Title

Affordable Housing Without Public Subsidies: Rent-Setting Practices in Small Rental Properties

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Affordable Housing Without Public Subsidies

Rent-Setting Practices in Small Rental Properties

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Abstract

Problem, research strategy, and findings:

Rental housing affordability is a severe problem for low- and moderate-income families across the US. While some renters benefit from subsidies or rent-regulation, most low-income renters live in unsubsidized, unregulated units, particularly in low-cost 1- to 4-unit properties. Some of these small rental properties are low-cost because they are low quality or are in low-demand neighborhoods, but there has long been speculation that many of these units are low-cost because their owners set rents below market. However the extent to which owners set rent below market, which owners do so, and why, is unknown. I conducted a nationwide survey with follow-up interviews of the owners of small rental properties to understand below-market rent-setting. I find that nearly half of small rental owners choose to set rents below market. These discounts are substantial, averaging 16% below market. Owner's rent-setting strategies are diverse and there do not appear to be sharp distinctions between owners who set rent below market and those who do not. However there is evidence that some owners' lack of knowledge of market conditions contributes to discounts, as does owners' impression of their tenant's income.

Takeaway for Practice:

Most municipalities likely have large stocks of good quality below-market rental housing in small rental properties. Supporting below-market small rentals could be a means for municipalities to realize their housing affordability goals. However the right policies to support this part of the stock are unclear and likely vary by jurisdiction. Planners could examine the owners and tenants of small rentals in their area to understand their needs and respond accordingly. Supporting this stock will raise new equity questions, particularly regarding who gets to rent these units, and practical issues about how the public sector can productively engage with non-professional landlords.

Keywords:

housing affordability, unsubsidized housing, low-income housing, housing supply, single-family rental

Across the US millions of families face severe housing affordability problems, often paying half of their income or more for shelter. The traditional public sector programs to address this problem, such as project- and tenant-based subsidies, help many families but would need to be funded at far greater levels to help all those in need. Low-cost, but unsubsidized, rentals are another existing resource that help families cope with high housing costs. Scholars and policymakers have noted that this "naturally-occurring affordable housing" is likely quite common, particularly among small rental properties (1- to 4-unit properties, or "SRPs"). These units could be low-cost simply because they are low-quality or are in undesirable neighborhoods. Scholars have shown, however, that there are a number of reasons that owners of decent-quality units in desirable neighborhoods may set rents below market levels. Some rent-setting behaviors, such as owners holding rents flat for years, especially for long-term tenants, suggest that large numbers of units may be below market, but the prevalence of below-market rent-setting in SRPs in general has never been shown. This article answers two questions: (i) how often SRP owners knowingly set rents below market and how big these discounts are and (ii) why owners choose to set rents below market and which owners do so.

I answer these questions by surveying the owners of SRPs in the top 149 US metros. The survey collected data on (among other topics) the owner's property, their tenants, the rent, the owner themselves, and whether the owner decided to set rents below market levels. Approximately 950 owners responded to the survey. I also conducted follow-up interviews with 161 of the respondents.

I find that many owners knowingly set rents below market, often substantially so. Owners were evenly split between setting rents at market and setting rents at least $50 per month below market levels. Among below-market rent-setters, discounts in excess of $200 a month were typical. This behavior is partially the result of many owners providing a discount to long-term tenants. A substantial portion of owners, however, set rents below-market even for new tenants. These discounts arise for a range of reasons: some economic, some social, and some having to do with the owner's knowledge of the market. While the portfolio size and professional experience of SRP owners matters in rent-setting, there is no single owner trait that clearly identifies below-market rent-setters from market-rate rent-setters.

Below-market rate SRPs could be a resource for local governments that want to promote housing affordability. SRPs have always been present in large numbers in every metro area in the US and, while some have been the site of exploitation, they have also provided millions of low- and moderate-income families with stable, safe, and affordable homes. Planners have a range of policies, from zoning changes to property tax incentives and certification programs, that may help preserve and generate below-market SRPs. Rent-setting is so idiosyncratic, however, that it is not clear what policies will accomplish these goals. Also below-market SRPs are very unlike subsidized affordable rentals and pose a different set of equity concerns that policymakers will need to consider.

I begin by reviewing what is known about rent-setting behaviors, particularly in the SRP stock. I then describe my survey and interviews and how I use them to answer my two research questions. First, I show the prevalence and depth of below-market rent-setting among SRP owners. Second, I examine why owners choose to set rents below market and the factors that are correlated with this decision. Nearly every municipality in the US likely has a substantial stock of below-market SRPs, and I end with an outline of how planners can begin to incorporate SRPs into their housing affordability strategies through preservation and generation policies and programs. The right policies, however, will likely need to respond to local market conditions and will need to ensure that the rent discounts provided by below-market SRPs are equitably distributed to tenants.

Rent-Setting in SRPs: Duration of Residence Discounts & Rent Stickiness

Cities and states have traditionally responded to housing affordability problems with various measures that do not involve the kind of housing in which large numbers of low-income tenants live: small rental properties of 1 to 4 units ("SRPs"). Most low- and moderate-income renters live in units that are not subsidized or

income-restricted, often in small rental properties that are almost never subsidized (except when the tenant is a voucher-holder) and are normally exempt from policies like rent control. According to the 2017 American Housing Survey ("AHS") approximately 60% of the three million unsubsidized poor renter families with children in the US live in SRPs. Some low-cost SRPs, particularly in weak markets, are low-cost because they are low quality properties, often owned by exploitative investors (Desmond, 2016; Mallach, 2010). However local case studies of SRPs have found that some owners of desirable SRPs nevertheless charge below market rents, effectively providing a discount to their tenants (Gilderbloom, 1985; Gilderbloom & Appelbaum, 1992; Gilderbloom, Pan, Lehman, & Appelbaum, 2008; Krohn, Fleming, & Manzer, 1977; Sternlieb, 1966).

