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Vinit Mukhija, Lara Regus, Sara Slovin & Ashok Das

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CAN INCLUSIONARY ZONING BE AN EFFECTIVE AND EFFICIENT HOUSING POLICY? EVIDENCE FROM LOS ANGELES AND ORANGE COUNTIES

VINIT MUKHIJA
University of California, Los Angeles

LARA REGUS
Abode Communities

SARA SLOVIN
Abode Communities

ASHOK DAS
San Francisco State University

ABSTRACT: *Inclusionary zoning—requiring and encouraging developers to build some affordable housing in market-rate projects—is a growing but deeply contested practice. We evaluate the experience of inclusionary zoning programs in Los Angeles and Orange Counties, including their structure and elements, effectiveness in delivering affordable housing, and effect on housing markets and supply, to address the debate. We find that the programs vary but are not heavily demanding and include cost offsets. Low in-lieu fees, however, can be the weak link. Many of the mandatory programs are effective, if effectiveness is measured by comparing the affordable housing productivity of inclusionary zoning with other affordable housing programs. We found no statistically significant evidence of inclusionary zoning's adverse effect on housing supply in cities with inclusionary mandates. We conclude that critics underestimate the affordable housing productivity of inclusionary zoning, and overestimate its adverse effects on housing supply. Nonetheless, inclusionary zoning is no panacea and needs to be part of a comprehensive housing strategy.*

Improving access to affordable housing is always a key challenge for local governments. With regular cutbacks in both federal and state support for housing programs, the task keeps becoming more difficult. One local government-based response to the persistent affordable housing shortage in the context of declining funds is the policy of inclusionary zoning. Inclusionary zoning requires and encourages private housing developers to build a specified proportion—often ranging from 10% to 15% —of affordable housing units in market-rate projects. Although some scholars and

Direct correcpondence to: Vinit Mukhija, UCLA Department of Urban Planning, 3250 School of Public Affairs Building, Los Angeles, CA 90095-1656. E-mail: vmukhija@ucla.edu.

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practitioners, particularly in California, prefer the term inclusionary housing for this strategy, we favor the practice of calling it inclusionary zoning.[1] Irrespective of the terminology, inclusionary zoning is a growing practice with more and more local governments implementing it (NPH, 2007). But inclusionary zoning is also a deeply contested practice and its opponents derisively call it price-controlled housing and see it as a disincentive for market-based actors.

Similar policy questions are being debated in the City of Los Angeles. In April 2004, two Los Angeles City Council members proposed an inclusionary zoning ordinance for the city (*Los Angeles Times*, 2004; Reyes & Garcetti, 2004). Housing advocates welcomed the idea as long overdue but many in the real estate and business community criticized it. Opponents of inclusionary zoning argue that the strategy is both ineffective and inefficient. They claim that mandates for below market-rate housing drive away private developers and reduce construction activity. As a consequence, they argue, almost no affordable housing is developed through the program. Furthermore, housing scarcity increases and prices rise because of inclusionary zoning's adverse effect on construction and supply. Thus, ironically, market advocates claim, the poor suffer the most (Ellickson, 1981). In response to such criticism, the two Council members suspended their proposal. Recently, however, Mayor Antonio Villaraigosa has released a comprehensive housing plan that reintroduces the proposal for inclusionary zoning, albeit it refers to the strategy as a "Mixed Income Housing Ordinance" (Mayor of Los Angeles, 2008). The plan suggested that inclusionary zoning would create mixed income communities and would help address the growing trend of income segregation in the city. The operational details of the Mayor's plan are yet to be finalized and it also needs to be formally accepted by the City Council. Newspaper reports indicate that there is broad support for the proposal across the city, but opposition from some developers and Neighborhood Councils persists and could potentially derail the plan (*Daily News*, 2008).

Our research is motivated by this back and forth on inclusionary zoning, and similar debates in the literature. While the policy argument continues in Los Angeles City, 17 cities in Los Angeles and Orange Counties already have inclusionary zoning programs, including 14 with mandatory requirements.[2] Their experiences, however, are not well documented or analyzed. Nonetheless, the programs provide a rich opportunity to empirically assess how inclusionary zoning policies perform in practice. Although we limit our empirical analysis to the programs in Los Angeles and Orange Counties, which allows us to have a defined and manageable research design, we expect our findings to be relevant to policymakers and planners beyond the two counties and to scholars interested in cities, affordable housing, local governance, and government intervention in land and housing markets. We conduct a tripartite evaluation to assess the performance of existing programs. Our analysis includes an evaluation of the structure and elements of the inclusionary programs; an assessment of their outcomes or direct effects in the production of affordable housing; and an analysis of their indirect effects or how the inclusionary zoning requirement affects the overall supply of housing in their cities.

Past research indicates that existing inclusionary zoning programs vary in their thresholds, set-asides, and in-lieu fee requirements (see, e.g., Calavita & Grimes, 1998; CCRH & NPH, 2003), and thus planners and policymakers have some options. The research also suggests that inclusionary programs are typically designed to offer housing developers a menu of flexible alternatives. For example, developers might have the choice to provide 15% of their housing units for moderate-income households or 10% for low-income households. Similarly, the literature indicates that most programs offer developers the option to contribute fees in lieu of the below market-rate units. There is, however, not much academic research analyzing how well the in-lieu fee option works in practice. This is one of the gaps that we address in the article.

Most of the literature on inclusionary zoning is descriptive, theoretical, and normative. There are a few exceptions that examine the productivity of inclusionary zoning, and conclude that

mandatory inclusionary programs are more productive than voluntary ones (Brunick, 2004a; 2004b; Calavita & Grimes, 1998). We conduct a similar analysis of the programs in Los Angeles and Orange Counties. We also analyze how the in-lieu fees affect the productivity of inclusionary zoning programs. Like Karen Brown (2001), who used the interesting strategy of comparing the affordable housing produced through inclusionary zoning requirements with housing produced through other programs in Maryland and Virginia, we undertake a similar analysis. She documented that almost half of all affordable housing in Montgomery County, the first jurisdiction to implement inclusionary zoning, was produced through the inclusionary program. Finally, a serious criticism of inclusionary zoning is the possibility that its mandates drive away developers and constrain housing supply. Scholars argue for (Ellickson, 1981) as well as against (Dietderich, 1996) this claim. But there is surprisingly little empirical analysis of this possible unintended effect. One of our key contributions in this article is to empirically address this contentious issue.

In summary, our research notes the limitations of inclusionary zoning but also supports the implementation of carefully crafted and monitored inclusionary policies. Inclusionary zoning, however, is no panacea and needs to be a part of a larger, comprehensive housing strategy. The cities in our study have a range of requirements, but none of the mandates are heavily demanding. Their requirements are similar to the mandates in other Californian jurisdictions. Most of the programs offer multiple choices, including in-lieu fee options. But in many cities the in-lieu fees are insufficient to cover the cost of construction of an affordable unit, and need to be revised. At first glance, the absolute number of below market-rate units produced through the inclusionary programs seems modest. However, when compared with the total affordable housing produced through a key federal affordable housing program—the Low Income Housing Tax Credits (LIHTC) program—the relative importance of inclusionary zoning as a local government response becomes apparent. The research, nonetheless, also suggests that neither voluntary inclusionary policies nor programs with low in-lieu fees are likely to be effective in delivering affordable housing. Finally, although many critics argue that inclusionary zoning mandates drive away private developers and reduce the supply of housing in the market, we found no statistically significant evidence to support this concern. This suggests that if cities implement inclusionary zoning requirements similar to the prevailing policies in Los Angeles and Orange Counties, there is not likely to be any adverse effect on housing supply.

METHODOLOGY AND ORGANIZATION

The relative lack of empirical studies in the literature suggests inclusionary zoning-related data are not easily accessible. We decided to limit our analysis to Los Angeles and Orange Counties to allow us a better chance of collecting the necessary data. Nine cities in Los Angeles County and eight cities in Orange County have inclusionary zoning policies (see Table 1). We used a tripartite framework to collect data and evaluate the effectiveness and efficiency of the programs. First, we were interested in comprehending the underlying structure and rules of the different programs. We compared them across their key policy elements, including their affordable housing requirements and their in-lieu fees. We also assessed the appropriateness of the in-lieu fee options by comparing them to the cost of constructing an affordable unit. We were also keen to assess which inclusionary programs were more demanding than the others but failed to collect comprehensive data on all the relevant variables of the 17 programs. Second, we were interested in assessing the effectiveness of inclusionary zoning regulations by examining how many units of affordable housing have been produced through the programs, and the amount of in-lieu fees that they have generated. To assess the effectiveness and productivity of inclusionary zoning programs, we gathered primary data on the affordable housing produced. We compared the productivity of inclusionary programs with the number of affordable units produced in the same jurisdiction, over the same time period,

