Title

Taxing Tomorrow: Measure ULA's Impact on Multifamily Housing Production and Potential Reforms

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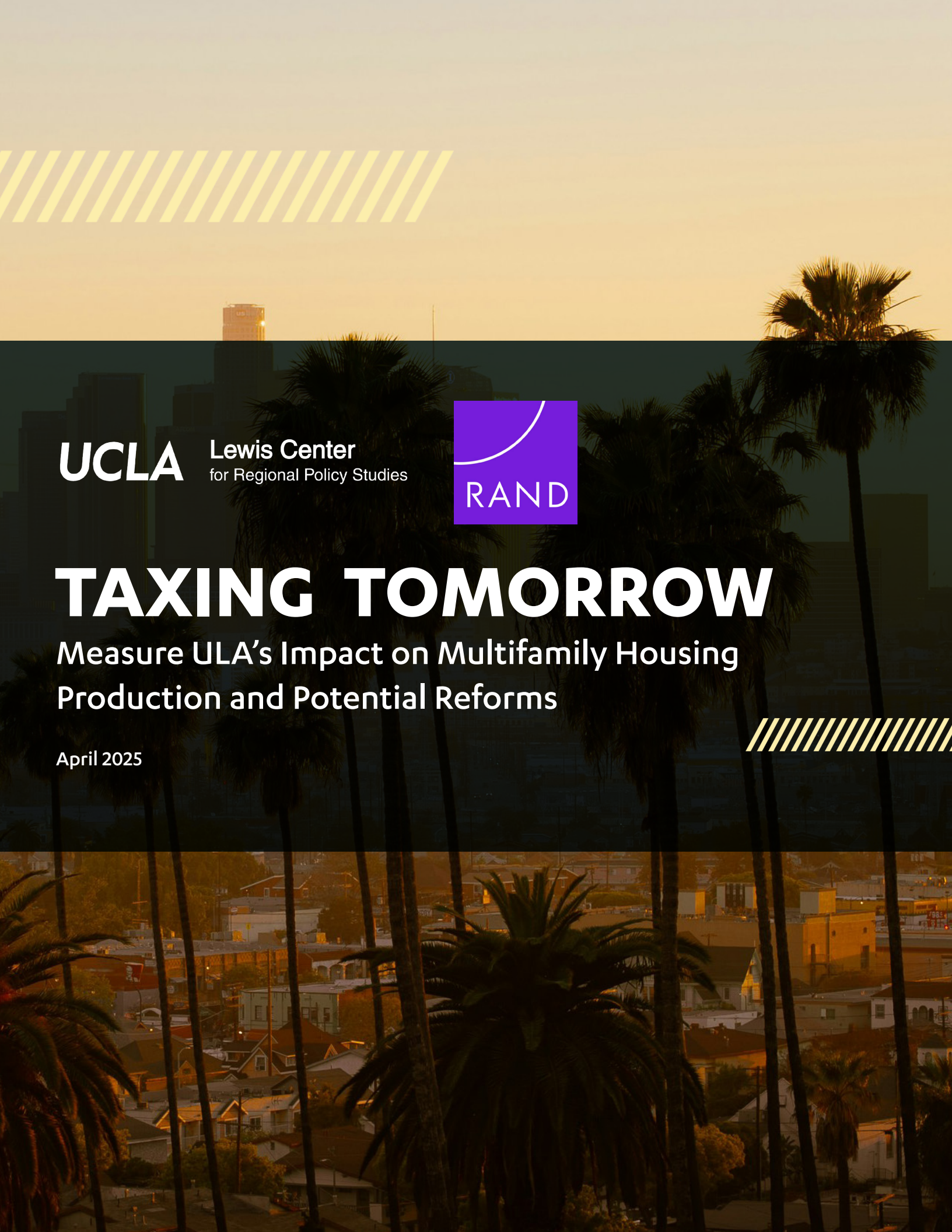

UCLA Lewis Center for Regional Policy Studies

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TAXING TOMORROW

Measure ULA's Impact on Multifamily Housing Production and Potential Reforms

April 2025

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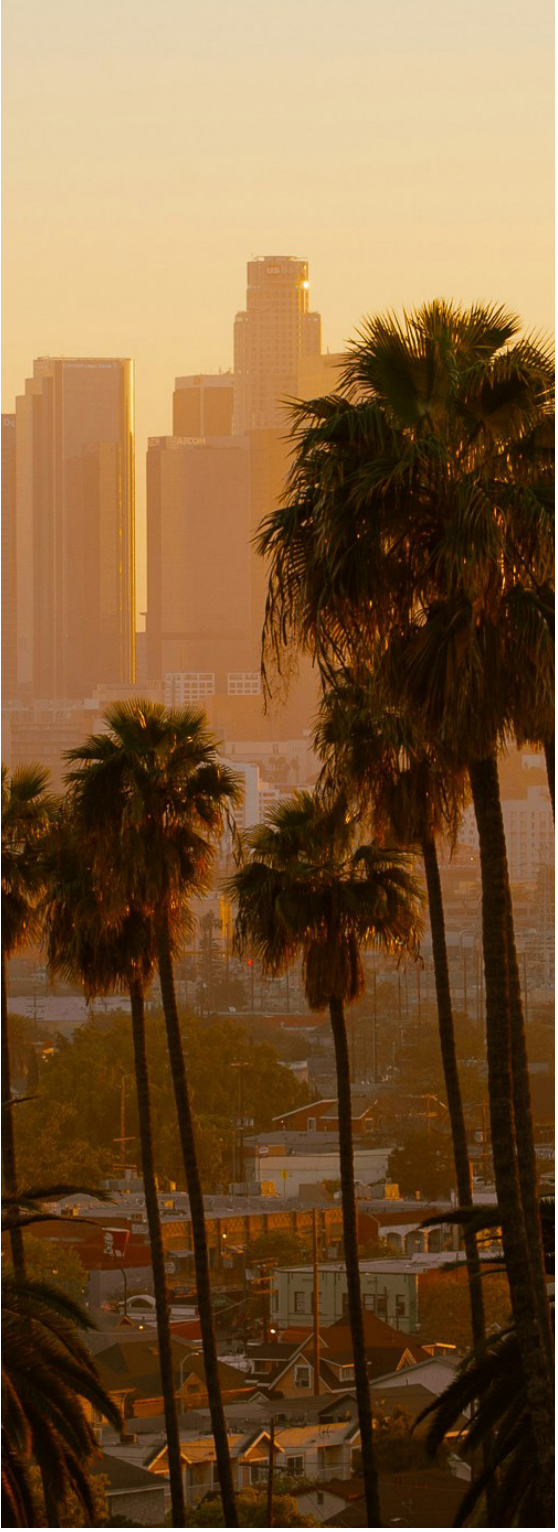


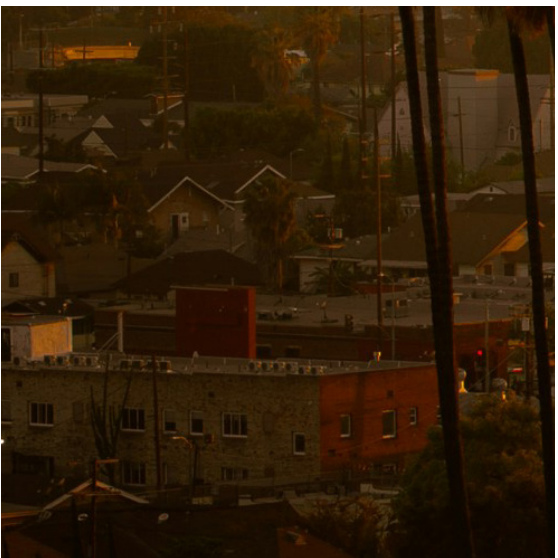


Table of Contents

Key Takeaways

- Measure ULA is a ballot initiative that increases real estate transfer taxes on sales of high-value properties in the City of Los Angeles. Revenues are dedicated to subsidized housing development and preservation, rent assistance, and similar efforts.
- Permitting for new multifamily housing has fallen sharply since Measure ULA went into effect in April 2023. Many blame the tax for this decline, but it could be caused by other changes to the housing market and macroeconomic conditions over the past two years.
- In this report we establish a robust causal linkage between Measure ULA and housing development, providing empirical evidence that the transfer tax *is* reducing multifamily production in Los Angeles. We do so by comparing the decline in sales of parcels with high redevelopment potential in the city of Los Angeles to changes in other L.A. County jurisdictions that did not increase their transfer tax. We also use city permit data to show that these parcels are frequently redeveloped into dense multifamily housing after sale.
- We find that Measure ULA is reducing multifamily housing production in Los Angeles by at least 1,910 units per year — an 18% decline, relative to the 2020–2022 average, among projects with 20 or more units. Because most of these lost units would be in mixed-income developments built without public subsidies, the tax is also reducing the supply of deed-restricted affordable housing by an estimated 168 units per year or more. These are conservative estimates.
- Measure ULA reduces multifamily permitting by taxing the sale of recently built projects, discouraging their production. But these sales generate limited revenue: Only an estimated 8% of ULA revenues — $29 million per year — has been raised from multifamily projects sold within 15 years of development.
- At most, revenues from sales of these newer multifamily developments can subsidize only 70 non-profit-built affordable units annually. This means that taxing these projects is *reducing* the supply of new affordable homes by roughly 100 units per year or more, while also delaying their production by years.
- We strongly recommend that elected officials reform Measure ULA, exempting multifamily projects from transfer taxes when sold within 15 years of construction. This would increase multifamily permitting and reduce ULA revenues only modestly. It would also increase other revenues, such as sales taxes and property taxes, at a time when the city is facing a nearly $1 billion budget deficit.
- We also recommend exempting recently built commercial and industrial properties from Measure ULA. These projects are likely to be similarly affected by the tax, their sales generate little ULA revenue, and they provide other important benefits such as increased job growth and property taxes.

Report Summary and Recommendations

Measure ULA is a ballot initiative that increases real estate transfer taxes on sales of high-value properties in the city of Los Angeles. The measure, approved by voters in November 2022 and implemented in April 2023, imposes an additional 4% tax on real estate sold for over $5 million and under $10 million, and a 5.5% tax on sales of $10 million or more. Revenues are dedicated to important local priorities including subsidized housing development for low-income and formerly unhoused households, housing acquisition and preservation, rent assistance, legal support for tenants facing eviction, and similar efforts.

The tax applies to sales of nearly all properties above the $5 million threshold, including new multifamily developments, raising concerns that it could negatively impact housing production in the city. The tax could reduce homebuilding feasibility through at least two channels. First, it adds to the cost of land acquisition, increasing total development cost and reducing financial feasibility. Second, budgeting for taxes assessed upon sale of completed projects — even if the developer does not intend to sell — can sharply reduce the amount developers can afford to pay for land, causing them to lose bids to non-developer buyers more frequently. It can also increase the difficulty of securing financing because the potential sale price is a key factor in investment decisions.

Reduced housing development could have several negative impacts. Increased housing supply is associated with lower rents and home prices, and reducing the supply of new housing is likely to have the opposite effect — the rise in prices following the Palisades and Eaton fires are instructive. Market-rate housing, which accounts for most residential development in Los Angeles, is associated with lower rents in neighboring buildings and spurs "migration chains" that loosen pressure on tenants throughout the housing market. Los Angeles has a longstanding housing shortage and affordability crisis, and reduced market-rate production will make it worse.

Reduced market-rate housing development can also stifle the supply of income-restricted affordable housing. Most multifamily projects in L.A. use density bonus programs that exchange permission to build more units, and other regulatory relief, for a requirement that developers include affordable units in their projects — without using public subsidies. This means that when market-rate production falls, so does the number of new affordable units. In Los Angeles, market-rate and non-residential developments also generate taxes and fees through other programs that fund affordable housing.

Residential permitting in Los Angeles has fallen sharply since Measure ULA went into effect. Compared to its 2022 peak, multifamily unit permits were down 21% in 2023 and 40% in 2024, while permitting for single-family homes and accessory dwelling units — most of which are priced below the ULA threshold — have remained stable and increased, respectively. But this decline is not limited to L.A., and the initiative's passage also coincided with international supply chain disruptions and a surge in inflation, all of which contributed to increased development costs. Disentangling the effects of Measure ULA from these macroeconomic conditions is a challenge.

This report establishes a robust causal linkage between Measure ULA, declining sales of land suitable for multifamily development, and subsequent declines in development activity. We use county sales data to show that the tax is reducing sales of properties with high redevelopment potential, above and beyond reductions observed in other L.A. County cities. We then use matched data on parcel sales and permits to show that these parcel sales are strongly associated with future multifamily development. Based on this analysis, we conclude that taxing the sale of recently completed multifamily projects is likely reducing the city's supply of market-rate and income-restricted affordable housing, contrary to the stated intent of the ballot initiative. Finally, we discuss state and local reforms that can mitigate the negative impacts of Measure ULA with minimal effect on its revenues. Our findings and conclusions are listed below.

1. Measure ULA is reducing multifamily housing production in Los Angeles by at least 1,910 units per year. It has done so by reducing sales of parcels with high redevelopment potential — and housing permitted on this class of parcels — by roughly 50%.

Measure ULA is less than two years old, and projects often take years to move from application to construction. So how can we know it is reducing housing development? The key is that property sales, and particularly sales of land zoned for dense multifamily housing, are a leading indicator of future development. When those sales don't occur, development doesn't either.

We use a difference-in-differences research design to show that ULA is reducing sales of multifamily parcels for over $5 million by roughly 50%. This research design compares the differences in these trends before and after Measure ULA to estimate the reduction in such sales that was specific to the city after ULA's implementation, above and beyond declines in sales in other jurisdictions. More importantly, the difference-in-differences design lets us see that Measure ULA is causing this reduction, not merely associated with it. These results are strongly statistically significant and their magnitude is economically meaningful.

2. Diminished housing production associated with declining sales is also reducing the supply of privately financed, income-restricted affordable housing by at least 168 units per year.

While more housing is needed at every income level, affordable units serve a distinctly vulnerable population and warrant special attention. We estimate that mixed-income projects — projects that include both market-rate and income-restricted affordable units — make up 80% of units in multifamily developments that do not receive public subsidies. Conservatively, we estimate that 11% of units in these projects are income-restricted affordable, meaning they offer below-market rents to qualified low-income households. The estimated 1,910-unit decline in total multifamily production means that at least 168 affordable units have been lost annually.

3. These estimates are conservative. We are likely underestimating the negative effect of Measure ULA on housing production in Los Angeles.

Our analysis consistently errs on the conservative side. The assumptions and decisions we make bias our results toward finding a smaller effect of ULA on multifamily housing production. We use strict criteria for identifying parcels with high redevelopment potential; it is likely that Measure ULA is also worsening financial feasibility at sites not included in our sample, and through channels other than reduced land sales. Because larger projects take longer to be approved, on average, our approach for estimating future development based

on permits issued within a year of parcel sale is likely an undercount. We do not consider the effect of Measure ULA on for-profit affordable housing developers, whose projects are 100% affordable and typically account for more than one fifth of publicly subsidized units built in the city. We do not account for the lost taxes and fees these projects would have paid towards additional affordable housing production. Finally, we do not account for ULA's effect on unsubsidized 100%-affordable projects spurred by the Executive Directive 1.

4. The costs that ULA imposes by taxing development are accompanied by relatively small benefits. Newer multifamily projects generate less than 10% of ULA revenue annually ($29 million).

An overwhelming majority of Measure ULA revenues come from sales of buildings over 15 years old: 78% of revenues collected from April 2023 through December 2024. Including sales of single-family homes up to 15 years old increases the share to 87%. Only $29 million (8%) comes from sales of newer multifamily projects and $20 million (5%) comes from newer commercial and industrial projects.

Multifamily, commercial, and industrial buildings up to 15 years old accounted for a similar share of sales volume in the three years before the tax was implemented, suggesting that the low share is not a response to Measure ULA — e.g., developers delaying sales and waiting to see if the tax is overturned. This means we should not expect a meaningful increase in the share of revenues coming from these project types in the future. Put simply, Measure ULA is substantially reducing multifamily housing production by taxing new development, but the tax on these developments raises very little ULA revenue.

5. At most, revenues from sales of newer multifamily developments can subsidize only 70 affordable units annually. This means that taxing these projects is reducing the supply of new affordable homes by roughly 100 units per year or more.

Measure ULA funds new affordable housing construction by providing subsidies to non-profit developers. Assuming ULA must cover around 60% of a total affordable housing development cost of $672,000 per unit (because other key federal, state and local funding sources do not increase simply due to ULA's existence), the $29 million in ULA annual revenues from sales of newer multifamily buildings can subsidize only about 70 affordable units. ULA is reducing unsubsidized affordable housing production by at least 168 units per year, resulting in a net deficit of roughly 100 units per year. Accounting for the maximum 45% of ULA revenues that can be spent on affordable housing construction, the annual net loss climbs to 135 units — in addition to at least 1,770 market-rate units. These publicly subsidized affordable units would also be delivered at least several years after building sales.

6. Exempting multifamily projects from transfer taxes within 15 years of construction would likely substantially reduce the tax's negative effect on housing production, while only modestly lowering ULA revenues.

We recommend reforming Measure ULA by exempting multifamily projects from the transfer tax for sales occurring within 15 years of construction. Such a time-limited exemption would increase the supply of both market-rate and deed-restricted affordable housing but would reduce ULA revenues only modestly. It would also increase other revenues, such as sales taxes and property taxes, at a time when the city is facing a nearly $1 billion budget deficit.

A 15-year exemption period would typically allow for two sales: one shortly after the project is leased up, or "stabilized," and another roughly seven to 10 years later. Exemptions should apply to all sales taking place within the exemption period. After a building reaches 15 years, any future sales would be subject to the tax. Fully market-rate apartments should be exempted during this period, both because of previous research showing that new market-rate housing lowers rents, and because these projects already pay other taxes and affordable housing fees.

7. We also recommend exempting recently completed commercial and industrial properties from the Measure ULA tax.

Although commercial and industrial properties are not a focus of this report, there are at least three reasons for recommending a similar exemption. First, Measure ULA reduces commercial and industrial development feasibility by the same mechanism as multifamily. Second, the cost of a 15-year exemption for these property types is also very low: 5% of ULA revenues since April 2023. Third, although commercial and industrial projects typically do not contribute to the affordable housing supply, they provide other important benefits such as increased job growth and increased sales and property taxes. The city should not discourage their development in exchange for such limited transfer tax revenues.

In Los Angeles, commercial and industrial developments often also pay affordable housing fees. As with multifamily, failing to exempt these projects may prevent their development and reduce net affordable housing funding.

8. Reform could be accomplished at either the local or state level, but only state reform can prevent similar unintended consequences in other jurisdictions.