The extent and patterns of below-market rent-setting nationwide are not known, but scholars have documented two related rent-setting practices common in SRPs that might result in below-market rents. The first is the duration of residence discount (often called a "tenure discount"). Starting with Noland (1979), studies have consistently found that, controlling for many factors, long-term tenants tend to pay less for their units than recent movers (Clark & Heskin, 1982; Goodman & Kawai, 1985; Guasch & Marshall, 1987; Malpezzi, Ozanne, & Thibodeau, 1980). Scholars have pointed to two plausible reasons for these discounts: turnover avoidance and managing the risk of renting to a "costly" tenant. Holding rents low over time might encourage tenants to stay in the unit, reducing turnover costs. Conversely keeping a "costly" tenant in place could increase costs, as tenants can generate substantial expenses (including maintenance costs and the costs of utilities paid by the owner) (Goodman & Kawai, 1985; Hubert, 1995; Miron, 1990). Over time landlords can raise rents on costly tenants to encourage them to move and hold rents below market for less costly tenants to encourage them to stay. From this perspective a "duration of residence discount" might be a misnomer for a "risk premium" levied on all new tenants until they prove themselves to be low-cost.

SRP owners may be more sensitive to turnover than multifamily owners and have a better assessment of the risk or costliness of their tenants, thus making them more willing to provide duration of residence discounts. Turnover costs are proportionally larger for owners with small portfolios. The majority of SRP owners have only one or two units, so a vacant unit can represent the loss of 50 to 100 percent of rental income (Savage, 1998; Strochak, 2017). Downs (1983) suggested that the small-scale of most SRP owners made these owners particularly likely to provide a tenure discount, writing that "most small-scale landlords [are] *turnover minimizers* rather than *rent maximizers*" (emphasis original) (Downs, 1983, p. 35). Because they have fewer properties, SRP owners may also pay more attention to tenant screening and be better able to assess the risk of applicants, thus providing them with a lower risk premium (Larsen & Sommervoll, 2009).

The duration of residence discount is challenging to interpret because the landlord's rent-setting affects the tenant's decision to move and vice versa. Marshall & Guasch (1983) even argued that duration of residence discounts may not arise from "discounts" provided by an owner, but from random variations in rent-setting. They hypothesized that landlords guess at rent increases, with some guessing over and some under market levels. The under-guessers will disproportionately keep their tenants, the over-guessers will lose them, and a snapshot of tenants will show a "duration of residence discount" even if landlords weren't trying to provide a discount. Guasch & Marshall (1987) showed that residence discounts are statistically insignificant when tenant mobility is modeled as endogenous. They were careful to note, though, that their findings didn't show that landlords definitively did not provide discounts and made it clear that they might expect residence discounts among small portfolio owners because of aversion to vacancy and turnover.

The second common rent-setting practice is "rent stickiness" or the owners' decision to hold rents flat year-over-year. A quarter to a third of rental units in the US sees no change in rent over a given 2-year period (Genesove, 2003). Stickiness is even common upon turnover, where new tenants pay the same rent as the prior tenants. While the level of stickiness is related to local market conditions, it is more powerfully correlated with property type with very high levels of "stickiness" among SRPs. The precise reasons for this behavior are unclear, though scholars have again cited SRP owners' strong aversion to turnover and personal connections to tenants as likely causes (Genesove, 2003; Verbrugge & Gallin, 2017).

These explanations for duration of residence discounts and rent stickiness show why owners might want to provide discounts to continuing tenants. There are also reasons landlords would choose to set rents low when marketing a vacant unit. Landlords face a trade-off between marketing a relatively high asking rent, which

can bring in more revenue over a long time-span, and offering a relatively low asking rent, which could allow for the unit to be rented more quickly, limiting vacancy losses (Allen, Rutherford, & Thomson, 2009).

In addition to economic reasons for discounts, scholars have suggested that at least some SRP owners set rents below market for ethical or moral reasons. Krohn et al. (1977) found that some amateur landlords that lived in very close proximity to their tenants had numerous non-economic interactions that affected rent-setting. For example, a current tenant might help the landlord find a new tenant for a vacant unit and the landlord might factor this action in their decision whether or not to raise that tenant's rent months later. The authors concluded that this system amounted to "private subsidies" from landlords to tenants that made the low rents for these units possible. While this may partially be due to the particulars of Krohn et al. (1977)'s study site (close-knit ethnic neighborhoods in the relatively weak market of Montreal in the 1970s) interviews with a few small-scale SRP landlords show that some owners set rents below market out of concern for the well-being tenants (Ellen, Been, & Gross, 2013; Gilderbloom, 1985; Mallach, 2007).

SRP owners may set rents below market because they do not know what the market can support and do not take the time to find this information. Gilderbloom et al. (2008) found that metros with high levels of SRPs tended to have lower rents than metros dominated by multifamily rentals. Their explanation, based on interviews with landlords, was that multifamily owners based their rents on market studies, while the amateur owners had neither the time nor expertise to find comparable units in the market and had no ability to "test" the market by asking higher rents, as they marketed units very infrequently.

This existing scholarship allows us to pose and hypothesize answers to two questions. First, to what extent are the owners of SRPs knowingly setting rent below market rate? While it is clear that rents are lower among SRPs the extent to which this is the result of below-market rent-setting, the duration of residence discount, or because the units are low-quality is unknown. It is likely that some owners provide duration of residence discounts, while some do not, and that some owners provide a discount regardless of how long a tenant has lived in the unit. The depth of discounts is also unclear.

Second, if owners are setting rents below market, why are they doing so and is this correlated with any observable owner characteristics? Specifically, the literature suggests that having a small portfolio, having a personal connection to tenants, and being poorly informed about the market will make owners more likely to set rents below market. It also suggests that discounts may take multiple forms. A "risk premium" discount might explain low rents to tenants who are known to the owner before they move in, or to tenants who have been in a unit for a year or more. Additional discounts might come from altruism or simply benign neglect from owners who have little interest in the cash flow from their rentals and/or do not have much knowledge of their rental market.

The Data: An Original Survey and Follow-Up Interviews of Landlords

To answer these questions I surveyed 53,000 owners of small rental properties nationwide. The sample frame consisted of the private owners of 1- to 4-unit rental properties in the top 149 metros of the US. I created the sample in collaboration with Roofstock, a firm that provides services to SRP owners. Roofstock's source data were county assessors and recorders data provided by ATTOM. I solicited the survey by mail and conducted it online from March to August 2019. The total response rate for the survey, including partial completions, was approximately 2%. While the low response rate raises the potential for non-response bias, comparisons between the survey respondents and nationally representative data suggest that the survey captured much of the diversity of SRPs nationally. When considered by portfolio size, the region of the country their properties are in, the type of property, and the type of legal entity that holds the property, there is only one major kind of owner and property that is missing among the respondents.

