Shifts toward the extremes: Zoning change in major U.S. metropolitan areas from 2003 to 2019

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Shifts toward the extremes: Zoning change in major U.S. metropolitan areas from 2003 to 2019

Problem, Research Strategy, and Findings: Pundits and economists have recently inferred that zoning explains housing-price inflation in fast-growth metro areas. In this article, we use the results of a longitudinal survey of local governments in the 50 largest U.S. metropolitan areas in 2003 and 2019 to show the limitations of this narrative. Many local governments do use zoning that limits apartment construction; in some metros, more places embraced than abandoned exclusionary zoning. Rather than too little housing, however, these regions had depressed markets long dominated by racially motivated exclusionary zoning. Meanwhile, zoning grew more accommodating to apartments in strong-market metro areas that have concerned the pundits. Our work covers only the 2003-2019 period for about 800 jurisdictions in the 50 largest U.S. metro areas, and it only generally explains some of the changes we observe. Further qualitative research is needed, therefore, to spotlight what it takes to reform land-use regulation to address unaffordability and exclusion.

Takeaway for Practice: Local land-use planners in the U.S. have ethical and legal obligations to undo the racial segregation designed into zoning from its founding. They also must prepare for continued population growth. Tools and strategies exist to do both of these, and some planners have the commitment and political space to use them. In other places, planners and their professional organization need to change rules within their own communities and advocate for state legislative reforms so that planning works predictably to unwind unequal and exclusionary settlement patterns within neighborhoods and cities.

Keywords: zoning, exclusion, U.S., metropolitan, change.

The US is in a severe rental housing crisis. Most renters pay over 30 percent of their income on housing and 8.3 million very low-income renters pay more than half their incomes, live in severely inadequate conditions, or both (Watson et al. 2017). Why hasn't supply kept up with demand? Many observers blame restrictive land-use regulations that increase construction costs, hold back housing supply, and increase uncertainty, all of which result in higher rents and home prices for consumers than they would experience with less regulation (Glaeser, Gyourko, & Saks 2005; Malpezzi 1996; Quigley & Raphael 2005). Some observers have noted that supply restrictions pinch the most in some of the most economically productive regions in the US, and that by doing so they may limit migration to those regions and even stifle the United States' economic growth (Hsieh & Moretti 2019).

In this paper, we draw on results from a survey of local land-use regulations, the National Longitudinal Land Use Survey (NLLUS), to understand the metropolitan landscape of residential land-use regulations, zooming in on the most common regulation: residential zoning. How widespread is restrictive zoning in 2019? What about permissive zoning? How did these change from 2003 to 2019? Should we believe the conventional narrative that zoning has gotten more restrictive (Furman 2015)?

Our exploration of two panels of the survey (2003 and 2019) yields three striking topline patterns. First, to an underappreciated degree, land use regulations are bidirectionally fluid. Rather than seeing a simple trend towards more anti-density regulations over time, we see large numbers of jurisdictions moving in both pro- and anti-density directions. Second, we observe a general bifurcation of outcomes over time, with a greater share of both restrictive and permissive jurisdictions, and fewer in the middle, in 2019 than 2003. Finally, we see a trend towards multifamily-friendly regulation diffusing further into suburban

jurisdictions. Though the urban-suburban binary of high versus low openness to multifamily housing development was always to some extent an oversimplification of reality, it appears to have weakened in the first two decades of the 21st century.

Our results affirm that the most restrictive zoning in the United States is in Midwest and Northeast metropolitan areas in 2019, as was the case in 2003, and that jurisdictions that changed their regulations from 2003 to 2019 to discourage multifamily development were concentrated in those areas. Metro areas whose jurisdictions most commonly accommodate multifamily housing, by contrast, include mainly those on the West Coast and well as Miami, Denver, and Washington, DC. If you look only at the most restrictive metropolitan areas, the conventional wisdom about increased restriction holds up. However, viewed from the metro areas where more jurisdictions permit multifamily housing, the evidence suggests that suburban and smaller-city regulations are adapting to demand for high-density development. We observe moves toward accommodation of apartments from 2003 to 2019 in the New York, Minneapolis-St. Paul, Seattle, and Washington, DC metros .

The article proceeds in four main sections. First, we provide background on zoning, growth management, and racial exclusion. Second, we describe our methods and data. Third, we explain our findings about local zoning from 2003 to 2019 and the relationships between zoning changes and the characteristics of jurisdictions where regulations changed. We conclude by arguing that with zoning moving in two directions, metro areas where upzoning has increased need more investment in infrastructure and continued attention to predictability in development review; areas dominated by downzoning need renewed attention by planners and others to undo exclusionary zoning.

Zoning, growth management, and racial exclusion

Among all land-use regulations, the two most common are zoning and subdivision regulation (Meck, Wack, & Zimet 2000).[1] Zoning controls the type and intensity of allowed land uses; the relationship of buildings to parcels, including most importantly their height and setbacks; and often the amount of parking required to accompany development. Jurisdictions accompany their ordinances with maps of zoning districts. Most ordinances permit outright some uses in each zoning district (also known as "by right" development) while other uses require special or conditional use permits, which involve more government discretion. Some jurisdictions rely heavily on planned unit development (PUD) districts, which allow developers flexibility in a project's layout while retaining rules on building types and uses; PUDs universally require negotiation with local government.

Zoning has always had its critics. Libertarian objections condemn its supposed infringement of property rights, offering covenants, nuisance lawsuits, fines, and compensation of development opponents as superior approaches (Ellickson 1973, Elmendorf 2019). More pragmatic critics aim not to overthrow zoning but to moderate it. Some target single-use zoning, which likely increases auto dependence (Cervero 1988). Others focus on density zoning, which holds the amount of development below what the market would dictate on each parcel, thereby increasing sprawl (Pendall 1999).

The critics' concerns are not unfounded. Many studies connect land-use regulations to higher housing prices. Land-use and zoning designations can allow too little residential construction to accommodate demand (Quigley & Rosenthal 2005). Building code requirements can raise construction costs (Listokin & Hattis 2005). Standards for on-site

parking can impose direct costs and further limit development capacity (Shoup 1997). Mandates for off-site infrastructure provision (exactions) can impose additional direct costs (Been 2005). And a host of procedural factors can subject the development approval process to lengthy delays and uncertainties (Wrenn & Irwin 2015).

The higher prices that result from regulations can keep low-income people out; so, too, can the suppression of rental housing that results from zoning codes that bar attached housing types (Pendall 2000). Together, these restrictions reinforce racial residential segregation (Trounstine 2020). Exclusive single-family residential zoning, a core feature of what we now know as exclusionary zoning, both raises housing prices and maintains racial and economic segregation (Danielson 1976, Pendall 2000, Rothwell & Massey 2009).

National efforts to end exclusionary zoning have arisen at least three times in the past 50 years (Whittemore 2020). The first two surges occurred after the Fair Housing Act passed in 1968 (the "Open Suburbs" Movement) and during the George H.W. Bush administration (when HUD created its Office on Regulatory Barriers to Affordable Housing in 1991). Fervor for reform in land-use regulations has grown again in the past few years, with attention from both the Obama (Furman 2015) and the Trump administrations. Since local land-use planning in the U.S. is left to the states, however, most of the action will have to come from them.

