

# NOAH's Pool:

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## Assessing the Depth of Naturally Occurring Affordable Housing

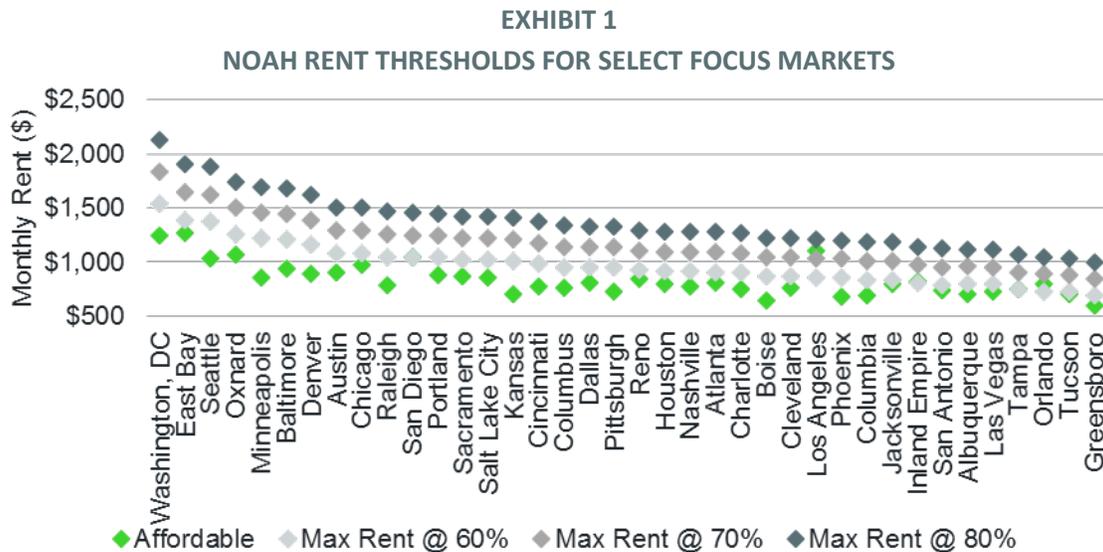
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The US continues to face an acute affordable housing crisis. Harvard's Joint Center for Housing Studies highlighted the extent of the nation's housing affordability issues in a recent report.<sup>i</sup> It indicated that one third of US households faced housing cost burdens, i.e., they paid more than 30% of their incomes for housing. This millstone was even more prevalent for renters; nearly half of US renter households faced housing cost burdens. Yet, the share of affordable multifamily apartment deliveries has been more than cut in half since 2000; recently, less than 1 in 10 new deliveries have been affordable apartments.<sup>ii</sup> Traditionally, affordable apartments have been defined as rental properties that receive support from public resources. Looking forward, the new tax law is expected to further reduce the delivery of new affordable apartment homes. Novogradac & Co., a national certified public accounting and consulting firm specializing in real estate, estimated that the corporate tax rate reduction will likely result in a loss of nearly 235,000 affordable rental housing units financed by the Low-Income Housing Tax Credit (LIHTC) over the next 10 years.<sup>iii</sup> With strong needs and declining availability, affordable rental housing presents an intriguing opportunity for private sector investment. Under these circumstances, market rate affordable rental housing, i.e., affordable housing without support from public resources like subsidies, has garnered increased institutional investor attention. This market rate housing is often referred to as filtered housing or naturally occurring affordable housing (NOAH). But, how deep is the NOAH apartment pool that may appeal to institutional investors? This paper assesses the depth of the institutional NOAH apartment market in the US and identifies the characteristics of these properties.

## On the Threshold

Assessing the depth of the institutional NOAH pool requires the ability to divide market rate properties within a metro area into two categories: a NOAH and a Non-NOAH portfolio. This division can be completed by identifying an appropriate rent threshold; properties with rents below the threshold would be placed into the NOAH portfolio, all other properties would be placed in the Non-NOAH portfolio. One way to establish the thresholds is to utilize metro average effective rents for existing affordable apartments, i.e., those multifamily properties that may be rent subsidized, restricted, stabilized, and/or controlled. Recognizing institutional investors penchant for larger properties, our analytics focus on properties with 100 or more units. Another way to determine NOAH thresholds is to estimate maximum rents related to households that make 60% to 80% of area median income. This population is a prime candidate for affordable rental housing, but typically does not qualify for public sector programs.<sup>iv</sup>

