

Where Will Accessory Dwelling Units Sprout Up When a State Lets Them Grow? Evidence From California

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Abstract

Since 2016, California has adopted several laws to facilitate the development of accessory dwelling units (ADUs), which are secondary units on residential parcels. This article analyzes ADU permitting in the Bay Area and southern California under the newly liberalized legal regime using data collected by the state. The analyses indicate that ADUs represent a substantial share of recent housing permits, that ADUs are typically permitted on parcels with relatively good access to jobs, and that the relationship between a neighborhood's ethnoracial composition and the prevalence of ADU permitting varies by county. These findings provide guidance for state and local governments seeking to understand where ADUs might be permitted following the liberalization of ADU regulation.

Introduction

Housing advocates have long touted accessory dwelling units (ADUs)—secondary units on residential parcels—as a potential tool to address soaring housing costs in coastal metropolitan areas. As compared with denser forms of infill development, ADUs have several potentially appealing characteristics. First, ADUs are frequently invisible from the street; they are in backyards, existing secondary structures, or converted interior spaces, such as attached garages. Thus, as compared with multifamily housing, ADUs may be a more politically palatable way to add much-needed housing supply in single-family neighborhoods of high-cost metropolitan areas. Second, in any given neighborhood, ADUs tend to be more affordable than single-family housing because the

units are relatively small and typically have fewer amenities (e.g., lower ceiling heights, less natural light). Third, ADUs provide an opportunity for multigenerational households to enable family members to age in place.

Although ADUs may be a *relatively* politically palatable form of new development, they have engendered plenty of opposition too. In 1982, California passed its first state law limiting local governments' authority to restrict ADU development, and in 2002 the legislature made cities permit ADUs "ministerially," that is, without subjecting project applications to any discretionary standards or conditions of approval. But, even after the 2002 reforms, many cities still found ways to thwart the state's pro-ADU policy (Brinig and Garnett, 2013). Between 2016 and 2020, the legislature enacted multiple statutes, again strengthening state ADU law, and it appears that the new reforms are finally unlocking ADU development opportunities.

This article analyzes ADU permitting under the newly liberalized California regime to shed light on the prevalence and geography of ADU permitting in the nine-county San Francisco Bay Area and in five southern California counties (Los Angeles, Orange, Riverside, San Bernardino, and Ventura). Collectively, these counties represent 67 percent of the state's population and 82 percent of the parcels receiving ADU permits from 2018 through 2021. The analysis is restricted to parcels zoned for single-family development because these were the parcels that the California Legislature targeted for regulatory relief. As detailed below, we find that ADUs represent a substantial share of recent housing permits, that ADUs are typically permitted on parcels with relatively good access to jobs, and that there are heterogeneous relationships between a neighborhood's ethnoracial composition and the prevalence of ADU permitting.

Background

California has a significant housing affordability problem, which ADU development could mitigate. As of January 2023, the median rent in California was roughly 41 percent higher than the national median, and rents in the state's high-cost cities were far higher (Zillow, 2023a). For example, in the Silicon Valley city of Palo Alto, the median rent was 89 percent higher than the national median (Zillow, 2023b). The high cost of housing in California stems largely from supply constraints, including barriers to greater density in existing residential neighborhoods.

Moreover, California faces serious pressures to reduce the need for development at the urban fringe, necessitating policies that can help to produce housing by intensifying residential densities in areas that are already urbanized. The state confronts an increased risk of wildfires at the wildland-urban interface and has adopted ambitious goals to reduce greenhouse gas emissions, in part by cutting per capita vehicle miles traveled (VMT). In addition, as noted above, ADUs provide an opportunity for multigenerational households to enable family members to age in place. ADUs could thus respond to several pressing needs by facilitating more intense development of already-developed places and providing a relatively affordable type of housing. Nevertheless, the same forms of neighborhood opposition that frequently thwart efforts to build townhomes and apartments have also, in the past, limited options for ADUs.