The Los Angeles City Council has limited authority to amend Measure ULA's provisions: the Council can make amendments that further the purposes of the initiative, which includes increasing the supply of affordable housing. We have provided strong evidence that Measure ULA is hindering mixed-income housing development and thereby reducing the supply of deed-restricted affordable housing in the city, so we believe City Council would have a clear justification for exempting newer mixed-income multifamily projects. The ordinance, moreover, already exempts a select group of non-profit affordable housing developers from the tax, suggesting that expanding the exemption criteria to foster increased housing affordability is not unreasonable. Fully market-rate multifamily, commercial, and industrial developments also generate other revenues and fees and contribute little to ULA revenues, and thus Council could exempt them as well.

Measure ULA reforms by the L.A. City Council are restricted mainly to promoting income-restricted affordable housing and serving low-income renters, but multifamily, commercial, and industrial projects have other important benefits, including supporting economic growth, environmental sustainability, and budget resilience. Los Angeles is also not the only city in California to adopt a flawed transfer tax policy, and others may make similar mistakes (Santa Monica and San Francisco are two cities that already have). Jurisdictions across the state would benefit from basic, uniform standards for the application of transfer taxes, helping them avoid unintended consequences like those documented in this report.

Introduction

Transfer taxes are one-time taxes levied on the sale or transfer of real estate. In most California cities, the transfer tax rate is roughly 0.5%, but in recent years some cities have approved higher and more progressive transfer taxes — that is, escalating tax rates for more valuable properties.

In 2022, voters in the City of Los Angeles approved Measure ULA, a ballot initiative to impose an additional 4% local transfer tax on properties sold for over $5 million and under $10 million, and a 5.5% tax on sales of $10 million or more. Properties sold for up to $5 million are still taxed at the previous municipal rate of 0.45%. The measure was projected to raise around $900 million in revenue per year, with funds dedicated to subsidized housing development for low-income and formerly unhoused households, housing acquisition and preservation, rent assistance, legal support for tenants facing eviction, and similar efforts.[1] It went into effect on April 1, 2023.

The tax applies to sales of nearly all properties above the $5 million threshold, including new multifamily developments, raising concerns that it could negatively impact housing production in the city (McGregor, 2024; Phillips and Ofek, 2022; Shelley, 2024). The tax could reduce homebuilding feasibility through at least two channels. First, it adds to the cost of land acquisition. Land acquisition is a necessary step for most projects, and because it occurs early in the development process, higher costs imposed at this stage have a disproportionately negative impact on financial feasibility.[2] Adding hundreds of thousands or millions of dollars to development costs can tip potentially viable projects into infeasibility.

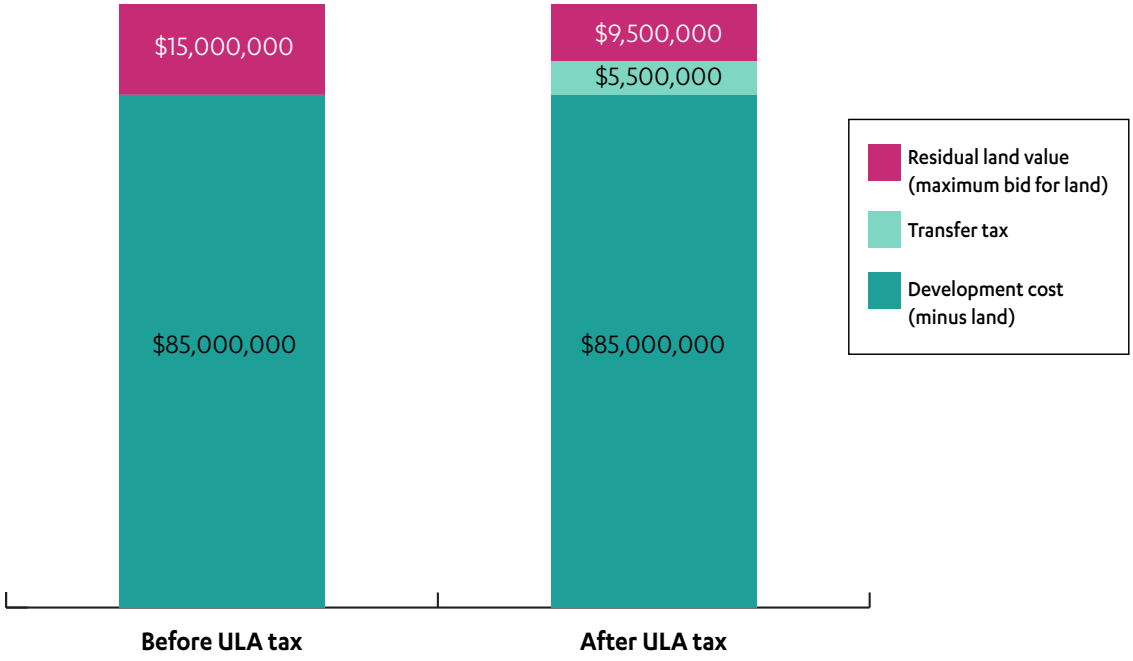
Second, transfer taxes can lower the amount developers can pay for land. Although the ULA tax represents a small share of property value, the cost generally must be deducted from the developer's residual land value.[3] Land typically accounts for around 15% of development cost, and Figure 1 shows how a 5.5% tax on the value of a completed project can reduce the amount developers can pay for land by 35% or more. Because sites marketed for sale in infill areas typically have going concerns on them — small apartment complexes, car washes, etc. — non-developers are likely to bid for them alongside developers. As a result, when developers' residual land value drops, it doesn't necessarily lower the seller's price. It might simply mean that developers will lose bids for land to non-developer buyers who can pay more, and some parcels will not be redeveloped into much-needed housing.

1 The full text of the initiative can be found here: https://clkrep.lacity.org/election/Initiative_Ordinance_ULA.pdf

2 Developers fund the early stages of their projects, such as land acquisition and permitting, with equity. Compared to debt, equity pays higher returns to investors because it carries greater risk of loss. Profits also accrue on equity investments longer, compounding over time as projects advance from permitting to construction and opening.

3 Determining the financial feasibility of development projects starts with estimating its total value upon completion and then subtracting all costs to build the project, including the necessary profit to attract investment. The remaining amount is the *residual land value*, which is the maximum a developer may spend to acquire land for the proposed development while remaining financially viable.

Figure 1.
Illustration of How a 5.5% Transfer Tax Can Lower Residual Land Value by Over 35%



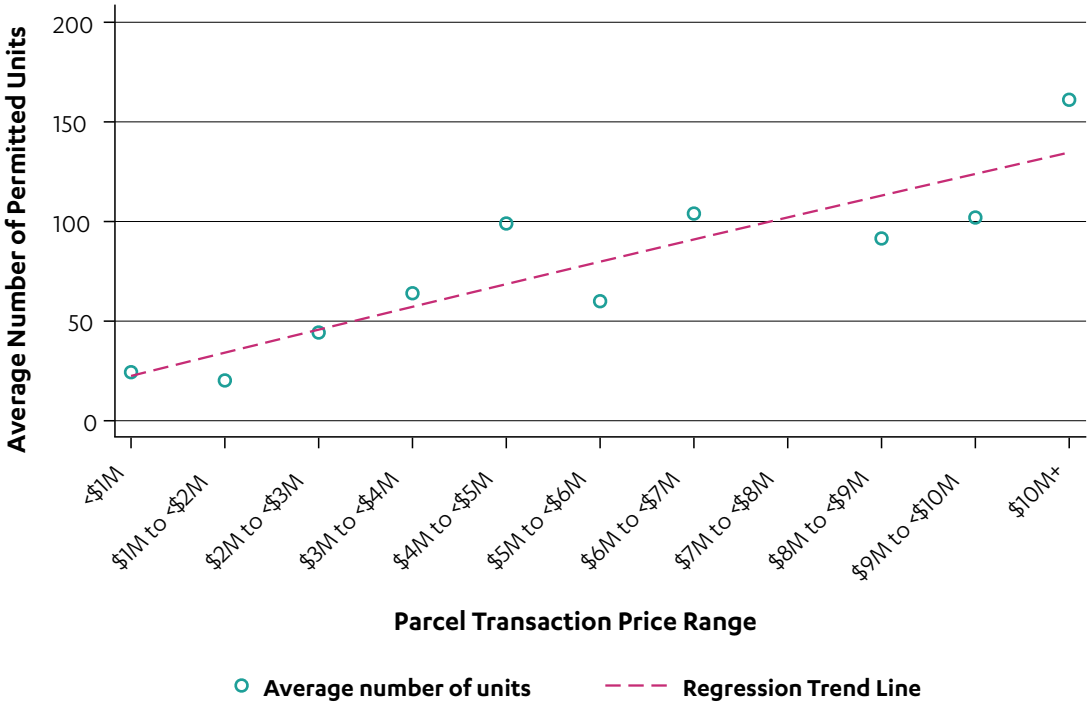
There would be several negative effects from Measure ULA reducing housing production in Los Angeles. Increased housing supply is associated with lower rents and home prices and reduced displacement (Been et al., 2019; Chapple and Loukaitou-Sideris, 2021; Greenaway-McGrevy and So, 2023; Pennington, 2021), and reducing the supply of new housing would be expected to have the opposite effect (Freemark, 2023). Market-rate housing development, which accounts for most residential development in Los Angeles and would be most affected by Measure ULA, is associated with lower rents in neighboring buildings and spurs "migration chains" that loosen pressure on tenants throughout the housing market (Asquith et al., 2023; Mast, 2023).

Reduced market-rate housing production can also stifle the supply of deed-restricted affordable housing. Most multifamily units in L.A. are entitled using density bonuses and are therefore mixed-income, including market-rate and below-market units. This means that when market-rate production falls, the number of new affordable units also declines. While market-rate and below-market housing production are both critical for improving long-term affordability and meeting the needs of L.A. residents, increasing the supply of deed-restricted affordable housing is an explicit purpose of the Measure ULA initiative.[4] In Los Angeles, market-rate and non-residential developments also generate taxes and fees that fund affordable housing.

4 See, for example, Sec. 22.618.1.(b),"Addressing the City's residents' need for affordable housing and tenant protections in each of the Council Districts," and Sec. 22.618.1.(e), "Increasing the supply of affordable housing served by transit."

A relatively small share of transfer tax revenues come from the sale of recently developed multifamily projects; most comes from the sale of single-family homes, commercial, industrial, and older multifamily buildings (Office of Finance, 2024; Phillips and Ofek, 2022). However, there is a strong, positive relationship between a parcel's transaction price and the number of housing units subsequently built on it. Figure 2 shows the relationship between average permitted dwelling units and parcel transaction price in the city of Los Angeles between 2020 and 2024, among the parcels that would go on to receive a building permit for a multifamily development. Parcels sold for $10 million or more produced an average of more than 150 units, while parcels under $5 million averaged 52 units.

Figure 2.
Average Number of Permitted Dwelling Units by Parcel Transaction Value



SOURCE: Author calculations from L.A. County Assessor data. This figure uses 65 permitted projects linked to high-density multifamily-zoned parcel sales, with a mean of 51 units, a median of 26, and an interquartile range of 16 to 53.

Meanwhile, the median cost of building deed-restricted affordable apartments is over $600,000 per unit (Rohrlich, 2023; Ward, 2025). It is possible, then, that applying the Measure ULA tax to new developments could reduce production of deed-restricted affordable housing by more than the number of units that could be subsidized by the additional revenue from these sales. Conversely, exempting some developments from the tax could increase the supply of market-rate *and* deed-restricted affordable housing.[5] Affordable units in mixed-income developments would also be delivered years earlier than units built with Measure ULA revenues.

5 For example, consider if Measure ULA reduced the number of affordable units built in mixed-income projects by 200 per year but taxing new mixed-income projects raised only $10 million per year. In this case, the tax could subsidize fewer than 20 affordable units, for a net loss of roughly 180 affordable homes annually relative to a scenario where these projects were not taxed.

Within the city of Los Angeles, residential permitting has fallen sharply since Measure ULA went into effect: Compared to its 2022 peak, multifamily units permitted was down 21% in 2023 and 40% in 2024. Permitting has remained stable for single-family homes and increased for accessory dwelling units. These latter project types usually are valued under $5 million and are more likely to be built by homeowners for use rather than sale, so their development is less likely to be impeded by the new tax.

Many have attributed L.A.'s falling housing production to Measure ULA, and economic theory and previous research provide plausible arguments for why this would be the case, but these broad patterns are insufficient to show that the tax is to blame. Housing starts are down by 22% nationally since peaking in the first quarter of 2022 — the decline is not limited to Los Angeles.[6] The initiative's passage also coincided with international supply chain disruptions and a surge in inflation and the federal funds rate, all of which contributed to increased development costs. As such, it is difficult to disentangle the effects of Measure ULA from the macroeconomic conditions that affected housing production nationwide.

The balance of this report focuses on establishing a much more robust causal linkage between Measure ULA and declines in multifamily housing production. We provide empirical evidence indicating that the transfer tax is reducing multifamily housing production through both mechanisms discussed above. We first show that ULA has caused a roughly 50% decline in transaction volume for multifamily-zoned parcels with high redevelopment probability that are affected by the tax, consistent with the tax deterring many marginally financially feasible projects because of the higher cost of land acquisition.

We then present evidence of a statistically significant decline of 50% in permitted units on this same class of multifamily-zoned parcels. These results indicate a reduction in multifamily permitting of 1,910 units annually, including roughly 168 deed-restricted affordable units built without public subsidies. This represents a nearly 20% decline in units permitted in multifamily projects with 10 or more dwellings since 2022.

We conclude by showing that the estimated decline in these unsubsidized affordable units — almost certainly only a modest share of the total disincentive effect of ULA on multifamily housing production — implies that applying the tax to newer multifamily projects has led to a net loss of approximately 100 affordable units per year over Measure ULA's first two years. Specifically, we estimate that the cost of replacing the lost unsubsidized affordable units with publicly subsidized units funded by Measure ULA would exceed the entire revenue generated from the sale of these newer multifamily developments — particularly notable given that less than half of ULA's revenue is targeted towards new housing production. This is an alarming finding in the context of the stated intent of the ballot initiative and the city's profound housing affordability crisis. We conclude the report with a discussion of potential reforms that could ameliorate Measure ULA's negative effects on multifamily housing production and increase L.A.'s affordable housing supply.

6 New Privately-Owned Housing Units Started: Total Units (Federal Reserve Economic Data, FRED): https://fred.stlouisfed.org/series/HOUST

Data and Descriptive Model

The purpose of this analysis is determining whether there is a causal relationship between Measure ULA and reduced housing production in the city of Los Angeles, and if so, estimating the size of the effect on market-rate and deed-restricted affordable housing.

The structure of Los Angeles County, the nation's most populous county, provides a helpful setting for such an analysis. The county comprises a substantial unincorporated area and 88 municipalities, including the city of Los Angeles. Los Angeles makes up roughly 40% of the population of L.A. County, and is the only jurisdiction affected by Measure ULA.

Data on county-level real estate transactions allow us to analyze diverging trends between the city of L.A. and other L.A. County jurisdictions, including the unincorporated area. We use transaction data from Commonwealth Land Title Insurance Company for July 2020 through March 2025, originally sourced from the Los Angeles County Assessor, for our analysis.

We use these transactions data as our primary data source because land sales are a leading indicator for redevelopment activity, as we demonstrate below. In Los Angeles, many projects that receive entitlements do not proceed to construction, and securing a building permit can take multiple years (Gabriel and Kung, 2024; Manville et al., 2023). Given the severity of L.A.'s housing shortage and Measure ULA's potential to exacerbate it, we believe that measuring its effect on housing production is too urgent to wait several years for permitting data to confirm these findings. We therefore focus primarily on measuring the effect of Measure ULA on the sale of parcels with high potential for multifamily redevelopment, identified by parcel characteristics including zoning designation and existing land use, providing early evidence on the potential unintended consequences of the transfer tax on multifamily housing production. Another critical reason for focusing on land sales is the availability of standardized assessor data for all of Los Angeles County, allowing us to use statistical analysis methods that can establish the causal effects of Measure ULA, rather than merely associations.

We note that we adjust sales in our sample from July 2024 onward to reflect an inflation adjustment to the ULA tax thresholds. The first adjustment was a 3% increase to $5,150,000 and $10,300,000 thresholds. We implement this adjustment by deflating sale prices for these later sales to make them exactly match the initial ULA thresholds.[7]

We combine transactions data with data from the Los Angeles Department of City Planning on new applications for entitlements, and data from the Los Angeles Department of Building and Safety on new building permits. These merged data are used to identify transaction values, proposals to redevelop property,

7 In other words, we divide sale prices by 1.03 for sales on or after July 1, 2024.

the issuance of building permits for redevelopment, and other important characteristics relating to potential effects of Measure ULA. Data on parcel zoning designations comes from the Southern California Association of Governments' HELPR database. We identified zones allowing for higher-density multifamily development by reviewing municipal codes for selected cities.

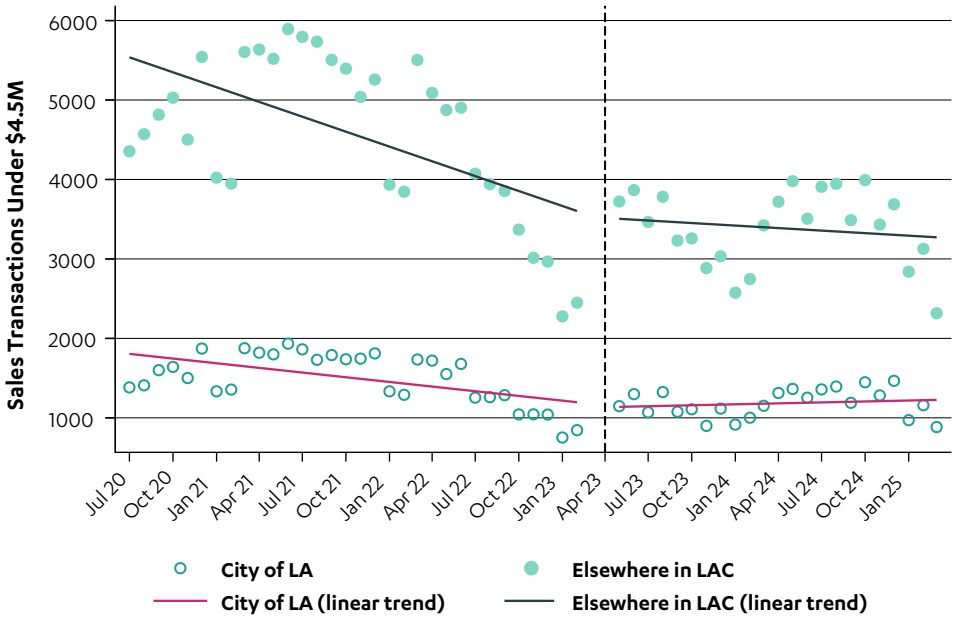
Before introducing how we identify the effects of Measure ULA on sales of multifamily parcels amenable to redevelopment, we begin with a pair of descriptive figures. These figures show sales trends for all property types — commercial, industrial, single-family, multifamily, etc. — before and after adoption of the new tax. In both figures, open (white) circles represent city of Los Angeles transactions and solid (green) circles represent transactions in the other 88 L.A. County jurisdictions combined. Figure 3 is a scatter plot of monthly transactions for properties sold for below $4.5 million.[8] In this figure and the next, we omit sales in the month before and the month of ULA's implementation (March and April 2023) to account for behavioral responses to the tax, a matter we discuss in more detail below. We fit a linear trend line over this scatter plot to allow for easy comparison of these sale patterns across the implementation date of Measure ULA. Focusing on the scatter plot, there is clear visual evidence of increased transaction volume in early 2021 related to the spike in home transactions in the aftermath of the COVID-19 pandemic (Wang, 2022). This is followed by a steady decline from early 2022 due to Federal Reserve interest rate hikes aimed at combating inflation (CFPB Office of Mortgage Markets, 2024). But the City of Los Angeles and the other Los Angeles County jurisdictions do not display any meaningful discontinuity across the Measure ULA implementation date on April 1, 2023 (the dashed vertical line), suggesting that the tax did not have any obvious effect on parcel transactions below the $4.5 million threshold.