The missing group is the resident landlords of 2- to 4-unit buildings (owners who live in the same building as their tenants). This gap arose because resident landlords were difficult to identify in the sample data set. Scholarship has shown that resident landlords are very different than other SRP owners. The owners themselves are distinct demographically, their properties are older and lower-value, and their tenants are also substantially different (Mallach, 2007; Porell, 1985). There is even evidence that resident landlords set rents lower than non-resident SRP owners (Ellen et al., 2013). Thus it is likely below-market rent-setting

is actually *more common* for all SRPs in the US than it is among the survey sample. Please see online Technical Appendix A (https://doi.org/10.6078/D1DH52) for a detailed description of the survey, sampling, and an analysis of potential bias.

I solicited interviews at the conclusion of the online survey and conducted them via phone. Interviews generally lasted from thirty minutes to an hour and covered basic information such as the owners' portfolio size, the markets they operated in, and their properties and tenants, and more detailed discussions of their acquisition, financing, rent-setting, maintenance, and tenant selection strategies, and their tenant screening procedures.

Measuring Below-Market Rent-Setting & Finding Out Why Owners Do It

I asked whether owners knowingly set rents below market levels in the survey and, in both the survey and interviews, asked about the factors considered when setting rents.[1] The survey asked if a unit was "at or very close (within $50 per month) to the market rate for similar units," "Below the market rate for similar units," or "Don't know." The survey posed questions on many other owner characteristics, including portfolio size.

Separately from asking whether an owner set rents below market, I calculate the approximate amount reported rents diverge from market. I estimate market rents using Zillow Rent Index ("ZRI") data. Zillow provides ZRIs of market rent per square foot for all single-family rentals by month and ZIP code (Bun, 2012). ZRI data provide a timelier source of market rents than other commonly used rent data, such as the American Community Survey ("ACS") (Anenberg & Kung, 2018; Coles, Egesdal, Ellen, Li, & Sundararajan, 2017). ZRIs allow me to estimate the market rate for units based on their type (single-family rental), size (measured by the square footage of the unit), in the ZIP code of the property during the month the owner filled out the survey. I then calculate the ratio of the reported rent to the ZRI-estimated rent. For the analyses that use the ZRI comparison, I remove outliers below the 3rd percentile and above the 97th percentile of reported rents relative to the ZRI predicted rents.

I also examine the pattern of below-market rent-setting by the tenant's duration of residence by cross-tabulating the prevalence of below-market rent-setting and the depth of discounts by the tenant's duration of residence. Scholarly literature is unanimous that longer-term term tenants tend to pay lower rents, but the patterns of these discounts, and the extent to which they are the result of owners knowingly setting rents below market, is not understood.

Descriptive statistics from the survey and interview analysis provide some sense of the prevalence of below-market rent-setting and the depth of the discounts. The literature on the duration residence discount has by no means showed that rental property owners regularly and purposefully set rents below market. The studies that have shown owners setting rents below-market have been based on interviews of a dozen landlords or less (Ellen et al., 2013; Gilderbloom, 1985; Mallach, 2007) or have been focused on cases who particulars limit generalizability to all SRPs in the US (Krohn et al., 1977).

I conduct multiple regression analyses to better understand how the prevalence of below-market rent-setting among the survey respondents reflects the prevalence of this practice among US SRP owners in general. Multiple regression provides two kinds of insights into rent-setting. First, it provides a better sense of the factors that are correlated with below-market rent-setting within the full group of survey respondents. By controlling for the tenants, markets, public policies, and property characteristics that are known to affect rent levels, regressions allow for the isolation of the economic, social, and information factors that may drive below-market rent setting. Second, regressions address how this group of survey respondents is different from the group of all the owners of SRPs in the US. While the survey data capture much of the diversity of SRPs in the US the survey data are not perfectly representative of SRPs and their owners in the US. My models control for factors where these differences exist. (See online Technical Appendix B: Model Construction, https://doi.org/10.6078/D1DH52 for a description of the models.)

[1] The unit of analysis is the surveyed housing unit. Surveyed owners who held multiple units were asked a series of questions about a single specific unit in their portfolio.

How Often and by How Much Do Landlords Set Rents Below Market?

Figure 11 shows the proportion of survey respondents who reported setting rents below market. 44% of survey respondents knowingly set rents for their units below market, relative to 46% who reported setting rents approximately at market. This can be considered an even split between market-rate and below-market rent-setting, as the difference between these proportions is not statistically significant. (10% of respondents reported not knowing whether their unit was at or below market.)

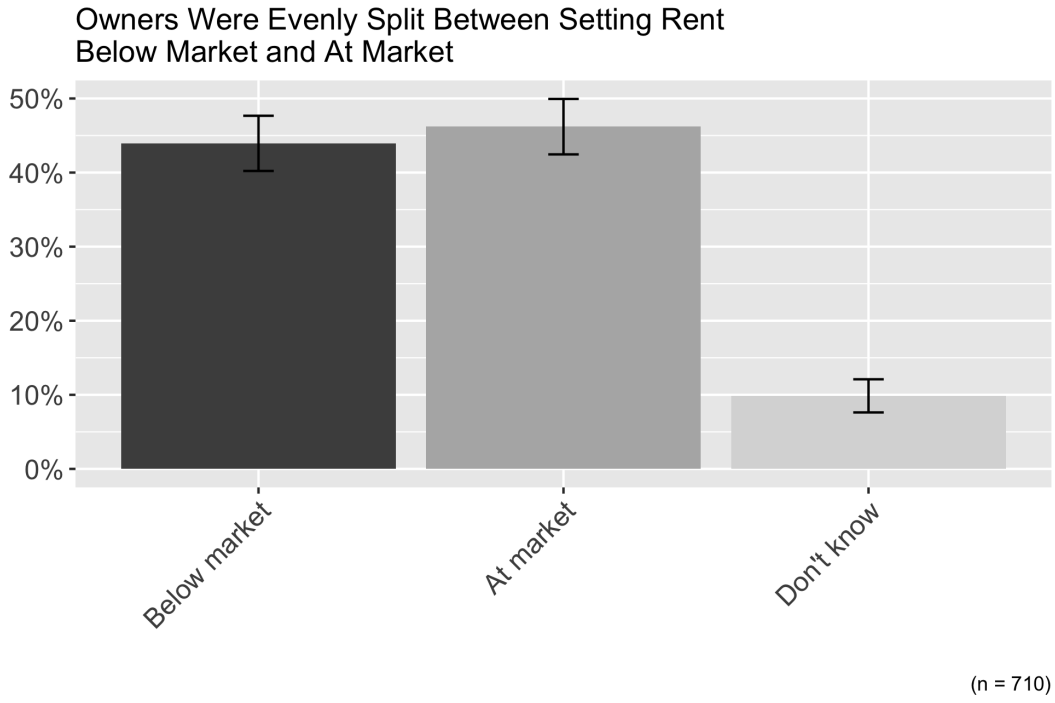

Figure 1: Proportion of Survey Respondents Who Reported Setting Rent Below Market

