

Looking Through the Lens of Size: Land Use Regulations and Micro-Apartments in San Francisco

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Abstract

Small studio apartments, or micro-apartments, represent a market response to high housing costs in several major American cities. San Francisco, California, is one of the nation's most expensive housing markets and the location of an innovative pilot micro-apartment policy. The literature on regulatory barriers to affordable housing has yet to pay much attention to minimum unit-size requirements. This article uses two prototype buildings to illustrate regulatory barriers to smaller units, including minimum parking standards in some parts of the city, outdoor open-space and indoor common-space provisions, unit-mix stipulations, and inclusionary zoning requirements. I recommend that cities review their codes through the lens of unit size and eliminate unnecessary impediments to small units.

Introduction

Considerable debate exists about how land use regulations affect housing prices and about the prevalence of regulatory barriers to affordable housing. Whereas much of the academic literature focuses on the ills of minimum *lot* size, a gap in the literature is related to minimum *unit* size. This gap has both scholarly and policy implications, because very small studio apartments—often called *micro-apartments*—represent an emerging market-based approach to high housing prices in certain major American cities. This article aims to fill this gap by answering two questions: (1) Do regulatory barriers to developing new small housing units exist, and (2) if so, what are the greatest barriers? I focus on San Francisco, California, because it is one of the nation's most expensive housing markets and the site of an innovative pilot micro-apartment policy.

I begin by reviewing the literature on regulatory barriers to low-cost housing and then proceed to creating an inventory of possible barriers to small units. I describe the modern micro-apartment as a space-efficient type of housing, usually with lower overall rents compared with rents in nearby,

conventionally sized units (Urban Land Institute, 2014). I detail the San Francisco case and then use two prototype buildings to analyze the city’s written land use regulations. I find that much of the city’s planning code is progressive in terms of unit size. Some regulations, however, geographically constrict where small units can be developed, and other regulations disproportionately add costs to smaller units. Parking is a regulatory obstacle in some parts of the city, and other regulatory barriers include outdoor open-space and indoor common-space requirements, unit-mix stipulations, and inclusionary zoning requirements. The findings suggest that cities review their codes from the perspective of builders developing different unit sizes and eliminate unnecessary regulatory barriers to small units.

Regulatory Barriers to Affordable Housing

The literature suggests that local regulations can lead to higher housing prices in several ways. Regulations may raise the cost of construction, limiting the supply of new housing. Regulations may make an area more desirable, thereby increasing demand. Some regulations push developers to build larger, more profitable units (Levine, 1999). Land use regulations may make it particularly difficult to expand the supply of compact, lower cost housing. Glaeser, Gyourko, and Saks (2005a: 7) wrote that supply restrictions “have become increasingly important in preventing suppliers from responding to high prices by building additional units,” resulting in a “man-made” housing scarcity. Such barriers can arise in the form of land use regulations, building codes, and environmental regulations (Downs, 1991). In this article, I choose to focus specifically on local land use regulations.

Some economists view zoning as a form of regulatory tax that adds to the fixed costs of new development (Glaeser, Gyourko, and Saks, 2005b). Deakin’s (1989) taxonomy provides a useful framework for thinking about how land use regulations may add development costs and inhibit the development of small units. Deakin argued that regulations can limit where development occurs and the density of that development, add new standards for lots and buildings, shift costs from the municipality to the developer, and create other direct and indirect controls on growth (Quigley and Rosenthal, 2005). In exhibit 1, I adapt Deakin’s observations to organize potential regulatory barriers to micro-apartments.

Exhibit 1

Potential Land Use Regulatory Barriers to Small Units

Regulations That Explicitly or Implicitly Limit the Density of Development	Regulations That Impose Design and Performance Standards	Regulations That Shift Costs From the Locality to the Developer
Direct density restrictions	Design guidelines	Development impact fees
Parking requirements	Dwelling unit-mix requirements	Inclusionary zoning
Setback requirements		
Side-yard requirements		
Minimum lot sizes		
Open-space requirements		

