Portland Metro Apartment Market – A Review of 2017 & Thoughts for 2018

January 3, 2018

Patrick O. Barry & Mark D. Barry

pb@barryapartmentreport.com
mb@barryapartmentreport.com
Topics Covered - Portland Metro Apartment Market

- Macro Trends and Overview
  - Interest Rates, Employment, Population, Home Ownership Ratio, Apt Construction
- Apartment Fundamentals
  - Rents and Income, Vacancies, Expenses
- Apartment Sales and Values
- Other Issues
- Trends for 2018
As of 31 October 2017

The REIT market as represented is a basket of 53 large and investable REITs across all sectors, as identified and selected by SNL Financial. The basket also includes companies that over time have gone private or merged in order to avoid survivor bias in the historical data.

Source: SNL Financial
US GDP Growth Revised Up to 3.3% in Q3, Highest in 3 Years

US GDP GROWTH RATE

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2</td>
<td>3.2</td>
<td>1.6</td>
<td>0.5</td>
<td>0.6</td>
<td>3.1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2.7</td>
<td></td>
<td>2.2</td>
<td>2.8</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1.8</td>
<td>1.2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3.3</td>
</tr>
</tbody>
</table>
Portland OR Historical Employment Growth

Sources: Moody's Analytics; CoStar Market Analytics
*Year to Date
Leveling Off

Annual Job Gains
Portland Metro Area

<table>
<thead>
<tr>
<th>Year</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>+2.0%</td>
</tr>
<tr>
<td>2012</td>
<td>+2.2%</td>
</tr>
<tr>
<td>2013</td>
<td>+2.4%</td>
</tr>
<tr>
<td>2014</td>
<td>+3.0%</td>
</tr>
<tr>
<td>2015</td>
<td>+3.3%</td>
</tr>
<tr>
<td>2016</td>
<td>+3.0%</td>
</tr>
<tr>
<td>2017</td>
<td>+2.6%</td>
</tr>
</tbody>
</table>
FOR IMMEDIATE RELEASE: December 26, 2017

Employment in the Portland Metro Area: November 2017
Low Unemployment, Moderate Job Losses

The Portland metro area’s unemployment rate fell to 3.9 percent in November, down from 4.2 percent in October. Over the year, the rate declined from 4.5 percent as the number of unemployed residents fell by 5,200 to 52,700.
Fueled by In-Migration, Portland Metro Area’s Population Surges in 2016

May 31, 2017

by Amy Vander Vliet

Components of Population Change
Portland Metro (Oregon portion)

Annual Averages

Net Migration
Natural Increase

Source: Population Research Center, Portland State University
Homeownership rate rises to highest level since 2014
Continues slow trek back above historic lows

Figure 4
Quarterly Homeownership Rates and Seasonally Adjusted Homeownership Rates for the United States: 1995-2017

Homeownership Rates by Region

<table>
<thead>
<tr>
<th>Region</th>
<th>Second Quarter 2016</th>
<th>Second Quarter 2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States</td>
<td>62.9</td>
<td>63.7*</td>
</tr>
<tr>
<td>Northeast</td>
<td>59.2</td>
<td>60.4*</td>
</tr>
<tr>
<td>Midwest</td>
<td>67.7</td>
<td>68.0</td>
</tr>
<tr>
<td>South</td>
<td>64.8</td>
<td>65.5</td>
</tr>
<tr>
<td>West</td>
<td>57.9</td>
<td>58.9*</td>
</tr>
</tbody>
</table>

* Denotes a statistically significant change from the rate last year

According to the Census Bureau, the number of household formations of owners rose by 1.3 million in the second quarter, continuing an upward trend in new ownership. Meanwhile, renter formations fell by 700,000, continuing a downward trend of renters. And we think the trends could continue as the rate of household ownership remains low by historical standards.
Apartment Permits 1991 - YTD 2017 Annualized
Four County Metro Area