Survey respondents who reported setting rents below market appear to set rents much lower than owners who reported setting rents at market. Figure 22 shows the histograms of the distribution of reported rents relative to the ZRI comparable for owners who reported setting rent at market rate and those who reported setting rent $50 or more below market.[2] The owners who set rents at market reported rents that were, on average, very close to ZRI market estimates: the median unit was only $4 from the rent predicted by the ZRI. Owners who reported setting rents below market tended to set rents substantially below market: the median unit was $240 per month below the ZRI estimate. Considered as a percent reduction from market, the median below market unit was 16% below the ZRI rent.

The "tenure discount" is real and powerful but does not fully explain below-market rent-setting. Rents are set below-market for nearly a quarter of tenants who have resided in their unit for less than one year. Conversely, a quarter of surveyed landlords with tenants who had lived in the unit for over 6 years reported charging market rent. The depth of discounts over a tenant's residence suggests a pattern of annual discounts that start in the tenant's third year and continue to accrue at least through the seventh. Median rents are within 2 percentage points of market rents in the first and second year of residence; drop to 7% below market in the third year, 13% and 14% of market in the fourth and fifth year, respectively; 22% below market in the sixth year; and 25% below for tenants who had lived in the unit beyond their sixth year.

[2]Interviewees rarely mentioned criteria that are illegal to consider, but many criteria that are legal for SRP owners are not legal for multifamily owners, especially subsidized multifamily owners. SRP owners operate under a different legal regime from multifamily subsidized owners. Resident SRP landlords, for example, are explicitly exempt from many of the requirements of the Fair Housing Act (Decker, 2010).

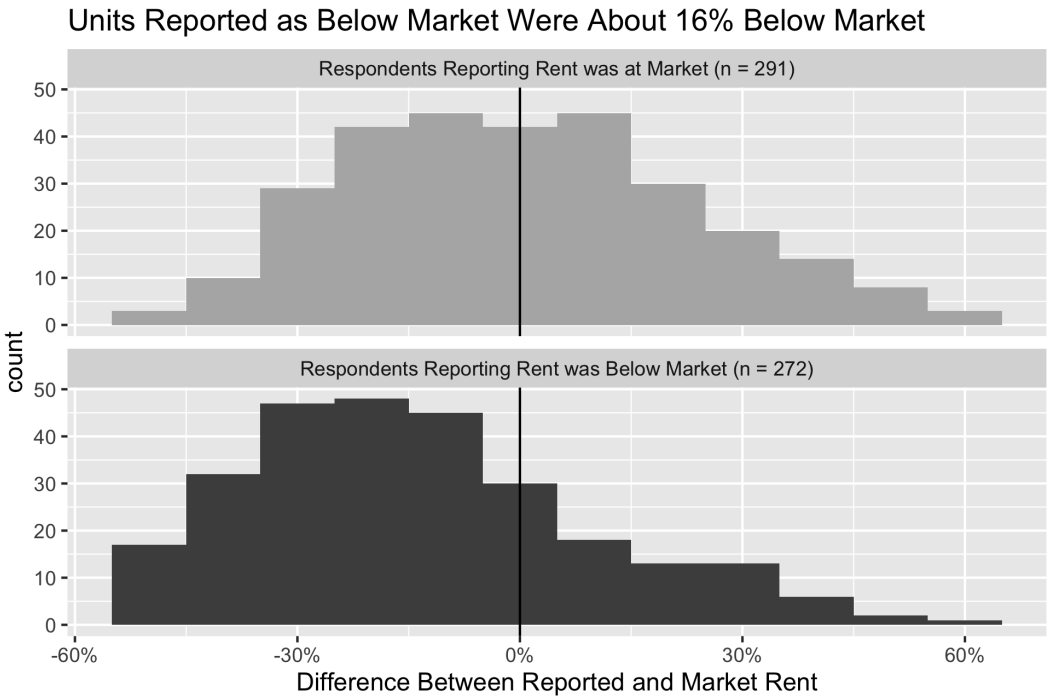

Figure 2: Distribution of Rents Relative to Market

Why Do Landlords Set Rents Below Market?

Interviews conducted in conjunction with the survey show that owners who set rents below market do so for diverse reasons, some of which have been identified by prior scholarship. Many owners mentioned trying to keep rents below to limit vacancy losses and attract and retain "good tenants." Owners also noted that setting rents low when bringing a unit to the market can shorten the period a unit is vacant and result in more applications for the unit. Typical vacancy periods reported by landlords varied from a few weeks to up to 5 months, so a discount of even $200 relative to market could be economically justified if it results in a unit being rented a month or two faster. Some owners reported advertising units below market to generate a larger pool of potential tenants, allowing the owner to choose a tenant who better fits their criteria. Once the unit is occupied, owners and managers reported using rent-setting to retain "good" tenants (usually by keeping rents flat over the course of multiple years) or encouraging "problem" tenants to move (usually by notifying them that they were raising rents to market levels).

Interviews and written-in answers to survey questions showed that SRP owners often consider their current tenant's income, in addition to whether the tenant is "good," when setting rents. The most common write-in response for "Other factors" considered in rent-setting were tenant-related, particularly their ability to pay (consideration of tenant income was not among the provided answers). One owner wrote, "Taxes are skyrocketing, trying to keep rent down so renters can afford with their income." Another owner wrote, "ability for tenant to pay."

Interviews suggested that better-informed, larger portfolio landlords were generally less likely to set rents below market. Exceptions to this norm were telling and often involved a "professional" intervention. An owner of three small rental properties in the Denver metro stated:

> "I didn't raise rents at all for a long time and then I got with a financial planner and she told me I was making something, like, 4.5% on my rentals. I said, 'what? What?' [chuckling] She said, 'Well, you have to raise the rent. I mean you can't just let them sit there.' So I took that to heart and I started raising the rent every year. I've been doing that ever since."