Exhibit 1 displays four potential NOAH rent thresholds for select workforce and affordable housing focus markets. Focus markets were identified by using “top-down” data-driven analytics and “bottom-up” veteran investor/operator perspectives; client/limited partner needs were also considered. Metro area average effective rents were determined for existing affordable apartment properties by mining the CoStar apartment database.<sup>v</sup> Maximum rents (Max Rents) related to households that make 60%, 70%, and 80% of an area’s median income were calculated by using US Department of Housing and Urban Development (HUD) estimates for market median family income, assuming that households are not “cost-burdened”, and accounting for monthly utilities and insurance costs.<sup>vi</sup>



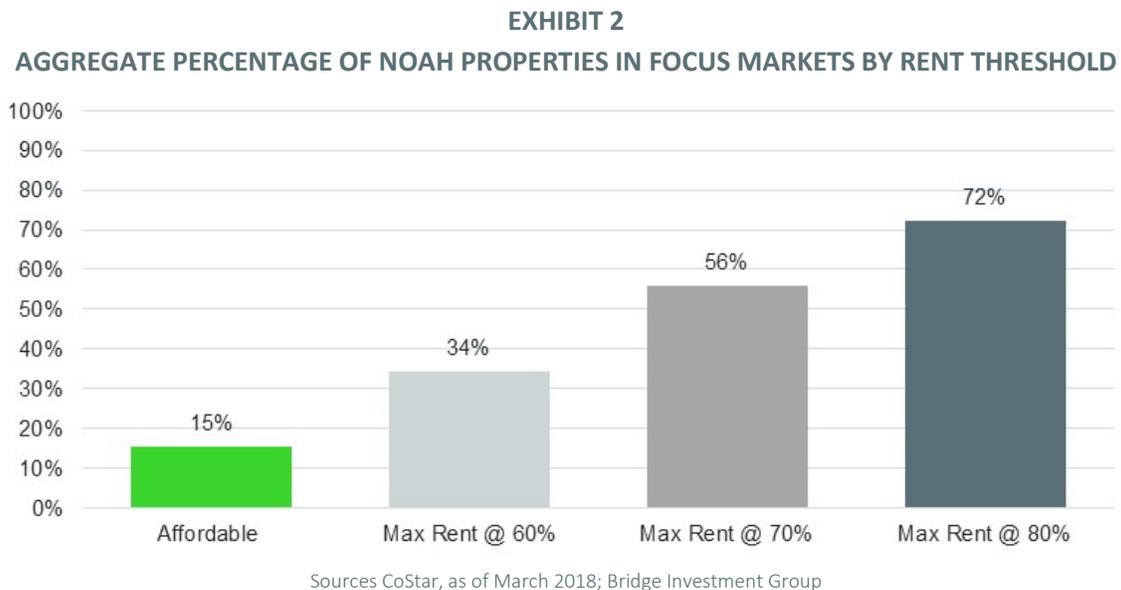
Sources: CoStar, as of March 2018; Bridge Investment Group

A wide range of affordable average effective and calculated maximum monthly rents are evident across the focus markets; the highest thresholds are found in Washington, DC, the lowest in Greensboro. The chart also shows that the calculated maximum rent thresholds generally tended to be higher than their affordable counterparts within each market. This pecking order makes sense; the estimated affordable renter annual income as a percentage of metro HUD median family income for the majority of focus markets fell between 50% and 60%. Los Angeles is a noteworthy exception where the affordable threshold

is approaching the maximum rent threshold at 80% of median income. This result is driven by the combination of the area’s high housing costs and relatively low median family income; at \$69,300, Los Angeles’ current median income estimate is more than 40% below that of San Francisco.

## Proper Identification

These rent thresholds are used to tally the number of NOAH apartment properties in each market. Focusing on existing market rate apartment properties with 100 or more units that are not functionally obsolete, a multifamily property is placed into the NOAH portfolio if its monthly average effective rent is less than the identified rent threshold. Aggregating the results for each threshold shows the availability of NOAH apartment properties across the focus markets (see Exhibit 2).