Source: Adapted by author from Deakin’s (1989) taxonomy

Some density restrictions, like limits on housing unit density, are explicitly stated in the zoning code, whereas others are implicit, indirectly capping density. Examples of implicit density limits include parking requirements, setback requirements, side-yard requirements, and minimum lot sizes (Downs, 1992). Parking requirements play a significant role in American land use regulation and often serve as a de facto density restriction (McDonnell, Madar, and Been, 2011; Shoup, 2005). Minimum parking requirements also represent a regulatory floor that deprives households of the option to buy or rent a unit without parking (Manville, 2013). Minimum unit sizes similarly deprive households of the opportunity to rent or buy smaller units than are allowed. Empirical research shows that parking requirements are associated with higher housing sales prices. Jia and Wachs (1999) used hedonic models to find that the average condominium unit with off-street parking sold for 13 percent more than one without off-street parking. Studying a natural experiment in the form of the Los Angeles, California Adaptive Reuse Ordinance, Manville (2013) found bundled parking to be associated with a \$200 higher monthly rent for apartments and a \$43,000 higher asking price for condominiums.

Impact fees and inclusionary zoning are other municipal interventions that may shape or hinder the development of small apartments. Impact fees are defined as one-time levies intended to fund public infrastructure that serves new development (Burge and Ihlanfeldt, 2006). These fees are quite common in the United States, used by 37 percent of jurisdictions representing 56 percent of the population in the 50 largest metropolitan areas (Pendall, Martin, and Puentes, 2006). Impact fees present a barrier when they are “regressive or disproportionate to actual development costs” (HUD, 2005: 8). Little research related to impact fees and multifamily development has been conducted, however (Burge and Ihlanfeldt, 2006). Few empirical studies likewise have focused on the effects of inclusionary zoning. Despite ominous theoretical predictions, the few empirical studies on the topic have found inclusionary zoning to have generally neutral or minimal effects on housing markets (Mukhija et al., 2010; Schuetz, Meltzer, and Been, 2011). In fact, inclusionary zoning may actually produce fewer units than other programs targeted to low-income households. Schuetz, Meltzer, and Been (2011) found that, in the San Francisco Bay Area through 2003, inclusionary zoning produced nearly 9,200 housing units, while the federal government’s low-income housing tax credit, or LIHTC, subsidized nearly 30,000 units.

Speaking specifically to building in the San Francisco Bay Area, today’s leading developer of micro-apartments in the metropolitan area, Patrick Kennedy, once wrote that the greatest barriers to infill development were density restrictions, burdensome parking requirements, and unnecessary open-space provision (Kennedy, 1995). These regulations are binding constraints if, in their absence, developers would build more densely, with fewer parking spaces and less open space. A recent study of Austin, Texas; Denver, Colorado; New York City; Seattle, Washington; and Washington, D.C., echoed Kennedy’s findings, suggesting that the most significant barriers to small units relate to unit size, parking, density, and open-space requirements (Been, Gross, and Infranca, 2014).

Beyond understanding the written regulations themselves, it is crucial to understand how the regulations are being applied (May, 2005). Regulatory processes may delay housing development or even discourage development altogether. Cities may adopt “business-friendly” or “by-the-book” approaches, meaning that the same regulation can be implemented differently in different jurisdictions (May, 2005). In a recent national survey, developers showed preferences for fast-tracking

projects, reducing fees, loosening building codes, and eliminating prescriptive design requirements (Talen, 2013). These process considerations reinforce the importance of allowing less expensive housing types “by right” instead of through a discretionary process, which can add uncertainty and cost.

The Promise of Micro-Apartments

A growing interest—from planners, architects, developers, and the general public—in modern micro-apartments exists. Demographic shifts, economic changes, and environmental trends are fueling this interest. These trends have brought micro-apartments to some of the nation’s high-demand housing markets, including San Francisco; Boston, Massachusetts; New York City; Portland, Oregon; and Seattle (Been, Gross, and Infranca, 2014; Christie, 2013; Infranca, 2014). In these markets, the average micro-apartment rents for about 20 to 30 percent less than a conventionally sized unit nearby, although they rent at a higher rate on a per-square-foot basis (Urban Land Institute, 2014). Although micro-apartments are often portrayed in the media as a new concept, in reality they are not. Other countries, like China and Japan, have a history of even smaller unit sizes (Goodale, 2012; Orlik and Fung, 2012).

