

Fixing Urban Planning with Ostrom

Strategies for existing cities to adopt polycentric, bottom-up regulation of land use

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Abstract

Campaigns to address high housing costs by reforming urban planning to allow more housing have had some notable successes but continue to face considerable opposition. Proposals often involve top-down pre-emption of municipal zoning decisions by higher authorities such as state legislatures.

In places where reform remains politically difficult, I suggest trying the opposite tactic to overcome opposition: introducing laws to allow ultralocal, bottom-up land use decisions which would address spillover and other concerns and enable win-win bargaining to permit more housing, because small local communities will be able to demand a share of the profits from development in exchange for allowing it on terms and in a form that they like.

Little of the recent research in the field of common pool resources founded by Elinor Ostrom has addressed deficiencies in regulation of new urban construction, and yet multiple studies estimate that such deficiencies cause large impairments of productivity and welfare. Many places with high housing costs have little development because those who would lose from it, including homeowners and others, block any move to change the system.

Drawing upon some of Ostrom's research, I argue that allowing bottom-up approval of better uses of land may reverse the current problems of collective action by allowing the formation of groups with strong incentives to lobby for and make use of such changes. The tactic may enable a split in the blocking homeowner-voter majority,¹ allowing former objectors to defect from the regulatory cartel that limits the supply of housing, and to benefit from more intensive land use.

One example is the recent law in New Zealand, allowing a landowner to waive the rule requiring a neighbor's buildings to be set back from their joint boundary. In England, a recent change now permits a parish to approve development on its own green belt, albeit subject to tight constraints. Yale Law School Professor Robert Ellickson's suggestion of allowing a vote by individuals on a single stretch of street ('face block') to upzone that stretch is a third approach that has not yet been tried in practice. Analogously, a fourth rule could allow upzoning by vote of the residents of a city block, subject to restrictions on altering the outward-facing walls on the perimeter of that block and to angled maximum height planes to preserve light to other blocks.

1. Introduction

In 2009, twelve owners of two rows of six Victorian townhouses facing each other on Fitzroy Road in London's leafy Primrose Hill decided that they each wished to add another floor to their houses. After five years, despite rules on historic preservation and the need for

¹ William Riker described the art of such political strategy as 'heresthetic'.

discretionary permission, the local government finally gave each of them permission to add that additional floor according to an agreed design,² restoring previously damaged roof parapets and creating a more attractive and uniform appearance. There was very little objection from their neighbors. They have now each added their additional floor (Mallett 2018), as shown below.

Figure 1: An additional floor recently added to townhouses in London's Primrose Hill



What's more, they managed to extend their houses upward even though the local government required not only that the homeowners *unanimously* sign the application for permission to do so, but that they legally guarantee that all of the extensions would be carried out *simultaneously*. If the authority had accepted a two-thirds majority, and allowed each household to carry out the building work at a time to suit them, the process would have been far easier.

One resident described the lengthy, tortuous process of getting permission from the local government as a 'nightmare'. Only an exceptional group of people would go to those

² London Borough of Camden planning application 2009/5151/P, available at <https://planningrecords.camden.gov.uk/Northgate/PlanningExplorer/GeneralSearch.aspx>

lengths. Work which had so little negative impact on other people, and so few objections, should have been far easier.

Because each homeowner stood to benefit, the incentives and reactions were very different to the usual situation where a developer seeks permits to develop a single site, and the surrounding residents see little or no benefit but often significant inconvenience.

In the latter circumstances, strong resistance to more construction is an easily predictable outcome. It may be regrettable or self-centered for people who are well-housed to oppose more housing for others. But in a system that consistently structures decisions so that new development results mainly in disbenefits to local people, we should not be surprised when many of those local people fight against new development.

No other section of the economy relies upon the consistent goodwill of strangers who may believe that such goodwill risks the value of their most precious physical asset, their home, and the amenity and character of their neighborhood and their community. I suggest that systems that share more of the benefits of development with people who already live there would be less likely to provoke so many hostile reactions.

Across many suburban areas of cities with high house prices, there are strong financial and other reasons to replace unremarkable twentieth century two-storey buildings with buildings of perhaps five or six floors, occupying more of the land. The historic pattern of such densification can be seen in beautiful Edwardian and Victorian buildings in the older parts of many cities, generally three to eight floors in height. But current land use regulations often prevent homeowners from choosing to make considerably more ambitious use of their land. In many areas of high housing costs, receiving the right to do that would double the value of that homeowner's property.

And yet, if carefully managed, the spillover effects from such small-scale, step-by-step urban densification may be limited to a small group of surrounding residents. Allowing those potentially affected nearby residents to negotiate to decide whether to allow construction beyond the as-of-right entitlements of applicable land use rules – including, if they wish, an agreed design code to ensure the new will look as good as, or better than, the old – could allow communities to be less afraid of new construction. They will have strong reason to do so because they can either enjoy additional development rights for their own land, or demand a share of the financial or other benefits from the developer or their neighbors who want the right to develop.

The proposal superficially resembles suggestions to 'auction zoning' (Elmendorf and Shanske, forthcoming 2020) insofar as it requires developers to share more of the profits of development, but is fundamentally different in one crucial way. I suggest processes led by, and under the control of, local residents. Residents, most of whom will generally expect to continue to live there for decades, will only allow changes that they consider beneficial for their community and their place. Auctions conducted by government may often cause resentment and problems of legitimacy, not to mention the difficulty of accommodating different preferences, and questions of how and upon whom any proceeds are to be spent.

Many people have a profound personal and emotional connection with their home and where they live. They are often hostile to proposals to reduce decisions about change to a purely financial calculation. I suggest supplementary processes that, at a workable scale, let local people take into account all of the factors, including design, proposed improvement in amenity and other potential benefits to them and their community, in deciding whether to approve further change. That way, they can choose how they want the sense of place and the feel of their street or neighborhood to evolve.

Only if existing residents feel that they are in control, with a discussion over time to reach a broad consensus on designs that accommodate different perspectives before any final decision on development, will they be completely comfortable with change.

One objection to this argument is that we need *more* majoritarian control, at *higher* levels, to impose more development against local wishes. That begs the question of whether it is politically practical to impose it in the face of fierce and organized opposition to such reforms.

From the perspective of urban design and economics, settlements like the San Francisco Bay Area or London could readily add millions more homes while improving amenity and welfare for everyone. There have been calls in England to impose more development since at least Sir Peter Hall (1973), and yet the housing crisis is far worse now than it was then. While acknowledging the substantial recent victories of housing campaigners in California, the scale of the problem and the shortage of homes in the Bay Area remains vast. The question for campaigners is what will most quickly achieve their goals of helping those in need. I claim no certainty. My only suggestion is that we should consider any ideas that may plausibly be faster and more effective, given political realities. If there are ways to make upzoning popular with existing homeowners, we should at least consider them.

Figure 2: An example of historic densification



Housing campaigners have recently scored notable victories in reforming zoning regulation to allow more housing in states including California, Seattle and Minnesota. But there remains strong resistance to further reform in many states. As I will set out below, differently designed reforms may vastly reduce the number of potential losers, while giving local voters more of a feeling that change will be driven and chosen by them – two obvious ways to reduce opposition to reforms.

Urban planning as adopted in many countries over the course of the twentieth century often consists solely of top-down central planning where rules are set by municipalities, states or large neighborhoods.³ In recent decades it has, perhaps unsurprisingly, proven inadequate to the task of ensuring plentiful housing and infrastructure within commuting range of high-wage job opportunities, given political and other constraints. I suggest urban planning could be greatly improved with a range of different governance and legal techniques inspired from the literature on common pool resources, a field founded by Nobel laureate Elinor Ostrom.

First, building on the example above, I suggest four specific ideas or approaches that may illustrate avenues for future research or trial.

To give the reasoning for those suggestions, I then summarize some of the poor outcomes from current urban land use governance and the scope for substantial increases in welfare from better use of land. After briefly summarizing Elinor Ostrom's work and its potential relevance, I observe that current land use rules mean new construction often generates many losers, and I suggest that rules that better address the externalities of new construction would make such construction less unpopular. Next, I review the challenges of setting good rules for urban land use and some reasons why more community-driven, win-win approaches may be helpful. Finally, I set out why community-driven approaches may also help to solve the challenges of majority opposition, collective action problems, and transitional losses faced by policy entrepreneurs who aim to secure improvements in urban land use governance.

2. Towards bottom-up rules for urban land use

In urban land use, one formulation of the principle of subsidiarity might be that it should be possible to make decisions to permit development and change of use at the smallest possible scale that does not confer harm on others. That is to say, land use decisions should be taken at the most local scale that contains or can address all the negative spillover effects.

To minimize political opposition and negative effects on third parties, new land use rules might optionally require compensation from developers or some other arrangement so that no resident or owner within the area making the decision should be made financially worse off (through, for example, loss of amenity, property value or congestion) by development authorised under the reform.⁴ That is not to suggest protecting others outside that area from the effects on their own house price of additional supply over time.

³ Even though local residents may have considerable influence in setting some zoning codes, I suggest that it is the formally top-down nature of the process that gives rise to problems such as the blame avoidance and transaction costs challenges discussed below.

⁴ I thank Nestor Davidson for the point that the Ostromian framework also covers the cultural and psychological aspects of change, which are not addressed in this paper.

i. Four examples of possible approaches

To illustrate avenues for creating potential land use frameworks that may merit further work or trial, I list four examples of current practice or new ideas allowing more bottom-up solutions to problems of urban land use.⁵

Where tenants have concerns about displacement and gentrification, such reforms could be restricted to areas not at risk of displacement and to developments that neither displace existing tenants nor replace buildings that have been occupied by tenants within the last ten years, as proposed in Senator Scott Wiener's SB-50 bill in California (Yglesias 2018). That will not entirely eliminate objections from tenants in other buildings who fear that their rents may rise; but under these proposals they, as residents, would be free to vote against the upzoning covering their street or block, and to negotiate with their landlords to find win-win outcomes.

Rules could also be supplemented with TDRs as described below, and perhaps with 'pliability rules' as suggested by Bell and Parchomovsky (2002), where on a trigger date or event, an absolute prohibition is relaxed into a requirement to compensate.

These proposals are more likely to preserve communities by allowing piecemeal change over time as individual or small groups of households choose to make use of the additional permitted land uses, rather than wholesale displacement of existing residents. Residents will be taking the lead on determining how their own community, in which they expect to remain, will evolve over time. That should help to improve the legitimacy of the process.

The ideas below may be more effective in contexts with lower housing density, and less relevant or workable in high-rise contexts such as Manhattan where each new building affects many more people in many different ways. Where there is already a high density of housing, mechanisms such as TDRs, auctions of development rights (Elmendorf and Shanske, forthcoming 2020) and/or compensation may be needed.

a. Waiver of setback rule by adjacent neighbor

A recent law in New Zealand allows a landowner to waive the rule requiring their neighbors' property to be set back a specific distance from their joint boundary,⁶ following a suggestion by housing campaigner Brendon Harre (Nunns 2017). That is analogous to traditional rights to light, which are waivable by the owner of the right.

The law means that two homeowners can mutually agree to extend their buildings laterally all the way to their common boundary line, making much more valuable use of their land without significant harm to others.

In New Zealand, setback and pyramid rules ('boundary rules') are defined by each local government, under the framework set out by the Resource Management Act 1991. If an activity will infringe rules relating to more than one boundary, the activity is only permitted if the owner of each boundary waives the respective rule. There does not appear to be any

⁵ Each might be seen as an attempt to define a commons in Elinor Ostrom's framework as described below, at least for the purposes of the land uses subject to alteration under the proposal.

⁶ The idea was also hinted at by Ellickson (1973, 676). Gleba (2018, 129) suggests a similar mechanism.

prohibition, judicial or otherwise, on the consenting landowner taking a fee for such consent. In jurisdictions such as England without formal setback rules, such a waiver might be applied to guidance on sunlight and daylight.

b. Single street upzoning

Robert Ellickson suggested allowing a vote by persons on a single stretch of street between two intersections ('face block') to upzone that stretch (Ellickson 1998).⁷ That approach has not yet been tried in practice to my knowledge,⁸ but it is a more powerful version of the upward extensions of Victorian townhouses in London's Primrose Hill, described above.

In England, the London YIMBY campaign advocates a similar approach under the name 'Better Streets' (Myers 2017). It suggests a supermajority threshold for voting and a requirement to set a design code to ensure that aesthetic concerns are addressed.

That could, over time, allow transformation of single-family homes into taller townhouses or multifamily apartment buildings. On many suburban streets, the total zoned capacity for housing could be increased by a factor of three to five. In some areas such an upzoning is likely to increase the value of the original property by 100% or more. That provides a powerful carrot for current residents to vote in favor. A design code could ensure that the resulting streets are more attractive than the houses that are replaced.

