawl. The exponentiated coefficients, often described as "time ratios" in duration analysis, are similar to odds ratios in the traditional logit model and give an estimate of the percentage increase in rental tenure duration resulting from a 1-unit increase in a given covariate. Values above 1 imply percentage increases in rental tenure duration, while values below 1 imply percentage decreases in rental tenure duration.

Exhibit 4 suggests that, with controls for MSA housing values, local government fragmentation and the presence of a UGB significantly influence the timing of first-time homeownership transitions. The coefficient for urban density becomes statistically significant only after controls for MSA housing values are omitted. This finding suggests that urban density likely influences the timing of homeownership transitions indirectly by reducing metropolitan housing affordability. The negative coefficient for UGB suggests that first-time homeownership occurs sooner in metropolitan areas surrounded by a UGB, a result that is somewhat unexpected. The next section explores this finding further.

The coefficient estimates shown in the table in exhibit 5 reflect measures of sprawl that vary with the central city/suburban status of the household. This table shows that the effects of local government fragmentation and UGB presence are significant only for suburban households. Furthermore, these effects are larger in magnitude than those reported in exhibit 4.

An examination of the coefficients from the same model specifications shown in exhibits 4 and 5 shows estimates for a subsample of low-income households, defined as those households below the median income of the sample renters at the time of homeownership transition ($22,000). These estimates are displayed in exhibit 6.

Exhibit 4

Impact of Sprawl on Rental Tenure Duration, Alternative Specifications

Model	Variable	Coef.	Exp. (Coef.)	Sig.
Baseline model, alternative measures of urban sprawl				
(1)	Urban density	0.037	1.037	
(2)	Local government fragmentation	– 0.481	0.618	**
(3)	UGB	– 0.537	0.584	***
Baseline model, alternative measures of urban sprawl, MSA average housing value omitted				
(4)	Urban density	0.066	1.068	**
(5)	Local government fragmentation	– 0.399	0.671	*
(6)	UGB	– 0.477	0.621	***

MSA = metropolitan statistical area. UGB = urban growth boundary.

* p < .10.

** p < .05.

*** p < .01.

Exhibit 5

Impact of Sprawl on Rental Tenure Duration, Stratified by Central City/Suburban Location

Model	Variable	Coef.	Exp. (Coef.)	Sig.
(1)	Urban density (central city households)	0.065	1.067	
	Urban density (suburban households)	0.019	1.020	
(2)	Local government fragmentation (central city households)	– 0.093	0.911	
	Local government fragmentation (suburban households)	– 0.676	0.508	***
(3)	UGB (central city households)	– 0.094	0.911	
	UGB (suburban households)	– 0.684	0.504	***

UGB = urban growth boundary.

* p < .10.

** p < .05.

*** p < .01.

Note: All models above also include full set of baseline controls.

Exhibit 6

Impact of Sprawl on Rental Tenure Duration (Low-Income Households Only)

Model	Variable	Coef.	Exp. (Coef.)	Sig.
Models ignoring central city-suburban interaction				
(1)	Urban density	0.060	1.061	
(2)	Local government fragmentation	– 1.130	0.323	***
(3)	UGB	– 0.589	0.555	*
Models incorporating urban sprawl-central city/suburban interaction				
(4)	Urban density (central city households)	0.146	1.158	
	Urban density (suburban households)	0.017	1.017	
(5)	Local government fragmentation (central city households)	– 0.689	0.502	
	Local government fragmentation (suburban households)	– 1.314	0.269	***
(6)	UGB (central city households)	0.178	1.194	
	UGB (suburban households)	– 0.819	0.441	**

UGB = urban growth boundary.

* p < .10.

** p < .05.

*** p < .01.

Note: All models above also include full set of baseline controls.

A comparison of the table in exhibit 6 with the two previous tables shows that the effect of local government fragmentation and UGB presence is larger in magnitude for low-income renters. The differences in magnitude are particularly large for suburban low-income renters. Compared to the baseline model, the effect of local government fragmentation is nearly 3 times larger for suburban low-income households, while the effect of UGB presence is approximately 1.5 times larger.

Discussion

These results shed light on the hypothesized effects of sprawl on affordability and first-time homeownership transitions. First, the estimated relationship between urban density and first-time

homeownership transitions for the full sample of renters suggests that, despite their unique characteristics, first-time homebuyers do not seem to express stronger tastes for housing located in denser urban areas. Rather, the most significant dimension of urban form attracting renters to homeownership is the affordability that is found in less dense areas. After controlling for average MSA housing values, the effect of density disappears.

The significant and negative relationship between local government fragmentation and the amount of time until first-time homeownership transition is consistent with the hypothesis that sprawled cities provide more options for housing consumers. Differences in the effect of Tiebout choice for central city and suburban renters suggest, however, that suburban choices are the choices that matter. This finding is expected, given the significant differences in fiscal capacity and local government service packages typically provided by central city governments relative to suburban governments.

The relatively stronger relationship between local government fragmentation and first-time homeownership transitions among low-income renters is an interesting finding but one with ambiguous policy implications. On the one hand, this finding suggests that increased local public service choice is important to those low-income renters who have been successful in locating residential locations within the suburbs. On the other hand, if suburban governments also adopt fiscal zoning measures designed to exclude low-income residents from suburban jurisdictions, low-income renters may not be able to benefit from increased choice in many metropolitan areas. Furthermore, given the monocentric model's assumption that the income elasticity of housing exceeds the income elasticity of leisure-time savings, most low-income residents will still tend to reside in or near the central city. To the extent that this tendency is the case, it is not clear that expanding suburban public service choices would necessarily lead to widespread increases in low-income homeownership.

Perhaps the most surprising finding is that renters move into first-time homeownership more quickly within regions that are contained by a UGB. Furthermore, this effect is strongest among low-income suburban homebuyers. To determine if this result holds, controlling for measures of urban sprawl, additional models that included controls for urban density and presence or absence of a UGB were estimated. The results are largely comparable to those reported above, which suggest that, even conditioning on measures of urban form, which UGBs should influence, UGBs exert an independent influence on the timing of first-time homeownership transitions.

This finding is consistent with other recent studies that found, in contrast to traditional land use regulatory regimes, jurisdictions adopting UGBs tend to be more proactive in accommodating affordable housing supply within areas designated for urbanization. Nelson, Dawkins, and Sanchez (2005) found that jurisdictions surrounded by a UGB saw increased retention of the existing affordable housing stock over time. Pendall (2000) found that UGBs did not have the same exclusionary effects as did other more traditional forms of land use regulation.

There are several possible explanations for why regulatory regimes pursuing a strategy of urban containment, compared with other types of local regulatory regimes, may actually serve to improve access to affordable owner-occupied housing. One possible explanation is that most of the UGBs in the sample (see exhibit 7) are located within states that require local governments to adopt afford-

Exhibit 7

UGBs in the Sample

Tucson, AZ	Bradenton, FL
San Diego, CA	Minneapolis-St. Paul, MN-WI
San Francisco-Oakland, CA	Wilmington, NC
Riverside-San Bernardino-Ontario, CA	Lincoln, NE
Sacramento, CA	Atlantic City, NJ
Fresno, CA	Eugene-Springfield, OR
Greeley, CO	Medford, OR
Miami, FL	Salem, OR
Orlando, FL	Portland-Vancouver, OR-WA

UGB = urban growth boundary.

able housing strategies as part of the local planning process. Most jurisdictions with UGBs in this sample are located in California. Since 1969, California has required local governments to include within their local comprehensive plans an affordable housing element that identifies strategies for accommodating the jurisdiction's share of projected regional housing demand. Other states represented in the sample (Oregon, New Jersey, Florida) have also adopted similar provisions requiring local governments to include affordable housing elements within their local comprehensive plans. One possible test of this hypothesis is an examination of the effect of UGB presence in models that also include a measure of the state's stance toward such affordable housing mandates. In regressions that include a dummy variable indicating that the surrounding state requires an affordable housing element to be included in the local comprehensive plan,[1] UGB presence is still statistically significant, while the state housing mandate dummy variable is not significant.

Another possible explanation is that regulatory regimes based on a philosophy of urban containment may include more local regulatory tools that facilitate affordable housing provision than do other more traditional regulatory regimes. Such tools include mixed-use zoning ordinances, flexible zoning for affordable housing, and more aggressive monitoring of regional land supply. Nelson and Dawkins (2004) examined more than 100 urban containment plans nationwide and found that those jurisdictions with the strongest antisprawl measures tended also to adopt more flexible zoning programs and more aggressive affordable housing strategies. The inclusion of such affordable housing policies within an aggressive urban containment program may help to ensure political acceptability of antisprawl measures by the local citizenry and building community.

A final explanation is that the regional land use planning organizations responsible for adopting and implementing a UGB program may also have regulatory authority to override suburban efforts to enact exclusionary zoning ordinances. New Jersey, for example, empowers county governments to adopt regional fair-share affordable housing strategies, which limit the ability of local governments to pursue exclusionary zoning strategies. This argument is supported by our finding that the effects of UGB presence are largest and most significant among suburban low-income residents.

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[1] According to a recent report published by the American Planning Association (2002), these states include California, Florida, Georgia, Hawaii, Idaho, New Jersey, Oregon, and Washington.

To determine which of these two latter hypotheses is more plausible, additional regressions, which allowed the UGB variable to vary by MSA, were run. All UGB MSAs with fewer than 20 observations were grouped into a single category to ensure sufficient degrees of freedom to estimate the UGB effect. Because of high multicollinearity between the MSA-stratified measures of UGB presence and many MSA-level covariates, only a limited number of location controls in these models (regional controls, central city of residence, and log of MSA population) were included. These results are reported in exhibit 8.

From Model 1 in exhibit 8, we find that three metropolitan areas account for most of the UGB effect: Riverside, California; Miami, Florida; and Twin Cities, Minnesota. One unique characteristic of each of these metropolitan areas is their relatively strong form of regional governance. Riverside is a metropolitan area surrounded by a single county government, Miami is a city-county consolidated government, and Twin Cities is governed by one of the nation's only regional governments with leaders appointed by the state of Minnesota. In each of these metropolitan areas, strong regional governments possibly curb the exclusionary practices of suburban municipalities within the region.

Twin Cities is an interesting case in point. During the 1970s, this region adopted one of the nation's first regional fair-share housing strategies, which required all local governments within the region to accommodate their fair share of the region's affordable housing needs. According to Goetz, Chapple, and Lukermann (2005), the efficacy of this program has varied over time. During the 1980s, changes in regional and state political leadership, combined with shifting national political tides, led to a significant weakening of the region's fair-share requirements. Model 2 in exhibit 8

Exhibit 8

UGB Effect, Stratified by MSA

Variable	Model 1			Model 2		
	Coef.	Exp. (Coef.)	Sig.	Coef.	Exp. (Coef.)	Sig.
San Diego, CA	0.295	1.344		0.285	1.330	
San Francisco-Oakland, CA	1.183	3.264		1.175	3.237	
Riverside-San Bernardino-Ontario, CA	– 1.305	0.271	***	– 1.283	0.277	***
Sacramento, CA	1.107	3.025		1.093	2.984	
Fresno, CA	– 0.522	0.594		– 0.514	0.598	
Miami, FL	– 0.863	0.422	**	– 0.840	0.432	**
Orlando, FL	– 0.288	0.750		– 0.274	0.760	
Minneapolis-St. Paul, MN-WI	– 0.567	0.567	*	—	—	—
Minneapolis-St. Paul, MN-WI (1978–81)	—	—		– 1.467	0.231	***
Minneapolis-St. Paul, MN-WI (1982–97)	—	—		– 0.137	0.872	
Atlantic City, NJ	7.524	1,852.660		7.912	2,730.452	
Eugene-Springfield, OR	– 0.215	0.806		– 0.200	0.819	
Portland-Vancouver, OR-WA	– 0.578	0.561		– 0.558	0.572	
Remaining UGBs	– 0.245	0.783		– 0.231	0.794	

MSA = metropolitan statistical area. UGB = urban growth boundary.