State-level change does sometimes occur. Especially in times of either fast economic expansion or a sudden economic downturn, state governments sometimes rewrite the rules to make the development process more predictable, occasionally even eliminating certain practices outright (DeGrove 1984, Hohnadell 2013). For example, Oregon recently enacted

House Bill 2001 (2019), requiring every city in the state with at least 10,000 residents to allow duplexes in exclusive single-family districts.[*]

Absent state action, however, U.S. local governments will be left to their own devices when considering whether to change their zoning. Most research finds that localities seldom upzone neighborhoods dominated by homeowners. Fischel (2001) posits that suburban homeowners oppose upzoning because they do not want to pay higher taxes for infrastructure and services they don't want to fund (sometimes called fiscal zoning) and because they have class and racial animus. He calls this "the homevoter hypothesis." Been et al. (2014) and Gabbe (2019) find evidence of the homevoter phenomenon in big cities, too; both New York and Los Angeles apparently downzoned homeowner-heavy neighborhoods while upzoning in areas with more renters and non-residential development.

In a previous article, two of this article's authors explored local regulatory change in the 1990s (Pendall et al. 2018), positing two complementary interpretations for change. By the *growth management* interpretation, regulations ensure that local governments can provide adequate services for residents and businesses and protect valuable environmental and cultural resources (DeGrove 2005, Nelson and Duncan 1995). Some variants of growth management look to some observers more like *growth promotion,* as business and government often share interests encouraging them to plan and invest for denser development. Logan & Molotch (1987) call this the growth machine. When homevoters dominate, however, local governments manage growth not by investing in infrastructure but

[*] HB 2001, 80th Oregon Legislative Assembly--2019 Regular Session. Retrieved from https://olis.leg.state.or.us/liz/2019R1/Downloads/MeasureDocument/HB2001/Enrolled

rather by limiting growth. Like most other empirical studies, our previous article, on regulatory change in 25 U.S. metro areas from 1994 to 2003, found substantial support for the growth-management interpretation (Pendall et al. 2018).

The fiscal purposes of density restriction, however, are shadowed almost inevitably by the racially exclusionary impacts and even intentions of low-density residential zoning, which our previous article called the *exclusionary* interpretation. Histories of zoning in the U.S. provide plenty of evidence of their explicit design to promote segregation between Blacks and Whites (Danielson 1976, Silver 1991, Rothstein 2017). By the 1990s, however, our previous article found weak direct support for the exclusionary interpretation; race did not associate with changes in regulation from 1994 to 2003 (Pendall et al. 2018).

Exclusionary zoning has been weakened only slightly by the 1968 Fair Housing Act, which requires that localities "affirmatively further fair housing" (AFFH), i.e., take active measures to undo racial apartheid. In 2015, the U.S. Department of Housing and Urban Development finally adopted a Rule implementing the Act, specifying how they should carry out that obligation. They accompanied the rule with a manual planners can (in fact must, by the terms of the Rule) use to investigate, explore, and remedy spatial injustice in their neighborhoods (HUD 2015). Given this delay—and considering HUD's 2019 and 2020 defunding and deprecation of the Rule—it is little surprise that residential desegregation has proceeded so slowly.

Even so, there may be grounds for optimism about efforts to accommodate housing and build more equitable neighborhoods thanks to "YIMBY" (for "yes in my back yard"), a pro-housing development movement that has grown to national prominence in the U.S. within the past several years (Semuels 2017, Stahl 2018). YIMBYs argue that the current

regulatory system is unacceptable because it restricts supply, raises housing prices, increases sprawl, and unfairly benefits white and upper-income people while harming people of color and those with low to middle incomes (Clark no date, Boraks 2019).

Considering both the renewed attention to zoning and the passage of time since the regulatory changes in the 1990s that grounded our previous work, this is a good moment to take another national look at zoning change. One recent study offers useful national insights. Relying on the national Wharton survey of residential land-use regulations conducted in 2008 and 2018, Gyourko et al. (2019) document a net increase in what they call regulatory restrictiveness among 815 repeat respondents, with rising restriction in some jurisdictions offset somewhat by falling restriction in others. They also conclude that most restrictive metropolitan areas (which they place mainly on the coasts) became more so from 2008 to 2018. (We discuss the Wharton survey again in our methodology section and in the discussion of our results.)

To complement studies using the Wharton survey and provide further nuance about regulatory change, we ask three more specific questions than those covered by Gyuorko et al. (2019).

- How do approaches to zoning differ across the US? In particular, what do we know about where jurisdictions set the permitted maximum residential density and how they regulate the construction of apartment development?
- What changes did we see toward greater restrictiveness and greater permissiveness, based on the survey, from 2003 to 2019? Is restriction really on the rise?

- What support do we find for the growth management versus exclusionary interpretations of regulatory change from 2003 to 2019?

Methods

To answer these questions, we use the 2003 and 2019 instances of the National Longitudinal Land Use Survey (NLLUS), a survey first carried out in 1994 in 25 US metropolitan areas, replicated in 2003 in 50 metro areas, and completed for a third time in 2019. The survey was sent to every jurisdiction with land-use regulation powers (defined as the ability to pass a zoning ordinance) with at least 10,000 residents. In 2003 and 2019, a sample of smaller jurisdictions was surveyed in metropolitan areas where such jurisdictions accounted for less than 60 percent of the land area.

State laws and constitutions dictate which localities have zoning power in ways that matter significantly for zoning change, as we will explain when we discuss our results.[2] Based on our own research, we identify two main families of states where land-use regulations are concerned. In the first family, the relevant units are municipalities (e.g., cities, villages, and sometimes towns) and counties. In the states south of the Mason-Dixon line and west of the Mississippi River as well as Delaware and Indiana, the areas outside municipalities (i.e., unincorporated areas) are controlled by county land-use regulation.[3] We call these "city/county zoning" states. In the second family of states, exclusively in the Northeast and Midwest, local land-use regulation occurs in incorporated municipalities (usually called cities, villages, and boroughs) and in sub-county areas called towns and townships. Counties play either no role (New England, New York, and New Jersey) or a "backstop" role (Pennsylvania, Michigan, Ohio, Illinois, Wisconsin, and Minnesota),

enacting zoning ordinances that their constituent townships may supersede with their own zoning. We call these "city/township" states.

The short survey, administered by mail using the Dillman method (Dillman, Smyth, & Christian, 2014) in 1994 and 2003 and using email and a web-based platform in 2019, included a battery of questions designed to be clear and objective.[4] The response rate was 58% in both years (1,845 respondents out of 3,177 contacts in 2003, 1,703 respondents out of 2,945 in 2019).

We use two survey questions on zoning for this analysis. Both had precisely the same wording and the same response options in both 2003 and 2019. The first question was:

> What number of dwelling units may be constructed per net acre in areas to which your jurisdiction's zoning ordinance applies, in areas where residential densities reach their maximum level?

This question, which asks the highest residential density allowed, differs from the WRLURI question on residential density, which asks the largest minimum lot size (that is, the lot size of the lowest-density district). The NLLUS provides five response categories: Fewer than four units per acre, four to seven units, eight to 15 units, 16 to 30 units, and more than 30 units. We combine the two low-density categories into a single "low-density only zoning" designation of fewer than 8 dwellings per acre (which we label "LDOZ"), contrasting it with a "high-density OK" ("HDOK") designation for jurisdictions whose zoning accommodates residential density above 30 dwellings per acre.