Source: US Census Bureau Building Permits Database
Developers Just Proposed Nearly 6,000 Apartments to Evade Portland's New Affordable Housing Mandate

by Dirk VanderHart • Feb 8, 2017 at 9:00 am
Submarkets With The Most Deliveries

<table>
<thead>
<tr>
<th>Submarket</th>
<th>Number of Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Downtown Portland</td>
<td>2,300</td>
</tr>
<tr>
<td>Southeast Portland</td>
<td>1,900</td>
</tr>
<tr>
<td>Northwest Portland</td>
<td>1,700</td>
</tr>
<tr>
<td>Hillsboro</td>
<td>1,500</td>
</tr>
<tr>
<td>Southwest Portland</td>
<td>1,300</td>
</tr>
<tr>
<td>Vancouver</td>
<td>1,100</td>
</tr>
<tr>
<td>Northeast Portland</td>
<td>1,000</td>
</tr>
<tr>
<td>North Portland</td>
<td>600</td>
</tr>
<tr>
<td>Tigard</td>
<td>400</td>
</tr>
<tr>
<td>Aloha</td>
<td>300</td>
</tr>
</tbody>
</table>

Source: CoStar Market Analytics
As of 17Q3

New Supply Since 2015
Submarkets With The Most Construction

Number of Units

- Vancouver: 2000
- Southeast Portland: 2000
- Downtown Portland: 1500
- Northwest Portland: 1200
- Northeast Portland: 600
- North Portland: 500
- Clackamas County: 400
- Hillsboro: 300
- Southwest Portland: 300
- Damascus: 300

Source: CoStar Market Analytics
As of 17Q3
## Apartment Construction in Portland Metro Area

<table>
<thead>
<tr>
<th>Region</th>
<th>Prop.</th>
<th>UC</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>North Portland</td>
<td>2,174</td>
<td>1,561</td>
<td>3,735</td>
</tr>
<tr>
<td>Close in East Portland</td>
<td>10,394</td>
<td>2,513</td>
<td>12,907</td>
</tr>
<tr>
<td>Close in West Portland</td>
<td>9,317</td>
<td>3,905</td>
<td>13,222</td>
</tr>
<tr>
<td>Suburban West</td>
<td>4,341</td>
<td>1,434</td>
<td>5,775</td>
</tr>
<tr>
<td>Suburban East</td>
<td>3,029</td>
<td>179</td>
<td>3,208</td>
</tr>
<tr>
<td>Suburban South</td>
<td>1,512</td>
<td>857</td>
<td>2,369</td>
</tr>
<tr>
<td>Clark County</td>
<td>4,312</td>
<td>851</td>
<td>5,163</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>35,079</td>
<td>11,300</td>
<td>46,379</td>
</tr>
</tbody>
</table>
Portland Metro Apartment Vacancy Rates 2007 to Fall 2017

Portland Metro Vacancy Rates 2008 - YTD 2017
(Multifamily Northwest)
Portland OR Rent Growth vs Income Growth

Rent/Personal Income Growth

Source: CoStar Market Analytics
*Year to Date
As of 17Q3
Now offering SIX WEEKS FREE on all market rate apartments with a two week move-in after application approval.

38 Davis is a truly mixed-use project in historic Old Town. Developed and managed by Gerding Edlen, the project features three floors of commercial and retail, topping off with two floors of residential units. The building overlooks Tom McCall Waterfront Park and offers protected views of the downtown and riverfront. Centrally located off the Max line and main pedestrian and cycling arteries of the city-38 Davis is a commuter's paradise making downtown, the Pearl, SW, and NE Portland a brief train ride away.
⭐ $1025 / 2br - 785ft² - GRND FLOOR 2BR W/ FREE 40" TV OR GIFT CARD! $1025+$65 W/S/G

image 8 of 15

13590 SW ELECTRIC ST (google map)

2BR / 1Ba  785ft² available now

- apartment
- laundry on site
- off-street parking

***RECEIVE A FREE 40 INCH TV OR GIFT CARD OF YOUR CHOICE WITH IMMEDIATE MOVE-IN!***

**PICS POSTED OF KITCHEN AND BATH ARE OF SIMILAR APARTMENT, SAME FLOORPLAN**
$1195 / 2br - 950ft² - *FREE WIFI Welcome Home Modern Living New Updates in NE Portland 97220 (Portland)

Call Now for Details
show contact info

You MUST SEE these beautiful apartments!
MOVE IN READY!