Several demographic trends support future heightened demand for micro-apartments (Shore, 2014). First, the growth in one-person households may increase the potential market for smaller apartments (Infranca, 2014; Nelson, 2009). Second, the preferences of the Echo Boom generation—the children of the Baby Boomers—may support a resurgence in higher density housing styles in transit-oriented settings (Wegmann and Nemirow, 2011). Third, Baby Boomers may be the housing market’s “central driving factor in the next three decades,” (Pitkin and Myers, 2008: 2) as the decisions aging Baby Boomers make will be of major consequence to the housing market (Myers and Pitkin, 2009; Pitkin and Myers, 2008). Even a small subset of Baby Boomers choosing small, centrally located studio apartments and condominiums could considerably increase demand for micro-apartments. Future demand is far from certain, however; some developers are hedging their bets by building micro-units that can be easily reconfigured into larger apartments in the future (Infranca, 2014; Urban Land Institute, 2014).

Micro-apartments may provide environmental benefits. The combination of small unit sizes, little onsite parking, and transit-rich neighborhoods means that micro-apartments may lead to less building and transportation energy use and to reduced greenhouse gas emissions (Brownstone and Golob, 2009; Ewing and Cervero, 2010; Ewing and Rong, 2008). Beyond environmental sustainability, lower energy costs are also an attractive feature for prospective renters (Urban Land Institute, 2014). Although the energy use in a micro-apartment is probably less than that of a larger studio or one-bedroom apartment, the question remains: How will the energy use of the typical micro-apartment compare with the per capita energy use of shared housing?

Micro-apartments may also fit well with the changing fiscal environment in America. Waning public subsidies create an imperative for creating less expensive, market-driven housing (Belsky, 2012; San Francisco Budget and Legislative Analyst, 2012). By permitting micro-apartments, cities may enable housing markets to operate more efficiently. Urban infill developers have become interested in smaller, better designed units, according to the results of Talen’s (2013) survey of developers.

About one-half of these developers reported that they used smaller unit sizes to maintain affordability. Developers were also optimistic about small units because they meant smaller utility bills and less maintenance (Talen, 2013). In addition, micro-apartments may also help a city with high housing demand better allocate its existing housing stock, particularly if micro-apartments reduce pressure on larger, family-sized units (SPUR, 2007). These small units may serve as an alternative to tenants doubling or tripling up in larger units (Downs, 1992).

Micro-Apartments in San Francisco

San Francisco is a paradoxical case for urbanists. On one hand, the city's density, walkability, and public transit embody many of the core principles of "smart growth." On the other hand, San Francisco has been criticized for its extensive land use regulations, and the combination of strong demand and major supply restrictions has resulted in some of the highest housing prices in the nation (Glaeser and Gyourko, 2002; Pendall, Puentes, and Martin, 2006). San Francisco's supply constraints are the product of both geographical and human-made factors (Saiz, 2010). Despite strong demand, new housing production in San Francisco has been relatively minimal; an average of only 1,500 units per year have been built in the past 20 years (Metcalf and Warburg, 2012).

San Francisco has a rich history of small apartments and residential hotels in the early 20th century. Small units were available in a spectrum of residential hotels—from cheap lodging houses to palace hotels (Groth, 1994). During a period of decades, most small unit types were forbidden through building and zoning regulations. Much of the rationale for this restriction was concern about the health and safety effects of overcrowding. Societal norms and regulations have begun reversing course, however. In 2012, San Francisco piloted a change to its building code that allows 220 square feet as the minimum size for market-rate units, including a bathroom and closet (City of San Francisco, 2012). Subsidized units and student housing previously were allowed at that size, but market-rate units were not. The pilot legislation included an initial cap of 375 units. After about 325 units are approved, the planning department will be required to submit a report to the city's Board of Supervisors "in order to assist the Board in evaluating the requirements, including consideration as to whether more reduced size efficiency units should be allowed" (City of San Francisco, 2012: 2). This policy change was not without controversy. Some affordable housing advocates were concerned that this approach will worsen the affordability problem by creating small luxury housing that caters to a "young, high-tech set" and will not directly add to the options for families (Wollan, 2012: 1).

During the past decade, a handful of new *subsidized*, small-unit developments have been completed in San Francisco. At the time of writing, based on an extensive search of secondary sources and conversations with developers, the *market-rate* micro-housing developments consist of only one condominium project, one micro-apartment complex master-leased as student housing, and several market-rate apartment buildings at some stage of completion. In addition, some micro-apartments are within buildings that include larger units.

