



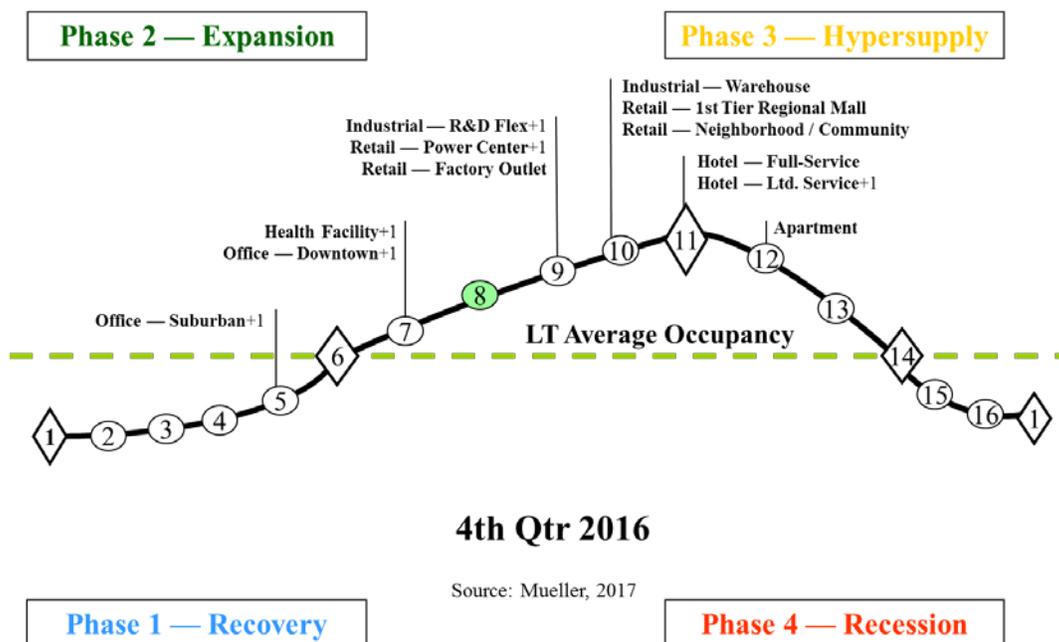
# Cycle Monitor — Real Estate Market Cycles

Fourth Quarter 2016 Analysis  
February 2017

**Real Estate Physical Market Cycle Analysis of Five Property Types in 55 Metropolitan Statistical Areas (MSAs).** The economy continued its slow pace of expansion in 4Q16 and the prospects look similar for 2017. It will probably take most of the year to get the new administration’s tax cuts and regulatory relief bills passed and then implemented. Most economists have projected slightly higher GDP and employment growth for 2017. Wage growth was only 2.5% in 2016, and January 2017 was similar, so the prospect of higher inflation also seems to be less prominent for 2017. Continued moderate economic growth has been good for real estate over the past six years and we expect this to continue in 2017.

Office occupancy **improved** 0.1% in 4Q16, and rents **grew** 0.7% for the quarter and 3.2% annually.  
 Industrial occupancy **improved** 0.1% in 4Q16, and rents **grew** 1.7% for the quarter and 6.7% annually.  
 Apartment occupancy **declined** 0.3% in 4Q16, and rents **declined** 0.6% for the quarter, but increased 3.0% annually.  
 Retail occupancy **improved** 0.1% in 4Q16, and rents were **flat** for the quarter and increased 2.6% annually.  
 Hotel occupancy **improved** 0.1% in 4Q16, and room rates were **flat** for the quarter and increased 3.1% annually.

