

Zoning for Votes:

How Local Politicians Use Land-Use Regulations for Political Gain

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Abstract [†]

Across many levels of governments, elected officials are often observed to engage in opportunistic behavior, such as targeted ‘pork-barrel’ spending in their districts, or increases in spending, transfers, or employment on election years. What about local policymakers? Local policymakers tend to be limited in their ability to manipulate spending or pass popular policies due to federalism-related budget constraints and state policy preemption. In the face of these constraints, I argue that local politicians in federalist systems use the tools at their disposal, particularly land-use regulations, treating *zoning as pork*. I show, using both lot-level zoning changes in New York City and data on the timing of historic districts in over 200 cities and towns, that land-use changes occur disproportionately on municipal election years. This effect is driven entirely by those with the strongest electoral incentives: politicians not facing a term-limit and representing the most competitive districts, evidence of strategic behavior. Additionally, I find that rezoning budget cycle effects are larger for density-restricting regulations, consistent with anti-density public opinion, and tend to geographically target lots where politically active local voters live. Together, these findings may help explain why so many cities have restricted new development in the face of a housing affordability crisis.

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Introduction

Many nations delegate substantial responsibilities to subnational governments (Rodden 2004). In the United States, some of the most visible and consequential policies – including police, fire, roads, primary education, sanitation, water, and housing – are delegated to local officials. These responsibilities are substantial: in 2022, local governments spent \$2.3 trillion, accounting for about one-quarter of total government spending nationwide.¹

Despite these vast responsibilities and budgets, local elected officials face considerable constraints. Cities and towns must compete for residents and businesses, creating competitive pressure to minimize taxes and prioritize spending on economic growth (Peterson 1981; Tiebout 1956). Furthermore, states often impose considerable barriers to raising revenue by limiting local taxing capacity (Stallmann et al. 2017), and have increasingly preempted local policymaking in a number of politically salient policy domains (Riverstone-Newell 2017; Goodman et al. 2021).

At the same time, local policymakers must win elections. At higher levels of government, policymakers often engage in particularistic – or ‘pork barrel’ – politics to credit claim and maximize their reelection odds (Mayhew 1974). For example, congressional representatives often redirect federal spending towards particularistic goods that are geographically targeted to their districts (Lee 2003). Relatedly, politicians in many nations often increase spending on election years to help win re-election, a phenomenon known as the political budget cycle (Dubois 2016; Nordhaus 1975). Local officials, on the other hand, face federalism-related constraints that limit their ability to increase particularistic spending and engage in credit claiming.

Instead, I argue that local politicians in federalist systems engage in the same tactics – providing particularistic benefits to voters to improve reelection prospects – but using the policy tools available to them. In the United States, a core function of local

¹ Of this, \$1.6 trillion was financed by own-source – meaning not state or federal – tax dollars. See: US Census Bureau Annual Survey of State and Local Government Finances, 1977-2022 (compiled by the Urban Institute via State and Local Finance Data: Exploring the Census of Governments; accessed 22-Nov-2025 02:51), <https://state-local-finance-data.taxpolicycenter.org>.

government is developing land-use – or zoning – regulations. I develop a theory of opportunistic land-use regulatory behavior, arguing that local policymakers treat *zoning as pork*, strategically timing land-use changes, tuning their direction (pro or anti density), and targeting relevant voters to help win reelection.

To test this theory, I collect data on the timing of land-use regulatory changes. I present a case study of zoning changes (rezonings) in New York City, where I construct a panel of lots (parcels) complete with lot-level regulatory data from 2001 to 2025 with about 21 million lot-year observations. In addition to timing, the panel structure allows me to identify the direction of regulatory changes. I also enrich this dataset with characteristics of the voters who inhabit each lot using voter file data and estimate if lots likely are renter or owner occupied, developing a technique that draws on administrative tax data and classification of building owner names.

First, I show that local politicians strategically time rezonings. I find rezonings occur at over double the rate on election years relative to non-election years. I replicate this pattern in a sample of over 200 municipalities using national data on the adoption of new historic districts, suggesting this phenomenon is not New York City specific. I find that the rezoning political budget cycle is only present for politicians with the strongest electoral incentives: those eligible for re-election (not facing a term limit) and those in the most competitive districts, strong evidence of strategic behavior. Furthermore, while land-use changes show political budget cycle effects, spending, revenue, and city employment levels do not, consistent with fiscal constraint. Neither do building permits, suggesting these results cannot be explained by election years being coincidentally timed with patterns in the economic business cycle.

Next, I show that politicians strategically tune the direction of rezonings. Public opinion scholarship has shown that new development is often unpopular, even in already dense cities (Einstein, Glick, et al. 2019; Hankinson 2018; Larsen and Nyholt 2024; Marble and Nall 2021; Trounstone 2023). Given this, I expect that in most cases, land-use regulations which restrict density would prove most electorally expedient. Indeed, I find this to be the case. Density-restricting rezonings (downzonings and contextual rezonings) were most common on reelection years. Conversely, density-

increasing rezonings (upzonings) show more muted political budget cycle effects. Furthermore, the intensity of upzonings increases substantially on a politicians' final year in office, as do building-specific rezonings initiated by private developers (variances), suggesting that the most consequential and potentially unpopular upzonings are strategically withheld until electoral pressures ease.

Finally, I find that local politicians strategically target electorally relevant lots for downzoning or upzoning. Prior scholars have documented how a small subset of particularly vocal residents, often called *neighborhood defenders*, harbor anti-density views (Einstein, Glick, et al. 2019). In addition to harboring anti-density preferences, these residents are disproportionately likely to vote in local politics (Einstein et al. 2025; Einstein, Palmer, et al. 2019; Hall and Yoder 2022; Sahn 2024; Yoder 2020), which may be particularly consequential in low-salience, low turnout races (Anzia 2024). I find that neighborhood defender traits (owner occupancy, older age, and active political participation) are associated with a higher likelihood of a lot being downzoned or contextually rezoned. Conversely, renter-occupied, non-residential, younger, and less politically active lots are more likely to get upzoned for additional density.

Together, these findings suggest local politicians manipulate land-use regulation strategically by *timing*, *tuning* the direction of, and geographically *targeting* rezonings. Given the disproportionate share of zoning changes which restrict new development, these strategic electoral incentives could help explain why land-use regulations have grown in stringency over time (Gyourko et al. 2021), worsening the housing affordability crisis (Glaeser et al. 2005; Glaeser and Gyourko 2002; Glaeser and Ward 2009).

Local Politicians, Federalism, and Land-Use Regulation

Re-election seeking politicians often engage in politically opportunistic behavior, such as targeting spending towards their constituents. This spending, sometimes called pork-barrel spending, can provide opportunities for credit claiming (Mayhew 1974). Evidence for such behavior exists at multiple levels of government, including by U.S. House and Senate members (Ferejohn 1974; Lee 1998, 2003, 2004), Presidents (Berry et al. 2010; Kriner and Reeves 2015), politically aligned bureaucrats (Bertelli and Grose

2009), and by state legislators (Wu and Williams 2015). Such opportunistic behavior can fend off challengers (Bickers and Stein 1996) and generate electoral benefits from voters (Clemens et al. 2025), even if spending in absolute dollar terms is small (Grimmer et al. 2012).

A separate line of scholarship examines cyclical spending around elections, a concept known as the political budget cycle (Nordhaus 1975). While evidence for its prevalence is mixed and context-dependent (Alt and Rose 2009; Dubois 2016), many governments have nevertheless been observed to increase spending (Blais and Nadeau 1992), redistributive transfers (Akhmedov and Zhuravskaya 2004), or employment (Cahan 2019) immediately before elections. Like targeted pork-barrel spending, political budget cycles appear to be driven by politicians' desire to engage in credit claiming before elections (Bueno 2023).

How about local politicians? While evidence for political budget cycles at the local level exists in other nations (e.g. Alesina and Paradisi 2017; Bracco et al. 2024), this effect appears to be largely absent in the United States. Bee and Moulton (2015) find that municipal spending, regardless of type, does not change on or near election years. These results hold for close elections, different electoral calendars, and incumbency status. The authors only find small effects of election year timing on some types of hiring, with municipalities hiring slightly more police officers and sanitation workers on election years.² While recent evidence does find that Mayors are influential in municipal spending decisions (de Benedictis-Kessner and Warshaw 2016), no direct evidence suggests that American local elected officials strategically time or target such spending for electoral gain.

The lack of direct evidence for opportunistic manipulation of local spending may be due to developments that have constrained local elected officials. In the past, political machines were known to engage in opportunistic spending to win votes,

² However, the authors note this effect could be driven by increased layoffs in non-election years, particularly during economic crises, rather than direct hiring. Additionally, Cahan (2019) also finds political budget cycle effects for municipal hiring around gubernatorial elections. However, these effects do not account for often staggered local election cycles along with the impact of state-to-local government transfers.

including direct spending on food or rent, engaging in patronage hiring, or providing legal and regulatory aid (Gosnell 1968, 71). Over time, machines unraveled and progressive reforms, such as civil-service reforms, limited the ability of such opportunistic behavior (Erie 1988). In the 1970s and 80s, homeowner-led backlash to property taxes led to the proliferation of laws limiting property tax revenues – severely constraining growth in municipal governments’ main form of revenue (Sears and Citrin 1982; Stallmann et al. 2017). Indeed, strict budget rules have been shown to limit political budget cycle effects at the state level (Rose 2006). Increasingly, states have preempted local governments, with a recent wave of ‘new preemption’ laws aimed to “intentionally bar local efforts to address problems” (Briffault 2018; Goodman et al. 2021). These include preempting highly popular and politically salient policies, such as minimum wage or rent control (Fowler and Witt 2019; Riverstone-Newell 2017).

In addition to these developments, structural forces resulting from federalism pose considerable constraints. Voters and businesses can threaten to move depending on local tax levels and service quality (Tiebout 1956). These dynamics creates horizontal (across space) competitive pressures, causing local governments to sometimes engage in “tax competition” with other municipalities to avoid human and capital flight (Brueckner and Saavedra 2001; Hendrick et al. 2007). These competitive pressures harden budget constraints by inducing lower overall levels of local taxation, a concept known as *fiscal federalism* (Oates 1999). Furthermore, municipal bond markets can constrain local government spending in setting interest rates (Adelino et al. 2017), and markets have been shown to penalize political uncertainty and reward less democratically responsive politicians (Ambrose et al. 2025; Basu et al. 2024; Smith 2025). These budget constraints can refocus local spending away from popular redistributive spending towards spending aimed at promoting economic growth such as infrastructure or tax credits to attract/retain businesses (Peterson 1981).

Together, these constraints considerably limit local politicians’ ability to engage in geographically targeted pork-barrel spending, opportunistically timed election year spending, and pass politically salient and popular policies. These constraints may therefore reduce opportunities for credit-claiming.

However, I argue that local politicians still engage in such opportunistic behavior using the tools available to them. My argument builds on Alt and Rose's (2009) concept of *context-conditional political budget cycles*. I adapt their concept to contexts where federalist constraints considerably limit local discretion over municipal finance and some types of policymaking. In these contexts, I argue that politicians lean heavily on the remaining tools available to them. In the United States, one tool in the local policy toolkit is land-use regulation. Drawing zoning maps is perhaps *the* core function of local government (Puentes et al. 2006).³ In many places, land-use changes are decided by local councilmembers, who often have final say over all proposed land-use changes in their district, a norm known as councilmember deference (sometimes called prerogative or privilege) (Louthen 2020; Mast 2024; Hankinson and Magazinnik 2023). This allows land-use changes to be spatially targeted within the small scales of their districts (such as at the lot-level), akin to pork-barrel spending, maximizing the visibility of changes locally and providing opportunities for credit claiming.

In addition to being an available tool, it is an effective one. Zoning changes are a powerful and effective hammer to stop or encourage new development, and their adoption can have immediate impacts on local housing prices, construction levels, and the socioeconomic makeup of neighborhoods (Freemark 2023; McCabe and Ellen 2016; Rollet 2025; Shertzer et al. 2018). Furthermore, many local government functions such as district-based schooling or sanitation services, are spatially dependent. Given that zoning regulations dictate what can be built where, they can be used to manipulate access to and the quality of local public goods, potentially creating or reinforcing urban inequality (Lens 2022; Rothwell and Massey 2009; Trounstone 2018). Moreover, the consequences of land-use regulation are politically salient, especially for those most likely to vote in local elections (Yoder 2020), and housing is frequently at the top of the list of concerns by voters (Gallup 2025).

Therefore, I theorize that local politicians treat *zoning as pork*, opportunistically manipulating land-use regulations for electoral gain. For these electoral gains to be

³ Puentes et al. (2006) find that 91% of jurisdictions in the 50 largest metropolitan areas have zoning ordinances. While no estimates exist, some jurisdictions doing little more than draw zoning maps. Whether municipalities or counties are responsible varies both across and within states (Lo 2019).

realized, I expect that local politicians strategically time zoning changes. I anticipate that zoning changes (rezonings) will occur more frequently on municipal election years. This is because voters are myopic and typically most attuned to changes occurring just before elections (Bartels and Achens 2017). Second, not all local politicians will engage in such behavior, only those who need to reap the benefits of credit-claiming to win reelection. Therefore, I expect that rezonings occur more frequently among politicians with the strongest electoral incentives: those up for re-election (not facing a term limit) and in competitive districts.

In addition to strategic timing, local politicians should tune the direction of the rezonings towards the preferences of their voters. While preferences can and do change (as evidence by the recent rise of the ‘yes-in-my-backyard’ movement (Brouwer and Trounstin 2024)), historically, many voters across many demographic and socioeconomic cleavages have opposed new housing development (Hankinson 2018; Marble and Nall 2021; Trounstin 2023). This is true for renters and homeowners, both of whom are skeptical of the ability of new housing to lower housing prices (Elmendorf et al. 2025; Trounstin 2023). Many voters also value preserving the ‘look-and-feel’ of their neighborhood and prefer new development that ‘fits’ the surrounding context (Larsen and Nyholt 2024; Pietrzak and Mendelberg 2025). Policies that enforce this development pattern are very popular, even among people who support more housing in principle. For example, Pietrzak and Mendelberg (2025) find that 82% of respondents support contextual zoning regulations, in contrast to just 41% who support upzoning for tall buildings.⁴ Therefore, I theorize that density-restricting regulations (downzonings, contextual rezoning, and historic districting), should *on average* prove more politically expedient and thereby show stronger political budget cycle effects.

Finally, while density-restricting regulations should generally prove more popular, anti-density views are particularly salient among a highly vocal, politically active subset of residents who show up to meetings about housing and vote in local elections (Einstein, Glick, et al. 2019). Often called *neighborhood defenders* (or more narrowly,

⁴ And 68% who support gentle “missing middle” upzoning for small and medium sized buildings, see Appendix Table B2.

homevoters), these meeting attendees and local voters largely consist of older homeowners (Einstein, Palmer, et al. 2019; Einstein et al. 2025; Fischel 2005; Hall and Yoder 2022; Sahn 2024; Yoder 2020). Due to their high participation in local politics specifically, local politicians should stand the most to gain from enacting density-restricting regulations in areas where neighborhood defenders live. Therefore, I theorize that savvy local politicians strategically target density-restricting regulations to areas with neighborhood defender associated characteristics, such as high rates of homeownership, older voters, or more active local voters.

Fiscal Constraints and Land-Use Regulations in New York City

To test these hypotheses, I study the case of New York City. New York satisfies the first condition of my theory: that local politicians are constrained in their ability to manipulate spending and pass policies to engage in traditional forms of credit claiming. New York City's spending constraints grew out of the fiscal crisis of the 1970s (Shefter 1992). To avoid default, State intervention significantly constrained local fiscal authority, such as through the creation of the now called New York State Financial Control Board (NYSFCB), which directly managed city finances through 1986. Even today the NYSFCB may still recommend to reinstate State control over City finances if the City fails to meet its debt service obligations or passes an unbalanced budget.⁵ Other constraints, such as property tax assessment limits, State preemption over new municipal taxes, and State-imposed debt caps limit the ability of City politicians to raise new revenues without State approval (Berg 2007). State approval itself is often slow, as it involves many veto players. Finally, collective bargaining agreements, the bond market, and oversight by various fiscal watchdogs serve as further constraints on local spending decisions.

Due to these constraints, it's highly unlikely New York City politicians can opportunistically increase election year spending (which would require a commensurate increase in revenues levied). To verify if this is the case, I examined if city expenditures,

⁵ Among other possible criteria, such as the State and City Comptrollers not jointly certifying the budget. While direct ability to order a new "control period" expired in 2008, the Board can still threaten State intervention, although this would require legislative action (Financ. Controls Board, n.d.).

revenues, and employment levels follow a political budget cycle. I examine real city spending (in 2022 dollars) between fiscal years 1980 and 2022 using data provided by the Citizens Budget Commission and obtained from the NYC Independent Budget Office.⁶ I follow the model used by Bee and Moulton (2015), where spending is first differenced from the year prior. The estimated coefficients therefore represent the average additional rate of growth on municipal election years relative to non-election years. Table 1, column 1 shows that growth in total expenditures does not meaningfully differ on election years versus non-election years.⁷ These patterns repeat in 3 revenue categories that City politicians have the *most* discretion over: property and sales taxes along with fees, fines, and forfeitures (columns 2-4). Finally, I recover similarly null effects on capital expenditures (5) and total full-time employment (6). These results are also null if the dependent variable is measured as levels or per capita (See Appendix B).

Table 1. Growth in Expenditures, Taxes, and Headcount on Election Years, Fiscal Years 1980-2022

	(1) Total Spending	(2) Property Taxes	(3) Sales Taxes	(4) Fees and Fines	(5) Capital Spending	(6) FT Employees
Election	-0.011 (0.011)	-0.004 (0.018)	0.011 (0.021)	-0.019 (0.027)	0.001 (0.038)	-0.004 (0.009)
Constant	0.022*** (0.005)	0.024* (0.009)	0.015 (0.011)	0.033* (0.014)	0.022 (0.020)	0.010* (0.005)
N	42	42	42	42	37	42

Note: Standard errors in parentheses. Dependent variables take the form of $\ln(Y_t) - \ln(Y_{t-1})$. Expenditures and revenues adjusted to 2022 dollars. The constant therefore represents the average inflation adjusted (for dollar outcomes) growth rate. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

In contrast to being constrained in their ability to engage in traditional forms politically opportunistic spending, local politicians in New York City have considerable autonomy over land-use regulations, satisfying the second condition of my theory. In

⁶ Total expenditures represent actual, not budgeted, spending adjusted for pre-payments. Pre-payments are the practice of “rolling over” prior year revenue into the next fiscal year if there is a surplus. This adjustment is needed to recover total expenditures in any given year, as drawing down a prior year surplus represents an increase in spending.

⁷ Based on the standard deviation in total expenditures, power 0.8, and alpha 0.05, the minimum detectable effect size is 0.0133. A 1.3% increase in the growth rate would be equivalent to an increase of \$950 million based on the average annual expenditures over the period in 2022 dollars. The analysis is not sufficiently powered to detect changes in spending less than this amount.