California legislators have long recognized the potential benefits of ADUs and the need to address localized opposition. In 1982, the state adopted a law explicitly authorizing municipalities to allow ADUs and prohibiting municipalities from barring ADUs, with some exceptions.¹ Municipalities, however, could still limit ADU development by imposing cumbersome and unpredictable discretionary review requirements on applications for ADUs.² As a result, the legislature revised the relevant statute in 2002 to compel nondiscretionary review processes for ADUs, among other provisions.³

Nevertheless, a survey of local regulatory responses found that “most California cities appeared to comply with the state mandate by amending their zoning rules to permit ADUs, but they imbedded many costly regulatory requirements within the ‘authorization’ that dramatically curtail[ed] the likelihood that ADUs [would] actually be developed” (Brinig and Garnett, 2013: 547). Local constraints included “costly off-street parking and minimum lot size requirements, . . . restrictions on the maximum size of the ADU[,] . . . [and] limits on the ability of owners to lease ADUs” (Brinig and Garnett, 2013: 547).

To address such restrictions, the California Legislature again revised the relevant statute in 2016 and 2017. As described in a companion article:

The revisions capped the fees local governments could impose, limited the stringency of dimensional standards (such as setback requirements), and established a strict timeline for reviews of applications (Senate Bill [SB] 1069, 2016 Cal. Stat. 4945; Assembly Bill [AB] 2299, 2016 Cal. Stat. 5044; AB 494, 2017 Cal. Stat. 4725; SB 229, 2017 Cal. Stat. 4688). Moreover, these laws limited (and in many cases eliminated) the authority of local governments to impose parking requirements on ADUs. In 2019, the legislature shortened the approval timeline, prohibited municipalities from restricting the right to build ADUs to owner-occupiers, tightened the dimensional standards (e.g., by establishing minimum and maximum square footage requirements for ADUs), and prohibited the imposition of fees on ADUs of less than 750 square feet (SB 13, 2019 Cal. Stat. 5559). [Another 2019 bill entitled homeowners to add both an 800 square foot ADU and a smaller “junior ADU” (AB 68, 2019 Cal. Stat. 655).] The Legislature also barred homeowners associations (HOAs) from imposing any covenant, condition, or restriction (CCR) that either “effectively prohibits or unreasonably restricts the construction or use of an accessory dwelling unit . . . on a lot zoned for single-family residential use” (AB 670, 2019 Cal. Stat. 2515, 2515), and, in 2020, prevented HOAs from restricting the rental of ADUs (AB 3182, 2020 Cal. Stat. 3068). In sum, as of 2020, ADUs should have been allowed as-of-right, provided that they were under 800 square feet, no more than 16 feet tall, and had 4-foot setbacks (Marantz et al., under review).

¹ 1982 Cal. Stat. 5500.

² For examples, see *Desmond v. County of Contra Costa*, 25 Cal. Rptr.2d 842 (Ct. App. 1993) (denying ADU permit based on perceived architectural incompatibility); *Harris v. City of Costa Mesa*, 31 Cal. Rptr.2d 1 (Ct. App. 1994) (denying ADU permit based on concerns with height and neighborhood character).

³ 2002 Cal. Stat. 6847.

This article analyzes data collected by the state to understand the prevalence of ADUs in five southern California counties and the nine-county Bay Area since ADU liberalization. It compares the ADU permit rate across counties, and it analyzes parcel sizes to test whether ADUs tend to be built on larger parcels (where there is more physical space for another structure). It then examines the characteristics of areas where ADUs are being built, including ethnoracial composition, median rent, and jobs accessibility.

Patterns of Accessory Dwelling Unit Permitting in the Bay Area and Southern California

The data on ADU permitting comes from the annual progress reports compiled by the California Department of Housing and Community Development (HCD). Although cities in California have long been required to submit information about their housing plans to HCD, a state law adopted in 2017 significantly enhanced the reporting requirements. Most relevant to this study, cities must annually submit a spreadsheet including new housing units that received an entitlement, a building permit, a certificate of occupancy, or any “other form of readiness that was issued during the reporting year” (HCD, n.d.: 9). A process described in the appendix identified 43,160 parcels in the Bay Area and southern California with at least one ADU permit.

