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# How Housing Supply Shapes Access to Entry-Level Homeownership

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# Executive Summary

Housing and opportunity are inextricably linked in the United States, with homeownership long seen as a source of stability and wealth-building. However, homeownership has become harder to access, particularly for younger prospective homebuyers and households of color. This analysis seeks to tease out the role of supply-side factors in shaping homeownership trends across the country.

Through an analysis of Zillow data, decennial census data, and American Community Survey Public Use Microdata for the nation's 100 largest metro areas, we find the following:

- **U.S. housing production has slowed in recent years, albeit unevenly, with more pronounced drop-offs in strong coastal economies and in older industrial areas with shrinking population bases.** Although several high-cost coastal regions (e.g., San Francisco, New York, and Washington, D.C.) and Rust Belt metro areas (e.g., Cleveland, Detroit, and Rochester) have experienced significant declines in the pace of housing production, some metro areas—particularly healthier regional economies in the South and interior West, such as metropolitan Charlotte, Dallas, Nashville, and Salt Lake City—have permitted a growing number of housing units amid regional wage gains and population growth.
- **New ownership housing production increasingly has shifted toward larger-format and single-family homes.** The majority of both four-bedroom-plus units and single-family homes are priced in the top third of a region's home prices. In contrast, attached and smaller multifamily buildings are much more likely to be priced in the bottom tier.
- **As production has slowed and changed, for-sale inventory has tightened, particularly for entry-level homes.** As of January 2018, all but one major metro area had for-sale inventories below what would be considered the typical market equilibrium level. Constraints are particularly pronounced for entry-level homes: more than 80 percent of major metro areas have seen a decline in the share of for-sale inventory priced in the bottom tier.
- **Declining inventory has been accompanied by steep home price increases, especially among entry-level homes in high-cost, supply-constrained markets.** Inflation-adjusted home prices have risen significantly since 2013 and now stand more than 25 percent above 2000 levels, prior to the housing boom. Bottom-tier home prices have proven the most volatile, and increases have accelerated in recent years even as top-tier price increases have begun to moderate. In more than two-thirds of major metro areas, bottom-tier home prices are higher today than in 2000.
- **These dynamics have shifted the makeup of recent homebuyers toward less diverse, older, higher-income households.** Typical household incomes increased substantially for recent homebuyers in 2016 compared with their counterparts in 2000, and by as much as \$20,000 in regions such as San Francisco, Los Angeles, and Boston. Recent homebuyers in 2016 were also less likely to be Black and more likely to be older than in the past, although recent buyers of homes in the bottom price tier were more diverse than those in the middle and top price tiers.
- **Evidence suggests that increasing production and diversifying the types of housing built could provide more ownership opportunities for lower-income and younger homebuyers.** Among units built since 2000, attached and multifamily units, as well as smaller single-family homes, house a larger share of younger and lower-income homeowners than average.

Effectively addressing the nation's housing crisis will require demand-side strategies to deal with stagnant or falling wage levels for low- and moderate-skilled workers, lack of access to credit, and the difficulty of building a sufficient down payment. But the findings of this analysis underscore the important role housing supply plays in determining who can become owners in the current market.

Although market conditions and needs vary across the nation's major metro areas, together these findings suggest that a regional supply-side housing strategy should focus on policy and private-sector solutions that increase and diversify the housing supply, including reforming restrictive zoning practices that constrain the amount and diversity of housing stock produced, addressing state and federal regulatory barriers to multifamily ownership, bringing down the cost of building housing, and supporting maintenance and preservation of existing housing stock, particularly stock types that have proved more accessible to a broader base of homeowners.

## Introduction

Housing and opportunity are inextricably linked in the United States. Homeownership in particular—with its promise of stability and wealth-building<sup>1</sup>—has long been a cornerstone of the American dream, and that remains true today: more than 80 percent of renters hope to own a home at some point.<sup>2</sup>

However, homeownership has become harder to attain in the past several years. As of the first quarter of 2018, the homeownership rate in the United States stood at 64.2 percent—3 percentage points down from the first quarter of 2000, before the housing boom and bust that preceded the Great Recession.<sup>3</sup> The decline in homeownership has been particularly pronounced among younger and minority households. For instance, the rate of homeownership for under 35 and Black households both dropped by more than 5 percentage points over that period to reach 35 and 42 percent, respectively. First-time homebuyers represented roughly one-third of recent homebuyers as of 2017, down from the historical average of 40 percent, and groups historically underrepresented among homeowners have been increasingly locked out of the ownership market. These trends point to the increasing difficulty homebuyers face when trying to enter (or re-enter) the ownership market in the current post-recession landscape.

Demand-side factors, such as stagnant wages, lack of down payments, and lack of credit, have contributed to these downward trends. But so, too, have trends in the supply of housing, including how much, where, and what kind of housing has been built in recent years. This analysis seeks to tease out the role of supply-side factors in shaping homeownership trends across the country. Through an analysis of Zillow data, decennial census data, and American Community Survey Public Use Microdata (PUMS) in the nation's 100 largest metro areas, we explore the following questions:

- How much and what type of housing has been built in the United States in recent decades?
- What are the implications of recent production trends for prospective first-time, or entry-level, homebuyers?
- How can future housing production provide more homeownership opportunities for first-time homebuyers and historically underserved populations?

We conclude by considering the implications for policymakers and private-sector leaders working to craft supply-oriented solutions to the nation's housing challenges.

### A Note on Data Sources

This study compares housing market conditions across the nation's 100 largest metro areas, which account for approximately two-thirds of the population in the United States.

Data on regional housing market conditions come from Zillow and allow for a month-by-month assessment of trends in home prices and inventory by home price tier since 2000. Data on characteristics of regional housing stock, homeowners, and recent homebuyers come from the decennial census and American Community Survey Public Use Microdata (PUMS).

Zillow data are not available for all 100 of the largest metro areas. Data are available for 96 or 97 of these metro areas, depending on the data series. Throughout the paper, these areas are referred to as major metro areas.

	DATA SOURCE	SAMPLE	GEOGRAPHIC COVERAGE
HOUSING INVENTORY	Zillow: Monthly For-Sale Inventory by Home Price Tier	Monthly, January 2010–January 2018	97 of 100 largest metro areas
HOUSING PRICES	Zillow: Zillow Home Value Index (ZHVI), All Homes by Home Price Tier	Monthly, January 2000–January 2018	96 of 100 largest metro areas
HOUSING CHARACTERISTICS	American Community Survey: Public Use Microdata (PUMS)	Point-in-Time, 1-Year 2016 Sample	100 of 100 largest metro areas
HOMEOWNER AND RECENT HOMEBUYER CHARACTERISTICS	American Community Survey: Public Use Microdata (PUMS) Decennial Census: Public Use Microdata (PUMS)	Point-in-Time, 1-Year 2016 Sample Point-in-Time, 5% 2000 Sample	100 of 100 largest metro areas 100 of 100 largest metro areas

See the Technical Appendix for more detailed information on the data and methodology used in this analysis.

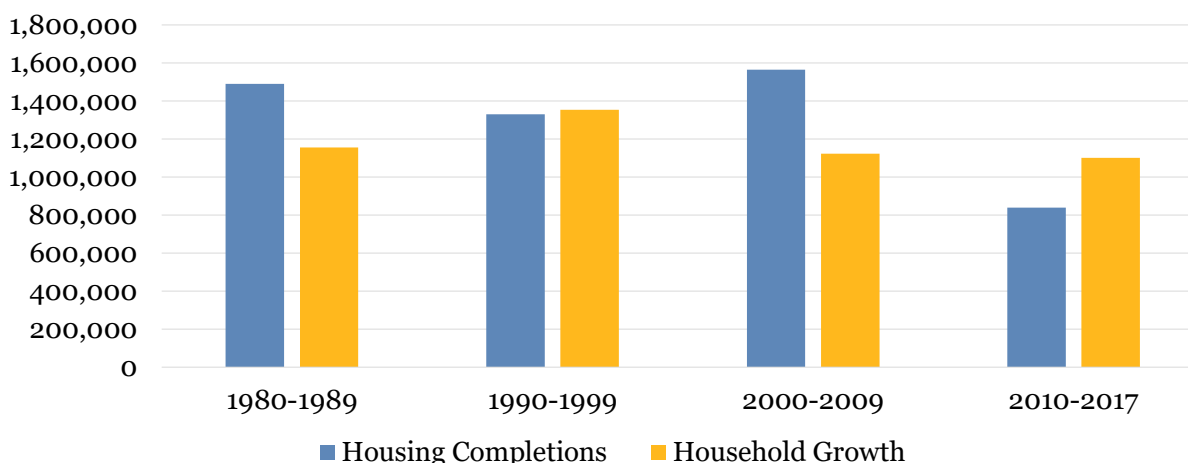
## How much and what type of housing has been built in the United States in recent decades?