* p < .10.

** p < .05.

*** p < .01.

Note: Model includes full set of baseline controls, excluding MSA housing value, MSA population change, and MSA owner-occupied percentage.

allows the effect of the Twin Cities variable to vary by the date at which this political shift began (1982). As shown in Model 2, Twin Cities influenced homeownership transitions only during the period when the regional fair-share program was at its strongest. After 1982, the Twin Cities effect was not statistically significant.

Conclusion

This article examined the relationship between various dimensions of urban sprawl and the timing of first-time homeownership transitions. The article found that, for the average renter in the sample, first-time homeownership occurs sooner in areas with lower urban densities, increased local government fragmentation, and the presence of a regional urban growth boundary. Urban density influences homeownership transitions indirectly through effects on housing affordability. The effects of UGB presence and local government fragmentation are largest among suburban low-income households. These results suggest that increased urban sprawl accelerates the transition to first-time homeownership, primarily by influencing housing affordability and local public service choice.

No evidence supports the claim that UGBs restrict housing choices for first-time homebuyers. In fact, the results suggest the opposite: first-time homeownership is enhanced in regions with regional UGB programs in place. The overall pattern of results suggests that the most likely explanation for the offsetting effects of UGBs is that such metropolitan areas are likely governed by stronger regional institutions with authority to override, or at least discourage, local exclusionary zoning practices. The results point to an important challenge facing regional policymakers seeking to promote first-time homeownership: enhancing local public service choice through increased decentralization of local public services while maintaining centralized regional control over land use regulation.

Appendix A

Permanent Income Regression Results

Variable	Coef.	Sig.
Constant	− 19.412	***
Black	− 5.650	***
Age	2.173	***
Age squared	− 0.039	***
Male	3.075	***
Nonhousing wealth[a]	0.034	***
Years of education	0.729	***
Employment status	− 0.294	
Professional occupation	13.964	***
Manager/administrator occupation	11.908	***
Sales occupation	3.054	***
Clerical occupation	4.593	***
Craftsman occupation	9.878	***
Operative occupation	5.759	***
Transport occupation	7.524	***
Laborer occupation	3.691	***
Farmer occupation	10.100	**
Midwest Region	− 3.146	***
South Region	− 2.566	***
West Region	− 0.345	
Adj-R^2	0.220	
N*T	10,350	

[a] *In thousands of dollars.*

* $p < .10$.

** $p < .05$.

*** $p < .01$.

Notes: Omitted occupation category: service occupation. Omitted regional control: Northeast.

Acknowledgments

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Casey J. Dawkins is associate professor of urban affairs and planning, the director of the Virginia Center for Housing Research, and the co-director of the Metropolitan Institute at Virginia Polytechnic Institute and State University.

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Data Shop

Data Shop, a department of Cityscape, *presents short articles or notes on the uses of data in housing and urban research. Through this department, PD&R introduces readers to new and overlooked data sources and to improved techniques in using well-known data. The emphasis is on sources and methods that analysts can use in their own work. Researchers often run into knotty data problems involving data interpretation or manipulation that must be solved before a project can proceed, but they seldom get to focus in detail on the solutions to such problems. If you have an idea for an applied, data-centric note of no more than 3,000 words, please send a one-paragraph abstract to david.a.vandenbroucke@hud.gov for consideration.*

Measuring Housing Quality in the Housing Choice Voucher Program With Customer Satisfaction Survey Data

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The contents of this article are the views of the author and do not necessarily reflect the views or policies of the U.S. Department of Housing and Urban Development or the U.S. government.

Introduction

From 2000 through 2002, the U.S. Department of Housing and Urban Development (HUD) conducted a yearly national survey of Section 8 Housing Choice Voucher Program (HCVP) households, dubbed the Customer Satisfaction Survey (CSS).[1] This article describes the survey methodology and the resulting publicly available data set.[2]

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[1] The official title of the survey is "The Section 8 Housing Quality and Customer Satisfaction Survey." The resulting data set of responses is sometimes referred to as the "CSA" for "Customer Satisfaction Answers." For consistency and brevity, we refer to both the survey and data set as the CSS.

[2] Researchers interested in obtaining survey responses may contact Brent Mast at Brent.D.Mast@hud.gov. Users must agree to standard HUD policies regarding use of household data.

During the 3 years of the survey, nearly one-half million households returned questionnaires, answering a wide variety of questions regarding the condition of their housing and neighborhoods. The large sample size was designed to provide yearly housing condition estimates in almost every public housing agency (PHA). Although most surveyed households reported high levels of satisfaction with their homes, some households also revealed serious deficiencies.

CSS data contain a large amount of household information, enabling researchers to study survey results for various demographic groups. For example, single heads of households with children tend to report lower housing quality and satisfaction relative to other households, particularly elderly households and those headed by nonelderly persons with disabilities. HCVP households in the western United States report higher levels of housing quality relative to voucher households in other regions. Reported housing quality also varies with PHA size.

This article presents an example of CSS data analysis using survey responses regarding crime and drug problems. West Virginia responses are averaged at the county level and are compared with county property and violent crime rates. Results indicate HCVP household perceptions about crime are more closely related to property crime than to violent crime.

The remainder of the article is organized as follows. The next section presents various aspects of the survey design and resulting data set. The third section discusses data validation, followed by the fourth section, which reviews past studies employing CSS data. Examples of CSS data analysis are presented in section five. The final section summarizes this article.

Survey Description

Sampling

HUD conducted a yearly survey of HCVP households for 3 calendar years from 2000 through 2002.[3] Based on pilot tests (Anderson, 1995; Building Research Council, 1998), HUD chose direct mail as the optimal method to distribute and collect survey questionnaires. The CSS's primary goal was to provide data on independent housing conditions to PHAs to help improve their HCVPs. The weighted responses represent a total of 4.8 million HCVP households—about 1.6 million households per year.

The sample was stratified by PHA and calendar year. Exhibit 1 reports sampling and response information by year. For most PHAs, a simple random sample of households was surveyed each year. All households were surveyed in smaller PHAs. Over the 3-year period, HUD mailed a total of 887,689 survey questionnaires and received 459,298 responses—an overall response rate of 51.7 percent. Response rates declined over time, varying from 62.2 percent in 2000 to 45 percent in 2002.

Response rates also varied across demographic groups. Exhibit 2 shows response rates for four household composition categories. Elderly households had the highest response rate at 68.2 percent.

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[3] See Gray, Haley, and Mast (2009) for more detail on the survey design and results.

Nonelderly disabled households also had a relatively high response rate at 60.8 percent. Families with children had the lowest response rate at 45 percent.

Exhibit 3 reports response rates by race and ethnicity of household head. White non-Hispanic household heads had the highest response rate at 56.7 percent, followed by Hispanic household heads at 47.3 percent and black non-Hispanic household heads at 45.6 percent.

Given the differences in response rates, one might question how representative the survey data are of all HCVP households. Exhibit 4 reports household type percentages for all HCVP households and weighted survey responses in 2002. Families with children represent 51.5 percent of all HCVP households and 53.2 percent of weighted responses. Of all households, 13.7 percent have

Exhibit 1

Survey Response Rates

	2000	2001	2002	All Years
Number of surveys mailed	279,314	340,487	267,888	887,689
Number of responses	173,362	166,844	119,092	459,298
Response rate	62.2%	49.0%	45%	51.7%
Number of PHAs included in survey	2,409	2,448	2,378	
Total number of Section 8 HCVP households	1,500,532	1,588,607	1,708,012	

HCVP = Housing Choice Voucher Program. PHA = public housing agency.
Source: Author's calculations using CSS data

Exhibit 2

Response Rates by Household Type

Household Composition	Responded (%)	No Response (%)
Families with children	45.0	55.0
Elderly*	68.2	31.8
Nonelderly with disabilities*	60.8	39.2
Other	52.9	47.1
All households	51.7	48.3

*Based on head or spouse; elderly are age 62 or older.
Source: Author's calculations using CSS data

Exhibit 3

Response Rates by Race and Ethnicity

| Race/Ethnicity of Household Head	Responded (%)	No Response (%)
White, non-Hispanic	56.7	43.3
Black, non-Hispanic	45.6	54.4
Hispanic	47.3	52.7
Other	51.4	48.6
All households	51.7	48.3

Source: Author's calculations using CSS data

an elderly household head or spouse, while 19.1 percent of weighted responses are from elderly designated households. Nonelderly households with disabilities account for 26.3 percent of all households and 18.6 percent of weighted responses to the survey.

Exhibit 5 reports corresponding frequencies by race and ethnicity of household head. Blacks comprise 42.9 percent of all household heads and 39.5 percent of weighted responses. Whites account for 39.1 percent of HCVP households and 40.5 percent of weighted responses. Hispanics represent 14.4 percent of households and 16.4 percent of weighted responses. Although the demographics of responding households do not perfectly mirror all HCVP households, they are very close.
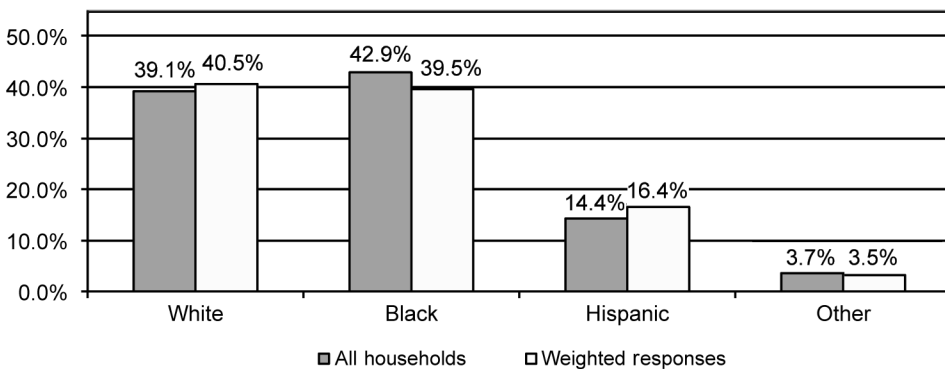
Exhibit 4

Household Type of All Voucher Households and Survey Respondents, 2002
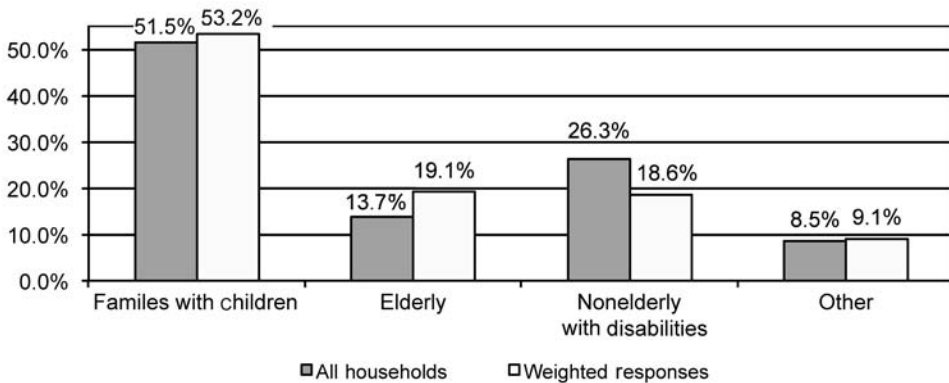
Source: Author's calculations using December 2002 Public and Indian Housing Information Center data and 2002 CSS data

Exhibit 5

Head of Household Race and Ethnicity for All Voucher Households and Survey Respondents, 2002

Source: Author's calculations using December 2002 Public and Indian Housing Information Center data and 2002 CSS data

Questionnaire

Most of the survey questions closely relate to items from HUD's Housing Quality Standards (HQS) inspection form for the HCVP.[4] Exhibit 6 reports a sample of 12 inspection items and their cor-