1989, City Council obtained land-use powers after the Board of Estimate was declared unconstitutional.⁸ Consequently, Councilmembers became the chief land-use decisionmakers, and soon began a tradition of Councilmember deference where all proposed land-use changes are deferred to the member who represents the area.⁹ While the Mayor controls the Department of City Planning (DCP), which can initiate and must study proposals for zoning changes, it's widely understood that Councilmembers have an effective veto over proposed land-use changes in their district. Consequently, all proposed rezonings require their blessing. This leads to most rezoning proposals occurring at the small scales of the neighborhood level, otherwise known as neighborhood rezonings, in order to avoid multiple veto players. This means that land-use regulatory changes can be highly spatially targeted, potentially increasing the visibility of changes locally and providing opportunities for credit claiming.

Finally, rezonings can be timed strategically. While planning and environmental reviews vary in time, the City's formal rezoning procedure, the Uniform Land-Use Review Procedure (ULURP) operates on a strict clock. Once formally entered into ULURP, rezonings must be completed within 7 months (Campion 2022). This leaves open the possibility that Councilmembers may strategically time the introduction of land-use regulations for political gain. Furthermore, the ULURP review period is the most politically visible part of the rezoning process, involving public comment and vote by Community Boards (where neighborhood-level meetings occur), providing ample opportunity for credit claiming.

Research Design

In addition to satisfying the conditions necessary for my theory to apply, New York City's selection as a case study is bolstered by the availability of rich lot (parcel) level regulatory data. Outside of New York City, longitudinal data on land-use

⁸ The Board of Estimate was comprised of citywide and borough interests: the Mayor, Comptroller, President of the City Council, and the 5 Borough Presidents.

⁹ To speak to the power of this norm, there was only one reported case of a Councilmember being bucked by their peers during my study period. In 2021, Council voted 43-5 against Councilmember Kallos' objection of a proposed Blood Center on the Upper East Side (Poblete and Coltin 2021). Prior promises to reform the practice have failed, leading to a 2025 City Charter amendment initiated by the Mayor and approved by the public that seeks to curb the practice (NYC Charter Revision Commission 2025).

regulations is scarce. I use the Property Land Use Tax Output (PLUTO) dataset. This dataset provides information about lot and property characteristics, zoning district codes, and the maximum density allowable under law for each lot. Appendix C details the data in greater length. I construct a panel of all lots between 2001 and 2025, for about 21 million lot-year observations. For each lot-year, I identify the Councilmember representing it. For each Councilmember, I collect information about their party affiliation, prior election vote share, and if they are term limited.¹⁰

To identify land-use regulatory changes, I join this panel to shapefiles of adopted rezonings. This identifies about 410,000 lots which were part of a rezoning area. Rezonings can be initiated by politicians (generally called *neighborhood rezonings*) or by private actors seeking an exception from current zoning law (called *spot rezonings* in New York City, or variances elsewhere).¹¹ I hand-code the actor responsible for each rezonings. In total, my data contains the universe of neighborhood rezonings covering about 405,000 lots (about 46% percent of all lots in the city) and private spot rezonings covering about 5,000 lots (See Appendix Table C1).

Among rezoned lots, I then identify the direction of the rezoning. These come in three general forms: (1) upzoning, or an increase in allowable density; (2) downzoning, or a decrease in allowable density; and (3) contextual rezoning, a zoning change which does not alter allowable density, but instead alters other regulatory factors (e.g. setback requirements, parking minimums). In New York City, allowable density is regulated primarily through the maximum floor-to-area ratio (FAR). For example, an FAR of 3 means a developer can build 3 square feet of building area for every 1 square foot of lot area. To identify the direction of the rezoning, I first identify if the lot experiences a

¹⁰ Term limits in New York City changed in the period of my study. A 2008 charter revision allowed the Mayor and Councilmembers to seek a third consecutive term. My coding considers Councilmembers who would otherwise have been term-limited as not term-limited in the 2009 election. While the endogeneity of term-limits poses a threat to my analysis, notably the push to amend the City Charter originated from the Mayor's Office and occurred over a year before the 2009 municipal elections, providing ample time for members to prepare for reelection. Council was split, passing the measure by a bare majority. Of the 32 members who otherwise would have been term limited, 23 voted to extend their term and 12 voted against (Chan and Hicks 2008).

¹¹ These are typically for-profit developers. However, my coding does not distinguish between actors within this category and contains some government agencies, non-profits, educational institutions, etc.

change in its zoning category (e.g. “R2” in year t-1 and “R2A” in year t).¹² Among those lots with a regulatory change, I take the within-lot difference in FAR. Lots with an increase are upzoned and lots with a decrease are downzoned, following the method outlined in Been and McDonnell (2010).¹³ Lots without a change in FAR are contextually rezoned, so long as they also see a change in their zoning category. Appendix C details in greater length the methodology.

I consider both downzonings and contextual rezonings to be *density-restricting regulations* and analyze them together (disaggregated results reported in the Appendix). Contextual zoning regulations grew out of the City’s Quality Housing Program of 1989, and were explicitly created to “maintain the scale and form of the city’s ... neighborhoods” (Sinell 2017, 518). While contextual districts do not explicitly reduce the FAR, they often change other zoning regulations that effectively discourage denser development, such as by imposing height limits or dictating the required setback from the street. Therefore, many view contextual zoning regulations as similar to downzonings (Been and McDonnell 2010, 5). Moreover, they have similar effects, such as being associated with neighborhood change and an influx of higher socioeconomic status residents (Dublin-Boc 2023).

In total, I identify just over 65,000 upzoned lots (plus just under 5,000 private ‘spot’ rezonings, which are primarily upzonings), 113,000 downzoned lots, and 184,000 contextually rezoned lots (Table 2). Figure 1 maps each lot citywide, displaying if the lot was rezoned, by direction, over the period. Upzonings are concentrated in some neighborhoods in Manhattan, commercial avenues in the Bronx, and the Brooklyn-Queens waterfront. Downzonings are concentrated in residential Brooklyn neighborhoods, while contextual rezonings predominate in outer lying neighborhoods in

¹² A zoning categorical change is a necessary condition to identifying FAR changes as some technical changes to FAR appear in the PLUTO dataset despite no major rezoning actions occurring. An additional 25,000 lots were in rezoning areas but had no change in zoning category or FAR and are not considered rezoned for analysis purposes.

¹³ Following their method, I consider lots upzoned only if the upzoning increases allowable density by at least 10% over the existing density on the lot. This avoids counting upzonings for changes which are simply bringing existing grandfathered buildings up to code but not effectively increasing density.

Queens and Staten Island. Still, even within each neighborhood rezoning, the direction of each lots rezoning varies substantially (Appendix Figure F1 shows an example).

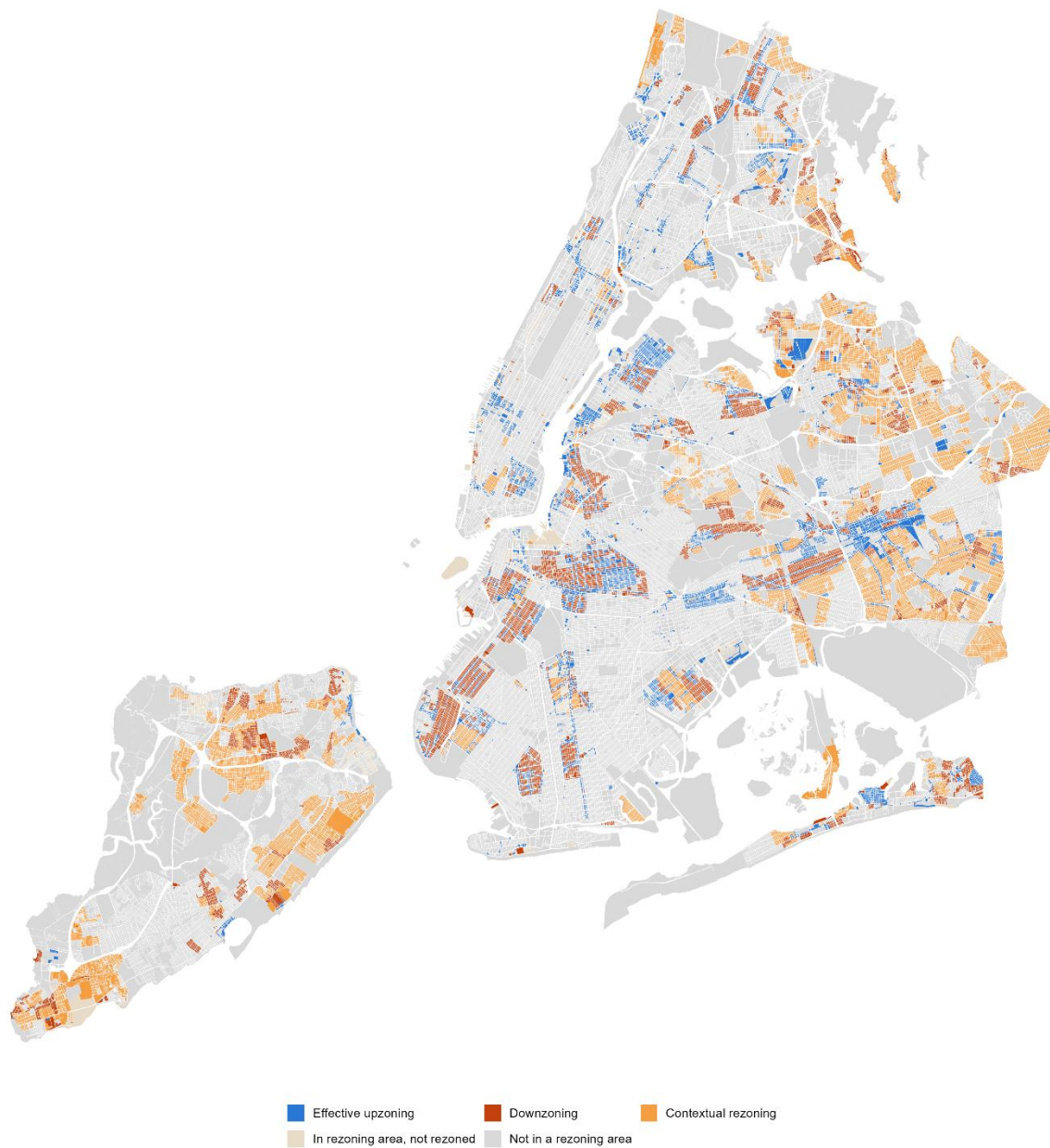
Table 2. Number of Rezonings, by Type and Direction

	Number of lots	% of rezoned lots
Neighborhood rezonings	405,487	99%
<i>Upzoned</i>	65,498	16%
<i>Downzoned</i>	113,510	28%
<i>Contextually rezoned</i>	184,698	45%
<i>Not rezoned/cannot identify</i>	41,781	10%
Private rezonings	4,953	1%
Total rezonings	410,440	100%

Finally, for all analyses I operationalize the political budget cycle as a simple indicator variable that takes on 1 in a municipal election year (which occur on odd years in New York City) and 0 otherwise. Likewise for term limits, where 1 indicates that the politician is subject to a term limit at the end of their current term. Models which include both are interaction models, with predicted means over the two variables shown. All lot-level models also include lot fixed effects and clustered standard errors at the lot and city council district levels. The dependent variable can therefore be interpreted as within-lot-council district predicted probability of rezoning in any given year.¹⁴

¹⁴ Note that this strategy yields small predicted probabilities. Despite about 46% of all lots being rezoned over the period, the 24-year period means just under 2% of lots are rezoned in any given year.

Figure 1. Map of Rezoning, 2002-2025



Note: Lots as of 2025. Any rezoned lots which were merged or divided over the period are missing (10,232 lots inside a rezoning area). For lots with multiple rezoning actions over the period, the most recent rezoning action shown.

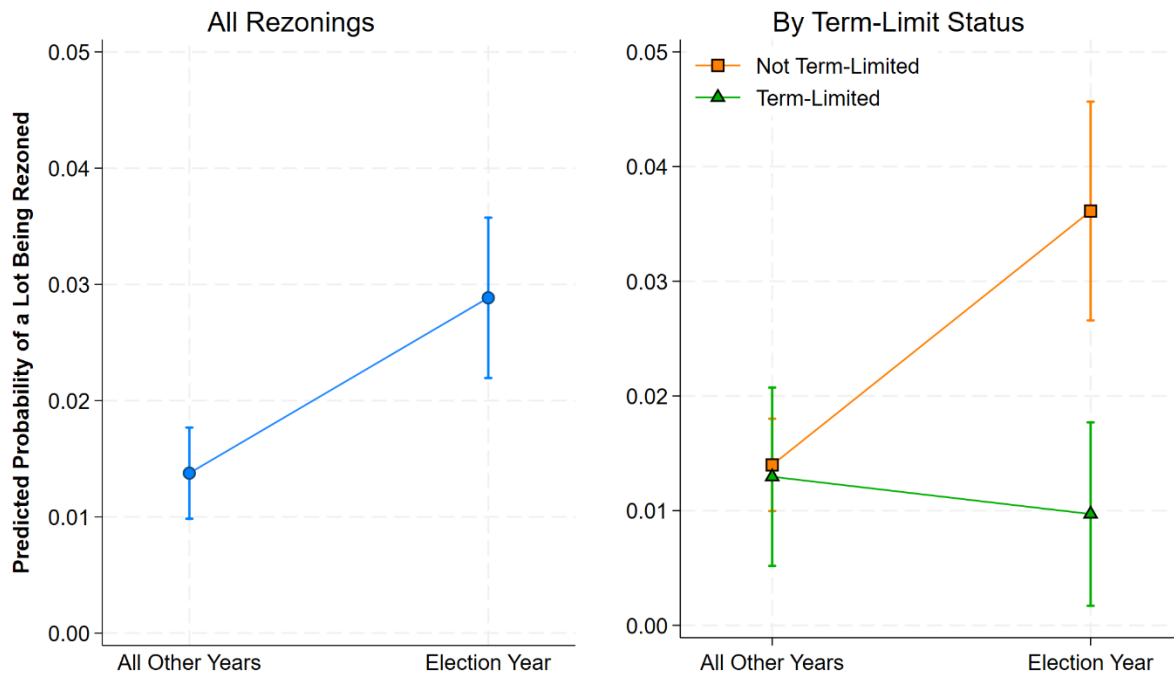
The Timing of Land-Use Changes

First, I test if the frequency of land-use differs in municipal election years. If local elected officials behave strategically and manipulate land-use regulations for political gain, then rezonings should follow a political budget cycle, occurring disproportionately on election years.

Figure 1 shows that this is the case. The left panel shows the predicted probability of any given lot (parcel) being rezoned, broken down by if the year is a municipal election year or not. On non-election years, the probability is 1.4 percentage points. On election years, that probability more than doubles, by 1.5 percentage points, to 2.9 percentage points. To contextualize this effect, of the 410,000 lots rezoned between 2001 and 2025, over half were rezoned on election years (54 percent). This is much higher than one would expect by chance alone – as only one-third of years in the panel are municipal election years.¹⁵

¹⁵ Where Councilmembers are up for election. While typically this is every four years, elections are held for City Council only for a two-year term after every other Decennial Census and redistricting. This adds 2003 and 2023 as election years. The mayor was not on the ballot these years.

Figure 1. Predicted Probability of Rezoning, by Election Year and Term-Limit Status



Note: 95% confidence intervals in caps. Clustered standard errors at the lot and city council district levels. Fixed effects at the lot level. Estimated using the `reghdfe` package (Correia and Constantine [2014] 2026). For regression output, see Appendix Table D1.

My theory predicts that local politicians manipulate zoning regulations for political gain, bolstering their reelection prospects. Therefore, I expect that politicians who stand the most to gain from treating zoning as pork do so disproportionately. First, I operationalize this electoral incentive using term limits. Reelection eligible politicians should behave most opportunistically, due to their stronger electoral incentives vis-à-vis term-limited politicians.¹⁶

I find strong evidence for this hypothesis. The right panel of figure 1 shows the predicted probability by if the Councilmember representing the lot is term-limited (also see Appendix Table D1). The political budget cycle is only present among reelection eligible, non-term-limited politicians, supporting my theory. The predicted probability of a lot being rezoned on an election year in a district represented by a non-term-limited

¹⁶ To be sure, term-limited members may still have electoral incentives, especially if they are running for higher office in an overlapping state or federal legislative district. However, their incentives should be lessened due to the larger geographies of higher office along with higher turnout from on-cycle elections.

politician is 3.6 percent, compared to just under 1 percent for term-limited politicians. This strongly suggests councilmembers are engaging in politically opportunistic behavior.

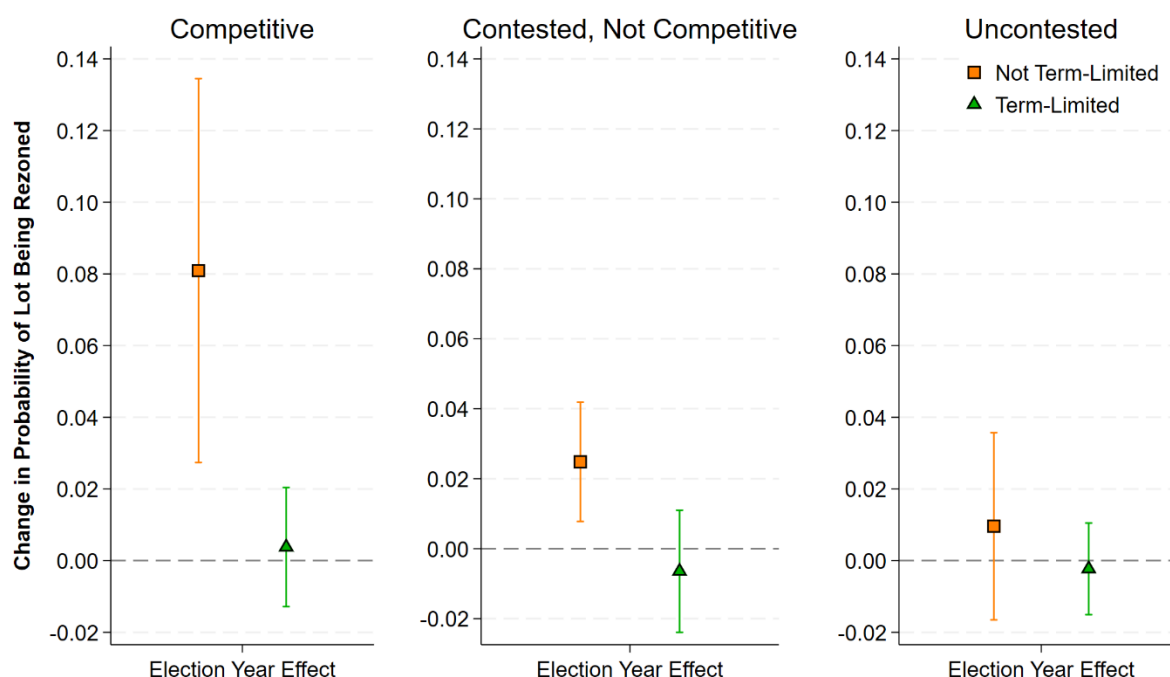
As an alternative measure of electoral incentives, I decompose the political budget cycle and term-limit effect by how competitive the last municipal election was in that council district. Here, prior election year competitiveness serves as a proxy for future year competitiveness. If my theory is correct, more electorally vulnerable politicians should behave more strategically.

To test this, I split districts based on the interquartile range of the incumbents vote share in the last general election. I code districts as “competitive” if vote share was below Q1 (67% and below), “contested, not competitive” if vote share was between Q1 and Q3 (mean 82% vote share), and “uncontested” if vote share was above Q3 (93% and above).