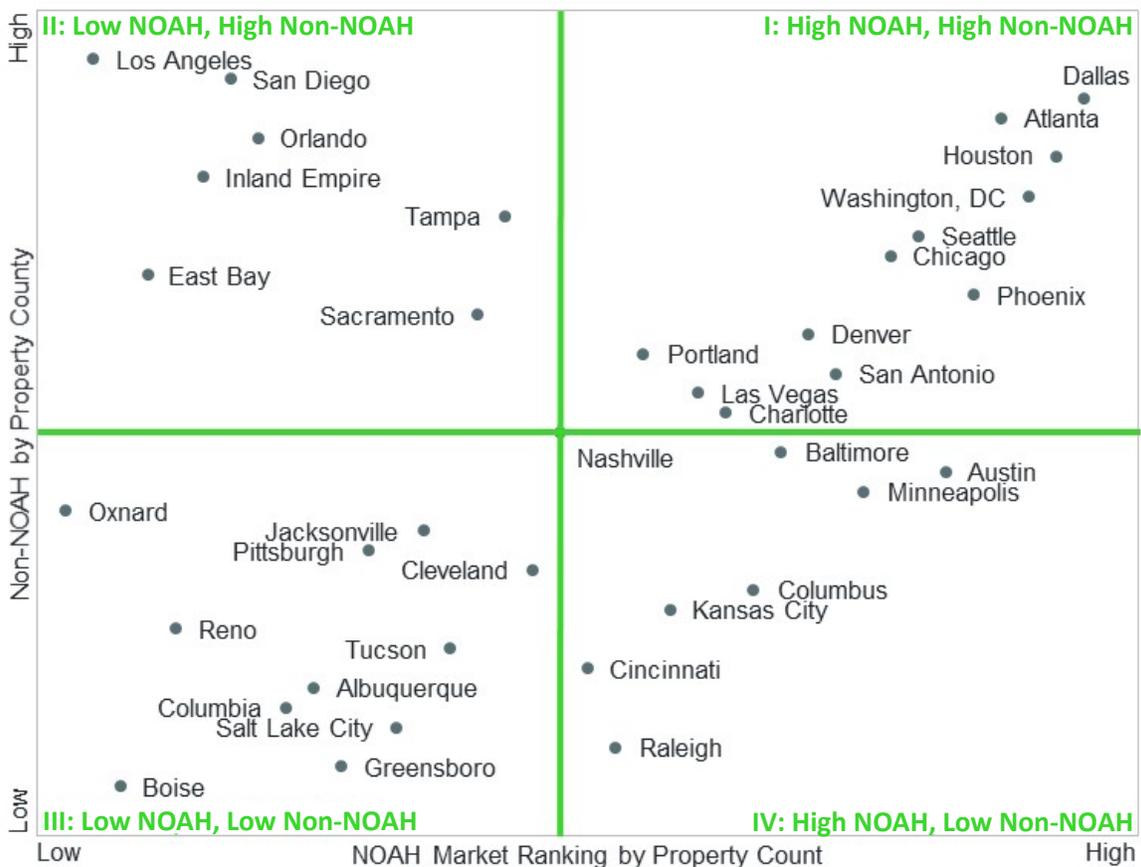
The chart’s results should come as no surprise as higher rent thresholds allow more market rate apartments to be classified as NOAH properties. At the affordable rent threshold, only 15% of market rate apartment properties in the focus markets were identified as NOAH. By property count, this NOAH-identified pool was approximately 80% of the existing affordable rental housing pool across the focus markets. This low level of NOAH identification was anticipated as the affordable rents are associated with apartment projects that receive some sort of public sector assistance; these projects would typically not be economically feasible without this support. The higher calculated maximum rent thresholds identified higher concentrations and property counts of NOAH properties. The maximum rents at 60%, 70%, and 80% of metro median income tagged 34%, 56%, and 72%, respectively, of focus market multifamily properties as NOAH. *These properties often cater to many of the firemen, policemen, teachers, and healthcare workers in our communities that face a rapidly depleting supply of high-quality, affordable rental housing.* The NOAH pool identified by the maximum rent at 80% of market median income (Max Rent @ 80%) thresholds was significantly larger than the existing affordable rental housing pool. In fact, this NOAH pool was larger by nearly a factor of four.

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## In Depth

Having divided the properties within each focus market into two portfolios, the depths of the institutional NOAH and Non-NOAH pools can be explored. Exhibit 3 displays the relative depths of the NOAH and Non-NOAH pools in each of the focus markets using the Max Rent @ 80% scenario. For the NOAH and Non-NOAH classifications, markets were ranked by property count from lowest to highest; the market with the lowest property count was assigned the lowest ranking (1), the market with the highest property count was assigned the highest ranking (38). The exhibit was also divided into four quadrants: Quadrant I, II, III, and IV. Note that Quadrants I and III can be considered opposites; the same can be said for Quadrants II and IV.

**EXHIBIT 3**  
**RELATIVE DEPTH OF NOAH & NON-NOAH PROPERTIES BY FOCUS MARKET**



Sources: CoStar, as of March 2018; Bridge Investment Group

With its focus on rank by property count, the chart effectively highlights apartment market size, but it also captures nuances related to the dearth or abundance of NOAH properties in the focus markets. With its high NOAH and Non-NOAH rankings, Quadrant I identified focus markets with ample market rate and market rate affordable properties; it included many major, mature metro areas. In contrast, but no less appealing from an investment perspective, smaller markets were found in the low NOAH, low Non-NOAH quadrant. Quadrant II contained larger California and Florida markets with limited numbers of market rate

affordable apartments. California markets, particularly those on the coast, have long suffered from chronic housing affordability issues. In contrast, Quadrant IV markets possessed significantly larger NOAH pools than Quadrant II. The rent thresholds in the high NOAH, low Non-NOAH markets tended not to be limiting factors in NOAH identification, i.e., average effective rents for most properties were lower than the rent thresholds, suggesting that housing affordability may be a lesser issue in these markets.