TABLE 1

Cities with Inclusionary Zoning in Los Angeles and Orange Counties

City	County	Policy Type	Year Adopted	Population (2000)
1. Agoura Hills	Los Angeles	Mandatory	1987	20,537
2. Avalon	Los Angeles	Mandatory	1983	3,127
3. Brea	Orange	Mandatory	1993	35,410
4. Calabasas	Los Angeles	Mandatory	1998	20,033
5. Huntington Beach	Orange	Mandatory	1992	189,594
6. Irvine[a]	Orange	Mandatory	2003	143,072
7. Laguna Beach	Orange	Mandatory	1985	23,727
8. Lake Forest	Orange	Voluntary	2000	58,707
9. Long Beach	Los Angeles	Voluntary	1991	461,522
10. Monrovia	Los Angeles	Voluntary	1992	36,929
11. Newport Beach[a]	Orange	Mandatory	2003	70,032
12. Pasadena	Los Angeles	Mandatory	2001	133,936
13. Rancho Palos Verdes	Los Angeles	Mandatory	1997	41,145
14. San Clemente	Orange	Mandatory	1980	49,936
15. San Juan Capistrano	Orange	Mandatory	1995	33,826
16. Santa Monica	Los Angeles	Mandatory	1983	84,084
17. West Hollywood	Los Angeles	Mandatory	1986	35,716

[a]From 1975 to 2003 Irvine had a voluntary inclusionary zoning program. Newport Beach also had a voluntary program before 2003.
Sources: Authors' research; Calavita and Grimes (1998); CCRH and NPH (2003); U.S. Census (2000).

through the federal government's LIHTC program. We also collected primary data on the in-lieu fees accumulated and how they have been spent. Finally, we were interested in assessing the efficiency of inclusionary zoning requirements by testing the effect of the mandates on the construction activity and housing supply in cities with inclusionary requirements. We were keen to see if the cities with inclusionary zoning behaved differently from the almost 100 cities without inclusionary mandates in Los Angeles and Orange Counties. We relied on secondary sources for this evaluation, and used descriptive statistics and multivariate regression analyses to explore the effects of inclusionary zoning policies on housing construction activity (measured through annual housing permits issued by each city) in the two counties as the dependent variable. We also examined the effects of other potential independent variables, including the regional housing market, the county unemployment rates, and the strength of the local housing market, on city-level construction activity. We wanted to include availability of vacant land as an independent variable but it is difficult to get robust annual data on the measure.

We started the research in early 2005 and completed our data collection in the summer of 2006. We conducted an initial analysis in 2007 and revised it in the summer of 2008. We collected primary data through interviews with city planners and other city staff. These interviews were conducted in person, through emails, and on the telephone. Our interviews included both open- and close-ended questions. The in-person and telephone interviews were semistructured. We also assembled additional data on the structure and productivity of programs from secondary sources, including academic publications, city Web sites, public reports and documents, including General Plans (particularly the Housing Elements of the Plans), and reports to City Councils. We faced significant challenges in collecting and assessing primary data on the productivity of inclusionary zoning programs.

First, many cities do not have complete and accessible data on the number of affordable housing units produced (or the in-lieu fees generated) through inclusionary zoning. For example, the City

of Santa Monica was only able to provide us with data for its inclusionary programs after 1998. According to the staff we interviewed, the pre-1998 data were not computerized and therefore unavailable. While our original data from the city indicates that Santa Monica has 375 units of affordable housing produced (303 units) or under development (72 units) through inclusionary zoning, this figure does not include the 377 affordable units that Nico Calavita and Kenneth Grimes identified as the city's production prior to 1998 (1998, p. 161). For our analysis, we combine the two sources of data. Similarly, as many cities revise and amend their inclusionary requirements, it becomes difficult to collect data on housing developed through earlier versions of the programs. For example, Irvine had a voluntary program prior to 2003. Our original data, however, from the city only account for units produced following the programmatic changes implemented in 2003. They do not include the over 4,000 affordable units that had already been developed by 1998 (Calavita & Grimes, 1998, p. 159). Also, we have no information on affordable housing produced between 1998 and 2003. Second, another explanation for discrepancies in data is that the mandated length or years of affordability (affordability term) for the below-market rate units is finite. For example, we list 36 units produced in Agoura Hills, while Calavita and Grimes list 50 units (1998, p. 159). However, our research also indicated that at least one development originally included affordable units, but the units' affordability term has since expired. The affordability term in Agoura Hills is relatively short, only 15 years.[3]

We compare the productivity of inclusionary zoning programs with the housing produced through the LIHTC program. We limit our comparison of inclusionary zoning's productivity to just the LIHTC program because it is the most significant affordable housing program. It is, however, worth noting that the income-targeting of housing developed through LIHTC is likely to be deeper than the income-targeting of most affordable housing created through inclusionary zoning. Our data on the number of affordable housing units produced through the Tax Credits program are from the Southern California Association of Governments, the region's designated Metropolitan Planning Organization. Finally, for evaluating the efficiency of the inclusionary requirements, we employed secondary data from noncity sources. Our annual permit data are from the Construction Industry Research Board. We use the permit data to construct variables as proxies for the strength of both the local and the regional housing markets. Our unemployment data came from the California Economic Development Department.

After this introduction, the main body of the article is divided into four sections. First, we focus on comparing the structure and elements of the 17 inclusionary zoning programs. We describe their requirements and evaluate their in-lieu fees. The next section details the effectiveness of the programs in delivering affordable housing units (directly as well as indirectly through in-lieu fees), and analyzes the success and failure of the cities. The following section focuses on market efficiency. It evaluates the effect of inclusionary zoning requirements on developers' willingness to build in these cities and the supply of housing. The final section concludes the article, reiterates our findings, elaborates on policy implications, and discusses topics for future research.

STRUCTURE AND ELEMENTS OF PROGRAMS

Seventeen cities in Los Angeles and Orange Counties have inclusionary programs (see Figure 1). Fourteen of the cities have mandatory inclusionary zoning, and the remaining three cities—Lake Forest, Long Beach, and Monrovia—have adopted voluntary policies.[4] All of these cities offer participating developers various cost-offset strategies as incentives. Voluntary programs are based on the premise that cost offsets provide sufficient incentive for developers to participate in the arrangement. Mandatory programs, however, are likely to be based on the premise that revenue-neutral cost offsets are not necessary or that voluntary programs, even if financially neutral, are insufficient to motivate developers. In California, according to the

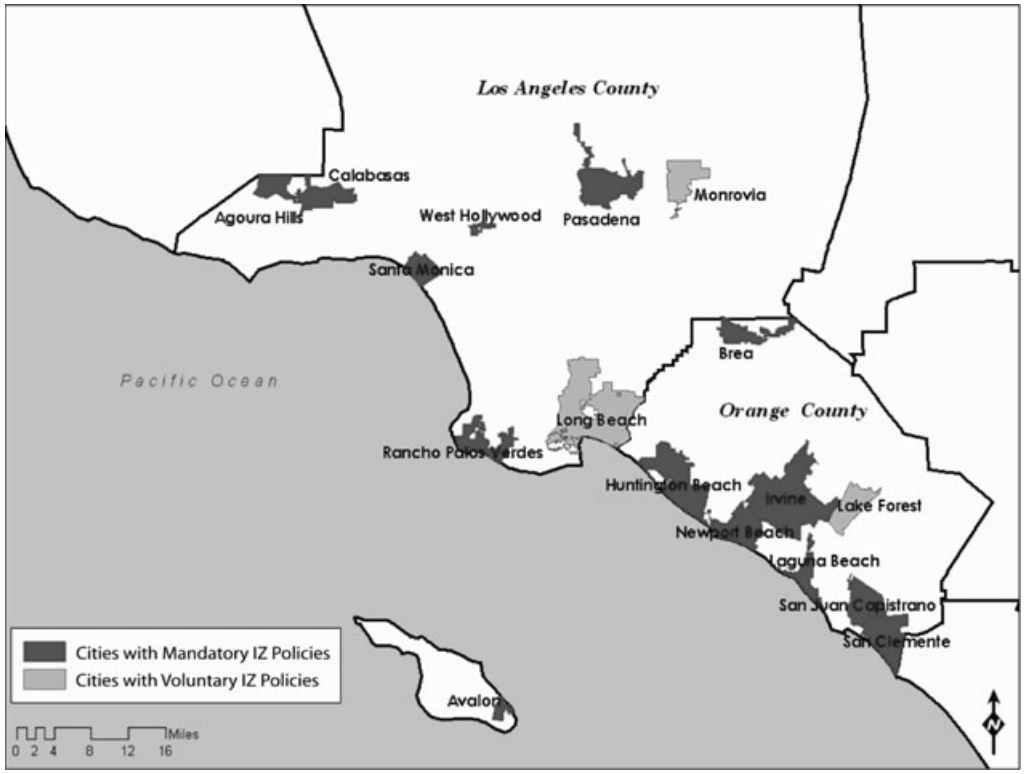

FIGURE 1

Cities with Inclusionary Zoning Policies in Los Angeles and Orange Counties

literature, density bonuses are the most common cost-offsetting strategy, and over 90% of local governments offer density bonuses (Brunick, 2007, p. 9). In addition, between a third to a half of the jurisdictions in California offer expedited permits and approvals (44%); relaxed design standards, including setback and parking reductions and extra height allowances (42%); fee waivers (42%); subsidies for affordable units from federal, state, and local sources, including housing trust funds (38%); and fee reductions (35%) (Brunick, 2007, pp. 9–10).