Figure 2 plots the results. The left-hand panel shows that the rezoning political budget cycle is largest for reelection-eligible politicians in competitive districts. For lots represented in these districts, the predicted probability of rezoning is 8 percentage points higher on election years, nearly 8 times the baseline rate of rezoning. This effect attenuates as districts become less competitive, with uncontested districts showing no political budget cycle effect (right-hand panel). These patterns are similar if applying the same method to prior primary election outcomes (See Appendix Figure D1).¹⁷ Together, these results support the notion that the rezoning political budget cycle is due to strategic, electoral calculations. Politicians who have the strongest electoral incentives to opportunistically manipulate land-use regulations do so at much higher rates.

¹⁷ Although effects are slightly smaller. This is perhaps because first-election primaries tend to be very competitive (on average 5 challengers), but this is not indicative that future primaries will be as competitive. Compare this to districts which have competitive general elections, a more typical two-party race that is less common in Democrat-dominated New York City, where prior general election competitiveness more likely reflect the underlying electoral dynamics of the district.

Figure 2. Predicted Probability of Rezoning, by Election Year, Term-Limit Status, and Prior Election Competitiveness



Note: 95% confidence intervals in caps. Clustered standard errors at the lot and city council district levels. Fixed effects at the lot level. Estimated using the **reghdfe** package (Correia and Constantine [2014] 2026). Competitive elections defined as the vote share in the prior general election being 67% or below, contested, not competitive elections as between 67 and 93%, and uncontested elections being above 93% vote share. For regression output, see Appendix Table D2.

These heterogenous effects by term-limit and district competitiveness also help to rule out an alternative explanation: that the length of the rezoning process simply aligns with election years by coincidence. Indeed, the rezoning process can be long, typically around two years for private rezonings (Campion 2022).¹⁸ However, if the entire political budget cycle was driven by the length of the rezoning process, we should expect that rezonings increase in frequency on all election years, not just reelection eligible years in competitive districts. Additionally, these effects are robust to a series of

¹⁸ We do not know the average length of the rezoning process for City-initiated, neighborhood rezonings as studies are internal to the DCP. However, evidence suggests it is possible for neighborhood rezonings to be completed within two years. For example, the Bay Ridge rezoning process began sometime in late 2003 after newly elected Councilmember Vincent Gentile announced a task force to study a downzoning (Shelby 2003), and the rezoning was adopted in April 2005, a year and a half later (CityLand 2005).

time-variant controls, including fixed effects for mayoral administration, years since the lot was last rezoned, assessed value, and the existing number of units in the building(s) on the lot (See Appendix Table D1).

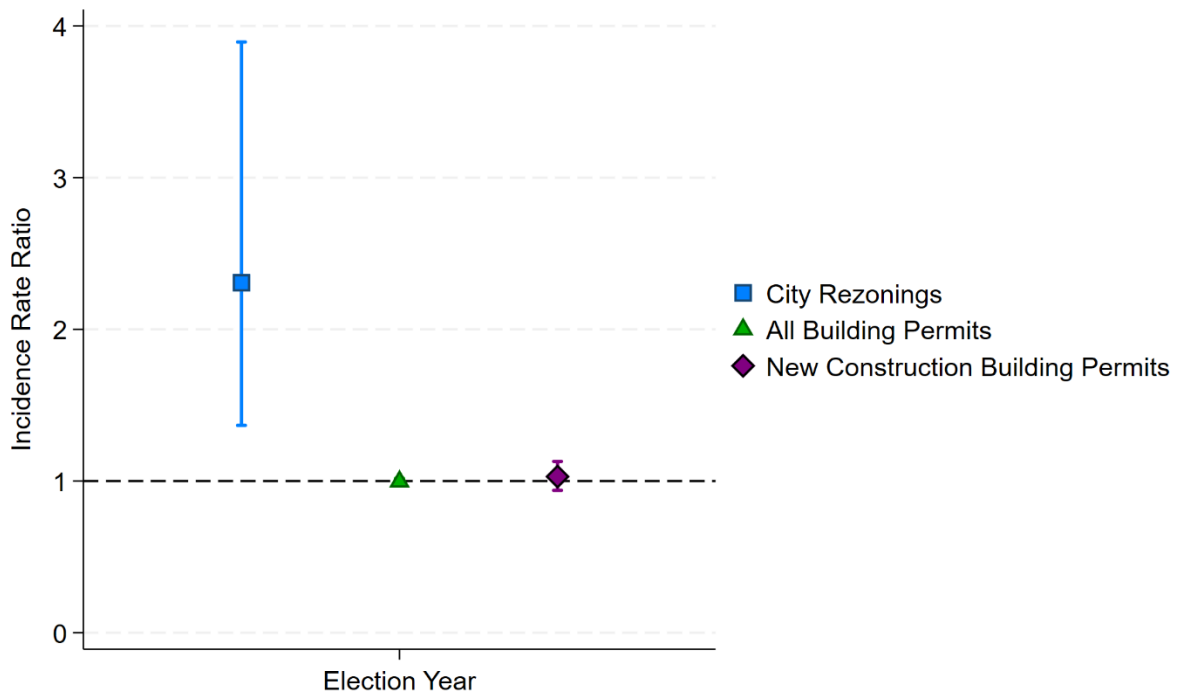
Still, one may worry that elections are coterminous with other factors which may influence the decision to rezone a lot. One factor is market forces. Indeed, a long line of literature in urban economics centers the role of non-political market factors in determining land-use outcomes, such as the availability of land or distance to the city center (Duranton and Puga 2015; Saiz 2010). Additionally, elite-structural theories of urban politics, such as Logan and Moloch's (1987) conception of the city as a "growth machine" argue that politicians behavior is a direct response to the demands of business interests, not strategic political considerations responsive to voters (Altshuler and Luberoff 2003). While my within-lot analysis should address most of these concerns by holding time-invariant lot-level characteristics fixed (such as distance to the city center), it is possible that the effects are driven by other time-variant factors associated with the business cycle or the demands of real-estate interests.

To address this, I construct a placebo test for political budget cycles, testing for their presence among the issuance of building permits. As nearly all construction in New York City is 'by right,' meaning receiving a permit is subject to ministerial rather than discretionary approval, permitting should follow the business cycle: influenced by factors such as interest rates, material construction costs, or overall demand to live in the city. If the rezoning budget cycle effects are spurious with economic factors that coincide with the election years in the sample, permitting should follow the same trends. On the other hand, if these effects are indeed due to political opportunism, we should expect election year effects on permitting to be small or null.

To test this, I collect data on building permits from the New York City Department of Buildings between 2002-2022. Over 2 million new permits were issued during this period. I aggregate the count of new permits at the council district-year level. For comparability, I collapse my data on rezoned lots into the same structure. As dependent variables are counts which differ substantially across datasets, I fit a Poisson regression model with fixed effects for council district and mayoral administration. This modeling

approach allows for comparability across the two datasets using the same scale (King 1988). Figure 3 plots the incidence rate ratio for each outcome on an election year relative to non-election years. A value of 1 indicates that the outcome is no more or less likely on an election year, whereas positive values indicate they are more likely, and negative less likely.

Figure 3. Predicted Incidence Rate Ratio, Rezoning and Building Permits



Note: 95% confidence intervals in caps. Clustered standard errors at the council district level. Includes fixed effects for council district and mayoral administration. Estimated using the **ppmlhdf** package (Correia et al. 2020).

As shown in Figure 3, city-initiated rezonings are far more likely to occur on election years, with an incidence ratio of 2.3, meaning election years see more than double the number of rezonings to non-election years, replicating effects from the main specification in Figure 1. Building permits, on the other hand, do not follow the same political budget cycle. Effects are precisely null, including construction permits.¹⁹ This

¹⁹ This is notable as all permits include a variety of idiosyncratic permits likely less correlated with the business cycle, such as city mandated scaffolding and sidewalk sheds.

suggests that strategic political considerations are driving the effect rather than current year market conditions or the demands of real-estate interests.

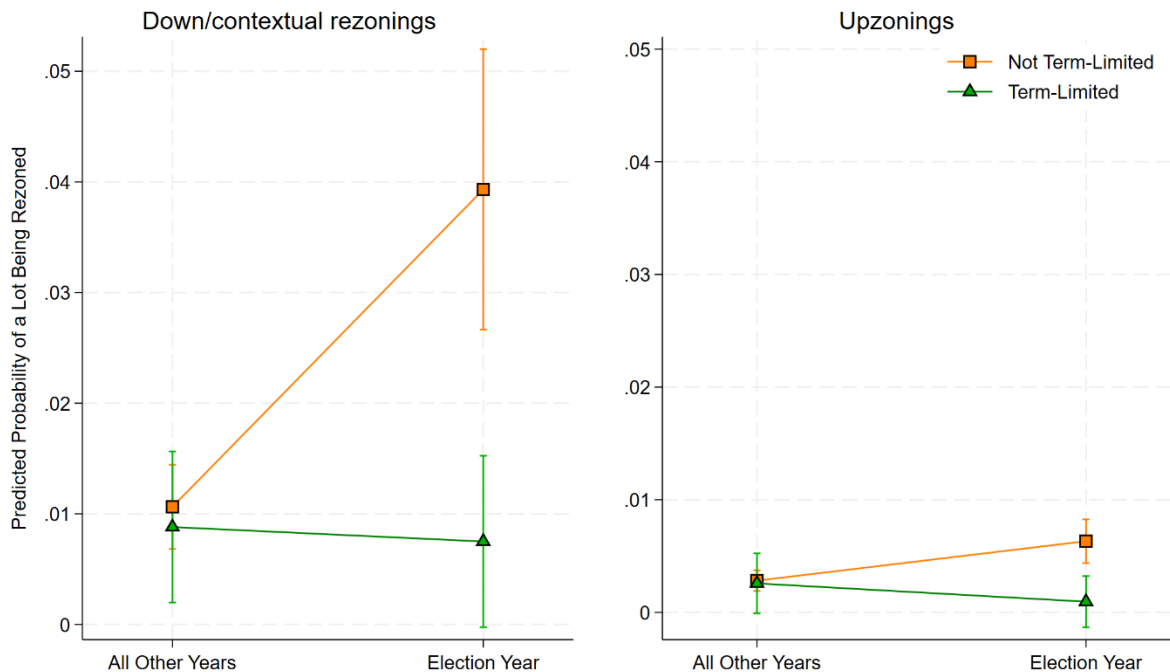
Tuning the Direction and Intensity of Land-Use Changes

So far, I have shown that land-use changes follow a political budget cycle, substantially increasing in frequency on election years. These effects are limited to reelection eligible politicians and those in competitive districts, evidence of strategic behavior. Moreover, these effects are not explained by other time-associated confounders such as the business cycle.

However, I argue that local politicians tune the direction of the rezonings towards the preferences of their voters. In most places, I expect that the most politically expedient zoning changes are those which restrict new housing development. This is not to say that all voters favor density restrictions. However, density-restricting policies such as contextual zoning and historic districting receive robust support, while density-increasing policies such as upzoning for large multifamily buildings, while still popular, are often more controversial. That is, for many local politicians, density-preserving rezonings are likely a politically safer bet when facing a competitive reelection. On average, political budget cycles should be stronger for such density-restricting policies.

To test this, I decompose the political budget cycle effect by term-limit status separately by the direction of land-use changes. Stronger political budget cycle effects for density-reducing rezonings would support my hypothesis. Indeed, I find this to be the case. Density-restricting rezonings follow a strong electoral budget cycle. The left panel of Figure 4 shows that the probability of a down-or-contextual rezoning spikes substantially on a re-election eligible election year, being 5.2 times more likely to occur (see Appendix Figure D2 for the disaggregated effect). 54 percent of all downzoning and contextual rezonings occurred during re-election years.

Figure 4. Predicted Probability of Rezoning, by Election Year, Term-Limit Status, and Direction



Note: 95% confidence intervals in caps. Clustered standard errors at the lot and city council district levels. Fixed effects at the lot level. Estimated using the **reghdfe** package (Correia and Constantine [2014] 2026). Both plots only show neighborhood rezonings.

Density-increasing rezonings, or upzonings, on the other hand, show more muted effects. While the probability of an upzoning does increase on reelection years, by about 0.4 percentage points, these effects are less pronounced (the right panel of Figure 4). Moreover, 44% of these upzonings encourage non-residential uses.²⁰ Prior research shows that when denser development is accompanied with retail space, it is less controversial (Wicki and Kaufmann 2022), and the public views new retail as a major positive benefit from new development (reanalysis of Pietrzak and Mendelberg (2025), see Appendix E). Indeed, some rezonings in my sample explicitly coupled

²⁰ Of the 65,498 neighborhood upzonings I identify, 9,789 (15%) are rezoned to a non-residential primary zoning category ("C" or "M" zones). An additional 18,783 (29%) are rezoned to a primarily residential zoning category and are accompanied by a commercial overlay. That is, 44% of neighborhood upzonings encourage higher density for commercial or industrial uses.

neighborhood preservation with bonuses to encourage grocery stores and other retail development.²¹

That is, many upzonings which do occur on reelection years are for non-residential purposes, such as additional density for retail. The upzoning election cycle effect being driven in part by commercial, not residential, upzoning supports the view that this type is less controversial. Together, this evidence suggests that reelection-oriented politicians tune the direction of rezonings towards anti-density public opinion.

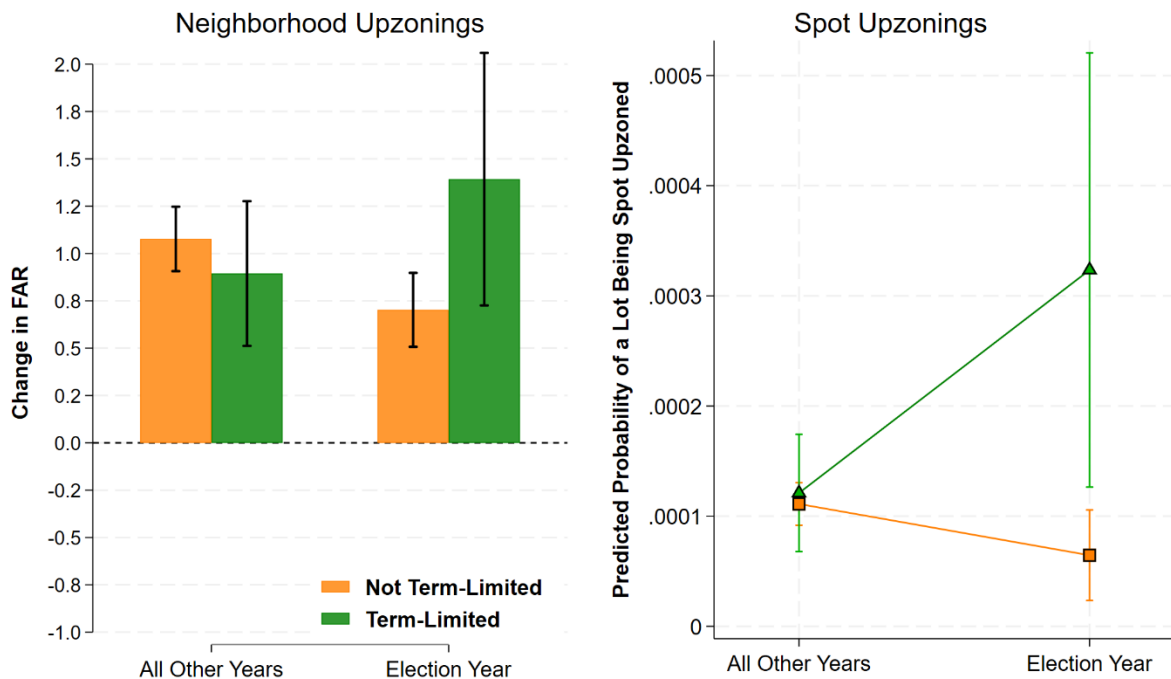
As a further test if local politicians strategically tune the direction of rezonings, I examine if the intensity of upzonings (how much the FAR changed) follow a political budget cycle. Unlike downzonings, where marginal decreases in allowable density can discourage new development, the intensity of upzonings determines if the regulatory change can induce new development. Research shows upzonings often require significant increases in allowable density to spur new development - on average, an increase in allowable FAR of 3.4 (Rollet 2025). This is because most lots already have buildings. To justify the significant expense of demolition, the additional density must be substantially larger than what already exists.

If politicians tune the direction of rezonings for strategic political considerations, and new development is seen as politically risky, then we should expect less intense upzonings on reelection years. Indeed, this is what I find. The left panel of Figure 5 decomposes the increase in FAR among upzoned lots by election year and term-limit status. On re-election years, the average increase in allowable density is lowest, with an average increase in FAR of 0.7. Meanwhile, on the final year of a Councilmembers tenure, the increase in FAR is the largest, 1.4.²²

²¹ For example, one rezoning in 2011, which was adopted explicitly to prevent new housing “inconsistent with the prevailing scale and built character” of the neighborhood also included an expansion of the city’s Food Retail Expansion to Support Health (FRESH) program, which provides zoning bonuses and tax benefits to encourage the development of new grocery stores that stock fresh produce (NYC Department of City Planning 2011). Councilmember Leroy Comrie, who represented the district impacted, criticized prior zoning as “not really large enough to encompass a real opportunity” for restaurants and grocery stores in his speech before City Council (Comrie Jr. 2011).

²² To contextualize this change in FAR, this change would allow typical sized lot to build an additional 11,000 more square feet (roughly 15 new apartment units).

Figure 5. Predicted Change in FAR (left) and Predicted Probability of Spot Rezoning (right), by Election Year and Term-Limit Status



Note: 95% confidence intervals in caps. Clustered standard errors at the lot and city council district levels. Fixed effects at the lot level. Estimated using the `reghdfe` package (Correia and Constantine [2014] 2026). The left panel plots the change in FAR among upzoned lots, by election-year term-limit status. The right panel plots the predicted probability of a non-neighborhood, 'spot' rezoning (variance) by election-year term-limit status.

Consistent with this lame-duck upzoning intensity effect, I find corroborating evidence by examining the frequency “spot” rezonings (variances) brought forth by private developers. These rezonings are typically to request an increase in density on one or a handful of lots for a single development project. The decision of private rezonings to submit these applications is likely highly strategic, as most successful approvals require informal negotiations with the Councilmember representing the project (Campion 2022). The right panel of Figure 5 shows that these private upzonings are more than three times as likely to occur on a term-limited election, that is, a Councilmembers final year in office. This reversal of the political budget cycle effect suggests that either politicians may strategically delay such rezonings, perhaps by requesting developers hold off, or that developers perceive their chances of approval to be higher. This is consistent with reporting that these private upzonings are highly

controversial (Honan 2022; Velsey 2024), along with evidence finding strong anti-developer public opinion (Broockman et al. 2025; Mendelberg et al., n.d.; Monkkonen and Manville 2019).

Together, these findings strongly suggest that politicians strategically tune the direction of rezonings as a function of the election cycle. The frequency of density-restricting rezonings increases in reelection years. Conversely, when electoral pressures ease, the intensity of upzonings and frequency of approvals of rezonings initiated by private actors increases. This suggests local politicians may strategically avoid less popular density-increases ahead of reelection.

The Geographic Targeting of Land-Use Changes

However, if local politicians are strategically rezoning for political gain, we'd expect them not only to tune the direction of rezonings, but also to geographically target their rezonings. The logic is akin to geographically targeted pork-barrel spending, where district-based politicians 'bring home' dollars to spend on local priorities. Doing so may be politically advantageous, creating opportunities for credit-claiming.