## Identifying Characteristics

To get a better sense of the NOAH and Non-NOAH portfolio identities, Exhibit 4 provides summary statistics for a variety of property and portfolio characteristics by rent threshold. Simple averages were calculated for the Average Year Built, Average Number of Units, Average Unit Size (sf), Average Cap Rate, Average Occupancy Rate, and Average Effective Rent variables. The property quality variables identified the percentage of Class A, B, and C properties within each NOAH or Non-NOAH portfolio.

**EXHIBIT 4**  
**NOAH & NON-NOAH PORTFOLIO CHARACTERISTICS BY RENT THRESHOLD**

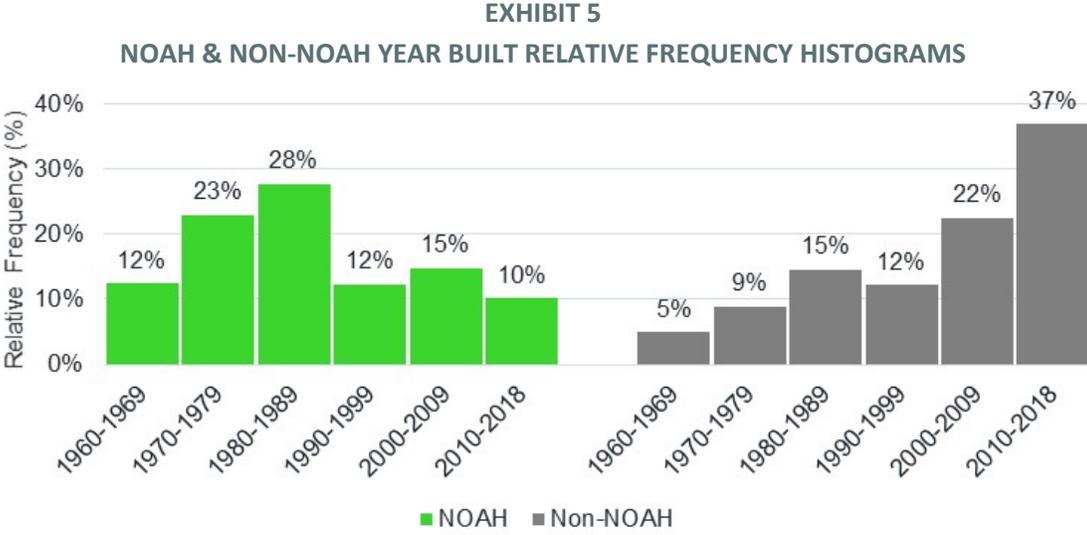
	Average Year Built	Average Number of Units	Average Unit Size (sf)	Property Quality Class A / B / C (% Portfolio)	Average Cap Rates (5yr / 1yr)	Average Occupancy Rate	Average Effective Rent
<b>Affordable</b>							
NOAH	1978	211	854	6% / 34% / 61%	6.9% / 6.5%	95%	\$731
Non-NOAH	1991	250	923	23% / 48% / 28%	5.9% / 5.5%	93%	\$1,288
<b>Max Rent @ 60%</b>							
NOAH	1979	219	808	5% / 39% / 56%	6.7% / 6.2%	95%	\$822
Non-NOAH	1995	252	949	30% / 49% / 21%	5.7% / 5.4%	92%	\$1,382
<b>Max Rent @ 70%</b>							
NOAH	1982	229	838	8% / 44% / 48%	6.4% / 6.0%	95%	\$933
Non-NOAH	1999	251	974	40% / 46% / 14%	5.6% / 5.3%	91%	\$1,538
<b>Max Rent @ 80%</b>							
NOAH	1984	236	864	12% / 46% / 42%	6.2% / 5.8%	94%	\$1,017
Non-NOAH	2002	242	981	48% / 41% / 11%	5.5% / 5.1%	89%	\$1,735

Sources: CoStar, as of March 2018; Bridge Investment Group

Beyond the lower monthly average effective rents (by definition) associated with the NOAH portfolios, there were notable differences between the two categories of apartments. On average, properties in the NOAH portfolios tended to be older and smaller both in terms of square footage and unit count. Both portfolios were similar in that they contained properties across the property quality spectrum, i.e., Class A, B and C apartments. But, the NOAH portfolios were predominately comprised of Class B and Class C properties; the Non-NOAH portfolios were primarily composed of Class A and Class B properties. On average (and as anticipated), the NOAH portfolios enjoyed significantly higher cap rates than the Non-NOAH portfolios. The NOAH portfolios also tended to be better occupied than their Non-NOAH counterparts; a likely benefit of the chronic supply/demand imbalance facing affordable rental housing.