U.S. housing production has slowed in recent years, albeit unevenly, with more pronounced drop-offs in strong coastal economies and in older industrial areas with shrinking populations.

For decades, housing production in the United States averaged more than 1 million new units per year (Figure 1). That figure climbed to an annual average of almost 1.6 million new units between 2000 and 2010, thanks to the building boom in the run-up to the Great Recession. However, the collapse of the housing market and the deep and protracted downturn that ended the decade drove down production to levels that have yet to recover. Housing completions have failed to keep pace with household growth in every year since the recession, averaging just 840,000 units per year between

2010 and 2017. Note that these figures may somewhat understate the imbalance between production and household growth in recent years, given that the lack of available and affordable housing can suppress household formation (e.g., because young adults delay starting their own households or because families double up to share housing costs).<sup>4</sup> What is more, recent reports of declining housing starts and permit activity nationally suggest that this imbalance likely has not abated, and may be worsening.<sup>5</sup>

Figure 1. Average Annual Housing Completions Versus Average Annual Household Growth in the United States



Source: Census Bureau Survey of New Residential Construction; Decennial census for 1980-2010 household growth; Current Population Survey for 2010-2017 household growth.

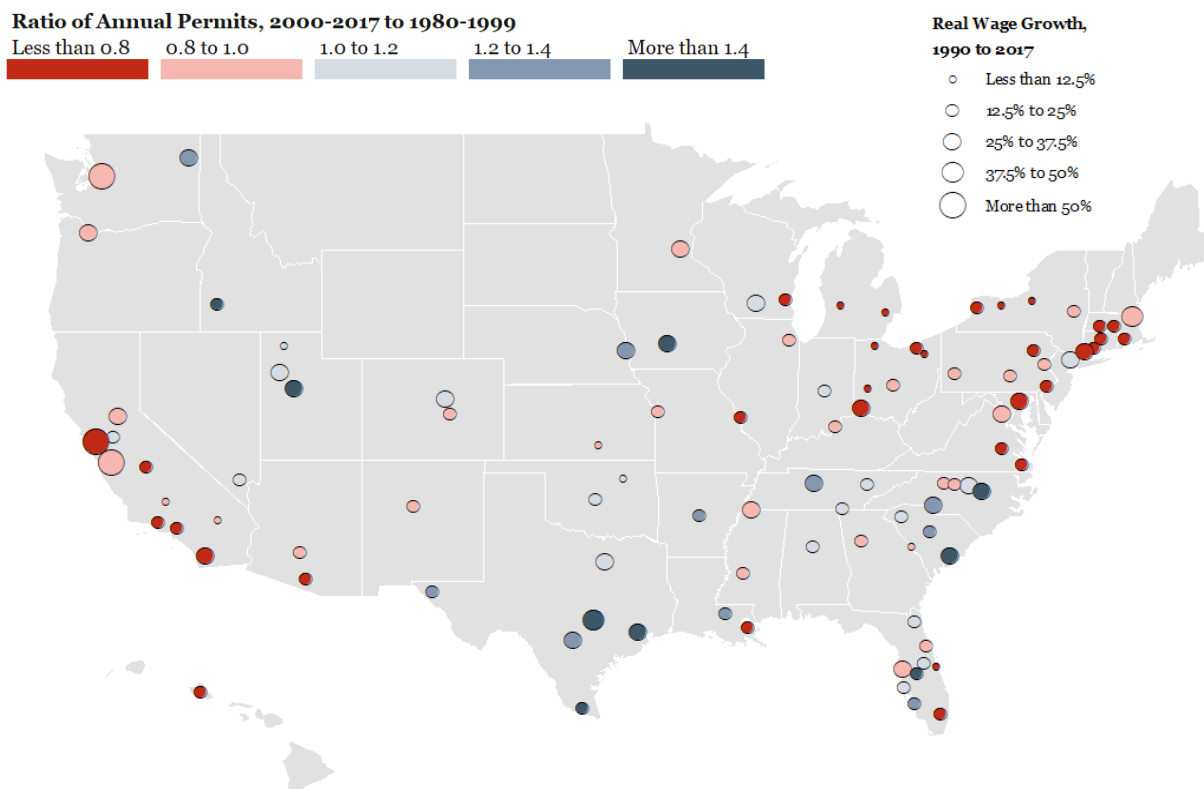
The pullback in housing production differs across markets and has been driven by different underlying factors depending on the region (Map 1). Many older industrial metro areas in the Midwest and Northeast—such as Cleveland, Detroit, and Rochester—have struggled economically for decades and have lost both jobs and people. Amid declining demand and softening markets, housing production dropped off significantly. However, many of the strongest regional economies in the country have confounded the historical relationship between higher incomes and increased housing production.<sup>6</sup> Several coastal markets—including San Francisco, San Diego, New York,

and Washington, DC—stand out for wage gains in recent decades amid a pronounced fall-off in housing production, making housing supply constraints particularly acute.

At the other end of the spectrum, several metro areas have seen housing production step up in response to growing demand. Many of these regions are in the South and interior West, such as metropolitan Charlotte, Dallas, Nashville, and Salt Lake City. These metro areas have healthy economies and have permitted a growing number of housing units amid regional wage gains and population growth.

Demand-side factors have contributed to the downward trends in homeownership. But so, too, have trends in the supply of housing, including how much, where, and what kind of housing has been built in recent years.

Map 1. Wage Growth Versus Change in Total Permits, 100 Largest Metro Areas



Source: Quarterly Census of Employment and Wages; Census Bureau Building Permits Survey. Note: Permits by tenure were not available at the metropolitan level. The map includes total permits across all housing structure types. The pullback in production is even more pronounced in coastal markets when changes in production of single-family housing, which is disproportionately owner-occupied, are assessed.

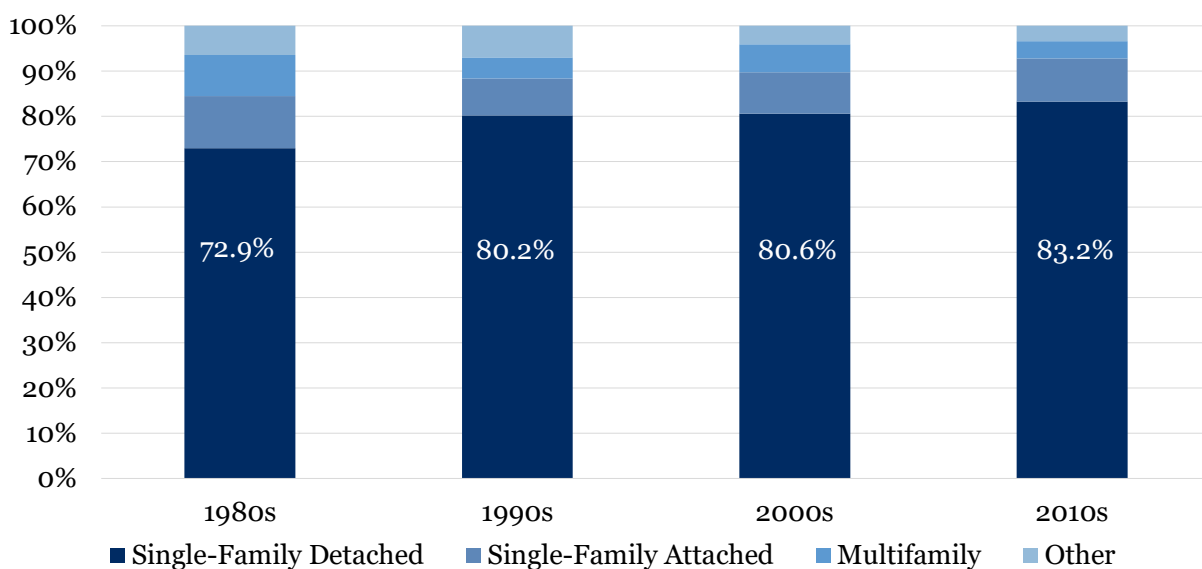
New housing production increasingly has shifted toward larger formats and single-family homes.

Single-family detached homes have been the dominant form of ownership homebuilding in the United States for decades, a trend that has only become more pronounced since the end of the recession (Figure 2). In the nation’s 100 largest metro areas, 83 percent of ownership housing built since 2010 consisted of single-family detached houses. That is an increase of more than 10 percentage points over the share of single-family detached homes built in the 1980s.