Figure 4 presents data on transactions for properties that sold for over $5 million. Notice, first, that overall transaction volume is much lower for these high-priced sales: roughly 5% of the volume of sales for $4.5 million or less. There are also very clear parallel trends in sales of these properties between the city of Los Angeles and the other Los Angeles County jurisdictions. However, unlike in Figure 3, there is a strikingly larger decline in sales across the implementation date of Measure ULA in the city of Los Angeles compared to the other jurisdictions in Los Angeles County. In the first nine months after ULA went into effect, the volume of sales for over $5 million in Los Angeles implied by the linear trend lines declined by around 65%, from an average of roughly 80 per month before ULA to around 30 per month afterward. By contrast, sales for over $5 million fell from roughly 110 to 70 (around 36%) in the other Los Angeles County jurisdictions.

8 We use a cutoff of $4.5 million to exclude properties that might have had modest price reductions in direct response to Measure ULA; this "bunching" phenomenon has been observed in other studies of transfer taxes (see, e.g., Kopczuk and Munroe, 2015). For example, a property sold for $5.1 million would pay a transfer tax of $204,000. Assuming the seller bears the cost, it would be more profitable for them to sell the property for $5 million and avoid the tax. If we used $5 million as our cutoff, this would shift more sales from above the cutoff to below it following ULA's implementation, biasing our results in favor of showing a larger negative effect. In appendix Figure A.1, we show the distribution of transactions by prices ranging from $4–6 million for the city of Los Angeles pre- and post-ULA. Pre-ULA, there are modest spikes at round numbers every $500,000 including at $5 million, but this pattern changes profoundly in the post-ULA period. After the tax goes into effect there is a large spike immediately below $5 million that is roughly three times the magnitude of the pre-ULA share of sales at that price, as well as a substantial spike at $4.8. million, the appropriate point of seller price indifference that reflects fully internalizing the loss from the tax at $5 million. This is clear evidence that both parties understand they are better off transacting at prices that avoid the tax.

Figure 3.

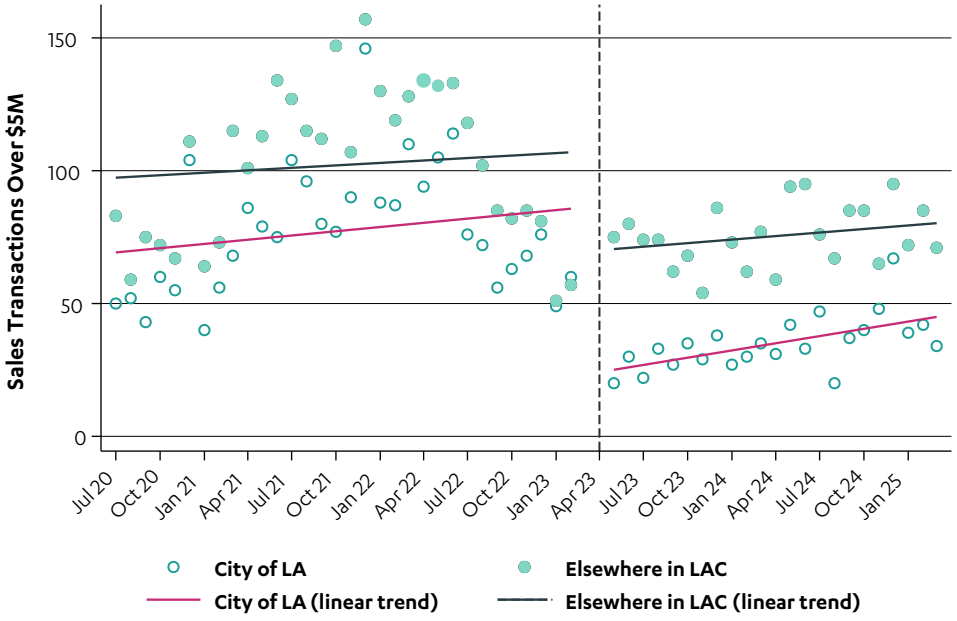
Time Series of Sales Transactions for Under $4.5 Million (All Property Types)



SOURCE: Author calculations from Commonwealth Title Company data. We exclude transactions from March and April 2023, as discussed in text.

Figure 4.

Time Series of Sales Transactions for Over $5 Million (All Property Types)



SOURCE: Author calculations from Commonwealth Title Company data. We exclude transactions from March and April 2023, as discussed in text.

These figures offer compelling evidence that Measure ULA is reducing sales of higher-priced parcels in the city of Los Angeles. They do not provide sufficiently strong evidence, however, to conclude that Measure ULA is negatively affecting multifamily housing development in the city. It is possible, for example, that the decline in sales in Los Angeles shown in Figure 4 is entirely among properties unlikely to be redeveloped, such as existing large apartment and office buildings, and the "mansions" referenced in the tax's informal name. To evaluate evidence for an effect on multifamily development — and consequently on the supply of market-rate and deed-restricted affordable housing — we must rely on more robust, quasi-experimental analysis.

The most appropriate method for estimating the causal effect of Measure ULA on parcel transactions is a difference-in-differences (DD) research design (Card and Krueger, 1994). A DD model is easily adapted to this study's setting because we have only one city, Los Angeles, that is "treated" with an increased real estate transaction tax and a collection of other local jurisdictions that are "untreated," with no change to their transfer taxes. Using this model, we compare the difference in the share of real estate transactions for over $5 million in Los Angeles, where these sales are subject to the Measure ULA tax, with the share of transactions for over $5 million in surrounding jurisdictions in Los Angeles County without such a tax.

Critically, this approach allows us to disentangle the specific effects of Measure ULA from the effects of other factors common to all L.A. County jurisdictions, such as rising interest rates, regional shocks to the labor market, changes to home insurance rates, or other factors that could affect certain types of property sales over time. If the share of transactions of properties likely to be developed as multifamily housing has fallen more in Los Angeles than in the surrounding jurisdictions across the implementation date of the new tax, after allowing for these many other factors that may affect all jurisdictions in L.A. County, then this is strong and credible evidence that ULA is the cause of this non-common decline and, thus, evidence that ULA is likely having a negative effect on the production of multifamily housing.[9]

Primary Outcome: Parcels Suitable for Multifamily Development

We focus our analysis on parcels with a current zoning designation making them suitable for high-density multifamily development. We take this approach for three reasons. First, these parcels are more likely to be redeveloped into multifamily housing because their value as land is more likely to exceed the value of their existing improvements. Second, parcels with high-density zoning are likely to be associated with larger development projects, and larger projects are more likely to use density bonus incentives and thus include deed-restricted affordable units. Smaller projects, including single-family homes, accessory dwelling units, and multifamily buildings with fewer than 10 units are typically ineligible for density bonuses, and may be exempt from affordability requirements that produce new low-income housing units. Third, larger projects are more valuable and therefore more likely to be subject to the Measure ULA tax upon sale — after redevelopment,

9 Rather than using the number of transactions for over $5 million as our main outcome, we use an indicator variable equal to 1 if a transaction is for over $5 million (and other thresholds as applicable) and otherwise equal to zero, because our modeling approach (a linear probability ordinary least squares model) requires a binary outcome. We could also estimate a model that uses a count of transactions, but we would then have to aggregate these transactions at the jurisdiction-by-time-period level, preventing us from using the characteristics of individual parcels as controls. We test this simple count model, though, and estimate an effect (a precisely estimated 71% reduction) that is quantitatively virtually identical to the main estimate using this binary outcome approach with parcel-level controls.

certainly, but also before redevelopment in cases where the acquisition cost exceeds $5 million. Below, using data on proposed developments and building permits issued in the pre-ULA period, we present evidence that the parcels we identify do, in fact, have a substantially higher probability of being redeveloped into multifamily housing.

We identify these parcels (henceforth we will refer to them using the shorthand "multifamily parcels") by reviewing zoning codes for the city of Los Angeles and the following other jurisdictions in Los Angeles County: unincorporated Los Angeles County, Burbank, Glendale, Inglewood, Lancaster, Long Beach, Pasadena, Pomona, Santa Clarita, and Whittier.[10] We will refer to this set of jurisdictions as "the rest of Los Angeles County" or similarly going forward). We focused on zoning designations that allow higher density residential development (30 dwelling units per acre or more) without a variance or a zoning or land use change, and without using density bonuses. To the extent that other parcels with lower allowable density could be redeveloped using the additional allowances associated with city or state density bonus programs, we are likely underestimating the number of parcels that could be suitable for high-density redevelopment. Therefore, to the extent our estimates may suffer from bias, we view them as conservative and expect that the true effect of the ULA tax could be larger.

Table 1 provides descriptive data on parcel transactions to further inform the logic behind the difference-in-differences approach. We tabulate the number of quarterly transactions for multifamily-zoned parcels according to whether the property sold for more than $5 million (the threshold for the new transaction tax) or $3 million or less. Although $3 million is quite distant from the lowest sale price affected by the tax, we use this range to be certain that downward price effects near $5 million do not extend into the comparison range. Additionally, as shown in Figure 2, building permits associated with parcels transacting for $3 million or less tend to be associated with relatively small projects if they are redeveloped.

Results are displayed separately for the city of Los Angeles and the rest of Los Angeles County. After each pair of columns, we calculate the share of transactions for properties that sold for more than $5 million relative to all transactions over $5 million and $3 million or under. At the bottom of the table we calculate the average change over all quarters for the pre- and post-ULA periods.

For the city of Los Angeles and the rest of Los Angeles County, then, we have the average share of sales over $5 million before and after the implementation of Measure ULA. The difference between the pre- and post-ULA averages approximates the first "difference" in the DD framework. For the city of Los Angeles, this ratio declines by 10.7 percentage points, while for the rest of the county it declines by only 1.7 percentage points. In other words, although the share of transactions for greater than $5 million fell in both the city of L.A. and the other Los Angeles County jurisdictions, it fell by more than six times more in L.A.

The "difference in differences" is the difference between these two ratios, which is 9.0 percentage points. In lieu of other major policy changes in early 2023 that may have differentially affected the sale of higher-priced multifamily-zoned parcels in the city of L.A. (see our discussion of Executive Directive 1 below), the difference in these two rates of decline can plausibly be attributed to implementation of Measure ULA.

10 This collection of municipalities is not exhaustive, but we identified a pattern of substantially diminishing returns for continuing to assess and code smaller municipalities (most of the remaining jurisdictions had, at most, sales of qualifying parcels in the low single digits per quarter).

Table 1.

Transaction Counts of Multifamily-Zoned Parcels by Quarter and Transaction Values

Quarter	City of Los Angeles			Other Los Angeles County Jurisdictions		
	$3 Million or less	Over $5 Million	Share of transactions over $5 million	$3 Million or less	Over $5 Million	Share of transactions over $5 million
Jul-Sep 2020	322	39	0.108	68	4	0.056
Oct-Dec 2021	336	64	0.16	75	9	0.107
Jan-Mar 2021	383	46	0.107	86	1	0.011
Apr-Jun 2021	483	59	0.109	96	8	0.077
Jul-Sep 2021	453	85	0.158	109	12	0.099
Oct-Dec 2021	477	113	0.192	93	10	0.097
Jan-Mar 2022	436	98	0.184	97	7	0.067
Apr-Jun 2022	431	96	0.182	84	14	0.143
Jul-Sep 2022	329	74	0.184	76	7	0.084
Oct-Dec 2022	279	78	0.218	67	7	0.095
Jan-Mar 2023	250	117	0.319	51	4	0.073
Apr-Jun 2023	**288**	**10**	**0.034**	**78**	**4**	**0.049**
Jul-Sep 2023	**314**	**12**	**0.037**	**66**	**3**	**0.043**
Oct-Dec 2023	**299**	**30**	**0.091**	**58**	**7**	**0.108**
Jan-Feb 2024	**343**	**17**	**0.047**	**58**	**1**	**0.017**
Apr-Jun 2024	**318**	**25**	**0.073**	**73**	**7**	**0.088**
Jul-Sep 2024	**321**	**19**	**0.056**	**76**	**7**	**0.084**
Oct-Dec 2024	**413**	**52**	**0.112**	**86**	**7**	**0.075**
Jan-Mar 2025	**297**	**17**	**0.054**	**59**	**4**	**0.063**
Total	6.772	1,051		1,456	123	
Pre- and Post-ULA Averages						
Jan 2021-Mar 2023 (Pre-ULA)	*379.91*	*79*	*0.172*	*82*	*7.55*	*0.084*
Apr 2023-Dec 2024 (Post-ULA)	*324.13*	*22.75*	*0.066*	*69.25*	*5*	*0.067*
Post-ULA minus pre-ULA			*-0.107*			*-0.017*
Difference in Differences			***-0.09***			

SOURCE: Author calculations from Commonwealth Title Company data
*Note: **Bold** indicates transactions under Measure ULA.*

Relative to the pre-ULA average share of transactions for greater than $5 million (17.2%), the 9.0 percentage point change attributable to Measure ULA is equivalent to a 52% decline. This approximates the causal effect of Measure ULA on these transactions, providing a useful benchmark against which to compare the more formal, regression-based DD estimates we generate below.

A Potential Confounder: Executive Directive 1

On December 16, 2022, Los Angeles Mayor Karen Bass announced Executive Directive 1 (ED1), an emergency measure aimed at reducing the time required to develop affordable housing projects (Office of Los Angeles Mayor Karen Bass, 2022). ED1 ordered the planning and building departments in Los Angeles to limit review times for proposed projects comprising 100% deed-restricted affordable units to no more than 65 days total, from a typical timeline of 10 months to a year or more.

ED1 included two important provisions. First, it specified that eligible projects could combine this streamlining with any applicable state or local density bonuses, and California provides very generous density bonuses for 100%-affordable projects. Second, the affordability requirement could be satisfied by meeting affordability criteria commonly associated with "workforce housing" — in other words, rents that did not require large public subsidies to make development feasible.

This combination of ED1's streamlining and generous state density bonuses quickly (and surprisingly to most observers) led to numerous private for-profit developers proposing 100% affordable developments without public subsidies. By the second half of 2023, ED1 filings came to comprise the majority of all new multifamily housing units proposed in the city. Over the first 15 months after ED1 was introduced, the number of proposed affordable units nearly equaled the total number of affordable units proposed in the prior three years (see appendix Figure A.2).

The strong initial response to ED1 suggests that it augmented the pro-supply effects of the state density bonus by reducing the time to market for 100%-affordable housing projects by as much as one third or more (based on a typical timeline for projects of 2.5 years). As such, we might expect ED1 to increase the feasibility of multifamily housing production and, thus, sales of parcels suitable for redevelopment after its passage.

A concern for this study is that ED1 applied only to the city of Los Angeles and it coincided very closely with the implementation of Measure ULA. (See appendix Figure A.2 for evidence of this overlap.) Failing to account for the substantial production incentives introduced by ED1 would likely increase the number of transactions in the numerator of our outcome: the multifamily parcels sold for over $5 million. This would bias downward our estimates of the magnitude of ULA's effect (understating the true negative effect).

Another complication is that ED1 also initially allowed for redevelopment of parcels otherwise restricted to single-family residential homes, ultimately leading the city to roll back the streamlining and attempt to reverse approvals for around a dozen projects (Wagner, 2023). If this initial feature of ED1 led developers to shift purchases from multifamily-zoned parcels to single-family-zoned parcels after ULA went into effect, this would increase transactions in the denominator of our outcome — multifamily parcel sales for $3 million or less — *and* decrease transactions in the numerator of the outcome, since single-family zoned parcels are generally smaller and likely to transact at lower prices. Such a shift would lead to modest upward bias in estimates of the

effect of ULA. Thus, the bias from ED1 is conceptually ambiguous.[11] For this reason, we identify all transactions for parcels associated with a subsequent ED1 filing with the Los Angeles Department of City Planning and exclude them from our analysis.

Additional Sources of Potential Bias

Another source of potential bias is the strong behavioral response that led to a large spike in sales of multifamily-zoned parcels (and parcels with other zoning designations) very shortly before the tax took effect. Returning to Table 1, the share of multifamily-zoned parcel transactions for over $5 million in the city of Los Angeles spikes to 32% in the quarter before Measure ULA is implemented, from an average of around 19% in the prior year. Some of these sales were likely "pulled forward" in time by the impending tax, so including them would lead to substantial upward bias in our estimates. We would show a larger change in such sales across the ULA implementation date compared to if we excluded these sales from our analysis. We account for this source of bias by omitting sales from the month before and the month of implementation (March and April 2023).[12]

There may still be upward bias in our estimates if there was anticipatory behavior outside this two-month window. Such a shift would increase the pre-ULA sales volume and decrease the post-ULA volume. To evaluate this possibility, we experimented with excluding a larger time period — three months before and three months after ULA implementation. Excluding this longer period increased the magnitude of our DD estimates very slightly, so we opted to use the shorter exclusion period. In our "event study" models we estimate separate policy effects for each quarter (rather than an average difference across the full pre-ULA and post-ULA periods) and calculate these quarterly estimates relative to a "reference" period. For this reference period we use the quarter immediately prior to the 2022 election in which ULA was approved by voters. This time period is less likely to be affected by anticipatory behavior and allows us to estimate, rather than discard, the spike in sales activity immediately prior to the implementation date.[13]

An additional requirement for the validity of the DD estimate as a causal effect is that there are no spillovers between the city of Los Angeles and other jurisdictions. In other words, the Measure ULA tax did not induce buyers/developers to shift their purchases to other jurisdictions used in our analysis. This assumption may not hold if many buyers/developers are at least partially indifferent to developing projects in the city of Los Angeles versus other jurisdictions in Los Angeles County. If would-be buyers/developers in Los Angeles shift to purchasing similar properties in surrounding jurisdictions after the passage of Measure ULA, this will tend to bias upward the true, all-else-equal effect of the tax — our results will show ULA having a stronger negative impact on multifamily parcel transactions than the true effect.