Using the Max Rent @ 80% scenario, our identification analytics delve further into the NOAH and Non-NOAH portfolio characteristics. More specifically, relative frequency histograms examine the distributions of the year built, property size, and unit size variables in Exhibits 5, 6, and 7, respectively. Exhibits 8, 9, 10, and 11 explore property class, average cap rates, average occupancy rates, and average effective rent growth rates, respectively, for the market rate affordable and market rate apartment portfolios.<sup>vii</sup>

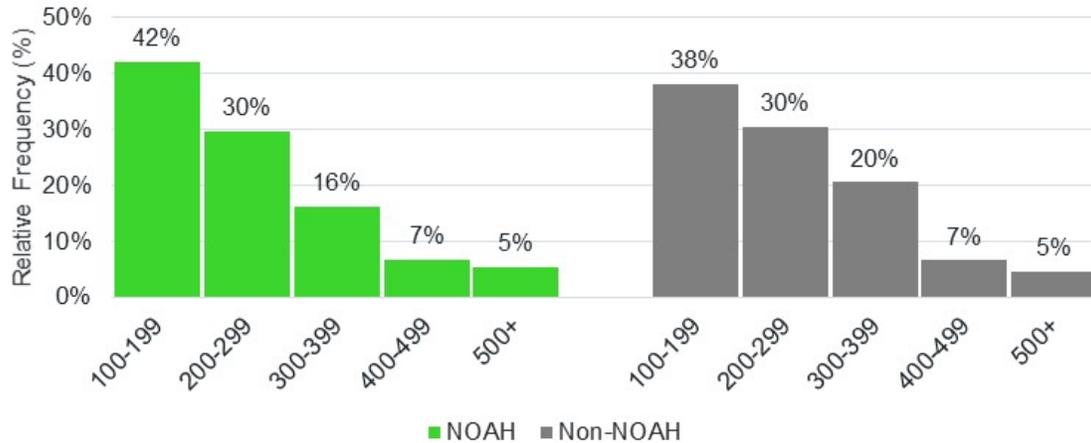
Properties in the NOAH portfolio tended to be older (see Exhibit 5). Over 60% of the properties in the NOAH portfolio were built prior to 1990; less than 30% of Non-NOAH properties were built over the same time frame. Only a limited number (25%) of NOAH properties, but the majority (nearly 60%) of Non-NOAH properties, were built since 2000. With high building costs and tighter lending standards, today’s development economics generally do not favor traditional or market rate affordable apartment new construction.



Sources: CoStar, as of March 2018; Bridge Investment Group

With respect to the number of units per property, NOAH properties tended to be slightly smaller than, but nearly comparable to, their Non-NOAH counterparts (see Exhibit 6).

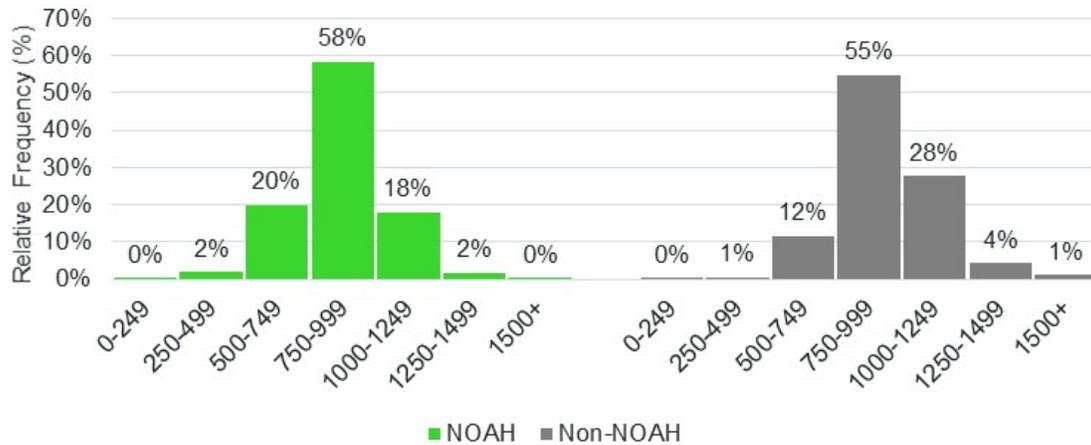
**EXHIBIT 6**  
**NOAH & NON-NOAH NUMBER OF UNITS PER PROPERTY RELATIVE FREQUENCY HISTOGRAMS**