Often the cost offsets and incentives offered to developers are not explicitly quantified in a jurisdiction's zoning code or housing element. For example, in the City of Brea, Section 20.40.040 of the municipal code indicates that the city, or its planning agency, will approve "any or all of the following incentives:

1. A density bonus;
2. Flexible development standards, such as, a reduction in unit square footage, on-site requirements, and off-site improvements;
3. Deferral of development impact fees;
4. Use of Building Code alternatives;
5. Assistance in application for public funds, such as rent subsidies, bond financing, community development block grants;

6. Redevelopment set-aside funds;
7. Any other lawful means of offering the costs of providing affordable units."

In addition, Brea's code states that if the appropriate incentives do not offset the cost of the required affordable units, then the "number of required affordable units shall be reduced until the city determines a break even point has been met." Regardless of the city and incentives involved, it is the developer's responsibility to request the desired incentives and it often involves an analysis of how the specified incentives are necessary to make projects financially feasible.[5]

A key variable for mandatory inclusionary zoning programs is the development threshold, the minimum project size above which inclusionary requirements become applicable. Project threshold sizes vary from as low as 1 unit (in which case all development projects have to comply) to as high as 50 units. The housing benefits delivered through inclusionary zoning are characterized by three key variables: the set-aside percentage for affordable units, the income group of targeted beneficiaries, and the affordability term of the housing. Typically, the deeper the income-targeting is, the lower the set-aside requirement. Based on survey results from 98 out of 107 known programs in California at the time of the study (CCRH & NPH, 2003), researchers reported that the majority of inclusionary zoning programs in the state were mandatory, required 10% to 14% affordable units, and targeted low- and moderate-income households. A follow-up study concluded that "The most commonly found inclusionary percentage is 10 percent. However, approximately half of all jurisdictions require at least 15 percent and one-quarter require 20 percent or more" (NPH, 2007, p. 14). The study also found that 48% of the programs included affordable housing for very low-income households; 87% for low-income beneficiaries; and 76% for moderate-income households (NPH, 2007, p. 16). There is less complete information on the length of the affordability term of inclusionary zoning units. Housing advocates, nonetheless, recommend longer affordability terms to maintain the provision of below market-rate units.

Our research indicates that the inclusionary zoning requirements in Los Angeles and Orange Counties are similar to the programs described in the literature (see Table 2). In Los Angeles County, the threshold ranges from 1 to 11, with a median of 5. In Orange County, it ranges from 1 to 20, with a median of 3. The set-aside requirement in Los Angeles County ranges from 5% to 20% (an exception is the 100% requirement in the Industrial/Commercial districts of Santa Monica), with a median of 15%. In Orange County, it ranges from 4% to 25%, with a median of 10%. Income-targeting ranges from very low-income to moderate-income. As the literature suggests, most programs offer flexibility and require a lower set-aside for deeper income-targeting. Almost all programs include the option to target low-income beneficiaries. San Clemente is the exception, and only allows set-asides for very low-income residents. Its set-aside of 4%, however, is also the lowest. Finally, when programs distinguish between rental and ownership housing, they require a deeper targeting for the rental units.

Developers constructing projects subject to a city's inclusionary requirements are typically afforded a number of ways to comply. In all jurisdictions, developers have the option to include the required affordable units on-site with the other market-rate units, or construct the affordable units concurrently but at a different location within the city. In most of the cities, instead of building the affordable units, developers may pay an affordable housing in-lieu fee (the most common option), or donate an equivalent amount of land to the city. With these options, the construction of affordable units becomes the responsibility of the city. In-lieu fees are typically deposited into a city's Affordable Housing Trust Fund until sufficient money is collected to finance or build affordable housing projects. Often these in-lieu fee dollars are mixed with other funds, such as the redevelopment agency's Tax Increment Financing dollars, and subsequently lent to nonprofit developers in the form of a long-term, low-interest loan for affordable housing development, usually in conjunction with the program of LIHTC. Typically, in-lieu fees allow

TABLE 2

Key Elements of Mandatory Inclusionary Programs in Los Angeles and Orange Counties (2006)

City	Unit Threshold	Affordable Set-Aside	Income Groups Targeted
Agoura Hills	11	15%	Low-income (80% AMI or less) and middle-income (81–100% AMI)
Avalon	5	20%	Low-income (80% AMI or less) and moderate-income (81–120% AMI)
Brea	20	10%	Rental units: very low-income (50% AMI and less) and low-income (51–80% AMI)
			Ownership units: median-income (80–100% AMI) and moderate-income (101–120% AMI)
Calabasas	10	5%	Households earning 50% AMI or less
		or	
		10%	Households earning 75% AMI or less
		or	
		15%	Households earning 90% AMI or less
		or	
		20%	Households earning 110% AMI or less
Huntington Beach	3	10%	Rental units: very low-income (50% AMI and less), low-income (51–80% AMI), and median-income (81–100% AMI)
			Ownership units: median-income (80–100% AMI) and moderate-income (101–120% AMI)
Irvine	1	5% + 5% + 5%	5% very low-income (50% AMI or less) + 5% low-income (51–80% AMI) + 5% moderate-income (81–120% AMI)
		or	
		10% + 5%	10% households earning 60% AMI or less + 5% moderate-income households
Laguna Beach	3	25%	Low-income (80% AMI or less) and moderate-income (81–120% AMI)
Newport Beach	1	20%	Very low-income (50% AMI or less) and low-income (51–80% AMI)
Pasadena	10	10% + 5%	Rental units: 10% must be set aside for lower-income (80% AMI or less); remaining 5% can be for moderate-income (81–120% AMI) or lower-income
		or	
		15%	Ownership projects: units can be sold to lower-income or moderate-income
Rancho Palos Verdes	5	5%	Very low-income (50% AMI or less)
		or	
		10%	Low-income (51–80% AMI)
San Clemente	6	4%	Very low-income (50% AMI or less)
San Juan Capistrano	2	10%	Very low-income (50% AMI or less) and low-income (51–80% AMI)
Santa Monica	2	10%	Very low-income (50% AMI or less)
		or	
		20%	Low-income (51–80% AMI)
		or	
		100%	Moderate-income (81–120% AMI) in industrial/commercial districts
West Hollywood	1[a]	20%	Low-income (80% AMI or less) and moderate-income (81–120% AMI)

AMI = Area Median Income.
[a]In projects with 10 or fewer units in West Hollywood, at least one unit must be made available to a low or moderate-income household.

cities to develop affordable housing with deeper income-targeting than the affordable housing directly delivered through inclusionary zoning.

The in-lieu fees charged to developers opting to pay rather than build the required affordable units vary considerably across the cities in our study. The fees can be calculated in a number of ways, including the cost of constructing an affordable unit, the cost of acquiring land, the cost of keeping a market-rate unit affordable, etc. Some jurisdictions assess the fee on the basis of square footage of the total project, while others levy fees based on the number of market-rate units in a project regardless of their size. Table 3 explains the in-lieu fee structures in the 14 cities with mandatory inclusionary zoning policies. Some cities establish their fees as a result of a nexus study, or a similar analysis. In most cases, we were unable to confirm how a city's fee level was decided, as fees had been set some time ago and the staff members we interviewed were unfamiliar with the process that had occurred.[6]

In-lieu fees, if they are set too low or if they are inappropriately and irregularly revised to match market appreciations and cost escalations, can be the weak link in inclusionary zoning programs. The difference between the in-lieu fees and the actual cost of construction can have a significant effect on a developer's decision to build the affordable units. If the in-lieu fee is well below the construction cost, developers might be reluctant to build the affordable units. Some developers, however, might still be willing to build the affordable units for the incentives—density bonuses, parking relaxations, etc.—offered by local governments.

So how appropriate are the in-lieu fees in Los Angeles and Orange Counties? One benchmark for assessing the correctness of the in-lieu fees is to compare them to the cost of constructing an affordable unit. On the basis of interviews with housing developers, we assume that the current construction cost of a market-rate unit is around $200,000.[7] This estimate is similar to the recently amended in-lieu fees in Rancho Palos Verdes (see Table 3).

Table 4 shows how the in-lieu fees compare with a construction cost estimate of $200,000 per required unit. We have divided the cities into three columns based on their in-lieu fees: above our construction cost estimate, between the full and a half of the estimate, and less than a half of the estimate. For three cities, we do not have adequate data, and in a fourth (Avalon), in-lieu fees are not accepted. Six of the cities have fee levels set at less than a half of our estimate. (Calabasas and Rancho Palos Verdes, however, have recently and substantially revised their fees.) We expect the low fees to adversely affect the affordable housing productivity (particularly the direct production of units) of their programs. In addition, the literature suggests that cities with voluntary inclusionary zoning are not likely to be effective in producing affordable housing. We examine the productivity and effectiveness of programs in more detail in the next section.