Comparing the makeup of ownership units built since 2000 to stock produced in the 1980s and 1990s reveals that this shift toward single-family production occurred in over two-thirds (69) of the nation’s major metro areas. The 31 regions that saw a decline in the single-family detached share of new housing were primarily located in high-cost,

supply-constrained areas (e.g., metropolitan San Jose, Boston, New York, San Francisco) or what could be called “legacy” markets (e.g., metropolitan Detroit, Milwaukee, Providence, Worcester). In many of these cases, the lower share was due to a pullback in production of single-family detached homes and not necessarily an uptick in production of other housing types. Among the regions experiencing the steepest declines in the single-family share of new ownership units, all but one registered a decline in the average annual production of single-family detached units after 2000 (Table 1). In regions like San Jose, Minneapolis-St. Paul, Worcester, Springfield, and Boston, the average annual production of non-single-family housing stock also fell, but those decreases were outstripped by more pronounced declines in the single-family detached stock.

Figure 2. Type of Owner-Occupied Housing Units by Year Built, 100 Largest Metro Areas



Source: 2016 1-Year Housing Unit American Community Survey PUMS. Note: Owner housing stock includes owner-occupied and vacant “for sale only” units. Note: “Other” encompasses primarily manufactured housing along with any other nontraditional structures (e.g., boat, tent, van).



Table 1. 10 Metro Areas with Steepest Declines in Single-Family Detached Share of Ownership Units Built Since 2000

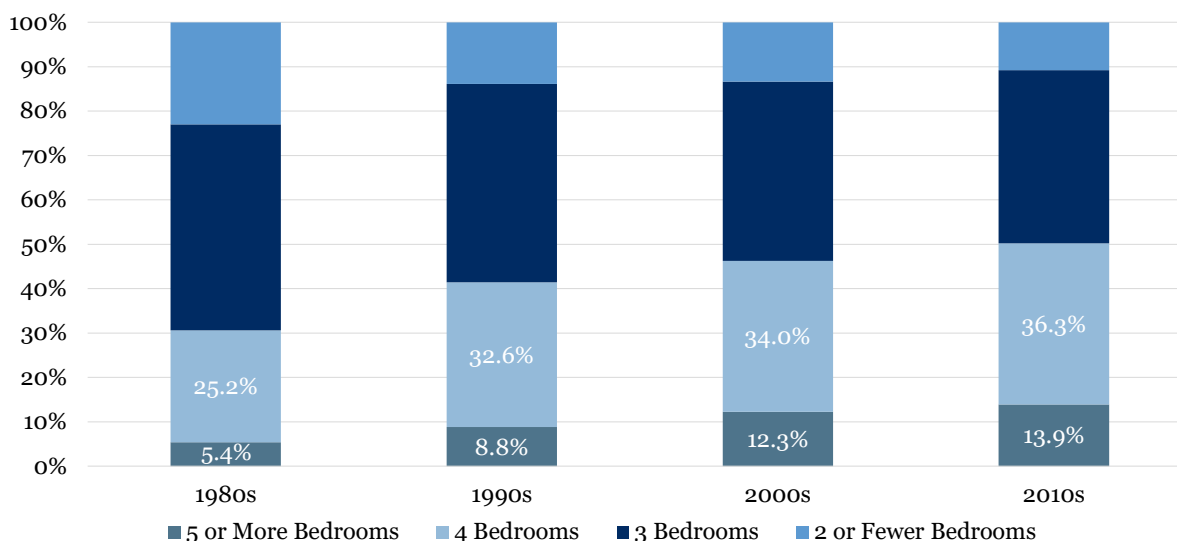
	Share of Units Built Between 1980 and 1999 That Were Single-Family Detached	Share of Units Built Since 2000 That Were Single-Family Detached	Percentage Point Decline in Single-Family Detached Share	Percent Change in Single-Family Detached Units Built, 2000-2016 Versus 1980-1999	Percent Change in Non-Single-Family Detached Units Built, 2000-2016 Versus 1980-1999
San Jose-Sunnyvale-Santa Clara, CA Metro Area	61%	48%	-13%	-47%	-11%
Harrisburg-Carlisle, PA Metro Area	78%	68%	-10%	-30%	17%
Madison, WI Metro Area	80%	72%	-7%	-16%	25%
Minneapolis-St. Paul-Bloomington, MN-WI Metro Area	76%	70%	-6%	-30%	-4%
Worcester, MA-CT Metro Area	82%	76%	-6%	-36%	-8%
Chicago-Naperville-Elgin, IL-IN-WI Metro Area	70%	65%	-5%	-20%	2%
Springfield, MA Metro Area	86%	81%	-5%	-45%	-20%
Salt Lake City, UT Metro Area	88%	83%	-5%	-4%	43%
Ogden-Clearfield, UT Metro Area	90%	85%	-5%	23%	89%
Boston-Cambridge-Newton, MA-NH Metro Area	72%	67%	-5%	-42%	-27%

Source: 2016 1-Year Housing Unit American Community Survey PUMS.

At the same time, new ownership housing has trended toward larger formats. Half of all new ownership units completed since 2010 had at least four bedrooms—an increase of roughly 20 percentage points over the 1980s (Figure 3). For new single-family detached houses, the share of four-bedroom-plus houses is even higher (58 percent). Almost every major metro area saw this trend (93 of the 100 largest metro areas). Unsur-

prisingly, higher bedroom counts have translated into larger overall floor plans: the median home square footage across the country grew by more than 50 percent, from 1,600 square feet in 1980 to 2,430 in 2017.<sup>7</sup> This shift toward larger homes is not a reflection of changing household needs. On the contrary, the average household size has fallen from 2.8 in 1980 to 2.5 in 2017, and only one in five households had four or more people in 2017.<sup>8</sup>

Figure 3. Owner-Occupied Housing Units by Number of Bedrooms and Year Built, 100 Largest Metro Areas



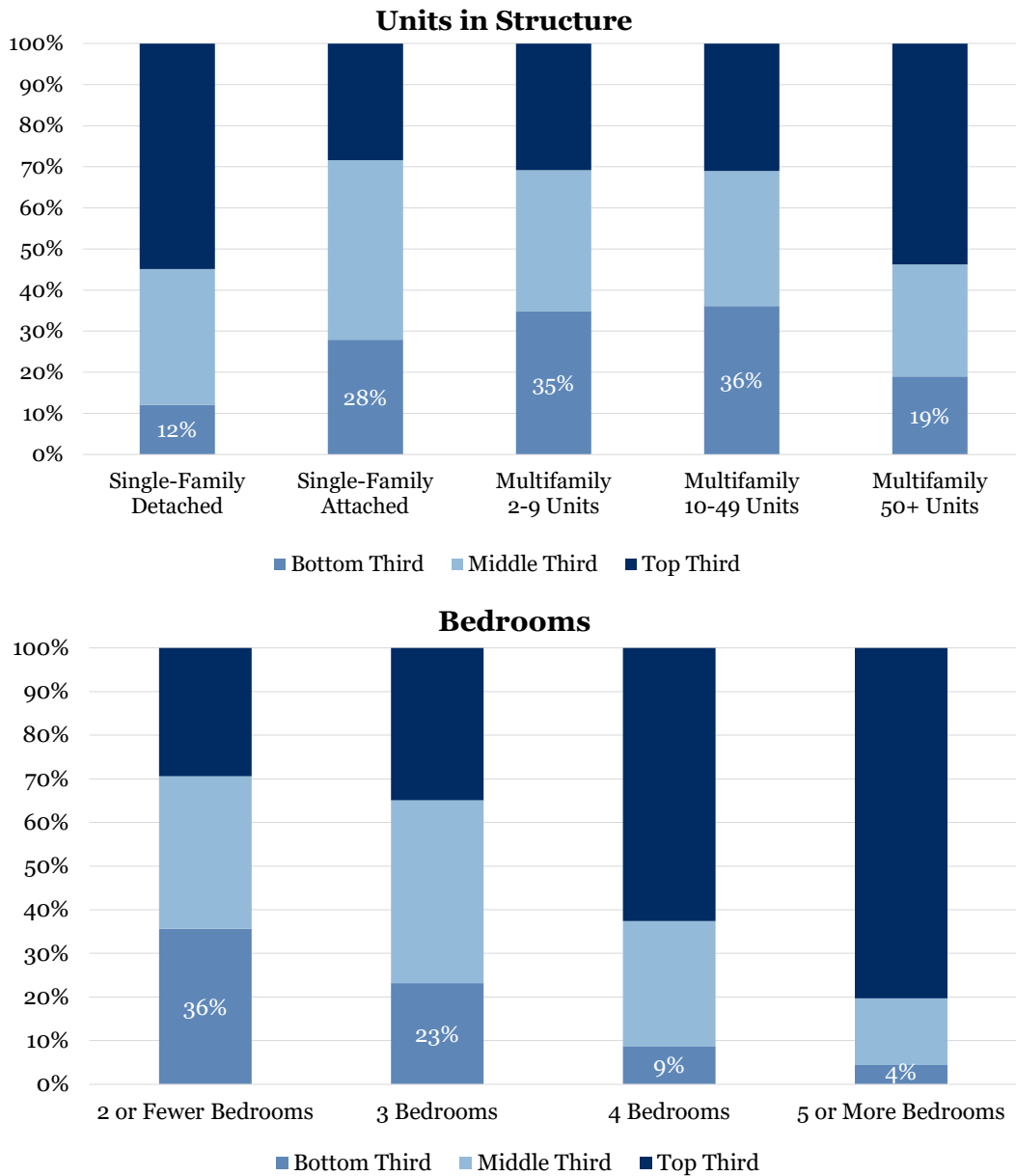
Source: 2016 1-Year Housing Unit American Community Survey PUMS. Note: Owner housing stock includes owner-occupied and vacant “for sale only” units.