Sources: CoStar, as of March 2018; Bridge Investment Group

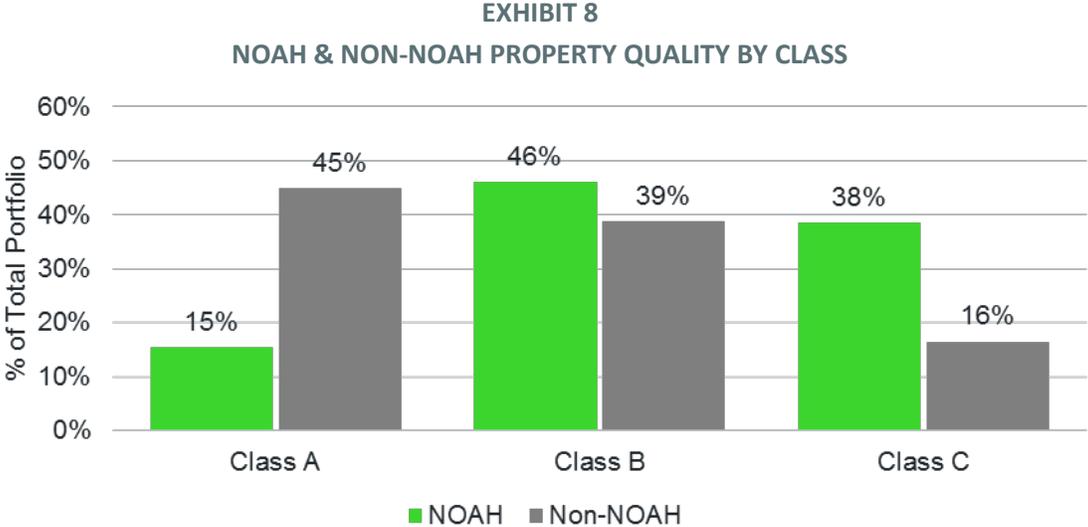
Properties in the NOAH portfolio tended to have smaller unit sizes (see Exhibit 7). The percentages of properties in the NOAH and Non-NOAH portfolios that had unit sizes less than 1,000 square feet were 80% and 68%, respectively.

**EXHIBIT 7**  
**NOAH & NON-NOAH AVERAGE UNIT SIZE (SF) RELATIVE FREQUENCY HISTOGRAMS**



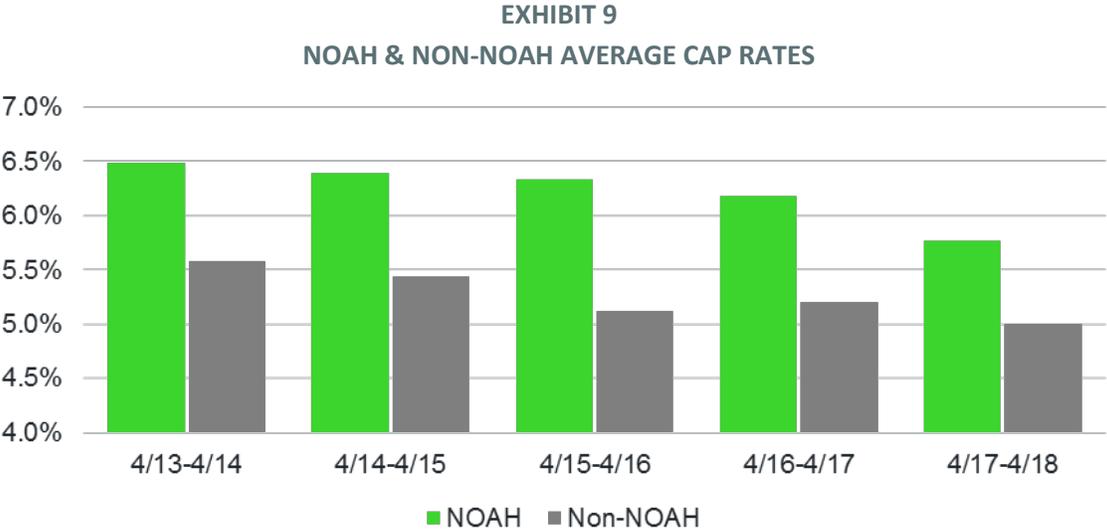
Sources: CoStar, as of March 2018; Bridge Investment Group

Properties in the NOAH portfolio tended to be Class B and C apartment properties (see Exhibit 8). Although both portfolios contained properties across the full quality spectrum, Class B and C apartments comprised nearly 85% of the NOAH portfolio; Class A and B properties accounted for the roughly the same percentage of the Non-NOAH portfolio.



