

# Fixing Urban Planning with Ostrom

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

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

John Myers<sup>1</sup>

## Abstract

Urban planning reform proposals have generally failed to provide bottom-up rules that, given local geography and politics, can overcome political opposition to change and allow Coasean bargaining while sufficiently capturing externalities. I suggest four strategies to fill that gap in the literature.

Recent research on the commons has rarely 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 face transitional gains traps where homeowners and others block any move to a more efficient system.

I argue that allowing bottom-up approval of better uses of land may reverse the current Olsonian problems by allowing the formation of groups with strong incentives and the means to lobby for such changes. It can be seen as a tactic from Riker's heresthetic: splitting the blocking homeowner-voter majority by allowing former objectors to defect from the regulatory cartel and benefit from more intensive land use.

One example is the recent law in New Zealand, allowing a landowner to waive the protective setback rule binding a specific adjoining property. In England, a recent change now permits a parish to approve development on its own green belt, albeit subject to tight constraints. 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 external façades of the block and to angled maximum height planes to preserve light to other blocks.

## 1. Introduction

Urban planning as adopted in many countries over the course of the twentieth century often consists solely of top-down plan-making. 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 CPR literature.

First, I 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. Second, I note that

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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. Third, I review the challenges of governing the urban commons and some reasons why more community-driven, win-win approaches may be helpful. Fourth, I set out why community-driven approaches may also help to solve the challenges of majority opposition, Olsonian incentives, and transitional losses faced by policy entrepreneurs who aim to secure improvements in urban land use governance. Finally, I give four examples of specific ideas or approaches that may illustrate avenues for future research.

## **2. 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).

In that respect, urban land use is one of many areas where better institutions and policy might result in substantially improved economic performance. Alston (2008) writes:

Explaining institutional rigidities in the face of poor economic performance is a difficult research agenda. To understand the lock-in requires insights from the disciplines that comprise the NIE – 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.

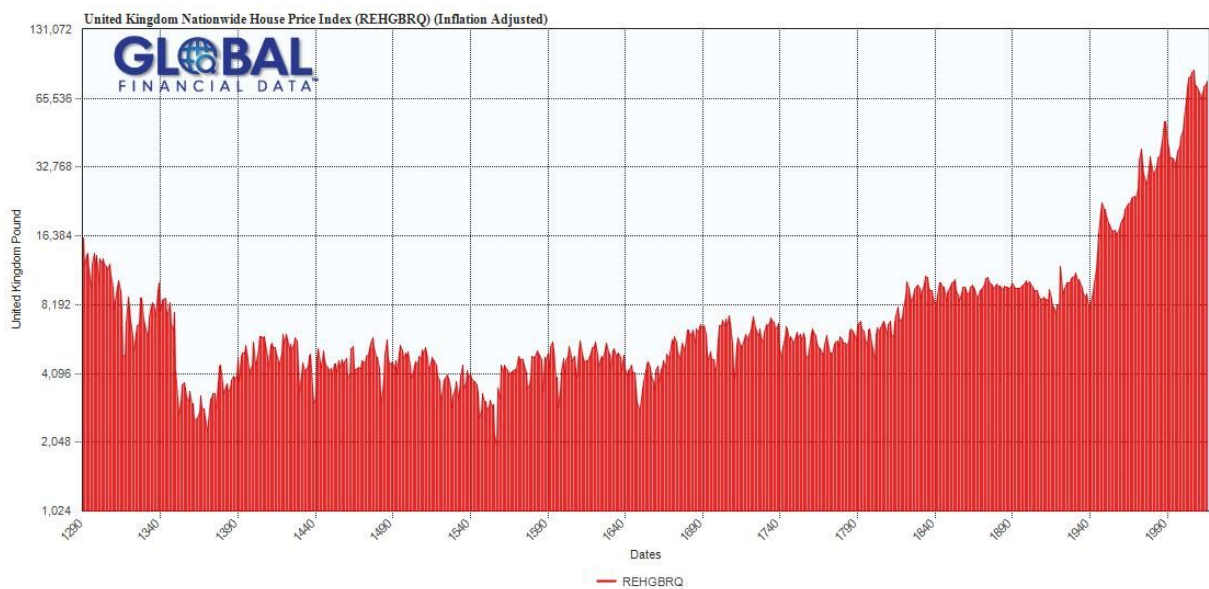
For perspective on the scale of the problem in urban land use, estimates from the United Kingdom's Office for National Statistics imply that the excess of total UK dwelling prices over the total replacement cost of those dwellings was £3.7 trillion in 2015,<sup>2</sup> or nearly 2/5ths of the entire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

A third party graph of UK log real housing costs since 1290 CE (Taylor 2017) shows a rapid increase from the middle of the twentieth century.