The premise is that individuals are most affected by changes on their stretch of street. However, to fully capture spillover effects shade and daylight, it would be necessary to impose limits and/or compensation rules in relation to loss of light falling on buildings on other streets. Ellickson (2018) has also suggested that political opposition might be reduced if the developer were required to pay generous compensation: perhaps, for each owner, a lump sum to compensate for loss of subjective value, and an entitlement to recover for loss

⁷ Xiao, Webster and Orford (2016) analyse face blocks ('street segments') as housing submarkets.

⁸ Stahl (2013) discusses possible constraints under the US Constitution and casts doubt (footnote 88) on the 'suggestion in the case law and other literature that the "rule" emerging from the Eubank-Cusack-Roberge line is that "consent provisions are valid if they waive a previously applicable zoning restriction, but are invalid if they impose a new zoning restriction."' However, the likelihood of the Supreme Court deeming a street-by-street upzoning provision unconstitutional may be reduced by the difficulty of finding a plausible remedy. Would the Court require that all plots be upzoned to the maximum that could have been permitted by vote of each block or face block? Stahl notes that Ellickson and Nelson showed no concern about the constitutionality of their suggestions. See also Ellickson (1998, 95 and 98-99).

Stahl notes that the "rule" would disregard *Washington ex rel. Seattle Title Trust co. v. Roberge*, 278 U.S. 116 (1928). It might be possible to distinguish *Roberge*. First, in *Roberge* the Supreme Court expressly held that there was no evidence on the record of any negative effects from the proposed new land use (sheltered housing for older people). Second, *Roberge* involved a neighbor consent provision rather than a referendum to approve a comprehensive upzoning across an area, which the Supreme Court upheld in *City of Eastlake v. Forest City Enterprises*, 426 U.S. 668 (1976).

As Stahl notes, it is impossible to draw a consistent line from the existing case law and it seems at least plausible that, if they came before it, the Supreme Court would uphold votes as suggested here. If zoning can be delegated to a municipality, which can range in size from a few hundred to millions of people, why should it not be delegated to a smaller area? Stahl notes an 'unresolved conflict in the jurisprudence.'

of market value,⁹ plus attorney fees; the framework might provide a more generous formula if the resulting project were to exceed a specified height.

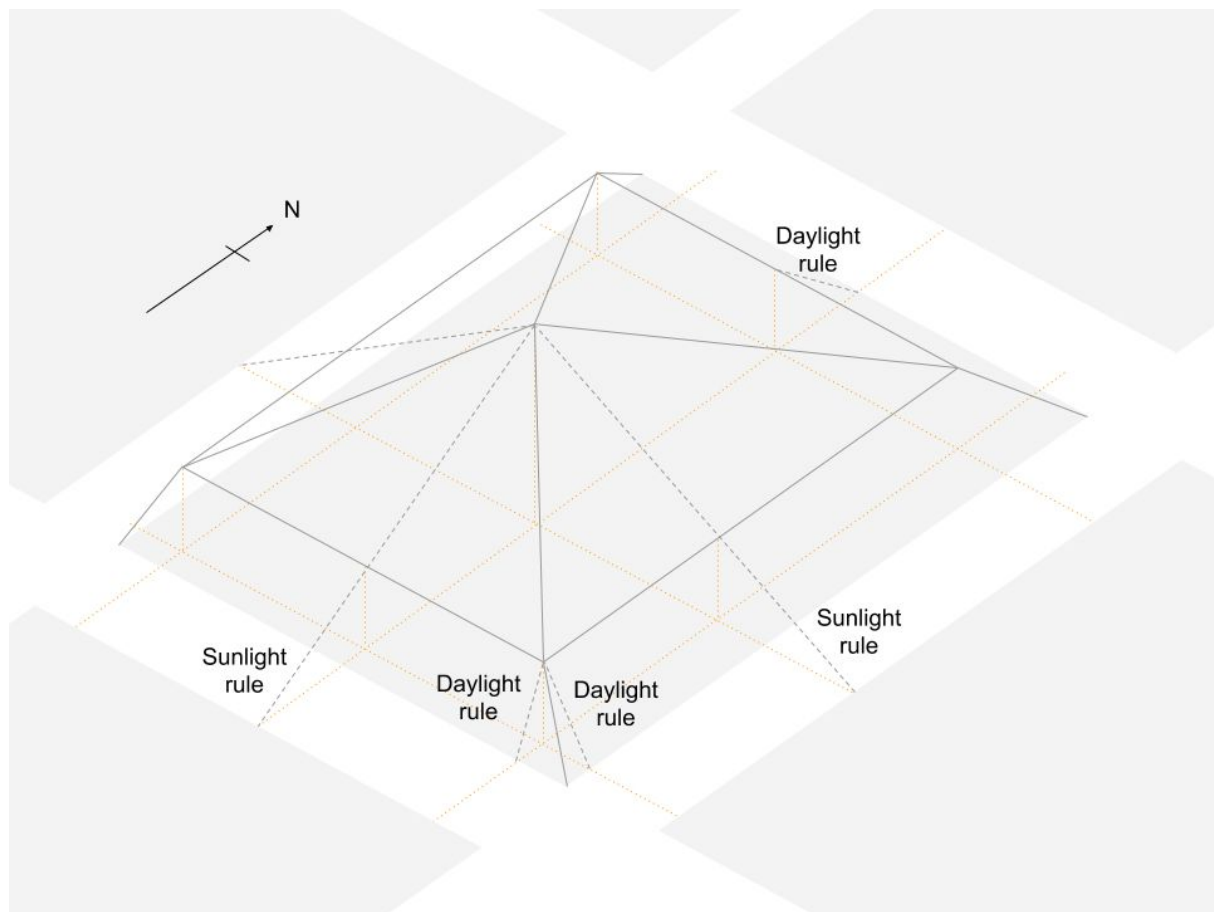
c. Single block upzoning

Analogously, a third rule could allow upzoning by supermajority vote of the residents of a city block. Liebmann (1993) suggests devolution of various powers to residents in block associations. Again, to capture externalities of aesthetics, shade and daylight, it might include restrictions on altering the outward-facing walls of the block and to angled maximum height planes to preserve light to other blocks. It is sketched in Figure 3 and referred to below under the name 'Better Blocks'. Consents and/or compensation for overshadowing might be required for adjacent neighbors.

It may be a way to facilitate accessory dwelling units, which have proven politically feasible in a number of US states (Infranca 2019, 857), or full-scale redevelopment to replace single-family two-story houses with five-storey apartment buildings that might step up and back from the street in rows of green terraces to preserve the amenity of the residents living opposite on each street. In that way, over time a block in Palo Alto might become more like a block in Paris or Barcelona – making each of the original residents much better off, while preserving the amenity and community on the surrounding streets.

⁹ The compensation for loss of market value might even be set at a fixed percentage premium over the actual estimated loss.

Figure 3



d. Extension of urban containment boundary by local community.

In England, a recent change now permits a parish to approve development outside its own urban containment boundary (on its 'green belt'), albeit subject to tight constraints. The reform was proposed in August 2017 (Myers 2017) following a suggestion by Pennington (2002) and, subject to limits, the core principle was adopted at national level in 2018.¹⁰

It is a recent extension of an existing regime: the English system of 'neighbourhood planning' discussed below allows local communities to adopt local development plans and/or authorize specific developments by referendum (Harwood 2016).

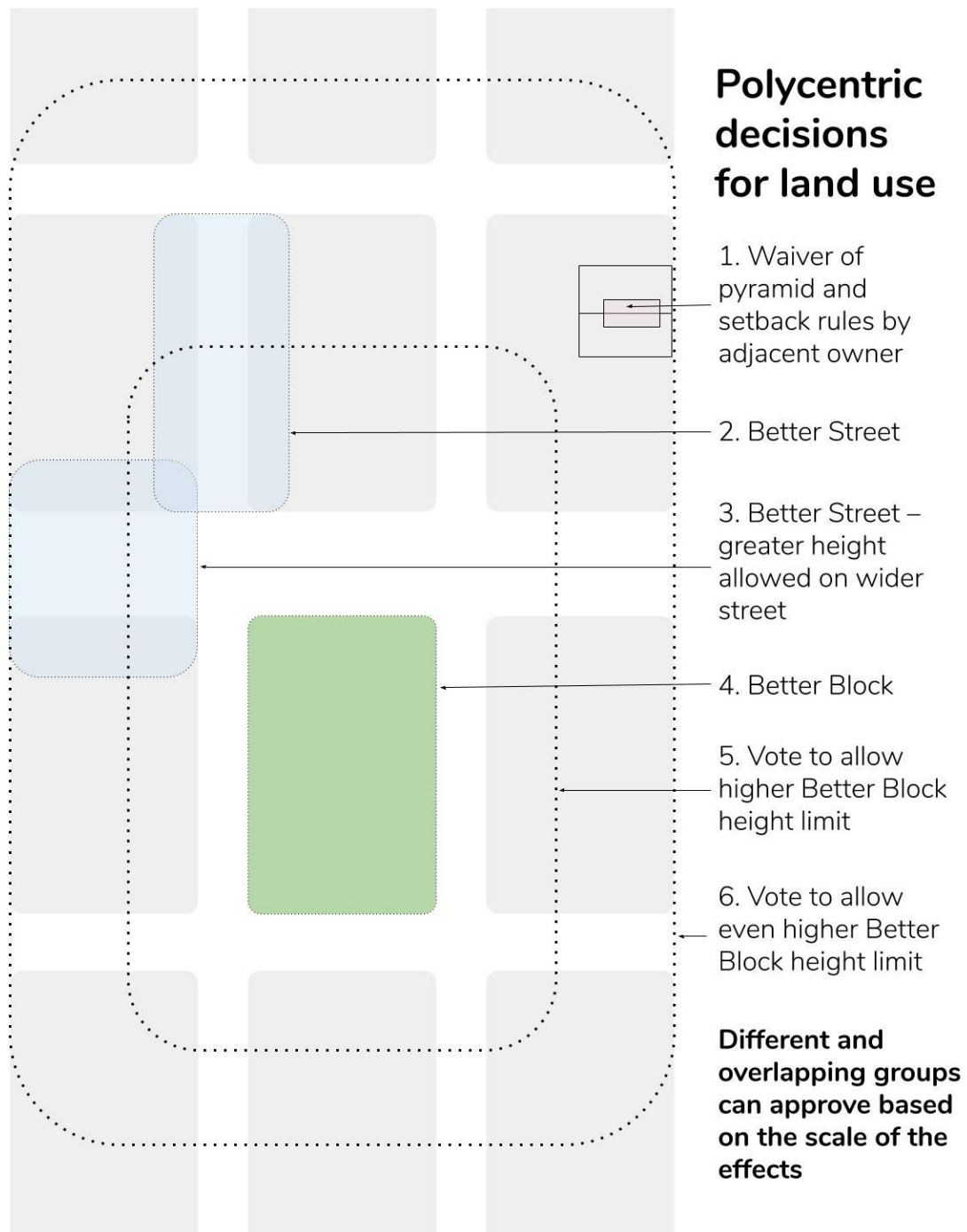
However, one of the constraints of the new rule is that the development thereby approved must not affect the 'openness' of the relevant countryside. That concept is defined by a large body of case law, but appears in many cases to involve a limit of no more than six to eight additional homes, which may make it unviable for many parishes to undertake the cost, risk and time of the relevant process. If the desire is to protect third parties outside the urban containment boundary in question, a better rule might be to set a minimum distance from any dwelling not within that urban containment boundary.

¹⁰ English National Planning Policy Framework paragraph 146(f), available at <https://www.gov.uk/government/publications/national-planning-policy-framework--2>

Many English settlements have urban containment boundaries drawn very tightly near or next to transit, preventing housing on sites within walking distance of stations. Where that is not true, this category of reform may be less useful.

Considerable further work is required to find rules that sufficiently address concerns and externalities. I argue that a polycentric combination of such rules might allow, over time, much better use of urban land with less political backlash against new construction. Figure 4 sketches an example of how such rules might operate at different scales.

Figure 4



My reasoning partly relies upon the work of Nobel laureate Elinor Ostrom and other researchers in the field she founded.

ii. Elinor Ostrom and common pool resources

Ostrom's groundbreaking work (e.g. 2005, 2015) was in part a response to the 'tragedy of the commons' earlier proposed by Garrett Hardin. Pooled resources such as common grazing

lands, Hardin argued, will tend to be overused, because each individual has incentives to take more than is optimal for society.

Through extensive analysis of data from a range of fields and field work of their own, Ostrom and her colleagues demonstrated that in practice many communities have evolved successful methods to manage what she called 'common pool resources' ('CPR') such as grazing land, irrigation systems, forests or fisheries. Some communities have successfully managed such resources for centuries.

Ostrom noted that CPRs did not necessarily involve a prisoner's dilemma with an inevitable incentive for defection and betrayal, as early analysts of the 'tragedy of the commons' had suggested. Instead, CPR management can involve a *repeated* game where the players can *communicate* with each other, and learn to cooperate and to punish bad behavior. Many communities have used those two aspects to build elaborate structures of cooperation to manage CPRs.