Furthermore, larger portfolio owners, though they had the same concerns about turnover, often had different rent-setting practices than smaller-portfolio owners, such as escalator clauses in their leases. An owner of 32 SRPs in the St. Louis metro stated, "my leases have automatic rent increases built into them." And though she noted that she had some flexibility whether to impose the increase, having escalating rent written into the lease mattered. "I have tenants [for whom] there's never been any question. I've never had to send them a letter saying, 'your lease is renewing [and] this is your new rent amount.' They just automatically send the new amount each year," she said.

Larger landlords also appeared to check more sources of market data in determining their rents. The same owner stated: "I look at a lot of different sources: I'll go to Zillow, I'll go to Trulia, I'll look at GoSection8.com, socialserve.com to get a general idea of how things look." The owner of 50 SRPs in the Fort Worth metro stated "When we're renting a house, I'm going to look on Zillow and on MLS [for] how much are things renting for. I want it to be spot on, middle of the market not trying to push it, not trying to give it away, just want it fair for everybody, because if it's fair they'll stay in there. My goal is to try to keep the tenant in there as long as I can." An owner of 45 SRPs in the Bay Area in California and Detroit, MI stated that while he tries to "go just a little bit under" market rents, he also actively tested the market with his units.

> "Let's say, for example, I'm going to have a vacancy at the end of May, so what I'll do is on May first, while the tenant is in their last month, I'll put the property up for rent and have an open house while the tenant is still living there. But I'll put it for a high amount. If I'm not getting any calls, it's too high. I'll lower it the second week. If I'm still not getting calls, I'll lower it a little bit more on the third week. And then I start to see, it's been a year or two or three, [but] this is where the market's at because now my phone does not stop ringing."

Interviews provide insights into the specifics of landlords' rent-setting decisions; multiple regression analysis provides insights that, while less nuanced, are more generalizable to SRP owners across the US. A full description of the regression analysis, including variable selection, is included in the online technical appendix (https://doi.org/10.6078/D1DH52). The following discussion focuses on the high-level findings of the regressions.

Table 1: Summary of Interval Variables

Variable	mean	Std Dev
Biennial Median ZIP Rent Change (log)	0.05475	0.04
Distance From Owner's Home to Rental (mi)	164.7	479
Metro Construction Rate (%)	1.029	0.69
Metro Price-to-Rent Ratio	159.8	32.79
Metro Rental Vacancy Rate (%)	7.152	2.33
Owner's Assets (log)	13.2	1.6
Portfolio Size (log)	1.988	1.13
Time in Business (years)	18.48	11.79

Table 2: Summary of Categorical Variables

Variable	Value	Ratio (%)	Std Err
Duration of Residence	1st Year	21.02	3.6
Duration of Residence	2nd Year	21.51	3.59
Duration of Residence	3rd Year	15.11	3.73
Duration of Residence	4th Year	9.85	3.85
Duration of Residence	5th Year	11.17	3.82
Duration of Residence	6th Year	4.27	3.96

Variable	Value	Ratio (%)	Std Err
Duration of Residence	7th Year or Longer	17.08	3.69
State Policy	Protectionist	32.64	3.29
State Policy	Contradictory	23.63	3.5
State Policy	Pro-business	43.73	3.01
Tenant Income	Low income	33.1	3.42
Tenant Income	Middle income	59.72	2.66
Tenant Income	Upper income	7.18	4.03
Rent Setting	Used Technology	59	2.61
Property Management	Used Technology	64.34	2.53
Management Co.	Self Managed	73.91	2.05
Reason for Holding	Future security for family	27.96	3.44
Turnover	Actively Limiting Turnover	69.61	2.23
Capital Improvements	Recent Improvement	62.22	2.46

Tables 1 and 2 show the summary statistics for the interval and categorical variables (respectively) included in the models. I use two model forms: OLS linear probability models and logit models. The dependent variable is whether the owner reported setting rent below market. The OLS models (models 1 & 2) provide easily interpretable results. The coefficients reflect the impact on the probability a unit's rent will be set below market. Thus a coefficient of 0.10 for a dummy variable means that when the dummy is "turned on," the chance that a unit is below market will increase by 10 percentage points. Linear probability OLS models are commonly used, however they violate some of the basic assumptions of OLS. To ensure that the conclusions of the analysis are justified, I also run logistic, or logit, models (models 3 & 4). The coefficients of logit models are the impact that each variable has on the logged odds ratio of the unit being below market. Thus a coefficient of 0.10 for a dummy would mean that "turning on" the variable would increase the likelihood of a unit being below market by 10.5% ($e^{0.10}$) relative to the dummy being "off."

To deal with the fact that rent-setting affects residence duration, but residence duration also affects rent-setting, I contrast models with residence duration as a covariate to models without residence duration. Contrasting the covariate coefficients between the models should provide some perspective on how owner's rent-setting drives tenants' moving decisions. The coefficients of the covariates could vary between the two models because they mean something different. In the models with residence duration the covariates coefficients refer to the covariate's impact (i) independent of the amount of time that the tenant has chosen to stay in the unit for reasons unrelated to rent and (ii) independent of any *additional* time that the tenant has stayed in the unit because of lower rents provided by the owner. If, for example, large portfolio landlords provide discounts in a way that is particularly effective at enticing tenants to stay in their unit, the impact of portfolio size on below-market rent-setting would be diluted by the tenure duration controls. Assuming that tenants move for reasons unrelated to rent discounts at rates that are uncorrelated with the covariates, contrasting models that control for residence duration with those that do not should provide some perspective on the extent to which covariates are correlated with rent discounts that have kept the tenant in the unit.

Table 3 shows the results of the regressions. The models show how idiosyncratic rent-setting is. Only a few factors are significantly correlated with an owner's decision to set rents below market. Even after evaluating dozens of variables to determine the most important ones, the models only explain about 31% of the variation in below-market rent-setting.[3] About half of the predictive power of the models came just from the tenant's duration of residence.

Many of the factors that existing theory would suggest should affect below-market rent-setting are not strongly correlated to below-market rent-setting in the survey data. The frequency with which owners visit

[3]I evaluated 133 variables that prior scholarship suggested might have an impact on whether owners would set rent below market. The variables measured different aspects of (i) the owners themselves, (ii) the tenants of the units, (iii) the local rental market, (iv) the local policy environment, and (v) the properties themselves. Very few variables were significantly related to below-market rent-setting. See the technical appendix (https://doi.org/10.6078/D1DH52) for a more detailed description of variable selection.