Exhibit 6

12 Housing Quality Standard Inspection Items and Corresponding Survey Questions

Source	Housing Quality Question
HQS*	Is the heating equipment capable of providing adequate heat to all rooms used for living?
CSS**	Does the heating system provide enough heat in every room?
HQS	Is the unit free from rats or severe infestation by mice or vermin?
CSS	Did you see any rats or signs of rats anywhere in your building or outside around the grounds this week?
CSS	Have you seen many cockroaches in your home this week?
HQS	Is there a working oven and a stove (or range) with top burners that work?
CSS	Does your kitchen have a working oven (not toaster oven)?
CSS	Do all the stove burners work?
HQS	Is there a kitchen sink that works with hot and cold running water?
HQS	Is there a working tub or shower with hot and cold running water in the unit?
CSS	Is there hot and cold running water at each kitchen and bathroom sink, tub, and shower?
HQS	Is plumbing free from major leaks or corrosion that causes serious and persistent levels of rust or contamination in the drinking water?
CSS	Is water leaking today from any kitchen or bathroom sink or drain or pipe?
CSS	Does the tap water have a problem with color or bad odor?
HQS	Is the room free from electrical hazards?***
CSS	Is all the building's wiring in your home enclosed in walls or metal coverings?
CSS	Do all electrical outlets have cover plates?
CSS	How many times have fuses blown or circuit breakers tripped in the past 3 months?
HQS	Is the ceiling sound and free from hazardous defects?***
HQS	Are the walls sound and free from hazardous defects?***
HQS	Is the floor sound and free from hazardous defects?***
CSS	Do you see any walls, ceilings, or floors with serious problems such as sagging, leaning, buckling, or large holes?
CSS	Is there mildew, mold, or water damage on any wall, floor, or ceiling?
HQS	Are all windows and doors that are accessible from the outside lockable in each room?
CSS	Do all outside doors have locks that work?
CSS	Do all windows have locks that work?
HQS	Are the site and immediate neighborhood free from conditions that would seriously and continuously endanger the health or safety of the residents?
CSS	Are the yards, playground, and off-street parking safe?
CSS	Do you think that crime or drugs are a big problem in your neighborhood?

HQS = Housing Quality Standards.

*Source: HUD HQS Inspection Form; available at http://www.hudclips.org

**Source: HUD CSS survey instrument reprinted in Gray, Haley, and Mast (2009)

***Inspection items for every room in rental unit.

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[4] HCVP Housing Quality Standards are presented in chapter 10 of the *Housing Choice Voucher Guidebook* available at http://www.hud.gov/offices/adm/hudclips/guidebooks/7420.10G/7420g10GUID.pdf. The inspection form is available at http://www.hud.gov/offices/adm/hudclips/forms/files/52580-a.pdf. The survey questionnaire is reprinted in Gray, Haley, and Mast (2009).

responding questions from the survey. One major difference between the inspection form and the survey is the manner in which the respondents report problems by room. For example, the inspection form has separate items for electrical problems in every room. The survey questionnaire, on the other hand, asks if the unit has electrical problems anywhere in unit.

The survey, on the other hand, provides more detail on some other problems. For instance, the inspection form has one item flagging "rats or severe infestation by mice or vermin." The survey has two related questions: one for rat problems and another for cockroach infestations.

Supposedly, at the time a unit passes inspection (either initial inspection or annual reinspection), it should be free of HQS-type problems. Note, however, that survey dates vary from inspection dates. Thus, an HQS-type problem indicated on the survey does not necessarily imply inadequate inspection.

HCVP households are required to promptly report housing problems to landlords and PHAs. Reported HQS violations are to be corrected within 30 days, unless the PHA issues a waiver for special circumstances. The survey, however, does not identify when problems occur. Furthermore, it does not ask if or when problems are reported to PHAs or landlords. In short, the survey cannot identify with certainty HQS violations.

Weighting

Weights were created to make survey estimates representative of PHAs. Weights equal the number of PHA HCVP-occupied units divided by the number of survey responses in a given year. For instance, in 2001, the Plant City, Florida PHA had 169 occupied units and 31 survey responses. The weight for the 2001 Plant City survey responses equals 169/31 or 5.45.

Demographic Information

In addition to the survey questionnaire responses, a rich set of household demographic information is available in the CSS. This information was adopted from HUD's Multifamily Tenant Characteristics System/Public and Indian Housing Information Center (MTCS/PIC) data systems.

Examples of household information include race, age, ethnicity, and disability status of household members; family size; household income; and metropolitan status.

Geographic information on households participating in the CSS is available at the census tract level and above (county, state, and region).[5] As with other HUD data sets, census tract IDs are not reported for tracts with fewer than 10 HCVP households or household addresses that could not be accurately geocoded.

Data Validation

Pretest survey results correlated highly with onsite inspection data (Anderson, 1995; Building Research Council, 1998, reviewed by Gray, Haley, and Mast, 2009). The only independent data

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[5] Researchers requesting census tract IDs must demonstrate that their research requires this information.

available to validate results from the nationwide survey are from HCVP households participating in the American Housing Survey (AHS).[6]

As discussed by Gray, Haley, and Mast (2009) and Buron, Kaul, and Patterson (2003), differences in the survey methodology and question wording make comparison of the AHS with the CSS difficult. The two most similar questions ask residents to rate their home and neighborhood on a scale of 1 to 10.

Exhibit 7 reports 2001 CSS estimates along with AHS estimates for occupied rental units. AHS estimates are reported for voucher households and all other rental units. AHS estimates for HCVP households are lower relative to estimates for other home renters. The mean home rating is 7.43 for voucher units, compared with 7.48 for other rented homes. Mean AHS neighborhood ratings are 7.11 for HCVP households and 7.46 for other renters.

Despite substantial differences in survey methods and sample sizes, HCVP household estimates from both surveys are similar. For both questions (rating home and rating neighborhood), mean CSS estimates are slightly higher than estimates for HCVP households participating in the AHS. The 2001 AHS mean home rating for HCVP households is 7.43, compared with 7.50 for the CSS. The HCVP mean neighborhood rating is 7.11 for the AHS and 7.26 for the CSS.

Because of differences in sample size, AHS standard errors are much larger. The AHS mean home rating 95 percent confidence interval is 7.18 to 7.68, compared with 7.48 to 7.52 for the CSS. The mean neighborhood rating 95 percent confidence interval is 6.84 to 7.37 for the AHS and 7.24 to 7.28 for the CSS.

Exhibit 7

2001 American Housing Survey and CSS Home and Neighborhood Ratings

| | 2001 Household Sample | | | | | |
| | CSS— Voucher Households | | AHS— Voucher Households | | AHS— Other Rental Units | |
	Mean (Std. Error)	Sample Size	Mean (Std. Error)	Sample Size	Mean (Std. Error)	Sample Size
Home rating on a scale of 1 to 10	7.50(.01)	161,205	7.43(.13)	339	7.48(.02)	12,195
Neighborhood rating on a scale of 1 to 10	7.26(.01)	160,266	7.11(.13)	337	7.46(.02)	12,171

AHS = American Housing Survey.

Source: Author's calculations using 2001 AHS data and CSS data

Literature Review

Gray, Haley, and Mast (2009) conduct the most thorough analysis of the CSS, providing much detail on the survey methodology housing quality estimates. They report wide variation in survey outcomes across demographic groups and PHAs.

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[6] Information on AHS data and publications is available at http://www.huduser.org/datasets/ahs.html.

Other researchers have used CSS data for more narrow research purposes. Buron, Kaul, and Patterson (2003) compare preliminary CSS results for 2001 with a matched sample of unassisted households from the AHS. They estimate lower housing quality for HCVP households relative to similar unassisted families, but they caution that their results may be driven by differences in survey methodology and question wording.

Early (2006) uses CSS responses to control for quality while computing a housing price index. Buron and Patrabansh (2008) study the relationship between CSS neighborhood quality responses and census data, finding little correspondence.

Analysis

The analysis in this section demonstrates a potential use of the CSS using responses to a question-naire item asking households to indicate if crime or drugs are "a big problem in (their) neighbor-hood." Weighted frequency responses are summarized in exhibit 8. Of HCVP households, 45.1 percent are estimated to perceive no crime or drug problems.

An estimated 19.9 percent of households do not know if their neighborhood has a crime or drug problem. The wording of this response category is problematic. The analysis in this article treats "don't know" responses as households with no opinion (that is, the respondents neither agree nor disagree that crime or drugs are a problem). Perhaps responses in this category should be treated the same as the 1.9 percent of households with missing data.

An estimated 22.6 percent of households report somewhat of a problem with crime or drugs. The remaining 10.6 percent are estimated to perceive a major problem with crime or drugs in their neighborhood.

CSS county identifiers allow for comparison of survey crime estimates with FBI county crime esti-mates from the Uniform Crime Reports.[7] This article presents such a comparison for West Virginia counties. Three-year average property (burglary, larceny, and motor vehicle theft) and violent (murder, rape, robbery, and assault) crime rates per 10,000 residents are calculated using data for 2000 through 2002.

Exhibit 8

CSS Estimates of Crime and Drug Problems in Housing Choice Voucher Neighborhoods

CSS Survey Response	Weighted Percent of Households (%)	Std. Error
No response	1.93	0.05
No problem	45.08	0.18
Don't know	19.84	0.15
Some problem	22.57	0.16
Big problem	10.58	0.11

Source: Author's calculations using CSS data

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[7] http://www.fbi.gov/ucr/ucr.htm.

Three-year weighted county averages are also calculated for the crime and drug problem responses, recoding them as integer data. "No problem" responses are set to 1. "Don't know" responses are recoded as 2. "Somewhat of a problem" responses are set to 3, and "big problem" responses are set to 4. This recoding allows county crime and drug problems to be measured on an ordinal scale of 1 to 4.

Exhibit 9 reports summary statistics for the three crime measures. Measuring crime and drugs as a problem on a scale of 1 to 4, the county averages range from 1.13 to 2.14, with a mean of 1.62. Property crime rates range from 54.71 to 453.22, with a 159.87 mean. Violent crime rates range from 6.89 to 52.36, with a 24.12 mean.

Exhibit 10 reports Pearson correlation coefficients for the county crime measures. West Virginia HCVP household perceptions of crime and drug problems are more strongly related to property crime than violent crime. The correlation coefficient of the survey measure with the property crime rate is .55. The correlation coefficient of the survey measure with the violent crime rate is .37. Both coefficients are statistically significant at the .01 level.

Exhibit 11 depicts a West Virginia county map with quartile indicators for the survey measure and the property crime rate. Exhibit 12 maps quartiles for the survey measure and violent crime rate. Of the 55 counties in West Virginia, 26 share the same quartile for the survey measure and property crime rate; 23 counties have the same quartile for the survey measure and violent crime. Only 15 counties are in the same quartile for all three crime measures. For example, Kanawha County is

Exhibit 9

Summary Statistics for West Virginia County Crime Measures

	CSS—Crime and Drug Problem on a Scale of 1 to 4	Property Crime Rate	Violent Crime Rate
Minimum	1.125	54.712	6.888
25th percentile	1.438	103.386	16.194
50th percentile (median)	1.640	139.412	23.165
Mean	1.623	159.874	24.120
75th percentile	1.845	201.286	31.388
Maximum	2.144	453.218	52.359

Source: Author's calculations using CSS and Uniform Crime Reports data for 2000–02

Exhibit 10

Correlation Coefficients for West Virginia County Crime Measures

	CSS—Crime and Drug Problem on a Scale of 1 to 4	Property Crime Rate	Violent Crime Rate
CSS—Crime and drug problem on a scale of 1 to 4	1	.552(.001)	.373(.005)
Property crime rate	.552(.001)	1	.591(.001)
Violent crime rate	.373(.005)	.591(.001)	1

*Note: P-values in parentheses.*
Source: Author's calculations using CSS and Uniform Crime Reports data for 2000–02

in the top quartile for all three crime measures, while Brooke County is in the lowest quartile for all measures.