The dataset used for analysis merges the ADU permit data with tract-level data on jobs accessibility, median rent, and ethnoracial characteristics. The latter two measures come from the 2012–2016 American Community Survey (ACS). Both the measure of jobs accessibility, described in detail in the appendix, and the ACS data predate the first year of ADU data (2018), mitigating concerns about endogeneity. This article compares jobs accessibility, median rent, and the size of parcels with and without ADUs. It then analyzes the relationship between ADU permitting and ethnoracial composition by county with tract-level pairwise correlations.

Exhibit 1 reports counts of parcels with at least one ADU permitted from 2018 through 2021 (in the column marked “ADUs”) and the results of the U.S. Census Bureau’s Building Permits Survey (BPS) for incorporated municipalities in the study area during the same period. The BPS data, which come from surveys of jurisdictions, include 275 of the 280 municipalities in the sample analyzed in this article. The survey instructions direct respondents to report all detached ADUs and some attached ADUs.⁴ ADUs are not separately reported in the BPS data, so a detached ADU, for example, would be placed in the “1-unit” structure category along with detached single-family houses.

Given that the BPS count of permits should include a significant (albeit indeterminate) proportion of permitted ADUs, exhibit 1 suggests that ADUs represent about 13 percent of permits in the Bay Area and around 19 percent of permits in the southern California study area. Within both regions, there is significant variation. In the Bay Area, Marin County, located on the other side of the Golden Gate Bridge from San Francisco, has the highest proportion of ADUs. That proportion

⁴ Jurisdictions are instructed to report ADUs that are “detached and built on same lot as existing main structure[;] attached and built at the same time the main structure is being constructed[;] attached to main structure via a walkway[;] detached from existing structure but share utilities with main structure[; or] built over an existing detached garage - using the detached garage as the foundation for the ADU.” Jurisdictions should not report ADUs that are additions, that require alterations (e.g., a changed roof line in the main structure), or “conversions” (U.S. Census Bureau, 2021).

is driven by the low number of total units permitted from 2018 through 2021 per capita in Marin County (3 units per 1,000 people) as compared with the Bay Area region as a whole (11 units per 1,000 people).⁵ In Alameda, Contra Costa, and Santa Clara Counties, all of which have relatively large numbers of total permits, ADUs account for roughly 12 percent to 15 percent of newly permitted units. San Francisco, which had relatively high per capita permitting (15 units per 1,000 people), had a relatively low proportion of ADUs, perhaps because its housing stock predominantly consists of multiunit buildings.

Exhibit 1

New Units Permitted in Incorporated Areas, 2018–21, by County

	Units by Structure Type (Census Bureau)						Census Tot.	ADUs/ Census Tot. (%)
	Pop. (2018)	ADUs	1 unit	2 units	3–4 units	5+ units		
Bay Area	7,734,987	11,575	29,830	736	700	56,391	87,657	13
Alameda	1,651,760	2,927	6,444	200	363	16,287	23,294	13
Contra Costa	1,143,188	1,143	5,412	132	28	3,615	9,187	12
Marin	262,179	495	418	54	3	204	679	73
Napa	140,340	245	443	4	20	2,433	2,900	8
San Francisco	885,716	840	104	154	102	12,541	12,901	7
San Mateo	770,927	1,899	1,371	38	28	3,619	5,056	38
Santa Clara	1,943,579	3,269	6,757	84	93	14,786	21,720	15
Solano	436,813	257	3,968	4	0	960	4,932	5
Sonoma	500,485	500	4,913	66	63	1,946	6,988	7
Southern California	18,774,638	31,585	77,550	6,346	2,674	81,725	168,295	19
Los Angeles	10,192,593	26,383	23,623	4,654	669	54,694	83,640	32
Orange	3,186,254	3,032	13,059	738	926	14,310	29,033	10
Riverside	2,397,662	668	23,764	128	491	5,473	29,856	2
San Bernardino	2,150,017	669	14,734	692	448	4,783	20,657	3
Ventura	848,112	833	2,370	134	140	2,465	5,109	16

ADU = accessory dwelling unit.