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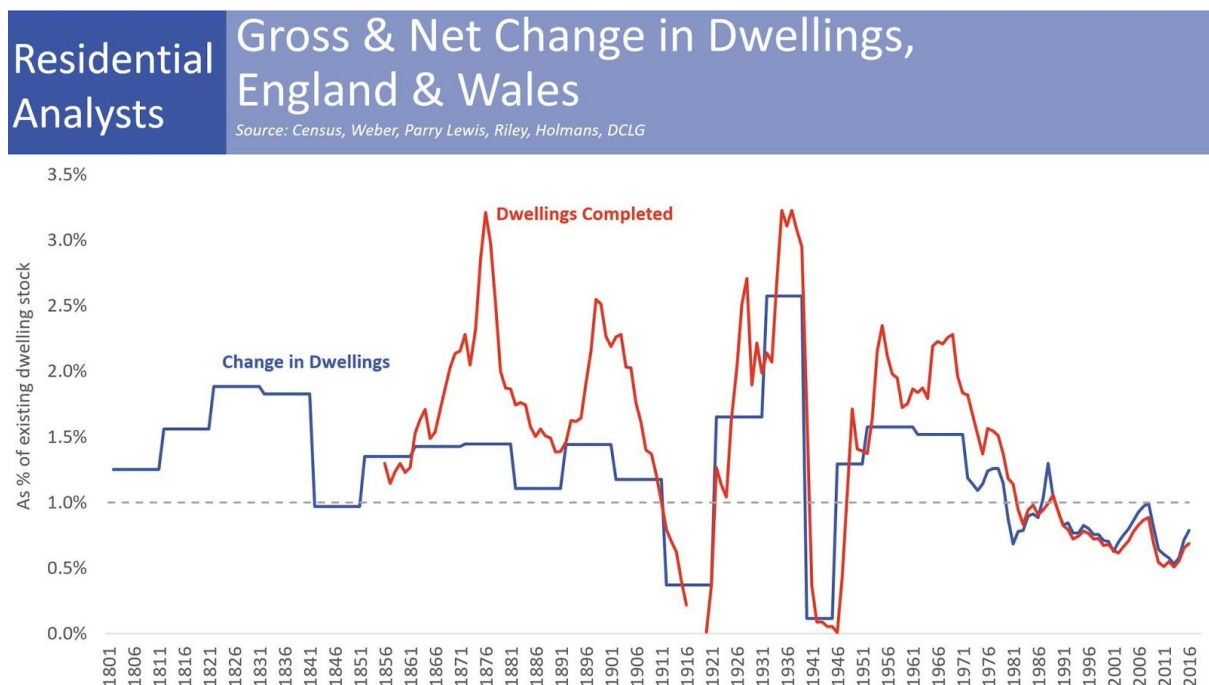
<sup>2</sup> UK Office for National Statistics data series CGLK and MJF8 under the definitions used up to 2015

Figure 1



Since the foundation of the current English planning system in 1947, a graph from the analyst Neal Hudson implies that the UK stock of dwelling units has never increased at the net percentage rate of the 1830s, let alone the higher rate of the 1930s.<sup>3</sup>

Figure 2



<sup>3</sup> Obtained from [https://twitter.com/resi\\_analyst/status/931089599107162120](https://twitter.com/resi_analyst/status/931089599107162120) on 3rd May 2019. Reproduced with permission.

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 the unnecessary scarcity due to suboptimal regulation may 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 deadweight losses from rent-seeking activities of those lobbying for zoning changes and other permissions for development (Tullock 1967).

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 (Rognlie 2016).