THE EFFECTIVENESS OF INCLUSIONARY ZONING

Supporters point out that the pace of adoption of inclusionary programs is dramatically greater than before, particularly in California. In the state, in 1994, 64 jurisdictions had inclusionary programs. This number increased to 107 by 2003. More recent data indicate a sharp rise: by mid-2007, 170 local governments had implemented inclusionary zoning (NPH, 2007, p. 3). (Interestingly, in Los Angeles and Orange Counties there has not been a similar increase in the number of cities with inclusionary zoning programs.) David Rusk—the former Mayor of Albuquerque—estimated that if the largest 100 metropolitan areas in the United States had implemented a mandatory inclusionary zoning set-aside of 15% for the past 20 years, they would have benefited from 2.6 million additional units of affordable housing (2005, p. 2).[8] In contrast, opponents of inclusionary mandates argue that the requirements are ineffective as they drive away most developers and only an insignificant number of affordable housing units are likely to be produced. There are few papers or reports with actual production numbers. Recent

TABLE 3

In-Lieu Fee Structure of Mandatory Inclusionary Programs in Los Angeles and Orange Counties (2006)

City	In-Lieu Fee Structure	Notes
Agoura Hills	$4,541 per market-rate rental unit; $6,277 per market-rate ownership unit	Fee amount has not changed since it was originally adopted in 1987.
Avalon	Not applicable	City does not have an in-lieu fee alternative.
Brea	The fee per required affordable unit equals the difference between the sales price of a market-rate home and an affordable home.	Calculated on a case-by-case basis. Last (and only) fee paid in 2003 was $46,875 per required unit.
Calabasas	$2,900 per market-rate unit	Fee was recently increased (April 5, 2006) to $19 per square foot for rental units and $25 per square foot for ownership units. Previous fee was unchanged since 1999.
Huntington Beach	There is no formal in-lieu fee structure. Market-rate developers pay a third-party developer directly rather than city. Fee amount is negotiated on a case-by-case basis.	City is developing a formal in-lieu fee schedule and has suspended the third-party arrangement. Currently all developers are required to build on-site affordable units, until a new schedule is established.
Irvine	$12,471 per market-rate unit	In 2003, the fee was set at $6,694 per market-rate unit. It increased on May 10, 2005. In June 2006, City Council was considering another increase.
Laguna Beach	Varies, based on average cost of vacant residential land and assumed density per acre.	Fee was recently modified in April 2006 to $43,753, a decrease from the last fee applied of $46,978 per market-rate unit in 2000.
Newport Beach	Fee in 2003 was $8,000 per market-rate unit	Fees are adjusted with inflation, based on the original negotiated fee of $5,000 per unit in 1995. City Council recently received an in-lieu fee study and is expected to increase fees.
Pasadena	Fee ranges from $1 to $30 per square foot for rental projects; and from $14 to $53 per square foot for ownership projects.	Fee amount varies by area of city and the development's size.
Rancho Palos Verdes	$1 per square foot of development, plus a 10% administrative fee	Fee was recently amended (September 20, 2005) to $201,562 per affordable unit required, plus a 10% administrative fee. Previous fee was unchanged since its adoption.
San Clemente	1% of each market-rate unit's assessed value (at the time the building permit is approved)	
San Juan Capistrano	1% of each market-rate unit's assessed value (at the time the building permit is approved)	
Santa Monica	$6.14 per square foot of market-rate rental units; $11.01 per square foot of market-rate ownership units	Fee was recently increased (October 11, 2005) to $22.33 per square foot for apartments; $26.06 per square foot for condominiums. Previous fee for apartments was unchanged from 1998; previous fee for condominiums was revised in 2000.
West Hollywood	Varies from $6.77 per square foot to $13.54 per square foot, depending on size of development.	Fees are typically adjusted each year according to changes in the housing portion of the consumer price index.

TABLE 4

Comparison of In-Lieu Fees to the Construction Cost of Housing[a]

City	>$200,000 (>$20,000/ Market-Rate Unit) (>$13.34/sq.ft of Market Rate Area)	$100,000–$200,000 ($10,000–$20,000/ Market-Rate Unit) ($6.67–13.34/sq.ft of Market Rate Area)	<$100,000 (<$10,000/ Market-Rate Unit) (<$6.67/sq.ft of Market Rate Area)
Agoura Hills			X
Avalon		Not Applicable	
Brea		Not Available	
Calabasas			X
Huntington Beach		Not Available	
Irvine		X	
Laguna Beach		Not Available	
Newport Beach			X
Pasadena	X		
Rancho Palos Verdes			X
San Clemente			X[b]
San Juan Capistrano			X[b]
Santa Monica		X	
West Hollywood		X[c]	

[a]These calculations assume a uniform set-aside of 10% and an area of 1,500 square feet for the market-rate units. Although the fees have recently been revised in some jurisdictions, this table is based on fees in Summer 2005. Please see Table 3 for subsequent revisions to the fees.
[b]For developments with market-rate units more expensive than a million dollars, the in-lieu fee is greater than $10,000. (The in-lieu fee equals 1% of each market-rate unit's assessed value.) In May 2006, the median condominium's price in San Clemente was $608,200 and in San Juan Capistrano it was $461,000 (Source: Dataquick—DQNews.com).
[c]The in-lieu fee in West Hollywood varies from $6.77 to $13.54 per square foot.

research, however, has started to address this gap. Karen Brown (2001) found that through 1999, Montgomery County and Prince George's County in Maryland and Fairfax County and Loudon County in Virginia produced a total of 11,362 units affordable to households earning between 30% and 70% of the area median income (AMI).[9]

By 2003, cities and counties with inclusionary zoning programs in California had produced a total of 34,000 affordable units over the previous 30 years (CCRH & NPH, 2003). The most recent survey (NPH, 2007) concluded that almost 4,500 units of affordable housing are developed every year in the state through inclusionary zoning. It also documented that almost half the housing goes to low-income households, a quarter to very low-income beneficiaries, and a little less than a quarter to moderate-income households (NPH, 2007, p. 14). Although 81% of programs in California offered payment of fees as an option (CCRH & NPH, 2003), there are not many estimates of the total amount of in-lieu fees generated by inclusionary programs. As a consequence, it is difficult to get a complete picture of how many affordable units have been directly and indirectly (through in-lieu alternatives) developed.

To evaluate the effectiveness and achievements of the inclusionary zoning programs in the two counties, we assembled data on the number of affordable units produced; the amount of money collected through the in-lieu fee options; and the number of affordable units developed with funding from the fee collections. As we discussed in the methodology subsection, we were surprised by the difficulties in collecting data. Furthermore, our analysis, like the past research on inclusionary zoning, does not disaggregate and distinguish between rental and ownership units; or between housing for very low-income and moderate-income groups; or between affordable

housing deed restricted for 10 years and affordable housing preserved for 30 years. These are serious limitations. We tried to collect disaggregated and more specific data, but the information is hard to access. Ignoring such differences, however, makes it difficult to rigorously compare programs and their productivity across the various jurisdictions. In addition, when we conceptualized this research, we were critical of past researchers that ignored the in-lieu fee collections in their analysis of programs and their effectiveness. Accurately assessing the significance of fees, however, is tricky. The fees are rarely used directly, or separately, to develop affordable housing. Sometimes they are creatively used to leverage additional funds; or used to provide gap financing for affordable developments; or used to fund homeless shelters. For example, our research indicates that the City of West Hollywood used its in-lieu fee money and other housing funds to provide gap financing for the West Hollywood Community Housing, a nonprofit developer, to create 224 affordable units.[10]

With these caveats, Table 5 summarizes the achievements of the inclusionary zoning programs in Los Angeles and Orange Counties, and presents the details of the affordable housing units produced, units in development, in-lieu fees collected, and their expenditure. The last column adds up the affordable units completed, in development and created through the in-lieu fees. We also include data on the cities' population and year of adopting inclusionary zoning to contextualize the productivity of the various programs.

It is difficult to use the above data to robustly evaluate the affordable housing productivity of inclusionary zoning programs because of our lack of specific and disaggregate information on the length of affordability of the below-market rate units, their targeted income groups, their tenure type (rental or ownership), etc. Even if we had the specific data, it is not clear how we would have compared the productivity of various programs to decide which ones were superior. For example, it is difficult to assess whether an affordable unit for a low-income family with an affordability term of 20 years is better than an affordable unit for a moderate-income household with an affordability term of 30 years. Furthermore, we face the challenge of translating collected in-lieu fees into equivalent housing units. The available data, nonetheless, allow us to make some broad generalizations about the productivity of inclusionary programs.

