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# Land Costs And New Housing

Michael Lewyn

## **ZONING AND LAND USE PLANNING**

### **Land Costs and New Housing**

*Michael Lewyn\**

During the 1970s, 17 million housing units were completed in the United States,<sup>1</sup> or roughly one unit for every 12 U.S. residents.<sup>2</sup> During the 2000s, about 15.6 million units were completed,<sup>3</sup> or one for every 19 residents.<sup>4</sup> During the 2010s, only 10.8 million units were completed,<sup>5</sup> or one for every 28 residents.<sup>6</sup> Construction of multifamily housing has decreased even more rapidly than other construction: while construction of single-family structures decreased by about 16 percent between 1973 and 2019,<sup>7</sup> construction of duplexes and other structures with two to four units decreased by

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<sup>1</sup>See United States Census Bureau, New Residential Construction, at [https://www.census.gov/construction/nrc/historical\\_data/index.html](https://www.census.gov/construction/nrc/historical_data/index.html) ("Housing Units Completed" table) ("New Residential").

<sup>2</sup>In 1970, the U.S. had 203.3 million residents. See Sarah Janssen, ed., *The World Almanac and Book of Facts 2021* at 613.

<sup>3</sup>See New Residential, *supra* note 1.

<sup>4</sup>See Janssen, *supra* note 2, at 613 (U.S. had 281.4 residents in 2000).

<sup>5</sup>See New Residential, *supra* note 152.

<sup>6</sup>See Janssen, *supra* note 2, at 613 (U.S. had 308.7 residents in 2010).

<sup>7</sup>See New Residential, *supra* note 1 (1.197 million completions in 1973, 903 million in 2019).

over 90 percent,<sup>8</sup> and construction of structures with five or more units decreased by 55 percent.<sup>9</sup>

And as supply has dwindled, housing costs have increased: between 1960 and 2014, median rents increased by 64 percent in real terms nationwide, while real household incomes increased by only 18 percent.<sup>10</sup> One logical solution to this problem might be increase housing supply by eliminating zoning laws that limit housing density.

Some commentators, however, argue that such zoning changes may actually increase housing costs by increasing land costs. They argue that more permissive zoning makes land more valuable, and increased land costs may be passed on to consumers in the form of higher rents and housing prices.<sup>11</sup>

If this argument was correct, cities and metropolitan areas that allowed higher quantities of new housing would experience rapidly growing land costs and rent increases, while stingier regions would have stable land costs. The purpose of this article is to investigate that hypothesis.

<sup>8</sup>*Id.* (123,500 completions in 1973, 9000 in 2019, and no completion of over 11,000 units in any year after 2010).

<sup>9</sup>*Id.* (779,800 completions in 1973, 342,900 in 2010). 1970s construction of such units averaged about 509,000 per year—higher than in any year since 1986.

<sup>10</sup>See Andrew Woo, *How Have Rents Changed Since 1960?*, Apartment List (June 14, 2016), at <https://www.apartmentlist.com/rentonomics/rent-growth-since-1960>. Purchase prices for houses have also increased rapidly. Between 1960 and 2020, the cost of the median house has increased from \$92,000 to \$298,600—a 223 percent increase. See Janssen, *supra* note 2, at 108. Cf. United States Census Bureau, *Historical Income Tables-Households*, at <https://www.census.gov/data/tables/time-series/demo/income-poverty/historical-income-households.html> (Table H-6) (during this period, median household incomes increased from \$29,943 to \$68,703, a 129 percent increase). However, homeowners' pain has been mitigated by declining interest rates, which have allowed homeowners to pay less for their homes than rising purchase prices would suggest. See Kevin Graham, *Historical Mortgage Rates from the 1970s to 2021: Averages and Trends For 30-Year Fixed-Rate Mortgages*, Feb. 12, 2021, Rocket Mortgage, at <https://www.rocketmortgage.com/learn/historical-mortgage-rates-30-year-fixed> (describing trends).