The second question was:

> Assume your jurisdiction has a vacant 5-acre parcel. If a developer wanted to build 40 units of 2-story apartments and was flexible with planning, landscaping and building configuration, would there be an existing zoning category that would allow such development?

We include this question because results from the 1994 survey indicated that some LDOZ jurisdictions have zones permitting multifamily housing. Usually these are places with PUD provisions allowing multifamily housing on parcels large enough to bring the overall parcel density below 8 units per acre. (The Wharton survey does not ask a comparable question.) The three possible responses in 2003 and 2019 were No; Yes, by right; and Yes, by discretionary approval (special permit, PUD, or other procedure). Since barring this hypothetical project outright intends to limit residential density, we use the term "anti-density" to identify the joint impacts of apartment bans and low-density only zoning.

To answer our research questions, we first tally responses in 2019, reporting at the national level for all respondents in the US and at the metropolitan level where at least 16 jurisdictions responded. We do not weight the responses.[5] Second, we use data from NLLUS and the 2013-17 US Census American Community Survey to explore how maximum density and apartment restrictiveness correlate with local social and housing characteristics.[6] Third, we report and explain changes from 2003 to 2019 in the 833 jurisdictions that responded to the survey in both years. After tallying how many respondents retained, adopted, abandoned, or never had each regulation, we distinguish community correlates of adopting vs. declining to adopt a regulation and for retaining vs. abandoning the regulation, using data from the 2000 US Census summary file 3 (SF3) to detect evidence supporting (or failing to support) support growth-management and exclusionary interpretations for regulatory change.

Large, dense jurisdictions with low housing occupancy rates, high proportions of renters and multifamily housing, and low proportions of single-family housing all have good *growth-management* reasons to retain or adopt pro-density regulation. We hypothesize that college education will associate with more change, based on previous findings correlating high levels of college education with stronger support for zoning (Cooper, Knotts, & Brennan 2008), but we have no hypothesis about whether that support associates with upzoning or downzoning.

Homeowners and people who live in single-family houses may also want to *exclude* apartment dwellers from their communities, however, making it possible also to interpret these indicators as evidence of exclusionary motives. The *exclusionary* interpretation (but not a pure growth-management interpretation) would also be supported if we observe more support for anti-density measures, and less support for pro-density measures, in places with fewer Black or Hispanic residents, and higher median household incomes.

Findings and Discussion

How much variety is there in local zoning, and how does it vary across the U.S.?

Among the 1,476 respondents in 2019, only 21 reported that they lack a zoning ordinance. Five of them were small and rural jurisdictions, generally at the fringes of their metropolitan areas. Most of the others generally did have some form of land-use regulation.[7] Three of them were from metropolitan Houston, including the central city. This makes Houston a national outlier; while we include all responses in the overall analysis, the discussion here does not cover the Houston metropolitan area.

Overall, 34 percent of respondents in 2019 were in the LDOZ category, while 26 percent were HDOK jurisdictions. The remainder had density ceilings between 8 and 29 units per acre. Only 15 percent of the respondents reported no zoning category allowing the hypothetical apartment development, with the balance fairly evenly split between those allowing the project with a conditional use or other discretionary approval (45 percent) and allowing it in at least one zone by right (41 percent). Over half of the respondents that would not allow the apartment even by discretionary approval had maximum densities under four dwellings per acre, and 55 percent of those that would allow the project by right had a maximum over 15 dwellings per acre.

Does low-density only zoning amount to an apartment ban? Our results suggest not. The majority of even the lowest-density respondents have some mechanism for accommodating the hypothetical project, either by special permit (45 percent) or by right (12 percent), with only 43 percent of the lowest-density respondents saying they would bar the hypothetical project outright. The reverse is practically never true, with only 18 (about 2 percent) of the 665 jurisdictions allowing densities over 15 dwellings per acre barring the hypothetical project.

States' local government structures correlate with localities' restrictions on apartments. In city/township states, jurisdictions (both cities and townships) restrict apartments more than those in states with city/county zoning. Among the 2019 respondents in township states, 45% were in the LDOZ category and only 17% were in the HDOK category; 20% would have barred the hypothetical apartment development, and only 31% would have allowed it by right. Meanwhile in the city/county states, only 21% of respondents

were LDOZ while 37% were HDOK, and only 9% would have barred the hypothetical development, with 54% allowing it somewhere by right.[8]

Of the 52 metro areas included in the survey, 25 had enough respondents in 2019 to allow analysis at the metro level of these two questions (Figure 1). In the most accommodating metros (Denver, Miami, Seattle, Kansas City, Portland, and Washington, DC), the majority of respondents had at least one zone where the hypothetical project could be built by right; in all these except Kansas City, over 40% of respondents were HDOK. Note that all these metro areas are in states in the city/county local government family. In four moderately accommodating metros (San Francisco, Los Angeles, Chicago, and Minneapolis), few jurisdictions would bar the hypothetical project altogether but a plurality or majority would allow it only by discretionary approval. These metro areas differed from one another in their density ceilings, with only a few LDOZ jurisdictions in the California metros and around a third of Chicago and Minneapolis falling into the LDOZ category, with correspondingly higher levels of HDOK in California and lower in the Midwest. All four of these metro areas are in states where counties engage in zoning (unlike in New England, New York, and New Jersey).

[Insert Figure 1 about here.]

Nine "somewhat restrictive" metros are mainly in the Midwest (Milwaukee, St. Louis, Grand Rapids, Detroit, Columbus, Cleveland, and Cincinnati), plus Dallas and Pittsburgh. In most of these, between 10% and 20% of jurisdictions bar the hypothetical project, and at least 40% are LDOZ. (Dallas, Pittsburgh, and Milwaukee all fall below one of these thresholds but slightly above the other.) Very restrictive metros line the Northeast Corridor from Philadelphia to Boston plus Buffalo and Atlanta. In these metros, over 20% of

respondents would bar the hypothetical project, and fewer than 30% are HDOK. Low-density-only zoning in this group resembles that in the somewhat restrictive metros. Almost all the somewhat and very restrictive metro areas are predominantly in states with township zoning; the exceptions are Dallas, Atlanta, and St. Louis.

Do places that limit density have fewer Black and Hispanic residents?

Ample past research has demonstrated that local governments use low-density zoning and bans on apartments to keep Black and Hispanic people out. Even without such intent, zoning that hinders multifamily development often has racially exclusionary impacts.

The most recent data from NLLUS strongly confirms this relationship. Using concentration indices comparing each responding jurisdiction's percent of Black and Hispanic residents to its metro-area average in the mid-2010s, in which 100 equals the metro-area percent Black or Hispanic, we found that jurisdictions with the lowest density ceiling had average indices of 44 and 51 for percent Black and Hispanic percent, respectively. As illustrated in Figure 2, the relationship between maximum permitted density and these two concentration indices is consistently positive. We found a similar relationship between the restrictiveness of local apartment regulation and the Black and Hispanic concentration indices. Respondents that banned our hypothetical development had Black and Hispanic indices of 44 and 56, respectively; those allowing it only with a special permit had indices of 64 and 77; and those allowing the development by right had indices of 88 and 93, respectively. Clearly, then, whether by design or by accident, restrictions on density and apartments associate with racial exclusion.