### **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).<sup>4</sup> Ahlfeldt and Pietrostefani (2019) find that housing density has a positive effect on welfare if housing supply is elastic.

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).

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.

Enabling housing densification is particularly important as economies have moved away from agriculture, where agglomeration effects are less important, towards manufacturing and then services.

There are also advocates for denser and more walkable cities on grounds of health (Sarkar, Webster, and Gallacher 2018) and the environment (Owen 2009).

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<sup>4</sup> Gyourko and Molloy (2015, 1327) review the economic literature on the welfare implications of regulation.

## 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, despite strong economic incentives.

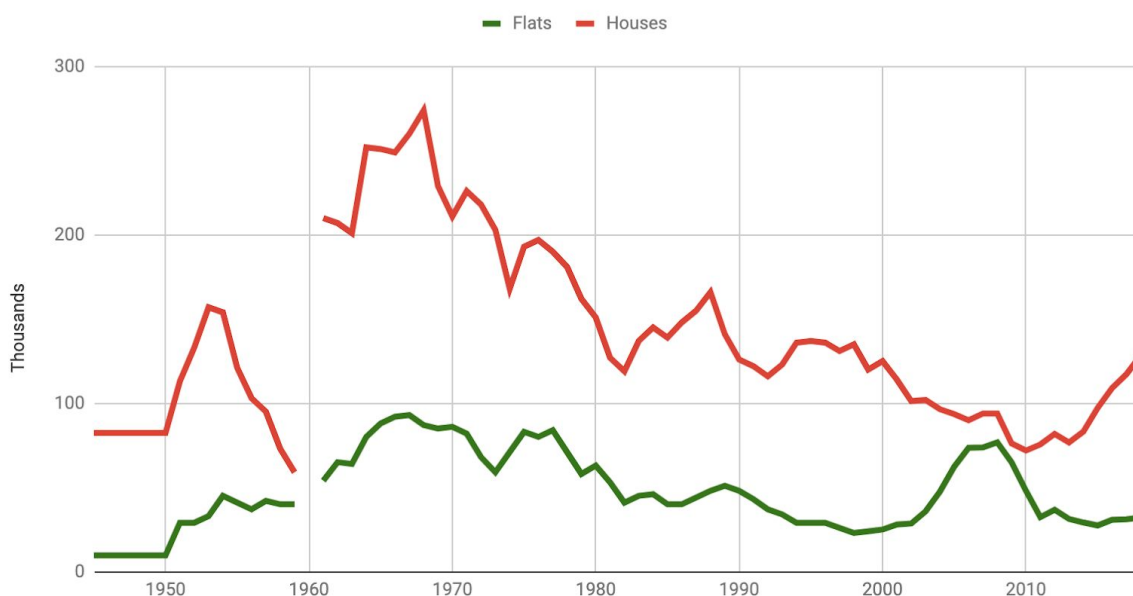
Maps from Romem (2018) show a large reduction in the pace of densification of suburbs since 1940. In the 2010s, moderately dense suburbs, which have the strictest land use regulations, demonstrated the lowest growth rate (Furth 2019).

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 3

### Houses and flats built, England

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



Source: (Holmans 2005); [MHCLG Live Tables](#)<sup>5</sup> 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).

<sup>5</sup> Available at <https://www.gov.uk/government/statistical-data-sets/live-tables-on-house-building>. Accessed on 8th May 2019.

Despite the large gains to be made, few Coasean bargains (Coase 1960) are struck, for reasons discussed below. Given the elasticity of demand in some high-price areas, Glaeser and Gottlieb argue that land values would be increased by allowing more construction. Current rules make it hard for communities to find Coasean, Pareto-superior solutions (Glaeser and Gottlieb 2008, 212).<sup>6</sup> 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.

Furthermore the prohibition on construction under most current systems of land use regulation is absolute, with criminal sanctions and injunctive relief for breach. That is arguably contrary to the fifth institutional design principle, of graduated sanctions (Ostrom 2005). 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.<sup>7</sup> The fact that land use rules are generally set by officials or politicians, rather than by voters directly, means that blame avoidance may create a further bias against new development (Weaver 1986).