Ostrom and colleagues developed the Institutional Analysis and Development ('IAD') framework to assist in the analysis of CPR problems. She sought to set out a set of 'design principles' (Ostrom 2005) to characterize the regularities that were often common to communities with successful CPR management, and frequently absent in failed systems. She described those principles as 'core factors that affect the probability of long-term survival of an institution developed by the users of a resource' (Ostrom 2009 at 422, citing Cox et. al 2010):

1A. User Boundaries: Clear and locally understood boundaries between legitimate users and nonusers are present.

1B. Resource Boundaries: Clear boundaries that separate a specific common-pool resource from a larger social-ecological system are present.

2A. Congruence with Local Conditions: Appropriation and provision rules are congruent with local social and environmental conditions.

2B. Appropriation and Provision: Appropriation rules are congruent with provision rules; the distribution of costs is proportional to the distribution of benefits.

3. Collective-Choice Arrangements: Most individuals affected by a resource regime are authorized to participate in making and modifying its rules.

4A. Monitoring Users: Individuals who are accountable to or are the users monitor the appropriation and provision levels of the users.

4B. Monitoring the Resource: Individuals who are accountable to or are the users monitor the condition of the resource.

5. Graduated Sanctions: Sanctions for rule violations start very low but become stronger if a user repeatedly violates a rule.

6. Conflict-Resolution Mechanisms: Rapid, low-cost, local arenas exist for resolving conflicts among users or with officials.

7. Minimal Recognition of Rights: The rights of local users to make their own rules are recognized by the government.

8. Nested Enterprises: When a common-pool resource is closely connected to a larger social-ecological system, governance activities are organized in multiple nested layers.

The space in a city outside the buildings can be viewed as a common pool resource (Oakerson and Clifton 2017; Fennell 2009). Drab or delightful façades line our streets. The sun warms us over rooftops that we cannot walk on. Every day, we are affected by ugly or beautiful spaces or objects without necessarily stepping in or touching them.

Why is Ostrom's work relevant in areas with high cost housing? I suggest two ways in which it is immediately helpful. First, it is an existence proof that in a range of situations, bottom-up management of shared resources by communities may be better than top-down management by higher authorities. Second, Ostrom's design principles may help reformers shape reform ideas to improve likely effectiveness before proposing them for trial or adoption. Successful reform ideas could bring large benefits for society.

3. Benefits of better urban land use

Many studies indicate that better urban land use could substantially increase welfare, wages and opportunity. In many major cities with high productivity and wages, the price of a typical dwelling often exceeds the replacement cost of that dwelling, including the cost of the accompanying infrastructure, by more than 100%. There is broad evidence that the excess would be substantially reduced with fewer constraints on increased housing supply (Glaeser and Gyourko 2018).

For perspective on the scale of the problem in urban land use, estimates from the United Kingdom's Office for National Statistics imply that the excess of total UK dwelling prices over the total replacement cost of those dwellings was £3.7 trillion (\$4.8 trillion¹¹) in 2015,¹² or nearly 2/5ths of the entire net value of the UK in the national balance sheet.¹³ The value of US urban land in 2010 has been estimated at \$19 trillion (Albouy, Ehrlich, and Shin 2018).

English real house prices have risen since the middle of the twentieth century at a speed and scale that appears otherwise unprecedented in the last eight hundred years.

¹¹ At an exchange rate of £1 = \$1.31 in December 2019

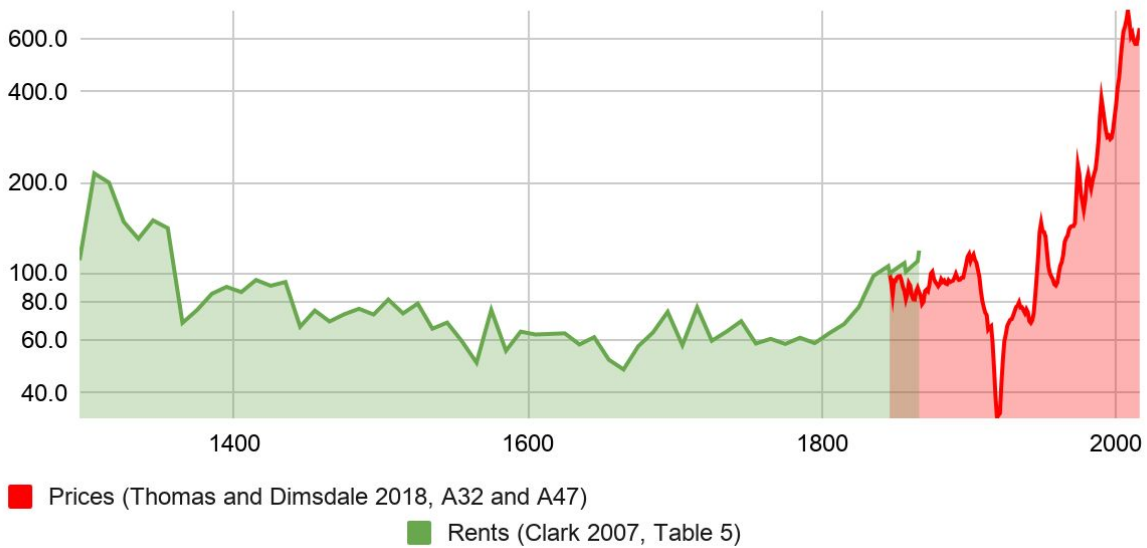
¹² UK Office for National Statistics data series CGLK and MJF8 under the definitions used up to 2015

¹³ UK Office for National Statistics National Balance Sheet, Total net worth series S.1

Figure 5

House rents and prices minus CPI in England, 1209-2016

Normalized to 100 in 1865

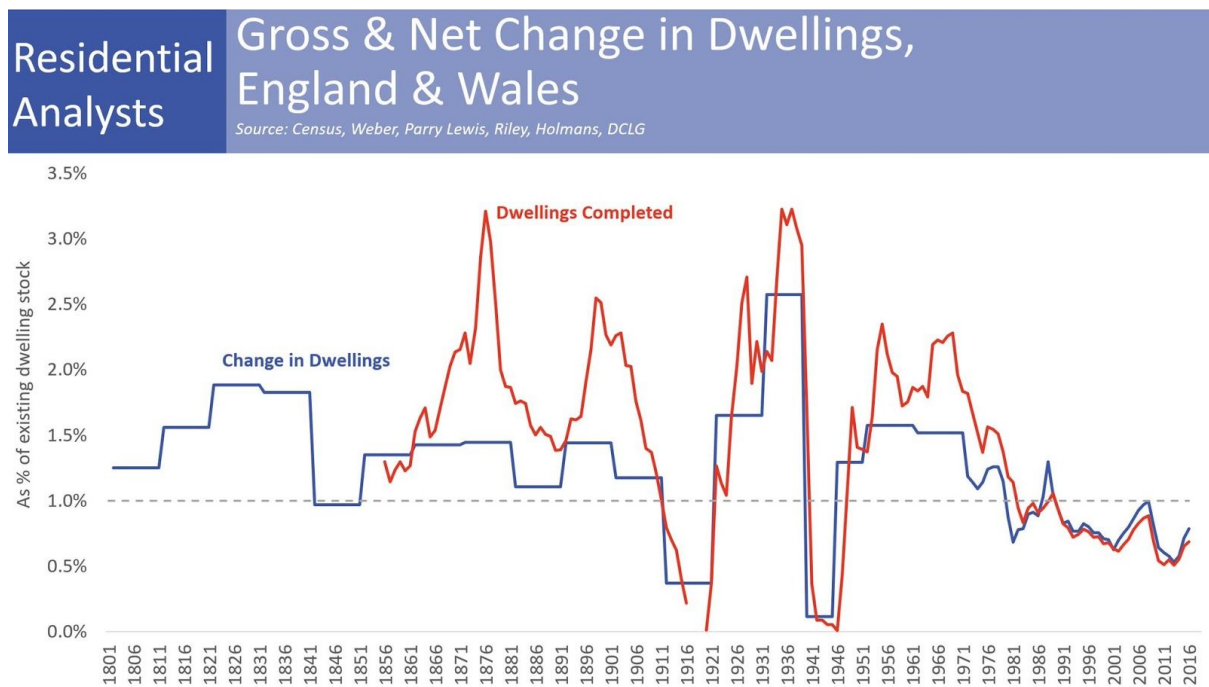


'In 1940, housing prices were no greater than they had been six hundred years before when the Bubonic Plague had struck.' (Taylor 2017)

Since the foundation of the current English planning system in 1947, a graph from the analyst Neal Hudson implies that the English and Welsh stock of dwelling units has never increased at the net percentage rate of the 1830s, let alone the higher rate of the 1930s.¹⁴

¹⁴ Obtained from https://twitter.com/resi_analyst/status/931089599107162120 on 3rd May 2019. Reproduced with permission.

Figure 6



The problem appears to be repeated across the West (Knoll, Schularick, and Steger 2017). In 2017, Savills estimated the total value of the global housing at approximately \$169 trillion (Tostvein 2017), of which wealthy countries, who tend to have higher housing costs, must account for a large share. The unnecessary scarcity due to suboptimal regulation may therefore account for tens of trillions of dollars.

The shortage of housing in high-productivity cities is estimated to have a significant impact on welfare, productivity, wages and GDP growth (Hsieh and Moretti 2019). That evidence is still not widely known in the housing and urban planning literature, which often seems to assume that housing is a zero-sum game.

Furthermore, such estimates do not consider the cost of the extensive activities to lobby for zoning and other changes. A substantial fraction of those activities are just expenses in a negative-sum game that leaves society as a whole worse off (Tullock 1967), often described as ‘rent-seeking’.

In that respect, urban land use is one of many areas where better institutions and policy might result in substantially improved economic performance. In particular, better urban land use could lead to better local employment opportunities, encompassing widespread worker access to jobs in high productivity metro areas, with affordable living costs. Alston (2008) writes:

Explaining institutional rigidities in the face of poor economic performance is a difficult research agenda. To understand the lock-in [to poorly-functioning institutions and economies] requires insights from the disciplines that comprise the NIE [new institutional economics] – anthropology, business organization, economics,

history, law, political science, psychology and sociology. Yet the potential reward from an understanding of the forces that account for poor economic performance is huge.

Elasticity of housing supply is also important because it is a major determinant of whether the benefits of increased productivity accrue to landowners or to workers ([Moretti 2011](#)). In markets with limited new housing supply, increases in wages due to increased productivity will simply go to bid up rents for housing, transferring much of the benefits to landlords.

There is also evidence that housing has played a major role in increasing inequality, because the increase in the share of economic returns going to capital rather than wages has primarily resulted from an increase in the return to housing, which is mainly owned by wealthy homeowners rather than by lower-income citizens ([Rognlie 2016](#)). In addition, the scarcity and high prices of housing in places like New York City or the San Francisco Bay Area have priced workers with lower skills out of such cities, leading to a sorting effect (Gyourko et al. 2013).

Room for more homes

Many urban planners advocate that, given political agreement, it is perfectly feasible to add more housing within existing high-wage cities while improving perceived amenity ([Harris 2018](#)).¹⁵ Ahlfeldt and Pietrostefani (2019) find that housing density has a positive effect on welfare if housing supply is elastic.

Some increase in housing density can have a positive or at worst a neutral effect on welfare and on pleasant streets. For example, the historic townhouses and apartment ('mansion') blocks in popular and expensive areas of central London such as Kensington, Pimlico, Covent Garden or Mayfair have densities of built volume per hectare five times higher than many areas of suburban outer London. Many eighteenth- and nineteenth-century buildings have five or more floors. In contrast, in 2015 half of the dwellings in London were in buildings of only one or two floors ([Gleeson 2015](#)). Parts of the suburbs could be increased to the density of historic parts of the center without losing amenity.

Similarly, popular and beautiful city centres such as Paris, Vienna, Venice and Rome have considerably more housing per acre than the suburbs of most US or UK cities. Increases in density in the suburbs need not mean the high-rise towers of the movie *Blade Runner* or present-day Manhattan. I express no view on high-rise towers, but their visibility from a distance can make them a particular focus for political resistance to densification.

The study of spatial economics has demonstrated that enabling housing densification is particularly important as economies have moved away from agriculture through manufacturing and towards services. Economists identify three categories of activity that can happen more efficiently in larger settlements: matching, sharing and learning. Those 'benefits of agglomeration' can make cities more productive than dispersed collections of

¹⁵ Gyourko and Molloy (2015, 1327) review the economic literature on the welfare implications of regulation.

small settlements, and the benefits of agglomeration appear to be far larger for services than for agriculture.

Denser and more walkable cities can improve average health because people can easily choose to get more exercise by walking more (Sarkar, Webster, and Gallacher 2018) and can reduce pollution by giving people viable options to walk or cycle, both of which involve less pollution than almost every other means of transport (Owen 2009).

Densification seems to be difficult

Early evidence suggests that the process of densification that can be observed over the history of cities like London or Manhattan has become very slow in many parts of cities in the US (Furth 2019) and the UK, even though it would be hugely profitable to add more housing across large areas of those cities.