[Insert Figure 2 about here.]

Did zoning become more restrictive from 2003 to 2019?

The longitudinal nature of NLLUS allows analysis of change at the jurisdiction level. In all, 833 jurisdictions answered the zoning and apartment questions in both 2003 and 2019, providing a rich dataset for investigating whether zoning became more restrictive over those 15 years.

These repeat responses suggest bifurcation over time, with growth in the two lowest-density categories (fewer than 4 dwellings per acre and 4 to 7 per acre) and the highest-density category (more than 30 per acre) (Figure 3). The two lowest-density categories grew from 100 to 150 and from 88 to 112 respondents, respectively, while the highest-density category grew from 173 to 236 jurisdictions. Together, low-density-only jurisdictions grew from 23 percent to 31 percent of the repeat respondents, while high-density permissive jurisdictions grew from 21 to 28 percent.

[Insert Figure 3 about here.]

Change at the jurisdiction level from 2003 to 2019 exceeded the net change, since some jurisdictions with restrictive density zoning in 2003 reported higher maximums in 2019 (i.e., they *upzoned*), and others went in the other direction (i.e., *downzoned)*. Table 1 shows the striking degree of similarity between the number of repeat respondents that upzoned (214) and downzoned (219). This suggests bidirectional fluidity over time, in contrast to the conventional narrative of across-the-board regulatory tightening.

[Table 1 about here.]

As density ceilings bifurcated, exclusion of our hypothetical apartment project abated from 2003 to 2019. Compared with 143 jurisdictions that would not allow such a

development in 2003, only 110 repeat respondents would not allow that development in 2019. Meanwhile, repeat respondents allowing the development by special permit grew from 341 to 363 and those allowing it by right in at least one zone grew from 349 to 360. Again, these net changes mask dynamism. For instance, the shift between 2003 to 2019 from special permit to by-right was about equal of the reverse, while in both cases, changes that shifted the review process substantially exceeded the introduction of bans.

As shown in Table 2, the metro areas with the most LDOZ jurisdictions had different local patterns of downzoning to and upzoning from LDOZ from 2003 to 2019. Boston had the most jurisdictions with low-density-only zoning (36) in 2019, a net change of one jurisdiction from 2003 that resulted from 11 jurisdictions that upzoned and 10 that downzoned to low-density only zoning. Low-density only zoning grew markedly in Detroit, Philadelphia, Pittsburgh, and Cincinnati; in all of these, downzoning exceeded upzoning. Only in Hartford did upzoning substantially exceeded downzoning.

In the 8 metro areas where at least 8 jurisdictions allowed densities over 30 dwellings per acre as of 2019, upzoning into the highest-density category generally outpaced downzoning from it since the 2003 survey, as further reported in Table 1. Upzoning into density ceilings above 30 units per acre far outpaced downzoning from it in New York, Minneapolis, Seattle, and Washington, DC; Portland had only upzonings. San Francisco and Los Angeles each grew by a net of 2 jurisdictions in this category, but in both cases there were also cases of downzoning. In Chicago, 6 jurisdictions downzoned from HDOK and 5 upzoned, counter the general trend.

What evidence is there for growth-management and exclusionary interpretations?

A series of logit models (detailed in the technical appendix) suggest that the growth-management interpretation is stronger than the exclusionary interpretation for the adoption and retention of restrictive or permissive zoning from 2003 to 2019; we display the significant results in Figure 4.[9] Compared with smaller jurisdictions, places with higher *populations* were less likely to adopt or retain anti-density regulations and more likely to adopt and retain pro-density measures. Compared with cities, *counties* more often adopted and retained anti-density regulations. Counties also tended not to adopt pro-density zoning if they did not allow it already, and they were more likely than cities to abandon it if they already had it. Townships did not differ significantly from cities in these analyses. Places with high *housing occupancy rates* (i.e., low vacancy) dropped anti-density measures.

The results were mixed for housing tenure and structure types, which could support either interpretation. High levels of *homeownership* associated with higher adoption of anti-density and lower adoption of pro-density regulation, supporting either interpretation. But high homeownership unexpectedly associated with a higher probability of rule changes to allow by-right development of our hypothetical apartment project. Also, places that both had high proportions of *apartments* (5+ unit bldgs.) and bans on new ones in 2003 were more likely to retain them from 2003 to 2019 than those with low proportions. Again, this unexpected result might identify places that experienced apartment booms some time ago, then imposed bans after the fact (but before 2003) for exclusionary and/or growth-management purposes and never abandoned them thereafter.

The results were mixed and weaker for population and housing characteristics that would support the exclusionary interpretation of what drives regulatory change. Places with lower percentages of *Hispanic people* were less likely to adopt pro-density regulation. *High-income places* that allowed the hypothetical apartment development by right were less likely to continue allowing by-right development than low-income places; such places also kept anti-density regulation if they already had it. But if they didn't have it already in 2003, they were less likely to adopt it from 2003 to 2019 than low-income places were. Further countering the exclusionary interpretation, places with higher percentages of *college grads* were more likely to abandon anti-density regulation and adopt pro-density regulation than places with low college-graduation rates.

The weak relationship between racial composition and zoning change should be kept within the context of the findings described earlier: We see a profound and lasting relationship between racial composition and zoned density as of 2019. Predominantly White suburban jurisdictions imposed low-density zoning for the better part of a century as one of a number of mechanisms to bar entry by people of color. By the early 2000s, those exclusionary patterns may have been well enough established not to register as significant in multivariate analysis of changes. In a regression analysis, as well, the impact of race might be obscured by other things (especially population size and housing composition) that are arguably a consequence of previous rounds of racially motivated zoning and planning policies.

Discussion: Shifts toward the extremes

This article has used evidence from a repeat-respondent survey of local governments in the

United States to suggest that both the facts of regulatory change and the explanations for it are more complicated than often portrayed by pundits and some economists (Furman 2015, Gyourko et al. 2019). Rather than uniform increases in restrictiveness, we find bidirectional fluidity, with plentiful examples of both pro-density and anti-density shifts.

We also find that pro-density and anti-density shifts are happening in different kinds of metropolitan areas. Those that Gyuorko et al. (2019) refer to as "highly constrained" by regulation, especially metro areas on the West Coast, Miami, and Washington, DC, have many jurisdictions that have recently adopted regulations making apartment development easier. In many of these metro areas, the past two to three decades have seen not only economic and population growth, but also new or extended fixed-route transit investments that increase pressure on local officials to allow higher-density development. More broadly, the housing and financial crisis of 2008-12 heightened the demand for rental housing—demand that needed satisfaction by apartment construction most acutely in fast-growth metro areas in which the numerous millennial generation (born between 1981 and 1995) was growing the most rapidly. Our logit analysis, which identified common factors among jurisdictions that tightened or loosened their restrictions on high-density housing, found consistent support for the growth-management rationale. Jurisdictions with higher populations in 2000, especially cities, adopted and retained pro-density zoning more often than less populous ones. So did those with low housing vacancy rates and high proportions of college-educated residents.