## National Property Type Cycle Locations

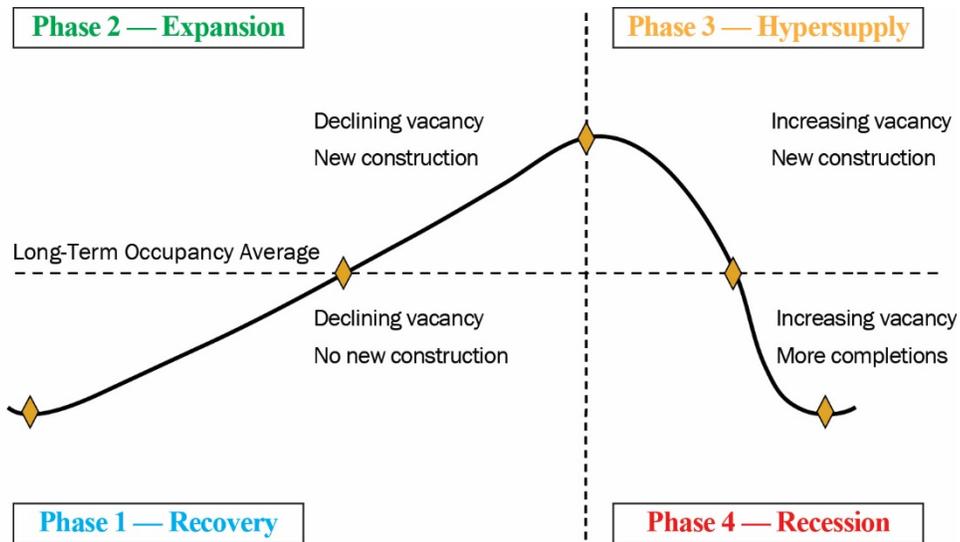


National Property Type Cycle Graph shows relative positions of sub-property types — major markets are reviewed inside.

Glenn R. Mueller, Ph.D. 303.953.3872 [gmueller@dividendcapital.com](mailto:gmueller@dividendcapital.com)  
 Dividend Capital Research, 518 17<sup>th</sup> Street, 17<sup>th</sup> Floor, Denver, CO 80202  
[www.dividendcapital.com](http://www.dividendcapital.com) 866.324.7348  
**All relevant disclosures and certifications appear on page 9 of this report.**

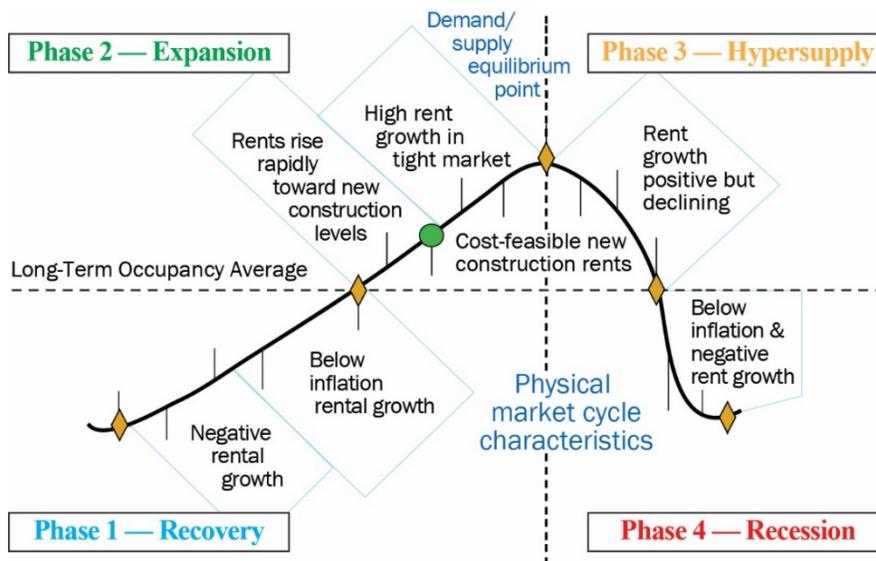
The cycle monitor analyzes occupancy movements in five property types in more than 50 MSAs. Market cycle analysis should enhance investment-decision capabilities for investors and operators. The five property type cycle charts summarize almost 300 individual models that analyze occupancy levels and rental growth rates to provide the foundation for long-term investment success. Commercial real estate markets are cyclical due to the lagged relationship between demand and supply for physical space. The long-term occupancy average is different for each market and each property type. **Long-term occupancy average** is a key factor in determining rental growth rates — a key factor that affects commercial real estate returns.