11 Ultimately, though, ED1 appears more likely to result in a downward bias in our estimates of Measure ULA's effects (making it less likely to find a negative effect). Among transactions we matched to proposed development projects, roughly 80% of ED1 project filings were among parcels we identify as multifamily-zoned parcels with high-density redevelopment potential, suggesting that ED1's net effect was likely to increase such sales post-ULA. This is further evidence that our estimates are likely to be conservative.

12 For an example of how this anticipatory behavior affects the estimation of sales trends, see appendix Figure A.3 for a version of Figure 4 with March 2023 sales included.

13 An additional factor that may be considered a source of potential bias is the exemption provided for nonprofit affordable housing developers. This exemption amounts to a land subsidy for these developers, insulating a subset of parcel sales from the effect of the tax and attenuating the measured decline in activity. But while this may affect the ability to accurately measure the effect of ULA on market-rate production through changes in parcel sales, this exemption is an explicit part of the Measure, so we consider it to be part of the overall outcomes caused by the transfer tax. For more detail on the exemption, see ordinance Sec. 21.9.14. "Exemption — Qualified Affordable Housing Organization": https://clkrep.lacity.org/election/Initiative_Ordinance_ULA.pdf

However, Table 1 suggests this potential is limited. Specifically, the number of multifamily-zoned parcels transacting in our non-city of Los Angeles jurisdictions is quite small (fewer than 10 in most quarters) before the tax takes effect and it remains similarly small after. While the volume of these transactions in the city of L.A. declines by an average of roughly 80 per quarter after ULA is implemented, it is not offset — even partially — by an increase in transactions in the other L.A. County jurisdictions.

It is also worth briefly zooming out from these methodological considerations. Our primary motivation in conducting this research is to estimate the net effects of Measure ULA on multifamily housing development in the city of Los Angeles. From a policy perspective, this is not an all-else-equal setting. In the real world, location matters. If there were spillovers from the L.A. to surrounding jurisdictions, this would result in homes that might have been built for city residents being built in other jurisdictions instead. Depending on their distance from Los Angeles, the rent- and price-stabilizing effects of these new homes on the city's neighborhoods might be attenuated. Because the region's rail and bus network centers on L.A., spillover developments might be located further from transit, and their residents might use transit less and drive more, polluting more and spending more of their income on transportation. The same amount of development in other Los Angeles County jurisdictions might also produce fewer deed-restricted affordable units due to differences in local ordinances, and it would tend to boost the tax base of surrounding municipalities rather than the city of Los Angeles. Finally, Measure ULA is a city of Los Angeles policy, and the resulting transfer tax is paid by local property owners, with the purpose of benefiting city residents. Thus, it is important to understand ULA's effects on the city itself, and any potential spillover of apartment development out of the city into surrounding areas is arguably part of this overall policy effect.

Regression-based Difference-in-Differences Analysis

Next, we formalize the estimation of ULA's effects on multifamily-zoned parcels using both a traditional DD model and an "event study" model. The DD model generates an average estimate of the change in the share of sales of multifamily-zoned parcels for greater than $5 million over the full pre-ULA and post-ULA periods. As mentioned above, we use sales of properties $3 million or less as our comparison group, omitting properties that sold for over $3 million but less than or equal to $5 million. The event study DD model generates distinct estimates for each quarter of sales data in our sample relative to the quarter immediately before the midterm election when voters passed Measure ULA (July through September of 2022). We exclude sales from March and April 2023 because of anticipatory behavior on the part of buyers and sellers before the tax came into effect (Flemming, 2023; Kamin, 2023).

The DD model we estimate takes the following form:

$$y_{ijt} = \beta_0 + \beta_1 LA_j + \beta_2 post_t + \beta_3 (LA_j \times post_t) + \boldsymbol{X}_{ijt}'\gamma + \varepsilon_{ijt},$$

$$y_{ijt} = \begin{cases} 1 \text{ if } y_{ijt} > \$5\text{M} \\ 0 \text{ otherwise} \end{cases}.$$

The outcome is a binary indicator for a transaction involving parcel *i* in jurisdiction *j* at time *t* above the sale price threshold of $5 million (or any other relevant threshold for different analyses). In most specifications, we

control for characteristics of individual parcels, discussed in more detail below, in the vector X_{ijt}. The term LA_j is an indicator for a transaction taking place in the city of Los Angeles and the term $post_t$ is an indicator for a transaction taking place in April 2023 or later.

The effect of Measure ULA on multifamily parcel sales for greater than $5 million is identified by β_3. For this model to yield a causal effect of Measure ULA on these sales, we rely on a key identifying assumption for the DD research design: In the absence of the new tax, the share of sales of parcels for more than $5 million would have been on the same trend in the city of Los Angeles and other surrounding jurisdictions. Below we present evidence for the validity of this "parallel trends assumption" from event studies, where we estimate a separate coefficient for 8 of the 9 quarters prior to ULA's implementation and the seven quarters after. The estimates are relative to the quarter immediately before Measure ULA was approved by voters, allowing us to omit anticipatory behavior after the election. The results show similar trends for more than 1.5 years prior to implementation of ULA.

Results

Estimated Effects on Sales of High-Density Multifamily-Zoned Parcels

Table 2 presents results from a pair of DD models estimating the average effect of the Measure ULA transfer tax on the share of multifamily-zoned parcels selling for over $5 million, relative to parcels transacting for $3 million or less.

Table 2.

Difference-in-Differences Results for Multifamily-Zoned Parcel Transactions for Over $5 Million

	(1)	(2)
City of L.A.	0.075*** (0.010)	0.060*** (0.009)
Post-ULA	-0.015 (0.014)	-0.005 (0.013)
Post*City of L.A.	-0.077*** (0.016)	-0.074*** (0.014)
Constant	0.085*** (0.009)	0.098*** (0.010)
Controls	N	Y
N	9,044	9,044
Adj. R^2	0.018	0.173

*NOTE: The models include all sales transactions for properties identified as suitable for redevelopment into high-density multifamily housing that we identified from zoning code literature from the city of Los Angeles, unincorporated Los Angeles County, Burbank, Glendale, Inglewood, Lancaster, Long Beach, Pasadena, Pomona, Santa Clarita, and Whittier. We exclude sales between $3,000,001 and $5,000,000 to avoid capturing shifts in pricing and buyer preferences in the analysis, as discussed in text. Our sample period spans July 2020 through March 2025. We exclude sales from March and April 2023, as discussed in the text. Heteroskedasticity-robust standard errors in parentheses. $^{+}$ p < 0.10, * p < 0.05, ** p < 0.01, *** p < 0.001*

The first model omits any controls, and the second model includes a series of controls to hold constant potentially important characteristics of parcels most likely to be suitable for redevelopment. Specifically, we control for the ratio of land value to improvement value, as properties with a relatively low improvement value are more likely to be redeveloped. We also control for properties with an explicit residential zoning designation rather than dual-use commercial/residential zoning, and for the number of existing dwelling units on the property.[14]

14 We control for explicit residential zoning, in contrast to dual-use commercial/residential zoning, because there could be cases where redevelopment requires a change of use even if multifamily development is allowed (e.g., a small retail building being replaced by a mid-rise apartment). This, in turn, could increase the likelihood of a discretionary approval process and reduce the parcel's desirability to prospective developers. Furthermore, in certain cases, allowable floor area may be calculated differently for these two

The results in column 1 (no controls) indicate an average decline of 7.7 percentage points in the share of multifamily-zoned parcel transactions for greater than $5 million in the post-implementation period. The estimated effect is virtually identical when the controls are included — a 7.4 percentage point reduction. Relative to the average level of these sales prior to ULA, this is a 46% decline. Both estimates are statistically significant at the 99.9 percent confidence level, indicating they are highly unlikely to be observed by random chance. Additionally, the model's overall explanatory power (adjusted R2) increases substantially when we add control variables, but the estimated effect size and its standard error changes very little, consistent with identifying an effect of ULA that is not biased by omitted variables.

If we omit a larger set of sales activity around the ULA implementation date, the estimated effects become much larger. In an alternative model that omits three months before implementation and three months after, rather than only March and April 2023, the resulting coefficients are both -0.128 (12.8 percentage points), and both are still statistically significant at the 99.9 percent confidence level. This is equivalent to a 64% decline in sales of multifamily parcels. For the sake of providing a conservative estimate of the negative effects we are exploring here, we use the lower estimate in Table 2 going forward.

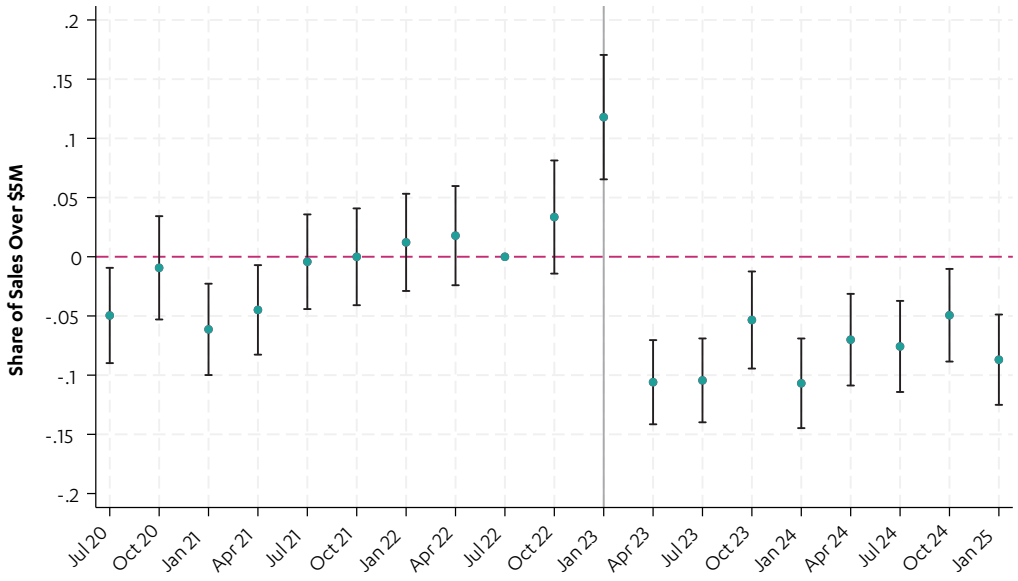
Figure 5 presents the results of an event study version of the model using quarterly data from July 2020 through March 2025. The dates on the x-axis represent the final month of each quarter (e.g., March 2021 is sales for January through March). As mentioned earlier, the difference in differences for each quarter is now relative to the quarter immediately before Measure ULA was passed (during the November 2022 mid-term election). This reference point allows us to estimate the behavioral response to ULA's approval — that is, a "rush to sell" in the months before implementation — rather than simply omitting these transactions. This model also includes the controls used in the model estimated in column 2 of Table 2 above.

The event study model allows us to assess the validity of the parallel trends assumption, which is needed for a causal interpretation of the DD model. Leaving aside the quarter before ULA's implementation, when the share of multifamily parcel sales over $5 million is notably higher than the reference period, the five quarters around the pre-election reference period do not differ in a statistically distinguishable manner from the quarter of the election. Only prior to mid-2021, when lower-value real estate transaction volumes were peaking amid COVID-related disruptions, do two quarters differ statistically from the reference quarter. This evidence is consistent with a valid parallel trends assumption and, more broadly, shows some evidence of a relatively upward trend in the city of Los Angeles relative to the comparison jurisdictions, suggesting that the estimated decline may be understated.

parcel types, and dual-use parcels may be subject to different financial considerations because a wider range of potential uses could influence the parcel's sale value. We also explored controlling separately for parcels with zero or one residential unit versus higher numbers, as there could be differences related to tenant protections or other such non-linear relationships. This did not affect the results measurably, so we kept the simpler linear control for existing units.

We also estimated DD models that use each of these control variables as sample restrictions. This allows us to test whether the effects of ULA on multifamily-zoned parcel sales differs meaningfully according to these characteristics. Across all of these specifications, we find consistently statistically significant negative effects that vary in magnitude from -4.7 to -7.7 percentage points.

Figure 5.
Event Study Results for Multifamily-Zoned Parcel Transactions for Over $5 Million



NOTE: This model includes the controls discussed in the text. We exclude sales between $3,000,001 and $5,000,000 to limit comparison parcel sales to those with a maximum price substantially below the ULA threshold. Our sample period spans July 2020 through March 2025. We estimate effects relative to July through September 2022, the quarter before the election when voters approved Measure ULA.

In contrast, during the quarters after the implementation of Measure ULA, the share of sales above $5 million immediately drops by 10 percentage points and averages 7.8 percentage points lower over the two years after the tax increase takes effect, a notably larger average effect than the main DD estimate, which is compared to an average over the entire pre-period instead of a single period prior to the midterm election.

We can also estimate the magnitude of the effect of a "rush to sell" on sales volume in the runup to the new tax being implemented. In the quarter before ULA came into effect, sales of multifamily parcels were 12 percentage points higher than in the quarter preceding the mid-term election.

In Table 3, we present results for the share of sales of multifamily-zoned parcels for $10 million or more (again, relative to parcels transacting for $3 million or less). The estimated decline of 1.5 percentage points in column 2 is statistically significant at the 90 percent confidence level and represents a 22% decline from the pre-ULA average. The event study results in Figure 6, below, show a similar pattern of parallel trends prior to implementation of the transfer tax, then a roughly 4.5-percentage point decline immediately after ULA is implemented and an average 3 percentage point decline over the following two years.

Though this decline is around half of the size of the effect for all transactions over $5 million in our DD model estimates, we note that these high-priced parcels tend to be associated with much higher numbers of housing units (see Figure 2), indicating a potentially large loss of both market-rate and unsubsidized affordable housing units, a topic we turn to in more detail below.

Table 3.

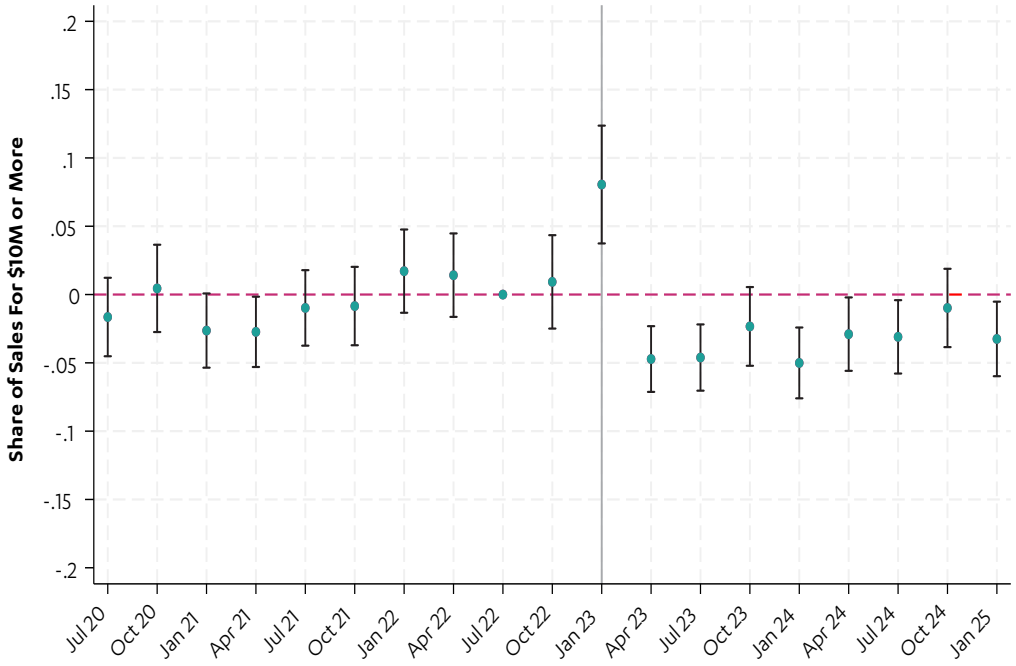
Difference-in-Differences Results for Multifamily-Zoned Parcel Transactions of $10 Million or More

	(1)	(2)
City of L.A.	0.027***	0.017**
	(0.007)	(0.006)
Post-ULA	-0.019*	-0.012
	(0.009)	(0.008)
Post*City of L.A.	-0.016	-0.015^{+}
	(0.010)	(0.009)
Constant	0.039***	0.045***
	(0.006)	(0.007)
Controls	N	Y
N	8,388	8,388
Adj. R^2	0.006	0.224

NOTE: The models include all sales transactions for properties identified as suitable for redevelopment into high-density multifamily housing that we identified from zoning code literature from the city of Los Angeles, unincorporated Los Angeles County, Burbank, Glendale, Inglewood, Lancaster, Long Beach, Pasadena, Pomona, Santa Clarita, and Whittier. We exclude sales between $3,000,001 and $9,999,999 to make results comparable to the results from our main analysis of multifamily parcel sales for greater than $5 million. Our sample period spans July 2020 through March 2025, and we exclude sales from March and April 2023, as discussed in text. Heteroskedasticity-robust standard errors in parentheses.
*$^{+}$ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$*

Figure 6.

Event Study Results for Multifamily-Zoned Parcel Transactions for $10 Million or More



NOTE: This model includes the controls discussed in the text. We exclude sales between $3,000,001 and $9,999,999 to make results comparable to the results from our main analysis of multifamily parcel sales for greater than $5 million. Our sample period spans July 2020 through March 2025. We estimate effects relative to July through September 2022, the quarter before the election when voters approved Measure ULA.

Estimated Effects on Sales of Other Parcel Types

How do these economically large negative effects on multifamily-zoned parcel transactions compare to changes in transactions for parcels zoned for other uses? We see similar effects in other zoning categories. An analysis of R1-zoned residential parcels presented in appendix Figure A.4 and Table A.1 reveals a precisely estimated 1-percentage point decline. Relative to the average before ULA went into effect, this translates to a 29% decline, or an effect roughly 60% of the size of the effect we estimate for multifamily parcels.

A similar estimate for parcels zoned for manufacturing and industrial uses shows a 39% decline in sales (the point estimate is -0.021 and it is statistically significant at the 99.9 percent confidence level). These results, along with the relevant event study figures, are presented in the appendix (Figure A.5 and Table A.2).

Evidence of ULA's Effect on Multifamily Housing Production

Our key research question is whether, and to what extent, Measure ULA is having a negative impact on multifamily housing production in the city of Los Angeles. We are concerned with Measure ULA's effect on multifamily housing production because the city's housing supply has fallen short of demand for decades, driving up rents and home prices and worsening affordability. Any hope of meeting the state's housing production goals hinges on large, sustained increases in multifamily production. This question bears on state policy, as the city must plan for construction of more than 450,000 new homes over an eight-year period (Southern California Association of Governments, 2021).

So far, we have shown evidence of a roughly 50% reduction, relative to the average level prior to implementation of ULA, in *sales of parcels* with high potential for multifamily development. We now turn to estimating the effect of these reduced transactions on *multifamily production*. We conclude by considering the potential effects of lower production on housing affordability, and on the supply of deed-restricted affordable housing in particular. We also compare revenue generated by taxing new multifamily developments to the cost of subsidizing deed-restricted affordable units that are not built in mixed-income projects because of Measure ULA.