We do not assert that these metropolitan areas are unconstrained by regulations. We find it plausible that local planners and elected officials did not (and perhaps could not) change their regulations or remove procedural obstacles fast enough to keep up with the

growth in demand for rental housing in a concentrated subset of high-amenity urban cores, nor could apartment builders complete their developments fast enough (at least at first) to slow rent increases. Some of the regulatory constraints also reflect underlying challenges in paying for and building infrastructure to accommodate higher-density development in patterns heretofore not anticipated in postwar suburbia.

The metropolitan areas where many jurisdictions made their zoning less conducive to apartments from 2003 to 2019, by contrast, include many whose economies ranged from tepid to terrible over that period: Philadelphia, Pittsburgh, Cincinnati, Cleveland, and Detroit. These five metro areas alone accounted for nearly one-third (31%) of the 124 communities that downzoned into LDOZ but less than one-fifth (18%) of the 50 jurisdictions that upzoned from LDOZ. State planning laws in the states containing these metro areas—especially Ohio and Michigan—have long provided suburbanites practical carte blanche to zone out apartments and thereby to keep Black people from moving in.[10]

While our logit analysis did not strongly support the exclusionary formulation, it also does not undermine that interpretation. As our discussion of the 2019 results underscores, places with exclusionary zoning still have much lower proportions of Black and Hispanic residents than they would if they mirrored their metro areas' racial composition. Furthermore, our exploration of the metros with the most examples of LDOZ found the most downzoning in Detroit, whose housing market collapsed in the wake of the housing crisis of 2008. The suburbs were not spared from this collapse; on the contrary, the gap between central-city and suburban housing prices shrank, fueling the exodus of predominantly Black Detroit residents to the suburbs. We lack direct evidence to connect this regional housing-

market disruption with the upsurge in suburban exclusionary zoning from 2003 to 2019, but the correlation is strong enough to merit further exploration.

We also hope to see further research on how states' approach to local government affects whether jurisdictions accommodate or exclude apartments. The metro areas where apartments appear most widely accepted in local zoning (Figure 1) are all in "city/county" states. Those where apartments appear most unwelcome, by contrast, are almost all in "city/township" states. Yet when we explored different specifications and subsets of jurisdictions in our logit analysis, we did not spot major differences in the drivers of zoning change among jurisdictions based on which family of states they were in.

Our findings and those of Gyourko et al. (2019) both provide evidence of recent upzoning in some jurisdictions and downzoning in others. To the extent that we differ, it owes in part to the framing of our zoning questions. NLLUS asks respondents to identify the maximum permitted density in the most accommodating zone; the Wharton survey asks for the minimum lot size in the most restrictive zoning category and includes questions about land zoned for multifamily development.

Conclusion

Our research reaffirms that the majority-suburban United States has an array of enormously varying localities deploying highly divergent regulatory approaches towards multifamily housing; the trend in zoning from 2003 to 2019 reflects that diversity, defying a simple overarching narrative. But at least two major trends appear to characterize the period.

In the first trend, high-density zoning became more common and low-density less so in the most constrained housing markets. This finding accords with other observations about

residential land-use regulations: in most places, they adapt to accommodate demand for new housing. As we reviewed the results of other questions to the NLLUS, we saw many places that have both upzoned and adopted other constructive growth-managing innovations. Beyond allowing high-density housing, these communities adopt inclusionary zoning programs, spend money on affordable housing, and ensure adequate public services to accommodate growth.

In many communities in these constrained fast-growth metros, however, planners haven't kept up. Sometimes growth surges beyond expectations, and even when planners know their regions need more housing, some of them work in communities without adequate infrastructure to accommodate it. As well, many jurisdictions have zoning ordinances that allow high-density development but precious few neighborhoods zoned for apartments. If state and federal officials want local governments to upzone to meet housing demand, then, they will need to go beyond exhortations about loosening zoning and make serious commitments to both regulations that support apartment development and adequate infrastructure to serve high-density development. And even where zoning and infrastructure allow apartments, planners still often need information and support to ensure that pro-density policies are translated into new housing, especially affordable housing. For such jurisdictions, APA can therefore (continue to) provide support and learning opportunities that will boost the awareness of the need for regulatory reforms that support high-density housing construction.

In the second trend, weaker markets with high levels of Black-white segregation often downzoned to LDOZ more often than they upzoned from LDOZ. We found no statistically significant associations at the jurisdiction level between racial composition and

these regulatory changes. This absence of evidence is not, however, evidence of absence. Communities using exclusionary zoning have significantly lower percentages of Black and Latino residents than those with more accommodating zoning. The persistence of this correlation makes it all the more important that state and local governments take affirmative measures to undo exclusionary zoning. APA chapters in these states and metropolitan areas have important roles to play. They can, for example, expose and discuss the continued strength of exclusionary zoning in their conferences and certification management programs; support local planners aiming to blunt exclusionary zoning in their own communities with advice on strategy; and support legislative changes that undermine localities' power to use exclusionary zoning.

Since planners helped build exclusionary zoning, as shown by studies for decades (Danielson 1976, Rothstein 2017), any further accommodation of it not only violates "aspirational principles" in the preeminent code of ethics in U.S. planning practice but also the 1968 Fair Housing Act's mandate that localities "affirmatively further fair housing." The HUD AFFH manual mentioned earlier in this article (HUD 2015) is ready-made for planners who wish to live by their professed principles. Our final suggestion, therefore, for planners who want to know what they can do to address spatial injustice: Read the manual.

Notes

1 Subdivision regulations specify the prerequisites and procedures for dividing or combining parcels or for changing their boundaries (Listokin and Walker 1989).

2 We appreciate a referee's comment on an initial draft of this article, which led us to explore more carefully the implications of our two "families" of local government.

3 Counties generally have at least enough power to regulate subdivisions and usually to adopt comprehensive plans and zoning ordinances.

4 Such questions relate significantly and predictably to a range housing-market outcomes (Pendall 2020, Dalton 2020, Levine 2020, Monkkonen & Manville 2020, Guyadeen 2020).

5 Jurisdictions left out tend to be small municipalities and towns or townships (minor civil divisions) that dominate Midwest and Northeast metro areas.

6 We gathered data for counties, townships, and incorporated places (summary levels 050, 060, and 155). County and township data include residents and households in incorporated places inside them. We analyzed population as the natural log to account for nonlinearities.

7 More detail about other responses available on request from the authors.

8 These differences persist even when comparing cities, villages, or boroughs in township states with cities and villages in city-county states.

9 To follow up a referee comment, we re-ran the logit analyses to see whether the township states differed from the city/county states in their patterns of adoption and retention, but the results were generally the same.

10 Apartment bans have racially exclusionary impacts because fewer than half of Black (42%) and Hispanic (47%) households own their own homes, compared with 73% of white households.