### Market Cycle Quadrants



Source: Mueller, Real Estate Finance, 2016.

Rental growth rates can be characterized in different parts of the market cycle, as shown below.



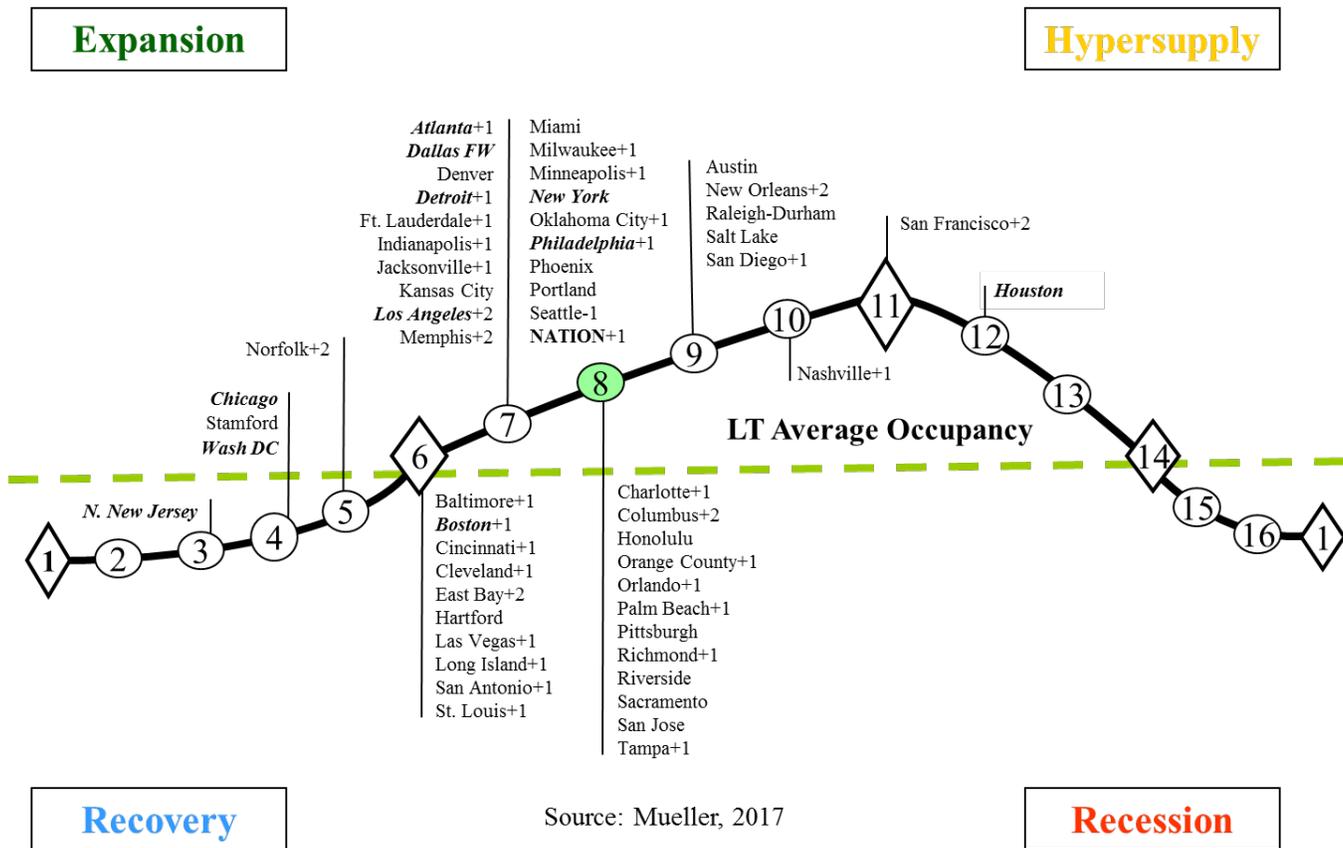
Source: Mueller, Real Estate Finance, 2017.

