Housing Research Brief 6

How Do Shortages Lead to Dislodgement and Disappearing Renters?

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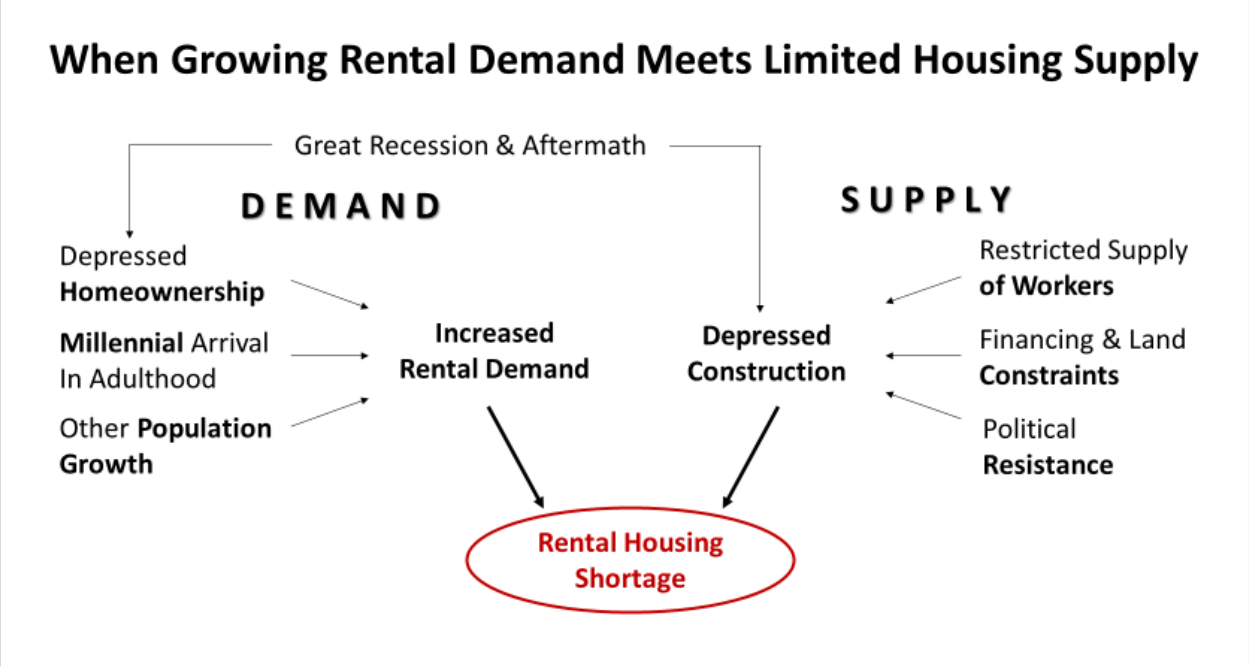
August 2019

Research supported by the John Randolph and Dora Haynes Foundation

The national crisis of housing shortage is a worsening legacy of the Great Recession, and its worst case may be Los Angeles. As the number of homeowners plummeted after 2007, the number of renters increased, which elevated rental competition and drove up rents. In the same time period, by coincidence, the large Millennial generation reached their middle 20s, moving them into the stage of life when household formation is typical, concentrated in the rental sector. However, at the same time the financial crisis that triggered the Great Recession also disrupted housing construction, thereby preventing supply from rising to meet this growing demand. Political resistance to new construction was a further complication aggravating the imbalance between supply and demand. A diagram to summarize these interacting elements that spawned the housing crisis is shown in Exhibit 1.

Exhibit 1. Conceptual Diagram for Explaining the Context of Rental Housing Shortage



This Brief addresses two sets of fundamental questions. First, how do we know there is a shortage and how can we tell in what regions it is most severe? Further, how much worse is the housing shortage in the years since recovery from the Great Recession and what makes it worse than the period before the recession? Placing Los Angeles in context of important geographic and temporal differences, we have developed alternative estimates of shortage based on the amount of housing normally expected to be added in a metropolitan region in conjunction with both economic growth and population change.

Second, what are the consequences of shortage for the entire population? In an earlier project report, we explained why the incidence of rent burden is so similar across the nation's large metro areas, not seeming to vary much in response to shortage or other factors (see the earlier Brief, HRB 3). Then, how can we measure the full extent of the shortage impact on all people? An answer may be contained in a very simple fact – the number of households cannot exceed the number of housing units. Based on this relationship, we have developed indirect methods to measure what is not directly visible.

In following sections, we first estimate the degree of shortage in LA in comparison to other places. Analysis here is based on observed jobs-housing relationships from 1980 until the disruption of the financial crisis. Next, we examine how sharply household formation (headship rates) has been suppressed since 2000, especially among Millennials, intensifying after 2011 when recovery from the recession fully commenced. In a third section, based on the evidence of headship declines, we conceptualize and quantify the cascade of hidden changes that passed through the housing market sectors, linking diverted homeowners to rental competition, and estimating the number of households who were ultimately dislodged or blocked from household formation.

Our geographic focus in this report is LA county in sections on Suppressed Headship and Cascade, while we use the LA metro, which combines LA and Orange counties, when we statistically compare LA with other metros. The time scope for the report covers the 18 years from 2000 through 2017.

HOUSING SHORTAGE IN LOS ANGELES AND OTHER METROPOLITAN AREAS

Housing production in Los Angeles has been running lower than normally expected in comparison to job growth. But what is that "normal" relationship exactly? A comment widely made is that Los Angeles or California is adding only one housing unit for every 6 or 7 added jobs. However, after the steep employment losses in the Great Recession, rapid job growth in the recovery period might be expected as a compensating rebound. And even when employment went negative in 2008-10, housing growth never turned negative. Or, during the boom years that preceded the recession, more housing may have been produced than normally expected by the resulting job growth. Clearly, the long run average ratio of jobs and housing may not apply in any particular period. What is the normal rate of housing growth compared to job growth in any period is uncertain and deserves closer examination.