In this section, we provide evidence that the decline in parcel transactions caused by Measure ULA is reducing multifamily housing production. Very conservatively (as we discuss in more detail below), we estimate that the reduction in parcel sales in ULA's first two years will lower multifamily housing production in projects with at least 10 dwellings by 3,820 units, or more than 1,900 units per year. Considering that the city permitted an average of only around 10,900 such units per year from 2020 through 2022, this is a substantial decline that will worsen housing affordability. And as we show later, the same elements of the ULA tax responsible for lower market-rate housing production are likely also reducing the net supply of deed-restricted affordable units.

Challenges obtaining entitlement and permitting data for some jurisdictions limits our ability to do a formal difference in differences analysis using proposed housing units or building permits as an outcome. We have recent data from the city of Los Angeles on these two outcomes, but we lack the resources to obtain similar data from the 10 other jurisdictions used as a comparison group. More generally, using entitlements or permits to assess the impact of Measure ULA is difficult because development projects may not receive entitlements for months (at least) after a parcel transaction.

We matched data on proposed projects of 10 units or more seeking entitlements from the Los Angeles Department of City Planning with multifamily parcel sales that occurred between July 2020 and March 2023 (n=135). The mean time between sale and entitlement application is 374 days and the median time is 327 days. Building permits, meanwhile, are usually issued years after a parcel sale. When we match sales data with multifamily building permits from the Los Angeles Department of Building and Safety (LADBS) for parcel sale dates over the same period (n=104), we see evidence of a large distribution of time lags between a parcel sale and an issued permit. The mean permitting lag time for multifamily projects is 467 days and the median is 426 days, with the 25th percentile of projects taking 160 days and the 75th percentile taking 716 days.[15]

15 We focus on building permits for this analysis because this measure is a more substantive indicator of likely development than entitlement proposals or approvals. Many initial development proposals, including those that receive entitlements from the

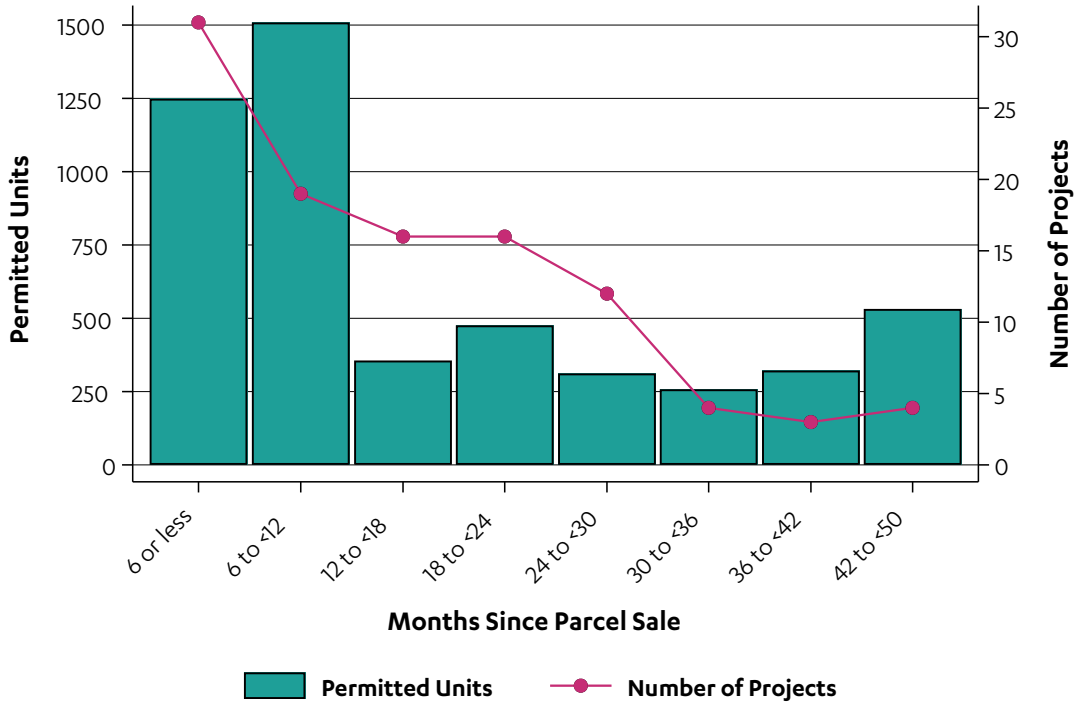
The parcels we identify as having strong potential for multifamily redevelopment are disproportionately likely to host such projects. Of the 149 total permitted high-density multifamily projects we can link to prior parcel sales in our full matched sample, 89% are associated with these parcels. The high match rate suggests that our criteria for identifying parcels with strong redevelopment potential is very strict, and that if we loosened our criteria we would identify more parcel sales leading to future multifamily development. This is another way in which our estimates of the negative impact of Measure ULA on multifamily production is highly conservative.

In Figure 7, we plot the relationship between, on the one hand, elapsed time since the sale of parcels zoned for high-density multifamily development, and on the other hand, both the number of building permits issued over time (shown as a connected line with a point for each period of elapsed time, referenced by the right y-axis) and the total number of permitted units (shown as vertical bars for each period, referenced by the left y-axis). The figure represents these relationships for 105 multifamily-zoned parcels that transacted between July 2020 and December 2022. This sample period allows us to look at a time window spanning 26 to 50 months, depending on when the parcel transacted in the sample period. Over that time, these sales were associated with a total of 5,014 permitted units. Projects had an average of 48 units, the 25th percentile project was 16 units, the median was 21 units, and the 75th percentile was 42 units. The 95th percentile project was 200 units and the largest was 405 units.

Over the first 12 months after these parcels transacted, 2,718 units associated with 25 projects were permitted. Over the second year this declined to 832 units permitted across 32 projects. Between 24 and 36 months, permits were issued for another 16 projects yielding 570 units. This timespan marks the maximum observable post-sale period for the most recent transactions in the analysis sample. However in the partial sample we can observe over the final 20 months, another 11 projects associated with 854 units were permitted. Notably, 47% of these units are associated with one 405-unit project that saw more than 3.5 years elapse between the parcel sale and permit issuance, consistent with larger projects taking longer on average to be approved.

Department of City Planning, never come to fruition or are scaled back in size over the course of the approval process. However, in the appendix, we also conduct an analysis using public data from the Los Angeles Department of City Planning, generating suggestive evidence of a negative effect on projects that must undergo discretionary entitlement.

Figure 7.
Distribution of Permitted Units by Months Since Parcel Transacted



NOTE: This figure captures the relationship between groupings of elapsed time, in six-month intervals, between parcel sale dates and, first, the number of building permits issued for multifamily projects on these parcels (connected line and right y-axis) and, second, the number of multifamily units permitted on them (bars and left y-axis) for 87 linked sales observed between July 2020 and December 2022. We restrict the analysis to projects with 10 or more units to focus on developments with density high enough to likely include income-restricted affordable units, and we exclude projects filed under ED1 (see text for more details).

Changes in Building Permit Issuance Around ULA

As mentioned above, we are unable to conduct a formal DD analysis of measures of development downstream of a parcel sale. However, we can use an interrupted time series approach and contextualize the resulting patterns using the DD results on parcel sales above. We see strong evidence of parallel trends between the city of Los Angeles and other Los Angeles County jurisdictions in the pre-ULA period — even in raw data as illustrated in Figures 4 and 5. As such, we believe that changes in the time series of key development metrics in the city of Los Angeles alone can reasonably approximate the causal effect of the introduction of the Measure ULA transfer tax.

We begin by considering patterns of new multifamily housing units permitted through LADBS for parcels that transacted before and after the implementation of ULA. We have data through mid-February 2025 on issued building permits. This allows us to include permits issued within one year of parcel sales occurring during the first 10 months of the post-ULA period (through January 2024). Holding constant a common 365-day "look

ahead" period for building permit issuance across the sample of parcel sales, each sale has the same window of time to be associated with a subsequent building permit.

We first present visual evidence of this relationship by plotting linear trend lines for permitted units associated with parcel sales in the pre-ULA and post-ULA periods. Figure 8 is a scatter plot of individual projects issued a building permit for 10 or more units on parcels we define as amenable to high-density multifamily redevelopment within one year of the parcel sale date. The x-axis corresponds to the original parcel transaction date. For example, the estimate for April 2022 includes the two permitted projects (that we could identify), with unit counts, that are associated with parcels sold during these months and receiving permits within one year of the sale date. We also fit two linear regression trend lines, one before the implementation of ULA and one after. As in other analyses, we drop sales within one month of ULA implementation to compensate for the behavioral response already documented. We also, again, exclude projects that were subject to ED1 streamlining. As mentioned earlier, some of these projects may have only become financially feasible due to the provisions of the executive order, and streamlining may have reduced their permitting time by 80% or more.

Figure 8.

Permitted Units Associated with Sales of Parcels Zoned for High-Density Multifamily Development (20+ Units) in Los Angeles

NOTE: Analysis data are a sample of multifamily-zoned parcels that transacted between July 2020 and March 2024 and could be matched with a building permit for a multifamily development of 20 or more units issued within one year of the sale. We exclude permitted units associated with parcel sales from March and April 2023 and projects associated with ED1.

This figure suggests a notable change of direction in the trends before and after ULA with a roughly 20% annual increase in the two years prior to ULA's implementation followed by a roughly 35% decline in the one year after the tax went into effect. In the appendix we present analogous figures using other cutoffs (10+, 15+, and 30+ units) and see similar patterns. However, we can estimate more formally the average change in permitted units represented by these trends, before and after implementation of ULA, using the following linear regression model:

$$log(units)_{it} = \beta_0 + \beta_1 post_t + \epsilon_{it}.$$

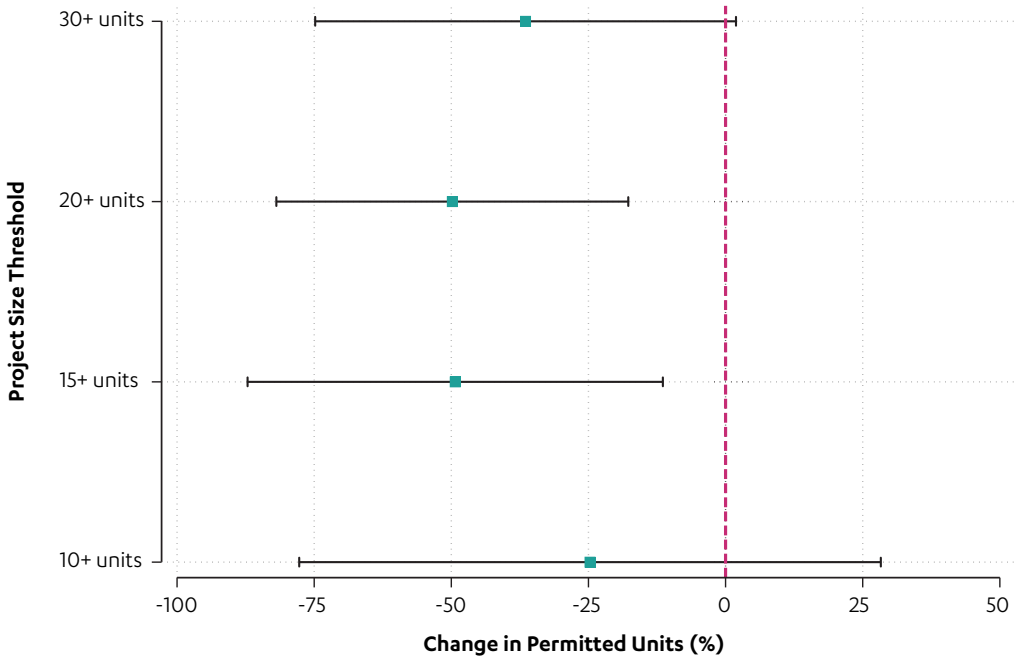
This model regresses the log of permitted units for a project on parcel *i* that transacted during month *t* on an indicator variable equal to 1 if the parcel transaction occurred during May 2023 or later (as discussed previously, we exclude projects with transaction dates in March or April 2023, the two months around implementation of the transfer tax as well as projects associated with ED1). We estimate this model using multiple definitions of high density: projects with 10 or more units, 15 or more units, 20 or more units, and 30 or more units.

Figure 9 presents the point estimates (the hollow squares) and the 95 percent confidence intervals (capped bars) from this model for each definition of high density.[16]

16 We transform the coefficients from the log-linear regression to percent changes using the formula $\exp(\beta_1) - 1$ and generate estimated standard errors for this transformed coefficient using the delta method. Regression results are presented in Table A.3 in the appendix.

Figure 9.

Estimated Change in Permitted Units Associated with Sales of Parcels Zoned for High-Density Multifamily Development in Los Angeles After Implementation of Measure ULA



NOTE: Analysis data are a sample of assessor data on multifamily-zoned parcels that transacted between July 2020 and February 2024 and that matched with a building permit for a new apartment development issued between July 2020 and March 2025, using a constant cutoff of 365 days after parcel sale date. Small squares indicate the point estimate for each regression and the capped whiskers represent the 95 percent confidence interval of each estimate. We exclude permitted units associated with parcel sales from March and April 2023 and projects associated with ED1.

The estimates in Figure 9 range from a statistically imprecise 25% decline using 10 or more units as the cutoff for high density to a statistically significant 49% decline when using 15 or more units to qualify for high density, to a highly precise 50% decline when we define high density as 20 or more units. The estimate for 30 or more units, a 36% decline, is statistically significant at the 90 percent confidence level.

How can we use these estimates to generate a more concrete estimate of the decline in units permitted in Los Angeles post-Measure ULA? First, we must tabulate the average observed number of units permitted within one year of a parcel sale in the two calendar years prior to ULA's implementation. These totals are in Table 4 along with the monthly mean values.

Table 4.

Total Permitted Multifamily Units Among Projects with 20 or More Units on Transacted Parcels by Quarter Prior to Measure ULA

	Project Counts	Unit Counts
Jul-Sep 2020	6	554
Oct-Dec 2020	4	613
Jan-Mar 2021	3	110
Apr-Jun 2021	6	562
Jul-Sep 2021	7	315
Oct-Dec 2021	3	126
Jan-Mar 2022	3	207
Apr-Jun 2022	4	325
Jul-Sep 2022	4	165
Oct-Dec 2022	5	236
Totals	**45**	**3,213**
Mean per month	**1.5**	**107.1**

NOTE: These counts are building permits and permitted units issued within 365 days of the parcel sale date for parcels we identify as attractive for high-density multifamily redevelopment that sold between July 2020 and December 2022.

Among the parcels we identify as attractive for high-density redevelopment that sold over this period, and were also subsequently associated with projects with 20 or more units, an average of 107.1 units were permitted each month. When we calculate the distribution of permitted units by time since sale, we can observe a minimum of 3 years after the sale date; the share of units permitted within one year of a sale is 33.5%. Using this share to scale the mean one-year total of permitted units (equal to 107.1/0.335), we estimate that the multifamily parcels we observed selling were associated with an average total of 319.7 permitted units in each month. This is likely to be an underestimate since we see evidence of building permits being issued more than 3 years after a sale in the earliest data we have, suggesting that the 33.5% share we are using is likely an overestimate of the total units eventually associated with sold parcels that are permitted within one year. In other words, we will likely tend to underestimate the monthly total of units permitted using this approach.

If we use the estimated decline in Figure 9 for projects of 20 units or more — 49.8% — and we assume that there is no negative effect on projects below 20 units (an assumption that is almost certainly incorrect, making this exercise more conservative), then this implies that Measure ULA reduced multifamily units permitted by 159 units per month (319.7 × 0.498). Thus, evaluating Measure ULA's effect on multifamily production *that we can explicitly associate with recent land sales*, the transfer tax has reduced future multifamily production by 3,820 units in its first two years, or 1,910 units annually.

It is important to reiterate that we consider these estimates highly conservative. Throughout this analysis, we have responded to uncertainty by making conservative assumptions, biasing our results toward finding no effect of ULA on multifamily housing production. It is notable, then, that we consistently find effects on multifamily housing production that are negative and both economically and statistically significant.

We use strict criteria for identifying parcels with high redevelopment potential, and it is likely that Measure ULA is also worsening financial feasibility at sites not included in our sample, and through channels other than reduced land sales — for example, by discouraging redevelopment by current property owners. Another limitation is that parcel numbers frequently change during the development process — through addition and deletion, assembly and subdivision — and our standardized, code-based approach for linking parcel sales to building permits led to some omissions; the actual number of permitted units associated with the parcel sales in our sample is larger than the estimates presented here. Because larger projects take longer to be approved, on average, we also may be significantly overestimating the share of future permitted units that are permitted within a year of a parcel sale; this, again, would lead us to underestimate the number of units lost due to reduced transaction volume. Finally, we do not consider the effect of Measure ULA on for-profit affordable housing developers, whose projects are 100% affordable and account for more than one fifth of Low-Income Housing Tax Credit-funded units built in the city from 2010 to 2022.[17] They are subject to the tax like other for-profit developers, and their projects may be hindered like market-rate and mixed-income projects.

Effect on Deed-Restricted Affordable Housing Production

In the previous sections we have provided strong evidence that Measure ULA is reducing the number of multifamily-zoned parcels sold in the city of Los Angeles, credibly linking this effect to reduced multifamily development activity measured by declines in subsequent building permits associated with these parcels. Specifically, we find that sales of multifamily-zoned parcels are down by 46% in the two years since ULA went into effect, and that the number of units in 20+ unit projects permitted within a year of the sale of such parcels is 50% lower.

These are large and economically significant effects — enough to exacerbate the housing crisis whether the new units are market-rate or deed-restricted affordable. But while more of both housing types is needed, affordable units serve a distinctly vulnerable population and warrant special attention. In this section we estimate the effect of the transfer tax on deed-restricted affordable housing production. Generating this estimate requires three inputs:

1. The number of units not being built because of Measure ULA;
2. The share of unbuilt units coming from unsubsidized mixed-income developments; and then
3. The share of units in such mixed-income developments that are deed-restricted affordable.

Below, we compare this last figure to the cost of subsidizing an equal number of units with public funds and the revenues Measure ULA raises from the sale of newer multifamily buildings.

As we discussed earlier, there is considerable research documenting positive, causal effects of new, market-rate housing units on affordability. However, we emphasize effects on deed-restricted affordable housing in part because Measure ULA empowers the Los Angeles City Council to amend the ordinance to support affordable housing production. It is unfortunately silent on amendments intended to ease production of

17 Authors' calculation using the HUD LIHTC Database: lihtc.huduser.gov

market-rate housing, even if evidence suggested that the tax was increasing rent growth and reducing the effectiveness of housing subsidies, for example.

Using the estimated 49.8% reduction in permitting for developments with 20 or more units, ULA is reducing multifamily permitting by 1,910 units annually. This is the first of the three inputs in our list above.