The recent survey (NPH, 2007) of programs in California concluded that mandatory policies are more successful, and most of the voluntary programs have delivered no affordable housing. Irvine is considered an exception in the literature.[11] Our data suggest similar conclusions. Among the three least productive programs in Los Angeles and Orange Counties are the three voluntary programs: Lake Forest, Long Beach, and Monrovia. Newport Beach also had a voluntary program before 2003, and had limited productivity. It also has relatively low in-lieu fees that help explain the few directly developed below market-rate units. As the previous section indicated, Calabasas, Rancho Palos Verdes, and San Juan Capistrano had low in-lieu fees that might help explain their almost lack of direct productivity.[12] Agoura Hills instituted in-lieu fees that compared favorably with the construction costs in the late eighties, but the city has not revised its fees since then. This might help explain the limited productivity in the city. We also know from our primary research that Agoura Hills has not added any affordable housing units produced through its inclusionary zoning program in the last few years. Laguna Beach also had limited success in directly producing affordable units. Our research suggests that although it has a demanding in-lieu fee, it also has some of the highest real estate prices in the region. It is likely that developers prefer to pay the in-lieu fees. Thus, the results suggest that in-lieu fees are important and need to be set appropriately. One of the puzzles, however, is San Clemente. Our research indicates that it has low in-lieu fees, but we cannot explain its relatively high productivity.

Finally, should the more productive inclusionary zoning programs be considered effective? At first glance, the numbers are modest. However, it is difficult to assess the productivity of inclusionary zoning as an affordable housing strategy without comparing the number of housing

TABLE 5

Affordable Housing Accomplishments of Inclusionary Zoning Programs (Summer 2006)

City (Population/Policy Adoption)	**Affordable Units Completed "A"**	**Affordable Units in Development "B"**	**In-Lieu Fees Collected** (Dollars)	**Use of In-Lieu Funds**	**Units Created via In-Lieu Fees "C"**	**Total Affordable Units (A + B + C)**
Agoura Hills (20,537/1987)	36	0	1,610,000	First-time homebuyer program	Not available	36
Avalon (3,127/1983)	88	4	N/A	N/A	N/A	92
Brea (35,410/1993)	150	Not available	750,000	Not available	Not available	150
Calabasas (20,0333/1998)	0	0	1,000,000	To be decided	0	0
Huntington Beach (189,594/1992)	428	78	Not available	Varies[a]	111	617
Irvine (143,072/1975)	4,469	171	10,500,000[b]	Gap-financing	221	4,861
Laguna Beach (23,727/1985)	4	0	Not available	Varies[c]	Not available	4
Lake Forest (58,707/2000)	6	0	348,000	To be decided	0	6
Long Beach (461,522/1991)	0	0	N/A	N/A	N/A	0
Monrovia (36,929/1992)	0	0	N/A	N/A	N/A	0
Newport Beach (70,032/2003)	0	16	3,000,000	Gap-financing	120	136
Pasadena (133,936/2001)	346	357	12,230,000	Gap-financing	128	831
Rancho Palos Verdes (41,145/1997)	0	9	$853,177	To be decided	0	9
San Clemente (49,936/1980)	630	0	4,100,000	Gap-financing	6	636
San Juan Capistrano (33,826/1995)	0	0	1,400,000	Gap-financing	84	84
Santa Monica (84,084/1983)	680	72	8,700,000[b]	Gap-financing	534	1,286
West Hollywood (35,716/1986)	91	50	10,200,000	Gap-financing	224	365
Total	**6,928**	**757**	**54,691,177**		**1,428**	**9,113**

Note: Cities with mandatory inclusionary zoning programs are highlighted.
N/A: Not applicable.
[a]Since the policy was adopted in 1992, Huntington Beach has not established a specific in-lieu fee schedule but has required market-rate developers to negotiate and pay the fee directly to Bridges America Foundation (Bridges). The funds were then used to place 30-year affordability covenants on 111 existing units at two apartment buildings owned by Bridges. A record of specific fees paid was unavailable. But according to city staff, in the early years average negotiated fee was around $20,000 and the last negotiated amount, approximately two years ago, was near $45,000 per required unit. Bridges is no longer involved and the city now requires all market-rate developers to build units on- or off-site.
[b]The in-lieu fee data for Irvine are post-2003, and for Santa Monica we cover from 1998 to 2005.
[c]Since 1990, in-lieu fees collected in Laguna Beach have been used for the following: (1) To subsidize the development of Hagan Place (24 units for disabled persons) in conjunction with Community Development Block Grant (CDBG) funds; (2) To assist in the purchase of a building for the Friendship Shelter, which provides transitional housing for the homeless; (3) To provide rental subsidies to low-income seniors who were relocated from Treasure Island; (4) To subsidize a mortgage for the City's Community Services Program and provide temporary housing for young people in need; and (5) To purchase a site for the development of approximately 20 very low-income housing units.

TABLE 6

Comparison of Affordable Units Produced: 1998–2005

City	Inclusionary Zoning Affordable Housing[a]	Low-Income Housing Tax Credit Units[b]
Avalon	88	36
Brea	105	0
Huntington Beach	380	295
Irvine	NA	686
Laguna Beach	0	96
Pasadena	346[c]	480
Santa Monica	303	166
West Hollywood	37	42

NA: Not Available.
[a]Reflects only affordable units built directly by market-rate developers on- or off-site according to the inclusionary zoning rules in each jurisdiction; figures do not include units in approval or incomplete at the end of 2005. In-lieu fee collections are also ignored in this comparison.
[b]These figures include the Low-Income Housing Tax Credits (LIHTC) units developed for senior citizens. Moreover, the development of some LIHTC units is supported in part with the in-lieu fees collected through inclusionary zoning programs in various jurisdictions.
[c]Pasadena's inclusionary zoning program started in 2001, and the data are for the 2001–2005 period.

units produced with some other benchmark. David Rusk calculated that inclusionary zoning—at a 15% set-aside—can produce twice the amount of affordable housing produced through LIHTC, which is the main source of federal support for affordable housing (2005). As we discussed earlier, Karen Brown followed the same approach and concluded that inclusionary zoning can help double the total affordable housing production (2001). Similarly, we decided to compare the productivity of inclusionary zoning with the LIHTC program. If we disregard the cities with voluntary inclusionary zoning (Lake Forest, Long Beach, and Monrovia) and the cities with low in-lieu fees (Agoura Hills, Calabasas, Newport Beach, Rancho Palos Verdes, San Clemente, and San Juan Capistrano), the results are encouraging and indicate that inclusionary zoning programs can contribute to the supply of affordable housing as much as the federal government's LIHTC program (see Table 6). Although we lack the data, we assume that the LIHTC units achieve deeper income-targeting than the affordable inclusionary zoning units. Nonetheless, the analysis suggests that inclusionary zoning has the potential to be an important source of affordable housing (but perhaps not for the very poor). Does this strategy of delivering affordable housing come at the cost of driving away private developers, thus reducing the supply of housing in the market? We examine this concern next.

EFFICIENCY AND THE EFFECTS OF INCLUSIONARY ZONING ON HOUSING MARKETS

Critics of inclusionary zoning argue that mandates to provide affordable housing are effectively a tax on new residential development. They argue that it is an inefficient tax and a disincentive for construction activity that reduces the supply of housing. Although most legal commentators and courts reject the premise of inclusionary zoning as a tax (Padilla, 1995), orthodox economic analysis recommends analyzing it as a form of taxation.

Robert Ellickson (1981), in an influential paper, divided cities into "unique" cities and "cities with perfect substitutes." In unique cities, he argued, consumers are willing to pay more for housing because of the amenities offered by the jurisdictions. Demand is relatively inelastic and

homebuyers absorb most of the cost of the tax through higher housing prices. But in cities with perfect substitutes, demand is elastic. Homebuyers are unwilling to pay above prevailing prices in the regional market, and developers, reluctant to absorb the cost, exit the market. Ellickson, however, also concluded that in addition to the cost of inclusionary zoning being borne by market-rate homebuyers, it would also be passed backward to landowners. As he noted, "To summarize, in the long run, the owners of underdeveloped land bear *all* of the burden of unusual construction taxes imposed by fungible cities, and part of the burden when the taxing city is unique" (Emphasis in original. 1981, p. 1191). Thus orthodox economic theory suggests that developers avoid the cost of inclusionary zoning. In fungible cities, housing supply falls in the short run but landowners absorb the cost in the long run. In unique cities, initially buyers absorb the cost and pay higher prices, but in the long run the cost is shared by buyers and landowners. Advocates of inclusionary zoning disagree with the predicted short-term effects and the expected incidence on buyers. They suggest that cost offsets can help mitigate the adverse tax effects, and that developers can absorb some of the costs.

There are only a handful of empirical studies that test the supply effects of inclusionary zoning. Prominent among the criticisms of inclusionary zoning are two studies by Benjamin Powell and Edward Stringham for the Reason Foundation (2004a; 2004b). They tabulated housing permits in municipalities before and after the introduction of inclusionary zoning, and argued that permit counts drop because of inclusionary mandates. Their critics point out that it is possible that housing production also declined in communities without inclusionary zoning, and the fall was not caused by the adoption of inclusionary requirements. It is likely that the drop in housing permits was because of other exogenous factors, like changes in the prime interest rates, unemployment rates, or the 1986 Tax Reform Act, and is related to the regional housing market (Basolo and Calavita, 2004).