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Figure 1. Restrictiveness of zoning regulations, Metro areas with over 16 respondents with Census region noted, 2019

Apartment development			
Very restrictive	Somewhat restrictive	Moderately accommodating	Accommodating
Atlanta (S)	Cincinnati (MW)	Chicago (MW)	Denver (W)
Boston (NE)	Cleveland (MW)	Los Angeles (W)	Kansas City (MW)
Buffalo (NE)	Columbus (MW)	Minneapolis (MW)	Miami (S)
Hartford (NE)	Dallas (S)	San Francisco (W)	Portland (W)
New York (NE)	Detroit (MW)		Seattle (W)
Philadelphia (NE)	Grand Rapids (MW)		Washington, DC (S)
	Milwaukee (MW)		
	Pittsburgh (NE)		
	St. Louis (MW)		

Figure 2. Maximum permitted density, apartment restrictions, and Black and Hispanic population, 2019

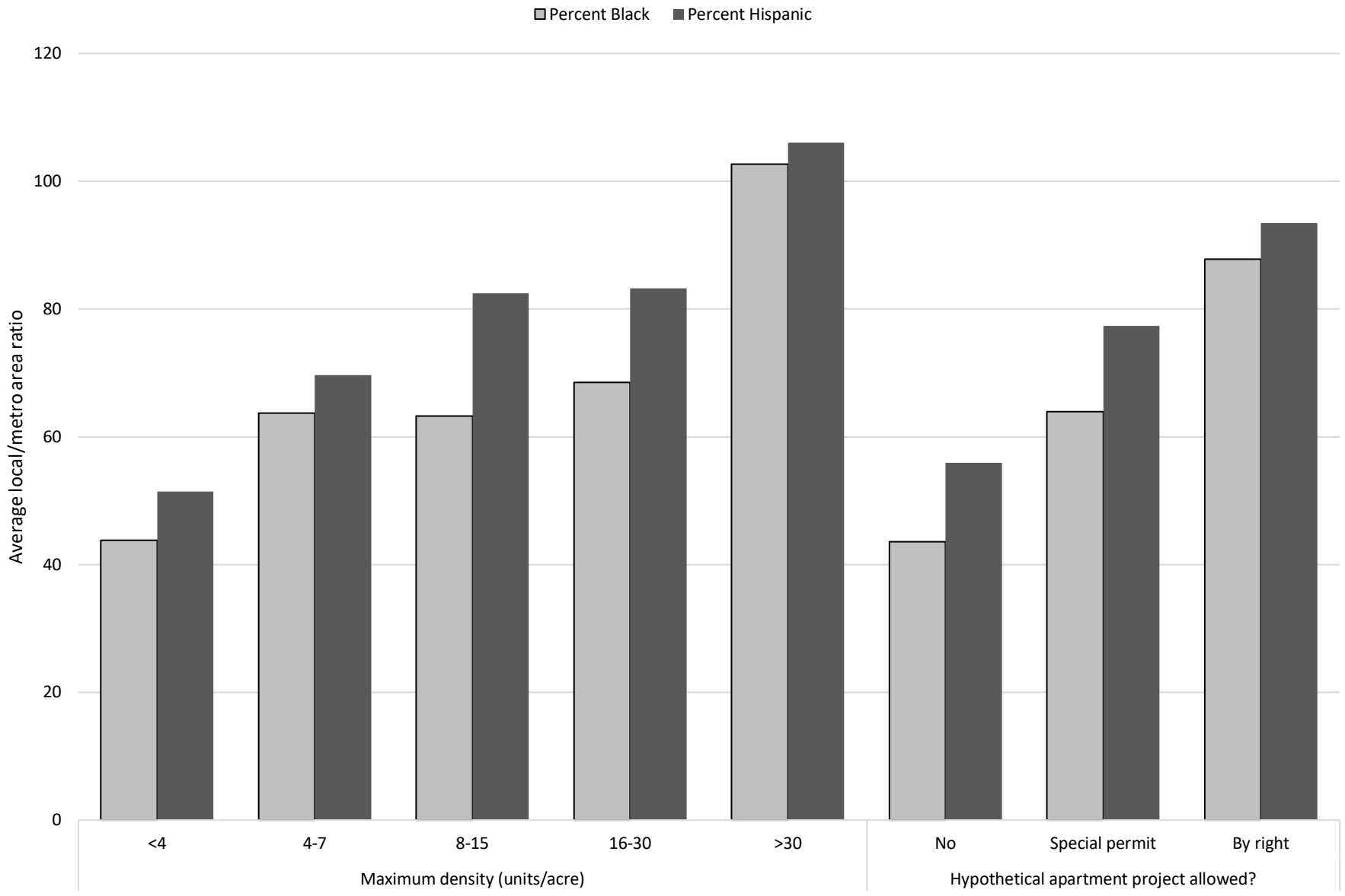

Figure 3. Maximum permitted density (units per acre), 2003 and 2019, repeat NLLUS respondents