These changes in production have implications for new homebuyers looking for entry-level ownership options. Larger single-family homes are typically more expensive. The majority of single-family homes and homes with at least four bedrooms constructed since 2000 are priced in the top third of a region’s overall housing stock, while just one in ten (or fewer) falls in the bottom third (Figure 4). Conversely, smaller, multifamily new construction ownership stock is much more likely to be priced in

the bottom tier. More than one-third of new multifamily housing with 2 to 49 units and housing with two or fewer bedrooms is priced in the entry-level range. (The share of multifamily housing with 50+ units in the bottom third is smaller, at 19 percent. Such units are typically priced higher than other multifamily ownership units—though still less than single-family homes—because they tend to be located in high-value urban neighborhoods.)

Figure 4. Distribution of Owner-Occupied Homes Constructed Since 2000 by Home Price Tier, 100

Largest Metro Areas



Source: 2016 1-Year Housing Unit American Community Survey PUMS. Note: Regional home price tier are derived from the distribution of all owner-targeted homes within each region by their home prices.



## What are the implications of recent production trends for prospective first-time, or entry-level, homebuyers?

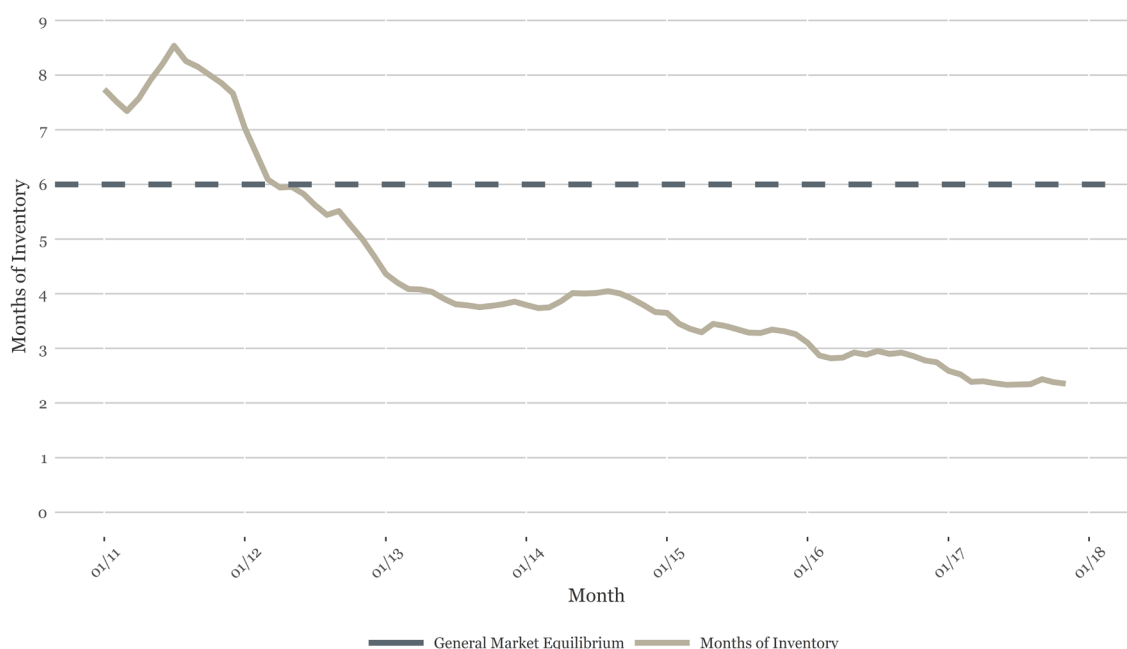
As production has slowed and changed, for-sale inventory has tightened, particularly for entry-level homes.

One downstream effect of changes in new ownership construction is the effect on housing inventory available for sale. Other research finds that a 1 percentage point increase in homebuilding (as a share of the existing housing stock) across the 100 largest metro areas is associated with a 13 percent increase in inventory in those markets.<sup>9</sup> Amid declines in housing production after the recession, the inventory of homes for sale has declined significantly.<sup>10</sup> That is not to suggest the pace of production is the only factor at play in the tightening of for-sale inventory. There has also been a breakdown in the relationship between the price of new homes and the inventory of homes for sale. Historically, increasing home prices made homeowners more willing to sell, and inventories rose in response.<sup>11</sup> However, since the Great Recession, homeowners with flexibility have responded by delaying to potentially take advantage of persistently rising prices.

Economists generally estimate a housing market in equilibrium will have six months of inventory relative to the current pace of home sales. After peaking in 2011, the population-weighted average inventory in major metro areas dropped to 2.4 months (Figure 5). This is significantly below long-term historical averages. Inventory has only come close to a level this low once in the past 30 years, in 2005.<sup>12</sup> Although the decline has moderated in recent years, the market has continued to tighten. For-sale inventory fell an additional 0.23 months' worth in 2017 alone. Since 2018, inventory has begun to stabilize across the country but remains at historically tight levels.<sup>13</sup>

This tightening of the ownership market is occurring across the country, although to varying degrees. Of 93 major metro areas, all but one registered fewer than six months of inventory as of January 2018. The exception—Bridgeport, CT—came in just over the equilibrium point, at 6.1 months of inventory.

Figure 5. Months of For-Sale Housing Inventory, Major Metro Areas



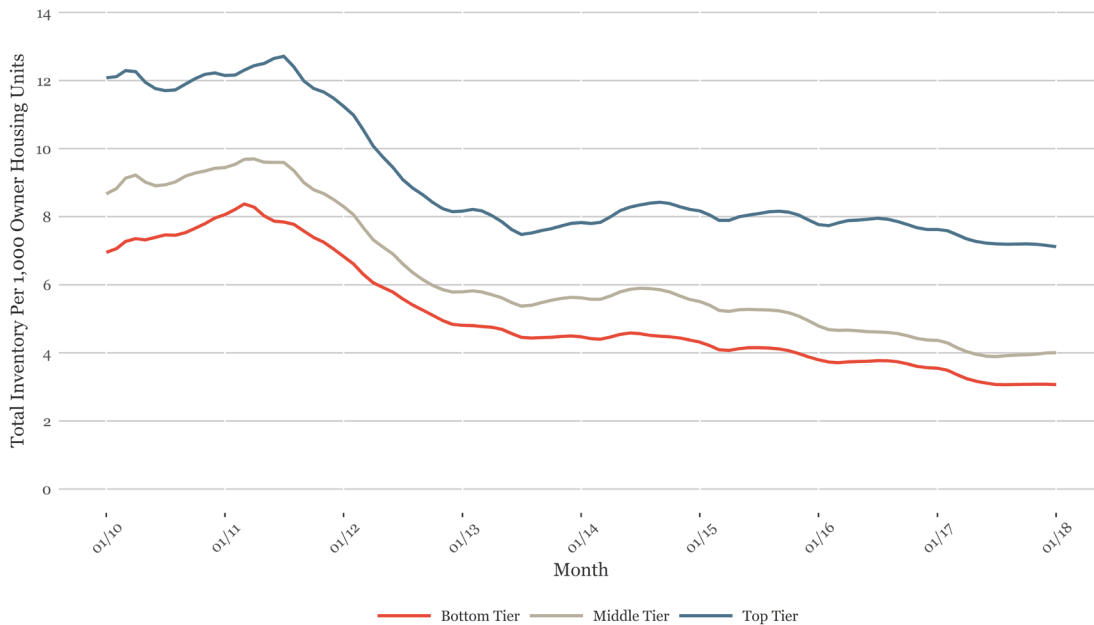
Source: Zillow. Note: Major-metro-area average weighted by 2010 total population per the decennial census. Months of inventory figures are derived from seasonally adjusted total inventory and seasonally adjusted sales counts. Total inventory figure is point-in-time, reflecting the median daily inventory count in a given month, while the sales figure aggregates total sales for the month. Of the 100 largest metro areas, 88 have continuous data from December 2010 to November 2017 and are represented here.