<sup>11</sup>See Lewyn, *Downtown Condos for the Rich: Not All Bad*, 51 New Mexico L. Rev. 400, 420 (2021) (describing argument) (citations omitted).

# I. Pro-Housing vs. Anti-Housing Metro Areas: Land Costs

In particular, Table 1 compares two groups of large metropolitan areas: the regions that added the least housing (relative to job growth) and those that added the most. The first group is comprised of large,<sup>12</sup> growing<sup>13</sup> metropolitan areas that added more than three jobs per housing unit in the 2010s; because such metro areas added 0.33 or fewer housing units per new job, they can fairly be described as “restrictive” towards new housing. The second group is comprised of large, growing metropolitan areas that added between one and two jobs per housing unit, or at least 0.5 housing units per new job. Although the second group’s housing construction rates did not keep up with job growth, this group of metro areas was nevertheless permissive by U.S. standards.

<sup>12</sup>By large, I mean regions that are among the fifty largest metropolitan areas in the United States. See Janssen, *supra* note 2, at 622 (listing most populous metros).

<sup>13</sup>I focus on growing regions- in particular, regions where either a) regional population increased by 10 percent or more between 2000 and 2019 or b) central city population increased by over 5 percent during that period. I exclude other regions because a slow-growth metro area can have a high houses-to-jobs ratio even if it added very few of each. For example, if a region added only 1000 jobs and 200 housing units, it might have an unusually high job/house ratio of 5-1, yet still have very little demand for new housing because of its stagnant population.

**Table 1: Land Costs in Restrictive and Permissive Metro Areas**

Restrictive Metros (added three or more jobs per housing unit)

| Jobs added per housing unit<br>2010-20 <sup>14</sup> |     | Land price<br>per acre 2012<br>(in thou-<br>sands) <sup>15</sup> | Land price<br>per acre<br>2020 <sup>16</sup> | Land price<br>increase (in<br>thousands of<br>dollars/<br>percentage) |
|--|-----|--|--|---|
| San Francisco  | 5.9 | 2937   | 7180   | 4143/141%   |
| Miami  | 4.4 | 417  | 1214   | 797/192%  |
| Riverside  | 4.4 | 256  | 931  | 675/263%  |
| Los Angeles  | 4.2 | 1779   | 3890   | 2111/118%   |
| New York   | 4.2 | 1805   | 3098   | 1293/71%  |
| San Diego  | 3.8 | 864  | 2087   | 1223/141%   |
| Boston   | 3.4 | 644  | 1334   | 690/107%  |
| Sacramento   | 3.3 | 312  | 1194   | 882/282%  |
| Denver   | 3.0 | 420  | 1350   | 930/221%  |

Permissive Metros (added fewer than two jobs per housing unit)

|              |     |     |      |          |
|--------------|-----|-----|------|----------|
| Houston      | 1.2 | 220 | 545  | 325/147% |
| Raleigh      | 1.4 | 151 | 387  | 236/156% |
| Austin       | 1.5 | 215 | 715  | 464/184% |
| Jacksonville | 1.6 | 155 | 457  | 302/194% |
| Washington   | 1.7 | 945 | 1626 | 681/72%  |
| Charlotte    | 1.8 | 121 | 364  | 243/201% |
| Dallas       | 1.8 | 178 | 565  | 387/217% |
| Nashville    | 1.8 | 122 | 426  | 304/249% |

If new housing caused rising land costs, land costs would have risen in the permissive metro areas, but not in the restrictive ones. Instead, land costs rose in both groups of regions. If increases are measured in raw dollars, land costs actually rose by more in the restrictive group: in seven of these nine restrictive regions, land costs per acre rose by over \$700 (as opposed to none of the more permissive regions). If increases are measured in percentages, land cost increases seem to have been roughly equal: land costs more

<sup>14</sup>See Rob Warnock et. al, *Where Did We Build Housing This Decade?*, Apartment List, June 8, 2021, at <https://www.apartmentlist.com/research/where-did-we-build-housing-this-decade>.