A more sophisticated study is by Jenny Schuetz, Rachel Meltzer, and Vicki Been (2007). They conducted regression analyses to examine the effects of inclusionary zoning on housing in the San Francisco and Washington, D.C. metropolitan areas, and the Boston-area suburbs. They found mixed results. The data to analyze the effects in the Washington, D.C. metropolitan area were insufficient. In the Boston-area suburbs, it is possible that housing production was being constrained. But the San Francisco metropolitan area results did not demonstrate a significant effect on production or prices. It is difficult to compare the Boston and San Francisco results. Nonetheless, it is worth noting that in the Boston-area programs "Only about one-third of mandatory IZ programs offer a density bonus" (Schuetz et al., 2007, p. 33). In contrast, in the San Francisco metropolitan area a majority of the programs offer density bonuses as a cost-offset to developers. This might help explain the adverse effect of inclusionary zoning requirements in the Boston-area suburbs and suggests the importance of cost-offsets.

We also performed multivariate regression analyses to explore the effects of inclusionary zoning requirements,[13] unemployment rates, and the regional housing market on local housing permits in Los Angeles and Orange Counties.[14] While it is difficult to capture the effect of the regional housing market in a single variable, we used the median annual number of permits issued by all cities in a county (COMEDU) as a proxy measure.[15] Along with the regional housing market, we tested the effect of annual unemployment rates (COUNEMP)[16] as another key independent variable affecting the dependent variable—the number of housing permits in a city. We did this separately for both counties. We examined the annual total housing permits issued by a city (TOTU) as our dependent variable by regressing it on housing market and inclusionary zoning predictors.[17] To test the effects of inclusionary zoning requirements on housing permits, we developed a dummy variable (IZ) indicating the presence or absence of inclusionary zoning policies in a city in a particular year. We created another variable (YRSIZ—years since a city's introduction of inclusionary zoning) to test if the effect of inclusionary zoning policies varies

TABLE 7

Descriptive Statistics of Variables Used in Regression Models

		Los Angeles County ($N = 2,266$)		Orange County ($N = 798$)	
Variable	Description	Mean	Standard Deviation	Mean	Standard Deviation
TOTU	Annual total housing permits issued by a city	288.41	1,337.83	398.26	978.72
COUNEMP	Annual unemployment rate for the county	7.15	1.48	4.48	1.2
COMEDU	Median annual total housing permits issued by cities in the county	51.81	35.08	129.11	77.64
PCOTOT	City's annual total housing permits as proportion of county's annual total	0.01	0.04	0.03	0.07
YRSIZ	Number of years since inclusionary zoning requirement was implemented	0.5	2.47	1.09	3.71
IZ	Dummy variable (1 if a city in a given year has an inclusionary requirement; else 0)	6[a]		12[a]	

[a]Indicates percentage of cases with value of 1.
Note: Table shows median annual data 1980–2005, with variations as described in text.

TABLE 8

Correlations

	TOTU	COUNEMP	COMEDU	PCOTOT	YRSIZ
Los Angeles County					
TOTU ($N = 2,266$)	1	−0.062***	0.138***	0.845***	−0.023
COUNEMP ($N = 2,266$)	−0.062***	1	−0.355***	0	−0.058***
COMEDU ($N = 2,266$)	0.138***	−0.355***	1	0.005	−0.108***
PCOTOT ($N = 2,266$)	0.845***	0	0.005	1	−0.017
YRSIZ ($N = 2,266$)	−0.023	−0.058***	−0.108***	−0.017	1
Orange County					
TOTU ($N = 798$)	1	−0.055	0.193***	0.898***	−0.026
COUNEMP ($N = 524$)	−0.055	1	−0.477***	0.006	−0.065
COMEDU ($N = 798$)	0.193***	−0.477***	1	0.032	−0.111***
PCOTOT ($N = 798$)	0.898***	0.006	0.032	1	−0.011
YRSIZ ($N = 798$)	−0.026	−0.065	−0.111***	−0.011	1

***Pearson correlation is significant at the 0.01 level (2-tailed).

with time. We also added a control variable (PCOTOT—a city's annual total housing permits as a proportion of the county's total number of units produced for a given year) to serve as a proxy measure of the strength of the local (city level) housing market.[18] Table 7 describes the variables in our ordinary least squares (OLS) regression models.

We explored bivariate correlations among the proposed dependent and the continuous independent variables to assess strengths of association between pairs of variables. Table 8 presents the correlations among the dependent and predictor variables used in our regression models. Since the correlation coefficients indicate that none of our independent variables are highly correlated among themselves (with the highest correlation being 0.477 between COUNEMP and COMEDU), we can safely use them in our regression models.

We also ran simple *t*-tests to ascertain if the total number of housing units permitted annually by cities with inclusionary zoning policies in place (IZ = 1) differed significantly from those that did not have any such clauses or from years prior to the implementation of such policies (IZ = 0). We found that in the case of Orange County there was no significant difference ($t = -0.635$;

dF = 796; $p = 0.526$), but there was a significant difference in Los Angeles County between IZ and non-IZ cities ($t = -4.652$; dF = 1344; $p = 0.000$). This tells us that the observed difference—cities with inclusionary zoning in Los Angeles County seem to produce fewer housing units compared to those without inclusionary zoning regulations—might not be due to chance.[19] Thus, it is important to test whether the inclusionary zoning dummy variable (IZ), along with other variables, is a significant predictor of total housing production (TOTU).

Subsequently, we ran three OLS models for each county (see Table 9). In the first model for each county (1A for Los Angeles County and 2A for Orange County), we only include the regional and local housing market variables as predictors (COMEDU, COUNEMP, and PCOTOT). Next (models 1B and 2B), we added the inclusionary zoning variables (IZ and YRSIZ) to test whether they are significant predictors of housing permits. Table 9 shows that the R^2 values for all the models are very high, and that they are the same for the two models that comprise each county pair (0.73 for both 1A and 1B, and 0.94 for both 2A and 2B). This indicates that the inclusion of the inclusionary zoning variables does little to enhance the explanatory power of the models. The relative strength of the proxies for local housing market (PCOTOT) and the regional housing market (COMEDU) are positive and highly significant (at the 99% level) predictors in the case of both counties. The negative sign on the unemployment variable (COUNEMP) indicates that it affects the dependent variable adversely but is significant (99% level) only for Orange County. The constant is also negative in both pairs of models but is significant (at the 90% level) only for LA County. Time elapsed since the inception of inclusionary zoning variables (YRSIZ) does not significantly affect the dependent variable despite its positive sign. Finally, the dummy variable (IZ), our main predictor of interest for capturing the effect of inclusionary zoning policies, has a negative coefficient but is not significant either. The results of the A and B models indicate that there is little evidence to suggest that inclusionary zoning policies affect the overall housing market in cities of Los Angeles and Orange counties. Instead, housing productivity at the local level is affected in a much stronger manner by trends in the regional and local housing markets, as indicated by the county median for total housing units by its cities and a city's share of the county's housing market.

The extremely high standardized coefficients (β) of our variable for the strength of the local housing market (PCOTOT—0.85 for Los Angeles County and 0.97 for Orange County) suggest that it might be worthwhile to examine a regression model without this particular variable.[20] Therefore, in models 1C and 2C (see Table 9 again), we drop the variable for the strength of the local housing market (PCOTOT) from the regression analysis. Still the inclusionary zoning variables (IZ and YRSIZ) are not significant but the direction of their coefficients changes in the case of Orange County (Model 2C): The dummy variable for inclusionary zoning (IZ) now has a positive sign and the time elapsed since the introduction of inclusionary zoning (YRSIZ) has a negative sign. Only the regional housing market proxy (COMEDU) retains significance at the 99% level in model 1C for Los Angeles County. The R^2 values of the two models also drop dramatically—from 73% and 94%, respectively, to 2% for Los Angeles County and less than 1%for Orange County. Both the unemployment variable (COUNEMP) and the regional housing market variable (COMEDU) cease being significant predictors in Orange County. This suggests the likelihood of interactions between the relative strength of a local housing market and the larger trends in the region, including the regional housing market and employment factors.[21] While we recommend additional research that better explains the factors that affect local housing markets, this analysis helps our narrow purpose of testing the effect of inclusionary zoning policies on local housing production in the counties of our study. Based on the results from our regression analyses, we can reasonably claim that inclusionary zoning requirements, similar to those that exist in Los Angeles and Orange Counties, are not likely to have any significantly adverse effect on housing supply.