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

Instead of a commons, therefore, the city has effectively become an anticommons, with multiple interlocking rights and quasi-rights, unclearly vested, making most potential change impossible (Heller 2008).

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 Pareto superiority in urban land use**

The last section reviewed some of the evidence that nearly win-win outcomes with considerably better supply of homes are possible. If so, literally trillions of dollars have been left on the sidewalk (Olson 1996).

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<sup>6</sup> '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 side payments. 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.'

<sup>7</sup> I discuss judge-made rules against 'exactions' below.

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

### **i. Finding systems that can allow better urban land use**

First, political entrepreneurs 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 externalities.

Upzoning 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 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).

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’) have been a limited answer in some cities (Hills and Schleicher 2015), but they do not solve many of the problems of differential effects and transitional losses. 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, political entrepreneurs who seek change in land use rules must solve for 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.

'[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)

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; loyalty to the process; 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 of encouraging rentierism.<sup>8</sup>

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<sup>8</sup> In the context of housing, I suggest that rentierism 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

In urban land use, I speculate that a fourth problem may exist. The reserve price of many voters for damage even to geographically distant attractive buildings or green fields, invoking feelings of disgust or aversion to degradation (Haidt 2013, 169), may be prohibitively high. 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?<sup>9</sup>

I suggest, after Corkindale (2004), that such systems should facilitate changes in urban land use, coupled with side payments as necessary, that are much closer to being Pareto-superior 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 CPR literature are highly relevant to doing so.

#### **4. Governance challenges in the urban commons**

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

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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.

<sup>9</sup> Some institutions such as the World Bank (Fritz, Levy, and Ort 2014), the OECD (Høj 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.

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.

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).

Of course, many common pool resources (fisheries or common grazing land) may involve questions of conservation more than of active construction or modification,<sup>10</sup> 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 advocates of better zoning of one form or another (Hills and Schleicher 2015; Schleicher 2013, 2012) and advocates of property rights approaches (Fennell 2009). Suggestions for devolving control of urban land use to smaller areas have rarely suggested devolution to smaller than neighbourhood level.<sup>11</sup> This paper investigates devolution to even smaller units.

Given the complexity of urban land use, we should not be surprised if the eighth institutional design principle of multiple layers of nested enterprises (Ostrom 2005) turns out to be important.

### **Why is there so little Coasean bargaining?**

The common law of real property allowed some Coasean bargaining: the law on nuisance, rights to light and trespass allowed waiver, negotiation and side payments.

Incomes have risen and sensibilities have increased; building higher has become easier; and land ownership has become more fragmented as the percentage of homeownership has increased over the last century. 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 Coasean bargaining despite the enormous deadweight losses, due to the high transaction costs of negotiating to overcome those regulatory obstacles. The rights to block development are ill-defined, vested across large and uncertain numbers of people, and essentially inalienable – entirely unlike most common-law property rights. It sometimes seems that the outcome of land use decisions depends on who can shout the loudest.

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

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<sup>10</sup> Many thanks to Salim Furth of the Mercatus Center for this point.

<sup>11</sup> See e.g. Liebmann (1993, 343-4); see also Fischel (2000) for further discussion.

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 and the limitations of Tieboutian sorting mean that consensus on allowing new development is very hard and costly to achieve; and the large 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. Yet drawing boundaries to minimize externalities is particularly hard in an urban context. The optimal boundaries will often differ as a function of the land uses and effects at issue.

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

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 a face-block constitutes a viable boundary 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.<sup>12</sup>

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.

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.

Voter 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'.<sup>13</sup>

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

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<sup>12</sup> 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.

<sup>13</sup> Note also the suggestion of allowing neighbours within a specific radius to vote, revived in Morton (2011).

## 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. To maximise housing supply

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,<sup>14</sup> given certain assumptions – including the extraction of upzoning gains from each 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 places such as Houston than in others such as the San Francisco Bay Area (Glaeser and Gyourko 2018; Hsieh and Moretti 2019) or London, England.

Tokyo shows that it can be possible to upzone and increase housing production to reduce dwelling prices (Harding 2016; Gleeson 2018). However, zoning rules still constrain construction of new homes in Tokyo. 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.