Now Leasing at Beverly Grove Apartments!
DORICOURT

MOVE IN SPECIAL
6 WEEKS FREE
Call Today: 227-3447

Doricourt & Carmelita
Portland landlords must pay relocation costs to evict tenants without cause

Updated Oct 3, 2017; Posted Feb 2, 2017

Commissioner Chloe Eudaly speaks at a rally in support of her tenant relocation policy. (Jessica Floum | The Oregonian/OregonLive)
Portland Will Allow Overnight RV Camping and Tiny Homes on Private Property

The decision by City Commissioner Chloe Eudaly will create more options for homeless people seeking shelter and for people otherwise priced out of Portland.
Every renter in Portland liked Relo a lot, but Rod Monroe, who lived on the East edge of town, did NOT.

Nominee for 2017 Scrooge of the Year
No. of Apt Sale Transactions in Portland Metro - 2008 through 2017

Trend Report

# of Transactions

2008: 150
2009: 50
2010: 120
2011: 180
2012: 220
2013: 250
2014: 300
2015: 350
2016: 290
2017: 190
Apartment Sales Volume - Portland Metro By Quarter - 2015 through 2017
Portland Metro Apartment Sales of $10 Million & Over - 2008 through 2017
Portland Metro Median Price Per Sq. Ft. - 2008 through 2017
Portland Metro Median Price Per Sq. Ft. On A Semi-Annual Basis- 2008 thru 2017
Portland Metro Median Price Per Sq. Ft. By Quarter- 2008 through 2017
City of Portland Median Price Per Sq. Ft. of 1900 to 1950 Built Apts. - 2008 through 2017

Trend Report

Median Price Per SF

<table>
<thead>
<tr>
<th>Year</th>
<th>Price Per SF</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>$130</td>
</tr>
<tr>
<td>2009</td>
<td>$80</td>
</tr>
<tr>
<td>2010</td>
<td>$90</td>
</tr>
<tr>
<td>2011</td>
<td>$110</td>
</tr>
<tr>
<td>2012</td>
<td>$130</td>
</tr>
<tr>
<td>2013</td>
<td>$140</td>
</tr>
<tr>
<td>2014</td>
<td>$150</td>
</tr>
<tr>
<td>2015</td>
<td>$160</td>
</tr>
<tr>
<td>2016</td>
<td>$170</td>
</tr>
<tr>
<td>2017</td>
<td>$260</td>
</tr>
</tbody>
</table>
Portland Metro – Sales of 2000-2017
Built Apts. 2014 through 2017

Trend Report

# of Transactions

<table>
<thead>
<tr>
<th>Year</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value</td>
<td>38</td>
<td>40</td>
<td>56</td>
<td>54</td>
</tr>
</tbody>
</table>

Cap Rate

<table>
<thead>
<tr>
<th>Year</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rate</td>
<td>6.0%</td>
<td>5.9%</td>
<td>5.9%</td>
<td>5.8%</td>
</tr>
</tbody>
</table>

Median Price Per SF

<table>
<thead>
<tr>
<th>Year</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Price Per SF</td>
<td>$150</td>
<td>$180</td>
<td>$230</td>
<td>$240</td>
</tr>
</tbody>
</table>

Average Price Per Unit

<table>
<thead>
<tr>
<th>Year</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Price Per Unit</td>
<td>$170,000</td>
<td>$200,000</td>
<td>$220,000</td>
<td>$280,000</td>
</tr>
</tbody>
</table>
### Buyer
- **True Buyer**: Blackstone Real Estate Income Trust, Inc.
  - 345 Park Ave
  - New York, NY 10154
  - (212) 583-5000
- **Buyer Type**: Private REIT
- **Activity (Last 5 Yrs)**: $80,244M (Acquisitions) / $73,808M (Dispositions)

### Seller
- **Recorded Seller**: Amberglen West Apartments LLC
  - 735 SW 158th Ave
  - Beaverton, OR 97006
  - (503) 641-7342 (p)
  - (503) 641-7661 (f)
- **True Seller**: Arbor Custom Homes