Reviewing Annual Progress Report (APR) data submitted by the city to the California Department of Housing and Community Development for projects permitted in 2021 and 2022, we find that around 50–65% of units in projects with at least 10 units are in unsubsidized mixed-income developments.[18] However, this significantly underestimates the share of units in mixed-income projects among developments proposed more recently. A close inspection reveals that a disproportionate share of 100% market-rate buildings permitted in 2022 or earlier submitted their initial filings before 2020, when developers used the state density bonus less frequently, and some were even filed before the Transit Oriented Communities incentive program was adopted in 2017. (These two programs have produced most of the city's multifamily housing since 2018.) Other projects included no on-site affordable units but contributed to the city's Affordable Housing Linkage Fee fund or other public funds, such as the now-defunct Transfer of Floor Area Rights (TFAR) program in downtown L.A. (replaced in January 2025 with a mixed-income program in the DTLA 2040 community plan update).

The city and state legislature have adopted a combination of "sticks" and "carrots" that have increased the appeal of density bonuses, and we estimate that units in mixed-income projects account for at least 80% of units in unsubsidized residential developments with 10 or more units today. In other words, if 10,000 units were permitted in such projects each year, we would assume that 2,000 units were in fully market-rate projects and 8,000 (80%) were in mixed-income projects. This is the second input for our estimate.

Our last input is the share of deed-restricted affordable units in these developments. We again use APR data, finding that 11% of units were deed-restricted affordable among mixed-income projects permitted in 2021 or 2022, and we assume the same going forward. This estimate does not account for ED1, which would further increase the share of unsubsidized projects that include affordable units and the share of deed-restricted units in each project, or recent changes to state density bonus law which also encourage higher affordable shares. This estimate also does not account for any decline in subsidized affordable units previously built by for-profit affordable housing developers, who are not exempt from Measure ULA's transfer tax.

We multiply the estimated reduction in multifamily housing production (1,910 units per year) by the approximate share of multifamily units in mixed-income developments (80%) and the share of units that are deed-restricted affordable (11%). With these three inputs, we estimate, again conservatively, that Measure ULA is reducing production of deed-restricted affordable housing in unsubsidized development projects by 168 units annually (1,910 × 0.8 × 0.11).

To assure that the motivation for the approach we use in the next section is clear, we emphasize that these deed-restricted affordable units are built by private developers in exchange for the ability to denser, larger, taller projects (along with other regulatory forbearance such as reduced parking requirements) using *no*

18 Our criteria for identifying mixed-income developments are projects with at least 10 units in which 5–25% of units are deed-restricted affordable and reserved for low- or very low-income households (extremely low-income units are included with very low-income units).

public funding. In this sense, these are "free" affordable units from a public funding perspective. Showing that ULA is having a positive effect on the production of affordable units, *completely ignoring any effects on market rate units*, requires that the tax's revenues are sufficient to produce at least as many affordable units as are lost from mixed-income projects.

Cost of Publicly Funded Affordable Housing Development

We have estimated the negative effect of Measure ULA on market-rate and deed-restricted affordable housing production, noting that reduced housing supply is associated with worse affordability. However, Measure ULA also raises considerable revenues to fund housing programs — including for affordable housing development — so understanding its net effect requires evaluating benefits as well as costs. Does ULA's tax on sales of newer multifamily buildings generate enough revenue to replace the estimated 168 deed-restricted affordable units in mixed-income projects that it deters each year? The answer depends on the cost of building affordable housing in Los Angeles.

For example, imagine that the city collects $29 million per year on the sale of multifamily buildings up to 15 years old through ULA's transfer tax, but an exemption for these newer multifamily developments would restore the losses to these projects caused by ULA, increasing production of unsubsidized affordable housing by 168 units per year — our conservative estimate of ULA's negative effect on affordable production in these projects. If we assume that publicly funded affordable housing projects in Los Angeles cost an average of $672,000 per unit (Ward, 2025), and that ULA provides 25% of this funding *and* that the other 75% can be raised from other local, state, federal, and private funding sources, this $29 million would spur the production of 172 publicly subsidized units, or a net gain of four affordable units. In this scenario, the tax on sales of newer multifamily buildings is reducing market-rate production by over 1,770 units per year and reducing the net affordable housing supply by nearly 50 units per year.

This estimate is overly optimistic, however, because it's unlikely ULA funds can be leveraged in this way. Just because Los Angeles raises $29 million more for affordable housing — much less $500 million — does not mean state or federal funders will increase their support. In fact, given the state's budget deficit and the federal political climate, this appears extremely unlikely.

If we assume that state and federal partners will not increase their affordable housing spending simply because Los Angeles adopted a higher transfer tax, then the public cost of replacing the 168 affordable units must be borne entirely by additional funds raised by Measure ULA. Up to 40% of project costs may be covered by a private loan, but the remaining 60% — $403,200 — would have to come from ULA revenue. Under this more realistic scenario, $29 million in ULA funding produces 72 affordable units, replacing less than half of the deed-restricted affordable units not built in mixed-income projects because of the tax. Even halving ULA's contribution to 30% of project costs increases the number of publicly funded units to only 144, resulting in an annual net loss of about 25 affordable units. These estimates do not account for the fact that less than half of ULA revenue may be spent on affordable housing development according to the ballot measure's language.

Note that the affordable units being deterred by Measure ULA are also delivered many years earlier than units that would be subsequently produced with ULA revenue. A mixed-income development completed in 2026 will provide affordable units that same year. Taxes on the sale of that project will be collected in 2026 at

the earliest, and possibly years later. Those funds must then be allocated to a proposed project that is then entitled, permitted, and constructed, likely yielding affordable units no earlier than 2030, and possibly much later.

Estimated Revenue Loss From a 15-Year Tax Exemption

How much revenue does ULA actually raise from the sale of newer multifamily developments, and would it be enough to replace the units deterred by the tax? In fact, the answer to the first question is $29 million — our example from the previous section. This result means that the response to our second question is "no": taxing these properties does not generate enough revenues to replace the affordable units in publicly subsidized projects.

To arrive at these answers, we again use transaction data from Commonwealth Land Title Insurance Company for January 2020 through December 2024 for our analysis. We use January 2020 through December 2022 for the pre-ULA period (to exclude the rush of sales in the months before Measure ULA went into effect) and April 2023 through December 2024 for our post-ULA period.[19] We merge the transactions with Los Angeles County Assessor parcel data, primarily to verify building ages. Properties are categorized by use. We focus on single-family residential (SFR), multifamily residential (MFR), and commercial and industrial (C/I) properties, which represent over 95% of ULA revenues in both periods. The age of each building at the time of sale is estimated by subtracting "year built" from the sale year.

Based on common holding periods for multifamily owners, we investigate the impact of a 15-year exemption. This time period would typically allow for two sales: one shortly after the project is leased up, or "stabilized," and another roughly seven to 10 years later. Using this age threshold, we can investigate the share of tax revenues coming from multifamily housing sold within 15 years of finishing construction. If a small share of revenues come from newer projects, then a time-limited tax exemption could increase mixed-income housing production without significantly reducing revenues that support publicly funded projects.

The pre-ULA period provides an estimate of the revenues that would have been generated if the tax had been in place at the time — and, critically, if it did not change sellers' behavior. Analyzing the pre-ULA period is important for two reasons. First, it may be interpreted as close to a "best case" revenue scenario because the tax was not yet lowering transaction volume. Second, it allows us to assess how the tax affected seller behavior by comparing sales before and after it was adopted. If sales of newer multifamily buildings represent a similar share of revenues in both periods, then this weakens the argument that low revenues from this property type are only a temporary phenomenon and that sales will rise in the future. Note, also, that we cannot identify sales exempt from the ULA tax, which may explain why our post-ULA estimates are somewhat higher than those reported by the city.

Table 5 shows the results of this analysis. We find that estimated annual revenues are 60% higher in the pre-ULA period ($605 million) compared to after the tax was implemented ($377 million). Buildings over 15 years old represent 75% of anticipated revenue in the pre-ULA period and 78% of actual revenue post-ULA. Among sales

19 Transaction and parcel data is imperfect and some transactions may be mislabeled (by sale date, use, or age). We assume in our analysis that recording errors do not favor one transaction type over another.

of buildings 15 years old or less, more than half of revenues come from single-family residential pre-ULA, and 40% comes from these sales post-ULA.

Table 5.
Annualized Transfer Tax Revenue Estimates by Building Type and Age

Building Type	Building age at sale	Pre-ULA	%	Post-ULA	%
Single-family	Over 15 years	158,494,282	26	140,640,302	37
	15 or fewer years	82,076,749	14	32,889,155	9
Multifamily	Over 15 years	105,093,365	17	62,090,372	16
	15 or fewer years	38,770,557	6	28,623,994	8
Commercial and Industrial	Over 15 years	191,202,507	32	92,489,347	25
	15 or fewer years	29,221,222	5	20,429,229	5
Total	**All**	**604,858,682**	**100**	**377,162,398**	**100**

NOTE: The pre-ULA period is January 2020 through December 2022 (excludes three months before Measure ULA implementation) and the post-ULA period is April 2023 through December 2024. The pre-ULA period shows estimated revenues if the Measure ULA tax had been in effect during this period and had not affected buyer and seller behavior. All estimates are annualized and in dollars.

A very small share of revenue comes from newer multifamily buildings: 6% in the pre-ULA counterfactual scenario and 8% post-ULA. Since ULA was implemented, the sale of newer multifamily generated only $28.6 million in revenue per year, down from $39 million before ULA (if the tax had been in place). Annualized revenues declined for all building types and ages after ULA went into effect, with the largest drops in SFR 15 years old or less (60%) and C/I properties over 15 years old (52%). Surprisingly, revenues declined second-least for newer MFR, by 26%, and newer C/I, by 30%. This may be explained by developers starting construction before Measure ULA was conceived, intending to sell when their projects were completed and stabilized, and being unable to change their business models after ULA was adopted. Others may have been forced to sell by changing macroeconomic conditions. We would expect revenues from new multifamily (and commercial and industrial) projects to decline in the future as fewer projects are proposed and built. Eight percent may therefore be near the upper limit of ULA revenues we can expect from newer multifamily building sales, at least in the current financing environment and under existing policy.

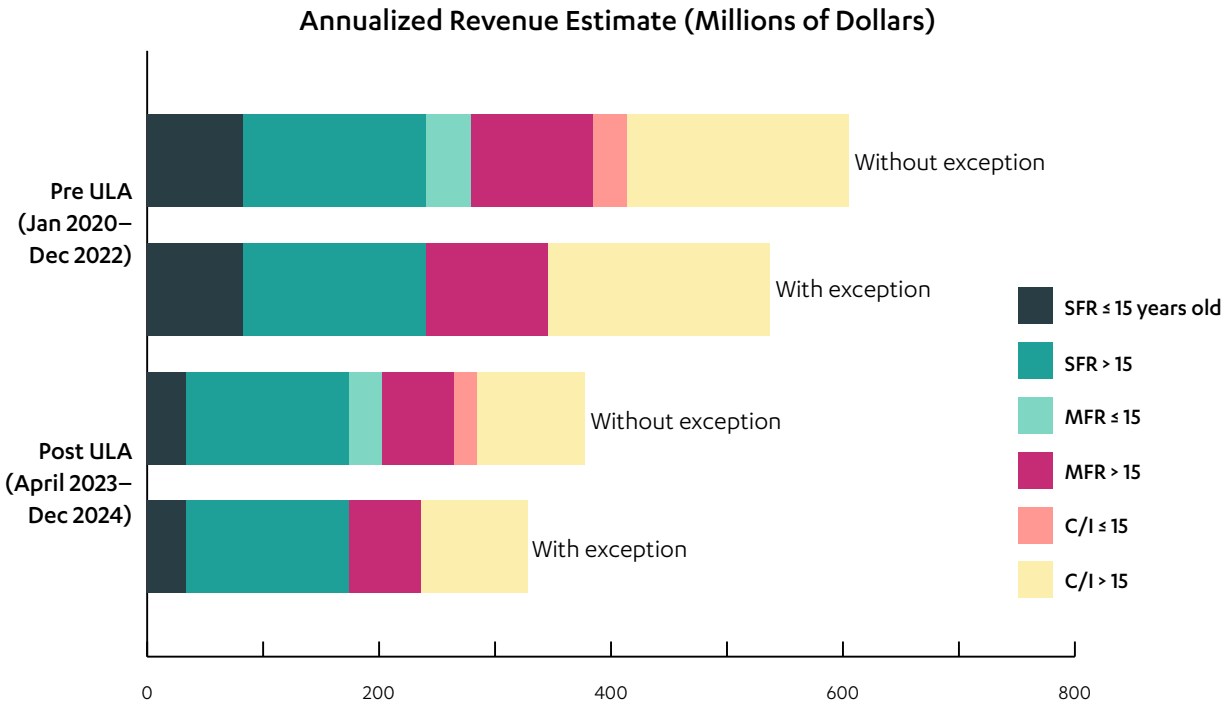
Commercial and industrial (C/I) property sales account for at least 30% of revenues in both periods. In part because the multifamily parcels in our difference-in-differences analysis include parcels zoned for commercial uses, we would expect the Measure ULA tax to affect C/I development similarly to the effect we show on new multifamily development. This is concerning at a time when the market for commercial properties — especially offices — is very weak. Table 4 shows that buildings above the 15-year age threshold account for the overwhelming share of C/I revenues. In the pre-ULA period, C/I buildings up to 15 years old account for only $29 million of annualized revenues, or 5%. Since Measure ULA was adopted, they have fallen to $20 million and remain at 5% of annualized revenues.

Taken together, we believe these results make a strong case for a 15-year exemption from the ULA tax for new multifamily, commercial, and industrial projects. These projects have generated only an estimated 13%

of annualized revenues since Measure ULA was adopted — $49 million out of $377 million — yet taxing these properties is strongly depressing their future development (at least among the multifamily projects we focus on in this report). Figure 10 illustrates the small impact of a 15-year exemption in both periods.

Figure 10.

Estimates of Annualized Transfer Tax Revenue by Building Type and Age, With and Without Exemption for Multifamily, Commercial, and Industrial Buildings Up to 15 Years Old



NOTE: SFR = single-family residential; MFR = multifamily residential; C/I = commercial/industrial. Each property type is separated into buildings up to 15 years old and over 15 years old at year of sale. The pre-ULA period shows estimated revenues if the Measure ULA tax had been in effect during this period and had not affected buyer and seller behavior.

We also note that the share of revenues coming from MFR and C/I projects is likely to fall over time as fewer are proposed and built. Even if lenders and investors adjust to the new environment and more projects eventually move forward, business models are likely to change to eschew sales after projects are completed, generating no transfer taxes. Rather than allowing the tax to constrain how these important projects can be delivered, policymakers interested in meeting critical housing goals and fostering local economic development should instead remove this obstacle to development through a time-limited exemption from the tax.

The evidence in this report does not support a clear recommendation on a transfer tax exemption for new single-family housing. On one hand, sales of high-value single-family homes built 15 years ago or less declined more sharply than sales of homes over 15 years old — or any other property category.[20] An exemption could spur more such development, and, if nothing else, new homes valued $5 million and above produce large recurring taxes (primarily property taxes) and residents of these homes likely consume relatively few city-

20 This may be partly driven by the flurry of home sales prior to 2022, when mortgage interest rates were historically low.

funded services. (The annual property tax on a new $5 million home is roughly $50,000, meaning that in four years it would produce as much revenue as the transfer tax, though this revenue would not be earmarked for the specific purposes of Measure ULA.) On the other hand, we would argue that building single-family homes in an urban area like Los Angeles does not provide the same social benefits as multifamily housing, which is affordable to more people and slows price growth by increasing supply, or commercial and industrial projects, which support jobs, economic growth, and the state and local tax base. To the extent that a tax on new single-family homes tilts the playing field toward more multifamily housing or other development supporting economic growth, this may be appealing to policymakers wishing to prioritize these project types.

Although the data does not yet clearly support this conclusion, we also have reason to believe that the market for high-end single-family homes may be more inelastic, which would mean that a tax on these properties is less likely to reduce supply in the long run compared to a tax on other project types. This may be truer for ultra-luxury housing (homes selling for $25 million or more, for example) than merely "luxury" single-family housing. LeBron James is less likely to be deterred from building his dream home than a successful local business owner, in other words.

ULA's Affordable Housing Production Deficit

We estimate that Measure ULA's tax on newer multifamily projects is deterring mixed-income housing development by more than 1,900 units per year, while sales of similar projects generate a small share of ULA revenues — about $29 million per year. Critically, tax revenues generated by these transactions will likely yield fewer units than would have been built by for-profit, market-rate developers without Measure ULA. The tax on newer multifamily projects is lowering annual affordable housing production by at least 168 units annually, but, optimistically, it can fund construction of only about 70 replacement units.[21] In other words, taxing these projects lowers the affordable housing supply by depressing private development more than it increases the affordable housing supply through subsidized development — it decreases net affordable housing production by at least 100 units per year. And it does so while delaying urgently needed homes and sharply curtailing market-rate production amid a city budget crisis and a housing shortage exacerbated by unprecedented wildfires.

These are perverse outcomes, obviously, and likely do not represent the intentions of voters who supported Measure ULA at the ballot. Voters supported Measure ULA with the expectation that it would improve housing affordability for the city's residents. By reducing the supply of housing, it may do the opposite. Our estimates are conservative, and they do not account for, among other things, the negative effect of Measure ULA on the business of for-profit affordable housing developers — developers who build hundreds of affordable units each year, if not more, and were not included in an exemption from the tax provided to a select group of non-profit developers. The true effect of ULA on affordable housing production is almost certainly much larger than we estimate, but the partial evidence presented in this study sufficiently motivates targeted reform of the tax.

21 In reality, only 45% of Measure ULA revenues are allocated to affordable housing development, with the remainder used to fund rent assistance, housing services, administration, and similar activities and programs. We assume the full amount is spent on affordable housing development for simplicity, to present Measure ULA's effect on affordable housing production as favorably as possible as we critique it, and because some other public funds may be fungible in response to funding restrictions in ULA's language.

Fortunately, our findings suggest that these negative outcomes are not inevitable. Exempting multifamily projects from the Measure ULA tax for their first 15 years should eliminate much of its negative effect on housing production, and the exemption would come at little cost, lowering annual revenues by 8% or less. Exempting newer commercial and industrial property sales could have an even smaller effect on ULA revenues while potentially leading to meaningful growth in local employment and economic activity. All these projects would also generate jobs and persistent increases in property tax revenues for the city, county, and schools; the effect of Measure ULA on property taxes is evaluated and discussed by Manville and Smith (2025), published by the Lewis Center as a companion to this report.

Potential Reforms

We conclude our analysis with a brief discussion of pathways to addressing the disincentive effects of Measure ULA on multifamily housing production. We note that we are not legal experts, nor experts in the legislative process or state and local government power. That said, our conclusions are informed by a careful reading of the Measure ULA ordinance and knowledge of the Los Angeles and California housing policy landscape.