## OFFICE

The national office market occupancy level improved 0.1% in 4Q16 and increased 0.4% year-over-year. The office national average improved enough to move to point seven in the growth phase of the cycle — the last property type to move above its long-term occupancy average in this economic cycle. Steady demand growth in technology, professional, medical and other office-using jobs is driving this office cycle. Government jobs have been the only area of job decline affecting office demand. Supply continued to be moderate, producing positive net absorption for the year. Average national rents increased 0.7% in 4Q16 and produced a 3.2% increase for the year.

### Office Market Cycle Analysis

4th Quarter, 2016



Note: The 11-largest office markets make up 50% of the total square footage of office space we monitor. Thus, the 11-largest office markets are in **bold italic** type to help distinguish how the weighted national average is affected.

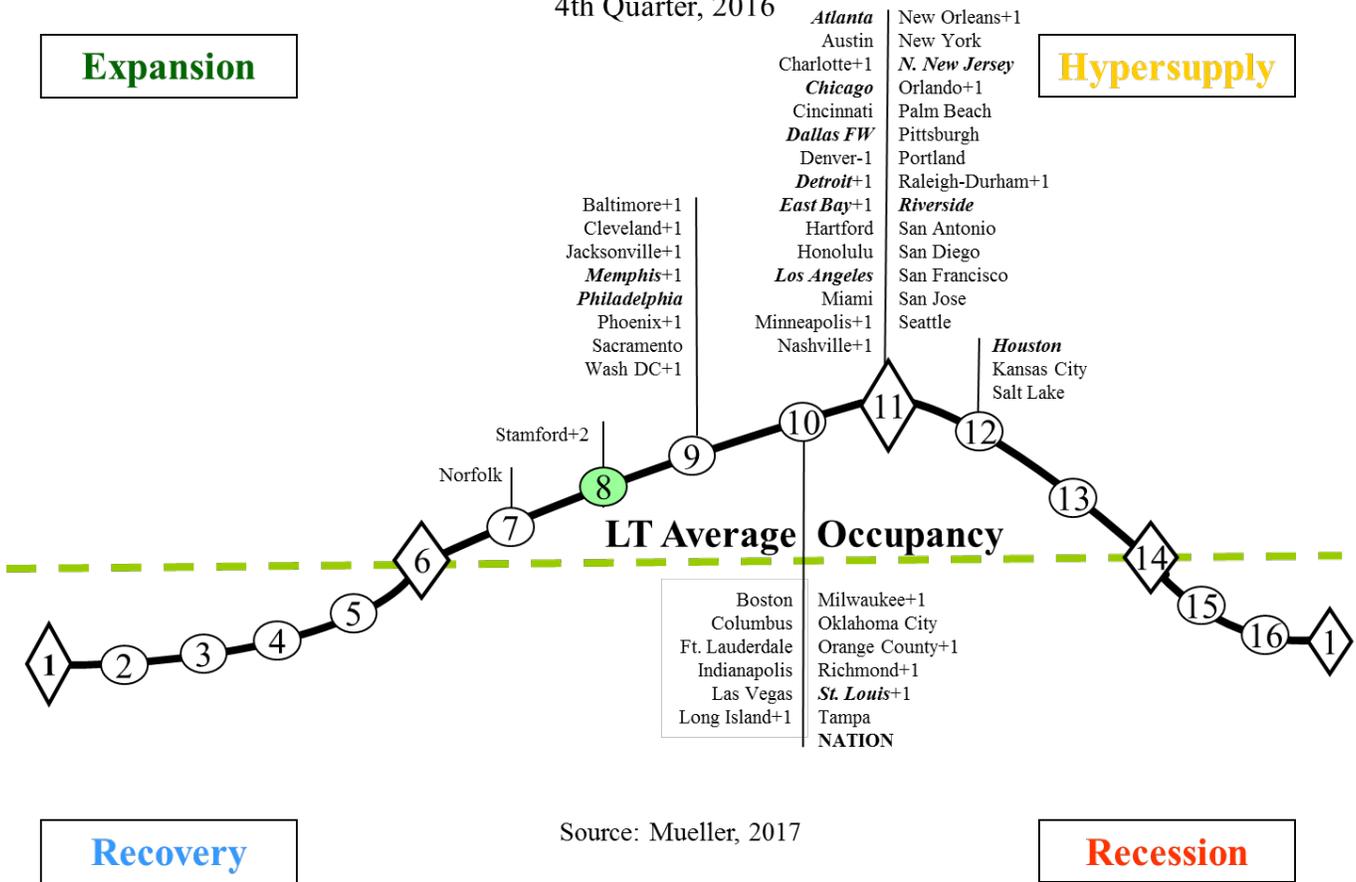
Markets that have moved since the previous quarter are now shown with a + or - symbol next to the market name and the number of positions the market has moved is also shown, i.e., +1, +2 or -1, -2. Markets do not always go through smooth forward-cycle movements and can regress, or move backward in their cycle position when occupancy levels reverse their usual direction. This can happen when the marginal rate of change in demand increases (or declines) faster than originally estimated or if supply growth is stronger (or weaker) than originally estimated.