**Sold on Dec 4, 2017 for $95,000,000 ($239,898/Unit)**
- 1101 NE 89th Ave - Amberglen West
- Hillsboro, OR 97006 - Sommerset West-Elmonica South MF Submarket
- 396 Unit - 107,397 SF Apartments Building Built in 2016 - Property Website
July 2017 Sale of 22 Unit Rivercrest Apts. Vancouver at $97,727/Unit
July 2017 Sale of 8 Unit Sawtooth Apts, Lake Oswego for $287,500/Unit, $414/S.F., & Mid 4% Cap
June 2017 Sale of 24 Unit Cascade Village Apts, Estacada for $106,250/Unit
Sold on Nov 14, 2017 for $1,850,000 ($231,250/Unit)
3005 SE Morrison St
Portland, OR 97214 - Sunnyside MF Submarket
8 Unit - 6,997 SF Apartments Building Built in 1932
Portland Metro Median Price Per Sq. Ft. 1989 - 2017

Trendline is based on the price per Sq. Ft. from all sales
Portland Metro Median Price Per Unit
1989 - 2017

Trendline is based on the price per unit from all sales
Current Shiller PE Ratio: 32.46 -0.14 (-0.44%)
### Cost Implications – All URM Buildings

<table>
<thead>
<tr>
<th>URM Building Type</th>
<th>Est. Cost per SF</th>
<th>Benefit-Cost Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Schools &amp; public assembly uses</td>
<td>$82.62</td>
<td>1.474</td>
</tr>
<tr>
<td>Most commercial URM buildings</td>
<td>$51.00 - $69.00</td>
<td>1.661 – 1.967</td>
</tr>
<tr>
<td>Small URM buildings, &gt; 10 occupants</td>
<td>$20.00</td>
<td>1.940</td>
</tr>
<tr>
<td>Number</td>
<td>Description</td>
<td></td>
</tr>
<tr>
<td>--------</td>
<td>-------------</td>
<td></td>
</tr>
<tr>
<td>1,866</td>
<td>Buildings originally identified in database</td>
<td></td>
</tr>
<tr>
<td>-- 101</td>
<td>Falsely identified as URM (95% accuracy)</td>
<td></td>
</tr>
<tr>
<td>+ 119</td>
<td>URM buildings added</td>
<td></td>
</tr>
<tr>
<td>1,884</td>
<td>Updated count of URM buildings</td>
<td></td>
</tr>
</tbody>
</table>
Other Thoughts

1. Apartment construction
   a. Margins  b. Labor  c. Land values – waiting to see impact on values after IZ

2. Investors reaching to outlying areas, i.e. Canby, Forest Grove, Estacada, Longview, Salem, Woodburn, Rainer, OR Coast, Eugene, Corvallis, etc.

3. Lack of or limited discount for risk i.e. URM, Property not at stabilization, flood plain, busy street, broken condo, high crime/gang activity, tough tenant profile, adverse adjacent uses
ULI - U.S. Markets to Watch: Overall Real Estate Prospects