<sup>15</sup>See American Enterprise Institute, *Land Price and Land Share Indicators*, at <https://www.aei.org/housing/land-price-indicators/> (go to "Data Download" link) ("AEI").

<sup>16</sup>*Id.*

than doubled in all but one metro area in each category, and more than tripled in three of the most restrictive regions (Riverside, Sacramento, Denver) and three of the least restrictive regions (Charlotte, Dallas and Nashville). Thus, it seems that increases in housing supply do *not* cause increases in land costs.

Because urban land is sometimes far more expensive than land in the average suburb,<sup>17</sup> another way of comparing regional land costs is to examine land costs in the central counties (that is, counties containing central cities)<sup>18</sup> of the metropolitan areas discussed above.

**Table 2: Land Costs in Central Counties of Permissive and Restrictive Metropolitan Areas**

| Restrictive<br>metros <sup>19</sup>        | 2012 land price <sup>20</sup><br>(per acre, in<br>thousands) | 2020 land price <sup>21</sup><br>(same) | increase<br>(in dollars/<br>percent) |
|--|--|---|--------------------------------------|
| San Francisco<br>(San Francisco<br>County) | 943  | 1911                                    | 968/102%                             |
| Miami<br>(Miami Dade<br>County)            | 539  | 1410                                    | 871/161%                             |
| Riverside<br>(Riverside<br>County)         | 278  | 977                                     | 699/251%                             |
| Los Angeles                                |  |   |                                      |

<sup>17</sup>For example, land in Suffolk County, Mass. (which includes the city of Boston), land costs \$4.3 million per acre, more than three times the regionwide average. *Id.*

<sup>18</sup>Table 2 addresses counties rather than cities only because the AEI database, *id.*, does not include price data for individual cities.

<sup>19</sup>I note that no land price data is available for New York County, the historic core of the New York metropolitan area. However, land prices in other central New York City counties rose at rates roughly similar to those of the counties listed in Table 2. For example, land prices in Kings County (Brooklyn) nearly doubled between 2012 and 2020, from \$7.0 million per acre to \$13.8 million per acre. *Id.* This was also true in Queens and the Bronx. *Id.* (during this period, land cost in Bronx increased from \$2.31 million per acre to over \$5 million per acre, and price in Queens increased from just over \$3.3 million to \$6.33 million per acre).

<sup>20</sup>*Id.*

<sup>21</sup>*Id.*

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| Restrictive<br>metros <sup>19</sup>   | 2012 land price <sup>20</sup><br>(per acre, in<br>thousands) | 2020 land price <sup>21</sup><br>(same) | increase<br>(in dollars/<br>percent) |
|---------------------------------------|--|---|--------------------------------------|
| (Los Angeles<br>County)               | 1622   | 3727                                    | 2105/129%                            |
| San Diego<br>(San Diego<br>County)    | 864  | 2090                                    | 1226/141%                            |
| Boston<br>(Suffolk County)            | 1936   | 4301                                    | 2265/117%                            |
| Sacramento<br>(Sacramento<br>County)  | 320  | 1406                                    | 1086/339%                            |
| Denver<br>(Denver County)             | 818  | 2269                                    | 1451/177%                            |
| Permissive metros                     |  |   |                                      |
| Houston<br>(Harris County)            | 264  | 652                                     | 388/146%                             |
| Raleigh<br>(Wake County)              | 178  | 436                                     | 258/144%                             |
| Austin<br>(Travis County)             | 360  | 950                                     | 590/163%                             |
| Jacksonville<br>(Duval County)        | 160  | 530                                     | 370/231%                             |
| Washington, D.C.<br>(Washington city) | 368  | 718                                     | 350/95%                              |
| Charlotte<br>(Mecklenburg<br>County)  | 186  | 528                                     | 342/183%                             |
| Dallas<br>(Dallas County)             | 274  | 765                                     | 491/179%                             |
| Nashville<br>(Davidson<br>County)     | 167  | 611                                     | 444/265%                             |