A distinct pattern of high estimated perceptions of crime and drug problems for HCVP households exists in bordering counties from Cabell to Randolph. The high crime pattern is also apparent to a lesser degree for property and violent crime rates.
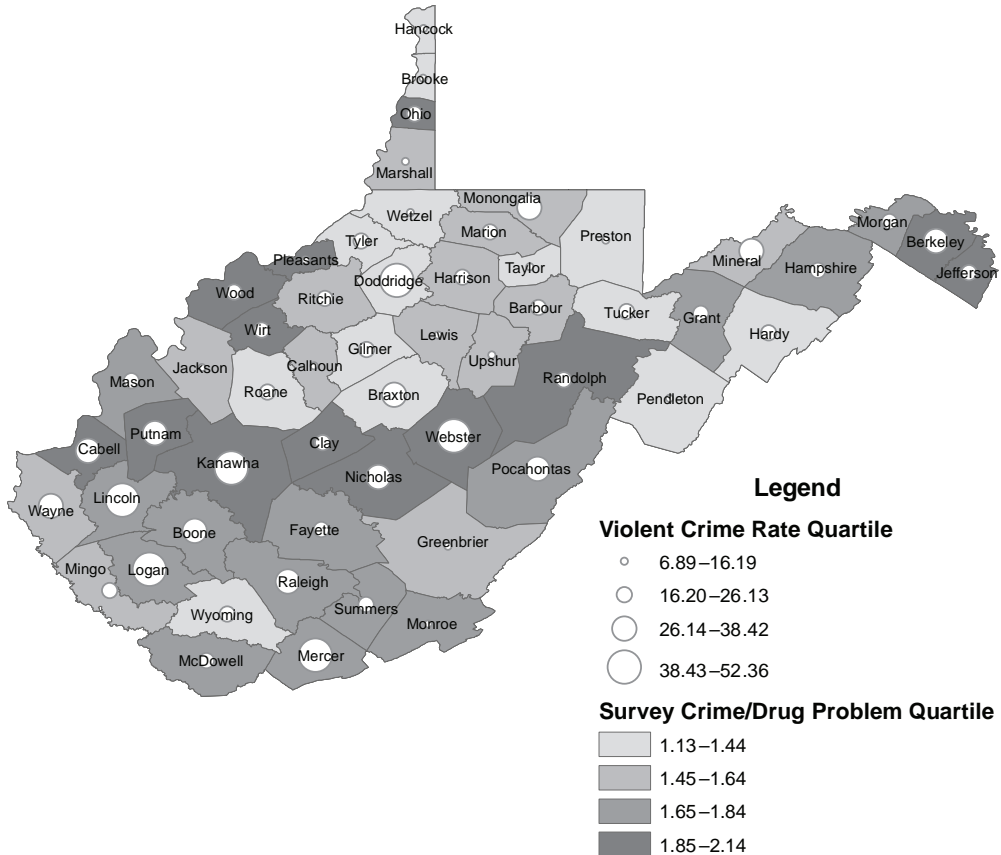
Exhibit 11

Map of West Virginia County CSS Crime Measure and Property Crime Rate
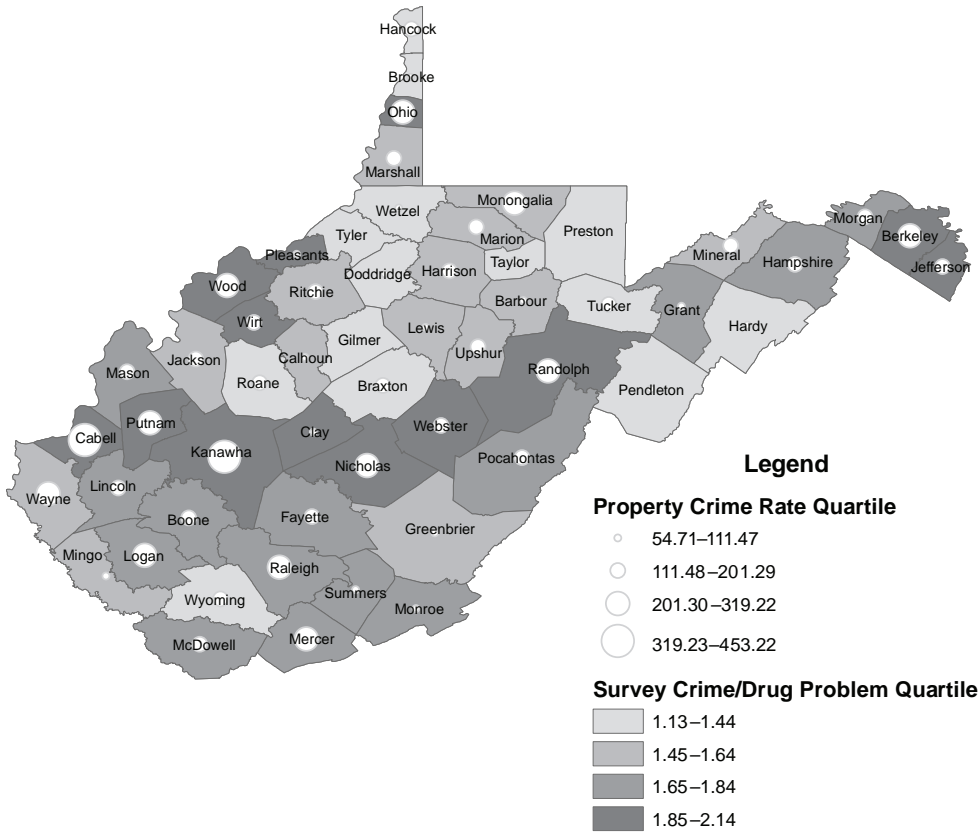
Source: Author's calculations using CSS and Uniform Crime Reports data for 2000–02

Exhibit 12

Map of West Virginia County CSS Crime Measure and Violent Crime Rate

Source: Author's calculations using CSS and Uniform Crime Reports data for 2000–02

Conclusions

During calendar years 2000 through 2003, HUD received survey responses from nearly one-half million households to questions concerning housing conditions in the Section 8 Housing Choice Voucher Program.

In this yearly national survey, dubbed the CSS, the data contain large amounts of household and neighborhood information, enabling researchers to study housing and neighborhood conditions for various demographic groups.

This article presents an example of CSS data analysis using West Virginia county-level data. Results of the analysis indicate HCVP household crime perceptions are more closely related to property crime than to violent crime.

Acknowledgments

Author

Brent D. Mast is a social science analyst in the Office of Policy Development and Research, Program Monitoring and Research Division, at the U.S. Department of Housing and Urban Development.

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Industrial Revolution

Every home makes compromises among different and often competing goals: comfort, convenience, durability, energy consumption, maintenance, construction costs, appearance, strength, community acceptance, and resale value. Often consumers and developers making the tradeoffs among these goals do so with incomplete information, increasing the risks and slowing the adoption of innovative products and processes. This slow diffusion negatively affects productivity, quality, performance, and value. This department of Cityscape *presents, in graphic form, a few promising technological improvements to the U.S. housing stock. If you have an idea for a future department feature, please send your diagram or photograph, along with a few, well-chosen words, to dana.b.bres@hud.gov.*

Structural Insulated Panels: An Alternative to Wood Frame Construction

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Abstract

For years, the status quo for the construction of a single-family home has been wood frame construction, commonly called "stick framing" because of the dominant use of 2 by 4 lumber. Wood frame construction has served the homebuilding community well, but alternatives are beginning to capture market share. One alternative, structural insulated panels, provides energy efficiency and structural strength advantages over conventional wood frame construction.

The Status Quo

The typical American home is built on site. The crew frames the walls using dimensional lumber (typically 2 by 4 or 2 by 6). This method of construction is time consuming and can leave the structure of the home exposed to the elements for an extended period of time.

The status quo for wood frame construction in homes has several disadvantages. Wood frame construction—

- Has lower energy efficiency as measured by the R-value (the common measure of insulation effectiveness).

- Is a time-intensive process—it can take weeks for a home to be placed under roof.

- Requires installation by a skilled framing crew.

- Needs additional strengthening for homes built in high-wind and seismic areas.

- Uses a significant amount of timber resources.

Structural Insulated Panels

Structural insulated panels (SIPs) consist of a thick layer of foam (polystyrene or polyurethane) sandwiched between two layers of oriented strand board, plywood, fiber cement, or other cement board, which creates web-and-flange structural strength across the panel. SIPs can handle axial, bending, racking, and shear loads, and they easily replace conventional framing. SIPs are widely used for wall and roof framing, and some manufacturers also provide floor panels.

Typically, SIP wall panels are 4 to 24 feet wide and 8 or 9 feet high, made in standard thicknesses of 4 ½ to 6 ½ inches. The foam core is typically held back from the edge to allow the panel to accept 2 by 4 top and bottom plates. Thicknesses of up to 12 inches are available for roof panels, where greater R-value is needed. The core material of thicker panels usually corresponds to standard lumber dimensions, so board stock may be used for splines and plates. Panel lengths can vary to accommodate higher ceilings or roof spans up to 24 feet.

HUD assisted in an effort to include SIPs in the model residential building codes. This effort was similar to HUD's earlier support of insulating concrete forms and light-gauge steel framing code development. As a result, SIPs can be used more easily in residential construction.

Benefits

SIPs can be used in place of wood framing for most above-grade situations, including the roof. SIPs can be placed on slabs, basement walls, or crawlspace walls. Possible benefits of SIPs over wood framing include the following:

- Increased affordability by reduced labor due to ease of installation, minimal learning curve going from traditional materials, and fast assembly and erection.

- Increased energy efficiency by increased insulation (R-value) and reduced air infiltration.

- Improved environmental performance by reduced use of dimensional lumber and minimized waste.

- Improved durability by increased high-wind resistance.

- Decreased inspection time for some designs of SIP homes, for which the ENERGY STAR program recognized the performance of SIP construction by eliminating air infiltration testing requirements, substituting a visual inspection instead.

Exhibit 1

Structural Insulated Panels Provide Energy Efficiency and Structural Strength

Manufacturers

A number of manufacturers produce SIPs. The choice of which SIPs to use will be based on local availability, cost, and installers' familiarity with the system.

Sources

ToolBase TechSpecs: Structural Insulated Panels at http://www.toolbase.org/Technology-Inventory/Whole-House-Systems/structural-insulated-panels.

Additional Information

The PATH (Partnership for Advancing Technology in Housing) Technology Inventory on the toolbase.org website provides information on the use and sources of SIPs.

Author

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Impact

A regulatory impact analysis must accompany every economically significant federal rule or regulation. The Office of Policy Development and Research performs this analysis for all U.S. Department of Housing and Urban Development rules. An impact analysis is a forecast of the annual benefits and costs accruing to all parties, including the taxpayers, from a given regulation. Modeling these benefits and costs involves use of past research findings, application of economic principles, empirical investigation, and professional judgment.

The Impact of Mortgage Disclosure Reform Under RESPA

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This article reflects the views of the authors and does not necessarily reflect the views of the U.S. Department of Housing and Urban Development.

Abstract

It is expected that the final Real Estate Settlement Procedures Act rule will encourage shopping, increase efficiency, lower housing costs, and promote the purchase of loans that are more suited to a household's needs. The transfer of markups from firms charging excessive fees to consumers has been estimated to be approximately $670 per loan (a total of $8.35 billion) but could be as high as $1,200 per loan. This transfer of economic surplus will not occur without some costs to industry. We estimate a potential $571 million of one-time adjustment costs. Although it is imaginable that the annual compliance costs of the rule are close to zero, the U.S. Department of Housing and Urban Development has assumed significant costs, ranging from $50 to $74 per loan,

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Abstract (continued)

depending on the number of applications per loan (totaling from $630 million to $918 million). Significant net consumer benefits are present even in the highest cost case. The rule can also be expected to generate economic efficiencies, such as time savings for consumers and for industry, a reduction of wasteful predatory behavior, and an increase in sustainable homeownership.