Notes: The Census Bureau aggregates building permit data for the Bay Area municipalities of Clayton, Hercules, Lafayette, Orinda, and Moraga with unincorporated Contra Costa County. This exhibit omits these jurisdictions and all unincorporated areas.

Sources: ADU data: California Department of Housing and Community Development (2022); Building Permit Survey data: U.S. Census Bureau (2022); Population data: State of California, Department of Finance (2021)

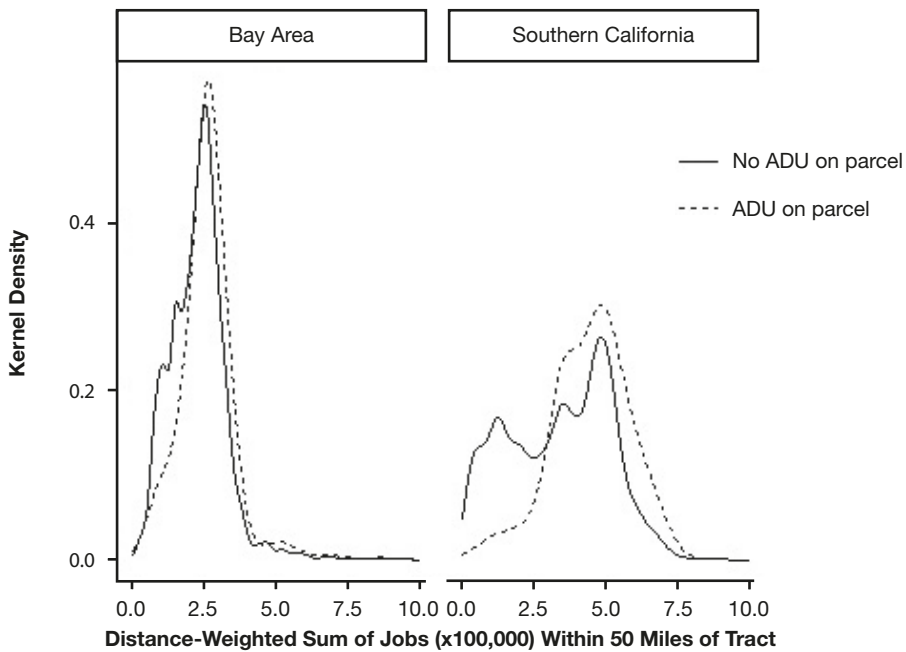
As is the case in the Bay Area, in southern California ADU permitting was higher in the coastal counties (Los Angeles, Orange, and Ventura), where undeveloped, unprotected land is scarcer, and rents are higher than in the inland counties of Riverside and San Bernardino. Within Los Angeles County, the City of Los Angeles accounts for 70 percent of ADU permits (and thus 59 percent of total ADU permits in the southern California study area), even though it accounts for only 40 percent of the population of Los Angeles County and only 21 percent of the southern California study area population.

⁵ The denominator for the per capita statistics is measured as of 2018, based on estimates from State of California, Department of Finance (2021).

The data indicate that ADUs in the study areas are typically sited on parcels with good access to jobs and with acreage sizes comparable to other parcels. ADUs generally receive permits in tracts with slightly lower median rents compared to the region as a whole. Exhibit 2 displays the distribution of tract-level jobs accessibility for the 4,797,176 residential parcels in the Bay Area and the southern California study area. The x-axis indicates a measure of jobs accessibility: the distance-weighted sum of jobs within 50 miles of the centroid for the tract in which a parcel is located. This distance-weighted measure, detailed in the appendix, means that closer jobs are more heavily weighted than jobs that are farther away. The y-axis indicates the proportion of parcels at each level of jobs accessibility. The distribution of parcels by jobs accessibility differs substantially between the Bay Area and the more sprawling southern California region, but in both regions, ADUs are more likely to be built on parcels with good jobs accessibility.