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 neighbourhoods as suggested by Nelson (1999) and others may be insufficient to overcome transaction cost problems, and the devolution of tax powers to such neighborhoods seems to have proven politically different. I propose devolution purely of land use decisions to even smaller scales.

## Externalities to be considered

I suggest that there are many negative externalities that a well-designed system would seek to address to reduce opposition to more development. 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.

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<sup>14</sup> '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 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.'

#### 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 without 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 be a factor reducing political opposition to overshadowing in warmer climates. 'No variable can better predict 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).

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.

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

#### b. Congestion

More construction may increase congestion of roads, parking and public transportation. However, any externalities of congestion could be addressed by pricing mechanisms such as road pricing, parking fees, or less subsidy for public transport fares, 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. Other local services

Adequate solutions for externalities such as competition for services such as education or healthcare may vary depending upon whether those services are provided privately or by various tiers of government.

#### d. Noise and other pollution

Soundproofing may mitigate externalities of noise; regulation may mitigate or eliminate pollution.

#### 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 in section 6 below. 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).<sup>15</sup>

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 Olsonian challenges in organizing themselves to lobby for and achieve reform (Olson 2003). It is a particularly pernicious version of a transitional gains trap (Tullock 1975) because in many jurisdictions 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).<sup>16</sup> 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 Olsonian challenge 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

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<sup>15</sup> 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.

<sup>16</sup> 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).



(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 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 proposed below should face far fewer Olsonian difficulties 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 with limited scope to experiment.

That is contrary to the third 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 neighbourhood rules.’ (Oakerson and Clifton 2017, 432)

Furthermore, judge-made rules on ‘exactions’, preventing municipalities ‘selling’ upzonings (Fischel 2000; 1987), 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 much politically easier for states to enact reforms enabling self-organization by those groups who wish to, conforming with the third institutional design principle.

As Liebman (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.” [...] There would be nothing to preclude the associations from conditioning permission on exactions similar to those now obtained by local government. Under the new scheme, however, the benefit of the exaction would accrue not to bureaucrats or a diffused citizenry but to those immediately impacted by the new project.’<sup>17</sup>

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

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<sup>17</sup> Liebmann (1993, 345) also notes 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 neighbourhood development order unless the landowner offers sufficient benefit.

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.

Allowing bottom-up setting of urban land use rules can be seen as one tactic from Riker’s heresthetic: assembling and promoting a policy bundle that unites 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 use<sup>18</sup> (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.<sup>19</sup> 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.

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).<sup>20</sup> Selmi (2002) noted that direct democracy to determine land use continued to be popular in states where it was allowed.

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<sup>18</sup> Many thanks to Prof. Andrew Hindmoor of Sheffield University for this point.

<sup>19</sup> Scholars from various fields have all suggested localism as a way forward (Ellickson 1998; Liebmann 1993; Nelson 1999; Pennington 2002; Morton 2011).

<sup>20</sup> In a related field, the growing interest in participatory and deliberative democracy may also be helpful (Fung and Wright 2003).

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.

## 6. Towards polycentrism in urban land use

I have sought to summarize the problems with urban land use regulations and reasons to believe that allowing more polycentric decisions may both help overcome political resistance to change and also lead to better outcomes.

In an urban land use context, one formulation of the principle of subsidiarity might be that decisions to permit development and use should be able to be made 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 level capable of capturing or addressing externalities.

### Examples

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

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). Rules could also be supplemented with TDRs as described above, and perhaps with 'pliability rules' as suggested by Bell and Parchomovsky (2002).

#### a. Waiver of setback rule by adjacent neighbor

A recent law in New Zealand allows a landowner to waive the protective setback rule binding a specific adjoining property in relation to their joint boundary,<sup>21</sup> 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.

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 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.

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<sup>21</sup> The idea was also hinted at by Ellickson (1973, 676).

#### b. 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.<sup>22</sup>

It is a recent extension of an existing regime: the English system of 'neighbourhood planning' 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.

#### c. 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). That approach has not yet been tried in practice to my knowledge.

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.

The premise is that individuals are most affected by changes on their stretch of street. However, to fully capture externalities of 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 of market value,<sup>23</sup> plus attorney fees; the framework might provide a more generous formula if the resulting project were to exceed a specified height.