Estimating the Jobs-Housing Relationship

The solution adopted here is to estimate the jobs-housing growth relationship separately within each time period, comparing the rate of housing growth[1] to job growth[2] for LA in comparison to other large metropolitan areas (the 100 largest in terms of 2010 population). The housing construction relationship to employment growth is simply described as:

$$HC = a + bE ,$$

where HC is housing construction (annual %); E is employment growth (annual %); *b* is a parameter to be estimated; and *a* is a constant term also to be estimated. This constant term, or intercept, can be interpreted in this case as reflecting the general willingness to support housing construction regardless of amount of employment growth.

The rates of housing and employment growth for each of the 100 largest metros are displayed in Exhibit 2, segmented by five discrete periods covering 1980-89, 1990-99, boom period of 2000 through 2006, bust period of 2007 through 2011, and recovery years of 2012 through 2017. All five plots are drawn to the same dimensions, so a visual inspection reveals real differences between eras. In the 1980s, the higher construction and employment growth for the 100 metros is clearly apparent, as is the severe contraction in the bust period of 2007 to 2011. Especially surprising is how weak is the housing and economic growth in the recovery years after 2011. The expected rate of construction in each metro is derived from each period's rate of employment growth, and the trend line summarizes that relation for each period.

In most periods housing permits for new construction in the LA metro lie well short of what is expected by the regression trend line that equates permits to job growth. Other California metro areas and Washington D.C. (highlighted red) are also located below the trend line while Phoenix, Atlanta, and Texas metro areas are often above the trend line (highlighted blue). Los Angeles appears to lie closest to the trend line of jobs-based expectations in the 1990s and falls furthest short of expectations in the recent recovery period.

The relationship of housing to employment growth appears to evolve over the decades, as reflected in the changing parameters summarized in Exhibit 3. One key parameter changing across the periods is the "slope" coefficient describing the overall relationship of new construction to job growth in the 100 metros. In the recovery period, the annual percentage rate of construction increased by 0.29 for every 1.0 percent of employment growth. This is barely half of the coefficient value that prevailed in periods before the 2007 crisis.

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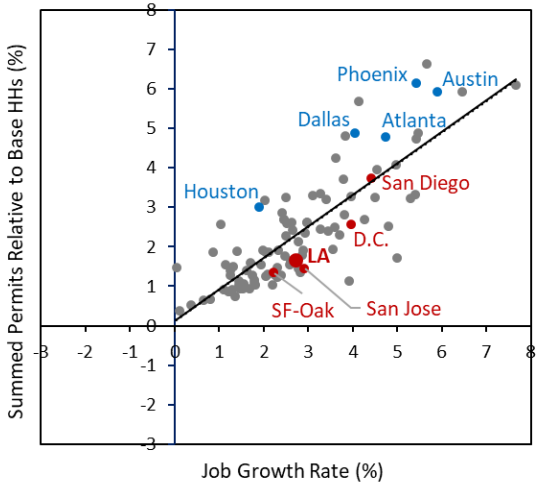
[1] New construction in each locale is represented by annual building permits, lagged 2 years and cumulated for the number of years in the period. The new construction *rate* is an annual percentage constructed by dividing this cumulated sum of permits by the base year number of occupied housing units (households), multiplied by 100, and dividing by the number of years in the length of the period. We assume a 2-year time lag between permit authorization of a housing unit and actual occupancy of that unit.

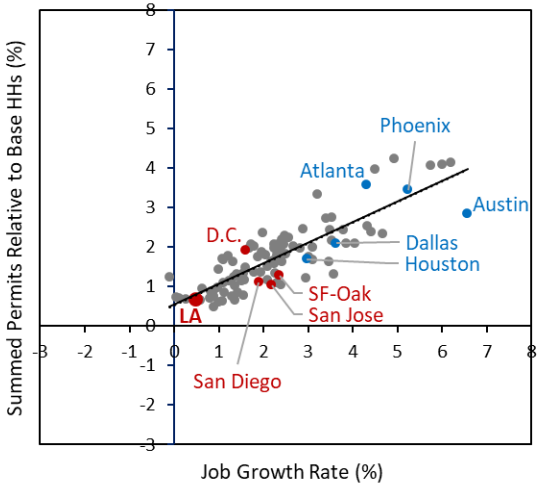
[2] Employment growth in each locale is derived as the difference in total employment between beginning and ending year of the period. The employment growth *rate* is an annual percentage constructed by dividing this difference by the number of jobs at the beginning of the period, multiplied by 100, and dividing by the number of years in the length of the period.

Exhibit 2. Relations Between Annualized Job Growth and New Construction, 100 Largest Metropolitan Areas