Although national inventory is tight across the entire housing market, this pressure is most severe at the entry level. In recent years, consumer online search interest has disproportionately increased for starter and trade-up homes.<sup>14</sup> In turn, inventory of these homes has dropped the most relative to that of higher-value premium homes.<sup>15</sup>

From January 2010 to January 2018, the share of inventory in the bottom price tier (measured as the bottom one-third of the regional home price distribution) fell 4 percentage points, while the top-tier

share rose by 7 percentage points (Figure 6). Seventy-nine major metro areas have seen this same downward trend in the bottom tier. The exceptions are weaker legacy housing markets (e.g., metropolitan Buffalo, Milwaukee, Pittsburgh, Syracuse) where demand is insufficient for the existing housing stock. While top-tier inventory declines have begun to level off, inventory has continued to shrink at the bottom and middle tiers. As a result, today, half of the inventory for sale in the nation's largest metro areas is in the top price tier, and just one-fifth is in the bottom tier.

Figure 6. Total For-Sale Housing Inventory by Price Tier, Major Metro Areas



Source: Zillow; 5-Year 2016 American Community Survey. Note: 97 of the 100 largest metro areas have inventory data continuously from January 2010 through January 2018 and are reflected in the chart. Inventory figures are point-in-time, reflecting the median daily inventory count in a given month. Owner housing units includes both owner-occupied and vacant “for sale only” units.



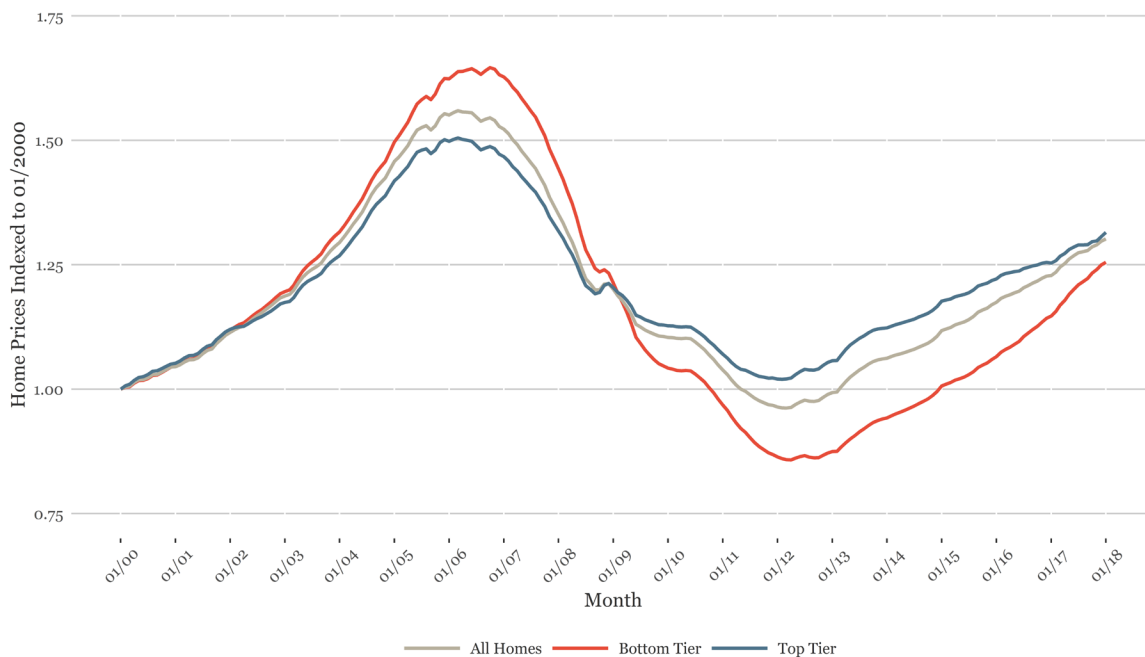
Declining inventory has been accompanied by steep home price increases, particularly among entry-level homes in high-cost, supply-constrained markets.

In the nation’s 100 largest metro areas, real home prices have increased significantly since 2000. Home prices across all housing tiers bottomed out around 2012, concurrent with the months of highest available inventory (Figure 7). As inventory declined, prices began to climb. Although still below pre-recession peaks, inflation-adjusted home prices have risen significantly since 2013 and now stand more than 25 percent above 2000 levels prior to the housing boom.

Top-tier home pricing has proved the least volatile, posting both the smallest drop during the downturn

and the quickest recovery among the price tiers. Bottom-tier homes, on the other hand, were hit especially hard following the subprime mortgage bubble, with prices falling nearly 100 percent from peak to trough. As the broader economy has recovered, pressure has disproportionately increased on the bottom tier as more prospective homebuyers look to enter or re-enter the market. Although top-tier home price increases have slowed (i.e., a real increase of 4.8 percent in 2017), declining inventories at the bottom tier of the market have contributed to accelerating home prices (i.e., a real increase of 9.5 percent in the weighted average in 2017).

Figure 7. Real Home Price Appreciation by Price Tier, Major Metro Areas

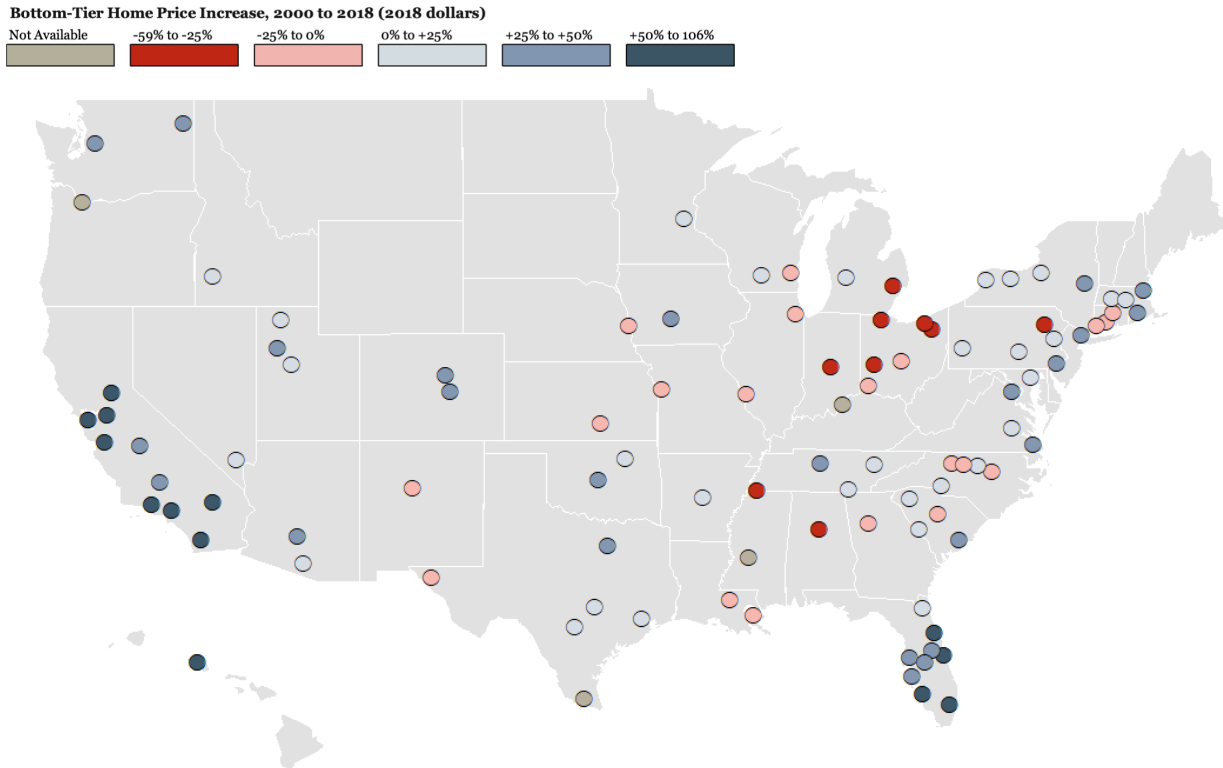


Source: Zillow. Note: 96 of the 100 largest metro areas have home price data by tier continuously from January 2000 through January 2018 and are reflected in the chart.

Although these increasing price pressures have not occurred everywhere, in most major metro areas (67) the inflation-adjusted bottom-tier home prices are higher today than they were in 2000. In 13 of these markets—all in California, Hawaii, or

Florida—bottom-tier real home prices increased by more than half between 2000 and 2018, and in another 24 regions—largely in the West and Northeast—the price of a typical bottom-tier home was up by more than 25 percent over 2000 prices (Map 2).