Data and Methodology

I analyze San Francisco’s planning code, specifically focusing on how housing units of different sizes are treated. San Francisco has several dozen zoning districts in its code, ranging from low-density single-family zones to industrial zones and high-density, mixed-use zones (City of San Francisco, 2013a). Some zoning districts are small and geographically focused, and others can be found citywide. Because of the nature of micro-apartments, this analysis focuses on the most common medium- and high-density residential and mixed-use zones that allow residential development, as summarized in exhibit 2. I use two prototype buildings, described further in the next paragraph, to test whether local land use regulations impose additional requirements on micro-apartments as compared with conventionally sized apartments and whether the magnitude of these additional requirements is enough to be considered a barrier to new development.

Only a few micro-apartment developments have been completed at the time of writing, so I put forward two hypothetical prototype apartment buildings for comparing the possible effects of regulations (exhibit 3). The prototype buildings would look similar from the street, each with four stories and 11,250 square feet on a 3,750-square-foot infill site. Beyond their equivalent building envelopes, the two hypothetical prototypes diverge. The micro-apartment building has 24 small studio apartments that average 325 square feet, and the conventional building has 14 apartments

Exhibit 2

Major San Francisco Medium- and High-Density Zones

Category	Representative Zones
Residential mixed (medium density)	RM-3
Residential-commercial combined (medium density)	RC-3
Residential mixed (high density)	RM-4
Downtown commercial (high density)	C-3-S, C-3-G
Residential-commercial combined (high density)	RC-4
Residential services district (high density)	RSD

Source: Adapted by author from City of San Francisco (2013a)

Exhibit 3

Key Prototype Building Characteristics

	Micro-Apartment Prototype Development	Conventional Prototype Development
Site size (square feet)	3,750	3,750
Building height (stories)	4	4
Building size (square feet)	11,250	11,250
Average unit size (square feet)	325	650
Total units	24	14
Residential density (units per acre)	281	161

that average 650 square feet. Each building includes ample indoor bicycle parking, has no automobile parking spaces, and provides open space in the form of a rooftop deck. The micro-apartment building includes 240 square feet of indoor communal space for residents, with a fireplace and armchairs, but the conventional prototype does not have any such space.

Findings

In this section, I analyze and compare the two prototype buildings based on Deakin's (1989) framework of potential regulatory barriers: density limits, design and performance standards, and cost-shifting requirements (exhibit 1).

Regulations That Limit the Density of Development

First, I consider setback requirements, side-yard requirements, and minimum lot-size requirements. Setback requirements potentially reduce the amount of developable area on a parcel, which is problematic for small parcels. The higher density zones in San Francisco do not require any setbacks or side yards. Rear-yard requirements are a minimum of 15 feet or 25 percent of lot depth (whichever is smaller). As such, setbacks and yard requirements are not tied to unit size and are not a barrier to micro-apartments. The minimum lot size is 2,500 square feet in all of San Francisco's zones, except in the lowest density residential district. In an analysis of California's infill potential, Landis et al. (2006: 706) excluded lots smaller than 2,500 square feet from his inventory because, for sites smaller than that, the "challenge of designing a marketable housing project that also meets local parking and regulatory requirements becomes so great as to render the lot almost impossible to build on." Both prototype apartment buildings described previously would be permitted under these requirements, and the minimum lot-size requirement is not a barrier to infill micro-apartment development.

Direct density restrictions certainly deserve attention. San Francisco's planning code restricts residential density through minimum lot sizes *defined on a per-unit basis*. The city allows some flexibility in terms of minimum lot size per unit for housing for seniors and small units. For example, in some high-density mixed-use zones, minimum lot sizes per unit are reduced because the code allows a studio unit of up to 500 square feet to be counted as three-quarters of a unit for density purposes. The high-density mixed-use zones are the most conducive to micro-apartments. The high-density C-3 zone (downtown commercial) allows about 348 units per acre. The South of Market Residential Service District (RSD zone) allows about 217 units per acre by right, as do the city's high-density RM-4 (residential mixed) and RC-4 (residential-commercial combined) zones. Given that small studio units can be counted as three-quarters of a unit, however, micro-apartments are effectively allowed at up to 289 units per acre. Direct density restrictions would not be a barrier for the conventional prototype (its density is equivalent to 161 dwelling units per acre) or the micro-apartment prototype building in the city's high-density zones. Alternatively, either prototype might be built less densely to be allowed in a medium-density zone.