Exhibit 2

Distribution of Jobs Accessibility for Residential Parcels by Accessory Dwelling Unit Status



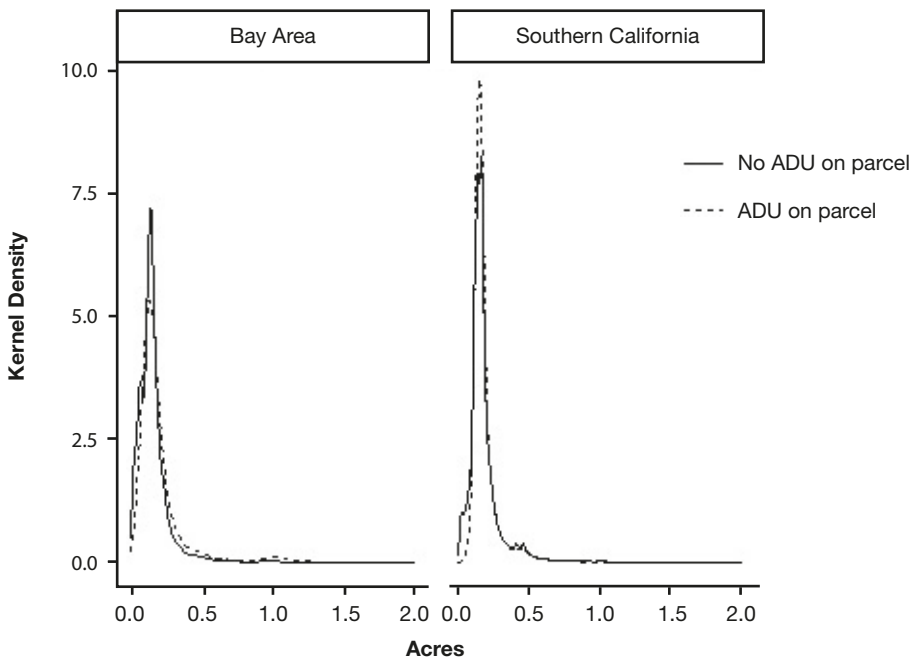
ADU = accessory dwelling unit.
 Source: See appendix

Exhibit 3 shows that the size of parcels where ADUs have been permitted generally mirrors that of all other residential parcels, although the smallest residential parcels are relatively unlikely to include an ADU. Exhibit 4 shows that, in both the Bay Area and southern California, ADU permits tend to be issued in census tracts that have relatively low rents, although not the lowest rents. At first glance, this is surprising since the rental or for-sale value of an ADU is obviously higher in places with higher rents. The disamenity value of an ADU to the occupant of a parcel's primary

residence (loss of privacy or yard space) may be greater in markets with higher rents.⁶ A separate companion article (Marantz et al., under review), uses a regression model to assess whether different city-, tract-, and parcel-level attributes are related to ADU permitting, finding that the relationship illustrated in exhibit 4 is robust with the inclusion of other variables. Notably, this finding contrasts with earlier research by Chapple et al. (2020), who examine ADU permitting through 2019 and find that most permits were issued in tracts with median household incomes in the top two quartiles statewide. (The findings are inconsistent with those of Chapple et al. even when the analysis is restricted to 2018 and 2019.)