#### d. Single block upzoning

Analogously, a fourth 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 external facades of the block and to angled maximum height planes to preserve light to other blocks. It is sketched in Figure 4 and referred to below

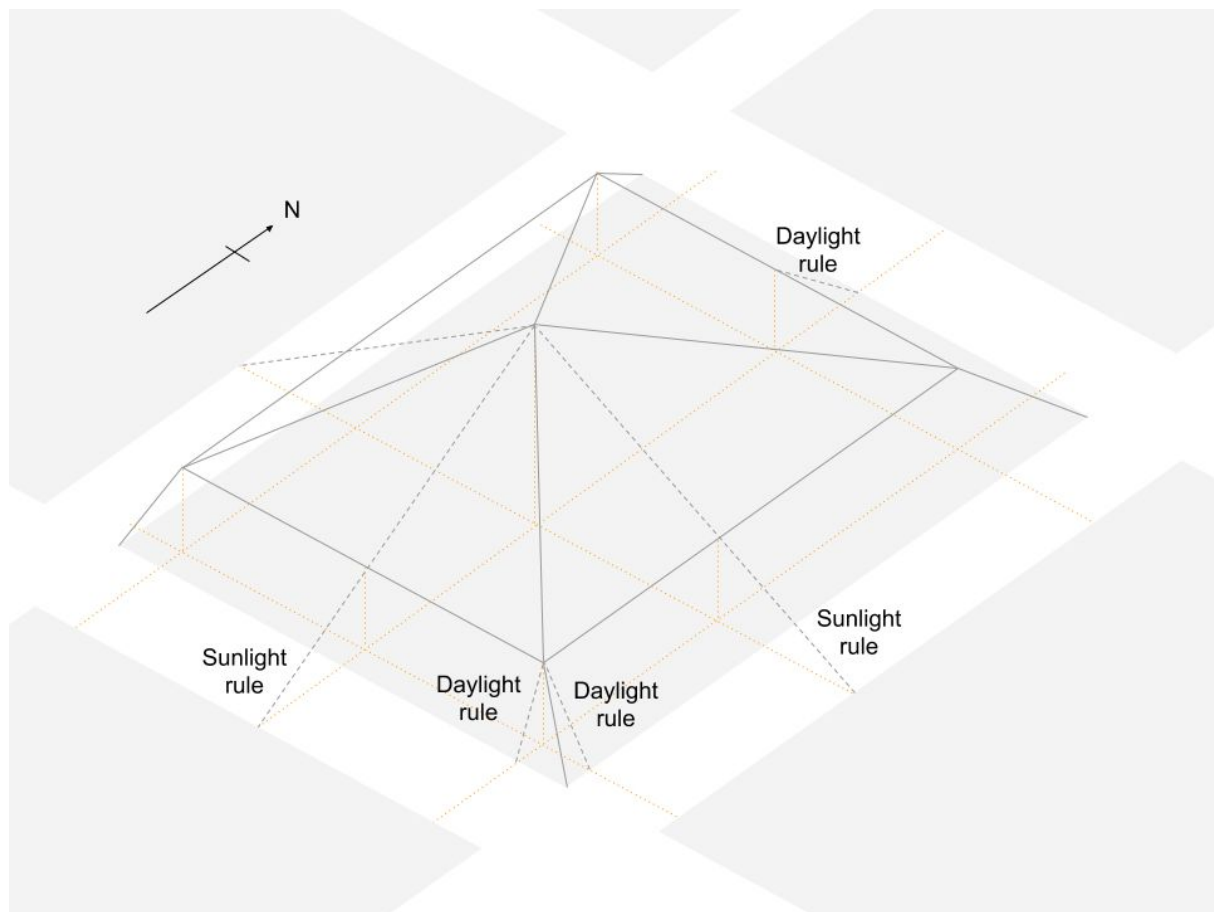
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<sup>22</sup> English National Planning Policy Framework paragraph 146(f), available at <https://www.gov.uk/government/publications/national-planning-policy-framework--2>

<sup>23</sup> The compensation for loss of market value might even be set at a fixed percentage premium over loss of market value.