<table>
<thead>
<tr>
<th>Rank</th>
<th>City</th>
<th>Investment</th>
<th>Development</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Seattle (2, 1)</td>
<td>3.74</td>
<td>3.74</td>
</tr>
<tr>
<td>2</td>
<td>Austin (3, 2)</td>
<td>3.69</td>
<td>3.61</td>
</tr>
<tr>
<td>3</td>
<td>Salt Lake City (1, 10)</td>
<td>3.79</td>
<td>3.42</td>
</tr>
<tr>
<td>4</td>
<td>Raleigh/Durham (4, 4)</td>
<td>3.65</td>
<td>3.56</td>
</tr>
<tr>
<td>5</td>
<td>Dallas/Fort Worth (6, 5)</td>
<td>3.62</td>
<td>3.52</td>
</tr>
<tr>
<td>6</td>
<td>Fort Lauderdale (16, 3)</td>
<td>3.54</td>
<td>3.57</td>
</tr>
<tr>
<td>7</td>
<td>Los Angeles (8, 8)</td>
<td>3.61</td>
<td>3.45</td>
</tr>
<tr>
<td>8</td>
<td>San Jose (11, 9)</td>
<td>3.60</td>
<td>3.43</td>
</tr>
<tr>
<td>9</td>
<td>Nashville (5, 13)</td>
<td>3.63</td>
<td>3.41</td>
</tr>
<tr>
<td>10</td>
<td>Boston (9, 14)</td>
<td>3.61</td>
<td>3.38</td>
</tr>
<tr>
<td>11</td>
<td>Miami (18, 6)</td>
<td>3.53</td>
<td>3.46</td>
</tr>
<tr>
<td>12</td>
<td>Charlotte (12, 16)</td>
<td>3.59</td>
<td>3.37</td>
</tr>
<tr>
<td>13</td>
<td>Portland, OR (7, 20)</td>
<td>3.62</td>
<td>3.33</td>
</tr>
<tr>
<td>14</td>
<td>Charleston (17, 12)</td>
<td>3.54</td>
<td>3.41</td>
</tr>
<tr>
<td>15</td>
<td>Washington, DC–Northern VA (10, 21)</td>
<td>3.61</td>
<td>3.32</td>
</tr>
<tr>
<td>16</td>
<td>Orlando (21, 11)</td>
<td>3.49</td>
<td>3.42</td>
</tr>
<tr>
<td>17</td>
<td>Atlanta (15, 15)</td>
<td>3.54</td>
<td>3.37</td>
</tr>
<tr>
<td>18</td>
<td>San Antonio (13, 18)</td>
<td>3.55</td>
<td>3.35</td>
</tr>
<tr>
<td>19</td>
<td>Tampa/St. Petersburg (27, 7)</td>
<td>3.41</td>
<td>3.45</td>
</tr>
<tr>
<td>20</td>
<td>Oakland/East Bay (20, 19)</td>
<td>3.50</td>
<td>3.34</td>
</tr>
<tr>
<td>21</td>
<td>Orange County (23, 17)</td>
<td>3.45</td>
<td>3.35</td>
</tr>
<tr>
<td>22</td>
<td>Greenville, SC (19, 24)</td>
<td>3.52</td>
<td>3.28</td>
</tr>
<tr>
<td>23</td>
<td>Denver (29, 22)</td>
<td>3.39</td>
<td>3.32</td>
</tr>
<tr>
<td>24</td>
<td>Cincinnati (25, 25)</td>
<td>3.43</td>
<td>3.27</td>
</tr>
<tr>
<td>25</td>
<td>Minneapolis/St. Paul (14, 39)</td>
<td>3.55</td>
<td>3.13</td>
</tr>
</tbody>
</table>
ULI - U.S. Multifamily Property Buy/Hold/Sell Recommendations

<table>
<thead>
<tr>
<th>City</th>
<th>Buy</th>
<th>Hold</th>
<th>Sell</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pittsburgh</td>
<td>69%</td>
<td>25%</td>
<td>6%</td>
</tr>
<tr>
<td>Salt Lake City</td>
<td>63</td>
<td>29</td>
<td>8</td>
</tr>
<tr>
<td>Fort Lauderdale</td>
<td>60</td>
<td>27</td>
<td>13</td>
</tr>
<tr>
<td>Boise</td>
<td>58</td>
<td>33</td>
<td>8</td>
</tr>
<tr>
<td>Tampa/St. Petersburg</td>
<td>55</td>
<td>26</td>
<td>18</td>
</tr>
<tr>
<td>San Diego</td>
<td>55</td>
<td>35</td>
<td>11</td>
</tr>
<tr>
<td>Palm Beach</td>
<td>54</td>
<td>38</td>
<td>8</td>
</tr>
<tr>
<td>Louisville</td>
<td>52</td>
<td>30</td>
<td>17</td>
</tr>
<tr>
<td>Tacoma</td>
<td>50</td>
<td>29</td>
<td>21</td>
</tr>
<tr>
<td>Oakland/East Bay</td>
<td>49</td>
<td>32</td>
<td>19</td>
</tr>
<tr>
<td><strong>Portland, OR</strong></td>
<td>48</td>
<td>40</td>
<td>12</td>
</tr>
<tr>
<td>Los Angeles</td>
<td>48</td>
<td>35</td>
<td>17</td>
</tr>
<tr>
<td>Cincinnati</td>
<td>47</td>
<td>40</td>
<td>13</td>
</tr>
<tr>
<td>Seattle</td>
<td>43</td>
<td>45</td>
<td>12</td>
</tr>
<tr>
<td>Dallas/Fort Worth</td>
<td>43</td>
<td>33</td>
<td>23</td>
</tr>
<tr>
<td>Boston</td>
<td>41</td>
<td>43</td>
<td>16</td>
</tr>
<tr>
<td>Sacramento</td>
<td>38</td>
<td>45</td>
<td>17</td>
</tr>
<tr>
<td>San Jose</td>
<td>38</td>
<td>44</td>
<td>18</td>
</tr>
<tr>
<td>Columbus</td>
<td>38</td>
<td>50</td>
<td>13</td>
</tr>
<tr>
<td>Minneapolis/St. Paul</td>
<td>33</td>
<td>56</td>
<td>11</td>
</tr>
</tbody>
</table>

Source: Emerging Trends in Real Estate 2018 survey.