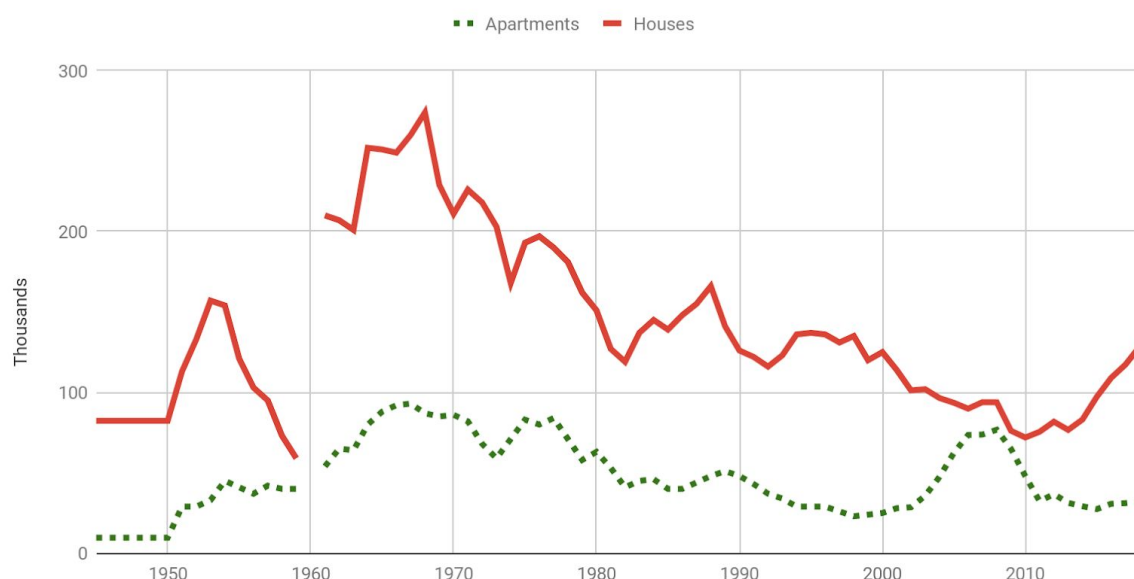
Maps from Romem (2018) show a large reduction in the pace of densification of suburbs since 1940. In the 2010s, moderately dense suburbs, which have the strictest land use regulations, demonstrated the lowest growth rate (Furth 2019).

Densification generally requires construction of more apartments rather than houses. But recently the US has spent three times less on building apartments, as a share of GDP, than in the 1970s; the US now spends four times more on home improvements than on building apartments, and still more on building houses (Erdmann 2019). England has also reduced construction of apartments, but even at its peak, construction of new apartments did not reach one third of the government's target of 300,000 new homes per year (Holmans 2005).

Figure 7

Houses and apartments built, England

(& Wales pre 2002; social housing only pre 1961)



Source: (Holmans 2005); [MHCLG Live Tables](#)¹⁶ 209 and 254

Each individual homeowner or other landowner has an incentive to build more housing on their land. It is often regulation that stops them from doing so, or from selling to someone else who will (Glaeser 2011).

Despite the large potential gains, few win-win bargains are struck between landowners to use their land more efficiently, in the spirit of Ronald Coase's landmark paper on transaction costs and property use (Coase 1960), for reasons discussed below. Given the elasticity of demand in some high-price areas, Glaeser and Gottlieb argue that land values there would be increased by allowing more construction. Current rules make it hard for communities to find win-win solutions that make some people better off without making anyone worse off (Glaeser and Gottlieb 2008, 212).¹⁷ Landowners in, say, Palo Alto might well gain substantially on average if the city were zoned more intensively – albeit with some losers, particularly in the short run.

Ostrom's fifth institutional design principle suggests that sanctions should be dispensed in proportion to the scale of the offenses. But the prohibition on construction under most current systems of land use regulation is absolute, with criminal sanctions and injunctive relief for breach. If penalties for construction not compliant with the rules were limited to a fine or an award of damages, the most inefficient prohibitions could be overridden (Ellickson 1973).

Moreover, the government administering the land use rules generally has no general power to award compensation payable by the developer to third parties, which increases political opposition.¹⁸ The fact that land use rules are generally set by officials or politicians, rather than by voters directly, means that blame avoidance (Weaver 1986) may create a further bias against new development.

In a related context, Ellickson (1993, 1374) notes that the Anglo-American legal system has evolved to deter breaking up property ownership into small component rights that can lead to gridlock. Examples include the rule against perpetuities and rules for the termination of land use covenants.¹⁹ Urban planning has no such mechanism for preventing de facto political gridlock.

¹⁶ Available at <https://www.gov.uk/government/statistical-data-sets/live-tables-on-house-building>. Accessed on 8th May 2019.

¹⁷ 'Why do communities fail to maximize land value? The Coase theorem, after all, suggests that side deals between property owners should lead to maximizing joint wealth. One answer is that property rights are murky and that the democratic process is not geared towards such compensation. In many cases the right of an owner to build is the outcome of a complicated regulatory process that cannot be replicated in advance. In other cases explicit legal impediments prevent such side deals. Since each new development creates a windfall for one owner and a host of inconveniences for everyone else, one can understand why democratic decisionmaking would lead to many restrictions on building.' Ihlanfeldt (2007) also found that greater regulatory restrictiveness in cities in Florida decreased land prices.

¹⁸ I discuss judge-made rules against 'exactions' below.

¹⁹ Historically restraints on alienability were also resolved through private acts of Parliament (Dimitruk 2019).

Instead of a commons, therefore, the city has effectively become the opposite of a commons, which Michael Heller called an anticommons (Heller 2008) – multiple interlocking rights and quasi-rights to block action, unclearly vested, making most potential change impossible, like a patent thicket.²⁰ In North's terms (1990, 7-9), society has become 'locked in' to an inefficient system for governing urban land use.

There may have originally been little intention to create such gridlock. The quasi-rights to block development have become more valuable as they have become more binding and as land values have risen. In earlier stages of urban land use regulation, there is little or no evidence of thoughts of compensation for overriding those quasi-veto rights, perhaps because those rights were worth far less.

3. The neglected importance of win-win outcomes in urban land use

The last section reviewed some of the evidence that outcomes with both fewer losers from new construction and also considerably better supply of homes are possible. If so, literally trillions of dollars have been 'left on the sidewalk,' as Mancur Olson (1996) put it: large gains to society are possible if only we could overcome the problems of collective action.

Reformers seeking to enable some of those potential gains face two challenges.

i. Finding systems that can allow better urban land use

First, reformers must specify governance systems that would be effective over the long term to generate enough housing and related infrastructure. That would involve writing regulations that do not lead to needless restrictions on housing supply, but adequately address transaction costs and aesthetic and other spillover effects.

Upzoning²¹ procedures in a traditional zoning system, or discretionary permissions granted by a government official subject perhaps to various impact fees, are clearly not designed to seek outcomes that are as close to win-win as possible, because the benefits and burdens may fall on different people.

Simple upzoning gets closer to win-win outcomes when all of the landowners have purely financial interests in their land and when there is no vertical subdivision of interests. For different homeowners, who may have radically different preferences, and apartment owners, who may see nothing but disbenefit if additional storeys are added to surrounding buildings, upzoning provides a very inaccurate way to try to ensure that most or all people benefit from allowing more development. In those circumstances, it is hardly surprising that many people oppose new construction.

In this context, calls for simple 'deregulation' have had limited success. One person's deregulation is the expropriation of another person's perceived property (quasi-)rights to sunlight or other amenities. Deregulation is easy for victimless crimes, but much harder when the regulation in question, by causing a near-total absence of construction for many

²⁰ Perhaps because the concept is newer, the literature on facilitating collective action seems less developed for the anticommons than for the commons.

²¹ 'Upzoning' is used in this paper to mean increasing the intensity of permitted land use; the term has been used in the opposite meaning.

decades, has created expectations similar to property rights. It may be that legal scholars have not yet fully absorbed conclusions from new institutional economics, which adopts a broader definition of property rights than legal theory (Eggertsson 2005, 27). The fact that existing rights to prevent more construction are de facto and unclearly vested may make reforms to reduce transaction costs of negotiating less intuitive to reformers. If such rights were express, the political barriers to expropriating them would be clearer.

There is often considerable opposition to more housing from homeowners (Fischel 2005) and other landowners (Hilber and Robert-Nicoud 2013). Homeowners are rationally risk averse about what is often their most valuable asset. Renters may also oppose housing in some circumstances (Hankinson 2018). Rent-controlled tenants have a quasi-ownership interest in their home and may often align with homeowners in opposition to change. Politicians may also seek to avoid displacement and gentrification affecting their supporters.

Transferable development rights ('TDRs') involve the allocation to multiple landowners²² of tradeable rights to develop, who may then choose to sell their TDRs to other owners of land that is allowed to be developed once that owner has acquired sufficient TDRs. TDRs have been a limited answer in some cities (Hills and Schleicher 2015), but they do not solve many of the problems of differential effects on different people, and in particular of the fact that the losers from a zoning change may not be the people who receive valuable TDRs. However, they may be useful as a complement to other approaches discussed below, particularly if implemented in a more radical form. One possibility, subject to applicable law, may be to allocate TDRs to every resident rather than simply to landowners, to mitigate or eliminate transitional losses where necessary – for example, where some residents own apartments but no share in the air rights above the building.

ii. Finding systems with any chance of being adopted

Second, reformers who seek change in land use rules must solve the political difficulties of moving to a better system, particularly in democracies with a majority of homeowner-voters.

Much research on urban planning reform addresses the first problem but not the second. In the old joke, it assumes a can opener: a dictator who can wave through the reform proposal. One reason for the gap in the literature may be a systematic bias: Eggertsson (2005, 5) argues that economists are prone to underestimating the importance of the political limits to reform.

Some political economists e.g. Acemoglu (2012) argue that such political limits are the binding constraint holding many lower-income countries in a poverty trap. As Rodrik et al. (2004) put it, 'institutions rule'. In high income countries, the large scope for further potential improvement in housing supply and welfare is not so starkly obvious because no country at the technological frontier has succeeded in adopting social technologies that can prevent home prices rising far above the costs of construction and necessary infrastructure – although some places, such as Seoul, Singapore, and Tokyo, without large stocks of historic housing in the centre of cities and with political environments that differ from the US or the UK, have done far better than others. Homes in Tokyo, for example, are considerably cheaper than in San Francisco or London, although the fact that buildings in Japan are

²² Theoretically it might be possible to allocate TDR's more widely, including to voters who do not own any land, in order to reduce opposition to a reform.

generally to some extent seen as temporary may well have helped reduce political resistance to demolition and reconstruction.

‘[E]conomic analysis needs to identify, theoretically and empirically, conditions under which politics and economics run into conflict, and then evaluate policy proposals taking into account this conflict and the potential backlashes it creates.’ (Acemoglu and Robinson 2013)

This type of problem is not new. ‘History is replete with examples of societies failing to change property rights at the optimal times in response to changing scarcity. The reasons for such institutional failures lie in the difficulties of compensating actors who are in a position to veto changes to property rights.’ (Alston and Mueller 2008)

Alston (2008) writes that:

[w]hat is missing is a better understanding of the transaction costs associated with getting laws and regulations that are more conducive to better economic performance, especially when it becomes obvious that the existing laws and regulations are not fostering economic growth [...] In many scenarios special interests are in a position to either enact legislation or block legislation so that they reap the gains. Yet society is worse off by such activity. The question is: why cannot ‘we’, the citizens or consumers, buy out the special interests?

He cites informational problems; legitimacy of the process that produced the current outcome;²³ collective action problems; and insecurity in political property rights as reasons why such transactions may not occur. He notes that the last might be overcome through side payments (compensation), and then points to three explanations of the failure to achieve side payments that may be relevant in housing. First, compensation may be seen as undermining the legitimacy of the system. Second, politicians may be unable to credibly commit to compensating losers over the long term. Third, he notes a ‘slippery slope’ argument that paying for changes in property rights would encourage people to seek the creation of non-optimal property rights so that they can be paid to move to a more optimal situation – an argument against rent-seeking, the political pursuit of advantages that are detrimental to society as a whole.²⁴

In urban land use, I speculate that a fourth problem may exist. Many voters may be extremely resistant to any damage even to geographically distant attractive buildings or

²³ Which may, in this context, include the principle of zoning being set by municipalities

²⁴ In the context of housing, I suggest that rent-seeking is unlikely to be encouraged by requiring compensation of those who suffer transitional losses from new construction where additional development is approved through one of the supplementary reforms suggested below. On the contrary, it is the decades-long deficiency in housing supply under present systems that has led to rentierism on an epic scale. Furthermore, there is no suggestion to compensate all landowners across the country in the event of a long run decline in home prices due to increased supply; the suggestion is only to address the local externalities of new construction. Nor is there any suggestion of creating formal rights to recognize previously exclusionary practices. Those suburban residents who wish to exclude lower-income groups have the option of living in a privately-owned exclusive community. I also do not suggest requiring unanimity to permit new development. Generous compensation should be an adequate remedy for the small numbers with very high aversion to change.

green fields, invoking feelings of disgust or aversion to degradation (Haidt 2013, 169). If so, cash payments may be inadequate, and the only possible ways to agree on change may be via mechanisms to ensure that the urban or rural heritage in question is perceived to be enhanced, rather than degraded. I suggest that innovation is needed to find workable mechanisms to achieve that, because existing land use systems have generally proven inadequate to that task of enhancement where land is in fragmented ownership.