City Council

The first potential pathway is local reform of Measure ULA by the Los Angeles city council. Section 22.618.8 of the ULA ordinance grants council authority to amend its provisions, provided that "Such amendments shall further or facilitate the purposes stated in Section 22.618.1..." Several of these purposes refer directly to the supply of affordable housing, including "Addressing the City's residents' need for affordable housing and tenant protections in each of the Council Districts" (Sec. 22.618.1.(b)) and "Increasing the supply of affordable housing served by transit" (Sec. 22.618.1.(e)). Council is expressly prohibited from diminishing the labor standards established in Section 22.618.7 and from increasing the tax without voter approval, but the ordinance appears to leave the door open to other amendments such as exempting specific categories of sales. In fact, Measure ULA already exempts projects built by non-profit affordable housing developers and most non-profit entities who purchase real estate in the city.

The Measure ULA Oversight Committee is permitted to review proposed amendments and weigh in on whether they advance the purposes stated in Sec. 22.618.1. If the committee concludes that they do not, the city council may overcome their opposition by making written findings providing substantial evidence to the contrary.

The purposes stated in the ordinance are narrowly focused on housing, and specifically housing for lower-income households, and so the council's authority to amend the tax may be similarly circumscribed. At a minimum, we believe there is sufficient evidence to exempt mixed-income multifamily projects during their first 15 years. However, there may also be sufficient justification for exempting all multifamily (including fully market-rate) and commercial and industrial developments up to 15 years old.

The case for exempting mixed-income multifamily development is straightforward: These projects produce deed-restricted affordable units and taxing them is reducing the total supply of affordable units built in the city. We also argue that *all* multifamily projects — not only mixed-income developments — should be exempt for 15 years after construction. Even though market-rate projects do not produce deed-restricted affordable housing, they do contribute to the city's affordable housing supply via the Affordable Housing Linkage Fee.[22] Non-residential projects also pay the linkage fee, and thus we argue that they should also be eligible for the 15-year exemption.

Additionally, and very importantly, market-rate multifamily housing has supply effects that improve affordability. Recent quasi-experimental studies from Asquith, Mast, and Reed (2023) and Pennington (2021) estimating causal effects of new, market rate multifamily construction on area rents find that a new, roughly

22 See https://housing.lacity.gov/policy-data/program-development/affordable-housing-linkage-fee

150-unit, market rate apartment building causes rents within a roughly 1/8th mile radius to fall by 4–6%. This affordability effect can also have substantial positive spillover effects for critical programs such as HUD's Housing Choice Voucher (HCV) rental assistance program — and similar city- and state-funded efforts. A recent study considering the potential effects of increased supply in the Los Angeles metro area found producing market rate housing at the same rate as the 90th percentile U.S. metro area could have lowered rents by roughly 18%. At current funding levels, this would allow the HCV program to assist around 24% more low-income families in the region (over 15,000 additional households) (Corinth and Irvine, 2023).

State Legislature

The state legislature may also intervene, and we endorse the same 15-year exemption for multifamily, commercial, and industrial developments.

State-level reform has a few benefits. First, it is our understanding that the legislature is not constrained by Measure ULA's ballot language or other local policies: municipal powers devolve from the state, and the state can generally restrict those powers however it sees fit. While Los Angeles is a charter city and this may grant it certain freedoms not shared by other non-chartered jurisdictions, the state already places limits on other local policies, including rent control under the Costa-Hawkins Rental Housing Act. Assuming this is accurate, the legislature should be able to consider issues beyond the purposes outlined in the Measure ULA ordinance — the effect of transfer taxes on meeting state-certified housing production goals, for example, or their effect on property tax revenues used to fund schools and county services, or economic development goals. (See, again, Manville and Smith (2025).) Taking these broader concerns into account, the state should find it easier to exempt sales of new commercial and industrial properties from increased taxes.

Second, state law can address problems with transfer taxes across the state. Santa Monica also increased its transfer tax for high-value properties in 2023, and as in Los Angeles, it did not exempt sales of recently built projects. San Francisco is similar, having increased its transfer tax most recently in 2021. While we do not investigate the effect of higher transfer taxes in other cities, it is plausible that they are having similar effects elsewhere. Santa Monica and San Francisco are among the most expensive cities in the country, and they build roughly as little housing per capita as Los Angeles, or less. Low production should not be attributed solely (or even primarily) to transfer taxes, but excessive taxes do present an additional barrier, and these are jurisdictions where high prices suggest they should be building much more housing to meet demand. State law can fix improperly designed transfer taxes where they already exist, and it can ensure that other jurisdictions do not create similar barriers in the future.

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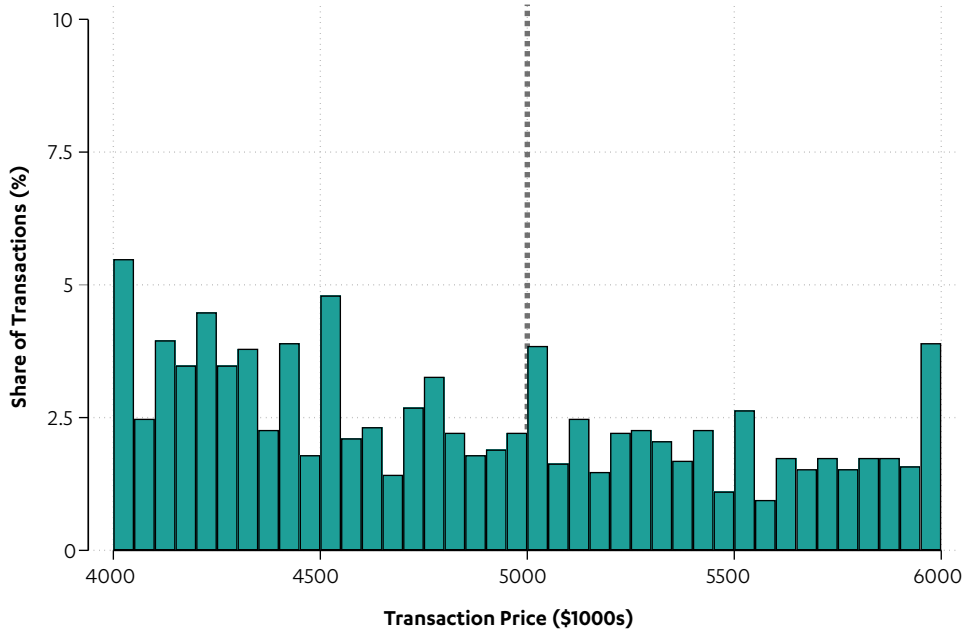
Appendix

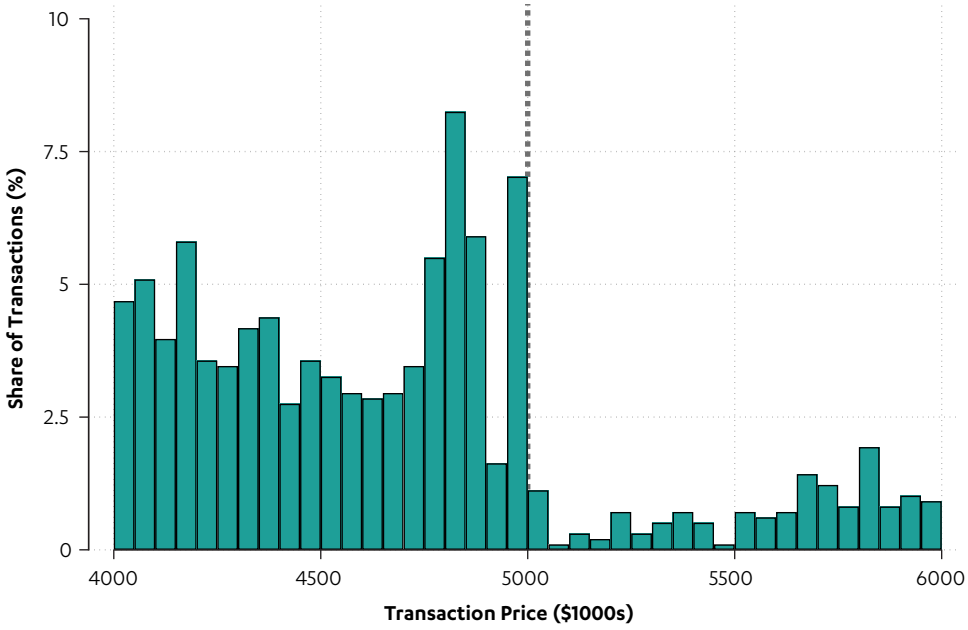
Figure A.1.

Distribution of Transaction Prices for Sales Before and After Implementation of Measure ULA

Panel A. Distribution of Sale Prices from July 2020 through March 2023 (Pre-ULA Period)



Panel B. Distribution of Sale Prices from April 2023 through December 2024 (Post-ULA Period)



SOURCE: Author calculations from Los Angeles County Assessor data.
NOTE: Dashed line is $5 million threshold subject to the Measure ULA transfer tax.

Figure A.2.

Housing Units Proposed in Los Angeles Before and After Introduction of ED1

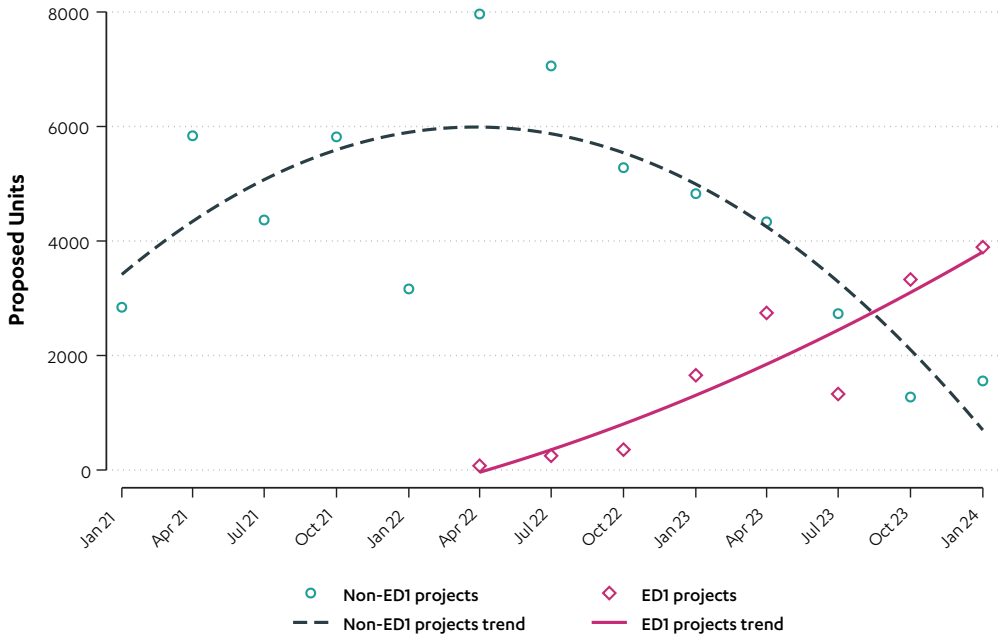


Figure A.3.

Time Series of Parcel Transactions for Over $5 Million, Including Sales From March and April of 2023

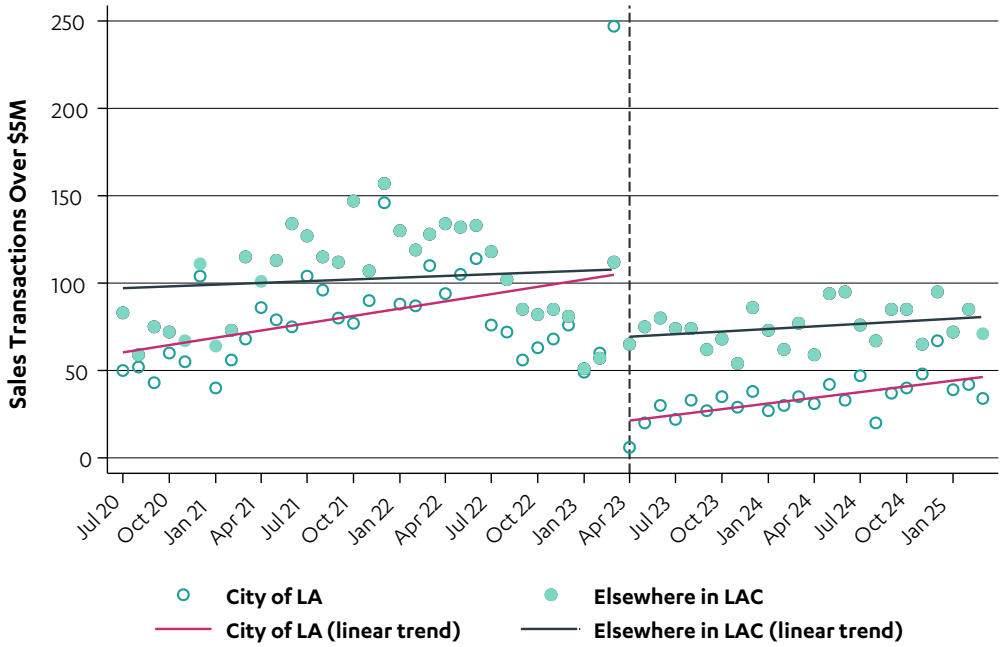


Figure A.4.

Event Study Results for Single-Family Residential Parcel Transactions for Over $5 Million

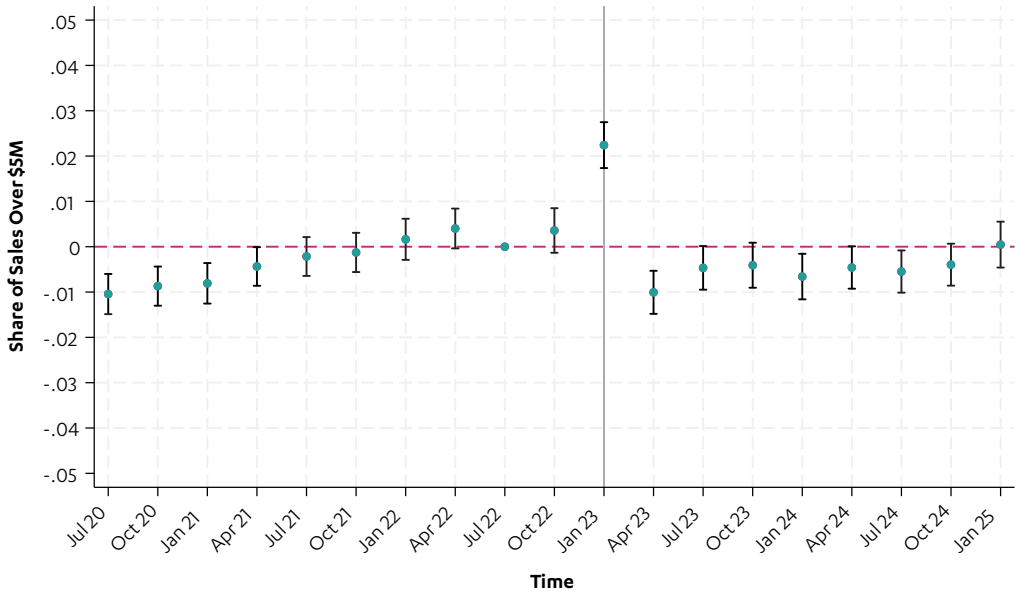


Table A.1.

Difference-in-Differences Results for Single-Family Residential Parcel Transactions for Over $5 Million

	(1)	(2)
City of L.A.	0.029***	0.028***
	(0.001)	(0.001)
Post-ULA	-0.000	-0.000
	(0.001)	(0.001)
Post*City of L.A.	-0.010***	-0.010***
	(0.001)	(0.001)
Constant	0.005***	0.008***
	(0.000)	(0.001)
Controls	N	Y
N	115,348	115,348
Adj. R^2	0.009	0.042

*NOTE: The models include all sales transactions for properties identified as zoned for single-family residential only that we identified from zoning code literature from the city of Los Angeles, unincorporated Los Angeles County, Burbank, Glendale, Inglewood, Lancaster, Long Beach, Pasadena, Pomona, Santa Clarita, and Whittier. We exclude sales between $3,000,001 and $5,000,000 to avoid capturing shifts in pricing and buyer preferences in the analysis, as discussed in text. Our sample period spans July 2020 through March 2025. We exclude sales from March and April 2023, as discussed in text. Heteroskedasticity-robust standard errors in parentheses. $^{+}$ p < 0.10, * p < 0.05, ** p < 0.01, *** p < 0.001*

Figure A.5.

Event Study Results for Manufacturing and Industrial Parcel Transactions for Over $5 Million

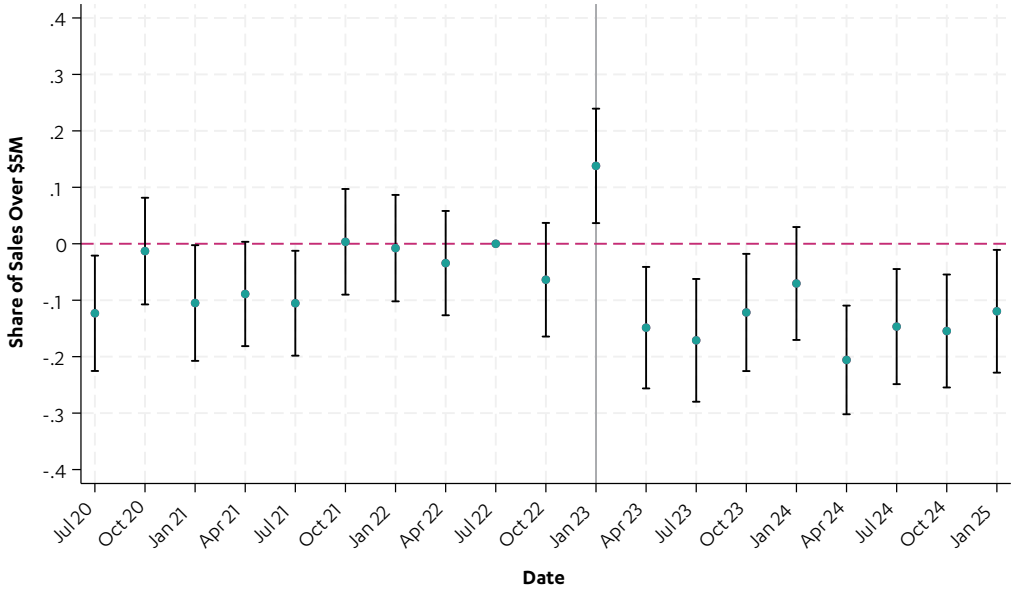


Table A.2.