Introduction

Acquiring a mortgage is one of the most complex transactions a family will ever undertake. It may be difficult for borrowers to understand the financial tradeoffs associated with interest rates, discount points, yield spread premiums (YSPs), and upfront settlement costs. Settlement costs, and especially the multiplicity of lender fees and the title charges, add to the borrower's confusion. Even after the settlement costs have been agreed on, they are subject to change until the day of closing. To exacerbate this situation, typical homebuyers may be rushed and easily steered into a bad loan because they are under pressure to make an offer on a home. The average borrower will be at an extreme informational disadvantage compared to the lender because consumers[1] borrow fairly infrequently. This disadvantage is especially the case for first-time homebuyers, who will not be as likely to challenge lenders, whom they may view as unquestionable and benevolent experts. Lenders and third-party service providers can exploit this imperfection by charging excessive fees. The goal of the final rule under the Real Estate Settlement Procedures Act (RESPA) is to improve consumer welfare by reducing market imperfections that are a result of information asymmetry in the mortgage loan and settlement process. The final rule is expected to accomplish a reduction of closing costs through a new Good Faith Estimate (GFE) that includes both a one-page summary of the critical mortgage loan characteristics and an accounting of settlement costs that focuses the consumer's attention on the bottom line. A tolerance on the potential increase of settlement costs ensures that the GFE is a reliable shopping document. (See "Overview of the Final Rule" in the following text for more information about the final RESPA rule.)

It is expected that the new mortgage disclosure will encourage consumers to shop for the best mortgage, increase efficiency in the settlement industry, lower housing costs, and promote the purchase of loans that are more suited to households' needs. The transfer of markups from firms charging excessive fees to borrowers has been estimated to be approximately $670 per loan (a total of $8.35 billion) but could be as high as $1,200 per loan. This transfer of economic surplus will impose some costs to the settlement and lending industries in addition to the transfer of surplus. The authors estimate $571 million of one-time adjustment costs related to new software, training,

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[1] The term *consumer* refers to an individual at any stage in the shopping process from the initial application for a mortgage loan (applicant) to the final settlement (borrower). The term *consumer* also embraces different motives for borrowing, whether the mortgage loan is for a new home purchase or for refinancing an existing mortgage loan.

and legal consulting. After the transition expenses have been incurred, any ongoing costs that are substitutes for the software, training, or legal consulting costs, which would have been incurred anyway, do not represent an additional burden. Annual recurring compliance costs, which could be close to zero, will also occur. The U.S. Department of Housing and Urban Development (HUD), however, has assumed significant costs ranging from $630 million to $918 million ($50 to $74 per loan), depending on the number of applications per loan. In the high-cost case, significant borrower savings still exist, even if the full costs of the RESPA rule are imposed on borrowers.

The RESPA rule can be expected to generate economic benefits as well as costs. First, the rule may provide time savings for both consumers and industry. Second, the rule may provide two social benefits: a reduction of wasteful predatory behavior and an increase in sustainable homeownership.

Current State of Affairs

HUD issued a final rule under RESPA to improve the process of obtaining home mortgages and to reduce settlement costs for borrowers.[2] Because the final rule calls for significant changes in the process of originating a mortgage, a wide range of benefits, costs, transfers, and market impacts can occur. The effects on borrowers from improved shopping for mortgage loans will be substantial under this rule.

RESPA is a consumer-protection statute passed in 1974. RESPA regulations govern the business practices of settlement service providers and require that borrowers receive various disclosures concerning their mortgage loans. When borrowers apply for a mortgage loan, loan originators must provide the borrowers a GFE of settlement costs, which lists the charges the buyer is likely to pay at settlement. This is only an estimate, and the actual charges may differ at closing. Upon settlement, borrowers receive the HUD-1 Settlement Statement, a final settlement document issued at closing, which is a standard form that shows the actual charges imposed on borrowers and sellers in connection with the settlement.

Current rules do not ensure that the GFE is a reliable estimate of final settlement costs. There is little guidance and there are no meaningful standards for originators in providing GFEs of settlement costs. As a result, the final charges at settlement may include significant increases in items that were estimated on the GFE, as well as additional surprise "junk fees," which can add substantially to the borrower's ultimate closing costs. The current GFE format contains a long list of charges that often overwhelms consumers and does not highlight the bottom line. A proliferation of charges makes shopping for a loan and the mortgage settlement process both difficult and confusing, even for the most informed shoppers.[3] The current HUD-1, which is the document used at

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[2] The final rule, "Rule To Simplify and Improve the Process of Obtaining Mortgages and Reduce Consumer Settlement Costs" (FR-5180-F-03), was printed on November 17, 2008, and is available at http://www.hud.gov/offices/hsg/sfh/res/finalrule.pdf.

[3] See pages 156–160 of chapter 3 of the *Regulatory Impact Analysis* (HUD, 2008) for a list of potential fees and charges, which range from an "Access Fee" to the "Yield Spread Premium" for lender fees and from an "Abstract Recertification Fee" to a "Zoning Ordinance Fee" for title charges. (A regulatory impact analysis provides an estimate of the benefits, costs, and transfers of a regulatory action as well as the impacts on other federal agencies and small business. A regulatory impact analysis is also required to include a discussion of alternatives to the planned regulatory action.)

closing, can include an array of charges with names that may be entirely unrelated to anything in the GFE, making nearly impossible the borrower's task of judging whether their GFE told them anything useful.

The current GFE does not provide information on important loan terms nor does it explain how the borrower can use the document to shop and compare loans. Also, the GFE fails to make clear the relationship between the closing costs and the interest rate on a loan. The process of shopping for a mortgage involves complicated financial tradeoffs, such as paying settlement costs up front or paying them over time through a higher interest rate. Loan originators do not always clearly explain this tradeoff to borrowers and it is not evident from current GFEs. The typical GFE used today is neither an effective tool for facilitating borrower shopping nor for controlling origination and third-party settlement costs.

RESPA rules have also deterred efficiency and competition by acting as a barrier to innovative cost-reduction arrangements. For example, average cost pricing is not permissible under RESPA because loan-specific prices are required. Average cost pricing requires less recordkeeping because the closing costs reported to the settlement agent need not be transaction specific. Such a practice would be and is thus less burdensome for industry. The settlement process needs a regulatory framework that would encourage competitive negotiations and other arrangements that would lead to lower settlement prices. The new GFE will provide such a framework.

Overview of the Final Rule

The final RESPA rule provides a new, simplified GFE that includes tolerances on final settlement costs and a new method for reporting wholesale lender payments in broker transactions.[4] Borrowers in today's market are frequently overcharged by the combination of a higher interest rate and YSP (Woodward, 2008). The GFE format simplifies the process of originating mortgages by consolidating costs into a few major cost categories. The first page of the new GFE presents a brief summary of the terms of the loan that would warn prospective borrowers of potentially expensive aspects of the loan, such as the loan amount, maximum interest rate, prepayment penalties, and the total estimated settlement charges. The second page provides more detail on the charges for loan origination and other settlement services. The third page provides a tradeoff table so that consumers will learn the relationship between the interest rate, the YSP, and total settlement costs. The third page also includes a table for mortgage applicants to use for notetaking on alternative loan offers, thus providing a visual means for comparison shopping.

The GFE was designed to ensure that, in brokered transactions, borrowers receive the full benefit of the higher price paid by wholesale lenders for a loan with a high interest rate; that is, the so-called YSP. The new GFE will disclose the YSP and discount points in brokered loans prominently and accurately and in an informative way so borrowers may use them to their advantage. The prominent placement of the YSP and discount points in the calculations that lead to net settlement costs makes them difficult to miss. That placement should also enhance borrowers' comprehension

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[4] See http://www.hud.gov/offices/hsg/sfh/res/gfestimate.pdf for a copy of the GFE.

of how YSPs can be used to reduce upfront settlement costs. The new tradeoff table will help borrowers understand the relationship between higher interest rates and lower settlement costs.

HUD contracted with forms development specialists, the Kleimann Communication Group, Inc., to analyze, test, and improve the GFE and HUD-1 forms, resulting in documents that are consumer friendly and that efficiently convey the terms of the loan and settlement costs (Kleimann Communication Group, 2008). HUD conducted multiple rounds of extensive consumer testing of the GFE over 6 years, from August 2002 until September 2008. The testing included qualitative interviews and quantitative evaluations of nearly 1,600 homebuyers, potential homebuyers, and homeowners who had refinanced in 17 cities across the United States. Testing results show that consumers could identify the lowest settlement charges in nearly all instances when shown two GFEs, compare across multiple GFEs easily, identify key loan details, and understand the reciprocal relationship between settlement charges and interest rates. This success rate is maintained when the number of loan offers increases. Rather than finding the additional loan offers to be overwhelming, the consumers found that the larger number of offers helped them focus on the key information.

HUD designed the new GFE form to focus borrowers' attention on the right numbers so that competition is maintained between brokers and lenders. People who participated in the forms testing were highly successful in identifying the cheapest loan, with success rates as high as the 90+ percent range, regardless of whether the broker loan was cheaper, the lender loan was cheaper, or the loans cost the same. Broker bias was not evident.[5] The forms testing confirmed the advantages of easy-to-understand, professionally developed forms.

The new GFE includes a set of tolerances on originator and third-party costs: originators must adhere to their own origination fees and give estimates subject to a 10-percent upper limit on the increase of the sum of certain third-party fees. Tolerances will limit how much settlement charges can increase after the GFE has been made. The comparison page of the HUD-1 will serve to double check the GFE regarding settlement charges and the key terms of the borrower's loan at settlement. The tolerances on originator and third-party costs will encourage originators not only to lower their own costs but also to seek lower costs for third-party services.

The final rule allows service providers to use pricing based on average charges for third-party services they purchase, providing the average is calculated using a documented method and the charge on the HUD-1 is no greater than the average paid for that service. This pricing method will make internal operations for the loan originator simpler and less costly, and competition among lenders will compel them to pass these cost savings to borrowers.

HUD also revised the HUD-1 Settlement Statement form to make the GFE and HUD-1 easier to compare.[6] The revised HUD-1 describes categories of charges using the same language as the GFE and orders the categories of charges in the same order as the GFE. The final rule introduces a comparison page in the revised HUD-1 that would (1) compare the GFE estimates to the HUD-1

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[5] Bias does show up in comparisons in which broker and lender loans are otherwise completely identical. In such cases, borrowers who do not think of the two loans as identical tend to favor the lender loan. The likelihood, however, of borrowers getting two otherwise identical loans is extremely low.

[6] See http://www.hud.gov/offices/hsg/sfh/res/hud1.pdf for a copy of the HUD-1.

charges and advise borrowers whether tolerances have been met or exceeded; (2) verify that the loan terms summarized on the GFE match those in the loan documents, including the mortgage note; and (3) provide additional information on the terms and conditions of the mortgage.

The authors predict that the final rule will create a more level playing field through a more transparent and standard disclosure of loan details and settlement costs, tolerances on settlement charges leading to prices that borrowers can rely on, and a comparison page on the HUD-1 that enables the borrower to compare the amounts listed for particular settlement costs on the GFE with the costs listed for those charges on the HUD-1. It will also enable borrowers to double check the loan details at settlement.

Need for the Final Rule

The potential for cost reductions in today's market is indicated by studies showing relatively high and variable charges for third-party services, particularly for title and closing services that account for most third-party fees. The Urban Institute (Woodward, 2008) collected data on 7,560 Federal Housing Administration (FHA) loans. The mean total closing cost for all loans was $4,917 for an average loan amount of $108,237. Total charges comprised loan charges ($3,081), title charges ($1,329), and other third-party charges ($507). There is significant variation in closing costs: the standard deviation is $2,381. The mortgage market appears to be characterized by a high degree of price dispersion. In other words, some borrowers get market-price deals, but other borrowers do not.