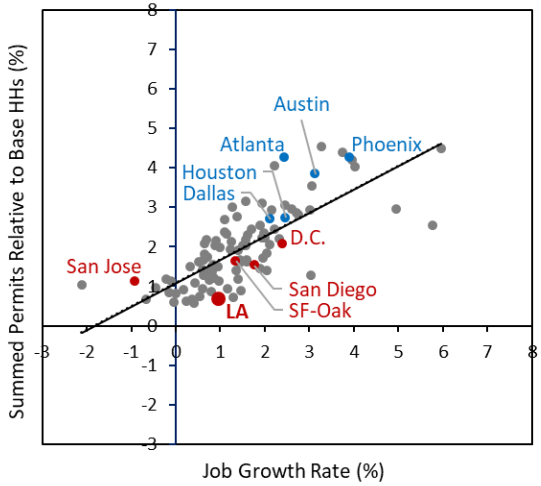
(a) 1980–89



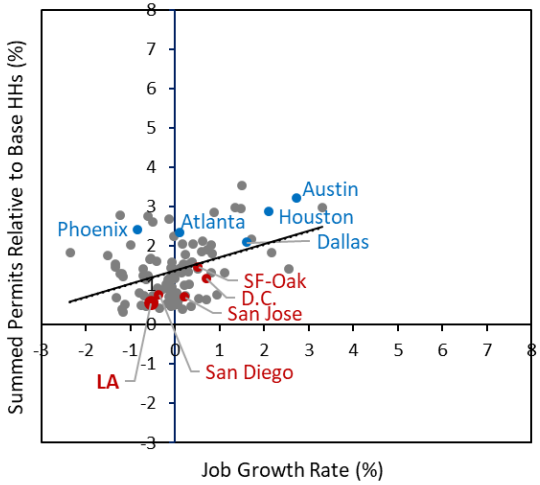
(b) 1990–99



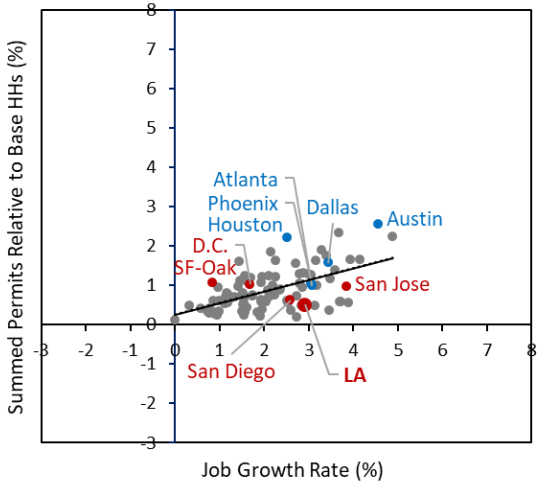
(c) Boom (2000 Through 2006)



(d) Bust (2007 Through 2011)



(e) Recovery (2012 Through 2017)



Notes: Job growth and new construction rates were annualized for comparison across periods of different length. X and Y-axis are in the same scale across periods. Single dot represents a metropolitan area. Selected metro areas were labeled and highlighted red (California metros and D.C. which are often under the trend line across periods) or blue (Texas metros, Phoenix, and Atlanta which are often above the trend line across periods).
Sources: U.S. Bureau of Economic Analysis (BEA)'s Employment Data; U.S. Census Bureau's Building Permits Survey; 1980, 1990, and 2000 Decennial Census IPUMS; 2006, 2011, and 2017 ACS 1-year IPUMS.

A second key parameter is the constant term (intercept) in each time period, which varies from a low of 0.12 in the 1980s to more than 1.00 in both the 2000s boom and bust, before falling back to 0.25 in 2012 to 2017. The high intercept in the boom period (aka the bubble) is consistent with excessive construction of that era, while the even higher intercept during the bust is likely a product of overspill from the boom era of construction already in the pipeline and also the continuation of housing growth even while employment turned negative. In contrast, the very low intercept in the recovery period after 2012 reflects greater discouragement of housing production no matter the housing demand. Thus what makes construction especially anemic in the recovery years is the combination of *both* a very weak coefficient on employment growth and a very minimal intercept (0.25).

Exhibit 3. Summary of Relations Between Job Growth and New Construction (Annual % Change) Across 100 Largest Metropolitan Areas and Los Angeles' Experience

	Relations Across 100 Metros			Los Angeles Metro Area			
	(a) Coefficient on Job Growth	**(b)** Constant Term	**(c)** R-squared	**(d)** LA Actual % Job Growth	**(e)** LA Actual % Housing Growth	**(f = a × d + b)** LA EXPECTED Value for % Housing Growth	**(g = e – f)** LA Deviation of Actual from Expected
1980–89	0.80	0.12	0.68	2.73	1.66	2.30	–0.64
1990–99	0.52	0.53	0.71	0.49	0.66	0.79	–0.12
Boom (2000 Through 2006)	0.59	1.08	0.56	0.97	0.69	1.65	–0.96
Bust (2007 Through 2011)	0.34	1.37	0.17	–0.54	0.55	1.19	–0.64
Recovery (2012 Through 2017)	0.29	0.25	0.34	2.91	0.51	1.11	–0.60
Average of 80s, 90s, and Boom	0.64	0.58		1.40	1.01	1.47	–0.46

Notes: Job growth and construction rates were annualized for comparison across periods of different length.
Sources: U.S. Bureau of Economic Analysis (BEA)'s Employment Data; U.S. Census Bureau's Building Permits Survey; 1980, 1990, and 2000 Decennial Census IPUMS; 2006, 2011, and 2017 ACS 1-year IPUMS.

When the five plots of Exhibit 2 are compared overall, the cluster of metro data points, as well as the trend line linking permits to jobs, fall much lower in the recovery period than in the previous periods. The fact that LA falls well below the trend line in the recovery era indicates LA's shortfall relative to an already depressed standard. Were LA's housing construction to be elevated to the average level of the recovery period, that would only partially represent the existing housing shortage. A more complete measure of unmet needs in the LA metro, and in other metros, can be derived by applying the more normal relationships observed in the period before the financial crisis in 2007. For this purpose, we can make use of the average of regression relationships across the three earlier periods (1980 to 2006). These average coefficients are shown in the bottom row of Exhibit 3.

The degree of shortage estimated in each metro in the recovery era is found by first generating the expected housing growth under the pre-crisis conditions (multiplying the actual employment growth rate for the metro by the averaged coefficient of housing growth and also summing the average constant term). When this expected growth is compared to the actual

rate of housing growth, the shortage is estimated thusly:

Housing shortage = Actual housing growth – Expected housing growth

Calculating Housing Shortage in the Los Angeles Metropolitan Area

Calculations of unmet needs in the Los Angeles metro area are as follows. The observed annual new construction rate in the recovery period (+0.51%) equals summed absolute count of annual building permits between 2010 and 2015 (128,270 permits), lagged 2 years prior to expected completed occupancies, divided by absolute count of households (4,184,855) in 2011, end of the year prior to the recovery period, multiplied by 100 and divided by 6 years.