Parking and open-space requirements may reduce a site's buildable potential, serving as indirect density restrictions, or may impose additional costs on the project, or may do both. One developer whom I interviewed suggested that micro-apartments are not economically feasible in zones

that require onsite parking because the cost of developing parking drives unit rents too high for potential consumers, which suggests that parking regulations, where required, act as a binding constraint on micro-apartment development. San Francisco's parking requirements vary considerably by zone. The high-density mixed-use zones generally have the least restrictive parking requirements, with no parking required and no parking maximums. One exception, however, is the RC-4 zone, which requires 0.25 parking spaces per unit. The medium-density residential and mixed-use zones generally require 1 space per dwelling unit. In these zones, micro-apartments are much less feasible because a developer would either need to develop expensive underground parking or sacrifice the development potential of a site by building parking above ground. No particular parking-related regulatory barriers affect a micro-apartment building in most high-density zones; it would be a different story in the RC-4 zone, where our micro-apartment prototype would require eight parking spaces compared with three in the conventional prototype.

Outdoor open space and indoor communal space are valuable amenities to city dwellers and may be particularly important to residents of smaller units. Outdoor open space may include private space accessible from an individual unit (for example, a balcony or terrace) or shared space accessible from a building's common area (for example, a rooftop deck or courtyard). Rooftop decks are the predominant form of open space in San Francisco's first market-rate micro-apartment developments (Panoramic Interests, n.d.). In San Francisco's high-density zones, a developer generally must provide 36 square feet of private open space or 48 square feet of shared open space per unit. In medium-density zones, a developer is required to provide 60 square feet of private open space or 80 square feet of shared open space per unit. In a high-density zone, the conventional prototype developer would need to provide at least 665 square feet of shared open space, but the micro-apartment prototype developer would need to provide at least 1,152 square feet. The cost of this additional square footage can be viewed as a regulatory tax on the micro-apartment prototype development. In addition to requiring the outdoor open space, the city recently added a common room requirement applicable only to micro-apartments (City of San Francisco, 2012). The code now requires an indoor common room—a library, shared kitchen, game room, lounge, or fitness center—of at least 10 square feet per unit. The cost of the required 240-square-foot community room also acts as an additional regulatory tax for the micro-apartment developer.

Regulations That Impose Design and Performance Standards

Two types of design and performance standards in San Francisco are residential design guidelines and unit-mix requirements. The city's residential design guidelines apply to development in residential and residential mixed zones (City of San Francisco, 2003). These guidelines add process requirements to the development of new housing in these zones, but they do not include any specific provisions or barriers to small apartments. As mentioned previously, the provision of family-sized housing is a considerable policy concern for the city. As such, the city requires that a percentage of new units in certain zones have at least two bedrooms.¹ It would not be possible to build a development consisting entirely of micro-apartments (or even one-bedroom units) in these

¹ Zones with unit-size mix requirements include the Residential Transit-Oriented (RTO), Regional Commercial (RCD), Neighborhood Commercial Transit (NCT), Downtown Residential (DTR), and Eastern Neighborhoods Mixed Use districts.

zones. The existing micro-apartment developments have predominantly comprised small units and been in zones without unit-mix requirements. Dwelling unit-mix requirements may inhibit the micro-apartment prototype, depending on a developer's desired location.

Regulations That Shift Costs From the Locality to the Developer

San Francisco shifts some affordable housing and infrastructure costs from the municipality to the developer through inclusionary zoning requirements and development impact fees. First, the city requires that developers of at least 10 residential units choose from one of three inclusionary zoning options: (1) pay an Affordable Housing Fee, (2) make 12 percent of the units affordable to households earning 55 percent of Area Median Income (AMI), or (3) provide 20 percent of the units affordable to those households off site (City of San Francisco, 2013b). Each option is costly to a developer; I use the two prototype developments to illustrate the options.

The first option allows a developer to make an in-lieu fee payment based on an annually updated fee schedule (City and County of San Francisco, 2013). To calculate the in-lieu fee for the micro-apartment prototype, I multiply the total number of units in the development (24) by 0.20, round up, and then multiply the resulting number by \$171,558.² Using this formula would result in an \$823,000 fee. The conventional apartment developer could opt to pay a \$710,000 in-lieu fee, calculated by multiplying 14 total units by 0.20 and then by \$236,545. Thus, the additional cost to the micro-apartment prototype developer would be about \$113,000.