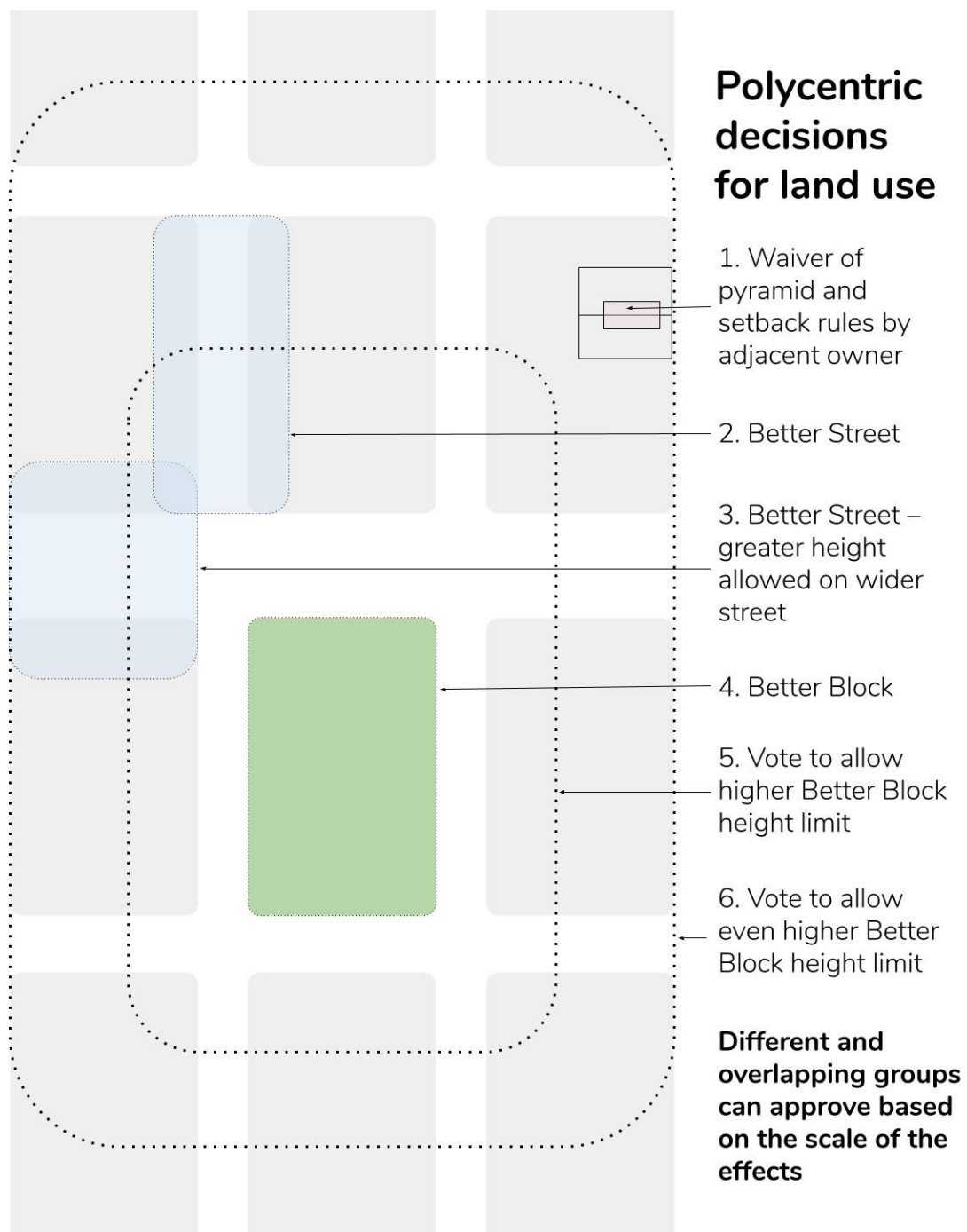
under the name 'Better Blocks'. Consents and/or compensation for overshadowing might be required for adjacent neighbors.

Figure 4



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 5 sketches an example of how such rules might operate at different scales.

Figure 5



## 7. Conclusion

I suggest a new direction for urban planning and the law of urban land use built upon lessons from the CPR literature, aiming to make small-scale 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.

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