## INDUSTRIAL

Industrial occupancies improved 0.1% in 4Q16 and increased 0.5% year-over-year. While many markets moved to their peak occupancy level in this cycle, we expect strong demand to continue as the supply chain expands into more markets to provide faster local delivery. More retailers are trying to compete with Amazon.com and are leasing more space for internet fulfillment. Most real estate researchers show industrial as their number one property type for 2017 performance. Industrial national average rents increased 1.7% in 4Q16 and increased 6.7% for the year.

### Industrial Market Cycle Analysis

4th Quarter, 2016



Source: Mueller, 2017

Note: The 12-largest industrial markets make up 50% of the total square footage of industrial space we monitor. Thus, the 12-largest industrial markets are in **bold italic** type to help distinguish how the weighted national average is affected.

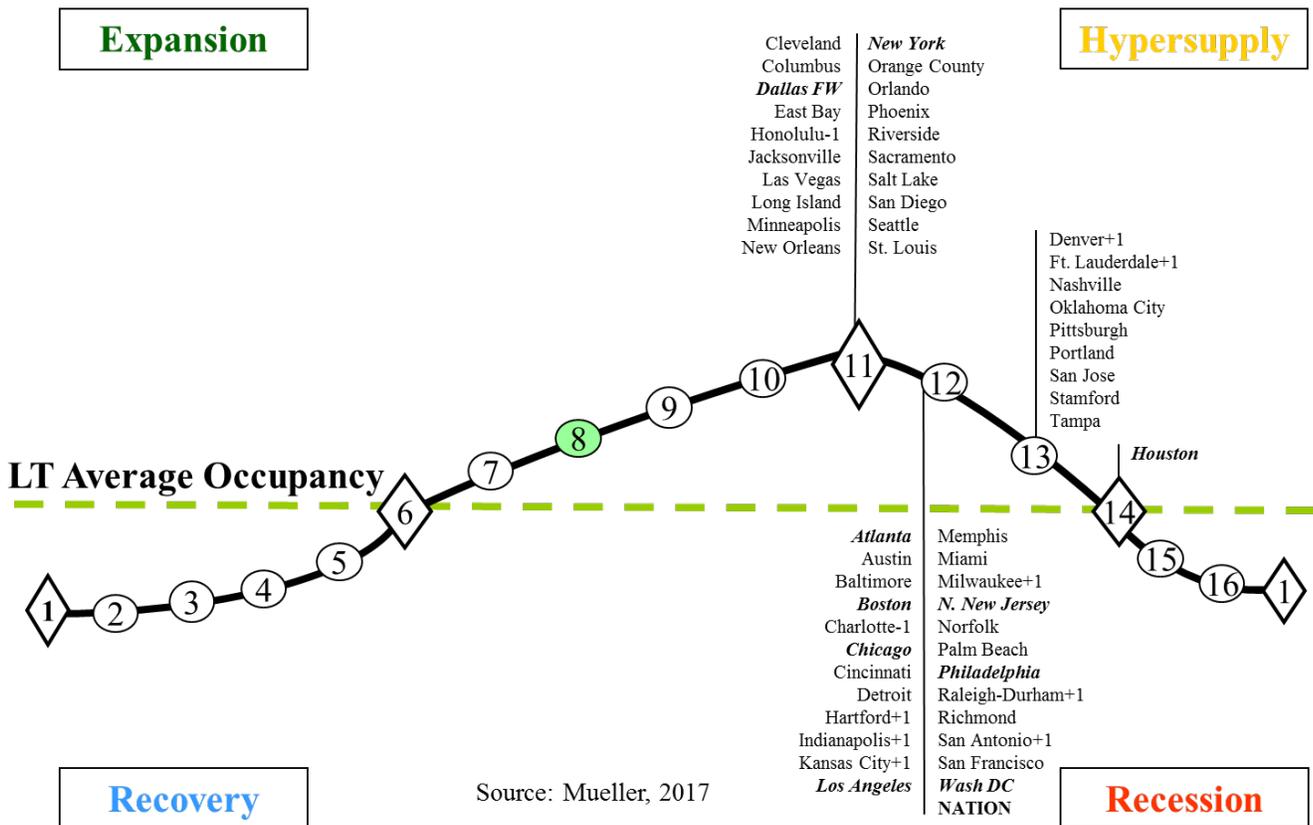
Markets that have moved since the previous quarter are shown with a + or - symbol next to the market name and the number of positions the market has moved is also shown, e.g., +1, +2 or -1, -2. Markets do not always go through smooth forward-cycle movements and can regress, or move backward in their cycle position when occupancy levels reverse their usual direction. This can happen when the marginal rate of change in demand increases (or declines) faster than originally estimated or if supply growth is stronger (or weaker) than originally estimated.