Difference-in-Differences Results for Manufacturing and Industrial Parcel Transactions for Over $5 Million

	(1)
City of L.A.	0.041*** (0.001)
Post-ULA	-0.001 (0.001)
Post*City of L.A.	-0.020*** (0.002)
Constant	0.011*** (0.000)
N	149,283
Adj. R^2	0.012

*NOTE: The models include all sales transactions for properties identified as zoned for industrial uses or commercial uses that do not permit multifamily development that we identified from zoning code literature from the city of Los Angeles, unincorporated Los Angeles County, Burbank, Glendale, Inglewood, Lancaster, Long Beach, Pasadena, Pomona, Santa Clarita, and Whittier. We exclude sales between $3,000,001 and $5,000,000 to avoid capturing shifts in pricing and buyer preferences in the analysis, as discussed in text. Our sample period spans July 2020 through March 2025. We exclude sales from March 2023, as discussed in text. Heteroskedasticity-robust standard errors in parentheses. $^{+}$ p < 0.10, * p < 0.05, ** p < 0.01, *** p < 0.001*

Figure A.6.

Permitted Units (in Projects with 10+ Units) Associated with Sales of Parcels Zoned for High-Density Multifamily Development in Los Angeles After Implementation of Measure ULA

NOTE: Analysis data are a sample of multifamily-zoned parcels that transacted between July 2020 and March 2024 and could be matched with a building permit for a multifamily development of 10 or more units issued within one year of the sale. We exclude permitted units associated with parcel sales from March through April 2023 and projects associated with ED1.

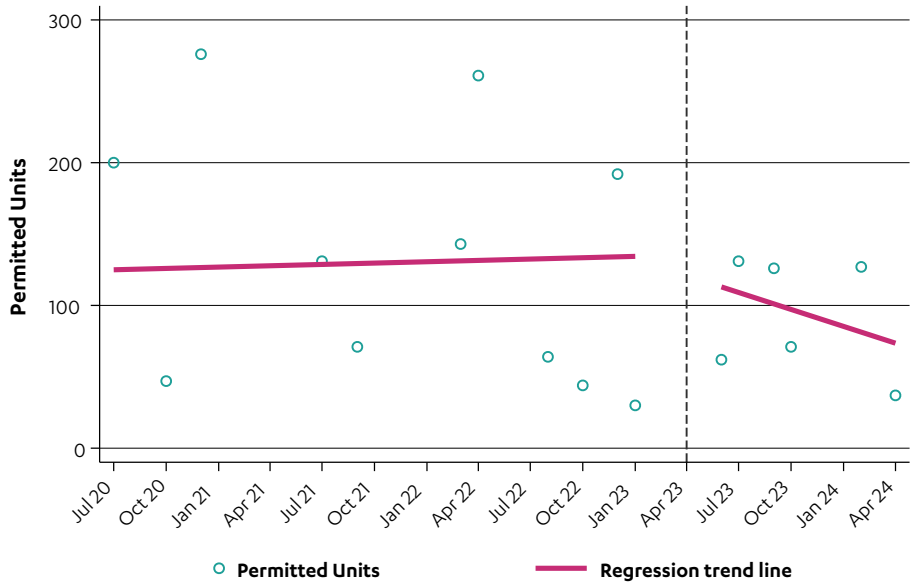
Figure A.7.

Permitted Units (in Projects with 15+ Units) Associated with Sales of Parcels Zoned for High-Density Multifamily Development in Los Angeles After Implementation of Measure ULA

NOTE: Analysis data are a sample of multifamily-zoned parcels that transacted between July 2020 and March 2024 and could be matched with a building permit for a multifamily development of 10 or more units issued within one year of the sale. We exclude permitted units associated with parcel sales from March through April 2023 and projects associated with ED1.

Figure A.8.

Permitted Units (in Projects with 30+ Units) Associated with Sales of Parcels Zoned for High-Density Multifamily Development in Los Angeles After Implementation of Measure ULA



NOTE: Analysis data are a sample of multifamily-zoned parcels that transacted between July 2020 and March 2024 and could be matched with a building permit for a multifamily development of 10 or more units issued within one year of the sale. We exclude permitted units associated with parcel sales from March through April 2023 and projects associated with ED1.

Table A.3.

Estimated Change in Permitted Units Associated with Sales of Parcels Zoned for High-Density Multifamily Development in Los Angeles After Implementation of Measure ULA

	(1)	(2)	(3)	(4)
Project size threshold:	**10 units**	**15 units**	**20 units**	**30 units**
Post-ULA Implementation log points results	-0.284 (0.359)	-0.679^{+} (0.381)	-0.689* (0.326)	-0.453 (0.308)
Post-ULA Implementation converted to proportional change (& change/100)	-0.247 (0.270)	-0.493* (0.193)	-0.498** (0.164)	-0.364^{+} (0.196)
N	45	37	27	19
adj. R^2	0.16	0.228	0.335	0.351

*NOTE: Outcome is log of permitted units. Accompanying figure in main text and converted results above transform the log point results using the mathematical transformation ($e^{beta} - 1)\times100$, with confidence intervals derived from standard errors calculated using the delta method. Standard errors in parentheses. $^{+}$ $p < 0.10$, * $p < 0.05$, ** $p<0.01$*

Trends in Proposed Housing Units from Entitlement Data

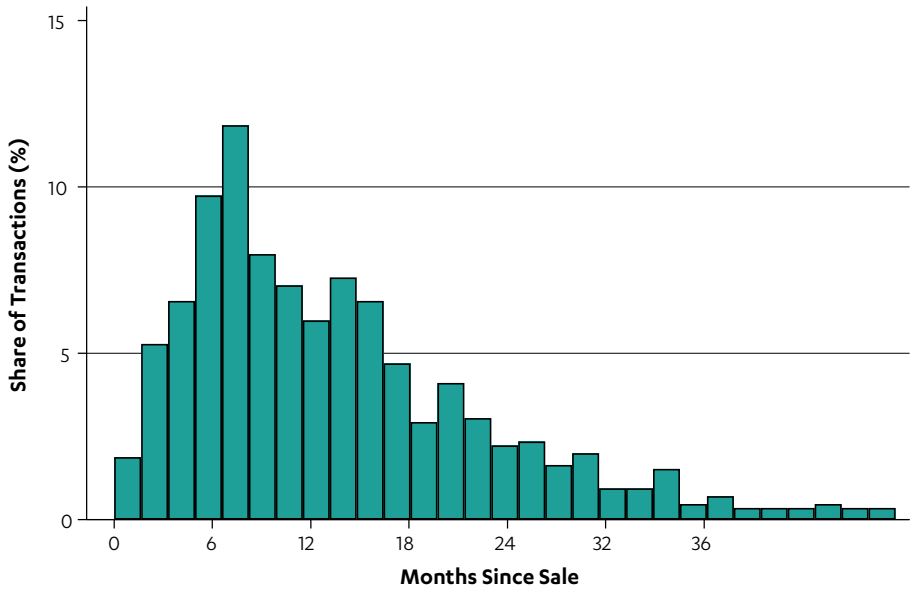
We can also explore a broader measure of housing production: monthly tabulations of the number of market rate units proposed via initial project filings to the Los Angeles Department of City Planning for projects seeking discretionary entitlement approvals. The use of proposed units as an outcome provides a plausible measure of changes in the number of projects that will "pencil" in the calculation of builders. A potential issue with this outcome is that we cannot link monthly project proposals to initial parcel sales, so it is not feasible to

identify whether units proposed in a given month were associated with a sale that took place before or after the transfer tax.

However, we can observe the distribution of elapsed time between a parcel sale and a filing for our matched subsample of multifamily-zoned parcel sales using planning department data on proposed developments. Figure A.9 shows that the time lag after a parcel sale is much shorter for initial filings than for building permits. More than 50% of these filings occur within one year of the sale date, and more than 75% occur within 17 months.

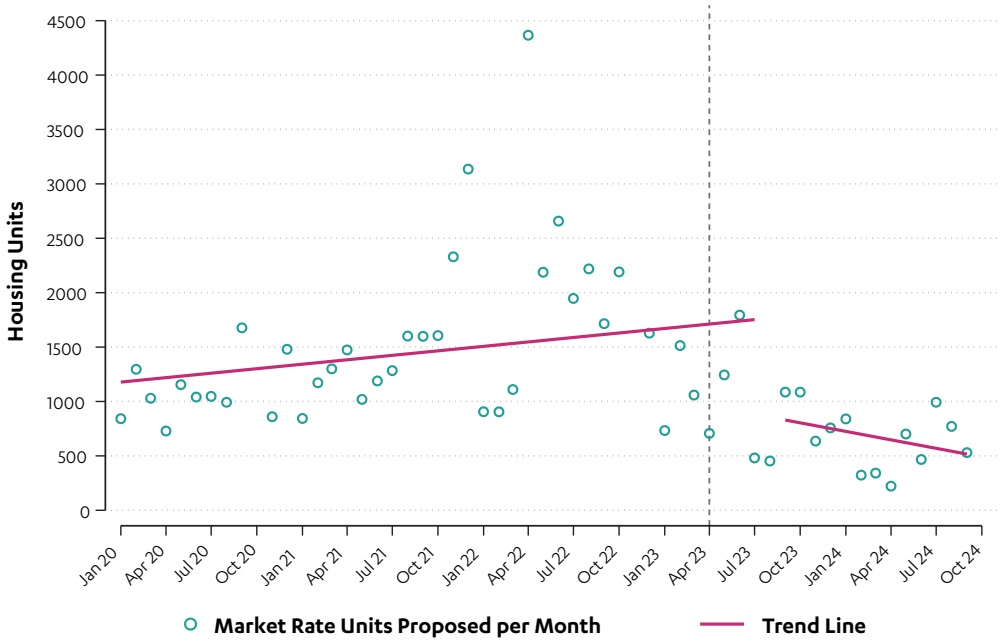
Figure A.10 presents the intuition for an analysis of the effect of ULA on proposed housing units using interrupted time series (ITS) regression. The figure shows a scatter plot of the monthly total of proposed units in market rate and mixed market rate/affordable projects seeking entitlement using publicly released data from the Los Angeles Department of City Planning. Note that it includes all proposed units, not only those proposed that we can link with our sample of multifamily-zoned parcels sold during the study period. The implementation date of Measure ULA is shown as the vertical line at April 2023. There are two regression trend lines fitted to these monthly data. The line covering the pre-ULA period estimates the trend in proposed units in the period prior to the enactment of Measure ULA plus a five-month lag ending in August 2023. The line covering the post-ULA period begins in September 2023 and continues to September 2024.

Figure A.9.
Distribution of Observed Time Between Parcel Sales and Entitlement Filing



NOTE: This figure captures the distribution of the elapsed time between the date of a parcel sale and the date of a filing for entitlement for multifamily construction for 576 linked sales observed between July 2020 and June 2022.

Figure A.10.
Multifamily Market Rate Units Proposed in the City of Los Angeles



NOTE: Analysis uses public data from the Los Angeles Department of City Planning tabulating monthly totals of proposed units from market rate and mixed market-rate/affordable developments seeking entitlement approvals.

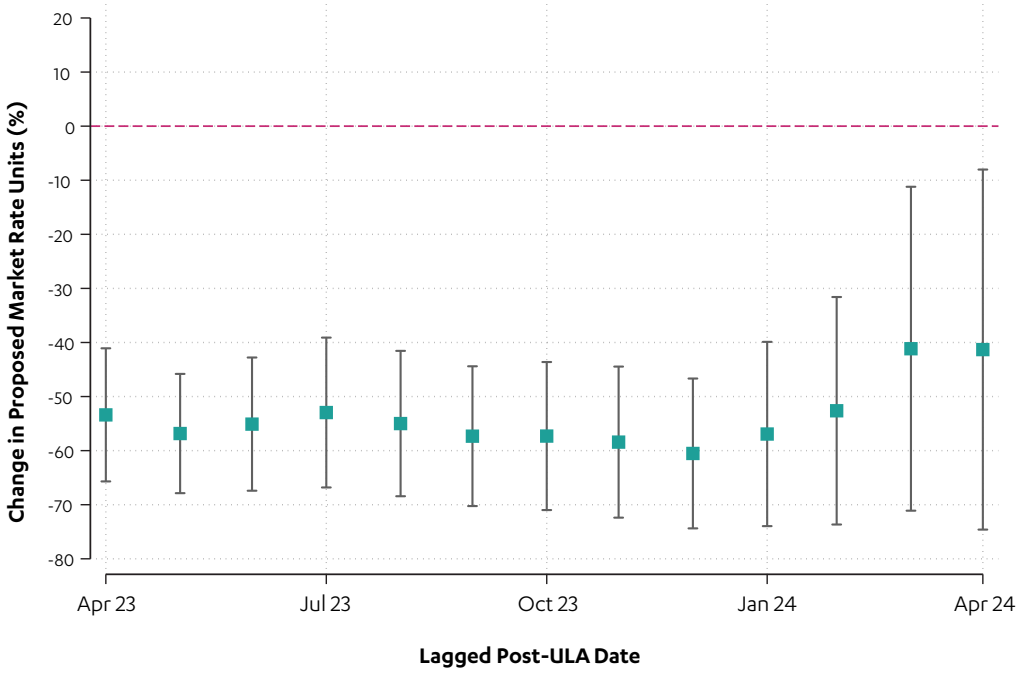
How can we resolve the challenge that we do not directly observe the timing of parcel sales associated with these projects? As Figure A.9 shows, much of this proposal activity happens in a relatively short time (relative to, e.g., the lag between a parcel sale and issuance of building permits). In Figure A.10, the cutoff date for the pre-ULA and post-ULA trend lines is set as April 2023. But we can estimate a simple interrupted time series regression that varies the cutoff date across a number of plausible lengths of time after the enactment of ULA to consider the consistency of a negative trend in proposed units. The model is:

$$y_t = \alpha_0 + \alpha_1 post_t + \epsilon_t.$$

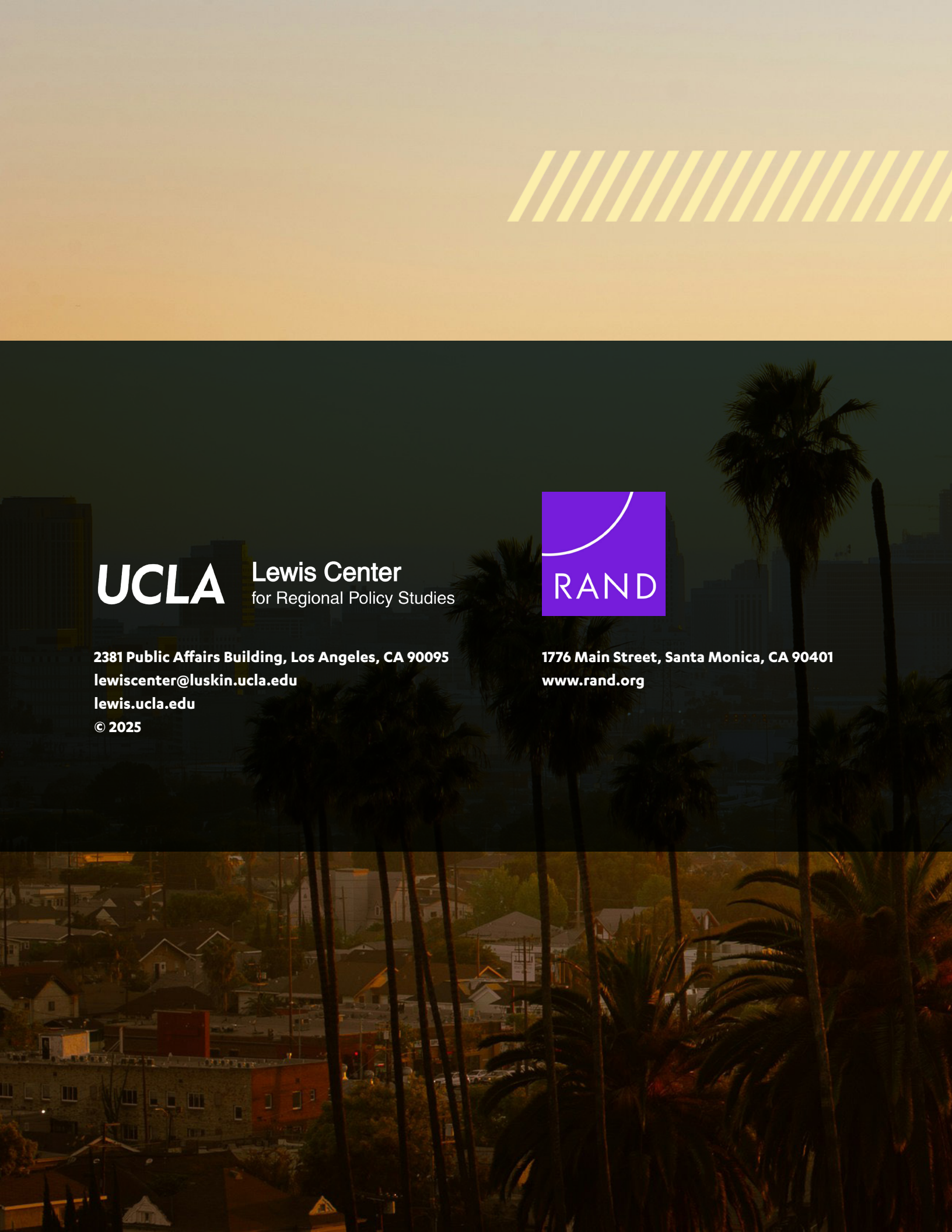
The number of proposed units, *y*, In month *t* is regressed on an indicator variable for the post period and the estimate of the effect of ULA assumed to occur at month *t* is estimated by varying the month we set as the beginning of the post-ULA period. We can plot a series of these different post-ULA dates and consider how sensitive this estimate is to the date we choose.

Figure A.11 presents a set of estimates that vary the timing of the post-ULA period from the month the tax was implemented, April 2023, increasing month-by-month until 12 months later, or April 2024. The results are expressed as a percent change in the number of units proposed after the post-ULA date. All 13 estimates are negative and statistically significant at the 95 percent confidence level, and they consistently indicate a 50–60% reduction until the last two months we use, which are around a year after ULA goes into effect. For these months the estimates become slightly less negative, at around a 40% decline for March and April 2024.

Figure A.11.
Estimates of Negative Effect of Measure ULA on Proposed Multifamily Market Rate Units by Date Cutoff



This pattern is again consistent with Measure ULA having a substantial negative effect on proposed market-rate housing development. The average number of units proposed between January 2020 and December 2022 was 1,755 per month. If we take the lowest decline suggested by this full range of estimates, 40%, and ignore the rising trend in monthly units proposed leading up to implementation of the new tax, this implies that Measure ULA has reduced proposed housing units seeking entitlement approvals in the city of Los Angeles by 700 units per month. In our data, if we allow a minimum of 26 months to see the relationship between proposed units and permitted units for high density multifamily parcels we observe a sale of prior to ULA, the relationship between proposed units and subsequently permitted units is around 5 to 1. Using this ratio as a heuristic, this suggests ULA is reducing permitted units for projects requiring entitlement by roughly 140 per month, or 420 units per quarter. We note that much of the urban infill multifamily housing production in Los Angeles in recent years is "by right," meaning it does not require entitlement approval. Therefore, this estimated decline is for only a share of the total multifamily housing production occurring in the city.



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