Local elections are unique as they are lower salience and low voter turnout, especially in off-cycle cities (Anzia 2024). Consequently, the views of the minority of residents who do participate in local politics may be especially consequential. Prior research has documented how 'neighborhood defenders' mobilize at local meetings to stop new development projects or pro-housing reforms. In addition to being more likely to hold anti-density preferences, these residents are disproportionately older homeowners and vote at much higher rates in local elections (Einstein et al. 2025; Sahn 2024). As neighborhood defender types make up a disproportionate share of local voters, local politicians may be particularly responsive to their preferences. Therefore, I expect density-restricting rezonings to target lots with attributes corresponding to these voters: higher rates of homeownership, older residents, and more local voters.

To test if this is the case, I use a variety of approaches to predict if these attributes predict a higher probability of a lot being downzoned or contextually rezoned. For this analysis, lot-level characteristics are ideal. As demonstrated in Figure 1 and

further demonstrated through an example rezoning in Appendix Figure F1, if and in what direction a lot is rezoned can vary even within a city block. As a result, demographics at higher-level geographies such as census tracts are less equipped to answer which lots are selected for down-and-contextual rezonings over upzonings.

Instead, I construct a variety of lot-level characteristics associated with neighborhood defender traits. For homeownership, I use each lot's building class to match it to its property tax class. Some property tax classes allow properties to be directly identified as owner-or-renter occupied or as non-residential (see Appendix C2 for details). For ambiguous tax classes, I use the property owner's name to categorize if the lot is likely used as a rental (such as owned by a corporate entity). I validate this method against tract-level homeownership rates (Appendix Table C2 and Figure C1). For age and local voting, I use annual voter file snapshots between 2009 and 2023 (see Appendix C3). For each lot, I tally up the number of active registered voters, voters by age, the average age, and the number of voters who voted in the last municipal election. As lots contain differing numbers of buildings and units, I normalize these figures by dividing each count by the number of residential units on the lot.

To model which lots are selected, I predict the direction of rezoning (where downzoned or contextually rezoned = 1, upzoned = 0) among rezoned lots *within each city block, year, and council district*. I do so as rezoning is a complex process, and the planning process theoretically uses a myriad of factors to determine new zoning regulations, including access to transit, existing capacity of local infrastructure, or trends in property value appreciation (for a more detailed discussion and tests of these factors, see Been et al. (2014)). Rather than modeling all these factors, which would still be subject to omitted-variable bias, I net out most confounding unobservable neighborhood and small-area characteristics by focusing on within-block differences. As robustness, I present models which control for the remaining lot-level characteristics who do vary within-block (e.g. property value, existing density, and lot area) in Appendix Table D3.

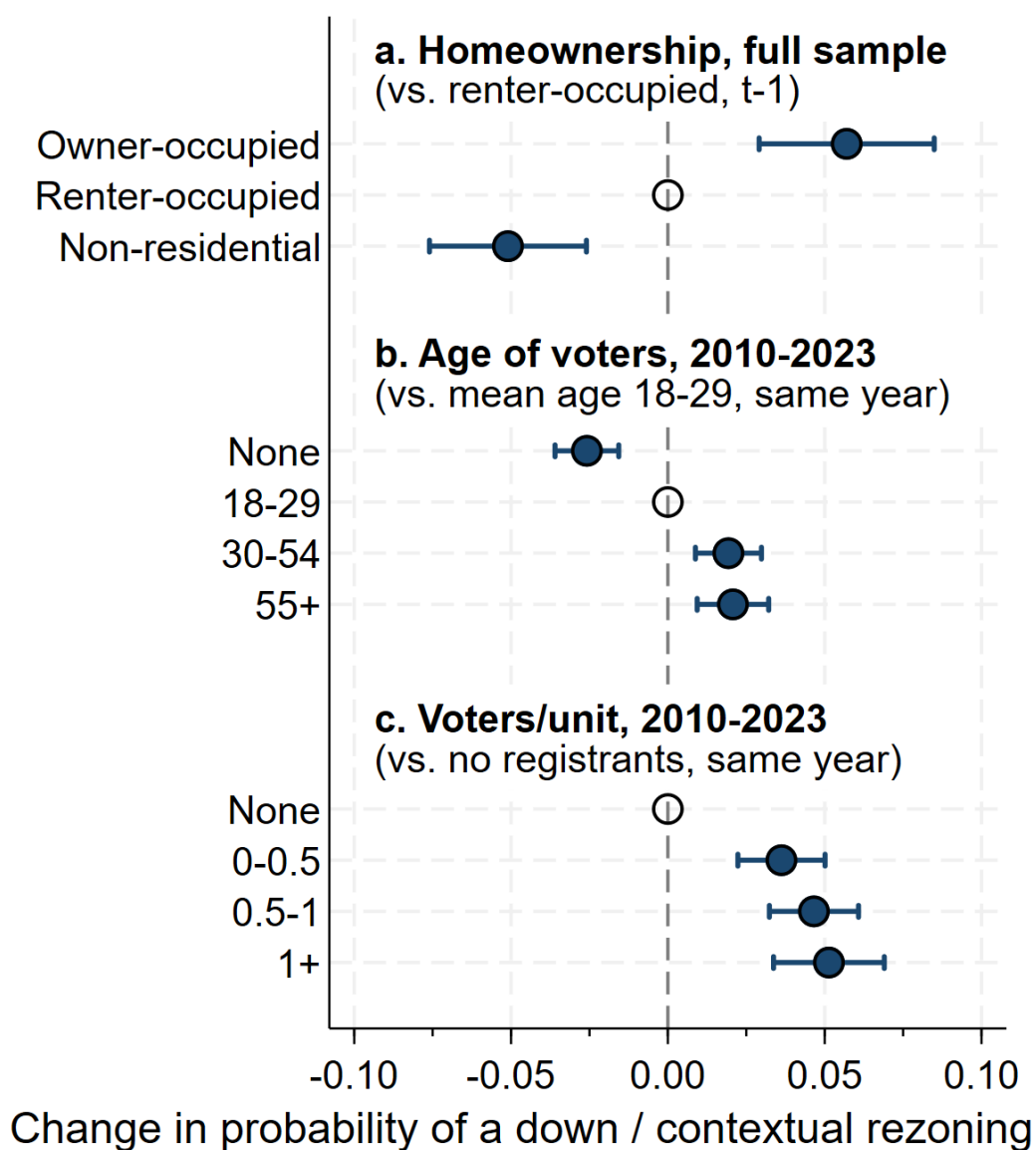
If local politicians strategically target density-restricting rezonings to lots which are occupied by neighborhood defenders, we should see higher probabilities for lots which are homeowner-occupied, older, and more politically active. Figure 6 shows this

to be the case. Panel (a) shows that the homeowner-occupied lots are about 5 percentage points more likely to be downzoned or contextually rezoned vis-à-vis renter-occupied lots. Likewise, panel (b) shows that relative to lots occupied by younger voters, lots with older voters are slightly more likely to be downzoned or contextually rezoned. Finally, panel (c) shows that as the number of registered voters per residential unit increases, the probability of downzoning increases relative to lots without any registered voters. The pattern replicates when using lot-level votes cast in the last municipal election (Appendix Figure D3).²³ That is, neighborhood defender attributes all positively predict that a lot will be selected for density-restricting rezonings.

Moreover, these findings are consistent with Been et al. (2014), who in their analysis of New York City rezonings from 2002 to 2009, find that downzonings target census tracts with higher homeownership rates, more single-family and low-rise residential buildings, higher shares white residents, and more votes cast in municipal elections per housing unit. My analysis builds on these findings through a more precise lot-level analysis that nets out much of the unobserved confounding in the rezoning process, better isolating the effect of politically-relevant variables.

²³ Omitted from the main analysis as earlier voter histories provided by CUNY are less accurate than registered vote totals when compared to official sources. See Appendix Table C3.

Figure 6. Predicted Probability of Down/Contextual Rezoning (vs. Upzoning), Selected Lot-Level Neighborhood Defender Characteristics



Note: 95% confidence intervals in caps. Fixed effects for borough-block and council district-year. Clustered standard errors at the borough-block and council district-year levels. Estimated using the **reghdfe** package (Correia and Constantine [2014] 2026).

Generalizability

In my case study of New York City rezonings, I find that politicians not only strategically *time* and *tune the direction* of rezonings, but that they also geographically *target* rezonings towards lots with locally politically relevant voters.

One might be concerned that this phenomenon is limited to New York City. However, Councilmember-initiated downzonings in particular have been observed across many large U.S. cities, including Chicago, where downzonings have targeted areas with higher property values (Freemark and Kisiel 2025), or more recently in Philadelphia and San Diego (Blumgart 2017; Bowen 2026). Unfortunately, high-quality longitudinal data about municipal rezonings is scarce, making it difficult to assess how frequent such practices are across space.

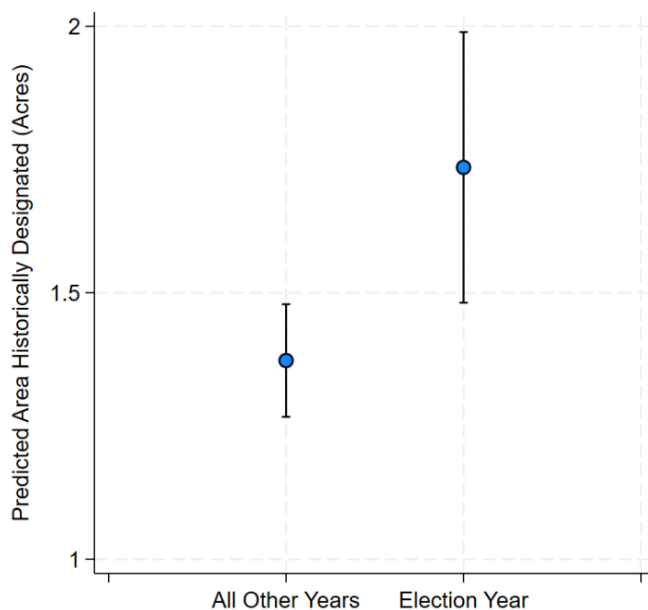
To address generalizability, I use a national dataset on the timing of the adoption of historic districts, allowing me to test for political budget cycles in historic districting. While not commonly thought of as such, historic districting is a form of land-use regulation in large part aimed at reducing density. The effects of historic districting are akin to downzoning, with historic districts often causing property value appreciation and neighborhood demographic change (Bologna Pavlik and Zhou 2023; Been et al. 2016). I use the National Park Service's National Register of Historic Places (NRHP). This dataset provides information about the name, size (measures in square acres), type, and date historic districts were registered at the municipality level.²⁴ I create a panel of municipality-district-years, and I merge this dataset to mayoral elections in the American Local Government Elections Database (de Benedictis-Kessner et al. 2023) to identify municipal election years, supplemented with hand-coded election dates where elections were missing.²⁵ In total, the final dataset includes about 200 cities and towns nationwide adopting over 2,800 historic districts.

²⁴ I subset this dataset to historic districts listed as "locally significant" to best isolate historic districts created by local governments. To identify political budget cycles at the municipality level, I subset my analysis to cities where at least two historic districts are present, allowing me to study within-city changes and to avoid categorizing rare, one-off regulatory actions.

²⁵ Among cities where I have merged in an election year, I subset to cities which have at least two elections in the period. I hand inspect the data to identify gaps in election dates using a variety of sources

Figure 6 shows the predicted number of acres designated on municipal election years relative to all other years. As I do not have the number of lots affected by each historic district, the acreage allows is the most comparable dependent variable to the New York City number of lots rezoned analysis. On non-election years, the number of acres of land designated historic in any given year is about 1.37 acres. On municipal election years, 0.36 additional acres are historically designated, to 1.74 on average (a 26 percent increase). While these differences are smaller than the New York City analysis, they are still substantively meaningful. Of the 212,000 acres of land historically districted, about one-third, 34%, occur on municipal election years. This again suggests that local elected officials strategically time changes in land-use regulations.

Figure 6. Predicted Area Historically Designated, by Election Year



Note: 95% confidence intervals in caps. Clustered standard errors at municipality level. Fixed effects at the municipality level.

A second concern about generalizability relates to the ability of other actors to constrain local officials, specifically citywide elected officials (such as Mayors) or state

including Ballotpedia, Wikipedia, news articles, and local government websites with information about prior mayors. I focus just on mayors due to the completeness of the data, and because many council races in the database contained special elections. While it would be preferable to include these races, as many cities hold council races every 2 years and mayoral every 4, this omission if anything should attenuate my estimates towards zero, making them a conservative test.

governments. Indeed, readers familiar with New York City may wonder why my analysis centers Councilmembers rather than the Mayor, especially considering the colloquial use of the term the “Bloomberg downzonings” (Garber 2024; Laskow 2014). Indeed, the Mayor plays an integral role in the rezoning process (See Appendix A). The Mayor can constrain Councilmembers by both refusing to study a rezoning or by threatening to veto a rezoning passed by City Council.²⁶ While my effects are robust to mayoral administration fixed effects and an alternative specification that tests the effect of both mayoral and councilmember term limits (See Appendix Tables D1 and D3), mayoral control has indeed constrained Councilmembers. The De Blasio administration, for example, refused to consider a neighborhood rezoning of Bushwick requested by Councilmember Antonio Reynoso, which Deputy Mayor Been called “fundamentally a downzoning” (Offenhartz 2020). Consequently, neighborhood rezonings – particularly downzonings – fell in the De Blasio and Adams administration (although not to zero, see Appendix Table C1). In this way, my results reflect how local politicians opportunistically manipulate land-use regulations if given the opportunity.

Finally, there are other contexts where my theory of *rezoning as pork* may not generalize. For example, it may be that these effects would be less strong in places where councilmembers are elected at large, as politicians representing larger geographies may benefit less from the hyper-local lot-level zoning changes (consistent with Hankinson and Magazinnik 2023; Mast 2024). Similarly, incentives for density-restricting rezonings may be muted in cities with on-cycle elections. In such contexts, the electorate may be less skewed towards anti-density voices, potentially limiting the ability of neighborhood defender types of voters to capture local policymakers’ attention. However, these conditions highlight that my historic districting analysis is conservative test. The municipalities in this sample constitute a wide variety of governance structures, including contexts which likely do not satisfy the conditions of my theory.

²⁶ The Mayor appoints the head of the DCP, which studies rezonings. However, Councilmembers may commission their own study.

Discussion

I show that land-use regulatory changes follow a political budget cycle. In both New York City rezonings and local historic district designation in over 200 cities nationwide, I find evidence that land-use regulatory changes occur more frequently on municipal election years. In New York City, these changes are limited to re-election seeking, non-term limited politicians in the most competitive districts, evidence of strategic behavior. Furthermore, while rezonings follow a political budget cycle, permitting does not, meaning it is unlikely that these effects are explained by other time variant factors such as economic conditions. These findings suggest local politicians may strategically time land-use changes for electoral reasons.

Politicians also appear to strategically tune the direction of rezonings. On reelection years, they are more likely to restrict new density. This is consistent with a large literature that finds many citizens dislike new housing, especially those who disproportionately participate in local politics and vote at higher rates. Indeed, in a sample of regulatory documents and press statements 20 of the largest downzonings over the period, every single one explicitly mentioned that the rezonings were undertaken in response to public backlash to “overdevelopment” at the helm of were local elected officials. For example, a June 2009 City press release identified the hard work of “Community Board 6, local community groups and Council Member Bill de Blasio” in championing and passing a downzoning. De Blasio, who was up for reelection that November, argued that “preserving our neighborhoods means preventing development that is out of scale and out of touch.” Councilmember Vincent Gentile, who was also up for reelection and helped pass the 2005 downzoning of Bay Ridge that same year, listed overdevelopment as his number 1 most important issue in the city’s ‘Voter Guide’, a resource sent to all voters, where he claimed credit for “the new Bay Ridge Zoning Laws that I helped draft and pass is a first step in preserving the aesthetic beauty of many blocks in our area.” Strategic electoral incentives may therefore help explain why, in the face of a housing affordability crisis, so many cities have opted to adopt regulations which restrict the development of new housing (Gyourko et al. 2021).

However, it may be the case that these directional findings simply reflect the anti-housing public opinion of their time. While longitudinal studies on public opinion about housing do not exist (to my knowledge), the recent growth of the ‘Yes-in-my-backyard’ (YIMBY) movement appears to suggest support for new housing may be increasing (Brouwer and Trounstein 2024). Indeed, particularly towards the end of my study period, a few notable neighborhood upzonings passed. While some, such as the SoHo/NoHo and the Gowanus rezonings (passed in 2021), were championed by term-limited politicians, others, such as the Atlantic Avenue Mixed-Use Plan (AAMUP, passed in 2025), were passed on a reelection year. Notably, the AAMUP’s sponsor, Councilmember Crystal Hudson, campaigned and won on a pro-housing platform in a very competitive prior election (Hamm 2021).²⁷ My theory argues that local politicians tune land-use changes in the direction of their voters. If public opinion continues to trend pro-housing, it may indeed become the case that local politicians stand more to gain from upzoning than downzoning.

My findings also speak to current debates about fiscal and policy preemption at the local level. Local politicians are political creatures and must win reelection. I argue that, absent the ability to engage in more typical forms of credit-claiming, local politicians use other tools available at their disposal, such as manipulating land-use regulations. My theory is consistent with Krimmel (2022), who finds that after California passed laws equalizing school finance (practically eliminating all local discretion over school spending), land-use restrictions increased.²⁸ Indeed, neighborhood rezonings in New York City were not common until the late 1980s and early 1990s. Perhaps not coincidentally, the increased frequency aligns with both increased fiscal preemption by the State, expanded City Council land-use powers, and the creation of the norm of member deference. Currently, in an effort to improve housing affordability, many States are considering or have passed reforms limiting local land-use discretion (Armlovich and

²⁷ Additionally, while not a neighborhood rezoning, in 2025 the city passed a comprehensive upzoning, the City of Yes, which is projected to create over 80,000 new homes. However, some Councilmembers extracted significant anti-density concessions for their districts (Spauster 2025).

²⁸ Although his analysis is more focused on differences across space, showing that wealthier towns were more likely to adopt these restrictions.

Justus 2023). It remains an open question how local politicians will react to these new constraints, and what methods they will employ next to help win elections.

Conclusion

This paper presents and tests a theory of *zoning as pork*. In the face of federalist-related fiscal and policy constraints, I argue local politicians strategically time land-use changes for electoral gain. I find evidence that both New York City rezonings and historic district adoption in a sample of over 200 municipalities follow a political budget cycles. These effects are limited only to politicians with the strongest electoral incentives. Furthermore, local politicians strategically tune the direction of rezonings and target locally politically active residents. These strategic electoral considerations favor density-restricting regulations, and help explain why many cities have opted to restrict new housing development in the midst of a housing affordability crisis.