The expected new construction for the period in question is expressed as the total growth for the period relative to the number of occupied units at the beginning of the period. This expected value is based on the average relation between job growth and building permits across the largest 100 metro areas from 1980 to 2006 (1980s, 1990s, and 2000 to 2006). The average relation was estimated by 100-metro-sample linear regression for the recovery period estimated as:

Annualized expected housing growth rate: 2.44 =
0.64 × annualized job growth rate in LA of 2.91 + intercept of 0.58

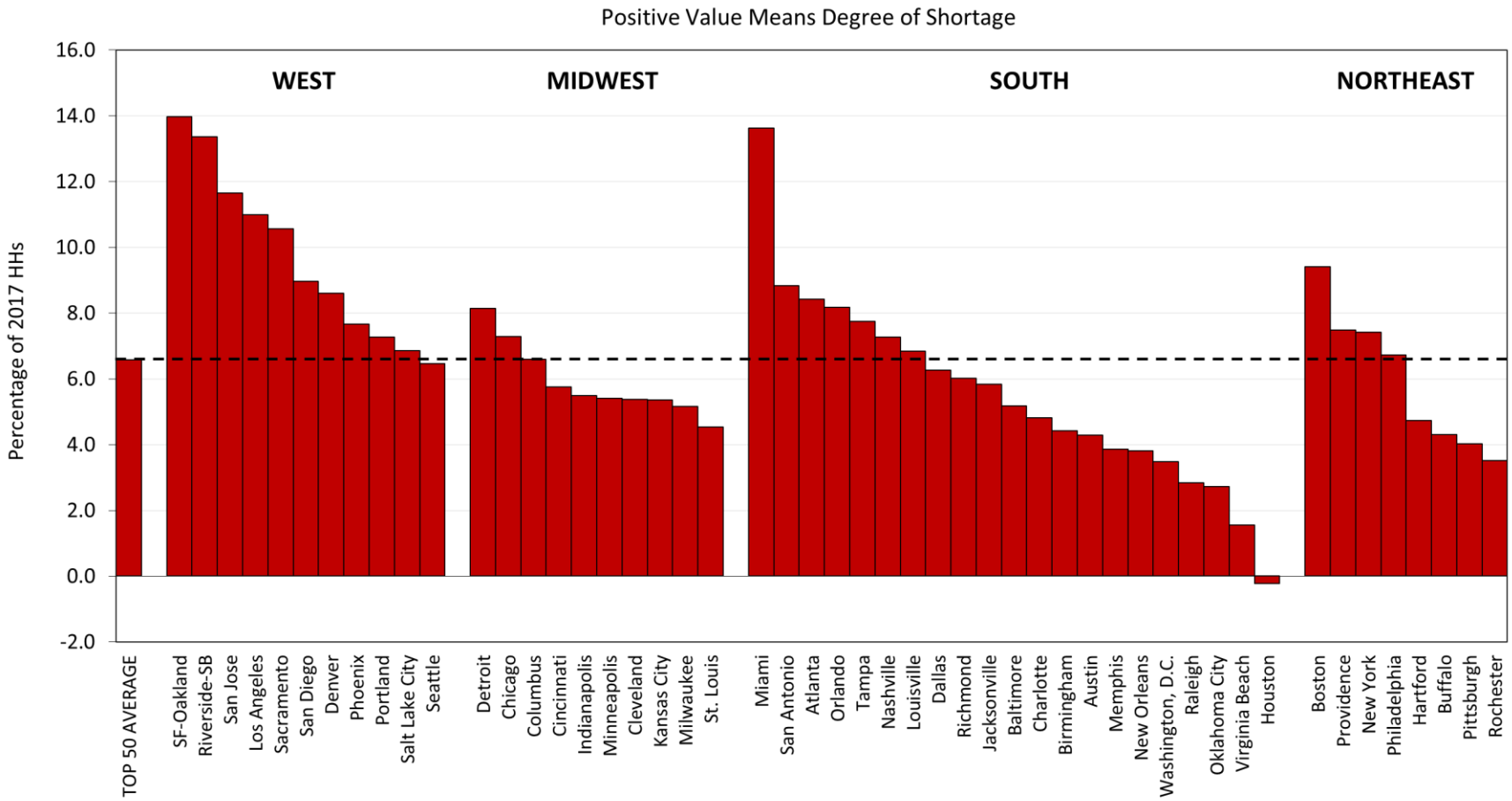
That yields an expected annual housing growth percentage of 2.44, compared to actual annual growth of 0.51. The shortage difference of –1.93, multiplied by the 6-year interval, equates to a shortfall of –11.59%. Based on the initial household (occupied unit) total of 4,194,650, this amounts to a housing growth shortage of 486,344 units.

This computation can be carried out for earlier periods in addition to the recovery period; however, the jobs-based housing deficits in earlier periods add relatively little to aggregate shortfall. Estimates for the bust period of 2007 to 2011 actually produce an estimated surplus of 65,380 units, while estimates for the boom period of 2000 to 2006 yield an estimated shortage of –151,619. If the estimates for the three successive periods since 2000 are summed, the 18-year shortfall amounts to –572,584, 84.9% of which was accrued in the recovery period of 2012 to 2017.

We next compare the shortfall estimated for the Los Angeles metro to the percentage shortfall estimated by the same method for the 50 largest metro areas in the United States (see Exhibit 4).[3] Only six metros exceed 10% shortfall in housing growth relative to their employment growth in the recovery period: Miami in the south region, and five California metros in the west. On this measure, the Los Angeles metro is the 4th worst in the nation; however, in light of its much larger size than the others, the percentage shortfall equates to a larger absolute number of unmet housing needs, approximating a half million shortage accrued since 2012.