Furthermore, many such reform proposals appear to start from the assumption that reform must be imposed from above. However, if it is the case that current land use regulations are inefficient, by definition there must be sub-groups that would have an incentive to adopt more intensive use, even after internalising all externalities.

Eggertson (2005) writes:

Successful transfer or introduction of new social technologies is a more complex phenomenon than the transfer of new production technologies because preexisting institutional arrangements often undermine the effort. Successful institutional reforms depend on active support from a large portion of relevant actors, which may not be forthcoming. Compliance often requires prior resolution of deep political conflicts as well as synchronization of individual social models.

We can combine the two questions above: what system can feasibly be adopted that will work better? In political economy terms: what are the achievable second- or third-best options?²⁵ Reformers need to solve for the minimal coalition that can get such reforms passed.²⁶

I suggest, after Corkindale (2004), that such systems should facilitate changes in urban land use, coupled with compensation paid by the developer as necessary, that are much closer to being win-win than current rules, in order to improve political support for new construction and the political resilience of the system. In the next section, I argue that a fundamental but neglected problem in urban land use is to find such systems, and that lessons from the common pool resource literature are highly relevant to doing so.

4. Governance challenges in the urban commons

Much of the literature on the urban commons focuses on community management of public land, construction of community housing, or collective management of existing land uses that affect others (Foster and Iaione 2015), rather than control of development by third parties. There are exceptions such as Fennell (2009).

²⁵ Some institutions such as the World Bank (Fritz, Levy, and Ort 2014), the OECD (Hoj 2006) and the UK's Department for International Development and ODI (Harris 2013) use applied political economy analysis to find second- or third-best policy proposals, but I have found little explicit use of such analysis to find workable reforms in the field of urban planning.

²⁶ I thank Chris Elmendorf for this formulation.

Of course, many common pool resources (fisheries or common grazing land) may involve questions of conservation more than of active construction or modification,²⁷ but there are examples of construction and modification, including irrigation systems (Ostrom 2015).

On the other hand, advocates for planning reform in the legal literature mainly divide into two camps. The first camp comprises advocates of better zoning of one form or another (Hills and Schleicher 2015; Schleicher 2013, 2012), which often includes preemption of local level land use regulations and moving planning decisions to a higher level, rather than a lower level of decision making. Moving land use decisions to a higher level of government has been the principle behind reforms in California, Oregon, Washington and Minneapolis. Control by national government was a component in successful upzoning in Tokyo.

Many cross-sectional studies show that areas with higher incomes or correlated socioeconomic characteristics tend to have more regulation (Gyourko and Molloy 2015, 1307). In the highest-price jurisdictions such as the San Francisco Bay Area, reform has encountered heavy political resistance, and the SB 827 and SB 50 proposals at California state level to upzone land near public transit have now been blocked two years in succession, even though SB 50 would allow municipalities to retain and increase controls on demolition. In such circumstances, it may be worth trying other approaches, at least in parallel. Devolution to very small units such as single blocks or stretches of street may provoke less political resistance, while providing strong incentives for small groups to choose to double or treble their property values by opting in to a more intensive zoning regime.

The second camp advocates property rights approaches (e.g. Fennell 2009). Suggestions for devolving control of urban land use to smaller areas in existing cities have rarely suggested devolution to smaller than neighborhood level.²⁸ This paper suggests devolution to even smaller units.

Given the complexity of urban land use, we should not be surprised if Ostrom's eighth institutional design principle (Ostrom 2005), listed above, turns out to be important. In complex circumstances, Ostrom suggests it may be helpful to organize governance in multiple nested layers.

Why is there so little win-win bargaining?

The common law of real property allowed some win-win bargaining: for example the law on nuisance, rights to light and trespass allowed waiver, negotiation and payments. I can offer you money if you will tolerate the temporary pile of manure on my land near your business premises. You might offer me something to let you park your car on my land. At English common law, a property owner could choose to waive a right to daylight in return for payment from a neighbor who wished to build.

²⁷ Many thanks to Salim Furth of the Mercatus Center for this point.

²⁸ See e.g. Liebmann (1993, 343-4); see also Fischel (2000) for further discussion.

Incomes have risen and sensitivity to various aspects of urban change has increased;²⁹ building higher has become easier; land ownership has become more fragmented as the percentage of homeownership has increased over the last century.³⁰ A single-owner multi-family rental building is less fragmented in ownership than the suburban homes that may now house those families instead, and large tracts of older cities such as London were owned by aristocratic families. All three trends have increased the political demand to address externalities (Demsetz 1967).

Over the course of the twentieth century, externalities in cities have increasingly been addressed through top-down rules, not individual property rights. Such urban land use rules often prevent bargaining among different landowners³¹ despite the enormous deadweight losses, due to the high transaction costs of negotiating to overcome those regulatory obstacles.³² The rights to block development are ill-defined, vested across large and uncertain numbers of people, and essentially inalienable³³ – entirely unlike most common-law property rights. It sometimes seems that the outcome of land use decisions depends on who can shout the loudest. In this context, economists have been calling for better definitions of property rights since at least Clawson (1971, 369).

De Soto (2002) and others have argued for formalization of informal property rights in parts of countries including Peru and Brazil to permit more efficient use and Coasean bargaining. But most of the demand to live and work in the Bay Area is unmet for the reasons outlined above. Insofar as the absence of formal property rights to the protections of current urban land use regulations prevents residents and landowners in the US from negotiating and agreeing to profoundly more valuable uses of their land, high-income Californian suburbs such as Palo Alto or Atherton might be argued to be the wealthiest favelas in the world.

Good urban land use rules are hard to find

Urban settings often feature highly fragmented land ownership and many different externalities from new construction. More than in many other legal fields, changes in urban land use often greatly affect many people, with different preferences, in different ways.

The high numbers of people affected, often with very different preferences,³⁴ mean that consensus on allowing new development is very hard and costly to achieve; and the large

²⁹ For example, the streets of a century ago were considerably more beset with noxious fumes from manufacturing. Three hundred years ago, they were often beset with sewage and vastly higher crime rates. The large-scale demolition seen in parts of many cities in the nineteenth and twentieth centuries is rarer today, and expectations have changed accordingly.

³⁰ In many places it has declined in recent years, but generally not back to the levels of 1920.

³¹ Known as ‘Coasean’ bargaining after Coase (1960)

³² With exceptions discussed below, there has been a surprising lack of focus in the planning reform literature on reducing transaction costs to permit more Coasean bargaining. England already gives neighborhoods the ability to grant permission for more development under the Localism Act 2011. There has been no flood of construction in cities as a result. That may be because there has been insufficient devolution of fiscal control; but political resistance to such devolution is a real constraint. Devolution to an even smaller scale must have some prospect of reduced transaction costs, given that the current English “neighborhood areas” may contain as many as tens of thousands of residents.

³³ Gleba (2018) expands in detail upon this point.

³⁴ The limitations of Tiebout’s (1956) argument that people will sort themselves into different communities with uniform preferences in each has its limitations, see e.g. (Hills and Schleicher 2014).

differences between effects on different people mean that allowing change through voting in a way that protects the interests affected is more challenging than, for example, where shareholders vote in corporate law in proportion to holdings of fungible stocks. The high housing cost problems of many cities around the world may be an indication that designing good frameworks to allow governance of urban land use is particularly challenging compared to many other legal or common pool resource problems.

Ideally, better rules would mitigate current problems of transaction costs, holdout problems and externalities. But it is hard to find rules and set boundaries that address all of those issues.

Boundaries in the urban commons

Ostrom's (2005) first institutional design principle notes the importance of clear boundaries, to allow collective action problems to be overcome. Yet drawing boundaries to minimize externalities is particularly hard in cities. The optimal boundaries will often differ as a function of the land uses and effects at issue, and of the homogeneity of the current uses and ownership patterns.

Existing physical features or barriers may help. For small effects, the boundary around two properties may be sufficient, as in the New Zealand example above.

Oakerson and Clifton (2017) note that:

a city is already partially partitioned by existing physical boundaries such as rivers, train tracks, highways and streets. Though permeable, these physical boundaries limit, to some extent, the impact of use-related interdependencies among parcels of property. Wide avenues [...] can function as a boundary that runs down the middle of the street. On narrower streets [...] the block-commons consists of both sides of a street: the street-block [i.e. face-block]. Overall, a city is a configuration of interconnected blocks; each street-block is potentially a separable commons.

Whether viable boundaries can be drawn around a face-block for these purposes may also depend on the proposed use, the length of the back yards separating one row of buildings from that of another street, and the treatment of buildings on street corners.

Difficulties with individual property rights

A pure individual property rights approach to urban land use faces substantial challenges, not least political.³⁵

Without any rights to block development at all, the history of Manhattan or indeed Mayfair in London demonstrate that densification is possible, until there is sufficient political force to change the rules.

³⁵ Fischel (2000) argues that zoning constitutes a de facto collective property right, but recognizes the collective action problems and notes that he, Fennell and Gyourko have each pointed out the current transaction cost problems of agreeing deals between landowners and the agency with the power to modify the regulation.

It is difficult to define optimal rights and in particular who should have them – and who should not, despite being affected by externalities. That is all the more true from a starting position of high house prices and minimal new construction.

The suggestion of allowing development by unanimous consent of neighbors dates back to at least Davis (1963, 386).

However, a requirement for unanimous consent of more than a few people will lead to holdout problems: both strategic holdouts, by those trying to game estimates of how much they are damaged, and holding out by those whose preferences genuinely ascribe a very high price to allowing change. Many people are affected differently, both because of topography and their personal circumstances. Also, two people in identical positions may genuinely value an effect very differently.

But many changes affect far more people than the immediate neighbors, so many people will want such veto rights.

Rights to compensation might be granted instead of veto rights, but homeowners are rationally risk averse and may genuinely place very different valuations on change.

Preferences have too many dimensions for Tieboutian sorting (Tiebout 1956) to be anywhere near perfect, given agglomeration effects and the multiple overlapping externalities of urban construction (Hills and Schleicher 2014).

Voting is an established way of overcoming holdout problems with individual rights and may also help alleviate resistance to compensation if individual veto rights are removed. Ellickson notes that the ‘possibility of arbitrariness could be reduced by shifting the power to waive mandatory land use standards from local government to the neighbors who would be damaged by the prohibited use’ although that can allow those who are least affected to vote through a proposal, damaging those who are more affected; Ellickson (1973, 709–10) suggests a modified voting system that ‘necessarily internalizes the external costs to the most seriously affected neighbors’.³⁶

There is a tradeoff between the percentage supermajority required and ease of action.

Housing supply as a function of the scale at which decisions are made

Transaction costs increase with the number of players involved. Purely from that perspective, therefore, enabling decisions on land use to be made by smaller groups may reduce transaction costs and enable more Coasean bargaining.

Ortalo-Magné and Prat (2014) postulate a U-shaped curve of the maximum politically achievable housing stock according to the size of jurisdiction that makes the decision on zoning,³⁷ given certain assumptions – including the extraction of upzoning gains from each

³⁶ Note also the suggestion of allowing neighbors within a specific radius to vote, revived in Morton (2011).

³⁷ The result also suggests that one way to lessen undersupply is to split up jurisdictions. The proposition above implies that, if a city is divided into two identical but independent municipalities, the minimum city size doubles. This is because residents of a particular municipality enjoy the full permit fees but pay only half of the capital loss. It is interesting to combine this observation with the

relevant landowner, which is difficult or impossible under current judge-made rules on exactions, as discussed below. At the largest scale, a nation state will internalize more of the benefits and will therefore choose to produce more housing. At small scale, single landowners will each build as much as makes sense for them, if they are allowed to. See also Thorson (1996).

Of course, housing supply is much more elastic in, for example, Houston or Atlanta, where land use rules permit more development, than in other cities such as the San Francisco Bay Area (Glaeser and Gyourko 2018; Hsieh and Moretti 2019) or London, England, where development is extremely restricted.

The experience of Tokyo, where national government has repeatedly adjusted zoning rules to allow more housing, shows that it can be possible to upzone and increase housing production to reduce dwelling prices (Harding 2016; Gleeson 2018; Sorensen 2010). However, zoning rules still constrain construction of new homes in Tokyo; individual landowners would choose to build much higher if they were allowed to. Cities such as Atlanta have succeeded in meeting increased demand with increased supply (Glaeser and Gyourko 2018), albeit primarily through horizontal expansion rather than densification, and even Atlanta has its challenges: rents have risen, and more urban parts are more expensive.