Map 2. Change in Real Bottom-Tier Home Prices, 100 Largest Metro Areas



Source: Zillow

These significant increases mean that in many of these regions, the typical bottom-tier home price now exceeds \$300,000 and can hardly be considered entry-level for most households. It is hard to overstate the severity of the housing crisis in California, where bottom-tier home prices in each of the state’s largest markets—metropolitan Los Angeles, San Diego, San Francisco, and San Jose—now exceed top-tier home prices in 72 of the other 96 major metro areas. Even considering the higher wages in most coastal markets, most households cannot currently afford to own. In the major

California markets, fewer than 42 percent of all households, and fewer than one-third in San Jose and Los Angeles, earn enough to purchase a typical bottom-tier home in their region (Table 2).<sup>16</sup> This means that most renters cannot afford to purchase, and neither can many existing homeowners. These patterns have only worsened as home price increases in the bottom tier have appreciated faster than incomes. In San Jose, the share of households that could afford a bottom-tier home declined by 5 percentage points in one year (from 37 percent in 2017 to 32 percent in 2018).



Table 2. Top 10 and Bottom 10 Metro Areas for 2018 Bottom-Tier Home Prices

	2018 Bottom-Tier Price Rank	2018	2017	% Change	Household Income to Afford	Share of Households with Income
1	San Jose-Sunnyvale-Santa Clara, CA	\$763,147	\$664,853	15%	\$168,200	32.0%
2	San Francisco-Oakland-Hayward, CA	\$538,503	\$501,002	7%	\$121,800	41.4%
3	Oxnard-Thousand Oaks-Ventura, CA	\$437,947	\$417,904	5%	\$101,000	40.7%
4	Los Angeles-Long Beach-Anaheim, CA	\$435,854	\$405,647	7%	\$101,000	33.2%
5	San Diego-Carlsbad, CA	\$415,874	\$384,431	8%	\$96,500	37.6%
6	Urban Honolulu, HI	\$368,828	\$356,385	3%	\$86,800	47.3%
7	Seattle-Tacoma-Bellevue, WA	\$305,360	\$270,919	13%	\$73,700	53.6%
8	Boston-Cambridge-Newton, MA-NH	\$291,089	\$268,842	8%	\$70,700	57.4%
9	Portland-Vancouver-Hillsboro, OR-WA	\$284,416	\$266,059	7%	\$69,300	49.9%
10	Denver-Aurora-Lakewood, CO	\$280,067	\$257,503	9%	\$68,400	53.6%
...						
91	Columbia, SC	\$57,640	\$50,839	13%	\$22,500	80.4%
92	Dayton, OH	\$50,796	\$46,396	9%	\$21,000	80.8%
93	Memphis, TN-MS-AR	\$49,140	\$42,057	17%	\$20,700	79.8%
94	Scranton-Wilkes-Barre-Hazleton, PA	\$48,540	\$45,894	6%	\$20,600	78.3%
95	McAllen-Edinburg-Mission, TX	\$44,870	\$43,855	2%	\$19,800	72.5%
96	Augusta-Richmond County, GA-SC	\$41,908	\$43,823	-4%	\$19,200	82.1%
97	Toledo, OH	\$39,831	\$39,585	1%	\$18,800	80.6%
98	Birmingham-Hoover, AL	\$37,149	\$32,530	15%	\$18,200	83.5%
99	Detroit-Warren-Dearborn, MI	\$36,346	\$33,015	10%	\$18,100	84.9%
100	Jackson, MS	\$35,146	\$33,896	4%	\$17,800	83.9%

Source: Zillow Mortgage Calculator, 1-Year 2016 PUMS.

Note: "Household income to afford" figures assume a 10 percent down payment, a 30-year fixed-rate mortgage, and \$250 in other monthly debts. Additional assumptions are derived from the Zillow Home Affordability calculator defaults: <https://www.zillow.com/mortgage-calculator/house-affordability/>. Distributions of household incomes for "share of households with income" are derived from 1-Year 2016 American Community Survey PUMS data with incomes inflation adjusted to 2018 levels.

Although the crisis is most pronounced in these high-cost, supply-constrained markets, recent evidence points to price pressures more broadly. In the past year, bottom-tier prices have been growing faster than inflation nearly everywhere, and low inventory levels are pushing bottom-tier prices up, even in historically weaker markets. Among the nation's major metro areas, 97 saw

bottom-tier home prices rise faster than inflation in 2017, and 81 experienced real bottom-tier price increases above 5 percent. Moreover, in 2017 bottom-tier home prices rose faster than top-tier prices in 90 major metro areas, underscoring the disproportionate increase in pressure at the entry level of the market.

These dynamics have shifted the makeup of recent homebuyers toward less diverse, older, higher-income households.

As prices have increased and inventory has contracted, the makeup of people buying homes has shifted. For instance, recent homebuyers are more affluent than in the past. While the typical household income among all homeowners in the nation's 100 largest metro areas increased by less than \$1,000 between 2000 and 2016, the inflation-adjusted median income of recent homebuyers grew by more than seven times that amount during the same period (Table 3). The increases were most pronounced in metro areas such as San Francisco, Los Angeles, and Boston, where the typical inflation-adjusted incomes of recent homebuyers jumped by more than \$20,000 in less than two decades. The accelerated pace of home price appreciation since 2016 suggests this income discrepancy has likely widened further.

Higher home prices have also translated to less diversity in who is able to purchase a home. The share of recent homebuyers under age 35 fell by more than 4 percentage points between 2000 and 2016, and by more than 10 percentage points in

several fast-growing metro areas, including Austin, Charlotte, Denver, Durham, Raleigh, and Winston-Salem. As a result, the overall makeup of homeowner households skewed older than in 2000. In addition, recent homebuyers in 2016 were less racially and ethnically diverse than homeowners overall, flipping the pattern observed in 2000. Black households are particularly underrepresented in today's housing market. They made up just 6.6 percent of recent homebuyers in 2016, down 2 percentage points from 2000. That decline reflects both enduring income and wealth inequalities and the disproportionate impact the housing crisis had on Black homeowners.<sup>17</sup> Latinx homeownership gains have also slowed despite continued rapid household growth. These shifts appear to be driven primarily by regions with strong economies and constrained supply (e.g., New York, San Diego, San Jose). In contrast, in areas where wage growth has lagged and markets have been softer (e.g., Bakersfield, Allentown, Toledo), the share of non-Asian homebuyers of color actually increased.

Table 3. Homeownership Household Characteristics, 100 Largest Metro Areas

	Median Household Income (\$2016)		Percentage Black		Percentage Latinx		Percentage 35 or Younger	
	2000	2016	2000	2016	2000	2016	2000	2016
All Homeowners	\$81,200	\$82,118	9.0%	9.1%	7.5%	11.3%	13.1%	9.5%
Recent Homebuyers	\$84,000	\$90,683	8.5%	6.6%	10.5%	12.1%	36.0%	31.6%

Source: 2000 Decennial Census PUMS; 1-Year 2016 American Community Survey PUMS.

Note: "Recent homebuyers" include those who moved "this year or last year" in 2000 and "within past 23 months" in 2016.

Despite increasing price barriers in recent years, especially in high-cost coastal markets, housing in the bottom price tier continues to provide an important entry point to the ownership market for historically underrepresented groups (Table 4).

It houses significantly more lower-income households and a more diverse composition of homeowners, illustrating the role this price tier can play in expanding access to homeownership for under-represented groups.

Table 4. Recent Homebuyer Characteristics by Home Price Tier, 100 Largest Metro Areas

	Median Household Income (\$2016)	Percentage Black	Percentage Latinx	Percentage 35 or Younger
Bottom Third	\$54,410	9.9%	18.4%	34.1%
Middle Third	\$86,149	6.6%	12.3%	37.7%
Top Third	\$137,133	3.9%	7.2%	24.1%

Source: 2016 1-Year American Community Survey PUMS. Note: Recent homebuyers include those who moved “within past 23 months” in 2016.