[3] For these comparisons shortfall estimates are prepared of the total number of housing units and these are expressed as a % of the end-of-period housing stock in 2017. That permits an easier comparison of unmet needs.

Exhibit 4. Degree of Housing Shortage Relative to Job Growth, 50 Largest Metropolitan Areas, 2012 Through 2017



Notes: Based on Normal Relationships between Job Growth and Permits from 1980 to 2006. Dashed horizontal line means the average degree (6.6%) of housing shortage across the largest 50 metro areas. SF-Oakland means San Francisco-Oakland metro area while Riverside-SB is Riverside-San Bernardino metro area. HHs is households.

Sources: U.S. Bureau of Economic Analysis (BEA)'s Employment Data; U.S. Census Bureau's Building Permits Survey; 1980, 1990, and 2000 Decennial Census IPUMS; 2006, 2011, and 2017 ACS 1-year IPUMS.

SUPPRESSED HOUSEHOLD FORMATION

The preceding jobs-based estimates of housing shortage provide aggregate estimates of unmet housing needs. The alternative, population-based method enables more detailed assessments by population subgroups. In brief, the shortage of rental housing prevented many people from forming households who might otherwise have done so. In the face of housing shortage, we find the contraction of demand is greatest among the youngest households that are just trying to launch or by the newest arrivals in the local market.

Previous literature has shown that household formation contracts and expands in recessions and recoveries (Lee and Painter 2013), in part due to faltering incomes relative to rising prices or rents (Haurin, Hendershott, and Kim 1993), parents' incomes and wealth (Ermish 1999; Whittington and Peters 1996), and other squeezes on young adults such as housing availability and affordability (Mutchler and Krivo 1989) and labor and housing market circumstances (Ermish and Di Salvo 1997).

In practice we find the greatest shortfalls are absorbed by the youngest ages in the housing market, displayed here in the format of contraction profiles first developed in Myers (2016). (see Exhibit 5). It is logical that contraction of demand is greatest for the youngest, because they are the newest and the last in line to find housing. The youngest are also most mobile, moving between units much more commonly, while middle-aged and older households tend to hold tight to their previous homes. Young people with less income or lower educational attainment also may be more vulnerable due to the lower resources they command. The very youngest are also more likely to fall back on their parents for accommodation, or they may band together with other young roommates.[4]

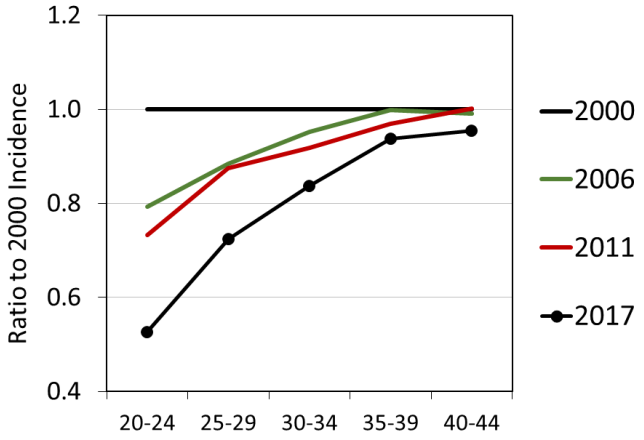
The contraction of demand among the youngest is plainly evident since 2000, with decreases continuing after the recession, during the recovery period in which housing shortfalls were accumulating (see Exhibit 5). This contraction is observed across formation of total households, renter households, and owner households, as shown in panels a, b, and c, respectively. When occupancy probabilities contract, those would-be households either disappear into non–household status, or, if they are would-be homeowners, they largely remain in rental housing. That shift of diverted homeowners expanded rental occupancy probabilities of people ages 30 and over, adding greatly to the rental competition.

The people expanding renter formations above age 30 were likely occupying space that otherwise would have been taken by people in their 20s or by people of color who command lower resources on average. The older households either held on to their previously acquired units or they outbid their younger and less-advantaged competitors.

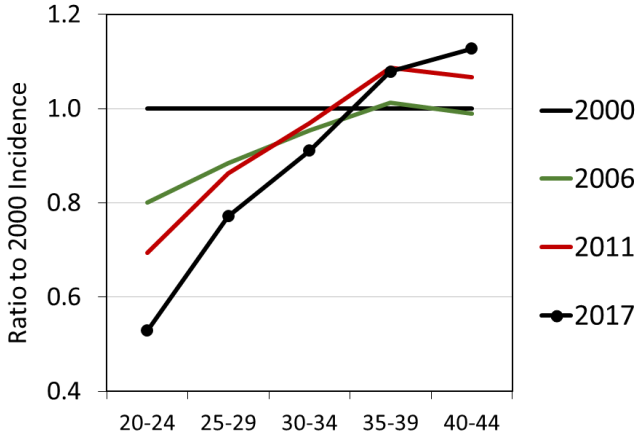
[4] Similarly but not shown in this Brief, greater shortfalls in the household formation rate since 2000 are found among population groups who are Black, unmarried, have lower personal income, or have a lower educational attainment.

Exhibit 5. Proportional Changes since 2000 in Housing Occupancy (Headship per Capita) by Age, Los Angeles County, 2000, 2006, 2011, and 2017

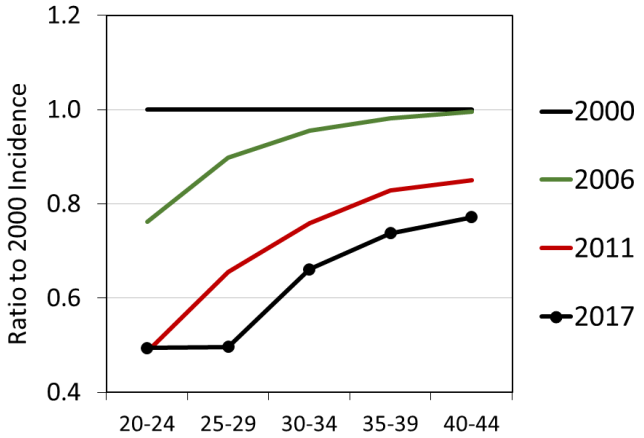
(a) Total Household Formation (HHs per capita, by age)



(b) Formation of Renter Households (renter HHs per capita, by age)



(c) Formation of Owner Households (owner HHs per capita, by age)



Notes: The vertical axis is scaled as proportional to the base year *per capita* rate (2000 = 1.0). HHs is households.
Sources: 2000 Decennial Census; 2006, 2011, and 2017 American Community Survey IPUMS Microdata files.