Note: Cities listed are the top 20 rated for investment in the multifamily sector; in this exhibit, cities are ordered according to the percentage of "buy" recommendations.
Overview

Portland OR Apartment

ASKING RENT LEVELS AND ANNUAL GROWTH

Rent Growth Y/Y  Asking Rent Per Unit  Effective Rent Per Unit  National Asking Rent Per Unit

Yearly Rents and Rent Growth:
- 2011: $850
- 2012: $1,012
- 2013: $1,174
- 2014: $1,336
- 2015: $1,498 (Peak)
- 2016: $1,560
- 2017: $1,660
- 2018: $1,760
- 2019: $1,860
- 2020: $1,960
- 2021: $2,060 (Forecast)
- 2022: $2,160 (Forecast)

Annual Rent Growth:
- 2011: 2.0%
- 2012: 12.0%
- 2013: 14.0%
- 2014: 16.0%
- 2015: 18.0%
- 2016: 20.0%
- 2017: 22.0%
- 2018: 24.0%
- 2019: 26.0%
- 2020: 28.0%
- 2021: 30.0%
- 2022: 32.0% (Forecast)
ASKING RENT LEVELS AND ANNUAL GROWTH

- Rent Growth Y/Y
- Asking Rent Per Unit
- Effective Rent Per Unit
- National Asking Rent Per Unit

Forecast:

- 2011: $850
- 2012: $1,012
- 2013: $1,174
- 2014: $1,336
- 2015: $1,498
- 2016: $1,660
- 2017: $850
- 2018: $1,012
- 2019: $1,174
- 2020: $1,336
- 2021: $1,498
- 2022: $1,660

Annual Rent Growth:
- 2011: 0%
- 2012: 2%
- 2013: 4%
- 2014: 6%
- 2015: 8%
- 2016: 10%
- 2017: 12%
APARTMENT MARKET CYCLE

- **Recovery**
  - Decreasing Vacancy Rates
  - Low New Construction
  - Moderate Absorption
  - Low/Moderate Employment Growth
  - Neg/Low Rental Rate Growth

- **Expansion**
  - Decreasing Vacancy Rates
  - Moderate/High New Construction
  - High Absorption
  - Moderate/High Employment Growth
  - Med/High Rental Rate Growth

- **Hypersupply**
  - Increasing Vacancy Rates
  - Moderate/High New Construction
  - Low/Negative Absorption
  - Moderate/Low Employment Growth
  - Med/Low Rental Rate Growth

- **Recession**
  - Increasing Vacancy Rates
  - Moderate/Low New Construction
  - Low Absorption
  - Low/Negative Employment Growth
  - Low/Neg Rental Rate Growth
Apartment Market Cycle Analysis
3rd Quarter, 2017

Phase 1 — Recovery

Source: Mueller, 2017

Phase 2 — Expansion
Cincinnati-1
Cleveland-1
Dallas FW
Denver-1
East Bay
Hartford-1
Honolulu
Jacksonville
Kansas City-1
Las Vegas
Long Island-1

Phase 3 — Hypersupply
Minneapolis
New Orleans-1
New York
Norfolk
Orange County
Phoenix
Pittsburgh-1
Riverside
Sacramento
San Diego
Seattle
St. Louis

Phase 4 — Recession
Atlanta
Detroit
Miami
Milwaukee
Nashville-1
Palm Beach
Philadelphia
Portland
Tampa-1

LT Average Occupancy

Source: Mueller, 2017
Trends for 2018

- Interest Rates: low and stable
- Employment: strong; but some slowdown occurring & expected in 2018
- Population Growth: favorable
- Home Ownership Ratio: moving up
- Apartment Construction: very strong
  - Apartment Vacancies: moving up
- Conclusion