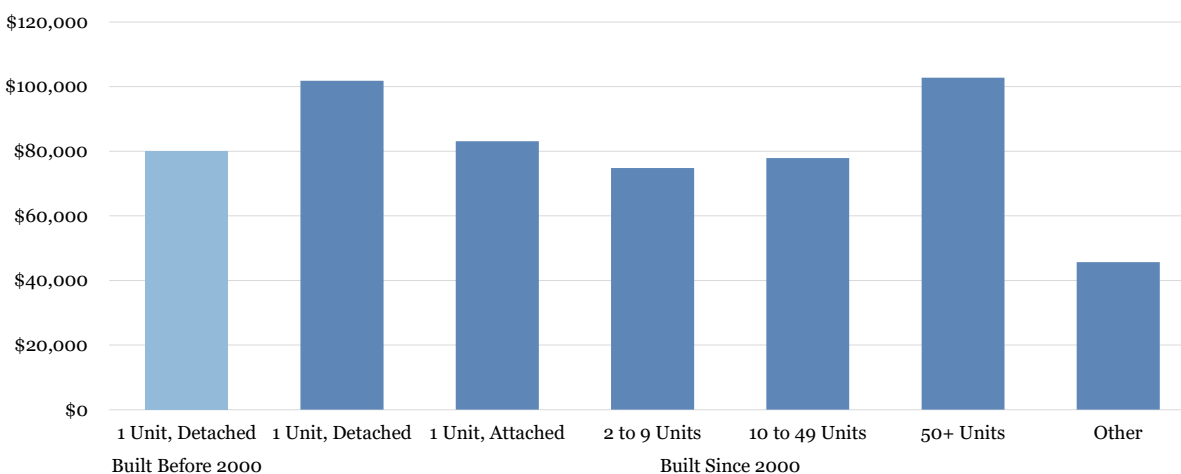
## How can future housing production provide more homeownership opportunities for first-time homebuyers and historically underserved populations?

Evidence suggests that increasing production and diversifying the kinds of housing built could provide more ownership opportunities for lower-income and younger homebuyers.

Since 2000, new construction that has departed from the larger, detached, single-family norm has proved more accessible to younger and lower-earning homebuyers. Homeowners in multifamily housing units built since 2000 have typical incomes roughly \$20,000 below those in new single-family detached homes (Figure 8). (Once again, the exception is structures with 50+ units, which are disproportionately located in more expensive submarkets

of high-cost regions. This discrepancy with other non-single-family detached housing is eliminated once location is controlled for.) Among housing types, homes in buildings with two to nine units appear more accessible to households earning incomes closer to the national median (which was just under \$60,000 in 2017) (Note: The data in this section refer to characteristics of all homeowners, not just recent homebuyers.).

Figure 8. Median Homeowner Income by Unit Type and Year Built, 100 Largest Metro Areas



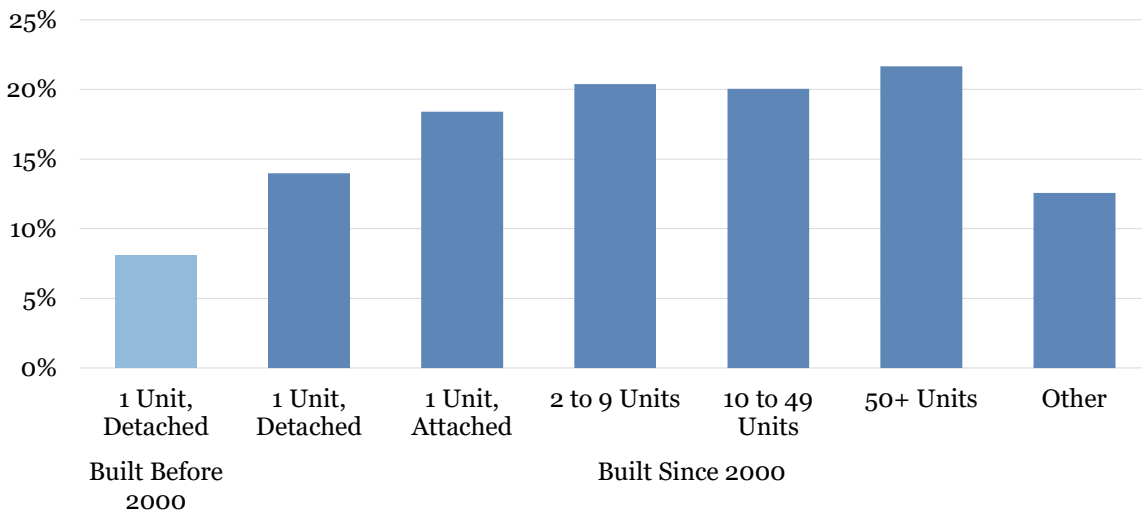
Source: 1-Year 2016 American Community Survey PUMS.

New construction, whether single-family attached or multifamily, also contains a higher share of young homeowners than do single-family detached units (Figure 9). Except for “other” housing units, young households (e.g., head of household under age 35) make up at least 18 percent of homeowners within every non-single-family detached category of new construction, compared with only 14 percent of single-family homeowners. All new housing construction types also contain a higher share of younger homeowners than older single-family detached homes do, given the low turnover rates among the older household segments that typically own these homes.

In other words, even newly constructed single-family detached housing can expand access to underrepresented groups, especially if it is of a smaller format. Owners of newly constructed three-bedroom single-family homes, for example, earn a typical household income of \$82,000, and 17.5 percent are under 35, levels that are roughly equivalent to those for owners of non-single-family housing types.

Together, this evidence suggests that increasing production, and particularly production of multifamily housing options or smaller single-family units, could create more opportunities for potential entry-level homebuyers and expand options for ownership for underserved market segments.

Figure 9. Share of Homeowners Under 35 by Housing Unit Type, Built Since 2000, 100 Largest Metro Areas



Source: 1-Year 2016 American Community Survey PUMS.





## Implications

As for-sale inventory has contracted and home prices have climbed, this analysis helps illuminate the role housing production plays in the worsening housing crisis. Housing trends—including both the pace and makeup of housing production—are influenced by multiple factors, including consumer demand and preferences. For instance, it is not surprising to see new housing starts fall off in places like Akron, Detroit, and St. Louis, which have shed population and employment or experienced wage stagnation over several years. However, production trends are not dictated solely by demand for new housing or particular types of homes; otherwise, regions that have seen consistently strong wage growth and economic performance (e.g., New York, San Francisco, San Jose, Seattle) would not have registered such a pronounced pullback in production or seen such intense price pressures across all housing market tiers. The fact that the housing supply has fallen off in these economically prosperous, supply-constrained markets suggests that barriers—from local resistance to new housing to the high costs of construction—stand in the way of significantly increasing housing production in these markets.

Yet even in strong regional markets where production has stepped up in recent years, the type of housing being built has shifted who can become owners amid intense demand. Regions like Charlotte, Dallas, and Nashville have seen increased housing production alongside booming population and employment growth. But although the type of housing produced—often larger-format, single-family homes—has helped satisfy demand at the middle and top of the market, increasing competition and price pressures at the bottom tier of the market have diminished options for ownership for younger, lower-income, and more diverse entry-level homebuyers, as demonstrated by the changing makeup of recent homebuyers in these metro areas.

The broad-based strain on the ownership market—especially the ways in which contractions in the bottom tier have shaped who can become homeowners—calls for a range of supply-oriented strategies to increase and reshape production. Given that the nature of the challenge can vary from region to region, just as economic and housing market conditions do, any supply-driven strategy must be tailored to local needs and capacity. However, the building blocks of a supply-focused housing agenda could entail several common solutions, including an increased focus on these approaches:

- **Reforming restrictive zoning practices that constrain the amount and diversity of housing stock produced.**

Although smaller and non-single-family housing expands access for underrepresented demographic groups, recent trends toward larger, single-family detached housing have limited the pool of potential homebuyers able to enter the market.

Local land use decisions that restrict the development of higher-density, “missing” middle housing types are a significant contributor to these supply trends across all types of metropolitan markets. Even in places with limited land use regulation, homeowners associations tend to be more prevalent and effectively institute private zoning that often prevents the construction of higher-density ownership housing types.<sup>18</sup>

Curtailing restrictions on higher-density housing (e.g., single-family zoning, height restrictions, minimum lot sizes) would enable more production and could make homeownership opportunities more inclusive. Some cities and states across the country have started to move in this direction, led by Minneapolis’ citywide legalization of threeplex structures in formerly single-family neighborhoods<sup>19</sup> and statewide efforts to ease zoning restrictions like those in Oregon<sup>20</sup> and Massachusetts.<sup>21</sup>



- **Addressing state and federal regulatory barriers to multifamily ownership.**

Each state has its own version of a “construction defect” law, which is meant to protect owners from substandard workmanship, code violations, or other unsafe conditions. However, depending on the structure and interpretation of the legislation, at times these laws have inadvertently enabled condominium owners to sue over minor defects for up to ten years after completion, significantly increasing insurance and legal risks for developers.<sup>22</sup> Reforms to overly burdensome state laws could help increase the viability of new condominium construction.

Regulatory reforms at the federal level could also help address the financing challenges that multifamily developments face. There is an inherent tension in providing individual home loan financing to group-maintained projects. Condominiums are therefore perceived as higher risks by the lending community, inhibiting the availability of financing and increasing the cost and time for both homebuyers and developers. Fannie Mae, Freddie Mac, and the Federal Housing Administration, for instance, only lend for condominiums within approved developments that meet strict criteria. Greater transparency and additional underwriting flexibility could help ease these financing barriers.