References

- Adelino, Manuel, Igor Cunha, and Miguel A. Ferreira. 2017. "The Economic Effects of Public Financing: Evidence from Municipal Bond Ratings Recalibration." *The Review of Financial Studies* 30 (9): 3223–68. <https://doi.org/10.1093/rfs/hhx049>.
- Akhmedov, Akhmed, and Ekaterina Zhuravskaya. 2004. "Opportunistic Political Cycles: Test in a Young Democracy Setting*." *The Quarterly Journal of Economics* 119 (4): 1301–38. <https://doi.org/10.1162/0033553042476206>.
- Alesina, Alberto, and Matteo Paradisi. 2017. "Political Budget Cycles: Evidence from Italian Cities." *Economics & Politics* 29 (2): 157–77. <https://doi.org/10.1111/ecpo.12091>.
- Alt, James E., and Shanna S. Rose. 2009. "Context-Conditional Political Budget Cycles." In *The Oxford Handbook of Comparative Politics*, edited by Carles Boix and Susan C. Stokes. Oxford University Press. <https://doi.org/10.1093/oxfordhb/9780199566020.003.0034>.
- Altshuler, Alan, and David Luberoff. 2003. *Mega-Projects: The Changing Politics of Urban Public Investment*. Brookings Institution Press.
- Ambrose, Brent W., Matthew Gustafson, Maxence Valentin, and Zihan Ye. 2025. "Voter-Induced Municipal Credit Risk." *Management Science*, ahead of print, May 30. <https://doi.org/10.1287/mnsc.2024.06072>.
- Anzia, Sarah F. 2024. *Timing & Turnout: How off-Cycle Elections Favor Organized Groups*. University of Chicago Press. <https://books.google.com/books?hl=en&lr=&id=NZ4TAQAAQBAJ&oi=fnd&pg=PR7&dq=info:lgYreXbZsbwJ:scholar.google.com&ots=w7yNtBwL7z&sig=WtC3QJ82KkOck-RI-p3cz7idiwl>.
- Armlovich, Alex, and Andrew Justus. 2023. *An Agenda for Abundant Housing*. Niskanen Center. <https://www.niskanencenter.org/wp-content/uploads/2023/02/An-agenda-for-abundant-housing.pdf>.
- Bartels, Larry, and Christopher Achens. 2017. *Democracy for Realists: Why Elections Do Not Produce Responsive Government*. Princeton University Press.
- Basu, Riddha, Amanda W. Beck, and Angela K. Gore. 2024. "State Government Trifectas and Municipal Bond Pricing." *Brookings Institute Working Paper*.
- Bee, C. Adam, and Shawn R. Moulton. 2015. "Political Budget Cycles in U.S. Municipalities." *Economics of Governance* 16 (4): 379–403. <https://doi.org/10.1007/s10101-015-0171-z>.
- Been, Vicki, Ingrid Gould Ellen, Michael Gedal, Edward Glaeser, and Brian J. McCabe. 2016. "Preserving History or Restricting Development? The Heterogeneous

- Effects of Historic Districts on Local Housing Markets in New York City.” *Journal of Urban Economics* 92 (March): 16–30.
<https://doi.org/10.1016/j.jue.2015.12.002>.
- Been, Vicki, Josiah Madar, and Simon McDonnell. 2014. “Urban Land-Use Regulation: Are Homevoters Overtaking the Growth Machine?” *Journal of Empirical Legal Studies* 11 (2): 227–65. <https://doi.org/10.1111/jels.12040>.
- Been, Vicki, and Simon McDonnell. 2010. *How Have Recent Rezonings Affected the City’s Ability to Grow?* NYU Furman Center.
- Benedictis-Kessner, Justin de, Diana Da In Lee, Yamil R. Velez, and Christopher Warshaw. 2023. “American Local Government Elections Database.” *Scientific Data* 10 (1): 912. <https://doi.org/10.1038/s41597-023-02792-x>.
- Benedictis-Kessner, Justin de, and Christopher Warshaw. 2016. “Mayoral Partisanship and Municipal Fiscal Policy.” *The Journal of Politics* 78 (4): 1124–38.
<https://doi.org/10.1086/686308>.
- Berg, Bruce. 2007. *New York City Politics: Governing Gotham*. Rutgers University Press.
- Berry, Christopher R., Barry C. Burden, and William G. Howell. 2010. “The President and the Distribution of Federal Spending.” *American Political Science Review* 104 (4): 783–99. <https://doi.org/10.1017/S0003055410000377>.
- Bertelli, Anthony M., and Christian R. Grose. 2009. “Secretaries of Pork? A New Theory of Distributive Public Policy.” *The Journal of Politics* 71 (3): 926–45.
<https://doi.org/10.1017/S002238160909080X>.
- Bickers, Kenneth N., and Robert M. Stein. 1996. “The Electoral Dynamics of the Federal Pork Barrel.” *American Journal of Political Science* 40 (4): 1300–1326.
<https://doi.org/10.2307/2111752>.
- Blais, André, and Richard Nadeau. 1992. “The Electoral Budget Cycle.” *Public Choice* 74 (4): 389–403. <https://doi.org/10.1007/BF00137686>.
- Blumgart, Jake. 2017. “Why Does Philadelphia Love Downzoning so Much?” *WHYY*, November 2. <https://whyy.org/articles/why-does-philadelphia-love-downzoning-so-much/>.
- Bologna Pavlik, Jamie, and Yang Zhou. 2023. “Are Historic Districts a Backdoor for Segregation? Yes and No.” *Contemporary Economic Policy* 41 (3): 415–34.
<https://doi.org/10.1111/coep.12590>.
- Bowen, Andrew. 2026. “How ‘downzoning’ Shaped San Diego — and Pushed Growth into the Suburbs.” *Living. KPBS Public Media*, July 28.

<https://www.kpbs.org/news/local/2026/07/28/how-downzoning-shaped-san-diego-and-pushed-growth-into-the-suburbs>.

- Bracco, Emanuele, Marco Alberto De Benedetto, and Maurizio Lisciandra. 2024. "Manipulating Municipal Budgets: Unveiling Opportunistic Behavior of Italian Mayors." *Public Choice* 198 (3): 317–42. <https://doi.org/10.1007/s11127-023-01131-3>.
- Briffault, Richard. 2018. "The Challenge of the New Preemption Essay." *Stanford Law Review* 70 (6): 1995–2028.
- Broockman, David, Christopher S. Elmendorf, and Joshua Kalla. 2025. "The Symbolic Politics of Housing." Preprint, OSF. <https://doi.org/10.31219/osf.io/surv9>.
- Brouwer, N. R., and Jessica Trounstein. 2024. "NIMBYs, YIMBYs, and the Politics of Land Use in American Cities." *Annual Review of Political Science* 27 (Volume 27, 2024): 165–84. <https://doi.org/10.1146/annurev-polisci-041322-041133>.
- Brueckner, Jan, and Luz Saavedra. 2001. "Do Local Governments Engage in Strategic Property Tax Competition?" *National Tax Journal* 54 (2): 203–29. <https://doi.org/10.17310/ntj.2001.2.02>.
- Bueno, Natália S. 2023. "The Timing of Public Policies: Political Budget Cycles and Credit Claiming." *American Journal of Political Science* 67 (4): 996–1011. <https://doi.org/10.1111/ajps.12688>.
- Cahan, Dodge. 2019. "Electoral Cycles in Government Employment: Evidence from US Gubernatorial Elections." *European Economic Review* 111 (January): 122–38. <https://doi.org/10.1016/j.eurocorev.2018.09.007>.
- Campion, Sean. 2022. *Improving New York City's Land Use Decision-Making Process*. Citizens Budget Commission. <https://cbcny.org/research/improving-new-york-city-land-use-decision-making-process>.
- Chan, Sewell, and Jonathan Hicks. 2008. "Council Votes, 29 to 22, to Extend Term Limits." N.Y./Region. *The New York Times*, October 23. <https://archive.nytimes.com/cityroom.blogs.nytimes.com/2008/10/23/council-to-debate-term-limits-change/>.
- CityLand*. 2005. "City Increases Zoning Protection for Bay Ridge." April 15. <https://www.citylandnyc.org/city-increases-zoning-protection-for-bay-ridge/>.
- Clemens, Jeffrey, Julia Payson, and Stan Veuger. 2025. "Aid for Incumbents: The Electoral Consequences of COVID-19 Relief." *Public Choice*, ahead of print, September 22. <https://doi.org/10.1007/s11127-025-01326-w>.

- Comrie Jr., Leroy. 2011. *L.U. No. 374, Res 0829-2011*.
<https://legistar.council.nyc.gov/LegislationDetail.aspx?ID=895248&GUID=F3C917F5-F908-49D6-8887-091862C343F6&Options=&Search=>.
- Correia, Sergio, and Noah Constantine. (2014) 2026. *REGHDFE: Stata Module to Perform Linear or Instrumental-Variable Regression Absorbing Any Number of High-Dimensional Fixed Effects*. Stata. Statistical Software Components. July 30; Boston College Department of Economics, released January 11.
<https://EconPapers.repec.org/RePEc:boc:bocode:s457874>.
- Correia, Sergio, Paulo Guimarães, and Tom Zylkin. 2020. "Fast Poisson Estimation with High-Dimensional Fixed Effects." *The Stata Journal* 20 (1): 95–115.
<https://doi.org/10.1177/1536867X20909691>.
- Dublin-Boc, Jenna L. 2023. "Zoning for Character: Contextual Rezoning and Socioeconomic Change in New York City Neighborhoods, 1986–2019." *Land Use Policy* 134 (November): 106910.
<https://doi.org/10.1016/j.landusepol.2023.106910>.
- Dubois, Eric. 2016. "Political Business Cycles 40 Years after Nordhaus." *Public Choice* 166 (1): 235–59. <https://doi.org/10.1007/s11127-016-0313-z>.
- Duranton, Gilles, and Diego Puga. 2015. "Urban Land Use." In *Handbook of Regional and Urban Economics*, edited by Gilles Duranton, J. Vernon Henderson, and William C. Strange, vol. 5. Elsevier. <https://doi.org/10.1016/B978-0-444-59517-1.00008-8>.
- Einstein, Katherine Levine, David M. Glick, and Maxwell Palmer. 2019. *Neighborhood Defenders: Participatory Politics and America's Housing Crisis*. Cambridge University Press. <https://doi.org/10.1017/9781108769495>.
- Einstein, Katherine Levine, Maxwell Palmer, and David M. Glick. 2019. "Who Participates in Local Government? Evidence from Meeting Minutes." *Perspectives on Politics* 17 (1): 28–46.
<https://doi.org/10.1017/S153759271800213X>.
- Einstein, Katherine Levine, Maxwell Palmer, Ellis Hamilton, and Ethan Singer. 2025. "Age and Homeownership Drive the Local Turnout Gap." *Urban Affairs Review*.
<https://journals-sagepub-com.ezproxy.princeton.edu/doi/10.1177/10780874251371695>.
- Elmendorf, Christopher S., Clayton Nall, and Stan Oklobdzija. 2025. "The Folk Economics of Housing." *Journal of Economic Perspectives* 39 (5): 45–66.
<https://doi.org/10.1257/jep.20241428>.
- Erie, Stephen. 1988. *Rainbow's End: Irish-Americans and the Dilemmas of Urban Machine Politics, 1840-1985*. University of California Press.

- Ferejohn, John A. 1974. *Pork Barrel Politics : Rivers and Harbors Legislation, 1947-1968*. Stanford University Press. <https://cir.nii.ac.jp/crid/1971712334708422453>.
- Financ. Controls Board (Financial Controls Board). n.d. "About Us." Accessed January 25, 2026. <https://fcb.ny.gov/about-us>.
- Fischel, William. 2005. *The Homevoter Hypothesis*. Harvard University Press.
- Fowler, Luke, and Stephanie L. Witt. 2019. "State Preemption of Local Authority: Explaining Patterns of State Adoption of Preemption Measures." *Publius: The Journal of Federalism* 49 (3): 540–59. <https://doi.org/10.1093/publius/pjz011>.
- Freemark, Yonah. 2023. "Zoning Change: Upzonings, Downzonings, and Their Impacts on Residential Construction, Housing Costs, and Neighborhood Demographics." *Journal of Planning Literature* 38 (4). <https://journals-sagepub-com.ezproxy.princeton.edu/doi/full/10.1177/08854122231166961>.
- Freemark, Yonah, and George Kisiel. 2025. "Downzoning Chicago: How Local Land Use Policy Has Reduced Housing Construction and Reinforced Segregation." *Findings*, ahead of print, November 26. <https://doi.org/10.32866/001c.147490>.
- Gallup. 2025. "Housing Affordability Crisis Hits Wealthy Economies." April 29. <https://news.gallup.com/poll/659834/housing-affordability-crisis-hits-wealthy-economies.aspx>.
- Garber, Nick. 2024. "Bloomberg Downzonings Age Poorly as Adams Moves to Boost Housing." *Crain's New York*, April 8. <https://www.crainsnewyork.com/politics-policy/bloomberg-downzonings-age-poorly-adams-moves-boost-housing/>.
- Glaeser, Edward L., and Joseph Gyourko. 2002. "The Impact of Zoning on Housing Affordability." Working Paper No. 8835. Working Paper Series. National Bureau of Economic Research, March. <https://doi.org/10.3386/w8835>.
- Glaeser, Edward L., Joseph Gyourko, and Raven E. Saks. 2005. "Why Have Housing Prices Gone Up?" *American Economic Review* 95 (2): 329–33. <https://doi.org/10.1257/000282805774669961>.
- Glaeser, Edward L., and Bryce A. Ward. 2009. "The Causes and Consequences of Land Use Regulation: Evidence from Greater Boston." *Journal of Urban Economics* 65 (3): 265–78. <https://doi.org/10.1016/j.jue.2008.06.003>.
- Goodman, Christopher B., Megan E. Hatch, and Bruce D. McDonald III. 2021. "State Preemption of Local Laws: Origins and Modern Trends." *Perspectives on Public Management and Governance* 4 (2): 146–58. <https://doi.org/10.1093/ppmgov/gvaa018>.
- Gordon, Aaron. 2023. "The Urban Exodus Narratives Are Wrong." *VICE*, April 3. <https://www.vice.com/en/article/the-urban-exodus-narratives-are-wrong/>.

- Gosnell, Harold. 1968. *Machine Politics: Chicago Model*. 2nd ed. The University of Chicago Press.
- Grimmer, Justin, Solomon Messing, and Sean J. Westwood. 2012. "How Words and Money Cultivate a Personal Vote: The Effect of Legislator Credit Claiming on Constituent Credit Allocation." *American Political Science Review* 106 (4): 703–19. <https://doi.org/10.1017/S0003055412000457>.
- Gyourko, Joseph, Jonathan S. Hartley, and Jacob Krimmel. 2021. "The Local Residential Land Use Regulatory Environment across U.S. Housing Markets: Evidence from a New Wharton Index." *Journal of Urban Economics* 124 (July): 103337. <https://doi.org/10.1016/j.jue.2021.103337>.
- Hall, Andrew, and Jesse Yoder. 2022. "Does Homeownership Influence Political Behavior? Evidence from Administrative Data." *The Journal of Politics* 84 (1). <https://www.journals.uchicago.edu/doi/abs/10.1086/714932>.
- Hamm, Theodore. 2021. "Showdown in City Council District 35." *The Independent*, May 27. <https://indypendent.org/2021/05/showdown-in-city-council-district-35/>.
- Hankinson, Michael. 2018. "When Do Renters Behave Like Homeowners? High Rent, Price Anxiety, and NIMBYism." *American Political Science Review* 112 (3): 473–93. <https://doi.org/10.1017/S0003055418000035>.
- Hankinson, Michael, and Asya Magazinnik. 2023. "The Supply-Equity Trade-Off: The Effect of Spatial Representation on the Local Housing Supply." *The Journal of Politics* 85 (3): 1033–47. <https://doi.org/10.1086/723818>.
- Hendrick, Rebecca, Yonghong Wu, and Benoy Jacob. 2007. "Tax Competition Among Municipal Governments." *Urban Affairs Review* 43 (2): 221–55. <https://doi.org/10.1177/1078087407305312>.
- Honan, Katie. 2022. "Controversial Harlem One45 Towers Plan to Add More Affordable Housing in Fight to Survive." *The City*, May 4. <https://www.thecity.nyc/2022/05/04/harlem-one45-towers-affordable-housing-fight-nyc-council/>.
- King, Gary. 1988. "Statistical Models for Political Science Event Counts: Bias in Conventional Procedures and Evidence for the Exponential Poisson Regression Model." *American Journal of Political Science* 32 (3): 838–63. <https://doi.org/10.2307/2111248>.
- Krimmel, Jacob. 2022. *Reclaiming Local Control: School Finance Reforms and Housing Supply Restrictions*. https://static1.squarespace.com/static/5f75531c54380e4fb4b0f839/t/620320d5ce8b010bca2552af/1644372186832/Krimmel_HousingSupply_SchoolFinance_draft_mostrecent.pdf.

- Kriner, Douglas L., and Andrew Reeves. 2015. "Presidential Particularism and Divide-the-Dollar Politics." *American Political Science Review* 109 (1): 155–71. <https://doi.org/10.1017/S0003055414000598>.
- Larsen, Martin, and Niels Nyholt. 2024. "Understanding Opposition to Apartment Buildings." *Journal of Political Institutions and Political Economy* 5 (1): 29–46. <https://doi.org/10.1561/113.00000092>.
- Laskow, Sarah. 2014. "The Quiet, Massive Rezoning of New York - POLITICO." *Politico*, February 24. <https://www.politico.com/states/new-york/city-hall/story/2014/02/the-quiet-massive-rezoning-of-new-york-078398>.
- Lee, Frances E. 1998. "Representation and Public Policy: The Consequences of Senate Apportionment for the Geographic Distribution of Federal Funds." *The Journal of Politics* 60 (1): 34–62. <https://doi.org/10.2307/2648000>.
- Lee, Frances E. 2003. "Geographic Politics in the U.S. House of Representatives: Coalition Building and Distribution of Benefits." *American Journal of Political Science* 47 (4): 714–28. <https://doi.org/10.1111/1540-5907.00050>.
- Lee, Frances E. 2004. "Bicameralism and Geographic Politics: Allocating Funds in the House and Senate." *Legislative Studies Quarterly* 29 (2): 185–213. <https://doi.org/10.3162/036298004X201140>.
- Lens, Michael C. 2022. "Zoning, Land Use, and the Reproduction of Urban Inequality." *Annual Review of Sociology* 48 (1): 421–39. <https://doi.org/10.1146/annurev-soc-030420-122027>.
- Lo, Lydia. 2019. *Who Zones? Mapping Land-Use Authority across the US*. Urban Institute. <https://www.urban.org/urban-wire/who-zones-mapping-land-use-authority-across-us>.
- Logan, John, and Harvey Molotch. 1987. *Urban Fortunes: The Political Economy of Place*. The University of California Press.
- Louthen, Elliot. 2020. "Prerogative and Legislator Vetoes." *Northwestern University Law Review* 115 (2): 549–98.
- Marble, William, and Clayton Nall. 2021. "Where Self-Interest Trumps Ideology: Liberal Homeowners and Local Opposition to Housing Development." *The Journal of Politics* 83 (4): 1747–63. <https://doi.org/10.1086/711717>.
- Mast, Evan. 2024. "Warding off Development: Local Control, Housing Supply, and NIMBYs." *The Review of Economics and Statistics* 106 (3): 671–80. https://doi.org/10.1162/rest_a_01192.
- Mayhew, David R. 1974. *Congress: The Electoral Connection*. Yale University Press.