Exhibit 3

Distribution of Residential Parcel Acreage by Accessory Dwelling Unit Status



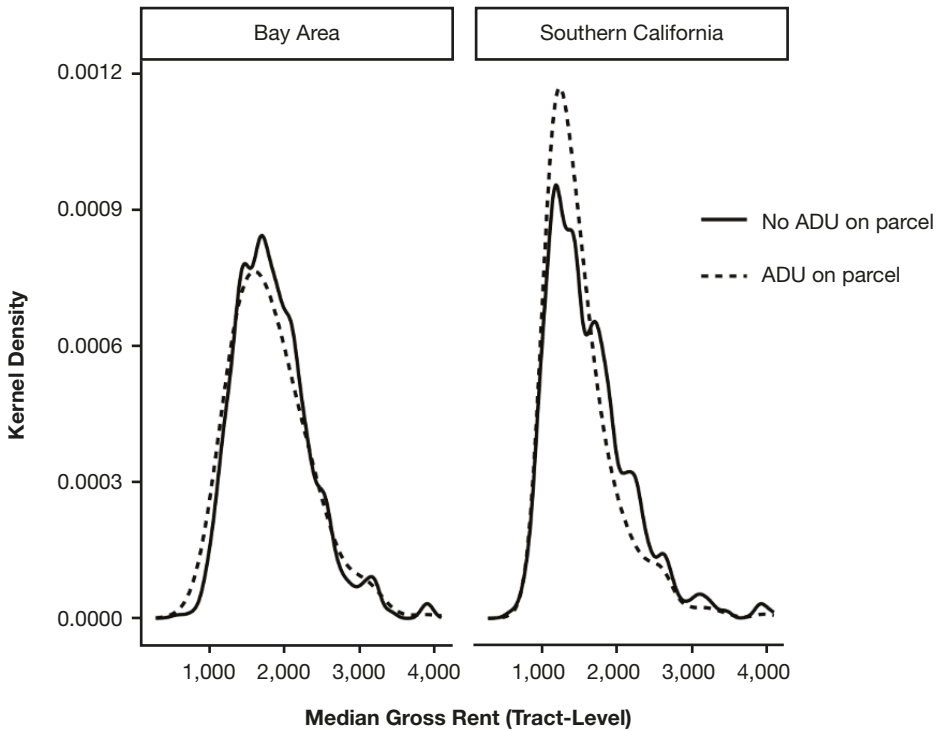
ADU = accessory dwelling unit.

Sources: ADU data: California Department of Housing and Community Development (2022); Parcel size data: Southern California Association of Governments (2021) and Boundary Solutions (2022)

⁶ It is also possible that some owners of single-family homes in high-rent locations are opting not to develop ADUs because they anticipate that their parcels will be rezoned for denser, more valuable forms of development in the future, such as fourplexes or small apartment buildings. In 2021, California passed a law authorizing lot splits and duplexes in lieu of ADUs on most single-family home parcels (Senate Bill 9), and a state policy to affirmatively further fair housing is also putting some pressure on local governments to allow multifamily housing in neighborhoods where it has been excluded in the past (HCD, 2021). Given the longstanding resistance to dense development in single-family home neighborhoods, it would be surprising if homeowner expectations about future multifamily development opportunities accounted for the lack of ADU development in high-rent areas. (The lot-split and duplex bill has generated very little development activity thus far [Garcia and Alameldin, 2023].)

Exhibit 4

Distribution of Tract-Level Median Gross Rent by Accessory Dwelling Unit Status for Residential Parcels



ADU = accessory dwelling unit.
Sources: ADU data: California Department of Housing and Community Development (2022); Median rent data: 2012–2016 American Community Survey

Exhibit 5 presents statistical relationships between the ethnoracial characteristics of neighborhoods (census tracts) and the prevalence of ADU permitting. In most of the counties in the sample, there is a negative correlation between a census tract’s proportion of parcels with an ADU and the percentage of the tract’s population identifying as Asian. Conversely, tracts that have relatively large populations identifying as Hispanic or Latino tend to have more ADUs, although this relationship is more prevalent in southern California than in the Bay Area. No consistent relationship exists between ADU permitting and Black or White population shares.

Exhibit 5

Tract-Level Pairwise Correlations Between the Proportion of Residents in Ethnoracial Categories and the Proportion of Single-Family Parcels With Accessory Dwelling Unit Permits

	% Asian	% Black or African American	% Hispanic or Latino	% White
Bay Area Counties				
Alameda	- 0.32	0.19		0.20
Contra Costa				
Marin	- 0.46			
Napa	- 0.37			
San Francisco				
San Mateo	- 0.19			
Santa Clara	- 0.16			0.16
Solano		0.43	0.22	- 0.30
Sonoma	- 0.33			
Southern California Counties				
Los Angeles	- 0.08		0.08	
Orange	0.35		0.22	- 0.42
Riverside	- 0.13	- 0.14	0.17	
San Bernardino		- 0.12	0.26	- 0.18
Ventura	- 0.24		0.38	- 0.33

Note: This chart displays only coefficients that are statistically significant at $p < 0.05$.