Table 2 suggests that in central counties, land prices rose both in the central counties of restrictive metropolitan areas and in those of more permissive regions. In absolute dollars, land costs rose more rapidly in the first group of central counties; in every one of them, land prices rose by over \$600 per acre. Percentage increases were roughly similar in the two groups of counties: land prices doubled in almost all of them, and tripled or more in two counties in the restrictive group (Riverside and Sacramento) and two counties in the permissive group (Duval and Davidson County). In sum,

data from urban counties supports the view that a refusal to permit new housing did not succeed in keeping land costs down. Land costs rose in places that allowed lots of housing-but they rose just as much (if not more) in places that didn't.

## II. Don't Housing Costs Matter More?

Of course, what most consumers care about is not land costs, but housing costs: does housing cost more in the permissive metros or in the restrictive metros? And do increases in housing costs always match increases in land costs?

Tables 3 and 4 address these issues.

**Table 3**

|                    | Median home<br>price 2012 <sup>22</sup> | Median home<br>price 2020 <sup>23</sup> | Increase<br><br>(in dollars/<br>percent) |
|--------------------|---|---|--|
| Restrictive metros |   |   |  |
| San Francisco      | 549                                     | 1330                                    | 781/142%                                 |
| Miami              | 145                                     | 325                                     | 180/124%                                 |
| Riverside          | 165                                     | 380                                     | 215/130%                                 |
| Los Angeles        | 295                                     | 638                                     | 343/116%                                 |
| New York           | 400                                     | 460                                     | 60/15%                                   |
| San Diego          | 298                                     | 585                                     | 287/96%                                  |
| Boston             | 282                                     | 468                                     | 186/65%                                  |
| Sacramento         | 175                                     | 415                                     | 240/137%                                 |
| Denver             | 207                                     | 424                                     | 217/104%                                 |
| Permissive metros  |   |   |  |
| Houston            | 145                                     | 247                                     | 102/70%                                  |
| Raleigh            | 194                                     | 320                                     | 126/64%                                  |
| Austin             | 184                                     | 313                                     | 129/70%                                  |
| Jacksonville       | 128                                     | 225                                     | 97/75%                                   |
| Washington         | 285                                     | 380                                     | 95/33%                                   |
| Charlotte          | 152                                     | 255                                     | 103/67%                                  |

<sup>22</sup>See National Association of Home Builders, *NAHB/Wells Fargo Housing Opportunity Index (HOI)*, at <https://www.nahb.org/news-and-economics/housing-economics/indices/housing-opportunity-index> (click "Complete History by Metropolitan Area, 2012-Current" link). I note that this table does not include data for the Nashville metropolitan area.

<sup>23</sup>*Id.* I used data from the first quarter of 2020, to avoid having the data distorted by dislocations caused by the COVID-19 pandemic.



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|        | Median home<br>price 2012 <sup>22</sup> | Median home<br>price 2020 <sup>23</sup> | Increase<br><br>(in dollars/<br>percent) |
|--------|---|---|--|
| Dallas | 161                                     | 298                                     | 137/85%                                  |