Because total loan charges are correlated with the loan amount, it is useful to examine the distribution of closing costs as a percentage of loan amounts to ascertain whether the variation in fees is still present. HUD calculated the distribution of these ratios for nonsubsidized loans from a data set of closing costs that the Urban Institute provided (see exhibit 1). Slightly less variation occurs when the costs are measured as a percentage, but the variation is still substantial: the ratio of what the 75th percentile pays as a percentage of the loan to what the 25th percentile pays is 1.8 for total loan charges, 2.1 for the YSP, and 2.4 for direct loan fees.

It is apparent that one-half of the borrowers pay loan charges equal to or greater than 3.2 percent of their loan amount, one-fourth pay loan charges of at least 4.2 percent of their loan amount, and 5 percent pay loan charges of at least 6.2 percent of their loan amount. The variation is similar for

Exhibit 1

Distribution of Categories of Closing Costs as a Percentage of Loan Amount*

Series	5th Percentile	25th Percentile	50th Percentile (median)	75th Percentile	95th Percentile
Total closing cost	2.9	4.1	5.1	6.4	8.9
Total loan charges	1.3	2.4	3.2	4.2	6.2
Yield spread premium	0.3	1.3	2.0	2.7	3.8
Direct loan fees	0.0	0.8	1.3	1.8	3.3
Total title charges	0.6	0.9	1.2	1.6	2.3
Other third-party charges	0.2	0.4	0.6	0.8	1.4

* Calculated by HUD from data provided by the Urban Institute.

title charges and other third-party charges. One-half of the borrowers pay total closing costs equal to or greater than 5.1 percent of their loan, one-fourth pay closing costs of at least 6.4 percent of their loan amount, and 5 percent pay closing costs of at least 8.9 percent of their loan amount.

The data strongly indicate price dispersion and thus price discrimination. This article is not concerned with price discrimination that is based on costs but with discrimination based on the result of a markup over costs. Price discrimination will always lead to a loss in consumer surplus, and, unless price discrimination is perfect, it will also lead to a loss in social welfare. It is important to note that, if the variation of fees and charges paid is greater than the actual costs of providing the services, then that variation constitutes evidence of a violation of RESPA, which explicitly prohibits markups.[7]

In a competitive market, the price of the good should depend on its quality and not on to whom or how it is sold. If there is dispersion because the negotiations are face to face, this would suggest that the nature of the market exacerbates the consumer's informational disadvantage, as mentioned previously. Indeed, strong evidence indicates that individuals pay different prices for reasons other than the cost of providing the service. The Urban Institute (Woodward, 2008) found that African Americans pay $415 more for their loans and that Hispanics pay $365 more (after taking into account borrowers' differences, such as credit score and loan amount) than Whites do.[8] These loans are not subprime loans but standard FHA loans.[9] Other researchers, reviewed in the *Regulatory Impact Analysis* (HUD, 2008), have found similar results. Discrimination by race or ethnicity is not economically efficient and would not survive in a perfectly competitive market. Increasing transparency should reduce price discrimination.

The YSP is one element of a mortgage that a borrower is not likely to understand well. The YSP is compensation to the broker by the wholesale lender for selling a loan with a higher interest rate. Thus, as the interest rate rises, so should the YSP. This relationship appears to hold in the data analyzed. The burden of the YSP, however, is on the borrower, who pays a higher interest rate for loans with a higher YSP.

If borrowers were well informed, a negative one-to-one relationship would exist between upfront fees and the YSP. The upfront fees and the YSP simply represent two different ways of compensating the broker for the effort required to originate a loan. A mortgage broker earns income from two sources: a YSP, which the lender pays, and direct fees, which the borrower pays.

The Urban Institute (Woodward, 2008) found no strong tradeoff between the YSP and upfront cash payments. Ideally, each dollar of YSP generated by a higher interest rate would result in a 1-dollar reduction in upfront fees. In a sample of nonsubsidized loans with a rate above 7 percent, which

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[7] The goal of this discussion is not to portray loan originators as unscrupulous or harmful to economic welfare. It is clear from the statistical evidence presented here that many loan originators are ethical. If the entire market mirrored this more efficient segment, then RESPA reform would not have been as urgent.

[8] For its statistical analysis, the Urban Institute focused on a subsample of 6,366 nonsubsidized loans, for which the mean total charges are slightly higher, at $5,245. Lender charges for nonsubsidized loans are $3,390, of which $1,450 are direct fees and $1,940 is the average YSP.

[9] Susan Woodward, the lead analyst for the Urban Institute study, completed a similar study for *Glover* v. *Standard Federal Bank* (Civil No. 97-2068, U.S. District Court of Minnesota). See Woodward (2003) for a more detailed followup.

is appropriate for investigating YSPs, the Urban Institute found that broker loan origination fees, rather than being lower by 1 dollar for each dollar of YSP, are *higher* by 16 cents.[10] Such a relationship is contrary to what one would expect in a market where only minor imperfections existed.[11]

Confusion could also result from the variety of loan products and permutations of those products. If informational asymmetries are significant, then lenders will be able to earn more when selling more complex products. Borrowers who simplify their mortgage shopping by rolling all lender/broker fees into the interest rate (that is, get "zero-cost" loans) pay $1,200 less for their loans than borrowers who pay lender or broker fees as measured by implicit YSPs. Borrowers who pay points realize only $20 of benefits for every $100 of points paid, for a net loss of $80. It appears that the industry is able to take advantage of loan complexity, which is evidence of price discrimination not related to the cost of originating the loan.

Title insurance is an industry with a strong potential for anticompetitive practices, including price fixing. A large fixed cost of entry results from compiling a database of transaction and lending records. To make matters worse, Eaton and Eaton (2007) successfully argued that current federal and state policy inhibit competition in the title industry. The costs of providing title insurance are primarily related to research of property transactions. Thus, there should not be a great variation in settlement charges, because the only component that varies substantially is the insurance premium. Eaton and Eaton (2007) found that borrowers pay title fees far greater than what is needed to cover costs and earn a reasonable return. The Urban Institute (Woodward, 2008) found an average $1,329 title charge in its sample of all loans, with a standard deviation of $564. The Urban Institute also found a significant variation by state, with title charges in New York, Texas, California, and New Jersey all costing at least $1,000 more (holding property values constant) than charges in North Carolina, the state with the lowest title costs. It is reasonable to ask what extra benefits people in the states with high-cost title charges get relative to those in the states with low-cost charges, or why costs are so high if people are not receiving extra benefits.

The authors also examined the variation of title costs within states to account for the different legal requirements that exist among the states and the different customs that might have evolved as well. One measure of variability calculated for each state was the difference between the median of the highest quartile of title charges and the median of the lowest quartile. This difference was more than $1,000 for nine states. As a result of the extent of price dispersion, significant savings can be expected from the final rule.

Transfers From Industry to Consumers

It is difficult to estimate the extent to which the final rule will improve consumer shopping for mortgages and reduce the costs of closing a mortgage transaction for the borrower. The enormous

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[10] In a larger sample of all nonsubsidized brokered loans, the Urban Institute found that paying 1 dollar of YSP to a mortgage broker reduces upfront fees by only 7 cents, for a net loss of 93 cents on the dollar.

[11] Jackson and Berry (2002) found that consumers get only 25 cents of value for every dollar of YSPs. They concluded that the problem of price dispersion occurs when YSPs are present because, in these situations, there is no single price for broker services. Their research was prepared for the same court case as was Susan Woodward's.

potential for cost reductions in today's market, however, is indicated by studies showing the wide variation in prices unrelated to costs. Consumer savings were estimated under a variety of scenarios concerning originator and settlement costs.[12] In the base case, the estimate of borrowers' savings is $8.35 billion in origination and settlement charges. The transfer constitutes 12.5 percent of total charges (that is, origination fees, appraisal, credit report, tax service, flood certificate, title insurance, and settlement agent charges).[13] This $8.35 billion represents transfers to borrowers from high-priced producers. Entities that will suffer revenue losses under the final rule are those that charge prices higher than the market equilibrium after consumers are better informed.

Industry experts never challenged the authors' estimate that the average consumer will benefit by a reduction of settlement costs of $668 per loan ($8.35 billion divided by 12.5 million loans) from the improved disclosures and tolerances of the new GFE. Indeed, results from the Urban Institute study (Woodward, 2008) imply that the savings to borrowers may be as much as $1,200 per loan. The authors conducted a sensitivity analysis with respect to the methodology of estimating the savings projection to provide a range of estimates: the $6.48 to $8.38 billion of transfers ($518 to $670 per loan) represents the substantial savings that can be achieved with the new GFE.[14]

The sources of consumer savings by industry can be disaggregated (see exhibit 2). Originators (brokers and lenders) contribute $5.88 billion, or 70 percent, of the $8.35 billion in consumer savings. This $5.88 billion in savings represents 14.0 percent of the total revenue of originators, which is projected to be $42.0 billion.[15] The $5.88 billion is divided between brokers, who contribute $3.53 billion, and lenders (banks, thrifts, and mortgage banks), who contribute the remaining $2.35 billion. Third-party settlement service providers contribute $2.47 billion, or 30 percent,

Exhibit 2

Consumer Savings by Industry*

Source of Savings	Aggregate Consumer Savings ($ in billions)	Percent of Total (%)	Transfer per Loan ($)
Origination services	5.88	70.4	470.40**
Brokers	3.53	42.3	
Lenders	2.35	28.1	
Third-party services	2.47	29.6	197.60
Title and closing	1.79	21.4	143.20
Other third-party	0.68	8.1	54.40
Total settlement	8.35	100.0	668.00

Base case scenario and assuming 12.5 million loans.

**A broker or lender will originate a loan. The authors assume that the savings per loan are equal across types of originator.*

[12] Government fees, taxes, and escrow items are not included in this analysis because they are not subject to competitive market pressures.

[13] We double checked this estimate using an alternative "title" approach and found a similar percentage reduction (12.6 percent).

[14] See the *Regulatory Impact Analysis* (HUD, 2008), section VII.E.4 of chapter 3, for a description of the alternative estimates of consumer savings.

[15] This figure assumes a 1.75-percent origination fee for brokers and lenders, which, when applied to projected originations of $2.4 trillion, yields $42.0 billion in total revenues from origination fees (both direct and indirect).

of the $8.35 billion in consumer savings. This $2.47 billion in savings represents 10.0 percent of the total revenue, which is projected to be $24.74 billion, of third-party providers. The $2.47 billion is divided among title and settlement agents, who contribute $1.79 billion, and other third-party providers (appraisers, surveyors, pest inspectors, etc.), who contribute $0.68 billion. Title and settlement agents contribute a large share because they account for 72.5 percent of the third-party services.

Economic Costs of the Final Rule

Both one-time adjustment and annually recurring costs are expected to arise from the changes the rule will introduce. The total one-time compliance costs to the lending and settlement industry of the GFE and HUD-1 are estimated to be $571 million. Total recurring costs, in the high-cost scenario, are estimated to be $918 million annually, or $73.40 per loan. In the lower cost scenario, recurring compliance costs are estimated to be $50.40 per loan, or $630 million in aggregate.

Costs of the New GFE

Some features in the new GFE in the final rule would increase the cost of providing the loan and some would decrease the cost. Most of the information required on the GFE is readily available to originators, suggesting no additional costs to collect the information. In addition, less itemization of individual fees suggests reduced costs. On the other hand, a small amount of additional costs could be associated with the optional tradeoff table. Although it is difficult to estimate, it appears that a net of zero additional costs is possible. If the GFE adds 10 minutes per application to the time it takes to currently handle the forms, however, then annual costs would rise by $255 million at 1.7 applications per loan ($20 per loan), or $405 million at 2.7 applications per loan ($32 per loan).[16]

The presence of tolerances will lead to some extra costs to originators for making additional arrangements for third parties to provide settlement services. Some originators might occasionally check market prices for third-party services, formulate estimates so that several prices charged by third parties fall within the tolerance, and trust that no third-party services to whom they refer the borrower charge a price in excess of the tolerance. Other originators might want more protection and have contracts or business arrangements in place that have set prices for services that are not in excess of the tolerances. Either case requires originators to do more than they are doing today. If, while making third-party arrangements to meet the tolerances, the average loan originator incurs an average of 10 minutes per loan, then the total cost to originators making third-party arrangements to meet the tolerance requirements is $150 million ($12 per loan).