Sources: ADU data: California Department of Housing and Community Development (2022); Ethnoracial characteristics: 2012–2016 American Community Survey

As noted above, a separate companion article (Marantz et al., under review) uses a regression model to assess whether different city-, tract-, and parcel-level attributes are related to ADU permitting. The attributes are lot size, number of structures on a lot, tract-level median rent, the proportion of vacant land in a tract, the log of city population, the proportion of occupied housing units in a city that are owner-occupied, and HOA density (i.e., the proportion of mortgaged housing units in a city that are covered by an HOA's CCRs). The regression model indicates that larger lot sizes and additional structures on a parcel are associated with increased odds of an ADU permit after controlling for other variables. Those results are sensible. Homeowners may perceive converting an existing structure to be the least expensive option for creating an ADU, or one which minimally impinges on their yard space. (A larger yard naturally means that there is more room to accommodate a new structure.) In addition, city-level HOA density is negatively associated with ADU permitting, even in the years after state law prohibited HOAs from restricting the construction or rental of ADUs.

Conclusion

The above analyses indicate where ADUs are now in greater supply: in coastal counties, on parcels of average size, and in jobs-accessible neighborhoods with relatively low median rents (but not the lowest rents). The relationship between neighborhood ethnoracial composition and ADU permitting varies by region and, within regions, by county. The only relatively consistent relationship is that tracts with more residents identifying as Hispanic or Latino generally have

more ADUs, although even this relationship varies by region and is more prevalent in southern California than in the Bay Area. This analysis demonstrates that state laws liberalizing ADUs can have differential effects across a state, suggesting that such a state intervention may be a more powerful tool in some places than in others. Mandates for local governments to liberalize ADU permitting should be accompanied by data collection requirements, as has been the case in California, so that researchers and policymakers can assess those differential effects.

Appendix A⁷

Accessory Dwelling Unit Data

The data on accessory dwelling unit (ADU) permitting come from the annual progress reports (APRs) compiled by the California Department of Housing and Community Development (HCD). Each city's APR must include the current assessor parcel number (APN) and street address for every reported development project. A city's APR must also report the type of project based on a list that includes ADUs. A single project may appear multiple times in HCD's compiled APR dataset if, for example, the project receives a building permit in one year and a certificate of occupancy in a subsequent year. In addition, HCD does not validate the APR data, and, as a result, the dataset includes some erroneous APNs.

The process for generating an unduplicated count of parcels on which at least one ADU was approved from 2018 through 2021 involves filtering the compiled APR data from HCD to include only ADUs in the study counties; selecting rows that are uniquely identified by jurisdiction, APN, and street address; and merging this dataset with parcel data from the Southern California Association of Governments (SCAG) (2021) and Boundary Solutions (2022), which maintains a proprietary database of digitized parcel boundaries. SCAG parcel data include consistent information on zoning and land use as of 2016, but the Boundary Solutions data (which covers the Bay Area) do not. Thus, the process for the Bay Area data involves the additional step of combining geodata compiled by the Othering and Belonging Institute (Menendian et al., 2020), which categorizes residential zoning as of 2020. The merge rate is 96 percent (i.e., 52,480 of the 54,584 ADU observations from HCD). The final step involves creating a unique ID for each parcel and reducing the dataset to one observation per unique ID, yielding an unduplicated count of 43,160 parcels with at least one ADU permit.

Jobs Accessibility Measure

The measure of jobs accessibility is generated by calculating the distance-weighted sum of jobs within 50 miles of census tract centroids. The distance-weighting is derived using a linear decay function, following Salon (2014: 18), who notes that weighting by inverse distance squared "quickly renders jobs beyond 10 miles to have little effect on the [jobs accessibility] variable," which is problematic in the California context. The census tract and block group distances come from the National Bureau of Economic Research (2014), and the job counts come from the 2016 vintage of the Workplace Area Characteristics dataset from the Longitudinal Employer-Household Dynamics database (U.S. Census Bureau, n.d.).

⁷ This appendix draws extensively on Marantz et al. (under review).

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