

What's the Real Relationship Between Supply, Demand and Affordability?

New construction increases the supply of housing, which should, in turn, reduce the cost of housing and make it more affordable.

But you'll have to forgive residents of metro areas such as Orlando or Miami for refusing to accept this conventional wisdom.

These markets, along with others, have seen considerable amounts of multifamily construction in recent years—and yet, they have some of the highest rates of rent burdened and severely burdened households nationwide. (We define rent burdened as spending more than 30 percent of income on rent and severely rent burdened as paying more than 50 percent.) But supply is just one side of the equation; we cannot forget about demand. Unlike supply, whose changes are tangible and most often highly visible—we can see the construction of physical buildings—demand is less concrete, so its effects on affordability are often overlooked or underestimated.

However, NMHC and NAA recently partnered with Hoyt Advisory Services to forecast apartment demand through 2030 in 50 of the nation's largest metro areas. Combining this forecasted demand along with current rates of construction, in this Research Notes, we identify which metro areas are currently building less or more than what is needed and explore how this relationship affects affordability.

Matching Apartment Supply with Demand

The U.S. will need to build an average of 328,000 apartments every year through 2030 to accommodate both household growth and losses to the existing stock. While the overall industry slightly exceeded this threshold over the past two years—completing 346,900 units in 2017 and 334,100 units in 2018—a disproportionate

share of this new construction activity has taken place in just a handful of metro areas.

However, concentrations of building activity (or lack thereof) are not necessarily indicators of overbuilding or underbuilding. That activity may reflect demand in those particular markets.

To that end, Figures 1 and 2 show how supply—measured as the average annual apartment construction rate from 2014 to 2018—stacks up to projected apartment demand through 2030 in those 10 metro areas with the lowest construction rates relative to demand and the highest construction rates relative to demand, respectively.

FIGURE 1
Metro Areas with the Lowest Construction Rates Relative to Demand

	Average Annual Apartments Built (2014-2018)	New Apartments Needed Annually Through 2030	% Difference
Sacramento	567	2,280	-75%
Las Vegas	2,321	6,234	-63%
Honolulu	520	1,081	-52%
Riverside-San Bernardino	1,577	2,893	-45%
Phoenix	6,475	10,736	-40%
Orlando	6,064	9,298	-35%
San Diego	3,413	5,198	-34%
Los Angeles	7,814	11,729	-33%
Albuquerque	464	635	-27%
Miami	9,879	13,244	-25%

Source: Hoyt Advisory Services; NMHC and NAA; RealPage

Sacramento, Las Vegas and Honolulu topped the list of metros that are currently underbuilding relative to projected apartment demand. Some of this may have to do with the increased difficulty to develop in some of these metros. According to Hoyt's research, Honolulu ranked as the most difficult of all 50 metro areas in which to develop due to land use and regulation, while Sacramento ranked in the middle of the pack. Population growth is also a factor. Although metro areas like Las Vegas and Phoenix were some of the hardest-hit areas during the housing recession, they have experienced strong population growth.

FIGURE 2
Metro Areas with the Highest Construction Rates Relative to Demand

	Average Annual Apartments Built (2014-2018)	New Apartments Needed Annually Through 2030	Difference
Milwaukee	2,115	375	464%
Cleveland	1,288	368	250%
Kansas City	3,471	1,001	247%
Pittsburgh	1,981	682	191%
Nashville	5,749	2,139	169%
Charleston	2,511	956	163%
Salt Lake City	3,000	1,177	155%
Birmingham	872	377	131%
Louisville	1,500	664	126%
Chicago	7,143	3,416	109%

Source: Hoyt Advisory Services; NMHC and NAA; RealPage

Nearly two-thirds (64 percent) of the metros studied are currently building apartments at a higher annual rate than is needed to keep up with demand through 2030, with Milwaukee, Cleveland and Kansas City leading the pack.

That topline analysis is not to say, however, that there are no market segments within these metros that are being underserved. As we have highlighted in previous editions of Research Notes, a lot of recent apartment construction has been localized in city centers (July 2012) and has catered largely to the high-end of the market (December 2016), whereas the need for apartments exists across the entire geographic and income spectrum.

Relationship Between Supply and Demand and Affordability

On its own, a metro's apartment construction rate tells us little about its level of affordability. In Figure 3, we observe very little correlation between a given metro's multifamily construction levels and affordability. Some metros with a high construction rate have a low percentage of cost-burdened apartment households while other metros have a high construction rate and a high percentage of cost-burdened apartment households.

FIGURE 3
Percent of Apartment HHs Paying Over 30% of Income on Rent by Metro



Source: NMHC tabulations of 2017 American Community Survey microdata; RealPage

Figure 4, on the other hand, plots our 50 metro areas according to their ratio of demand to supply (shown on the x-axis) and the percentage of their apartment households that paid more than 30 percent and 50 percent of income on rent (on the y-axis). We observe a strong, positive relationship between housing underproduction and cost burdens. In other words, higher rates of apartment construction appear to be associated with more affordable rents.

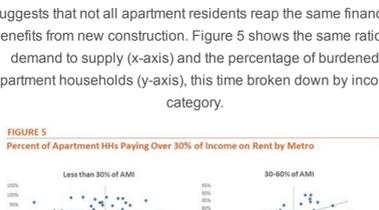
FIGURE 4
Percent of Apartment HHs Paying Over 30%/50% of Income on Rent by Metro



Source: NMHC tabulations of 2017 American Community Survey microdata; RealPage

While taking demand into account does indicate that metro areas with lower burden rates have lower rates of unmet multifamily demand, that is not true for all income levels. Additional analysis suggests that not all apartment residents reap the same financial benefits from new construction. Figure 5 shows the same ratio of demand to supply (x-axis) and the percentage of burdened apartment households (y-axis), this time broken down by income category.

FIGURE 5
Percent of Apartment HHs Paying Over 30% of Income on Rent by Metro



Source: NMHC tabulations of 2017 American Community Survey microdata; RealPage

For the given metros' poorest apartment households (with incomes less than 30 percent of area median income¹), as well as for area median income (AMI)), rates of apartment construction have little correlation with levels of affordability. On the charts, the estimated relationship is portrayed by almost horizontal lines. At such extreme ends of the income distribution, rent levels would have to change by a much larger degree to have any meaningful effect on the number of households that are rent burdened. Apartment households with close to no income, for example, will be burdened regardless of how much they pay in rent.

On the other hand, apartment households with incomes between 30 percent and 60 percent of AMI showed the greatest responsiveness to new apartment construction.

Conclusion

Increasing the supply of apartments would, by itself, put downward pressure on rent levels, making apartment living more affordable. However, this ignores the crucial importance of demand in the affordability equation. The relationship between changes in supply and demand is what more fully affects rents and affordability.

Our analysis finds that, on average, metro areas with higher apartment construction rates relative to their projected need are, in fact, more affordable for apartment renters. This relationship is strongest among apartment households earning between 30 percent and 60 percent of AMI and almost nonexistent for that metro's poorest (less than 30 percent of AMI) and richest (more than 120 percent of AMI) households.

Over the past two years, the apartment industry nationally has been building apartments at a rate slightly greater than needed annually through the year 2030. Yet the picture is much more nuanced when examined on a metro level. Certain metros have fallen short of meeting demand, growing the risk of ever-higher rent burdens on apartment residents, if construction levels fail to increase going forward.

¹ Calculated from American Community Survey microdata.

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Tool

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