Given the contrast between the building frenzy in twentieth-century Manhattan before zoning controls and the glacial construction rates of present-day England, where land use rules are set at national level, it seems plausible that the small scale extreme of Ortalo-Magné and Prat's curve – individual landowners deciding in the absence of zoning controls – may generate higher housing densities than the large-scale end of the curve, where land use rules are set by states. However, devolution to whole neighborhoods as suggested by Nelson and others (1999, 2008) may be insufficient to overcome transaction cost problems, and the devolution of tax powers to such neighborhoods seems to have been politically difficult.

In England, the 'neighborhood planning' regime created by the Localism Act 2011, possibly inspired by Nelson's work, allows each neighborhood to write a 'neighborhood development plan', adopted by majority vote of registered voters in the neighborhood. That plan, subject to limits, governs the discretionary decisions of the higher planning authority which determines whether to approve almost all development under the English system. The regime may have led to planning for some more homes,³⁸ particularly in areas with lower housing prices (Bradley and Sparling 2017, 110-113), but it has not led to a substantial increase in development commensurate with the economic opportunities in high-cost but low-density suburban areas with good public transport connections. The regime also allows neighborhoods to grant a 'neighborhood development order', conferring as-of-right development permits for specified developments within a specified area. There has been very little use of neighborhood development orders.

result above that nationalizing housing policy also increases housing supply. Equilibrium city size is in some sense U-shaped in the size of the administrative district in charge of it, and the minimum size is achieved when housing supply is made by districts that correspond to labor markets.'

³⁸ A UK government report claimed that '[t]hose plans in force that plan for a housing number have on average planned for approximately 10% more homes than the number for that area set out by the relevant local planning authority.' (Department for Communities and Local Government 2017 at 1.41)

Those English neighborhoods often contain hundreds or thousands of voters. I conjecture that with those numbers, it is often too costly and time consuming for residents to discuss, persuade and negotiate to permit additional development that would be beneficial to nearly all of them – development using agreed designs, with a share of the profits flowing to the local community.

To make bargaining and negotiation easier, instead of devolution of land use decisions to neighborhoods, I propose devolution of such decisions to even smaller scales – streets, city blocks, and even two adjacent neighbors. That may be a way to increase society's 'adaptive efficiency' (North 1990).³⁹

Spillover effects to be considered

Even if challenges of legitimacy can be addressed through resident-driven processes to approve more development, I suggest that there are many potential losers from negative spillovers or 'externalities' that a well-designed system would seek to address to reduce opposition. Some externalities – particularly sunlight, daylight and visual amenity – may be inescapable functions of the built form. I consider a short, non-comprehensive list of possible negative externalities below.

a. Sunlight and daylight

The externalities of overshadowing can be large. Sunlight has considerable benefits for psychological and physical health. Lack of sunlight may cause seasonal affective disorder and depression. Without direct sunlight (not passing through glass), the human body cannot synthesize vitamin D, which may lead to deficiencies in the absence of sufficient dietary sources. In those circumstances, lack of sunlight can have a more negative effect on ethnic groups with darker skin pigmentation, because they require more sunlight to synthesize a given amount of vitamin D (Holick 2002).

The solar constant is 1.37 kW/sq m. Taken at a typical cost of electricity of 12 cents per kilowatt-hour, that could be worth \$300/year per square meter, depending upon latitude and cloud cover.

The externality might be positive or negative depending on whether heating or cooling is needed. That might affect political opposition to overshadowing.⁴⁰

Some of the streets with the least daylight in the world – the narrow passageways of Venice, for example – are among those most sought out by tourists.

Apart from other concerns such as objections to 'luxury housing', it may also be that high-rise towers upset some people not necessarily because of the loss of sunlight or daylight, but due to their aesthetic preferences. Gradualism may be a way to mitigate that.

³⁹ Webster and Lai (2004) propose a 'subsidiarity rule'.

⁴⁰ 'No variable can better predict [US] city growth over the past fifty years than January temperature, yet it is unclear a priori why warm places have grown so dramatically.' (Glaeser and Gottlieb 2009) See also Cheshire and Magrini (2006) for the position in Europe, and Bertaud (2018, 298).

High-rise buildings will provoke less reaction from people far away if they do not stick out far above the surrounding roofline.

b. Transport congestion

More construction may increase congestion of roads, parking and public transportation. Congestion of car traffic is less tractable than that of other services such as public transit or utilities, which may be easily scaled up. However, any externalities of car traffic congestion could be addressed by pricing mechanisms such as road pricing, parking fees, resident parking permits allocated in a microzone in front of new buildings to prevent effects on other residents, and/or less subsidy for public transport fares to make it more economic to expand the capacity of public transport. Such changes could be coupled with more assistance for those on low incomes to prevent transitional losses (Trebilcock 2014). For example, Singapore has road pricing (Goh 2002), and Tokyo does not permit on-street parking (Shoup 2011). Addressing the transitional losses from the proposed adoption of such a mechanism may not be easy.

c. Congestion of other local services

Adequate solutions to address externalities such as competition for services such as education or healthcare, and so reduce opposition to more intensive zoning, may vary depending upon whether those services are provided privately or by various tiers of government. For further discussion, see Furth (2017) on public schools in the United States, suggesting that '[r]eformers must make little plans. Big plans would stir men's blood to oppose them and see to it that they are not realized.'

d. Noise and other pollution

Soundproofing may mitigate externalities of noise; regulation may mitigate or eliminate pollution. Reform proposals may need to include additional rules to address noise or pollution to overcome opposition to the reform.

e. Aesthetics

Aesthetics may be more important in some places and for some voters than others.

f. Displacement

Concerns about displacement and gentrification are often expressed by tenants opposed to new development (Hankinson 2018). Such concerns may be addressed by anti-displacement provisions as discussed above. On the other hand, displacement of criminal gangs may be a positive externality for other tenants, whether on low incomes or not (Oakerson and Clifton 2017).

5. Getting to polycentricity may also be more politically feasible

Politics is clearly important whenever major changes in urban land use regulation are proposed, but the study of local government law has not kept up with advances in economics and positive political science (Schleicher 2013).⁴¹

I noted above that, under many current urban land use regulations, new construction often generates substantial uncompensated negative externalities. Such new construction is often perceived to damage or place at risk the interests of people who are directly, visibly and substantially affected. In that sense, urban land use regimes, insofar as they do permit overshadowing and other negative effects without compensation, pay far less attention to preserving the value of third party assets than many other areas of property law such as nuisance, trespass or rights to light. It is hardly surprising that calls for further 'deregulation' of urban land use, with the risk of more negative externalities to nearby residents, can lead to fierce resistance. Zoning is popular (Fischel 2005).

Although society as a whole might be better off in the long term with better rules on land use, the renters and others who lose under the current system face considerable collective action problems in organizing themselves to lobby for and achieve reform (Olson 2003).

Gordon Tullock (1975) proposed the concept of a transitional gains trap, where poorly-designed regulation has raised the value of some assets (such as licenses, taxi medallions or property), but where many of the original beneficiaries of that rise in prices have sold to new owners, who would now lose out from fixing the regulation. In many jurisdictions, housing is a particularly pernicious example of such a trap because the homeowners and other landowners who benefit from the current system, at least in the short run, are a majority of voters. Rising house prices are not surprising when regulation gives a majority of homeowner-voters a means to achieve them.

In England, it is an express objective of national government for house prices to rise (Javid 2018).⁴² In contrast, I am unaware of any OECD jurisdiction with an express target of rising prices for any other basic necessity such as food or clothing. Owners of farms or clothing factories are rarely a voting majority.

A further problem for collective action is that sudden deregulation may lead to a rapid decline in house prices as they quickly discount the expected long-term reduction in future rents (imputed or otherwise) due to expected increases in housing construction, whereas that decline in rents will take time to materialize as the housing stock increases through new construction. The losses from reform through declining house prices will therefore be quickly and highly visible, whereas the future benefits to renters will be uncertain and distant, and therefore probably perceived to be small – except for those renters who are

⁴¹ This may be one manifestation of a broader divide among the disciplines. I have not found extensive cross-citation between papers in local government law or property law, common pool resources, economics and political science on the one hand and housing and urban planning literature on the other.

⁴² For discussion of the role of politics in housing and planning in England, see Pennington (2000); Coelho, Dellepiane-Avellaneda, and Ratnoo (2017); Lund (2016); and Cox (1984).

thereby able to afford to buy a home at the reduced prices, should they have the courage to try to catch a falling knife.

Reform proposals such as those below should face far fewer collective action problems because they are designed to reverse that dynamic by making small groups substantially better off and ensuring that any losses are distant in time and space, widely dispersed and uncertain.

Current urban land use regulations restrict the supply of housing because municipalities use the police power within their borders against smaller groups or sub-communities that would like to build on their own land. In many cases the framework of land use regulation is itself set at state level, and municipalities must operate zoning or planning regimes, often with limited scope to experiment: the process and body by which zoning must be determined is set by a state zoning law, and state regulations such as California's Environmental Quality Act cannot be amended by a municipality, even where additional homes in an urban core might benefit the environment overall by reducing pollution from commuting.

That is contrary to the Ostrom's third Institutional Analysis and Design Framework ('IAD') design principle, that most individuals affected by a resource regime be authorized to participate in making and modifying its rules (Ostrom 2015). 'Unlike many natural resource communities around the world, city residents lack authority to make and enforce their own neighborhood rules.' (Oakerson and Clifton 2017, 432)

Many jurisdictions allow self-organization through restrictive covenants; but very few allow existing statutory land use restrictions to be amended or waived by small groups of local people. In most urban settings, it would be very difficult to try to scrap all statute and move to an entirely private system. New cities are outside the scope of this paper.

Furthermore, judge-made rules on 'exactions' such as the *Nollan, Dolan* and *Koontz* line of cases in the U.S. (Fennell and Peñalver 2014),⁴³ preventing municipalities 'selling' upzonings (Fischel 2000; 1987), also contravene the third IAD design principle and form another barrier to Coasean bargaining. Ostromian self-organization by small groups who wish to make better use of land may presently be difficult or impossible under such frameworks.

Upzonings imposed by the state are often unpopular. It may be politically much easier for states to enact reforms enabling self-organization by those groups who wish to, conforming with the third institutional design principle.

As Liebmann (1993) notes, '[a]llowing a dispensing power to neighborhood associations similarly enjoys an acceptability which would not extend to the proposals for outright sale of zoning rights or the neighborhood consent provisions. "The idea of selling zoning makes us uneasy because [it] breaks down the traditional barriers between public and private." [... T]here would be nothing to preclude the associations from conditioning permission on exactions similar to those now obtained by local government. Under the new scheme,

⁴³ The UK has a similar legislative rule derived from case law (Harwood 2014, 364).

however, the benefit of the exaction would accrue not to bureaucrats or a diffused citizenry but to those immediately impacted by the new project.⁴⁴

In the terms of Alston's reasoning above, I therefore suggest that more polycentric governance of land use would allow many of the interest groups blocking more housing to be brought into the fold – 'bought out' by sharing in the benefits of allowing better uses of land.

Polycentricity as a means to overcome political resistance

Rational choice theory suggests that a regulatory cartel involving a majority of voters might be broken by allowing small groups of voters to defect and profit by their defection.

William Riker (1986) coined the term 'heresthetic' for the tactic of creating a bundle of issues that can unite a winning coalition for a proposal. Allowing bottom-up setting of urban land use rules can be seen as one example of that, because it may unite a winning coalition of voters by splitting the blocking homeowner-voter majority and allowing former objectors to defect from the regulatory cartel and benefit from more intensive land use⁴⁵ (Riker 1986; Hindmoor and Taylor 2015).

One promising path to the adoption of reforms for better use of urban land, therefore, may be to allow small local groups, with boundaries drawn and other rules set with the aim of minimizing externalities, to defect from certain land use regulation constraints.⁴⁶ In that way they can capture the benefits for themselves – either by development on their own property or through negotiating a division of the profits with the landowner in question. Such reform will be popular with them, whereas any reduction in the overall average price of a home across the country will be limited, distant and uncertain. That should serve to reduce political opposition.

To be clear the suggestion is not that the small groups should be able to increase restrictions on change of use or to reduce the volume permitted by the current zoning envelope. The suggestion is that, as an alternative and supplementary means of permitting development, residents in specifically drawn small areas should have the power to authorize specified development within their own boundaries, subject to constraints on externalities outside those boundaries. In that way, such changes are unlikely to reduce the supply of housing, because existing means for approval of development will continue.

Such rules are consistent with strong support for localism. Local people speaking up in favour of more housing – because that is currently unusual and because local people are often perceived to be the most affected – can have powerful rhetorical force.

⁴⁴ Liebmann (1993, 345) asserts that the Supreme Court's objections to neighbor-consent provisions do not extend to local referendum requirements. Similarly, in England a community is at liberty not to grant a neighborhood development order unless the landowner offers sufficient benefit.

⁴⁵ Many thanks to Prof. Andrew Hindmoor of Sheffield University for this point.