With the second option, instead of paying the Affordable Housing Fee, a developer could ensure 12 percent of the units are affordable. In the micro-apartment development, 3 of the 24 units would need to be affordable to renters earning no more than 55 percent of San Francisco's AMI. These unit rents (without utilities) would be capped at \$939 per month (City of San Francisco, 2013c), a discount of hundreds of dollars per month per unit, given expected micro-apartment market-rate rents that exceed much more than \$1,500 per month (Said, 2013). With the third option, each prototype developer would have the option to build affordable units off site. The micro-apartment developer would need to build 5 affordable units off site, whereas the conventional developer would be required to build only 3 units off site.

In addition to requiring affordable housing provision, San Francisco assesses a plethora of other citywide and specific area development impact fees. With few exceptions, these fees are levied based on square footage, meaning that a small unit would not be disproportionately penalized. The only charges that are not assessed on a square-footage basis are a water capacity charge that is assessed based on the water meter size and a wastewater capacity charge that is assessed by unit size range (City of San Francisco, 2013d). Both of these fees are minimal and would probably have a negligible effect on housing affordability.

² The multiplier is based on the size of the units in the building. For example, in 2013 the studio unit figure was multiplied by \$171,558, the one-bedroom unit figure by \$236,545, and the two-bedroom unit figure by \$326,086 (City and County of San Francisco, 2013).

Conclusions

This analysis finds that planning requirements in San Francisco—and undoubtedly in cities across the nation—privilege larger units by adding costs to the development of smaller ones. This article suggests that local governments carefully consider land use regulations that make small apartments difficult to develop. In San Francisco, I find the biggest potential barriers to be (1) parking requirements, (2) outdoor open-space requirements and indoor common-space requirements, (3) unit-mix requirements, and (4) inclusionary zoning.

First, San Francisco has been a leader in parking policy. The city has instituted parking maximums (Millard-Ball, 2002) and tested market-based pricing for on-street parking (Pierce and Shoup, 2013). Off-street parking regulations in some zones, however, could make affordable medium- or high-density development prohibitively difficult, which poses a particular challenge in the development of small units.

Second, cities certainly require open space to maintain a high quality of life, but should the open-space requirement be the same for a 325-square-foot unit with one resident as for a three-bedroom unit with four residents in the same zone? Planners should graduate open-space requirements by unit size. Likewise, if planners and policymakers view common rooms as an important amenity for urban San Franciscans, they should apply requirements proportionately to all multifamily developments rather than to only micro-apartments.

Third, if micro-apartments reduce pressure on the supply of two- and three-bedroom units—and empirical research is needed in this area—increasing the supply of smaller units may have a greater effect on family housing than mandating the production of large units.

Fourth, inclusionary zoning requirements could disproportionately affect small studio units compared with larger apartment units.

Some of these regulatory barriers indirectly or directly limit the areas in the city where micro-apartments can be developed. Other barriers clearly raise costs. Geographic restrictions and cost-increasing regulations could make the widespread provision of lower cost small apartments difficult. This research suggests several policy mechanisms through which the city can level the regulatory playing field in terms of unit size. One big change would be to eliminate the remaining minimum parking requirements in medium- and high-density zones. In terms of open space, regulations should be applied to unit square footage rather than on a per-unit basis. In addition, the city should develop common-space requirements that are consistent for different types of buildings. If further research shows that micro-apartments reduce pressure on larger family-sized units, the housing type could be allowed by right in zones that currently require a percentage of bigger units. In terms of inclusionary zoning, adding a lower in-lieu fee multiplier specifically for micro-apartments would be useful.

For future research, one of the biggest general questions that comes out of this article—and the literature in general—is whether regulations are binding. That is, in the absence of regulations, would a developer provide the same amount of parking, number of units, and open space, for

example? Beyond the study of specific land use regulations, we do not know how micro-apartments will affect American housing markets. Because few new micro-apartment buildings have been completed, we do not know much about the demographic characteristics of micro-apartment tenants. Will micro-apartments serve single young people earning modest wages or high-income out-of-towners desiring a pied-à-terre? Will renters of micro-apartments be primarily one- or two-person households? Although proponents often make an affordability argument for micro-apartments, we do not know the extent to which these units will reflect a low-cost housing option. Finally, what are the local politics of changing regulations to allow infill micro-apartment development in existing neighborhoods? Will neighborhood groups oppose micro-apartment policy changes or attempt to delay or stop building construction? While we do not have the answers to these questions, the first important step in this research agenda is to view land use regulations through the lens of unit size.

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