The potential for additional underwriting costs exists if the number of applications requiring a credit check rises beyond the current ratio of applications per loan. If the ratio of applications per loan does not change from the current ratio of 1.7, then multiple preliminary underwriting

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[16] There are currently 1.7 times as many applications as loans originated; therefore, if originations are 12.5 million, full underwriting is started (and probably completed) for 21.25 million applications, of which 8.75 million are not originated. In the 2.7 applications-per-loan scenario, full underwriting is started for 33.75 million applications, of which 21.25 million are not originated.

will require no additional compliance cost. In the high-cost scenario, demand by the average applicant for preliminary GFEs increases by one application per loan to 2.7 applications per loan. A preliminary credit report involves only one FICO[17] score from one credit bureau and therefore will cost only $5 per report, as compared with a more expensive full credit report that would cost $25. HUD estimates additional labor costs of $6 (5 minutes at $72 an hour) for the loan originator to order the report. HUD's estimated total cost of a preliminary underwriting is $11. The aggregate impact on the loan origination industry of multiple preliminary underwriting is $138 million annually (12.5 million loans annually x $11 per loan) at 2.7 loans per application.

The number of additional GFEs the average borrower would receive under the new rule cannot be determined. Some borrowers may continue the informal shopping method that many use today; that is, they gather information and make inquiries to lenders and brokers about products and rates before proceeding with the request for a formal quote using the GFE. Others may obtain multiple GFEs and use them to shop.

Preliminary underwriting should decrease the number of applications that go to full underwriting (for example, a mortgage applicant may be denied during the preliminary underwriting without having been charged for an appraisal). Some applications that are not originated may be disapproved at the preliminary stage rather than at the end of the full underwriting stage (as they could with current procedures). The authors expect an increase in the ratio of *accepted* applications per loan. The resulting savings in appraisal, verification, and other incremental underwriting costs that would be avoided would tend to offset the increase in costs resulting from the extra preliminary underwriting previously noted.

The authors estimate the recurring compliance costs would range from $32 to $55 per loan and from $405 million to $693 million in aggregate.

Ann Schnare (2008) claimed that HUD made two serious errors in estimating the recurring compliance costs of the GFE. The authors found her first contention to be unsubstantiated but the second one to be worthwhile investigating. Schnare's report stated that HUD ignored a major compliance cost of the rule incurred by loan originators: the hedging costs of guaranteeing the interest rate for the shopping period of 10 days. Including such hedging costs dramatically increased Schnare's estimates of the recurring compliance costs. No requirement of an interest-rate guarantee exists, however, in the proposed rule. A more accurate estimate of the hedging costs would be zero. Only the prices on noninterest-dependent items on the GFE (total origination fees, appraisal fees, title fees, etc.) must remain available for 10 days. Interest-dependent items on the GFE (interest rate, monthly payment, YSP/discount points, adjusted origination fees, and daily interest charges) can have a separate availability period that can be as short as the time until a new rate sheet is issued. This misunderstanding of the rule led to estimates that, compared with HUD's, were inflated by a factor of as much as four.

Schnare's second major criticism was that HUD did not consider the possibility that the rule could increase the administrative costs to loan originators because of the greater demand for GFEs. Although

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[17] Fair Isaac Corporation. As of March 10, 2009, the company is known as FICO™.

HUD believes that it is just as likely that the number of applications will not increase, HUD responded by including a sensitivity analysis of the application-to-loan ratio (outlined in exhibit 3).

In addition to incurring recurring costs of the GFE, loan originators will incur one-time adjustment costs of $383 million in switching to the new form. They will need to upgrade their software and train staff in using the form to accommodate the requirements of the new rule. It is estimated that the software will cost $33 million and the training will cost $58 million, for a total of $91 million.[18] We assume that, of the loan originators' software and training costs, $73 million is attributable to the new GFE and $18 million to the new HUD-1. After the new software is functioning, the recurring costs of training new employees in its use and the costs associated with periodic upgrades simply replace the costs that would have been incurred had they not upgraded and continued using the software for the old rule.

Similarly, loan originators will incur a one-time adjustment cost for legal advice on dealing with the changes related to the new GFE. The one-time adjustment cost for legal fees is estimated to be $116 million. After the adjustment cost has been incurred, the ongoing legal costs are a substitute for the ongoing legal costs that would have been incurred under the old rule and do not represent any additional burden. Finally, employees will need to be trained in other aspects of the new GFE beyond the software and legal training already mentioned. This one-time adjustment cost is estimated to be $194 million.[19]

Exhibit 3

Recurring Compliance Costs of the New GFE by Applications per Loan

Source of Additional Cost	Per Loan Cost		Total Cost to All Firms (in millions)		Total Cost to Small Firms (in millions)	
Applications per loan	**1.7**	**2.7**	**1.7**	**2.7**	**1.7**	**2.7**
Processing applications	$20.40	$32.40	$255	$405	$134	$213
Arranging tolerances	$12.00	$12.00	$150	$150	$79	$79
Initial underwriting	$0.00	$11.00	$0	$138	$0	$72
Total cost of GFE	$32.40	$55.40	$405	$693	$213	$364

GFE = Good Faith Estimate.

Costs of the HUD-1 Settlement Statement Form

The HUD-1 Settlement Statement form has been adjusted to ensure that the new GFE and the HUD-1 work well together. The layout of the revised HUD-1 has new labeling of some lines so that the borrower can easily match each entry on the GFE with the exact wording on the revised HUD-1. This adjustment will make it much easier to determine if the fees actually paid at settlement are consistent with the GFE, whether the borrower compares the forms alone or with the assistance of the settlement agent. The reduced number of HUD-1 entries that will result, as well as

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[18] See section VII.B.1 of chapter 6 of the *Regulatory Impact Analysis* (HUD, 2008). The estimate is based on the costs of updating software.

[19] See sections VII.B.2 and VII.B.3 of chapter 6 of the *Regulatory Impact Analysis* (HUD, 2008).

the use of the same terminology on both forms, should reduce the amount of time borrowers and settlement agents spend comparing and checking the numbers. Generating the new HUD-1 should not pose any problem for firms closing loans. In fact, the closing process will be much simpler given that borrowers and closing agents can precisely link the information on the initial GFE to the information on the final HUD-1.

One revision to the HUD-1 that could generate an additional cost is the addition of a comparison page. The burden of an additional page could be very small: loan originators will not have to collect additional data beyond what is required for the GFE. Recognizing, in certain cases, that the burden may be noticeable, the authors assume that the *average* burden would be 10 minutes per loan for loan originators. Settlement agents may face a recurring cost, although that is not likely because loan originators are responsible for providing the data. The settlement agent, however, will have to add final charges unknown to the originator and may have to complete the entire form if the lender does not transmit the information from page 3 of an already completed HUD-1. The settlement agent may also want to check the information concerning settlement costs, tolerances, and loan terms to ensure they agree with the GFE. In some cases, the settlement agent will have to calculate the tolerances. The authors assume that this step will add 5 minutes *on average* to the time it takes to prepare a settlement. The actual distribution of the total additional time burden will differ by transaction, depending on how much of the work the lender does. Taking loan originators into account, the total time burden is 15 minutes per loan, for a cost of $18 per loan. The recurring compliance cost to the industry would be $225 million annually.

Settlement firms will incur one-time adjustment costs of $188 million in switching to the new HUD-1 form. After the adjustment has been made, these costs do not represent any additional burden. Settlement firms will need to upgrade their software and train staff in its use to accommodate the requirements of the new rule. It is estimated that the software and training will cost $80 million combined. Similarly, settlement firms will incur a one-time adjustment cost for legal advice on how to deal with the changes related to the new HUD-1. The one-time adjustment cost for legal fees is estimated to be $37 million. Finally, employees will need to be trained in aspects of the new HUD-1 beyond the software and legal training already mentioned. This one-time adjustment cost is estimated to be $71 million.[20] A summary of the compliance costs for the base case of 12.5 million loans annually is presented in exhibit 4.

Exhibit 4

Compliance Costs of the Final Rule*

Portion of Rule	One-Time Compliance Costs During the First Year ($ in millions)	Recurring Compliance Costs			
		($ in millions annually)		($ cost per loan annually)	
		Low Cost	High Cost	Low Cost	High Cost
GFE	383	364	693	32.40	55.40
HUD-1	188	107	225	18.00	18.00
Total	571	471	918	50.40	73.40

GFE = Good Faith Estimate.
* If 12.5 million loans annually.

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[20] See section VIII.B of chapter 6 of the *Regulatory Impact Analysis* (HUD, 2008).

Economic Benefits of the Final Rule

Although most of the effect of this rule comes in the form of transfers from originators and settlement firms to borrowers, economic benefits of the rule stem from an increase in efficiency. The efficiencies, which come primarily from time saved as a result of forms that are easier to use, benefit both borrowers and originators. Positive spillovers include increasing consumers' level of awareness. First, consumers will be less susceptible to predatory lenders and, therefore, this type of wasteful activity will be discouraged, freeing up resources for more productive purposes. Second, when consumers have a better understanding of the loan product, the probability of default will decrease. The resulting decrease in defaults would reduce the dramatic social costs that accompany foreclosures.

Consumers' Benefits

As a result of the new GFE, mortgage applicants and borrowers will realize $1,169 million in savings in time spent shopping for loans and third-party services. This amount is derived from a time savings worth $55 per applicant (75 minutes at $44 per hour) over 21.25 million applications. For example, if each borrower saves an average of 15 minutes in shopping for third-party services, the total savings to borrowers would be $234 million. The new form and the tolerances will enable borrowers to save time shopping for loans and for third-party settlement service providers. If the new forms save the average applicant 1 hour in evaluating offers and asking originators followup questions, borrowers will save $935 million.

The benefits are calculated using the ratio of 1.7 applications per loan, which is a measure of the current state of affairs. It would be misleading to calculate consumers' benefits of time savings during search at higher ratios because going from an average of 1.7 to 2.7 applications per loan does not save the average consumer more time. It is clear, however, that the consumers will not be harmed because this increase in applications would be voluntary on the part of the consumer.

Upon receiving the GFE, the borrower immediately has good pricing information on third-party services. The borrower could decide to use the originator's third parties, in which case his or her search is over. The borrower could also decide to search further using the originator's prices as a good starting point and have them available as a fallback. In both cases, the borrower spends less time searching; however, spending less time searching does not imply receiving less benefit from the search. It is possible that under the final rule some mortgage applicants will want to spend more time searching because the new GFE increases the productivity of their search. Although additional time spent searching reduces the time spent on other activities, the reward in searching is an increase in consumer savings. Under these circumstances, an increase in the time spent shopping does not constitute a burden imposed by the rule because the increase in time searching is voluntary. Some consumers may choose to remain at previous lower levels of shopping and enjoy a lower increase in saving from the rule.

We do not expect the average consumer to spend more time searching because other considerations will dominate the incentive previously described. First, the higher productivity in searching the new GFE increases a consumer's savings at all levels of search: consumers will be able to reduce their level of effort and retain the same level of savings previous to the rule. Second, it is expected that a large portion of the increase in savings will be independent of a consumer's shopping behav-

ior. As the market becomes more competitive, shoppers who are less sophisticated or less diligent may still benefit from the competitive pressure of others' shopping. This additional savings will enable mortgage applicants to spend less time searching. The time that they do spend searching, however, will be more effective and will lead to greater savings. The new GFE will enable applicants to spend more time comparing and evaluating offers and less time trying to decipher the loan details.