## APARTMENT

The national apartment occupancy average declined 0.3% in 4Q16 and decreased 0.6% year-over-year. We want to continue to emphasize that demand is expected to be strong for apartments from the growing millennial generation getting out of school, getting jobs and waiting longer to buy homes. The challenge continues to be the higher-than-needed new construction in most of the cities covered. This construction was focused on downtown locations for the past five years, but has now shifted to suburban locations with good transit access, as many millennials no longer want to pay high downtown rent prices. As previously stated, the apartment market could move back into the growth phase of the cycle if new construction slows. Average national apartment rent growth declined 0.6% in 4Q16, but increased 3.0% for the year.

### Apartment Market Cycle Analysis

4th Quarter, 2016



Note: The 10-largest apartment markets make up 50% of the total square footage of multifamily space we monitor. Thus, the 10-largest apartment markets are in **bold italic** type to help distinguish how the weighted national average is affected.

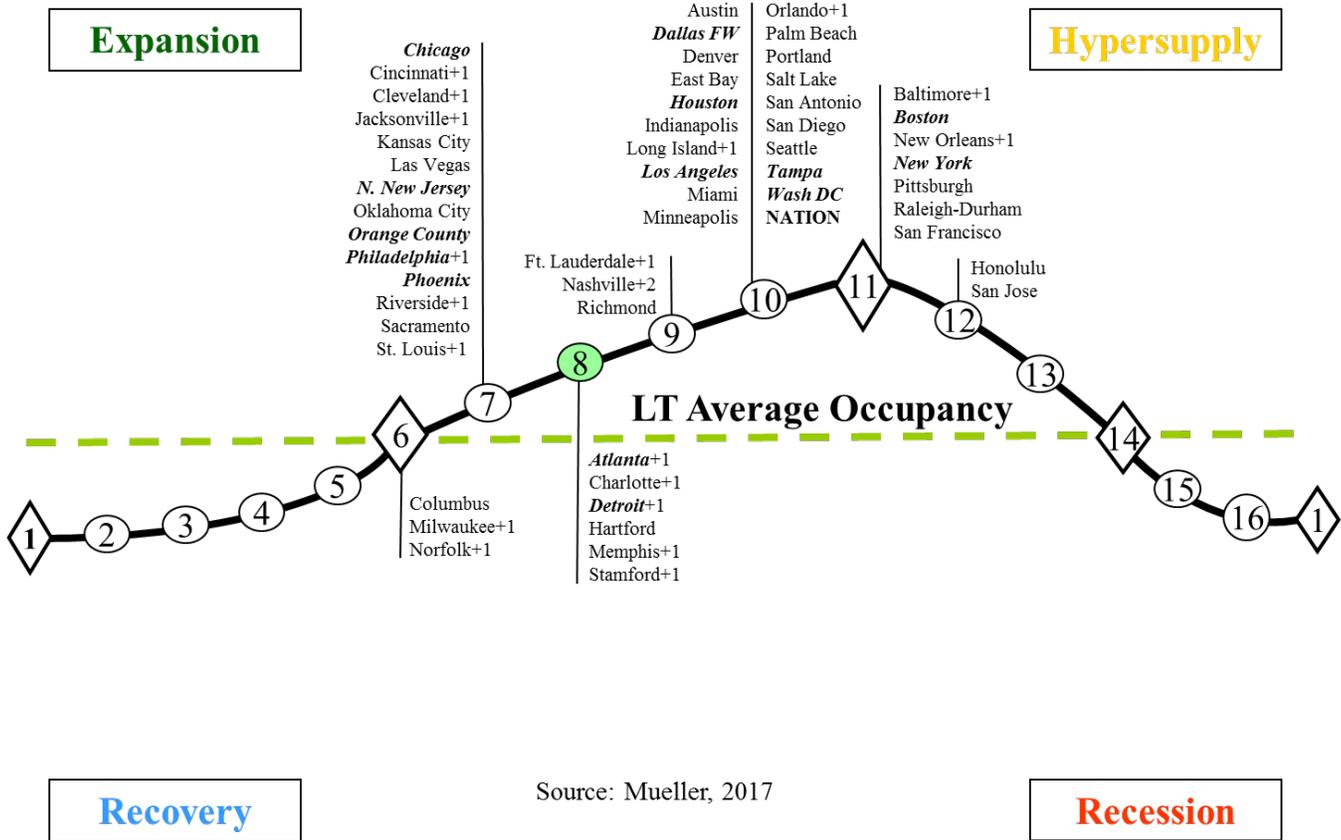
Markets that have moved since the previous quarter are shown with a + or - symbol next to the market name and the number of positions the market has moved is also shown, e.g., +1, +2 or -1, -2. Markets do not always go through smooth forward-cycle movements and can regress, or move backward in their cycle position when occupancy levels reverse their usual direction. This can happen when the marginal rate of change in demand increases (or declines) faster than originally estimated or if supply growth is stronger (or weaker) than originally estimated.

**RETAIL**

Retail occupancies improved 0.1% in 4Q16 and increased 0.5% year-over-year. Holiday sales were strong, providing profitable landlords with the confidence to expand. Successful brick and mortar retail formats continue to evolve, while many older concepts like department stores die, creating a unique challenge for landlords. New construction is restrained, providing good market balance. National average retail rents were flat in 4Q16 and increased 2.6% for the year.