Sources: CoStar, as of March 2018; Bridge Investment Group

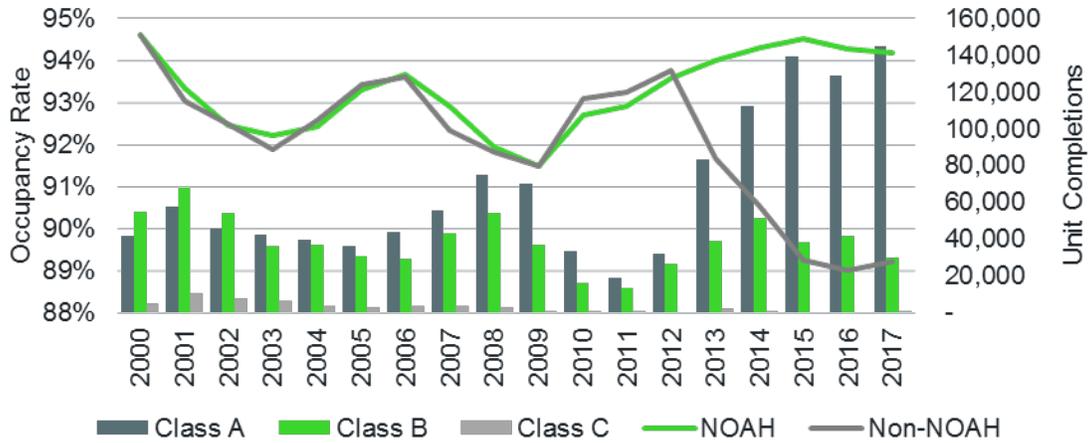
The NOAH portfolio tended to have significantly higher cap rates than the Non-NOAH portfolio over the last five years (see Exhibit 9).<sup>viii</sup> On average, the NOAH portfolio had a cap rate advantage that was nearly 100 basis points; a likely reflection of the portfolio’s general age and quality characteristics. Both portfolios experienced cap rate compression, but Non-NOAH cap rates appear to have leveled off over the past three years.



Sources: CoStar, as of April 2018; Bridge Investment Group

Recently, the NOAH portfolio tended to be better occupied than its Non-NOAH counterpart (see Exhibit 10). The two portfolios had similar average occupancy rates from 2000 through 2012, but a material divergence started in 2013 that was related to elevated deliveries of Class A apartments. Since that time, the NOAH portfolio has enjoyed significantly higher average occupancy rates and stability than the Non-NOAH portfolio; the current average occupancy rate gap stands at 5%.

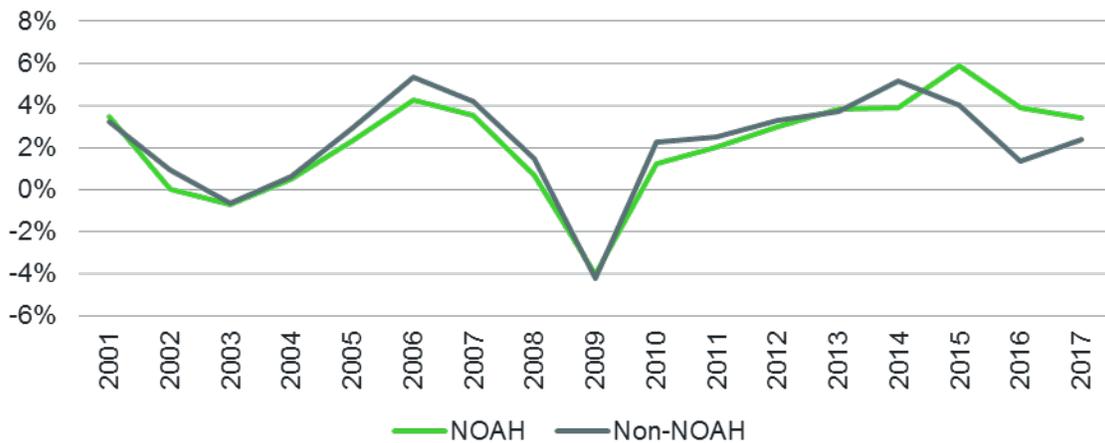
**EXHIBIT 10**  
**AVERAGE OCCUPANCY RATES & UNIT COMPLETIONS FOR NOAH & NON-NOAH PORTFOLIOS**



Sources: CoStar, as of March 2018; Bridge Investment Group

The NOAH portfolio tended to have slightly lower, but similar, average effective rent growth compared to the Non-NOAH portfolio (see Exhibit 11). From 2000 to early 2018, average annualized average effective rent growth rates for the NOAH and Non-NOAH portfolios were approximately 2.4% and 2.5%, respectively. Average effective rent growth for the NOAH portfolio generally trailed, but was similar to, that of the Non-NOAH portfolio from 2001 to 2014, however, a change of fortunes commenced in 2015. NOAH’s current rent growth advantage is tied to the trend of elevated Class A apartment deliveries experienced since 2013.