- McCabe, Brian J., and Ingrid Gould Ellen. 2016. "Does Preservation Accelerate Neighborhood Change? Examining the Impact of Historic Preservation in New York City." *Journal of the American Planning Association* 82 (2): 134–46. <https://doi.org/10.1080/01944363.2015.1126195>.
- Mendelberg, Tali, Gustavo Novoa, and Adrian Pietrzak. n.d. "Insufficiently Affordable: Public Opinion About Housing Affordability." *Working Paper*.
- Monkkonen, Paavo, and Michael Manville. 2019. "Opposition to Development or Opposition to Developers? Experimental Evidence on Attitudes toward New Housing." *Journal of Urban Affairs* 41 (8): 1123–41.
- Nordhaus, William D. 1975. "The Political Business Cycle." *The Review of Economic Studies* 42 (2): 169–90. <https://doi.org/10.2307/2296528>.
- NYC Charter Revision Commission. 2025. *Charter Revision Commission Adopted Final Report*.
- NYC Department of City Planning. 2011. *South Jamaica Rezoning Overview*. https://www.nyc.gov/assets/planning/download/pdf/plans/south-jamaica/south_jamaica.pdf.
- Oates, Wallace E. 1999. "An Essay on Fiscal Federalism." *Journal of Economic Literature* 37 (3): 1120–49. <https://doi.org/10.1257/jel.37.3.1120>.
- Offenhardt, Jake. 2020. "De Blasio Rejects Community's Plan For Bushwick Rezoning." *News. Gothamist*, January 13. <https://gothamist.com/news/de-blasio-rejects-communitys-plan-bushwick-rezoning>.
- Peterson, Paul. 1981. *City Limits*. The University of Chicago Press.
- Pietrzak, Adrian, and Tali Mendelberg. 2025. "Political Architecture: Do Style and Neighborhood Fit Impact Housing Politics?" *Urban Affairs Review*, ahead of print. <https://doi.org/https://doi.org/10.1177/10780874251398034>.
- Poblete, Gabriel, and Jeff Coltin. 2021. "Is the New York Blood Center Approval the End of City Council's Member Deference?" *City & State NY*, November 23. <https://www.cityandstateny.com/policy/2021/11/new-york-blood-center-approval-end-city-councils-member-deference/187075/>.
- Puentes, Robert, Jonathan Martin, and Rolf Pendall. 2006. *From Traditional to Reformed: A Review of the Land Use Regulations in the Nation's 50 Largest Metropolitan Areas*. The Brookings Institution. <https://www.brookings.edu/articles/from-traditional-to-reformed-a-review-of-the-land-use-regulations-in-the-nations-50-largest-metropolitan-areas/>.

- Riverstone-Newell, Lori. 2017. "The Rise of State Preemption Laws in Response to Local Policy Innovation." *Publius: The Journal of Federalism* 47 (3): 403–25. <https://doi.org/10.1093/publius/pjx037>.
- Rodden, Jonathan. 2004. "Comparative Federalism and Decentralization: On Meaning and Measurement." *Comparative Politics* 36: 481–500. <https://doi.org/https://doi.org/10.2307/4150172>.
- Rollet, Vincent. 2025. "Zoning and the Dynamics of Urban Redevelopment." *Working Paper*.
- Rose, Shanna. 2006. "Do Fiscal Rules Dampen the Political Business Cycle?" *Public Choice* 128 (3): 407–31. <https://doi.org/10.1007/s11127-005-9007-7>.
- Rothwell, Jonathan, and Douglas S. Massey. 2009. "The Effect of Density Zoning on Racial Segregation in U.S. Urban Areas." *Urban Affairs Review* 44 (6): 779–806. <https://doi.org/10.1177/1078087409334163>.
- Sahn, Alexander. 2024. "Public Comment and Public Policy." *American Journal of Political Science* 69 (2): 685–700. <https://doi.org/10.1111/ajps.12900>.
- Saiz, Albert. 2010. "The Geographic Determinants of Housing Supply*." *The Quarterly Journal of Economics* 125 (3): 1253–96. <https://doi.org/10.1162/qjec.2010.125.3.1253>.
- Sears, David O., and Jack Citrin. 1982. *Tax Revolt: Something for Nothing in California*. Harvard University Press.
- Shefter, Martin. 1992. *Political Crisis/Fiscal Crisis: Collapse and Revival of New York City*. Columbia University Press.
- Shelby, Joyce. 2003. "POL WANTS ZONING LAW TIGHTER IN BAY RIDGE." *New York Daily News*, August 11. <https://www.nydailynews.com/2003/08/11/pol-wants-zoning-law-tighter-in-bay-ridge/>.
- Shertzer, Allison, Tate Twinam, and Randall P. Walsh. 2018. "Zoning and the Economic Geography of Cities." *Journal of Urban Economics* 105 (May): 20–39. <https://doi.org/10.1016/j.jue.2018.01.006>.
- Sinel, Genna L. 2017. "New Density and Shrink-Wrapped Streets: Contextual Zoning Policy in New York City Notes." *New York University Journal of Law and Liberty* 11 (1): 510–55.
- Smith, Daniel. 2025. "Electoral Accountability and the Pricing of Fiscal-Policy Risk." *Working Paper*.
- Stallmann, Judith I., Craig S. Maher, Steven C. Deller, and Sungho Park. 2017. "Surveying the Effects of Limitations on Taxes and Expenditures: What Do/Don't

- We Know.” *Journal of Public and Nonprofit Affairs* 3 (2): 197–222.
<https://doi.org/10.20899/jpna.3.2.197-222>.
- Tiebout, Charles M. 1956. “A Pure Theory of Local Expenditures.” *Journal of Political Economy* 64 (5): 416–24. <https://doi.org/10.1086/257839>.
- Trounstein, Jessica. 2018. *Segregation by Design: Local Politics and Inequality in American Cities*. Cambridge University Press.
- Trounstein, Jessica. 2023. “You Won’t Be My Neighbor: Opposition to High Density Development.” *Urban Affairs Review* 59 (1): 294–308.
<https://doi.org/10.1177/10780874211065776>.
- Velsey, Kim (Curbed). 2024. “The Brooklyn Botanic Garden Won Its Shadow Fight With Developers.” November 12. <https://www.curbed.com/article/brooklyn-botanic-garden-bruce-eichner-continuum-crown-heights-development.html>.
- Wicki, Michael, and David Kaufmann. 2022. “Accepting and Resisting Densification: The Importance of Project-Related Factors and the Contextualizing Role of Neighbourhoods.” *Landscape and Urban Planning* 220 (April): 104350.
<https://doi.org/10.1016/j.landurbplan.2021.104350>.
- Wu, Yonghong, and Dan Williams. 2015. “State Legislative Earmarks: Counterparts of Congressional Earmarks?” *State and Local Government Review* 47 (2): 83–91.
<https://doi.org/10.1177/0160323X15581056>.
- Yoder, Jesse. 2020. “Does Property Ownership Lead to Participation in Local Politics? Evidence from Property Records and Meeting Minutes.” *American Political Science Review* 114 (4): 1213–29. <https://doi.org/10.1017/S0003055420000556>.

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Appendix A. The Rezoning Process in New York City

There are two types of rezonings that go through a discretionary review process: City-initiated neighborhood rezonings and private “spot” rezonings for individual projects.²⁹ Neighborhood rezonings make up the vast majority of rezonings, over 95 percent, as New York City has “by-right” zoning, meaning developers do not need special approval for new construction as long as the project complies with existing regulations.

Before the formal rezoning procedures begin, rezonings go through informal vetting and reviews. Proposed projects are discussed with local elected officials, particularly the local Councilmember, who traditionally has been granted deference over land-use decisions in their districts per long-standing City Council norms.³⁰ For City-initiated neighborhood rezonings, these conversations are among DCP staff along with members of the Mayoral Administration and local elected officials. Before even entering the public eye, many rezonings are abandoned at this stage due to opposition from local

²⁹ There are other types of land-use changes not focused on here, such as Citywide map amendments, changes initiated by other parties (for example, a State Senator pushed for a neighborhood rezoning once, rather than the City; for simplicity I consider this case equivalent to City-initiated rezonings), or State-initiated projects which circumvent local land-use law.

³⁰ The norm has been historically very strong. During the study period, there has only been one documented instance of deference not being respected, in 2022 concerning the rezoning of the New York Blood Center.

elected officials, although the exact number is rezonings ever considered is unknown as this an informal procedure.³¹

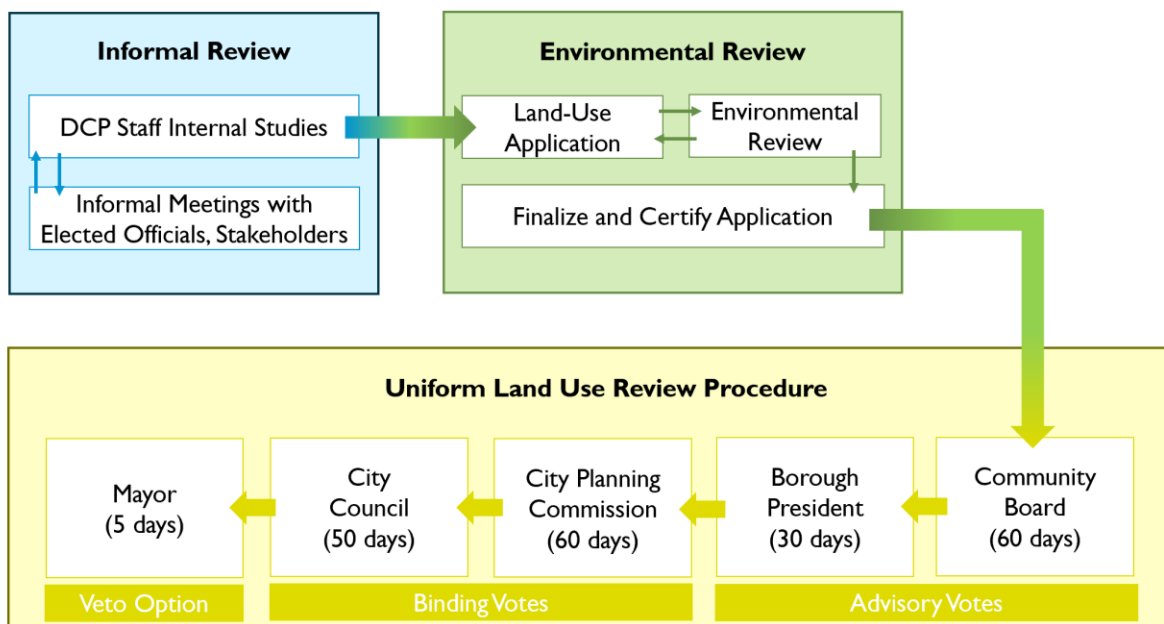
Given these informal reviews, it is safe to assume that City-initiated rezonings which enter the formal review procedure are favored by local Councilmembers, due to the long tradition to Councilmember deference over land-use decisions. The formal review procedure begins with a land-use application that triggers environmental review. The City Environmental Quality Review (CEQR) requires the completion of an Environmental Assessment Statement (EAS), assessing the extent to which a project will have negative impacts. Projects without significant impacts receive a “negative declaration,” allowing them to skip the full environmental review, whereas other projects receive a “positive declaration,” as determined by the CPC. For those projects an comprehensive Environmental Impact Statement (EIS) must be completed, which includes detailed analysis on the impacts a rezoning will have on many factors such as new development, traffic impacts, demographic changes, changes in neighborhood character, shadows, flooding impacts, etc. The EIS has many chapters, and some of which are also reviewed by other City Departments. Following the EIS, DCP certifies the statement, allowing the project to move forward to the Uniform Land Use Review Procedure (ULURP).

Entering a project into ULURP triggers a 7-month clock, beginning the public-facing portion of the rezoning process. Projects are first referred to the local Community Board affected by the rezoning. Community Boards are local bodies of community representatives and active citizens appointed by the Borough President and City Council Members representing the district. This process takes a maximum of 60 days and is typically subject to considerable community debate as the Community Boards are required to hold local meetings discussing the proposed changes (see Einstein, Glick and Palmer 2020 for a discussion of how such meetings can become a vehicle of opposition for land-use changes and housing construction). Following these meetings, the Community Board(s) issue an advisory vote to approve or reject the proposal. The project then continues to the Borough President, taking no longer than 30 days, who also issues

³¹ For a discussion on the analogous process for private spot rezonings, see: Campion, S. (September 6, 2022). “Improving New York City’s Land Use Decision-Making Process.” *The Citizens Budget Commission*.

an advisory vote. Then, the CPC considers the proposal, taking no longer than 60 days, issuing a binding vote. If approved, the proposal continues to a full vote by the City Council, where a simple majority is needed for approval. The Mayor then has 5 days to veto the rezoning if passed by the Council (See Figure 1). At each step of ULURP (other than potential Mayoral veto), public hearings and meetings are held for citizens to voice their opinions on the project, often leading changes to the rezoning. The changes might involve changes to the permitted density on some lots, types of uses allowed, or promises by the City to provide certain public goods or capital improvements.

Appendix Figure A1. Land-Use Change Procedure



Note: Adapted from Campion, S. (September 6, 2022). "Improving New York City's Land Use Decision-Making Process." The Citizens Budget Commission to reflect the City-initiated neighborhood rezoning process.

Appendix B. Fiscal Budget Cycles Analysis

To test for political budget cycles in city spending, revenue, and employment, I rely on data from the Citizens Budget Commission and NYC Independent Budget Office. Total expenditures represent actual, not budgeted, spending adjusted for pre-payments. Pre-payments are the practice of “rolling over” prior year revenue into the next fiscal year if there is a surplus. This adjustment is needed to recover total expenditures in any given year, as drawing down a prior year surplus represents an increase in spending. Figures are also inflation adjusted using the United States Bureau of Labor Statistics CPI-U average annual inflation rate, indexed to 2022 dollars. Election years represent mayoral reelection years (this omits one Council-only election year, results are similar if this year is included and available upon request). Fiscal years begin on July 1. Therefore, if an election is on November 2025, I use the next fiscal year, 2026, to best represent spending on or around November. Results are similar if using the prior fiscal year (available upon request).

As alternative specifications, Appendix Table B1 shows the results from Table 1 as logged levels, rather than as growth rates. Here all results are similarly null. Appendix Table B2 repeats the specification from Table 1 but as per capita rates. Note that this drops two additional years of observations, 2021 and 2022, as decennial censuses were used and interim years were interpolated linearly. This is because of a high degree of uncertainty in recent population estimates program by the Census Bureau for the city, which were highly inaccurate compared to the 2020 decennial census (Gordon 2023). Similarly, these estimates are null.

Appendix Table B1. Logged Levels of Expenditures, Taxes, and Headcount on Election Years, Fiscal Years 1980-2022

	(1) Total Spending	(2) Property Taxes	(3) Sales Taxes	(4) Fees and Fines	(5) Capital Spending	(6) FT Employees
Election	0.017 (0.094)	0.023 (0.124)	0.019 (0.080)	0.003 (0.116)	0.004 (0.105)	0.012 (0.040)
Constant	18.063*** (0.047)	16.663*** (0.063)	15.611*** (0.040)	13.653*** (0.059)	15.995*** (0.054)	12.436*** (0.020)
N	43	43	43	43	38	43
R ²	0.001	0.001	0.001	0.000	0.000	0.002

Note: Standard errors in parentheses. Dependent variables take the form of $\ln(Y_t)$. Expenditures and revenues adjusted to 2022 dollars. The constant therefore represents the average logged inflation adjusted (for dollar outcomes) level. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Appendix Table B2. Growth in Per-Capita Expenditures, Taxes, and Headcount on Election Years, Fiscal Years 1980-2020

	(1) Total Spending	(2) Property Taxes	(3) Sales Taxes	(4) Fees and Fines	(5) Capital Spending	(6) FT Employees
Election	-0.008 (0.011)	0.012 (0.017)	-0.011 (0.017)	-0.030 (0.027)	-0.003 (0.040)	-0.001 (0.009)
Constant	0.017** (0.006)	0.019* (0.008)	0.015 (0.009)	0.032* (0.014)	0.020 (0.020)	0.006 (0.005)
N	40	40	40	40	35	40
R ²	0.012	0.013	0.010	0.031	0.000	0.000

Note: Standard errors in parentheses. Dependent variables take the form of $\ln(Y_t/Population_t) - \ln(Y_{t-1}/Population_t)$. Expenditures and revenues adjusted to 2022 dollars. The constant therefore represents the per-capita average inflation adjusted (for dollar outcomes) growth rate. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

These analyses does not mean that city elected officials engage in no politically opportunistic election year spending increases. Rather, it precludes large increases, the types that would be most visible to voters. Based on the standard deviation in total expenditures, power 0.8, and alpha 0.05, the minimum detectable effect size is 0.0133 (for Table 1, column 1). A 1.3% increase in the growth rate would be equivalent to an increase of \$950 million, or \$116 per resident, based on the average annual expenditures over the period. It is possible that smaller manipulations do occur, but the analysis is not sufficiently powered to detect them.

Appendix C. Data

Appendix C1. PLUTO data

The primary dataset for this project is the Property Land Use and Tax Output (PLUTO) dataset, a dataset which provides geospatial information about every lot (parcel of land) in the city, updated annually by DCP. Key information about each lot includes: a detailed building classification code (e.g. “A1: One Family Dwellings, Two Stories – Detached SM or MID”), the zoning district(s) covering the lot (including overlays, such as commercial districts), the maximum allowable floor-to-area (FAR) ratio (a measure of maximum density allowed under that zoning district), the current built FAR, the current total floor area of the building (by type: residential, office, commercial, retail, garage, storage, factory, and other), the total number of residential units, the building and land assessed and market values, and if the building is historically designated. Each lot has a unique identifier (Borough-Block-Lot, or BBL), allowing it to be tracked over time. I assemble a panel dataset of each lot between 2002 and 2025.³²

As lots represent fixed parcels of land, the panel is approximately strongly balanced, with most lots having an observation across every year of the study period.³³ However, lots are sometimes merged or subdivided, leading to new lots or the elimination of old lots. To address this, I strongly balance the panel by creating missing entries for each BBL-year where they do not exist. This is used to identify if a lot falls into or out of the dataset, but these missing lots are not used for analysis.

PLUTO includes geographic identifiers, such as census blocks or council districts. However, due to missingness, particularly for older files, I merge the following to each BBL: 2000, 2010, and 2020 census lots and blocks; city council districts; 2005, 2009, 2013, 2017, 2021, 2023, and 2025 election districts (precincts), and community board districts. A lot is assigned to these if their centroid falls within the polygon.

³² I duplicate the earliest version of the 2002 lot-level data for 2001. This is to identify the direction of some rezonings for 2002. I do not include 2001 in directional analyses.

³³ One-year gaps in the panel are likely erroneous administrative errors, and I fill these missing observations using the next year's data.

To identify rezoning areas, I use a shapefile of Zoning Map Amendments (NYZMA), which includes the month and year when rezonings were made effective, corresponding to City Council approval. I filter these shapefiles by year and spatial join them to the shapefile for each year of PLUTO data, matching rezoning polygons the centroid of each BBL. This generates an indicator for if a lot was part of a rezoning area. For each rezoning area, I also identify which are neighborhood rezonings or private spot rezonings by hand using the name of the rezoning provided in NYZMA. Neighborhood rezonings typically have the neighborhood name in the title. These are confirmed against the City Register and the DCP website. All others are assumed to be private spot rezonings.

This shapefile process is necessary over simply relying on year over year changes in zoning information as the PLUTO dataset is updated at irregular times throughout the year. For lots which appear as rezoned in one year of PLUTO but their rezoning date is in another year, I reassign those rezonings to the correct year. I also reassign relevant lot-level characteristics, such as the zoning category and maximum allowable FAR, needed to identify the rezoning direction.