Industry Benefits

Industry will benefit from spending less time answering borrowers' questions and from the simplicity of average-cost pricing. If half of the borrowers' time saved comes from less time spent with originators and third-party settlement service providers, then originators and settlement agents will spend 37.5 minutes less answering borrowers' followup questions. The value of the time saved from dealing with followup questions from consumers is $956 million.[21] Loan originators will save $765 million (30 minutes per application), and third-party settlement agents will save $191 million (7.5 minutes per application).[22] The reduction in time explaining the GFE to consumers could outweigh the administrative costs of the rule. Although industry representatives expressed some skepticism of this result, they offered no alternative estimates and did not deny that customer service is indeed a time-consuming activity.

Reductions in compliance costs from average-cost pricing will occur. Average-cost pricing reduces costs because firms do not have to keep up with an itemized, customized cost accounting for each borrower. Average-cost pricing not only saves costs when generating the GFE, it also saves the costs of quality control and other costs afterwards. Industry sources have told HUD that average-cost pricing could be the source of significant cost savings. It is estimated that the benefits of average-cost pricing will lead to a reduction in originator costs of 0.5 percent, or $210 million. The originator will need to know only his or her approximate average cost when coming up with a package price that is acceptable. The cost of tracking the details for each item for each loan is gone. Some or all of industry's total of $1,166 million in efficiency gains ($956 million plus $210 million) have the potential to be passed through to borrowers through competition.

Reduction in Nonproductive Behavior

Many price-discriminating loan originators and settlement firms extract excess fees without significant effort. They are able to estimate a potential borrower's willingness to pay a markup beyond the costs of originating a loan based on easily observable characteristics of the applicant.[23] In contrast, some predatory loan originators expend additional resources to seek out borrowers who are less sophisticated financially and more likely to accept loans with excessive fees. Consumers can be

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[21] The average hourly opportunity cost of time of loan originators is calculated as follows: 12,500,000 loans times 1.7 applications per loan times 37.5 minutes per application times $72 per hour.

[22] Just as we do for consumers, we estimate the value of time efficiencies using the 1.7 application per loan ratio even when comparing it to costs generated using the higher 2.7 ratio. It would not be logical to claim that we are saving a firm any time by requiring them to process additional applications.

[23] The Fannie Mae Foundation (2001) found that as much as 35 to 50 percent of the borrowers in the subprime market could have qualified for lower cost prime-market loans.

steered into disadvantageous loans by aggressive mail, phone, TV, or door-to-door sales tactics targeting neighborhoods with a high proportion of minority or elderly people. Tactics are becoming advanced: credit bureaus offer a "mortgage trigger" service, which notifies a subscriber when a consumer's credit history is being checked (Stone, 2008). This allows aggressive and nonconscientious lenders to identify borrowers who are in the market for a loan and lure them into a predatory loan. Whenever producers expend substantial effort to raise prices rather than output, there is a deadweight loss for society.

With an improved mortgage and settlement disclosure, borrowers will be more informed, more likely to reject loans with excessive fees, and less susceptible to predatory lenders. The final rule will raise the predatory lender's cost of searching for vulnerable borrowers and will thus inhibit predatory behavior. Reducing this predatory activity will lead to a net gain in social welfare equal to the costs of actively searching for less informed borrowers and extracting an abnormally high markup. If, for example, the decline in predatory activity represented 1 percent of current originator effort, this would result in $420 million[24] in social surplus. These resources could be devoted elsewhere for more productive purposes. The transfer to consumers is composed of both the lost excess profits from markups and the deadweight loss from the inhibited predatory activity to achieve those markups. Thus, the gain to consumers will outweigh the loss in profits of predatory firms.

External Benefits of Preventing Foreclosures

The final rule will contribute to sustainable homeownership in two ways. First, by reducing settlement costs, the rule will provide a small cushion for borrowers in the event of financial distress. Second, by educating consumers, the rule should lead to better decisions by borrowers as to the best loan or whether homeownership is the optimal choice. Consumers who understand the details of their loans are more likely to avoid default and thus foreclosure. For example, knowing how high your interest rate and monthly payments can go should make the loan applicant hesitant to accept an adjustable-rate mortgage unless the borrower has the income security to do so. Bucks and Pence (2008) found that borrowers with adjustable-rate mortgages appear likely to underestimate or to not know how much their interest rate could change. The final GFE would present critical loan terms, such as the maximum monthly payment, on the first page to better inform borrowers.

Foreclosure generates private costs to the borrower and lender and substantial negative economic externalities to neighboring properties and local governments. The Joint Economic Committee of the U.S. Congress estimates the total costs to society at $78,000 per foreclosure: $7,200 to the borrower, $50,000 to the lender, $1,500 to neighboring property owners, and $19,200 to local governments. The foreclosed-upon household pays moving costs, legal fees, and administrative charges of $7,200. Lenders can lose as much as $50,000 per foreclosure. These costs consist of the loss on loan and property value, property maintenance, appraisal, legal fees, lost revenue, insurance, marketing, and cleanup.

Negative impacts to the value of neighboring properties from a foreclosure include an amenity value to having an upkept property next door, the attraction of crime to vacant foreclosed properties, and

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[24] The total transfer to consumers of $5.88 billion represents 14 percent of the total revenue of originators, which is projected to be $42.0 billion. One percent of the originators' revenue is $420 million.

a depressing effect on the local economy. One estimate of the negative externality of a foreclosure on nearby properties is $1,508. In addition, the local government loses $19,227 through diminished taxes and fees and a shrinking tax base as home prices decrease. The total benefit of preventing one foreclosure is $77,935 in averted costs. It is difficult to estimate how many foreclosures a uniform and transparent GFE with settlement-fee tolerances would prevent. We do not estimate it for the purpose of this analysis; however, preventing only 1,000 foreclosures nationwide would yield $78 million in benefits. Other benefits of informed financial choices are more difficult to quantify. For example, the average loan amount is 3.5 times a household's income, so even minor inefficiencies in this market could have sizeable impacts on the U.S. economy.

Effect on Industry Structure and Small Business

The impact of the final rule on small business is significant because a large share of the firms, revenue, and employees in origination and settlement services are small firms. HUD estimated that $4.13 billion, or 49.5 percent, of the $8.35 billion in transfers to consumers would come from small business.[25] Practically all mortgage brokers qualify as a small business, as do two-thirds of the banks and thrift institutions and four-fifths of the credit unions. Small originators account for 51.2 percent of their industry's revenues and $3.01 billion of the consumer transfers. Within the small originator group, most transfers to consumers come from small brokers ($2.47 billion, or 82 percent, of the $3.01 billion). Small firms account for most of broker revenues but a small percentage of lender revenues. The title and closing services industry consists of title insurers, title agents, escrow firms, lawyers, and others involved in the settlement process. Small firms account for 38 percent of the revenue in the title and settlement industry and $680 million of consumer savings. Small firms providing other third-party services consist of appraisers, surveyors, credit bureaus, and pest inspectors; they account for 64.7 percent of the revenue in their industry and $440 million in consumer transfers. We expect the transfer of excess fees from small business to consumers will be proportional to the share of small business revenue. The rule will affect the firms, large and small, who are charging noncompetitive prices.

Small businesses are not expected to suffer disproportionately from the final rule because no evidence indicates a greater prevalence of small businesses overcharging consumers.[26] One could argue that some facets of the rule, such as tolerances, may have a disproportionate impact on small business, even on those small firms that are not charging excessive prices. Some of the one-time adjustment costs may weigh more heavily on small firms. The authors do not believe, however, that the final rule will affect industry structure. They base this opinion on their observation that the real estate industry is very locally oriented. The value of proximity and local expertise makes small firms more efficient in providing services to consumers. RESPA reform will not change this distinguishing and central characteristic of the real estate industry. For example, nothing indicates that the customer outreach function that brokers perform for wholesale lenders will change with

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[25] These estimates are fully described in section VII.E of chapter 3 of the *Regulatory Impact Analysis* (HUD, 2008). Data on small business appear in chapter 5.

[26] For a detailed discussion of the effects on industry structure, see section II.C.5 of chapter 6 of the *Regulatory Impact Analysis* (HUD, 2008).

RESPA reform. We expect that brokers will continue to be competitive with other originators and that wholesale lenders will continue to depend on brokers to supply them with loans.

Summary of Transfers, Benefits, and Costs

Industry will incur both adjustment and recurring compliance costs in the transfer of excess fees to borrowers. A significant proportion of the compliance costs will be passed on to borrowers in the form of higher prices. An obvious question is whether the costs of the final rule will overwhelm the consumer savings and other benefits. It is likely that the adjustment costs will be spread out over many years. Suppose, for the sake of illustration, that all adjustment costs are imposed on first-year borrowers. In a normal year of 12.5 million loans,[27] this cost would be $46 per loan. The recurring compliance cost of the rule is $74 per loan regardless of the year. In such a scenario, the total compliance cost is $120 per loan in the first year as compared with $74 for later years. If all compliance costs were passed on to borrowers, then the net consumer savings is $548 the first year and $594 in subsequent years. In this scenario, we assume that all costs are passed on to borrowers and not to the applicants who do not receive loans. It would be reasonable to assume that in the high-cost scenario, however, in which preliminary underwriting costs increase, the cost of an initial credit report would be charged to all applicants.

The consumer realizes other potential benefits in addition to savings on settlement costs. First, aspects of this rule will save the industry time. The value of these efficiencies could be $1,166 million for loan originators and settlement agents, for a per-loan efficiency of $93. In a competitive industry, firms would pass these gains along to borrowers in the form of lower costs—a consumer benefit. Second, borrowers themselves will save time through the new GFE. These time savings are estimated at $1,169 million but are derived from a time savings worth $55 per applicant (75 minutes at $44 per hour). The calculation of net benefits per borrower only included the time savings for borrowers and not for other applicants. The authors cautiously assume that successful borrowers have submitted only one application.

The applications that did not result in a loan consist of applications approved but not accepted, applications denied by the financial institution, and applications withdrawn by the applicant. Although these individuals also realize time savings, it would be misleading to include them in a "per loan" figure because the time savings of rejected applicants would not benefit the borrower.

Adding the firms' and borrowers' value of time efficiencies to the net of compliance cost consumer savings gives us an estimate of the potential borrowers' benefits per loan: $696 in the first year and $742 in subsequent years. In the lower cost scenario, the recurring compliance cost is $23 less so that the borrower's benefits per loan would be $719 in the first year and $765 in subsequent years.

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[27] During the first year of implementation (starting January 1, 2010), mortgage volume may be well below normal if the current economic conditions prevail. We have already witnessed a drop in 2007 Home Mortgage Disclosure Act single-family loan originations to 10.4 million mortgages from 13.9 million in 2006 and from 15.6 million during the high-volume year of 2005. Nonetheless, we use a measure of the average year as indicative of what to expect.

Conclusion

The ultimate goal of estimating the economic impact of the final rule is to gain a rough idea of whether a particular policy is the best way of achieving a stated policy objective. The obvious alternative to the final rule was to maintain the status quo. This alternative was rejected for reasons given in the section entitled "Need for the Final Rule." The current GFE is not an effective tool for facilitating borrower shopping or for controlling origination and third-party settlement costs. Thus, not to change the GFE would continue the current system of having consumers pay noncompetitive prices for mortgage services.

A variety of other approaches could reform the current system. Alternative methods proposed and considered for the final rule were excluding the YSP calculation in the GFE, including an itemization of costs in the GFE, including a 10-day interest-rate guarantee in the GFE, banning the YSP, and requiring the reading of a closing script by the settlement agent. These alternatives, as well as others, were rejected either because they would not accomplish the goal of making the settlement process more transparent for consumers or because they would impose a significant burden on the industry.[28]

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[28] For a description of all the alternatives considered to the proposed and final rule, see chapter 4 of the *Regulatory Impact Analysis* (HUD, 2008).

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