⁴⁶ Scholars from various fields have all suggested localism as a way forward (Ellickson 1998; Liebmann 1993; Nelson 1999; Pennington 2002; Morton 2011).

Those rules may also help to bypass the judicial restrictions on 'exactions' discussed above. An upzoning that benefits every landowner on a street can provide incentives to each of those landowners, without constituting an unlawful exaction.

Many writers in urban planning theory now promote a move away from top-down planning practices and increased use of collaborative planning or co-decision with local communities (Healey 1997).⁴⁷ Selmi (2002) noted that direct democracy to determine land use continued to be popular in states where it was allowed.

Bueno de Mesquita and Smith (2012) argue that an effective strategy for political entrepreneurs is to design a policy that will win votes for the politician who adopts it. Giving small local groups more power to permit better uses of land may be seen as an example of that tactic.

7. Conclusion

I suggest a new direction for urban planning and the law of urban land use built upon lessons from the line of research started by Elinor Ostrom. The aim is to make small-scale, negotiated, win-win solutions easier in an urban context.

I argue that such reforms may both be substantially more politically feasible and also considerably improve the supply, affordability and quality of housing, leading to significant increases in welfare through increases in opportunity, amenity, health and productivity. If so, it is remarkable that so little work is currently being done in that direction. Such research might allow a revival of the process of gentle densification that, over centuries, created some of the most cherished parts of the world's historic cities.

⁴⁷ In a related field, the growing interest in participatory and deliberative democracy may also be helpful (Fung and Wright 2003).

References

- Acemoglu, Daron, and James A. Robinson. 2012. *Why Nations Fail: The Origins of Power, Prosperity, and Poverty*. 1. ed. New York, NY: Crown Publ.
- Acemoglu, Daron, and James A Robinson. 2013. "Economics versus Politics: Pitfalls of Policy Advice." *Journal of Economic Perspectives* 27 (2): 173–92.
<https://doi.org/10.1257/jep.27.2.173>.
- Ahlfeldt, Gabriel M., and Elisabetta Pietrostefani. 2019. "The Economic Effects of Density: A Synthesis." *Journal of Urban Economics* 111 (May): 93–107.
<https://doi.org/10.1016/j.jue.2019.04.006>.
- Albouy, David, Gabriel Ehrlich, and Minchul Shin. 2018. "Metropolitan Land Values." *The Review of Economics and Statistics* 100 (3): 454–66.
https://doi.org/10.1162/rest_a_00710.
- Alston, L. J. 2008. "New Institutional Economics." In *The New Palgrave Dictionary of Economics*, edited by Palgrave Macmillan, 1–11. London: Palgrave Macmillan UK.
https://doi.org/10.1057/978-1-349-95121-5_2468-1.
- Alston, Lee J., and Bernardo Mueller. 2008. "Property Rights and the State." In *Handbook of New Institutional Economics*, edited by Claude Ménard and Mary M. Shirley, 573–90. Berlin, Heidelberg: Springer Berlin Heidelberg.
https://doi.org/10.1007/978-3-540-69305-5_23.
- Bell, Abraham, and Parchomovsky, Gideon. 2002. "Pliability Rules." *Michigan Law Review* 101: 1. <https://ssrn.com/abstract=1282862>.
- Bertaud, Alain. 2018. *Order without Design: How Markets Shape Cities*. Cambridge, Massachusetts: MIT Press.
- Bradley, Quintin, and William Sparling. 2017. "The Impact of Neighbourhood Planning and Localism on House-Building in England." *Housing, Theory and Society* 34 (1): 106–18. <https://doi.org/10.1080/14036096.2016.1197852>.
- Brueckner, Jan K. 1983. "Property Value Maximization and Public Sector Efficiency." *Journal of Urban Economics* 14 (1): 1–15.
[https://doi.org/10.1016/0094-1190\(83\)90026-8](https://doi.org/10.1016/0094-1190(83)90026-8).

- Bueno de Mesquita, Bruce, and Alastair Smith. 2012. *The Dictator's Handbook: Why Bad Behavior Is Almost Always Good Politics*. New York: PublicAffairs.
- Cheshire, Paul C., and Stefano Magrini. 2006. "Population Growth in European Cities: Weather Matters – but Only Nationally." *Regional Studies* 40 (1): 23–37. <https://doi.org/10.1080/00343400500449259>.
- Clark, Gregory. 2007. "The Long March of History: Farm Wages, Population, and Economic Growth, England 1209–1869." *The Economic History Review* 60 (1): 97–135. <https://doi.org/10.1111/j.1468-0289.2006.00358.x>.
- Clawson, Marion. 1971. *Suburban Land Conversion in the United States: An Economic and Governmental Process*. Baltimore: Published for Resources for the Future by the Johns Hopkins Press.
- Coase, Ronald H. 1960. "The Problem of Social Cost." In *Classic Papers in Natural Resource Economics*, edited by Chennat Gopalakrishnan, 87–137. London: Palgrave Macmillan UK. https://doi.org/10.1057/9780230523210_6.
- Coelho, Miguel, Sebastian Dellepiane-Avellaneda, and Vigyan Ratnoo. 2017. "The Political Economy of Housing in England." *New Political Economy* 22 (1): 31–60. <https://doi.org/10.1080/13563467.2016.1195346>.
- Corkindale, John. 2004. *The Land Use Planning System: Evaluating Options for Reform*. Hobart Paper 148. London: Inst. of Economic Affairs.
- Cox, Andrew W.. 1984. *Adversary Politics and Land: The Conflict over Land and Property Policy in Post-War Britain*. Cambridge [Cambridgeshire] ; New York: Cambridge University Press.
- Cox, Michael, Gwen Arnold, and Sergio Villamayor Tomás. 2010. "A Review of Design Principles for Community-Based Natural Resource Management." *Ecology and Society* 15 (4). <https://doi.org/10.5751/ES-03704-150438>.
- Davis, Otto A. 1963. "Economic Elements in Municipal Zoning Decisions." *Land Economics* 39 (4): 375. <https://doi.org/10.2307/3144842>.
- Department for Communities and Local Government. 2017. *Fixing Our Broken Housing Market*. London: HM Government. <https://www.gov.uk/government/publications/fixing-our-broken-housing-market> et.

- Dimitruk, Kara. 2019. "'To destroy the settlement of estate'? the Glorious Revolution and estate acts of parliament, 1660–1702," Working Papers 01/2019, Stellenbosch University, Department of Economics.
<https://ideas.repec.org/p/sza/wpaper/wpapers315.html>
- Demsetz, Harold. 1967. "Toward a Theory of Property Rights." *The American Economic Review* 57 (2): 347–59. <http://www.jstor.org/stable/1821637>.
- Eggertsson, Thráinn. 2005. *Imperfect Institutions: Possibilities and Limits of Reform*. Economics, Cognition, and Society. Ann Arbor: University of Michigan Press.
- Ellickson, Robert C. 1973. "Alternatives to Zoning: Covenants, Nuisance Rules, and Fines as Land Use Controls." *The University of Chicago Law Review* 40 (4): 681.
<https://doi.org/10.2307/1599220>.
- . 1993. "Property in Land." *The Yale Law Journal* 102 (6): 1315.
<https://doi.org/10.2307/796972>.
- . 1998. "New Institutions for Old Neighborhoods." *Duke Law Journal* 48 (1): 75.
<https://doi.org/10.2307/1373008>.
- . 2018. Private email correspondence with the author. September 18, 2018.
- Elmendorf, Christopher S., and Darien Shanske. Forthcoming 2020. "Auctioning the Upzone." *Case Western Law Review* 69 (September).
<https://ssrn.com/abstract=3448750>.
- Erdmann, Kevin. 2019. *Shut Out: How a Housing Shortage Caused the Great Recession and Crippled Our Economy*.
<http://search.ebscohost.com/login.aspx?direct=true&scope=site&db=nlebk&db=nlabk&AN=1989081>.
- Fennell, Lee Anne. 2009. *The Unbounded Home: Property Values beyond Property Lines*. New Haven: Yale University Press.
- Fennell, Lee Anne, and Eduardo M. Peñalver. 2014. "Exactions Creep." *The Supreme Court Review* 2013 (1): 287–358. <https://doi.org/10.1086/675740>.
- Fischel, William A. 1987. "The Economics of Land Use Exactions: A Property Rights Analysis." *Law and Contemporary Problems* 50: 101–13.
<https://scholarship.law.duke.edu/lcp/vol50/iss1/7>.

- Fischel, William A. 2000. "Public Goods and Property Rights: Of Coase, Tiebout, and Just Compensation." Hoover Institution: Dartmouth College.
<https://www.dartmouth.edu/~wfischel/Papers/00-19.pdf>.
- Fischel, William A. 2005. *The Homevoter Hypothesis: How Home Values Influence Local Government Taxation, School Finance, and Land-Use Policies*. Cambridge, Mass.; London: Harvard University Press.
- Foster, Sheila, and Christian Iaione. 2015. "The City as a Commons." *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.2653084>.
- Fritz, Verena, Brian Levy, and Rachel Ort, eds. 2014. *Problem-Driven Political Economy Analysis: The World Bank's Experience*. The World Bank.
<https://doi.org/10.1596/978-1-4648-0121-1>.
- Fung, Archon, and Erik Olin Wright. 2003. *Deepening Democracy: Institutional Innovations in Empowered Participatory Governance*. The Real Utopias Project 4. London: Verso.
- Furth, Salim. 2019. "Housing Supply in the 2010s."
<https://www.mercatus.org/publications/state-and-local-regulations/housing-supply-2010s>.
- Furth, Salim. 2017. "The Two-Board Knot: Zoning, Schools, and Inequality." *American Affairs*, 2017.
- Glaeser, Edward, and Joseph Gyourko. 2018. "The Economic Implications of Housing Supply." *Journal of Economic Perspectives* 32 (1): 3–30.
<https://doi.org/10.1257/jep.32.1.3>.
- Glaeser, Edward L. 2011. *Triumph of the City: How Our Greatest Invention Makes Us Richer, Smarter, Greener, Healthier, and Happier*. New York: Penguin Press.
- Glaeser, Edward L., and Joshua D. Gottlieb. 2008. "The Economics of Place-Making Policies." *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.1299046>.
- . 2009. "The Wealth of Cities: Agglomeration Economies and Spatial Equilibrium in the United States." *Journal of Economic Literature* 47 (4): 983–1028.
<https://doi.org/10.1257/jel.47.4.983>.
- Glaeser, Edward, and Kristina Tobio. 2007. "The Rise of the Sunbelt." w13071. Cambridge, MA: National Bureau of Economic Research.
<https://doi.org/10.3386/w13071>.

- Gleba, Michael C. 2018. "Making Zoning Alienable: Property Rights, NIMBYism, and Urban Growth." Ph.D. dissertation, Boston, Massachusetts: Northeastern University.
- Gleeson, James. 2015. "Housing in London 2015." London: Greater London Authority. <https://www.london.gov.uk/what-we-do/housing-and-land/housing-and-land-publications/housing-london-2015>.
- . 2018. "How Tokyo Built Its Way to Abundant Housing." February 19, 2018. <https://jamesjgleeson.wordpress.com/2018/02/19/how-tokyo-built-its-way-to-abundant-housing/>.
- Goh, Mark. 2002. "Congestion Management and Electronic Road Pricing in Singapore." *Journal of Transport Geography* 10 (1): 29–38. [https://doi.org/10.1016/S0966-6923\(01\)00036-9](https://doi.org/10.1016/S0966-6923(01)00036-9).
- Gyourko, Joseph, Christopher Mayer, and Todd Sinai. 2013. "Superstar Cities." *American Economic Journal: Economic Policy* 5 (4): 167–99. <https://doi.org/10.1257/pol.5.4.167>.
- Gyourko, Joseph, and Raven Molloy. 2015. "Regulation and Housing Supply." In *Handbook of Regional and Urban Economics*, 5:1289–1337. Elsevier. <https://doi.org/10.1016/B978-0-444-59531-7.00019-3>.
- Green, David, Rene Morissette, Ben Sand, and Iain Snoddy. n.d. "Economy-Wide Spillovers From Booms: Long Distance Commuting and the Spread of Wage Effects."
- Haidt, Jonathan. 2013. *The Righteous Mind: Why Good People Are Divided by Politics and Religion*. New York: Vintage Books. <http://jeffco.axis360.baker-taylor.com/Title?itemid=0009839976>.
- Hall, Peter, and Political and Economic Planning, eds. 1973. *Urban and Metropolitan Growth Processes or Megalopolis Denied. The Containment of Urban England*, by Peter Hall.; Vol. 1. London.
- Hankinson, Michael. 2018. "When Do Renters Behave Like Homeowners? High Rent, Price Anxiety, and NIMBYism." *American Political Science Review* 112 (3): 473–93. <https://doi.org/10.1017/S0003055418000035>.