Then, to identify the direction of each lot's rezoning, I encode the zoning category of each lot and create a difference variable year over year for categorial changes (e.g. a change from "R6" to "R7" would be coded as a categorial change). Of those with a categorial change, I then generate a difference variable in their maximum allowable FAR) taken from the year before the rezoning and the year after.³⁴ I code negative differences as downzonings, positive as upzonings, and zeros as contextual rezonings. Following Been and McDonnell (2010), I also require upzonings to increase allowable density by at least 10% over previous levels. This is to exclude upzonings which are bringing previously grandfathered lots up to code, as these upzonings cannot generate higher densities. Finally, I code if a rezoning is primarily residential based on the land-use of the primary zoning designation, using the DCP coding scheme.

³⁴ This helps to avoid erroneously coding small administrative changes in the data's maximum FAR variable as rezonings. For example, in 2019, over 300,000 lots would have been coded as rezoned due to a technical change in the maximum FAR variable to reflect bonuses for attics.

In sum, to be coded as rezoned, lots must satisfy three conditions: (1) being part of a rezoning catchment area; (2) having a categorical zoning code change; and (3) having a non-missing FAR change. Appendix Table C1 shows how many lots were rezoned by year, broken down by if the rezoning was primarily residential or non-residential (commercial, industrial, or other use) in nature.

I also harmonize the maximum allowable FAR variable as its reporting changed in 2012. After 2012, PLUTO switches to three distinct maximum FAR variables: residential, facility, and commercial. I back into the original variable by replicating the process described in the PLUTO data dictionary from earlier files. This takes the maximum of the residential, facility, or commercial FAR depending on the primary zoning of the lot, accounting for commercial overlays.

Appendix Table C1 shows the number of lots rezoned by year, including indicators for mayoral administration and election year, by direction and actor responsible. Over the period, 48% of all lots in the city were in a rezoning area.

Appendix Table C1. Number of Lots Rezoned by Year

Administration	Year	Neighborhood Rezoning				Spot Rezoning	In Rezoning Area	
		Upzone	Downzone	Contextual	Neither		Total	% Lots
<i>Guiliani</i>	2001*	N/A	N/A	N/A	N/A	210	5,826	0.7%
	2002	21	846	4,084	393	314	5,658	0.7%
	2003*	3,957	10,518	39,733	3,317	173	57,698	6.8%
	2004	649	4,576	7,102	398	174	12,899	1.5%
	2005*	9,535	21,963	27,701	4,529	311	64,039	7.5%
	2006	2,097	10,430	10,972	4,211	92	27,802	3.3%
	2007	11,147	12,612	18,670	4,400	228	47,057	5.5%
	2008	4,567	5,304	7,445	3,152	457	20,925	2.4%
	2009*	9,749	20,584	13,621	6,123	149	50,226	5.8%
	2010	5,750	4,323	13,640	2,818	132	26,663	3.1%
	2011	3,059	6,312	13,897	1,488	286	25,042	2.9%
	2012	3,811	7,765	1,575	1,541	95	14,787	1.7%
	2013*	2,978	6,656	18,769	1,902	299	30,604	3.6%
<i>De Blasio</i>	2014	0	0	0	0	127	127	0.0%
	2015	0	0	0	9	99	108	0.0%
	2016	2,979	63	127	806	124	4,099	0.5%
	2017*	182	1,149	2,949	118	166	4,564	0.5%
	2018	643	53	28	284	169	1,177	0.1%
	2019	460	17	0	55	214	746	0.1%
	2020	0	0	0	0	86	86	0.0%
	2021*	372	25	4,108	194	292	4,991	0.6%
<i>Adams</i>	2022	57	195	239	35	297	823	0.1%
	2023*	0	0	0	0	141	141	0.0%
	2024	164	86	4	34	153	441	0.1%
	2025*	3,321	9	34	382	185	3,931	0.5%
Grand Total		65,498	113,486	184,698	41,805	4,973	410,460	48.0%

Note: Municipal election years denoted with *. Direction of rezonings cannot be identified in 2001, as direction uses prior year differences in regulatory features. 2001 is consequently omitted in all directional analyses. Lots denoted as 'neither' were either not rezoned or upzoned, but the additional allowable density increased by less than 10%.

Appendix C2. Estimating Lot-Level Homeownership

Occupancy tenure is not recorded in PLUTO. I estimate it using three steps. First, I use the building class field. I map the building class to the tax class for the final fiscal year 2026 assessment roll. The vast majority of building classes cleanly map to a tax class. For the few that do not, I use the tax class which has the highest share of building classes of that type. DOF has four general tax classes: 1 (most residential property up to three units), 2 (all other property that is not class 1 and is primarily residential), 3 (most utilities), and 4 (all commercial and industrial properties). Class 3 and 4 I classify as non-residential. Within tax class 1 and 2, a few subclasses directly indicate lot-level occupancy characteristics. 2a and 2b are rentals, and 2c are owner-occupied cooperatives and condominiums. Additionally, all “R” class buildings indicate condominiums. These tax subclasses allow me to classify about one-third of all lots.

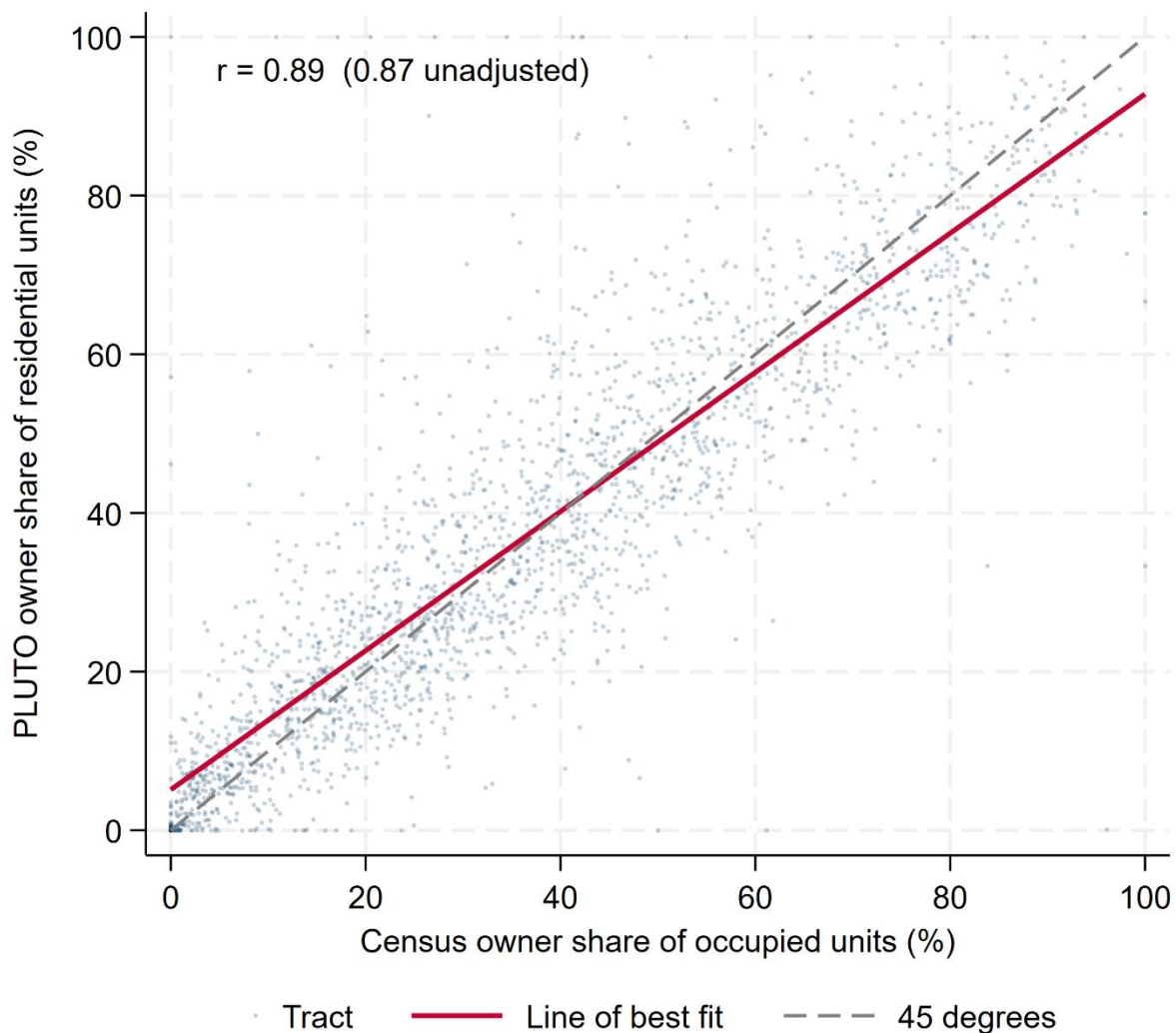
For the remainder of lots, I use the owner name. I classify them into five types: (1) government, (2) co-operative or condominium association, (3) corporate, (4) individual, and (5) unclassified. I develop a dictionary of legal suffixes and entity stems. Short tokens (`LLC`, `CO`, `INC`) are matched as whole words only. Non-classified residential lots held by a corporation or government are re-coded as renter occupied. Where possible, I use the owner-type codes from PLUTO (which indicates if a lot is government owned), which overrides the owner name dictionary method.

Finally, for validation I account for the number of residential units on a lot. Assigning a lot's tenure to all of its units assumes every unit in the building shares the owner's tenure, which is unlikely to be the case in two-to-three family buildings in tax class 1. A non-condo owner-occupied two-family house likely only contains one owner-occupied household and one renter-occupied household. I adjust these cases by only assigning one residential unit as owner-occupied. Note, however, that analyses consider a lot to be owner-occupied if *any* of its residential units are likely to be occupied by a homeowner.

To validate the approach, I aggregate the predicted tenure of each residential unit at the lot-level up to the census tract level and compare against the corresponding linearly interpolated decennial (between 2002 and 2009) or annual ACS estimate

(between 2010 and 2024) downloaded from NHGIS. Because the NHGIS series holds each measurement on its own years census boundaries, I aggregate each panel year to the tract from which its covariates are drawn: 2000 boundaries through 2009, 2010 boundaries through 2019, and 2020 boundaries thereafter. Appendix Figure C1 shows the correlation between the estimated lot-level homeownership measure and tract-level homeownership shares using 2020 data. The correlation coefficient is high, at 0.89. Appendix Table C2 details these correlations by year.

Appendix Figure C1. Correlation Between Estimated Lot-Level Homeownership and Census Tract-Level Homeownership Rates, 2020



Appendix Table C2. Diagnostics of Estimated Lot-Level Homeownership and Census Tract-Level Homeownership Rates, by Year

Year	N tracts	Corr. Coef.	β	R ²	Est. owner %	Census owner %	Diff. (pp)	RMSE
2002	2149	0.91	0.98	0.82	40.49	35.58	4.90	12.11
2003	2149	0.91	0.98	0.82	40.36	35.88	4.48	11.94
2004	2148	0.91	0.98	0.83	40.21	36.20	4.01	11.50
2005	2148	0.91	0.96	0.82	40.25	36.50	3.76	11.72
2006	2148	0.91	0.95	0.82	39.98	36.80	3.18	11.56
2007	2148	0.90	0.94	0.82	39.69	37.10	2.59	11.58
2008	2148	0.90	0.93	0.81	39.85	37.40	2.45	11.72
2009	2148	0.90	0.91	0.80	39.96	37.70	2.26	11.97
2010	2103	0.89	0.89	0.79	39.59	37.64	1.95	12.25
2011	2105	0.89	0.89	0.79	39.57	37.07	2.50	12.35
2012	2106	0.89	0.90	0.80	39.58	36.89	2.69	12.21
2013	2108	0.90	0.91	0.80	39.68	36.70	2.98	12.02
2014	2111	0.90	0.91	0.80	39.55	36.49	3.05	12.02
2015	2111	0.90	0.91	0.81	39.47	36.36	3.11	11.94
2016	2111	0.90	0.91	0.81	39.27	36.56	2.71	11.81
2017	2110	0.90	0.90	0.80	39.13	37.26	1.88	11.78
2018	2107	0.89	0.90	0.80	38.77	37.32	1.45	11.78
2019	2107	0.89	0.89	0.80	38.41	37.54	0.87	11.68
2020	2215	0.89	0.88	0.78	37.91	37.40	0.51	12.22
2021	2215	0.88	0.87	0.77	37.99	37.62	0.37	12.50
2022	2215	0.88	0.87	0.77	37.80	37.56	0.24	12.42
2023	2215	0.88	0.87	0.78	37.45	37.31	0.15	12.26
2024	2215	0.88	0.87	0.78	37.10	37.31	-0.21	12.23
2025	2215	0.88	0.86	0.77	36.70	37.31	-0.61	12.40

Appendix C3. Voter File Data

I assemble annual New York City voter files from 2009 to 2023 from four sources: the City University of New York (CUNY) from 2009 to 2014, the NYC Campaign Finance Board (NYCFCB) from 2015 to 2021, a FOIL request of the New York State Board of Elections for 2022, and a FOIL request of the New York City Board of Elections for 2023. CUNY and NYCFCB files were graciously provided by Jamie Anno.

For each file, I geocode each voter using the NYC DCP Geosupport Desktop Edition (GDE) batch geocoding application. This application is able to geocode high rates of New York City addresses, including common aliases often unrecognized by common geocoding software, and directly match them to City administrative data and indicators, including the unique BBL number.

I retain only active registered voters. For each voter, I calculate their age against the date of the November general election that year. I also indicate if they voted in each years general election, and add primary turnout for municipal years. Then, I aggregate the following totals up to the BBL level: total registered voters, the mean age of registered voters, total registered voters by 4 age bins (18-29, 30-49, 50-64, and 65+), and total general and primary votes cast.

Appendix Table C3 shows the match rate of voters to a valid BBL. It also compares the total voters in each voter file to the official New York State Board of Elections registration totals as of November of each year. These differences are likely due to voters being purged from the voter roll in between the November election and the date of each voter file (unfortunately, I do not know the exact date of each file as they are compiled from multiple sources). The majority of years come within one percent of official totals, with a few exceptions (2010, 2011, 2015, and 2019).

Appendix Table C3. Total Registered Voters, by Source, Differences, and Geocoding to BBL Match Rate

Year	Voter File Totals			NYS Totals	NYS – Voter File	
	Matched to BBL	Total Voters	Match Rate	Total Voters	Diff. Voters	% Diff.
2009	4,098,850	4,111,758	99.7%	4,095,561	16,197	0.4%
2010	3,747,481	3,756,735	99.8%	4,081,567	(324,832)	-8.0%
2011	3,868,931	3,878,648	99.7%	4,044,152	(165,504)	-4.1%
2012	4,249,926	4,263,274	99.7%	4,224,811	38,463	0.9%
2013	4,243,037	4,267,525	99.4%	4,275,813	(8,288)	-0.2%
2014	4,124,004	4,184,304	98.6%	4,160,000	24,304	0.6%
2015	3,860,614	3,868,352	99.8%	4,107,700	(239,348)	-5.8%
2016	4,535,820	4,548,163	99.7%	4,477,091	71,072	1.6%
2017	4,592,010	4,604,839	99.7%	4,596,813	8,026	0.2%
2018	4,614,022	4,625,616	99.7%	4,613,320	12,296	0.3%
2019	4,598,208	4,610,482	99.7%	4,772,225	(161,743)	-3.4%
2020	4,964,754	4,978,138	99.7%	4,948,186	29,952	0.6%
2021	4,917,714	4,930,778	99.7%	4,949,386	(18,608)	-0.4%
2022	4,631,665	4,722,484	98.1%	4,735,711	(13,227)	-0.3%
2023	4,547,291	4,553,659	99.9%	4,643,366	(89,707)	-1.9%

Appendix D. Additional Analyses

Appendix Table D1 shows results from Figure 1, with additional controls. Models (1) and (3) cluster standard errors at the lot level, whereas (2) and (4) cluster standard errors at the lot and council district level. (2) represents the main specification in the paper.

Appendix Table D1. Impact of Electoral Cycles and Term Limits on Land-Use Changes

	(1)	(2)	(3)	(4)
Election Year	0.015*** (0.006)	0.022*** (0.007)	0.019*** (0.006)	0.019*** (0.006)
Term Limit		-0.001 (0.004)	0.006 (0.005)	0.006 (0.005)
Election Year x Term Limit		-0.026*** (0.007)	-0.025*** (0.006)	-0.025*** (0.006)
Bloomberg			0.056*** (0.005)	0.056*** (0.005)
De Blasio			0.025*** (0.003)	0.025*** (0.003)
Years Since Rezoning			0.004*** (0.000)	0.004*** (0.000)
Units Residential (t-1)			-0.000* (0.000)	-0.000 (0.000)
Units Residential Sq. (t-1)			0.000* (0.000)	0.000 (0.000)
Number of Floors (t-1)			0.000 (0.000)	0.000 (0.000)
Number of Floors Sq. (t-1)			-0.000 (0.000)	-0.000 (0.000)
Land Value (log)			0.002 (0.004)	0.002 (0.004)
Market Value (log)			-0.001 (0.003)	-0.001 (0.003)
Constant	0.014*** (0.002)	0.014*** (0.002)	-0.154*** (0.016)	-0.155*** (0.016)
Lot FE	Yes	Yes	Yes	Yes
Council FE	No	No	No	Yes
Observations	21,080,204	20,193,065	20,152,101	20,152,101
Within R ²	0.003	0.006	0.118	0.118

Note: Standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Clustered standard errors at the lot level. Fixed effects at the lot level. Estimated using the **reghdfe** package (Correia and Constantine [2014] 2026). Model (1) N is higher as it includes 2001.

Appendix Table D2 shows the regression output from Figure 2. Columns 1 and 2 show the results for competitive prior general elections, by term-limit (TL) status. Columns 3 and 4 show the results by contested but not competitive prior elections. Columns 5 and 6 show the results from uncontested prior elections.

Appendix Table D2. Impact of Electoral Competitiveness and Term Limits on Land-Use Changes

	(1) Comp., not TL	(2) Comp., TL	(3) Cont., not TL	(4) Cont., TL	(5) Uncon., not TL	(6) Uncon., TL
Election year	0.081*** (0.026)	0.004 (0.008)	0.025*** (0.008)	-0.006 (0.008)	0.010 (0.013)	-0.002 (0.006)
Observations	3,587,194	927,830	6,661,429	2,095,873	3,262,478	1,254,561

Note: Standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Clustered standard errors at the lot level. Fixed effects at the lot level. Estimated using the **reghdfe** package (Correia and Constantine [2014] 2026).

Appendix Table D3 show a series of models which test if the political budget cycle is more strongly predicted by Councilmember or Mayoral reelection years. Here, the binary variable ‘Council Re-election’ indicates if the year is a municipal election year where the Councilmember representing the log is eligible for re-election (not term-limited), and ‘Mayor Re-election’ the same for the mayor. These variables differ slightly not only due to staggered Councilmember and mayoral term-limits, but also because two additional years (2003 and 2023) are Council only municipal election years, where the mayor is not on the ballot. Columns (1) and (2) show that both produce a political budget cycle effect, and (3) shows that the effect is only produced by a Councilmember being eligible for re-election. Columns (4) and (5) add mayoral administration fixed effects and lot-level attributes, respectively.