Table 3: Below Market Rent Setting Results

	Dependent variable:			
	Set Rent Below Market			
	OLS		*logistic*	
	(1)	(2)	(3)	(4)
2nd Year of Residence	0.083		0.506	
	(0.077)		(0.442)	
3rd Year of Residence	0.130		0.748	
	(0.086)		(0.485)	
4th Year of Residence	0.368***		1.875***	
	(0.093)		(0.511)	
5th Year of Residence	0.486***		2.485***	
	(0.093)		(0.542)	
6th Year of Residence	0.315**		1.556**	
	(0.133)		(0.700)	
7th Year of Residence or Longer	0.509***		2.720***	
	(0.085)		(0.514)	
Middle Income Tenants	−0.099*	−0.107*	−0.552*	−0.542*
	(0.057)	(0.061)	(0.321)	(0.285)
Upper Income Tenants	−0.032	−0.085	−0.144	−0.433
	(0.105)	(0.111)	(0.588)	(0.524)
Portfolio Size (log)	−0.037	−0.030	−0.251*	−0.145
	(0.026)	(0.027)	(0.146)	(0.127)
Distance From Owner's Home to Rental (log)	−0.012	−0.011	−0.064	−0.052
	(0.010)	(0.011)	(0.056)	(0.050)
Owner Assets (log)	−0.026	−0.028	−0.136	−0.141*
	(0.016)	(0.018)	(0.093)	(0.082)
Time in Business (years)	0.016	0.059*	0.106	0.268*
	(0.032)	(0.034)	(0.178)	(0.156)
Used Tech When Rent-Setting	−0.029	−0.097*	−0.168	−0.457*
	(0.057)	(0.059)	(0.313)	(0.270)
Used Tech for Property Management	−0.142**	−0.156**	−0.758**	−0.730**
	(0.059)	(0.062)	(0.325)	(0.286)
Holding for Future Security for Family	0.126**	0.099*	0.702**	0.466*
	(0.056)	(0.059)	(0.312)	(0.273)
Self Managed	0.013	−0.0005	0.049	−0.019
	(0.064)	(0.068)	(0.350)	(0.309)
Actively Limiting Turnover	−0.123**	−0.130**	−0.683**	−0.622**
	(0.054)	(0.058)	(0.301)	(0.268)
Metro Vacancy Rate	1.194	1.506	7.502	6.794
	(1.368)	(1.453)	(7.752)	(6.630)
Biennial Median ZIP Rent Change (log)	0.756	1.162*	3.858	5.371*
	(0.627)	(0.669)	(3.428)	(3.101)
Metro Construction Rate	1.144	0.760	10.217	3.696
	(4.133)	(4.453)	(23.157)	(20.457)
Metro Price-to-Rent Ratio	0.001	0.001	0.007	0.007
	(0.001)	(0.001)	(0.006)	(0.005)
Landlord Friendly State Policy	−0.062	−0.111	−0.367	−0.527
	(0.075)	(0.080)	(0.426)	(0.370)
Contradictory State Policy	−0.044	−0.055	−0.263	−0.273
	(0.075)	(0.080)	(0.422)	(0.369)
Recent Capital Improvement	−0.005	−0.008	0.005	−0.043
	(0.051)	(0.055)	(0.287)	(0.254)
Constant	0.653**	0.824**	0.758	1.725
	(0.318)	(0.332)	(1.762)	(1.575)
Observations	325	334	325	334
R^2	0.306	0.155		
Adjusted R^2	0.251	0.107		
Log Likelihood			−168.357	−203.277
Akaike Inf. Crit.			386.714	444.554
Note:				*p<0.1; **p<0.05; ***p<0.01

their rental property, the distance between the owner's residence and their rental, and their tenant selection methods do not appear to be related to the decision to set rent below market. Surprisingly, the most literal definition of "professional" was also uncorrelated to below-market rent-setting. There was no significant difference in rent-setting between full-time real estate professionals and those who only spent a few hours a month on their portfolio. Contrary to the difference seen in interviews, the correlation between the number of units in the owner's portfolio and the chance they set rents below market is very weak. Doubling the portfolio size of the owner is associated with only a 16% decrease in the likelihood of setting rents below market. Differences in state-level tenant protection policies have no significant impact on below-market rent-setting.

There are no signs that owners set rent below market more frequently for properties in relatively poor condition or that rents in certain property submarkets are generally below market. The age of the home, the frequency of routine maintenance, the size of the parcel, or whether the property had a capital improvement in the past three years were all uncorrelated to below-market rent-setting.

Local market conditions also had a weak or non-existent impact on below-market rent-setting patterns. Metro vacancy rates, housing construction rates, and price-to-rent ratios had no discernible impact on whether owners set rents below market. Recent rent trends, measured as the two-year change in median metro rents, had a measurable, but very small, effect.

The amount of time the tenant has been in the unit had a powerful impact on the chance their landlord sets rent below market, but this effect was only discernible after a few years of occupancy. Relative to tenants who have been in the unit for less than a year, the chance of below-market rents only sees a significant rise starting the fourth year the tenant has resided in the unit. By the 7^{th} year of residence, tenants are 15 times more likely to receive below-market rents relative to new tenants. If the duration of residence discount is the result of owners hedging against the risk of a costly tenant, then the benefits to non-costly tenants are slow to come.

The regressions showed that owners sometimes set rents below market to limit turnover, but that owners have many other means of limiting turnover, and often set rents below market for reasons that have nothing to do with limiting turnover. Respondents who stated that they were "actively trying to minimize tenant turnover at this property" were substantially *less* likely to set rents below market (they set rents below market at only 51% the rate of owners who didn't report trying to limit turnover). This result is likely driven by the fact that only 25% of the owners who reported wanting to limit turnover stated they did so with "rent concessions or reductions." Most owners actively trying to limit turnover did so by improving the property or providing better services to their tenants. Among the owners who reported they were *not* trying to limit turnover, 60% stated that they set rents below market.