**EXHIBIT 11**  
**AVERAGE EFFECTIVE RENT GROWTH RATES FOR NOAH & NON-NOAH PORTFOLIOS**



Sources: CoStar, as of March 2018; Bridge Investment Group

The NOAH and Non-NOAH portfolios have distinct personalities, yet many of the market rate apartment properties identified as NOAH are not always recognized as “different” in the eyes of some institutional investors.

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*Market rate affordable properties are not “labeled”, they are “identified”. As a result, these properties are generally “hiding in plain sight”.*

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These properties have favorable operating characteristics that should have appeal to a wide investor pool including investors with or without affordable housing mandates. They also typically do not suffer from the stigma and/or marketability limitations often associated with traditional affordable properties that receive public sector support.

## Preserving NOAH

In summary, our analysis indicates that the inventory of market rate NOAH apartment properties that can garner institutional investor interest is plentiful across our focus markets (and the US). Yet, the NOAH apartment pool faces headwinds from the deterioration and obsolescence of existing stock, as well as value-add investment activities that may take previously affordable multifamily rental properties out of the affordable range. Continued limited supply and solid demand combine to create a current and expected favorable operating environment for these properties. But, with strong needs and declining availability, affordable rental housing needs private investment. There is an urgency to preserve NOAH to maintain high-quality workforce and affordable housing for the US population. Our workforce and affordable housing strategy recognizes this imperative and is committed to preserving and rehabilitating quality, affordable housing communities for America's workforce in focus markets nationwide, promoting a responsible footprint, and empowering residents with social and community programs; all without the reliance on public sector resources.

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<sup>i</sup> Joint Center for Housing Studies of Harvard University, "The State of the Nation's Housing 2017", June 16, 2017.

<sup>ii</sup> CoStar, as of 4<sup>th</sup> Quarter, 2017; Author's calculations.

<sup>iii</sup> Novogradac & Company, "Final Tax Reform Bill Would Reduce Affordable Rental Housing Production by Nearly 235,000 Homes", December 19, 2017.

<sup>iv</sup> Although beneficial, note that the new "income averaging" occupancy set-aside option from the Consolidated Appropriations Act, 2018, goes with the "unit" rather than "household incomes". See Novogradac & Company, "Implementation of LIHTC Income Averaging", April 3, 2018.

<sup>v</sup> The affordable rent threshold for each focus market was calculated using CoStar's data on affordable apartments, i.e., those multifamily properties that may be rent subsidized, restricted, stabilized, and/or controlled. More specifically, each market's threshold was calculated by taking the average of monthly average effective rents for the metro's existing affordable apartment properties with 100 or more units that were not functionally obsolete.

<sup>vi</sup> Maximum rent (Max Rent) calculations for each focus market start with the US Department of Housing and Urban Development's (HUD's) 2018 median family income estimate for that area. Each market's adjusted median family income is calculated by multiplying the HUD estimate by the appropriate income threshold; in our case, 60%, 70%, or 80%. A metro's maximum housing cost is calculated by multiplying the adjusted median family income by 30%; Harvard's Joint Center for Housing Studies indicates that households are "cost burdened" if they pay more than 30% of income for housing costs. Maximum housing costs are divided by 12 to get a monthly estimate. Monthly maximum rents are calculated by subtracting monthly utilities and insurance costs from monthly maximum housing costs.

<sup>vii</sup> Average cap rates for the NOAH and Non-NOAH focus market portfolios were calculated for the last five years using CoStar transaction data. Note that transaction data for individual focus markets can be "thin" at times. The average occupancy rate and average effective rent growth rate time series reflect the performance of properties identified in the current NOAH and Non-NOAH portfolios. Aggregate portfolio metrics were calculated by taking simple averages of individual focus market results.

<sup>viii</sup> The time periods identified in the exhibit relate to the following specific dates: 4/13 – 4/14 is 4/10/2013 to 4/10/2014, 4/14 – 4/15 is 4/11/2014 to 4/11/2015, 4/15 – 4/16 is 4/12/2015 to 4/11/2016, 4/16 – 4/17 is 4/12/2016 to 4/12/2017, and 4/17 – 4/18 is 4/13/2017 to 4/13/2018. Each time frame reflects a 365-day period.

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