**Table 4: Increases in Housing Costs vs. Increases in Land Costs  
(in percent) 2012-20**

|                    | Land cost<br>increase <sup>24</sup> | Housing cost<br>increase <sup>25</sup> | Housing cost<br>increase<br>As percent of land<br>cost increase |
|--------------------|-------------------------------------|--|---|
| Restrictive metros |                                     |  |   |
| San Francisco      | 102                                 | 142                                    | 1.41  |
| Miami              | 161                                 | 124                                    | 0.77  |
| Riverside          | 251                                 | 130                                    | 0.51  |
| Los Angeles        | 129                                 | 116                                    | 0.89  |
| New York           | 71                                  | 15                                     | 0.21  |
| San Diego          | 141                                 | 96                                     | 0.68  |
| Boston             | 107                                 | 65                                     | 0.61  |
| Sacramento         | 282                                 | 137                                    | 0.48  |
| Denver             | 221                                 | 104                                    | 0.47  |
| Permissive metros  |                                     |  |   |
| Houston            | 147                                 | 70                                     | 0.47  |
| Raleigh            | 156                                 | 64                                     | 0.41  |
| Austin             | 184                                 | 70                                     | 0.38  |
| Jacksonville       | 194                                 | 75                                     | 0.38  |
| Washington         | 72                                  | 33                                     | 0.46  |
| Charlotte          | 201                                 | 67                                     | 0.33  |
| Dallas             | 217                                 | 85                                     | 0.39  |
| Nashville          | 249                                 | not available                          |   |

First of all, it seems clear that the most restrictive metropolitan areas are more expensive, as a group, than the regions that have allowed the most new housing. The most expensive of the permissive metro areas, Washington, had a median home price of \$380,000 in 2020. By contrast, only one of the restrictive metro areas, Miami, had a median home price below this level.

<sup>24</sup>See Table 1 supra.

<sup>25</sup>See Table 3 supra.

Second, prices also increased more rapidly during the 2010s in the more restrictive metro areas- not just in absolute dollar amounts, but even as a percentage of 2012 home values. Median home prices doubled in six of the nine most restrictive metros, and almost doubled in a seventh (Boston). By contrast, in not one of the most permissive metros did prices increase by over 80 percent.

This differential suggests that the link between land prices and housing prices is weaker in the least restrictive metro areas. As noted above, land prices increased by about the same percentage in both groups of metro areas- yet housing prices increased more modestly in the permissive group. In every single one of the permissive metros, housing prices increased at less than half the rate of land prices; by contrast, this was true for only four of the nine most restrictive metros. This difference suggests that new construction was able to moderate the cost increase caused by accelerating land values.

### III. Avenues For Further Research

One problem with the above data is that land costs are most likely to affect new homes, not old homes. If you are purchasing a house built in 1929, the land cost most relevant to its cost is the land price in 1929, not the land cost today.<sup>26</sup> So to focus on the buildings most affected by land costs, one must examine the cost of new buildings. How do the costs of new buildings compare with those built several years ago? Have their rents risen as rapidly as land costs? And if so, is there a difference between home prices in permissive metros and restrictive metros? For example, if apartments built in 2020 were significantly more expensive than those built in 2012, this fact would suggest that rising land prices significantly affected rents.

However, research on these issues is impaired by small sample sizes—that is, price data is available for only a few housing units built in any one year, especially in smaller

<sup>26</sup>For example, suppose that when a house was built in 1969, the land on which the house sits cost the original purchaser \$45,000, and the overall cost of the house was \$105,000. In 2019, the first purchaser sells the house for \$500,000. That purchaser makes a profit even if the land cost is far above \$500,000. Thus, current land prices are not very relevant to the cost of that house.

metropolitan areas. For example, in Riverside, only two housing units currently for sale, and none currently for rent, were built between 2009 and 2012.<sup>27</sup>

#### IV. Summary

One common argument against more permissive zoning is that rather than causing lower housing costs, upzoning is likely to increase land costs and thus to increase housing costs. If this was true, the metropolitan areas that allowed the most new housing would presumably have the most rapid land and housing cost increases.

In fact, this is not the case. Land costs increased equally rapidly in both permissive and strict metropolitan areas. More importantly, in the most permissive metropolitan areas, housing costs grew more slowly. Thus, increased land costs were less likely to translate to skyrocketing housing costs in markets where large amounts of new housing were built.

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<sup>27</sup>Zillow, at [www.zillow.com](http://www.zillow.com) (search performed Dec. 8, 2021).