- **Bringing down the cost of building housing.**

A number of factors have contributed to climbing construction costs in the post-recession period. Once again, local, state, and federal regulations can play a role—for instance, by adding complexity and delays to the production pipeline, by requiring specialized or more expensive materials (e.g., to meet environmental sustainability goals), or, as is often the case in subsidized projects, by including specific labor and design requirements (e.g., to assuage community concerns about how such projects will visually integrate with the

neighborhood) that ultimately drive up costs. Some localities and states across the country—particularly in high-cost coastal markets where these issues are most pronounced—are trying to address the complexities and added costs that stem from the regulatory landscape. For instance, California’s Senate Bill 35 offers a path by which developers seeking to build in jurisdictions that have not met production targets can access a streamlined approval process for projects that meet underlying zoning requirements.

Costs for materials have also grown, particularly more recently in the wake of increased U.S. tariffs. Post-recession labor shortages have increased production timelines and costs, prompting localities and states to consider ways to build the pipeline of workers entering skilled trades. The lack of technical innovation in housing construction practices for decades may have contributed to these rising costs, although practices are beginning to change. Some builders are beginning to recognize the business opportunity for simplified, smaller-format, higher-density attached and detached housing. These options enhance sales velocity and target new customers. Builders are also experimenting with modular construction and new technologies to create production efficiencies and bring down hard costs.<sup>23</sup>

- **Supporting maintenance and preservation of existing housing stock, particularly stock types that have proven more accessible to a broader base of homeowners.**

From a supply perspective, there is excess inventory in a number of legacy metropolitan markets in the Midwest and Northeast. There, prices are often too low to capture the real costs of upgrading deteriorated older housing stock to livable conditions. At the same time, unmet demand in growing and higher-cost markets often threatens the ability to preserve existing affordable stock types, particularly in formerly disinvested neighborhoods experiencing



gentrification pressures. Housing policy tools that support better management and upkeep of existing supply could help mitigate entry-level stock constraints across an array of market types. There is some national momentum to increase subsidies for investment in home renovations throughout distressed neighborhoods and markets to combat expensive deferred maintenance. One such federal policy proposal—the Neighborhood Homes Investment Act—would enable states to convert private activity bond capacity to sellable tax credits that support the purchase and renovation of homes for middle-income households (up to 140 percent of area median income) in economically distressed neighborhoods.<sup>24</sup>

Although the specific supply-side strategies needed in each market will vary, crafting a multipronged approach with these guiding principles in mind would lay the groundwork for the scale and type of housing production that could ease price pressures and create more ownership opportunities for traditionally underrepresented groups of prospective entry-level homebuyers.

It is, however, important to emphasize that shifts in supply alone will not resolve these issues. Interventions are also needed on the demand side. Access to credit today is more constrained than it was prior to the housing bubble, and disproportionately so for less affluent and minority borrowers.<sup>25</sup> Updating credit-scoring systems to broaden payment histories (e.g., rent, cell phone, utilities) and ensuring lenders are meeting their Community Reinvestment Act obligations could help to safely expand mortgage access. Exploring ways to responsibly scale innovative mortgage products, such as shared equity and lease-purchase options, could also help bridge financial and credit gaps for certain segments of prospective homebuyers and potentially increase homeownership oppor-

tunities for members of underrepresented groups. Finally, housing markets reflect the underlying conditions of their regional economies. If regional labor market opportunities skew toward lower paying industries and jobs, or wages for significant segments of the workforce stagnate or decline, no amount of additional housing supply will solve a region's access and affordability challenges. Thus, labor market and workforce policies that promote economic security and mobility are also needed to broaden access to homeownership.

## Conclusion

Although home price growth has cooled during the past year, housing market conditions remain tight across the country. This analysis demonstrates that, by and large, the nation's 100 largest metro areas are neither building enough in the places where demand is strongest nor building enough of the right type of supply to effectively support a broadly attainable ownership market. Reversing recent trends and increasing options for homeownership in a more inclusive way will require solutions that address demand-side issues, including stagnant or falling wages for low- and moderate-skilled workers, lack of access to credit, and the challenge of building a sufficient down payment. As this report's findings underscore, the solutions must also recognize the importance of supply: the type, location, and amount of housing built will shape not just how many households can buy a home but who can find a toehold in the ownership market.

# Technical Appendix

## Geography

Metropolitan statistical areas are delineated according to 2013 definitions issued by the Office of Management and Budget. The top 100 metro areas are based on 2016 population estimates retrieved from annual estimates of the resident population, per the U.S. Census Bureau.

## Real Adjustments

All real values are adjusted per the monthly Consumer Price Index for All Urban Consumers, retrieved from the Federal Reserve Bank of St. Louis.

## Data

### American Community Survey and Decennial Census Public Use Microdata

All homebuyer and homeowner characteristics are of the head of household. Housing unit characteristics use 1-Year 2016 America Community Survey disaggregated Public Use Microdata (PUMS) retrieved via IPUMS. Owner housing units include owner-occupied units and vacant units characterized as “for sale only.” Decade-by-decade comparisons reflect characteristics of existing housing units by their year built and do not account for units constructed during that decade that have since been demolished, become uninhabitable, or been converted to rental status.

Analyses of recent homebuyers use 1-Year 2016 America Community Survey PUMS and 2000 Decennial Census PUMS retrieved via IPUMS. In the choice of this data set rather than the 5-year 2012-2016 sample, sample size was compromised to obtain more recent data. Home prices reached a trough around 2012 and have since escalated rapidly through 2016. Data from 2016 are therefore more relevant to the current context and important to understand changes in homebuyer composition as home prices have risen.

Analyses of homeowner characteristics by housing type use 5-Year 2016 America Community Survey PUMS retrieved via IPUMS. To combat sample size concerns for non-single-family owner-occupied housing, the 5-year data set was used instead of the 1-year sample.

Respondents in the 2000 and 2010 Public Use Microdata Areas (PUMAs) are allocated to metro areas. If more than 50 percent of the population of a PUMA is within a given metro area, then the PUMA is assigned to that region. Otherwise, the PUMA is considered non-metro. Allocation factors were retrieved from the Missouri Census Data Center.



## Zillow Data

This study uses metropolitan data downloaded from Zillow in May 2018, with values through March 2018 for the various data series. Zillow metropolitan areas were crosswalked to 2013 federally defined metropolitan statistical area geographies per the Zillow-provided crosswalk file. Values update retroactively with each new data release, so the values analyzed do not match currently available data exactly. This report uses seasonally adjusted inventory and sales data.

For-sale housing data include information on all homes, including single-family, condominium, and co-operative homes with a county record. Home values are estimated for every non-distressed home within a region according to “automated valuation models” that are retrained three times a week using recent sales data. Foreclosure resales are excluded because of their tendency to be priced at significant discounts relative to sales of non-distressed housing.

Homes within a region are assigned to one of three tiers (top, middle, or bottom) based on their Zillow estimates (“Zestimates”) on a particular date. The thresholds for the price tiers vary among metro areas and are determined by the distribution of home values in each metro area. Since Zestimates are time-dependent, a property may belong to different price tiers on different dates. To reduce tier switching, properties near the boundaries of price tiers were not assigned to tiers. Thus, the sum of Zestimates in all three tiers does not equal the number of Zestimates for the “All Homes” market segment. (For more detail, see “Zillow Home Value Index: Methodology.” Zillow, January 3, 2014. [https://www.zillow.com/research/zhvi-methodology-6032/.](https://www.zillow.com/research/zhvi-methodology-6032/))

Some metro areas have missing data for some or all of the data series, depending on sample sizes. Unless data are available throughout the entire analysis period, these metro areas are suppressed from data visualizations and 100 top metro area averages.

All presented 100 top metro area averages are weighted by a metro area’s 2010 total population per the 2010 decennial census and include only those metro areas with data for the entire period. This approach is intended to reflect the average housing market characteristics that a typical potential consumer would encounter regardless of tenure status.



## ENDNOTES

1. In 2016, the median net worth of homeowners was \$231,400—a 15 percent increase since 2013. At the same time, the median net worth of renters stood at \$5,200 and had decreased by 5 percent since 2013. See Bricker, Jesse, et al. “Changes in U.S. Family Finances from 2013 to 2016: Evidence from the Survey of Consumer Finances.” Federal Reserve Bulletin. Board of Governors of the Federal Reserve System, 2017. <https://www.federalreserve.gov/publications/files/scf17.pdf>.
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4. Headship rates, or the share of people that head an independent household, have fallen significantly in the post-recession period and account for a loss of 195,000 annual households from 2010 to 2015 relative to what would be expected by applying historical headship rates to current population growth.  
  
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