TABLE 9

Regression Results—How Annual Total Housing Permits (TOTU) Are Affected

	Los Angeles County								
	1A			1B			1C		
	b	β	*t*	*b*	β	*t*	*b*	β	*t*
PCOTOT	26,043.43	0.85	**77.78*** **	26,043.03	0.85	**77.74*** **			
COUNEMP	−15.09	−0.02	−1.39	−14.43	−0.02	−1.37	−13.87	−0.02	−0.69
COMEDU	4.96	0.13	**11.20*** **	4.99	0.13	**11.17*** **	5.10	0.13	**5.95*** **
YRSIZ				7.00	0.01	0.70	9.22	0.02	0.48
IZ				−55.98	−0.01	−0.54	−185.71	−0.03	−0.94
Constant	−159.33		**−1.83***	−165.96		**−1.88***	130.01		0.77
R^2		0.733			0.733			0.020	
Adjusted R^2		0.733			0.733			0.018	
F		2,072.51			1,242.77			11.63	
R^2 Change (on model A)					0			−0.713	
	Orange County								
	2A			2B			2C		
	b	β	*t*	*b*	β	*t*	*b*	β	*t*
PCOTOT	9,754.44	0.97	**92.49*** **	9,760.43	0.97	**92.42*** **			
COUNEMP	−20.85	−0.04	**−3.08*** **	−21.00	−0.04	**−3.09*** **	−14.85	−0.03	−0.52
COMEDU	1.27	0.05	**4.20*** **	1.26	0.05	**4.16*** **	1.54	0.06	1.22
YRSIZ				2.44	0.02	0.89	−7.04	−0.05	−0.61
IZ				−42.06	−0.02	−1.26	98.72	0.05	0.71
Constant	−19.79		−0.40	−15.73		−0.31	222.36		1.06
R^2		0.943			0.943			0.007	
Adjusted R^2		0.943			0.943			−0.001	
F		2,868.90			1,720.39			0.88	
R^2 Change (on model A)					0			−0.936	

*Significant at the 0.10 level; ***significant at the 0.01 level (2-tailed test).

CONCLUSION

Of the 88 cities in Los Angeles County, 9 have inclusionary zoning programs. In Orange County, almost a quarter of the cities, 8 out of 34, have such programs. We analyzed the structure of the programs, the productivity of affordable housing developed through the mandates, and the market effects of these 17 programs to assess the claims made for and against inclusionary zoning in the literature. In particular, we focused on the 14 mandatory programs. Our analysis indicates that several of the existing inclusionary zoning programs in Los Angeles and Orange Counties have successfully, albeit modestly, added to their affordable housing stock. Our research also suggests that critics of inclusionary zoning misjudge its adverse effect on housing supply. Contrary to the claims against inclusionary requirements, we found no statistically significant evidence supporting the purported negative effects of inclusionary zoning on housing supply. Although the limitations of inclusionary zoning are also clear, we conclude in favor of well-crafted inclusionary zoning policies. We elaborate the policy recommendations next.

Our research shows that there is considerable variation across the structure and requirements of the different inclusionary programs in Los Angeles and Orange Counties, and thus policymakers have to make some key choices. Two characteristics, nonetheless, seem consistent across the various programs. First, most programs try to offer housing developers choices and alternatives to meet the inclusionary mandates. Second, if developers opt for a deeper income-targeting for their below market-rate units, they have the benefit of setting aside a lower proportion of their units as affordable. We agree with both strategies. To further enhance the flexibility for developers, some jurisdictions structure their programs as voluntary rather than mandatory. But our analysis indicates that voluntary programs are less likely to be effective in delivering affordable housing. We recommend mandatory programs. Another widely used strategy to increase the flexibility for developers is to offer them the option of fee payments in lieu of including affordable units in their projects. In principle, we are in favor of in-lieu fees as an option, but our research also indicates that cities often set their in-lieu fees too low, or fail to adequately revise the fees over time. Low in-lieu fees hurt inclusionary programs and reduce their effectiveness. We recommend that in-lieu fees be set close to the cost of construction of a housing unit, or the cost of keeping a market-rate unit affordable, and be updated consistently. Moreover, cities must have institutional mechanisms to ensure that collected fees are promptly and responsibly spent to increase the supply of affordable housing.

If inclusionary zoning programs are designed as mandatory, flexible, and with appropriately designed in-lieu fees, it is likely that the policy can be as effective in producing the same number of affordable housing units as the federal program of LIHTC. (The LIHTC units, however, are likely to provide deeper income-targeting.) Moreover, if the programs have mandates similar to the requirements in Los Angeles and Orange Counties, it is likely that there will be no negative effect on housing markets and the supply of housing. It is worth reiterating that the programs we analyzed offer housing developers numerous cost-offsets, in accordance with California's Density Bonus Law, to help make the inclusionary requirement revenue neutral. Structuring inclusionary zoning programs as relatively revenue-neutral is also likely to help policymakers gain the support of business interest groups. We like density bonuses in particular. They are a form of upzoning that potentially increases the total number of housing units developed on a site. At its most successful, inclusionary zoning with density bonuses is more likely to increase the overall supply of housing than decrease it.

However, the recent experience from the City of Los Angeles also shows that neighborhood groups can be anxious about the effects of density bonuses on the character of their neighborhoods. Some may also be concerned that the bonuses are windfalls for developers. There needs to be a broad and deep public education effort that emphasizes the need for affordable housing, and

explains that below market-rate mandates impose a cost on developers and measured density bonuses help to offset that cost. Higher project threshold sizes—of 20 or 30 units—for inclusionary requirements might also help to alleviate neighborhood-level concerns, as most neighborhoods tend to experience small infill projects. The appropriate threshold, however, must ensure that most of the residential development projects in a city are subject to the inclusionary mandates.

As we noted earlier in this article, we were surprised to find that the data on affordable housing produced through inclusionary zoning are not easily available. This suggests that most cities are not robustly monitoring the affordable housing delivered through their inclusionary programs. This is a mistake. Cities should recognize that a successful program of inclusionary zoning is likely to require administrative resources to monitor the affordable housing to ensure that it reaches its targeted income group.[22] Moreover, all below market-rate units should be set aside as affordable in perpetuity, or for as long as possible. Finally, although inclusionary zoning can be an important source of affordable housing, it will not be a panacea. The total number of affordable units developed through inclusionary zoning is likely to be modest. Cities need a comprehensive approach to address their lack of affordable housing. An inclusionary zoning policy can be an important part of a larger housing strategy. A city's genuine dedication to the provision of affordable housing—including a commitment of administrative resources for tracking and monitoring below market-rate units—might also help it garner the support of its citizens in implementing inclusionary zoning.

Future Research

While our analysis has demonstrated the feasibility of inclusionary zoning as a source of affordable housing production, it also highlights how additional research can help policymakers. First, we would like to see more examples of empirical research that evaluate the effectiveness and efficiency of inclusionary zoning. We limited our market analysis to the effects of inclusionary zoning on the supply of housing. Future researchers should also empirically evaluate the effects on housing prices. There is also a need for more detailed studies. The normative literature suggests that a number of institutional and policy conditions—including the availability of public funding support for developers; the use of building types that allow for affordable units to be easily accommodated in the design layout; the aggressiveness and policy entrepreneurship of housing or planning department staff; and the ease with which developers can capitalize on the various regulatory incentives and concessions available to them—are likely to affect the success of inclusionary mandates. Future researchers might consider focusing on some of these variables in their evaluations.

Second, there is an opportunity and need for focused case study research to help in the implementation of inclusionary programs. Detailed case studies of cities with successful inclusionary zoning programs, like Pasadena and Santa Monica, might help reveal how policy entrepreneurs (planners, politicians, housing advocates, etc.) develop support for inclusionary zoning requirements; how policymakers decide program specifics; how negotiations with developers and neighborhood groups for cost offsets are managed; how affordable units are monitored and tracked; how cities can provide additional support to housing developers; etc. The lack of such studies is an important gap in the literature.

Third, the participation of private developers is critical to the success of an inclusionary zoning program. However, our review of the literature did not find any comprehensive study of why developers choose to participate in inclusionary zoning programs more readily in some cities than others. Critics, including developers, raise several objections to inclusionary zoning based on economic, ideological, and administrative reasons. Future research on housing developers'

perspectives could examine which of these factors drive developers to oppose inclusionary requirements. For example, are developers' objections based on financial reasons? Are the density bonuses and other incentives offered meaningless, and too difficult to capitalize on and implement? Or does a mistrust of public interference and suspicion of cumbersome bureaucracy generate such opposition? This research should also look at what aspects motivate developers to participate in inclusionary zoning programs, particularly what incentives or concessions are valuable to them. Such research will contribute to a more effective inclusionary zoning policy.

The research and analysis we present, nonetheless, strongly suggest that there is evidence to indicate that inclusionary zoning can be both an effective and efficient housing policy for local governments. The strategy merits political support. Critics overestimate its adverse effects on housing supply. Nonetheless, inclusionary zoning is not a panacea and its effectiveness in delivering affordable housing should not be overestimated either. A well-crafted inclusionary zoning policy, however, can be an important part of a comprehensive housing strategy.

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ENDNOTES

1 Inclusionary zoning and inclusionary housing are often used interchangeably in the literature and in practice. We, however, draw a distinction between the two strategies (also see Mallach, 1984). We consider inclusionary zoning as primarily a local government response that typically mandates, but sometimes just encourages, private developers to include some below market-rate housing in their projects. In contrast, we consider inclusionary housing as primarily a state government response aimed at preventing local governments from discouraging affordable housing developments in their jurisdictions. Thus, according to our definition, key examples of inclusionary housing include Massachusetts' antisnob zoning law—Chapter 40B of Massachusetts General Law (Cowan, 2006), and New Jersey's Fair Housing Act (Schwartz, 2006). There are, nonetheless, overlaps between these two approaches. For example, in California, the state government approved a Density Bonus Law. Accordingly, local governments are obliged to provide private developers a density bonus if they include affordable housing in their projects (Padilla, 1995).