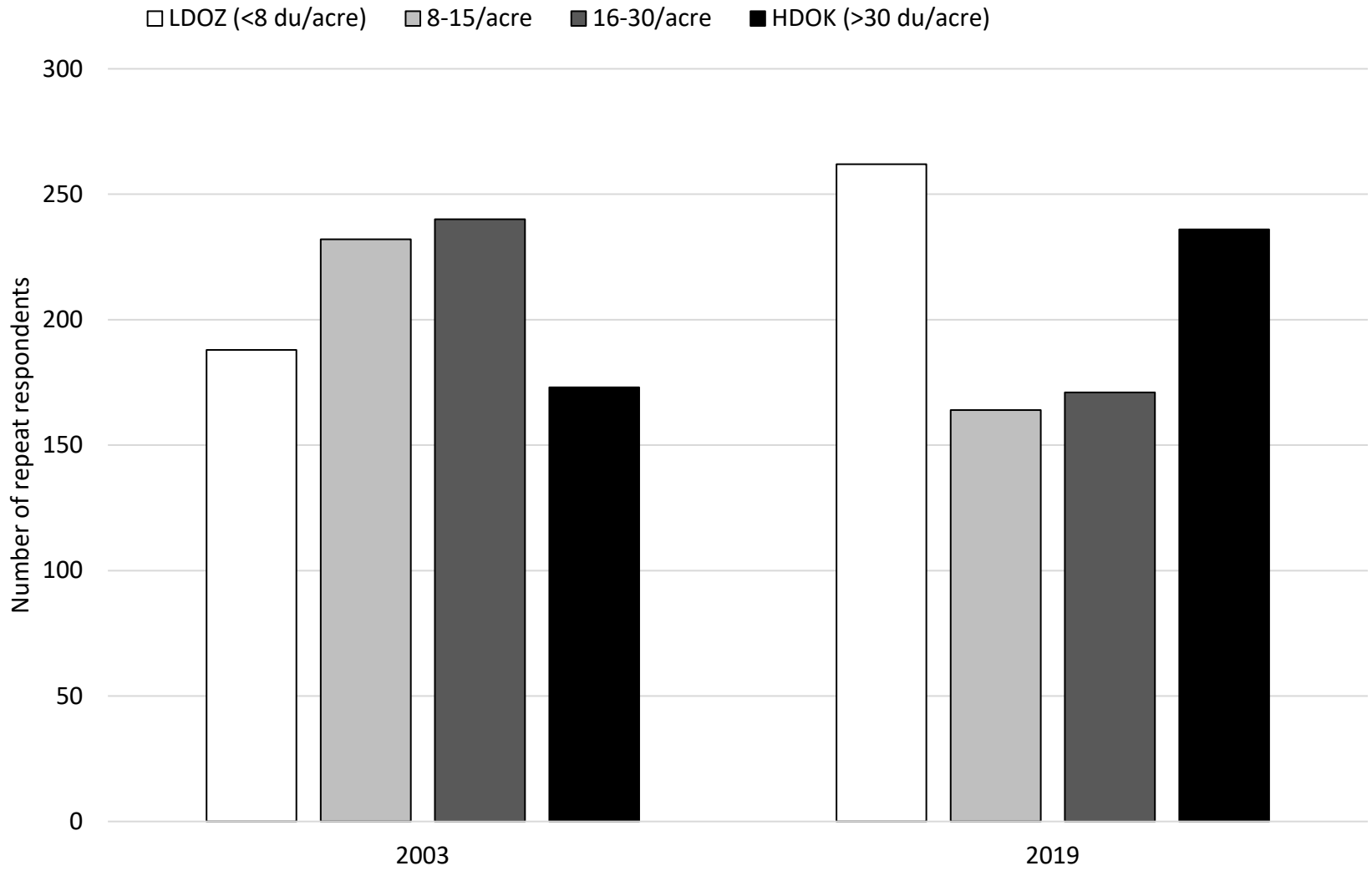

Figure 4. Analysis results: Local correlates of regulatory change

2000 census characteristics	LDOZ		HDOK		Apt. ban		By-right apts	
	Add	Drop	Add	Drop	Add	Drop	Add	Drop
Population	-	+	+	-	-	+		
Counties		-	-	+	+	-		
Townships			-					
Housing occupancy rate		+						
Pct of adults with BA+		+	+					
Homeownership rate	+		-				+	
Pct single-family homes						+		
Pct units in 5+-unit bldgs.						-		
Pct of pop'n Black								
Median income	-	-						+
Median income	-	-						+

Source and notes: Authors' analysis of 2003 and 2019 NLLUS results, repeat respondents only (N=833). Add: Respondent did not report the measure in 2003 but did in 2019. Drop: Respondent reported the measure in 2003 but not in 2019. +: Higher values of the census characteristics associate with greater probability of adding or dropping the measure. -: Higher values of the census characteristic associate with less probability of adding or dropping the measure. For full results, see online technical appendix.

Table 1. Change in maximum permitted density, repeat respondents, 2003-2019

	Downzoned	No change	Upzoned	Total
<4 units/acre	0	71	29	100
4-7	25	27	36	88
8-15	72	84	76	232
16-30	76	91	73	240
>30 units/acre	46	127	0	173
Total	219	400	214	833

Table 2: Upzoning and downzoning dynamics from 2003 to 2019, metro areas with most low-density-only repeat respondents in 2019

	Respondents with LDOZ		Changes from 2003 to 2019		
	2003	2019	Did not change	Upzoned from	Downzoned to
Total	**188**	**262**	**138**	**50**	**124**
Boston	37	36	26	11	10
Philadelphia	11	16	8	3	8
Pittsburgh	6	14	5	1	9
Detroit	5	13	3	2	10
Cincinnati	6	12	3	3	9
Cleveland	9	12	9	0	3
New York	13	12	9	4	3
Hartford	15	11	10	5	1
Minneapolis	8	10	6	2	4
	Respondents with HDOK		Changes from 2003 to 2019		
	2003	2019	Did not change	Upzoned to	Downzoned
Total	**173**	**236**	**127**	**109**	**46**
San Francisco	22	24	20	4	2
Los Angeles	18	20	14	6	4
New York	4	13	4	9	0
Minneapolis	6	13	5	8	1
Seattle	6	12	4	8	2
Portland	10	12	10	2	0
Washington	6	11	5	6	1
Chicago	11	10	5	5	6

Source: Authors' analysis of NLLUS data. N=833 repeat respondents. Includes only metro areas with at least 10 high-density OK jurisdictions in 2019.

Appendix Table 1. Restrictiveness of local zoning, Metro areas with over 15 respondents with Census region noted, 2019

	Census region	Maximum density			Hypothetical project			
		N	<8/acre	>30/acre	N	No	By permit	By right
Accommodating								
Denver	W	18	17%	50%	22	5%	45%	50%
Miami	S	35	0%	57%	34	3%	38%	59%
Seattle	W	29	3%	59%	30	0%	13%	87%
Kansas City	MW	18	22%	28%	21	10%	29%	62%
Portland	W	28	11%	54%	28	7%	25%	68%
Washington	S	29	21%	45%	29	7%	31%	62%
Moderate								
San Francisco	W	49	4%	63%	51	8%	47%	45%
Los Angeles	W	85	5%	44%	86	2%	60%	37%
Chicago	MW	108	31%	21%	122	9%	61%	30%
Minneapolis	MW	88	36%	25%	90	11%	46%	43%
Somewhat restrictive								
Milwaukee	MW	36	33%	22%	41	17%	44%	39%
Dallas	S	42	40%	19%	45	7%	44%	49%
Pittsburgh	NE	38	66%	11%	39	8%	54%	38%
St. Louis	MW	42	52%	21%	43	12%	51%	37%
Grand Rapids	MW	21	43%	10%	24	13%	50%	38%
Detroit	MW	51	41%	16%	54	15%	50%	35%
Columbus	MW	28	61%	7%	27	15%	44%	41%
Cleveland	MW	33	67%	12%	39	15%	59%	26%
Cincinnati	MW	50	52%	12%	54	17%	46%	37%
Very restrictive								
New York	NE	98	33%	29%	97	29%	38%	33%
Buffalo	NE	17	65%	6%	19	21%	42%	37%
Atlanta	S	48	29%	23%	49	22%	31%	47%
Philadelphia	NE	62	48%	11%	67	30%	24%	46%
Boston	NE	100	55%	16%	105	32%	56%	11%
Hartford	NE	33	48%	12%	36	33%	61%	6%

Source: Authors' analysis of NLLLUS. Only metro areas with over 15 respondents included. Maximum density question relies on responses to the question: What number of dwelling units may be constructed per net acre in areas to which your jurisdiction's zoning ordinance applies, in areas where residential densities reach their maximum level? The surveys provide five response categories: Fewer than four units per acre, four to seven units, eight to 15 units, 16 to 30 units, and more than 30 units. Hypothetical project question relies on responses to the question: Assume your jurisdiction has a vacant 5-acre parcel. If a developer wanted to build 40 units of 2-story apartments and was flexible with planning, landscaping and building configuration, would there be an existing zoning category that would allow such development? The three possible responses were No; Yes, by right; and Yes, by special permit, PUD, or other special procedure.