CASCADE OF DIVERTED HOMEOWNERS AND DISLODGED RENTERS

Based on the overall headship contractions, we have developed indirect methods to measure the extent to which the shortage of housing prevented all households from forming who might otherwise have done so, which is not directly visible in data. Using a population-based headship-dislodgement method,[5] we first calculate the *expected* number of households based on changing demographics in LA county. We use *per capita* rates of householders who own and rent by age, race/ethnicity, and structure type in the baseline year 2000 to estimate housing tenure status of the population in 2017 and compare the estimates to the actual number of households in 2017. The gap between *actual* and *expected* numbers represents unmet housing needs.

The differences in the number of households (which the Census defines as occupied housing units) in each category are displayed in Exhibit 6. The columns A and B are the actual number of households by tenure and structure type, which only captures the existing (or survived) households. Column C displays expected number of households based on 2000 occupancy patterns and actual population of 2017, separately by tenure and structure type. The last columns (D and E) are the differences between actual and expected households, representing unmet housing needs. Note that the absolute count of unmet housing needs is derived by the actual households less the expected households (column D = column B – column C), collectively and separately by tenure and structure type. Also reported is the unmet housing needs as a percentage of actual housing needs in 2017 (column E = column D / column C × 100).

Exhibit 6. Actual and Expected Number of Households in 2017, Los Angeles County, by Tenure and Structure Type

	Actual Number of Households		(C) Expected Number of Households in 2017	Difference between Actual and Expected	
	(A) 2000	(B) 2017		(D) in Absolute Number of Households	(E) as a % of Actual 2017 Number
Total	3,136,210	3,311,235	3,655,881	-344,646	-10.4
Owner-occupied	1,501,350	1,513,425	1,797,754	-284,329	-18.8
Single-family	1,333,776	1,334,506	1,604,072	-269,566	-20.2
Multifamily	127,077	140,852	146,128	-5,276	-3.7
Other	40,497	38,067	47,553	-9,486	-24.9
Renter-occupied	1,634,860	1,797,810	1,858,127	-60,317	-3.4
Single-family	440,558	524,634	511,174	13,460	2.6
Multifamily	1,182,880	1,253,189	1,333,469	-80,280	-6.4
Other	11,422	19,987	13,484	6,503	32.5

Notes: Expected number of households in 2017 is calculated by multiplying number of population in 2017 by age and race/ethnicity by age−race/ethnicity−structure type specific headship rates in 2000. 'Other' category includes mobile homes, boat, RV, van, etc.
Sources: 2000 Decennial Census; 2017 American Community Survey IPUMS Microdata files.

[5] This extends the method developed by Myers, Painter, Lee, and Park (2016).

The difference between actual and expected number of households (column D) is substantial, indicating numerous unmet housing needs in LA county. At 2000 headship rates, the county would have expected to have an additional 345 thousand households in 2017 (column D). Unmet housing needs equal 10.4 percent of actual households in 2017 (column E).

At 2000 (*per capita*) homeownership rates, the county would have been expected to have an additional 284 thousand owners (column D). This consists of an additional 269 thousand owners in single-family structures and an additional 15 thousand owners in multifamily and other structures in 2017.

We observe 60 thousand less renters in 2017 than would have been expected using 2000 occupancy rates (column D) likely due to rental housing shortage in LA. Even if the number of renters did not increase as much as expected, it is remarkable that there was such a large shift in the composition of these renters. In 2017, there were 13 thousand more single-family renters than would have been expected at 2000 rates (column D).

At the same time, there were 80 thousand fewer multifamily renters in 2017 than would have been expected (column D). An increase of 151 thousand multifamily renters had been expected (column C – column A), but only 71 thousand growth was realized (column B – column A). This reflects the relative undersupply of new apartment construction between 2000 and 2017.