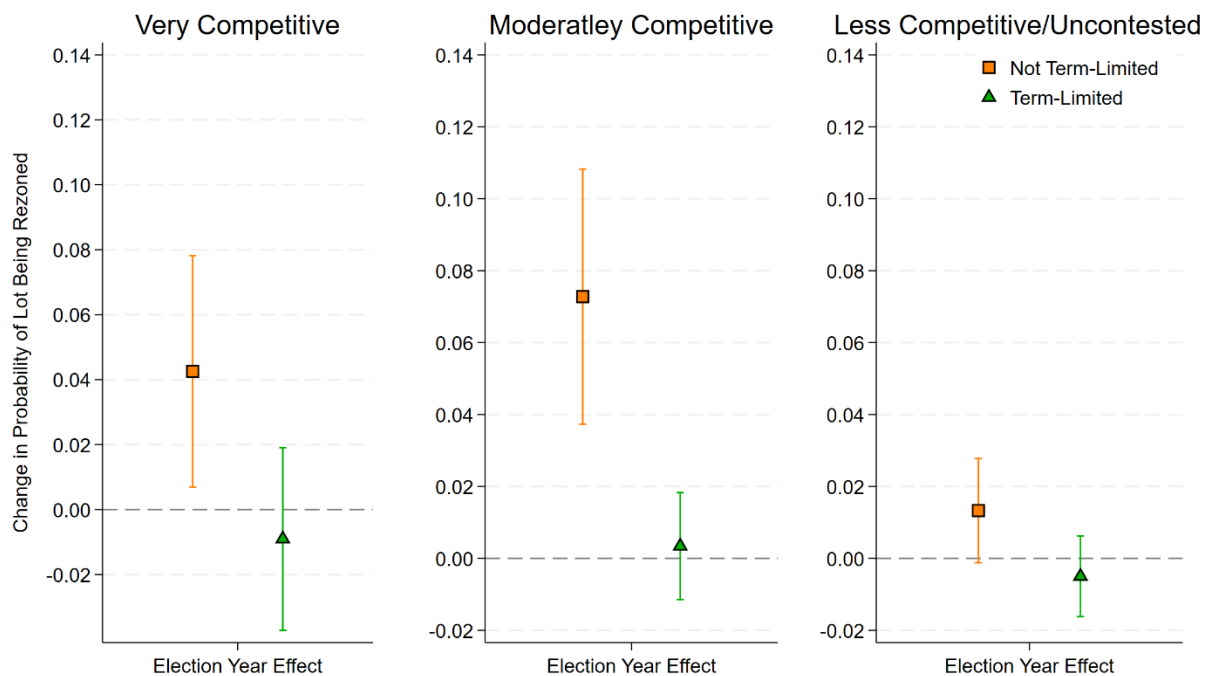
Appendix Table D1. Impact of Council and/or Mayoral Re-election Years on Land-Use Changes

	(1) Council	(2) Mayor	(3) Both	(4) + Admin FE	(5) + Controls
Council Re-election	0.0373*** (0.0089)		0.0398*** (0.0130)	0.0267* (0.0144)	0.0215 (0.0137)
Mayor Re-election		0.0198** (0.0080)	-0.0046 (0.0123)	0.0028 (0.0135)	0.0028 (0.0126)
Mayor FE	No	No	No	Yes	Yes
Lot controls	No	No	No	No	Yes
Observations	21,389,524	21,389,524	21,389,524	21,389,524	20,495,121
Within R ²	0.012	0.003	0.012	0.006	0.104

Note: Standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. Estimated using the **reghdfe** package (Correia and Constantine [2014] 2026). Lot controls are years since last rezoning, historic-district status, and lagged units, floors, land value and total value.

Appendix Figure D1 shows the results of the competitiveness analysis, using prior election primary outcomes. I replicate the same method in the main body of the paper, using the IQR of vote share. Primary elections, however, are typically much more competitive and see many more challengers, changing the interpretation. The left-hand panel shows the political budget cycle effect for the most competitive races, where the incumbent received less than 41% vote share. The middle panel shows the effect for moderately competitive races, between 41 and 74% vote share. The right-hand panel shows the effect for the least competitive or uncontested races (coded at 100% vote share, even if a primary was not held). Competitive districts show stronger political budget cycle effects than the least competitive districts.

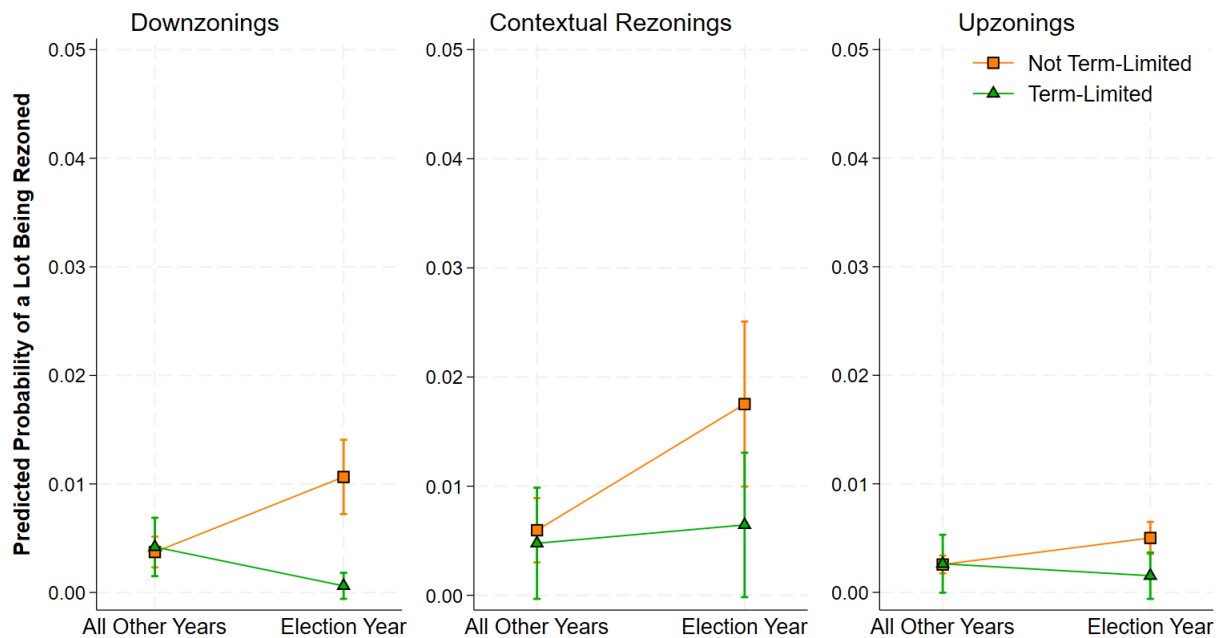
Appendix Figure D1. Predicted Probability of Rezoning, by Election Year, Term-Limit Status, and Prior Primary Election Competitiveness



Note: 95% confidence intervals in caps. Clustered standard errors at the lot and city council district levels. Fixed effects at the lot level. Estimated using the **reghdfe** package (Correia and Constantine [2014] 2026). Competitive elections defined as the vote share in the prior general election being 41% or below, contested, not competitive elections as between 41 and 74%, and uncontested elections being above 74% vote share.

Appendix Figure D2 shows the disaggregated effect of contextual and downzonings from Figure 3. Both contextual and downzonings show stronger political budget cycle effects than upzonings, although contextual rezonings effects are less precise (the election year effect is statistically significant at the $p < 0.05$ level, however, the term-limit effect is not ($p = 0.07$)).

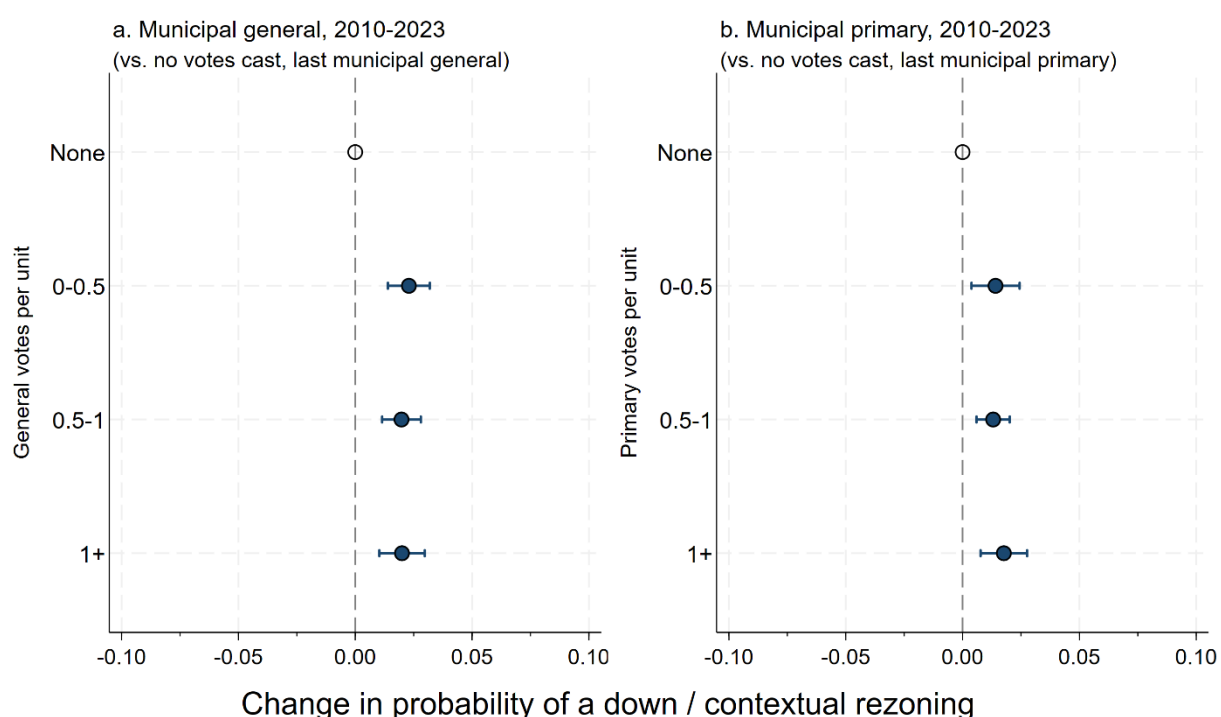
Appendix Figure D2. Predicted Probability of Rezoning, by Election Year, Term-Limit Status, and Direction



Note: 95% confidence intervals in caps. Clustered standard errors at the lot level. Fixed effects at the lot level. Estimated using the **reghdfe** package (Correia and Constantine [2014] 2026).

Appendix Figure D3 shows the same analysis as panel (c) in Figure 6, except using the number of votes cast per residential unit in the previous municipal general or primary elections. Lots with votes cast in municipal elections are more likely to be downzoned relative to lots which had no votes cast. However, the total votes cast in 2009 do not reconcile with official election totals (whereas registration totals do), hence the figure should be interpreted with caution.

Appendix Figure D3. Predicted Probability of Down/Contextual Rezoning (vs. Upzoning), by Votes Cast in Prior Municipal Election



Note: 95% confidence intervals in caps. Fixed effects for borough-block and council district-year. Clustered standard errors at the borough-block and council district-year levels. Estimated using the **reghdfe** package (Correia and Constantine [2014] 2026).

Appendix E. Reanalysis of Open-Ended Data

To further examine the positive and negative sentiments people have about development, I reanalyze open-ended data from Pietrzak and Mendelberg (2025). I use data from their first (N=900), which includes three open-ended questions. First, respondents were asked what thoughts come to mind when thinking about building new apartment buildings. Then, respondents were asked describe possible positive and negative impacts from new development. I analyze the frequency of the stems of single words (n-grams) and two-word phrases (bigrams) and categorize them into one of twelve general topics.³⁵ Appendix Table E2 shows the dictionary for this coding scheme.

Appendix Table B1 shows the frequency of various topics by question. Concerns about density and building height and prices appear frequently in the general prompt and the positive and negative impacts prompt. Mention of the economy and retail disproportionately appears as a positive possible externality from new housing. Concern about safety and congestion disproportionately appears as a possible negative externality from new housing.

Appendix Table B1. Top 10 Topics - New Development, Positives, and Negatives (% of Comments)

General	Positive	Negative
Prices (53%)	Density & Height (48%)	Density & Height (48%)
Density & Height (41%)	Economy & Retail (35%)	Congestion (41%)
Housing Quality (21%)	Prices (33%)	Prices (34%)
Demographics (17%)	Demographics (16%)	Safety (19%)
Style & Fit (14%)	Public Services (14%)	Demographics (16%)
Congestion (12%)	Environment (13%)	Environment (16%)
Environment (12%)	Housing Quality (12%)	Public Services (13%)
Economy & Retail (9%)	Congestion (8%)	Externalities (12%)
Location (9%)	Style & Fit (7%)	Housing Quality (8%)
Public Services (7%)	Location (4%)	Economy & Retail (6%)

³⁵ I remove stop words, and isolate word stems using R package **tidytext**.

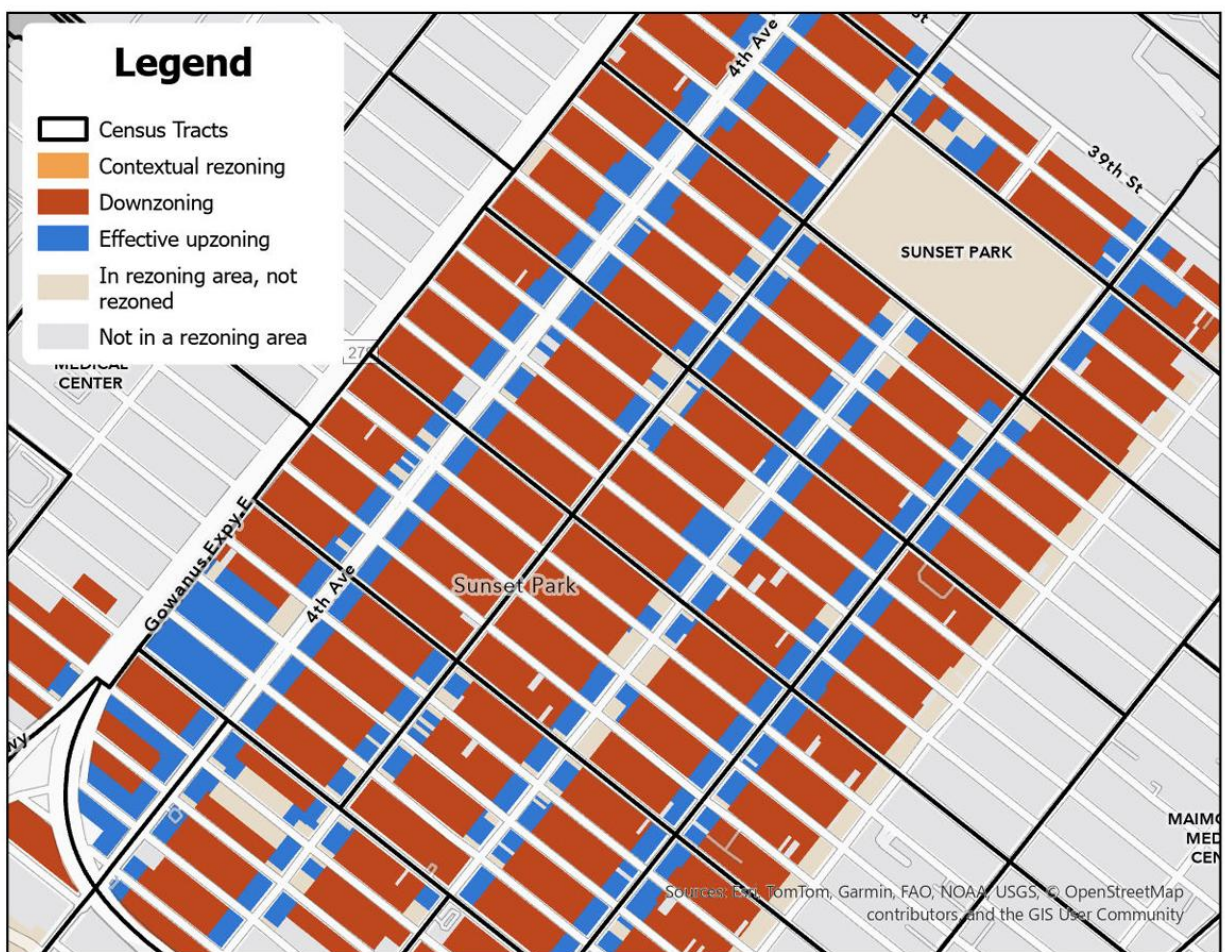
Appendix Table B2. Open-Ended Coding Scheme

concept	terms (n-gram and bigram word stems)
architecture	design, modern, materi, aesthet, fit, style, architectur, beauti, histori, moder, aesthet pleas, build materi, architectur design, exist build
congestion	traffic, park, congest, street, car, traffic congest, increas traffic, suffici park, park space, park spot
demographics	resid, famili, homeless, gentrif, tenant, displac, senior, gentrifi, demograph, ghetto, immigr, poverti, shelter, peopl move, homeless peopl, incom famili, famili home, middl class, peopl live, residenti commun, 8 hous, current resid, futur homeown, peopl homeless
density	peopl, unit, popul, densiti, floor, size, crowd, stori, rise, influx, tall, overcrowd, dens, huge, light, apart complex, addit hous, stori build, urban develop, 3 stori, apart unit, densiti hous
economy and retail	job, economi, busi, growth, store, econom, groceri, shop, industri, labor, retail, job opportun, groceri store, construct worker, grow popul, local economi
environment	environment, environ, sustain, natur, green, tree, flood, eco, pollut, environment friendli, energi effici, environment impact, green space, eco friendli, environment protect, solar panel, sustain develop
externalities	nois, disrupt, noisi, construct process
location	locat, urban, close, conveni surround
prices	afford, rent, incom, cost, low, expans, price, luxuri, market, section, unafford, overpr, cheaper, greed, mortgag, low incom, afford hous, incom peopl, lower incom, luxuri apart, afford apart, incom apart, rent price, build afford, low cost, incom resid, properti valu, apart afford, apart cost, hous price, rent control, rental price, section 8, incom hous
public services	infrastructur, transport, tax, school, servic, public transport, transport conveni, public facil, public transit
quality	space, amen, nice, qualiti, bedroom, cheapli, pool, applianc, comfort, cheap, dryer, adequ, laundri, spaciou, carpet, gym, window, bathroom, decent, nicer, live space, comfort live, live condit, squar footag, washer dryer, build code, cheap materi, modern amen
safety	safe, safeti, crime, safe neighborhood, crime rate, secur system

Appendix F. Additional Maps

Appendix Figure F1 shows an example rezoning in greater detail. Specifically, the map shows the lots from the 2009 Sunset Park Rezoning (and any subsequent spot rezonings in the area through 2025). The map also overlays 2010 Census Tracts. As demonstrated, which lots are upzoned, downzoned, contextually rezoned, or not rezoned varies even within city block. Upzonings targeted commercial corridors on avenues, while downzonings targeted residential midblocks on streets.

Appendix Figure F1. Example Rezoning, Sunset Park, Brooklyn



Note: Lots as of 2025. Any rezoned lots which were merged or divided over the period are missing. For lots with multiple rezoning actions over the period, the most recent rezoning action shown.