Appendix Table 2. Adopting and retaining restrictive zoning, 2003-2019 (repeat respondents)

	Anti-density zoning								Would not allow hypothetical apartment development							
Status in 2003	Did not have				Had				Did not have				Had			
Status in 2019	Adopted				Retained				Adopted				Retained			
	B	S.E.	Sig.	Exp(B)	B	S.E.	Sig.	Exp(B)	B	S.E.	Sig.	Exp(B)	B	S.E.	Sig.	Exp(B)
Population (LN)	**-0.734**	**0.155**	**0.000**	**0.480**	**-0.559**	**0.291**	**0.055**	**0.572**	**-0.549**	**0.257**	**0.032**	**0.577**	**-0.800**	**0.297**	**0.007**	**0.449**
Gov't type (ref: municipalities)			0.341				**0.050**				**0.003**				0.141	
Counties	0.865	0.641	0.177	2.376	**3.620**	**1.488**	**0.015**	**37.344**	**3.074**	**0.911**	**0.001**	**21.623**	**3.241**	**1.671**	**0.052**	**25.570**
Townships	0.308	0.423	0.466	1.361	0.006	0.533	0.991	1.006	0.340	0.499	0.495	1.405	0.000	0.652	0.999	1.000
Housing occupancy rate	0.038	0.046	0.415	1.038	**-0.239**	**0.118**	**0.043**	**0.787**	0.069	0.076	0.365	1.071	-0.031	0.050	0.537	0.969
Homeownership rate	**0.093**	**0.027**	**0.001**	**1.097**	-0.008	0.056	0.893	0.992	-0.027	0.038	0.476	0.974	0.081	0.059	0.167	1.085
Pct single-family homes	0.017	0.016	0.270	1.018	-0.009	0.031	0.777	0.991	0.011	0.023	0.633	1.011	**0.077**	**0.042**	**0.064**	**1.080**
Pct units in 5+ structures	0.036	0.026	0.162	1.037	0.002	0.059	0.976	1.002	-0.026	0.039	0.509	0.974	**0.136**	**0.072**	**0.058**	**1.145**
Pct of pop'n Black	0.005	0.014	0.705	1.005	0.006	0.030	0.833	1.006	-0.022	0.029	0.451	0.979	0.003	0.052	0.948	1.003
Pct of pop'n Hispanic	-0.023	0.022	0.290	0.977	-0.051	0.067	0.447	0.950	-0.055	0.051	0.280	0.947	0.091	0.077	0.237	1.095
Pct of adults with BA+	0.023	0.015	0.133	1.023	**-0.108**	**0.036**	**0.003**	**0.898**	-0.002	0.021	0.909	0.998	0.013	0.033	0.681	1.014
Median income (000)	**-0.076**	**0.019**	**0.000**	**0.927**	**0.109**	**0.037**	**0.004**	**1.115**	0.016	0.020	0.421	1.016	0.019	0.024	0.438	1.019
State fixed effects			0.072				0.923				0.818				0.897	
Constant	-1.535	4.474	0.732	0.216	25.998	10.756	0.016	*	-22.952	**	0.999	0.000	-6.881	6.050	0.255	0.001
	Predicted		Total	%	Predicted		Total	%	Predicted		Total	%	Predicted		Total	%
	No	Yes	obs.	correct	No	Yes	obs.	correct	No	Yes	obs.	correct	No	Yes	obs.	correct
Observed no	494	25	519	95.2%	24	26	50	48.0%	633	4	637	99.4%	69	14	83	83.1%
Observed yes	67	56	123	45.5%	12	126	138	91.3%	42	8	50	16.0%	18	42	60	70.0%
Overall correct prediction				85.7%				79.8%				93.3%				77.6%
Percent observed yes			19.2%				73.4%				7.3%				42.0%	
Pseudo R-squares																
Cox & Snell	26.6%				29.0%				16.1%				33.2%			
Nagelkerke	42.7%				42.2%				39.6%				44.6%			

*195325278620.9

**26286.1

Appendix Table 2 (cont.). Adoption and retention of pro-density zoning and by-right apartment permission, 2003-2019 (repeat respondents)

	Pro-density zoning								Allowed hypothetical apartment development by right							
Usage from 2003 to 2019	Adopted (did not have in 2003, had in 2019				Retained (had in 2003, had in 2019)				Adopted (did not have in 2003, had in 2019				Retained (had in 2003, had in 2019)			
	B	S.E.	Sig.	Exp(B)	B	S.E.	Sig.	Exp(B)	B	S.E.	Sig.	Exp(B)	B	S.E.	Sig.	Exp(B)
Population (LN)	**0.956**	**0.173**	**0.000**	**2.601**	**1.142**	**0.328**	**0.000**	**3.133**	-0.099	0.113	0.383	0.906	0.009	0.153	0.954	1.009
Gov't type (ref: municipalities)			**0.000**				**0.040**				0.333				0.631	
Counties	**-2.983**	**0.695**	**0.000**	**0.051**	**-3.356**	**1.331**	**0.012**	**0.035**	-0.734	0.524	0.161	0.480	-0.131	0.617	0.832	0.877
Townships	**-0.982**	**0.517**	**0.057**	**0.374**	0.734	4.088	0.857	2.084	-0.222	0.353	0.529	0.801	-0.424	0.451	0.347	0.654
Housing occupancy rate	-0.030	0.027	0.260	0.971	0.158	0.181	0.383	1.171	-0.017	0.026	0.513	0.983	-0.025	0.044	0.573	0.975
Homeownership rate	**-0.053**	**0.024**	**0.029**	**0.949**	0.038	0.048	0.433	1.038	**0.043**	**0.020**	**0.029**	**1.044**	0.010	0.024	0.668	1.010
Pct single-family homes	0.011	0.018	0.544	1.011	-0.058	0.042	0.168	0.944	-0.016	0.014	0.247	0.984	0.021	0.016	0.192	1.021
Pct units in 5+ structures	0.006	0.024	0.821	1.006	-0.017	0.046	0.720	0.983	0.030	0.021	0.152	1.031	-0.007	0.024	0.771	0.993
Pct of pop'n Black	0.012	0.014	0.385	1.012	-0.040	0.033	0.219	0.960	-0.011	0.015	0.436	0.989	-0.024	0.014	0.101	0.977
Pct of pop'n Hispanic	**0.025**	**0.014**	**0.067**	**1.026**	0.015	0.030	0.604	1.015	-0.003	0.014	0.814	0.997	-0.010	0.014	0.498	0.990
Pct of adults with BA+	**0.029**	**0.016**	**0.062**	**1.030**	0.046	0.030	0.129	1.047	-0.011	0.013	0.400	0.989	0.022	0.017	0.182	1.022
Median income (000)	0.000	0.015	0.996	1.000	0.004	0.038	0.919	1.004	-0.008	0.011	0.486	0.992	**-0.030**	**0.016**	**0.062**	**0.971**
State fixed effects			0.137				0.997				0.056				0.501	
Constant	-25.523	**	0.999	0.000	-28.247	17.546	0.107	0.000	-19.913	**	0.999	0.000	2.324	4.249	0.584	10.215
	Predicted		Total	%	Predicted		Total	%	Predicted		Total	%	Predicted		Total	%
	No	Yes	obs.	correct	No	Yes	obs.	correct	No	Yes	obs.	correct	No	Yes	obs.	correct
Observed no	527	23	550	95.8%	30	16	46	65.2%	274	48	322	85.1%	82	64	146	56.2%
Observed yes	74	34	108	31.5%	10	116	126	92.1%	105	63	168	37.5%	32	162	194	83.5%
Overall correct prediction				85.3%				84.9%				68.8%				71.8%
Percent observed yes			16.4%				73.3%				34.3%				57.1%	
Pseudo R-squares																
Cox & Snell	22.3%				38.3%				15.4%				19.3%			
Nagelkerke	37.8%				55.8%				21.3%				25.9%			

*25839.8

**28175.1