2 In addition to the 17 cities (nine are in Los Angeles County and eight in Orange County), unincorporated Orange County also used to have a mandatory inclusionary zoning requirement that was introduced in 1979. It was replaced by a voluntary program in 1983.

3 In addition to the inclusionary zoning programs, many cities have active Community Redevelopment Agencies. As in the City of Los Angeles, these redevelopment agencies have independent affordable housing programs that include inclusionary requirements. This can also complicate the task of counting housing produced through a city's inclusionary program, and might help explain some of the differences in the data collected by various researchers. For example, for cities like Laguna Beach and Monrovia, our research did not reveal much affordable housing production through the inclusionary programs but secondary sources list substantial inclusionary units in these cities. Our data indicate, and we list, four affordable units produced in Laguna Beach (and an unspecified amount of in-lieu fee collections) but Calavita and Grimes (1998, p. 159) list 310 units by 1998 and Benjamin Powell and Edward Stringham (2004b, p. 4) list 139 units. Inadequacies in city records and short affordability terms, as we discussed above, might also help to explain the discrepancies in the data.

4 Lake Forest's 2000–2005 Housing Element specifies, but does not detail, a policy of "encouraging" the incorporation of a minimum of 15% affordable units within residential developments to help meet the city's goal of having adequate housing to meet existing and future needs (see 2000–2005 Housing Element of Lake Forest General Plan, page H-4, adopted December 19, 2000). The city, however, has yet to institute the expected

ordinance or further specify incentives for encouraging the set-aside. The Voluntary Incentive Program (VIP) established by Long Beach in 1991 is a three-tiered program. Its first tier mimics the State Density Bonus Law that was in place at the time of VIP's adoption, and grants a 25% density bonus to projects with 20% or more of the total units reserved for low- and moderate-income households. The other two tiers offer a density bonus of 100% to projects that set aside all units for senior citizens and the disabled, or a 200% density bonus to projects that restrict all units for low-income senior citizens and the disabled. Affordable housing units created through the VIP must remain affordable for 30 years. The City of Monrovia adopted an Affordable Housing Owner-Occupied Incentive Program (AHOIP) in 1992. It also mirrors the State Density Bonus Law in place at the time of adoption, but only for ownership-based projects, and offers incentives such as the permitting of attached units, reduction in off-street parking, unit size reductions, less required recreation space, increase in floor area ratios, and modified setback standards. Nearly identical to the state program, AHOIP differs in its explicit listing of the available incentives, and its exclusive focus on ownership housing. Monrovia's 2000–2005 Housing Element, however, makes reference to the city's intent to extend the same incentives to affordable rental housing. Like Long Beach, all affordable units must remain restricted for 30 years.

5 In all jurisdictions, the negotiation of incentives generally requires approval of the planning commission. Although not every ordinance or housing element adopted by cities with mandatory inclusionary zoning lists the array of incentives available as Brea does, developers in all jurisdictions are entitled to request as many incentives as desired. Furthermore, the State's new Density Bonus Law—SB1818—requires all jurisdictions to offer an appropriate density bonus, and one to three regulatory incentives (concessions) to facilitate the inclusion of affordable housing units, provided that the developer sets aside at least 5% of units for very low-income households, or 10% of units are set aside for low-income households. This minimum set-aside condition covers the mandatory requirements of all cities discussed in this analysis, except for San Clemente. San Clemente mandates only a 4% set-aside for very low-income households.

6 A few cities, including Pasadena and Santa Monica, have recently employed professional consultants to collect and analyze data to establish or adjust their fee schedules. For example, Keyser Martson Associates performed a financial analysis in October 2005 to update the fee structure for the City of Pasadena. Similarly, Hamilton, Rabinovitz & Alschuler, Inc. (HR&A) performed the nexus study for the City of Santa Monica in July 2005. HR&A focused on the demand for goods and services created by upper-income households purchasing or renting new market-rate units in the city. According to their analysis, delivery of these goods and services, in both the public and private sectors, to the upper-income households requires the employment of workers at all pay scales, including lower-income individuals that require housing at affordable prices. Thus, HR&A made the connection between the construction of new market-rate residential developments, and the need for new housing affordable to lower-income workers and their families. Based on this premise, HR&A performed an analysis to determine estimates of upper-income household spending, lower-income employment effects from that spending, the number of lower-income households associated with those employment impacts, and finally the appropriate affordable housing fee to offset the housing demand created by the upper-income households' expenditures.

7 Construction cost estimates, according to developers we interviewed, vary between $150/square foot to $200/square foot. We assume the cost to be $175/square foot. For a supposed apartment of 1,200 square feet, we get a construction cost of $210,000. This estimate does not include marginal land costs.

8 Similarly, the Los Angeles Council members in their proposal for inclusionary zoning noted that "From 1980 to 2001, approximately 190,000 units were built in Los Angeles. If the City had a 15 percent set-aside requirement, through that time, 28,500 units of affordable housing would have been constructed" (Reyes & Garcetti, 2004).

9 A more recent report updated Brown's numbers through July 2003 and found that the total production for the region exceeds 15,000 units (Fox & Rose, 2003).

10 Similarly, in Pasadena, the city has spent $2.3 million of in-lieu fee money to provide gap-financing for the development of 128 affordable units in two projects. The first is the "Trademark Project" consisting of eight units with a $1.3 million loan. The second is the "Heritage Square" project where the land to house 120 units

was purchased for $1 million. The city was planning to release a Request for Proposals for developing Heritage Square, and planned to spend more of the in-lieu fees on the project's development. Another potential problem in our analysis is that the listed totals of the in-lieu fee amounts might include other sources, such as fees collected from commercial developments through linkage fees. In Calabasas, for example, the collected in-lieu fees consist of residential payments (approximately 80%) and commercial impact fees (around 20%).

11 Most observers attribute the success of Irvine's pre-2003 voluntary program to unique circumstances, including the Irvine Company's relative monopoly on land development in the city and the threat of lawsuits (Calavita and Grimes, 1998).

12 The in-lieu fee in Rancho Palos Verdes was amended in late 2005 to $201,562 per affordable unit required (plus a 10% administrative fee), and in Calabasas it was increased in 2006 to $19–25 per square foot for market-rate units (see Table 3 for more details). Therefore, there is likely to be a substantial change in the productivity of their inclusionary programs in the following years.

13 Although our data set contains annual data for most cities, they are not a true panel data since we do not have data for all the years for each of our cities. Not all cities started inclusionary zoning in the same year. Additionally, we also had to substitute state level unemployment data for Orange County from 1980 to 1989 because county-level data were unavailable.

14 We used permit data from the Construction Industry Research Board for cities in Los Angeles and Orange counties. We have permit data from 1980 (which, for our data set, is also the first year when a city exercised inclusionary zoning policies) to 2005 for all cities, except four: Agoura Hills (data available from 1983); Calabasas (from 1991); Lake Forest (from 1992); and West Hollywood (from 1984). These cities were incorporated after 1980 and the permit data are available from their incorporation dates.

15 The variable COMEDU includes data from all cities for all years. A concern could be that including data from cities after they had instituted inclusionary zoning might distort their effect on the dependent variable. To avoid this possibility, we also created another variable for annual county median housing production in which median figures from years when cities had inclusionary zoning in place were excluded. Our *t*-tests indicated that there was no significant difference between these two sets of median figures.

16 For this, we use county employment data. We, however, could not find data for Orange County's unemployment rates for the period 1980–1989, and use the state data for these years.

17 We also tested the effects of the independent variables separately on annual total single-family unit permits (SFU) and annual total multifamily unit permits (MFU) as dependent variables to test if the inclusionary requirements affect single-family or multifamily housing markets differently. But the outcomes of our models with SFU and MFU as dependent variables were similar to the results with TOTU as the dependent variable, and we present here and discuss only the latter.

18 We chose this variable (PCOTOT) over other potential local housing market variables, such as population or density, because it is one of the few proxies that provides annual figures.

19 The difference could be because the City of Los Angeles, which does not implement inclusionary zoning, greatly outweighs other cities in the county in terms of the number of housing units produced annually.

20 Our variable for the strength of the local housing market (PCOTOT) is potentially problematic. By defining it as a city's annual total housing permits as a proportion of the total number of units produced in the county, we are able to construct an annual variable, but the dependent variable (TOTU) is also a part of this independent variable. This, however, does not necessarily mean that the two variables (PCOTOT and TOTU) are measuring the same thing, since a city's housing production might change at a different rate from the county.

21 We recommend additional research that acknowledges the likelihood of interactions between local and regional elements and uses interaction variables to explore the market effects of inclusionary zoning policies.

22 In a similar way, the literature indicates that fast-track permits are valued by developers and can be attractive cost offsets. But if inclusionary zoning is mandatory, and all housing development projects qualify for expedited permitting, a city government needs to ensure that it commits the administrative resources for fast-track permits.

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