The concern for tenants' ability to pay appeared to matter in owners' decisions to set rents below market. Owners were asked about their impression of their tenant's income, categorizing their tenants as "Low income," "Middle income," or "Upper income." Landlords of middle-income tenants only set rents below market a 58% the frequency that landlords of low-income tenants did (very few respondents identified their tenants as upper income).

The role of professionalism in the decision to set rents below market is clearest in the difference between owners who routinely use technology and those who do not and for owners who owned the property for the benefit of their family. Owners who used no technological tools in managing their properties (including relatively rudimentary tools like MS Excel) were 1.5 times as likely to hold rent below market relative to those who did. In the models that did not control for tenure duration, owners who used online comparables in rent-setting (for example, by looking up rents for properties similar to theirs on Zillow) were only 63% as likely to set rents below market relative to owners who do not use online comps. Owner who continued to hold their rental "As future security for family member(s)" were 2 times as likely to hold rents below market than those who did not.

The Policy Implications of Below-Market Small Rental Properties

Below-market SRPs could play an important role in planners and policymakers' strategies to help low- and moderate-income residents afford homes. Nearly every municipality in the US has a sizeable number of SRP units and about half of these units are below market. The discounts from market are substantial. The median below-market SRP unit is about $240 per month under market, which is approximately the level of subsidy provided by the average Earned Income Tax Credit (Galante, Reid, & Decker, 2016). Planners could consider a range of policies to preserve the existing stock of below market SRP units and generate additional units. However it is clear that below-market rent-setting is very idiosyncratic and programs and policies designed to promote SRP affordability should be based on local SRP market conditions. Relative to subsidized affordable units, SRPs present a different set of equity concerns that planners will need to address to ensure that improvements in affordability are fairly distributed. Planners should approach SRPs cautiously, as very little is known about rent-setting among small rental properties in the US, and even less is known about how rent-setting is affected by the local policy environment.

Policymakers interested in SRPs could begin by determining whether their jurisdiction's current policy environment is fulfilling their community's housing goals in the context of SRPs. Because there are few sources of formal data about the SRP market, planners might best be served by developing knowledgeable contacts within the SRP owner and tenant community in their jurisdiction to better understand the dynamics and needs of this part of the housing stock. This can take the form of an organized data-collection operation that yields official conclusions and recommendations (the Minnesota Preservation Plus Initiative (2013) is a good example of this approach). The existing interactions between local governments and SRPs also provide a ready means to identify the local SRP community of owners and tenants. Specifically, property transaction records, housing court records, code enforcement actions, and other public data can allow planners to begin to identify and understand the SRP landscape in their community.

Having gained insight into their local SRP markets, planners could consider a range of policy levers that might help generate and preserve below-market SRP units, though there is not currently any evidence of which programs and policies have accomplished these goals. The opening up of single-family only zoning to allow for 2- to 4-unit developments and the increasing popularity of legislation allowing for the construction of accessory dwelling units both have the potential to generate new below-market SRP units (Chapple, Wegmann, Mashhood, & Coleman, 2017; Wegmann, 2020). Whether the owners of these newly constructed SRP units will behave like current SRP owners, however, is not clear. SRPs are typically older units that were built for owner-occupants and "filtered down" to become rentals. Only 37 owners surveyed for this analysis built their rental themselves or acquired it soon after it was built. Current SRP owners could be enticed to keep their units below market with subsidies and services. New York State, for example, provides property tax incentives to landlords of low-income seniors in exchange for tenant rent freezes (Furman Center, 2020). Utah has enabled municipalities to enact "Good Landlord Programs" which waive certain municipal fees for participating landlords in exchange for landlords meeting criteria including passing a training program (Mallach, 2010).

Because SRPs are far less regulated than subsidized properties they present a novel set of equity concerns to policymakers interested in generating and preserving existing below-market rate SRPs. There are no formal income restrictions on the properties and thus no guarantee that the tenants who benefit from below-market rents are low- or moderate-income. The marketing and tenant selection processes for these units is radically different than for subsidized units. About 28% of SRP owners do not regularly market their units through print or online ads, and instead rely on word-of-mouth and "for-rent" signs. This means that a relatively select group of housing searchers would know about a vacancy in these units, which raises questions about equitable access to these units. SRP owners were very clear in interviews that they took tenant selection seriously, though some of the criteria they used would be unacceptable for subsidized properties. For example, owners mentioned considering the cleanliness of applicants' cars and the manners of applicants' children when selecting tenants.[4] Many SRP owners willingly provide substantial discounts to "good" tenants, but

[4]Interviewees rarely mentioned criteria that are illegal to consider, but many criteria that are legal for SRP owners are not legal for multifamily owners, especially subsidized multifamily owners. SRP owners operate under a different legal regime from multifamily subsidized owners. Resident SRP landlords, for example, are explicitly exempt from many of the requirements of the Fair Housing Act (Decker, 2010).

the criteria that make a tenant "good" may not align with policy objectives and may even be unacceptable or illegal for policymakers to endorse.

It is not currently clear how to construct a policy regime that promotes good-quality, low-cost SRPs, but constructing this regime may be necessary as there is no guarantee that below-market SRPs will remain common. As market information becomes more readily available through services like Zillow and as more owners use technologies even as simple as spreadsheets, it is likely that fewer owners will set rents below market. Increased investor interest in SRPs, whether from institutional investors or simply more market-savvy investors, will likely result in the professionalization of SRP owners, with changes in rent-setting behaviors. While institutional investors collectively hold only a small portion of SRP units, they have proved nationwide scattered-site SRP ownership is not only possible, but also profitable (Bordia, Vaidya, & Mills, 2016). No institutional investors participated in the survey, but it is very unlikely that institutional owners set rents in similar ways to non-institutional SRP owners. It is possible that a continuation of the hands-off strategy towards SRPs may be the best means to realize communities' housing goals for SRPs. But planners should consider the headwinds against below-market rent-setting when they consider small rental properties in their jurisdictions.

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References

Allen, M., Rutherford, R., & Thomson, T. (2009). Residential Asking Rents and Time on the Market. *Journal of Real Estate Finance & Economics*, *38*(4), 351–365. https://doi.org/10.1007/s11146-007-9092-0

Anenberg, E., & Kung, E. (2018). Can more housing supply solve the affordability crisis? Evidence from a neighborhood choice model. *Regional Science and Urban Economics*. https://doi.org/10.1016/j.regsciurbeco.2018.04.012

Bordia, S., Vaidya, J., & Mills, J. (2016). *US single family rental - an emerging institutional asset class*. New York, NY: BNY Mellon Investment Management Singapore.