- Harding, Robin. 2016. "Why Tokyo Is the Land of Rising Home Construction but Not Prices." *Financial Times*, August 3, 2016.
<https://www.ft.com/content/023562e2-54a6-11e6-befd-2fc0c26b3c60>.
- Harris, Daniel. 2013. "Applied Political Economy Analysis." *A Problem-Driven Framework*. London: Overseas Development Institute.
- Harris, James. 2018. "Settlement Patterns, Urban Form & Sustainability." London.
<https://www.rtpi.org.uk/media/2822766/settlementpatternsurbanformsustainability.pdf>.
- Harwood, Richard. 2016. *Planning Permission*.
- Healey, Patsy. 1997. *Collaborative planning: shaping places in fragmented societies*. Planning, environment, cities. Basingstoke, Hampshire: Macmillan.
- Heller, Michael. 2008. *The Gridlock Economy: How Too Much Ownership Wrecks Markets, Stops Innovation, and Costs Lives*. New York: Basic Books.
- Hilber, Christian A.L., and Frédéric Robert-Nicoud. 2013. "On the Origins of Land Use Regulations: Theory and Evidence from US Metro Areas." *Journal of Urban Economics* 75 (May): 29–43. <https://doi.org/10.1016/j.jue.2012.10.002>.
- Hills, Roderick, and David Schleicher. 2014. "City Replanning." George Mason University. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2477125.
- . 2015. "Planning an Affordable City." *Iowa Law Review* 101: 91.
<https://ilr.law.uiowa.edu/print/volume-101-issue-1/planning-an-affordable-city/>.
- Hindmoor, Andrew, and Brad Taylor. 2015. *Rational Choice*. 2. ed. Political Analysis. Basingstoke: Palgrave.
- Hoj, Jens. 2006. "The Political Economy of Structural Reform: Empirical Evidence from OECD Countries." OECD Economics Department Working Papers 501.
<https://doi.org/10.1787/881353527404>.
- Holick, Michael F. 2002. "Sunlight and Vitamin D: Both Good for Cardiovascular Health." *Journal of General Internal Medicine* 17 (9): 733–35.
<https://doi.org/10.1046/j.1525-1497.2002.20731.x>.
- Holmans, A. E. 2005. *Historical Statistics of Housing in Britain*. Cambridge: Cambridge Centre for Housing and Planning Research.

- Hornbeck, Richard, and Enrico Moretti. n.d. "Who Benefits from Productivity Growth? Direct and Indirect Effects of Local TFP Growth on Wages, Rents, and Inequality." http://faculty.chicagobooth.edu/richard.hornbeck/research/papers/TFP_HM.pdf.
- Hsieh, Chang-Tai, and Enrico Moretti. 2019. "Housing Constraints and Spatial Misallocation." *American Economic Journal: Macroeconomics* 11 (2): 1–39. <https://doi.org/10.1257/mac.20170388>.
- Ihlanfeldt, Keith R. 2007. "The Effect of Land Use Regulation on Housing and Land Prices." *Journal of Urban Economics* 61 (3): 420–35. <https://doi.org/10.1016/j.jue.2006.09.003>.
- Infranca, John. 2019. "The New State Zoning: Land Use Preemption amid a Housing Crisis." *Boston College Law Review* 60 (February): 823. <https://www.bc.edu/content/bc-web/schools/law/academics-faculty/law-reviews/bclr.html/#item/3756>.
- Javid, Sajid. 2018. "Review of Build Out," January 14, 2018. <https://www.gov.uk/government/publications/review-of-build-out-terms-of-reference>.
- Knoll, Katharina, Moritz Schularick, and Thomas Steger. 2017. "No Price Like Home: Global House Prices, 1870–2012." *American Economic Review* 107 (2): 331–53. <https://doi.org/10.1257/aer.20150501>.
- Liebmann, George W. 1993. "Devolution of Power to Community and Block Associations." *The Urban Lawyer* 25 (2): 335–83. <http://www.jstor.org/stable/27894822>.
- Lund, Brian. 2016. *Housing Politics in the United Kingdom: Power, Planning and Protest*. Bristol, UK: Policy Press.
- Mallett, Lee. 2018. "Room on Top: 12 Primrose Hill Neighbours Build on Their Roofs in New Homes Model That Could Offer Solution to Housing Crisis." *Evening Standard*, March 13, 2018. <https://www.homesandproperty.co.uk/property-news/buying/new-homes/12-p-primrose-hill-neighbours-build-on-their-roofs-in-new-homes-model-that-could-offer-solution-to-a118516.html>.
- Moretti, Enrico. 2011. "Local Labor Markets." In *Handbook of Labor Economics*, Edited by David Card and Orley Ashenfelter, 4:1237–1313. New York: Elsevier.

- . 2013. "Real Wage Inequality." *American Economic Journal: Applied Economics* 5 (1): 65–103. <https://doi.org/10.1257/app.5.1.65>.
- Morton, Alex. 2011. *Cities for Growth: Solutions to Our Planning Problems*. London: Policy Exchange.
- Myers, John. 2017. *Yes In My Back Yard – How to End the Housing Crisis, Boost the Economy and Win More Votes*. London: ASI (Research) Ltd.
- Nelson, Robert H. 1999. "Privatizing the Neighborhood: A Proposal to Replace Zoning with Private Collective Property Rights to Existing Neighborhoods." *George Mason Law Review* 7 (4): 827.
https://www.researchgate.net/publication/228209602_Privatizing_the_Neighborhood_A_Proposal_to_Replace_Zoning_with_Private_Collective_Property_Rights_to_Existing_Neighborhoods.
- Nelson, Robert, Kyle McKenzie, and Eileen Norcross. "From BIDs to RIDs: Creating Residential Improvement Districts." Mercatus Policy Series, Policy Comment No. 20. Arlington, VA: Mercatus Center at George Mason University, May 2008.
- North, Douglass C. 1990. *Institutions, Institutional Change, and Economic Performance*. The Political Economy of Institutions and Decisions. Cambridge ; New York: Cambridge University Press.
- Nunns, Peter. n.d. "Legalising Perimeter Block Housing." *Greater Auckland* (blog). Accessed May 28, 2019.
<https://www.greatauckland.org.nz/2017/08/29/legalising-perimeter-block-housing/>.
- Oakerson, Ronald J., and Jeremy D.W. Clifton. 2017. "The Neighborhood as Commons: Reframing Neighborhood Decline." *Fordham Urban Law Journal* 44: 411.
<https://ir.lawnet.fordham.edu/ulj/vol44/iss2/5>.
- Olson, Mancur. 1996. "Distinguished Lecture on Economics in Government: Big Bills Left on the Sidewalk: Why Some Nations Are Rich, and Others Poor." *Journal of Economic Perspectives* 10 (2): 3–24. <https://doi.org/10.1257/jep.10.2.3>.
- . 2003. *The Logic of Collective Action: Public Goods and the Theory of Groups*. 21. printing. Harvard Economic Studies 124. Cambridge, Mass.: Harvard Univ. Press.

- Ortalo-Magné, François, and Andrea Prat. 2014. "On the Political Economy of Urban Growth: Homeownership versus Affordability." *American Economic Journal: Microeconomics* 6 (1): 154–81. <https://doi.org/10.1257/mic.6.1.154>.
- Ostrom, Elinor. 2005. *Understanding Institutional Diversity*. Princeton Paperbacks. Princeton: Princeton University Press.
- . 2009. "Beyond Markets and States: Polycentric Governance of Complex Economic Systems." Prize Lecture, December 8. <https://www.nobelprize.org/prizes/economic-sciences/2009/ostrom/lecture/>.
- . 2015. *Governing the Commons: The Evolution of Institutions for Collective Action*. Canto Classics. Cambridge, United Kingdom: Cambridge Univ Press.
- Owen, David. 2009. *Green Metropolis: Why Living Smaller, Living Closer, and Driving Less Are Keys to Sustainability*. New York: Riverhead Books.
- Pennington, Mark. 2000. *Planning and the Political Market: Public Choice and the Politics of Government Failure*. London: Athlone.
- . 2002. *Liberating the Land: The Case for Private Land-Use Planning*. Hobart Paper 143. London: Inst. of Economic Affairs.
- Riker, William H. 1986. *The Art of Political Manipulation*. New Haven: Yale Univ. Pr.
- Rodrik, Dani, Arvind Subramanian, and Francesco Trebbi. 2004. "Institutions Rule: The Primacy of Institutions Over Geography and Integration in Economic Development." *Journal of Economic Growth* 9 (2): 131–65. <https://doi.org/10.1023/B:JOEG.0000031425.72248.85>.
- Rognlie, Matthew. 2016. "Deciphering the Fall and Rise in the Net Capital Share: Accumulation or Scarcity?" *Brookings Papers on Economic Activity* 2015 (1): 1–69.
- Romem, Issi. 2018. "America's New Metropolitan Landscape: Pockets of Dense Construction in a Dormant Suburban Interior." *America's New Metropolitan Landscape: Pockets of Dense Construction in a Dormant Suburban Interior* (blog). February 1, 2018. <https://www.buildzoom.com/blog/pockets-of-dense-construction-in-a-dormant-suburban-interior>.
- Sarkar, Chinmoy, Chris Webster, and John Gallacher. 2018. "Neighbourhood Walkability and Incidence of Hypertension: Findings from the Study of 429,334 UK

- Biobank Participants." *International Journal of Hygiene and Environmental Health* 221 (3): 458–68. <https://doi.org/10.1016/j.ijheh.2018.01.009>.
- Schleicher, David. 2012. "City Unplanning." *SSRN Electronic Journal*.
<https://doi.org/10.2139/ssrn.1990353>.
- . 2013. "Schleicher, David, Local Government Law's 'Law and ___' Problem (November 15, 2013). *Fordham Urban Law Journal*, Vol. 40, No. 5, Pp. 101-123, 2013; George Mason Law & Economics Research Paper No. 13-63. Available at SSRN: <https://Ssrn.Com/Abstract=2355372>."
- Selmi, Daniel P. 2002. "Reconsidering the Use of Direct Democracy in Making Land Use Decisions." *UCLA Journal of Environmental Law and Policy*, no. 19(2).
<https://escholarship.org/uc/item/7b22c5nw>.
- Shoup, Donald C. 2011. *The High Cost of Free Parking*. Updated. Chicago: Planners Press, American Planning Association.
- Sorensen, André, Junichiro Okata, and Sayaka Fujii. 2010. "Urban Renaissance as Intensification: Building Regulation and the Rescaling of Place Governance in Tokyo's High-Rise Manshon Boom." *Urban Studies* 47 (3): 556–83.
<https://doi.org/10.1177/0042098009349775>.
- Soto, Hernando de. 2002. *The Other Path: The Economic Answer to Terrorism*. New York, NY: Basic Books.
- Stahl, Kenneth A. "Neighborhood Empowerment and the Future of the City." *University of Pennsylvania Law Review* (2013): 939-1008.
- Taylor, Bryan. 2017. "Seven Centuries of Real Estate Prices." *Seven Centuries of Real Estate Prices* (blog). January 18, 2017. Accessed July 1, 2019.
<http://gfdblog.com/GFD/Blog/seven-centuries-of-real-estate-prices>.
- Thomas, R, and N Dimsdale. 2018. "A Millennium of Macroeconomic Data Bank of England OBRA Dataset Version 3.1." *Research Datasets*. August 2018.
<https://www.bankofengland.co.uk/statistics/research-datasets>.
- Thorson, James A. 1996. "An Examination of the Monopoly Zoning Hypothesis." *Land Economics* 72 (1): 43. <https://doi.org/10.2307/3147156>.

- Tiebout, Charles M. 1956. "A Pure Theory of Local Expenditures." *Journal of Political Economy* 64 (5): 416–24. <https://doi.org/10.1086/257839>.
- Tostvein, Paul. 2017. "How Much Is the World Worth?" *How Much Is the World Worth?* (blog). April 10, 2017. <https://www.savills.co.uk/blog/article/216300/residential-property/how-much-is-the-world-worth.aspx>.
- Trebilcock, Michael J. 2014. *Dealing with Losers: The Political Economy of Policy Transitions*. Oxford New York Auckland: Oxford University Press.
- Tullock, Gordon. 1967. "The Welfare Costs of Tariffs, Monopolies, and Theft." *Economic Inquiry* 5 (3): 224–32.
- . 1975. "The Transitional Gains Trap." *The Bell Journal of Economics* 6 (2): 671. <https://doi.org/10.2307/3003249>.
- Weaver, R. Kent. 1986. "The Politics of Blame Avoidance." *Journal of Public Policy* 6 (4): 371–98. <https://doi.org/10.1017/S0143814X00004219>.
- Webster, Christopher J, and Lawrence Wai-chung Lai. 2004. *Property Rights, Planning and Markets: Managing Spontaneous Cities*. Cheltenham: Edward Elgar.
- Yglesias, Matthew. 2018. "Gavin Newsom Promised to Fix California's Housing Crisis. Here's a Bill That Would Do It." *Vox* (blog). December 7, 2018. <https://www.vox.com/policy-and-politics/2018/12/7/18125644/scott-wiener-sb-50-california-housing>.