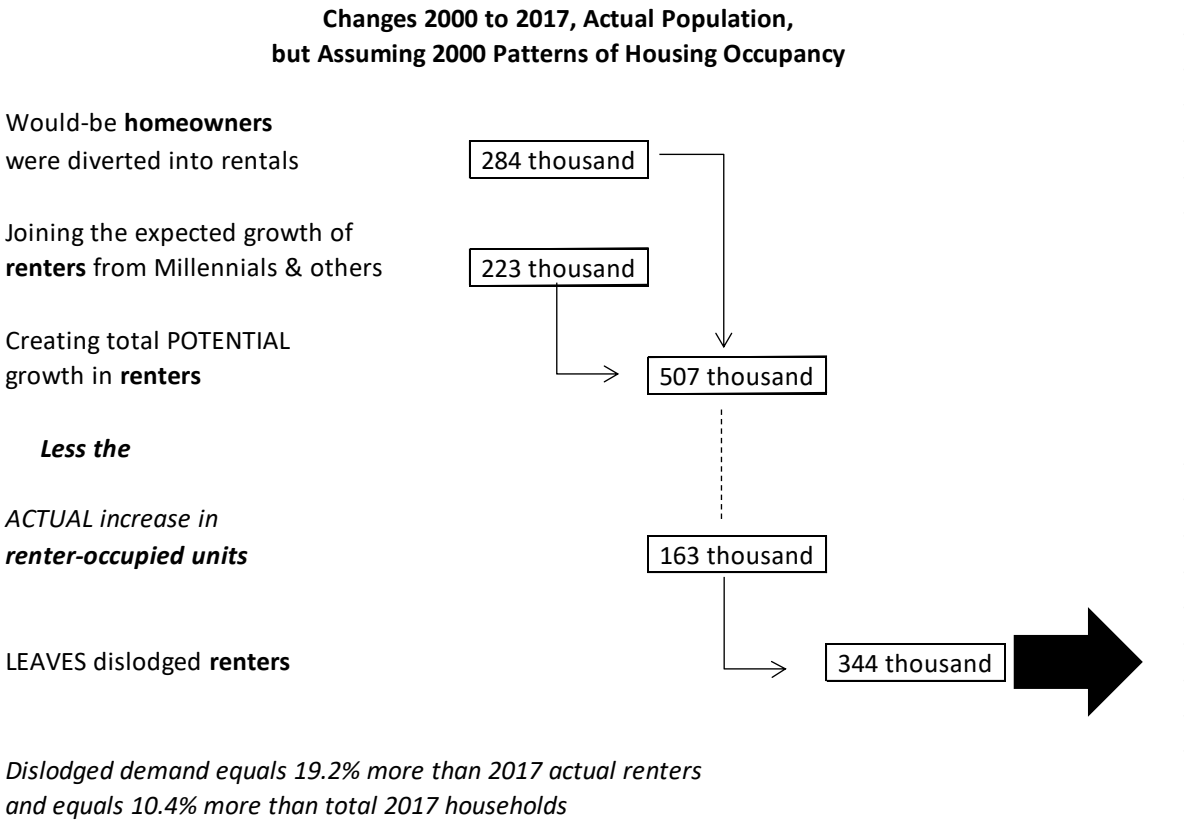
Nonetheless, even the above discussion underestimates the rental impacts, because the 284 thousand would-be homeowners (column D) had to be accommodated in the rental sector (unless the households were dissolved). Only 13 thousand were accommodated by the new increase in single-family renting (column D), thus leaving 271 thousand previously unexpected households to rent multifamily housing or be dropped out of the housing market. The multifamily rental sector did not expand fast enough to absorb all these newly generated renters.

When households are expected in excess of the available occupied units, not all groups have equal access, and the effects of the shortages become concentrated in less advantaged sectors. Ultimately, dislodgements occur most likely at the bottom of the housing market after households in the upper tiers have taken first choice. There are two different means by which the potential households are dislodged — first by *diversion* of would-be homeowners into the rental market and then by *dislodgement* of renters entirely out of the housing market. The greater the volume of diverted homeowners and the greater the undersupply of rental housing, the greater the ultimate dislodgement of renters and creation of unmet housing needs. On the surface, the changes among renters seem much more modest than the compounding forces that become concentrated there.

We describe this as a cascade of demand (see Exhibit 7). Although the rental supply increased modestly, by 163 thousand occupied units, still 60 thousand less than was demographically expected, this proved inadequate. The downturn in the owner-occupied sector diverted 284 thousand would-be homeowners into the rental market. This was added on top of the 223

thousand growth in renters that was previously expected. At the same time, this total growth in renter households needed to fit into a rental supply that only grew by 163 thousand occupied units. Clearly, the total rental occupied additions did not provide room for all of the originally expected rental growth, plus the unexpected diverted homeowners.

Exhibit 7. The Cascade of Diverted Homeowners and Dislodged Renters, Los Angeles County, 2000 to 2017