Bun, Y. (2012, March). Zillow Rent Index: Methodology. *Zillow Research*.

Chapple, K., Wegmann, J., Mashhood, F., & Coleman, R. (2017). *Jumpstarting the Market for Accessory Dwelling Units*. Berkeley, CA: Terner Center for Housing Innovation.

Clark, W. A. V., & Heskin, A. D. (1982). The Impact of Rent Control on Tenure Discounts and Residential Mobility. *Land Economics*, *58*(1), 109–117. https://doi.org/10.2307/3146080

Coles, P. A., Egesdal, M., Ellen, I. G., Li, X., & Sundararajan, A. (2017). *Airbnb Usage Across New York City Neighborhoods: Geographic Patterns and Regulatory Implications* (SSRN Scholarly Paper No. ID 3048397). Rochester, NY: Social Science Research Network.

Decker, N. (2010). Housing Discrimination and Craigslist. *The Current: The Public Policy Journal of the Cornell Institute for Public Affairs*, *14*(1), 43–57.

Desmond, M. (2016). *Evicted : Poverty and profit in the American city*. New York : Crown Publishers.

Downs, A. (1983). *Rental Housing in the 1980s*. Washington, D.C: Brookings Institution.

Ellen, I. G., Been, V., & Gross, B. (2013). *Maintenance and Investments in Small Rental Properties: Findings from New York City and Baltimore*. Furman Center for Real Estate and Urban Policy & Johns Hopkins Institute for Policy Studies.

Furman Center. (2020). Senior Citizen Rent Increase Exemption of NYC Housing Programs. *CoreDataNYC*. https://furmancenter.org/coredata/directory/entry/senior-citizen-rent-increase-exemption-program.

Galante, C., Reid, C. K., & Decker, N. (2016). *FAIR Tax Credit*. Berkeley, CA: Terner Center for Housing Innovation.

Genesove, D. (2003). The Nominal Rigidity of Apartment Rents. *The Review of Economics and Statistics*, *85*(4), 844–853. https://doi.org/10.1162/003465303772815763

Gilderbloom, J. I. (1985). Social Factors Affecting Landlords in the Determination of Rent. *Urban Life*, *14*(2), 155–179. https://doi.org/10.1177/089124168501400202

Gilderbloom, J. I., & Appelbaum, R. (1992). Sham rent control research. *Journal of the American Planning Association*, *58*(2), 220.

Gilderbloom, J. I., Pan, Z., Lehman, T., & Appelbaum, R. P. (2008). Why Rents Rise. In J. I. Gilderbloom (Ed.), *Invisible city: Poverty, housing, and new urbanism* (1st ed). Austin, TX: University of Texas Press.

Goodman, A. C., & Kawai, M. (1985). Length of Residence Discounts and Rental Housing Demand: Theory and Evidence. *Land Economics*, *61*(2), 93–105. https://doi.org/10.2307/3145802

Guasch, J. L., & Marshall, R. C. (1987). A theoretical and empirical analysis of the length of residency discount in the rental housing market. *Journal of Urban Economics*, *22*(3), 291–311. https://doi.org/10.1016/0094-1190(87)90029-5

Hubert, F. (1995). Contracting with costly tenants. *Regional Science and Urban Economics*, *25*(5), 631–654. https://doi.org/10.1016/0166-0462(95)02102-Z

Krohn, R. G., Fleming, B., & Manzer, M. (1977). *The other economy: The internal logic of local rental housing*. Toronto: P. Martin Associates.

Larsen, E. R., & Sommervoll, D. E. (2009). The impact on rent from tenant and landlord characteristics and interaction. *Regional Science and Urban Economics*, *39*(3), 316–322. https://doi.org/10.1016/j.regsciurbeco.2008.10.004

Mallach, A. (2007). Landlords at the Margins: Exploring the Dynamics of the One To Four Unit Rental Housing Industry. In *Revisiting Rental Housing: A National Policy Summit*.

Mallach, A. (2010). *Meeting The Challenge Of Distressed Property Investors In America's Neighborhoods*. New York, NY: Local Initiatives Support Corporation.

Malpezzi, S., Ozanne, L. J., & Thibodeau, T. G. (1980). *Characteristic Prices of Housing in Fifty-Nine Metropolitan Areas*. Washington, DC: Urban Institute.

Marshall, R. C., & Guasch, J. L. (1983). Occupancy Discounts in the U.S. Rental Housing Market. *Oxford Bulletin of Economics and Statistics*, *45*(4), 357–378. https://doi.org/10.1111/j.1468-0084.1983.mp45004003.x

Minnesota Preservation Plus Initiative. (2013). *The Space Between: Realities and Possibilities in Preserving Unsubsidized Affordable Rental Housing*. Minneapolis, MN.

Miron, J. (1990). Security of Tenure, Costly Tenants and Rent Regulation. *Urban Studies*, *27*(2), 167–183. https://doi.org/10.1080/00420989020080151

Noland, C. W. (1979). Assessing Hedonic Indexes for Housing. *Journal of Financial & Quantitative Analysis*, *14*(4), 783–800. https://doi.org/10.2307/2330452

Porell, F. W. (1985). One Man's Ceiling Is Another Man's Floor: Landlord/Manager Residency and Housing Condition. *Land Economics*, *61*(2), 106–118. https://doi.org/10.2307/3145803

Savage, H. A. (1998). *What we have learned about properties, owners, and tenants from the 1995 Property Owners and Managers Survey*. Washington, D.C.: Census Bureau.

Sternlieb, G. (1966). *The Tenement Landlord*. New Brunswick, N.J: Urban Studies Center, Rutgers, The State University.

Strochak, S. (2017, October). Five things that might surprise you about the fastest-growing segment of the housing market. *Urban Institute*. https://www.urban.org/urban-wire/five-things-might-surprise-you-about-fastest-growing-segment-housing-market.

Verbrugge, R., & Gallin, J. (2017). *A Theory of Sticky Rents: Search and Bargaining with Incomplete Information* (SSRN Scholarly Paper No. ID 2973964). Rochester, NY: Social Science Research Network.

Wegmann, J. (2020). Death to Single-Family Zoning. . . and New Life to the Missing Middle. *Journal of the American Planning Association*, *86*(1), 113–119. https://doi.org/10.1080/01944363.2019.1651217