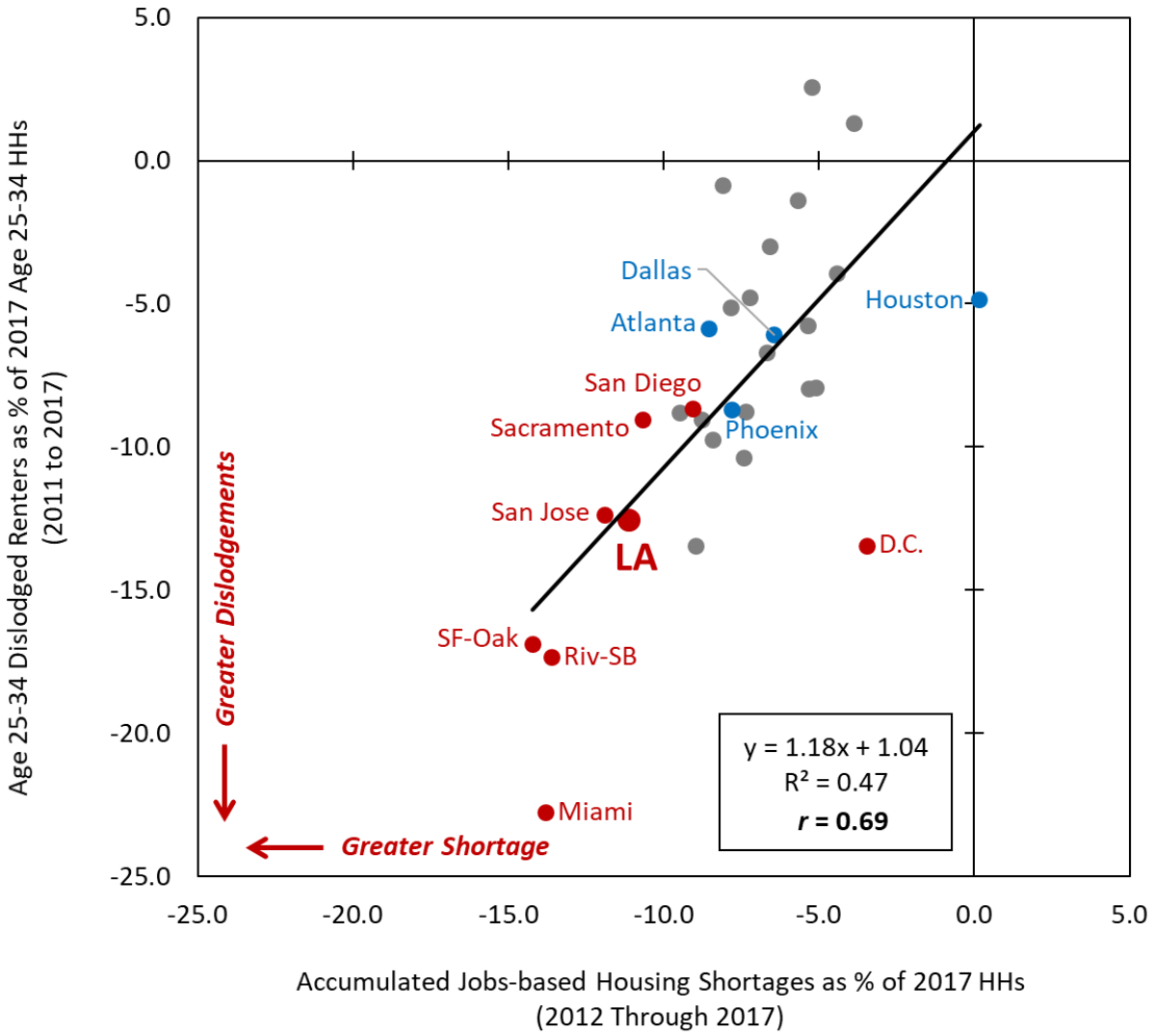


Sources: 2000 Decennial Census; 2017 American Community Survey IPUMS Microdata files.

At root, housing demand is growing from young adults. The coming of age of the large Millennial generation is driving demand for more rental housing. Added to that is the impact of the would-be homeowners who have been diverted into rentals and held there for lack of other opportunity. Meanwhile, existing homeowners and renters seek to hold on to their current homes, so that more housing is required in total to accommodate the growth. Without that growth, someone has to be dislodged. In the competition for scarce units we cannot be sure who "won" the units, but those with the lowest incomes and highest payment burdens, and those who were black or Hispanic, as well as those who were youngest and newest in the market, the Millennials, had distinctly lower chances.

The result we estimate for LA county is that 344 thousand renters have been totally dislodged from running their own households in the housing market between 2000 and 2017.[6] While these unmet needs amount to 10.4 percent of total households existing in 2017, the unmet needs are a far greater share of actual renter households, 19.2 percent, due to the compounding effects of the *cascade*.

Exhibit 8. Relationship Between Housing Shortage and Dislodgement of Young Adult Renters, 30 Largest Metropolitan Areas, 2011 to 2017



Notes: Single dot represents a metropolitan area. Selected metro areas were labeled and highlighted red (California metros, Miami, and Washington D.C.) or blue (Texas metros, Phoenix, and Atlanta). HHs is households.
Sources: U.S. Bureau of Economic Analysis (BEA)'s Employment Data; U.S. Census Bureau's Building Permits Survey; 1980, 1990, and 2000 Decennial Census IPUMS; 2006, 2011, and 2017 ACS 1-year IPUMS.

[6] These calculations pertain to population residing in the region in 2017 and do not count the unknown, other people who may have been forced away from Los Angeles because of their housing difficulties.

Finally, how does the rate of dislodgement in the LA metro compare to other metro areas and their jobs-based housing shortages? We repeat the same estimation of dislodged demand for each of the largest metro areas and test relationship between dislodgements and our previous jobs-based estimates of housing shortage, which were discussed at the beginning of this Brief. Our particular interest is the young age group, 25-34, the Millennials, whose housing demand may have been most dislodged by shortage of housing. Exhibit 8 on the previous page clearly shows that the scale of dislodged young adults was greater in metro areas where housing shortages were deeper.

CONCLUSION

The housing shortage has intensified in the recovery years after the Great Recession. A nationwide phenomenon, the deepest shortages are found in the California metro areas. Los Angeles is among the very worst. In this Brief we compared two methods for estimating the housing shortages, one jobs-based and the other population-based. The end result of the shortages is increased competition that drives up prices faster than incomes, creating a severe affordability problem, as we have demonstrated in a national comparison of rents and incomes in the largest metro areas (Myers and Park 2019).

The underlying problem in recent years is that housing construction approvals have not kept up with economic recovery. The relationship of housing growth to employment growth broke down after the financial crisis of 2008. This was demonstrated in this study by comparing the 50 largest metro areas in each of five different time periods. Using the "normal" relationship of the 1980s, 1990s, and early 2000s, we estimate the quantity of housing that would have been expected in light of the economic recovery after 2011.

A separate method uses actual population by age group and the contracting rate of household formation to identify how the growing population was able to fit into an undersized housing stock. A definitional tautology constrains the number of households (equivalent to occupied housing units) to be no greater than the number of available housing units. Our headship-dislodgement method infers what groups shrank their occupancies and how the competition for a limited housing supply cascaded downward until a sizable portion of the expected renters were dislodged from running their own households.

The two methods compared for the 30 largest metro areas in the nation are highly correlated in their estimates of shortage (r = 0.69). The advantage of the jobs-based method is that it emphasizes how the housing stock needs to grow to accommodate employment growth, while the advantage of the population-based method is that it puts attention on the specific groups of people who get squeezed out by the shortage. More work is needed to detail these dynamics but there can be little doubt about the depth of the housing shortage in Los Angeles.

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This series of housing research briefs is focused on housing conditions in Los Angeles. Topics address total housing needs, rental housing problems, displacement and housing dislodgement, and who benefits from newly built housing, with particular reference to Los Angeles but also comparing other metros. We gratefully acknowledge the kind support of the Haynes Foundation, but the authors alone are responsible for any findings, errors, and opinions expressed.

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