**Retail Market Cycle Analysis**

4th Quarter, 2016



Source: Mueller, 2017

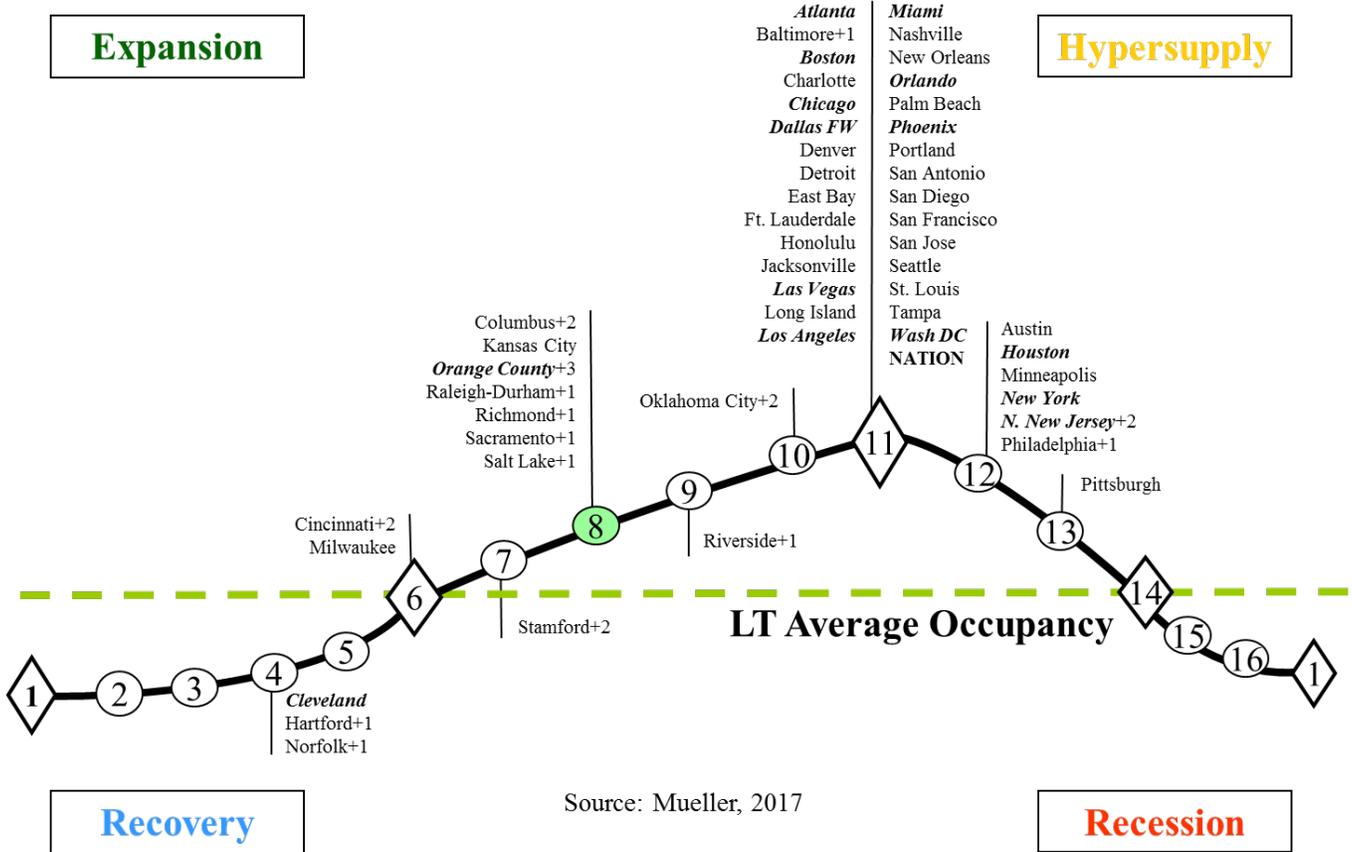
Note: The 14-largest retail markets make up 50% of the total square footage of retail space we monitor. Thus, the 14-largest retail markets are in **bold italic** type to help distinguish how the weighted national average is affected.

Markets that have moved since the previous quarter are shown with a + or - symbol next to the market name and the number of positions the market has moved is also shown, e.g., +1, +2 or -1, -2. Markets do not always go through smooth forward-cycle movements and can regress, or move backward in their cycle position when occupancy levels reverse their usual direction. This can happen when the marginal rate of change in demand increases (or declines) faster than originally estimated or if supply growth is stronger (or weaker) than originally estimated.

# HOTEL

Hotel occupancies improved 0.1% in 4Q16 and increased 0.7% year-over-year. We now estimate that hotels have hit their national average cyclical occupancy rate with a 72.25% all-time historic high. Demand growth is expected to continue to be positive over the next few years with the expanding economy, while new supply is now coming online at higher rates in 2017 and beyond. This may push hotels into the hyper-supply phase of their cycle in 2017. The national average hotel room rate was flat in 4Q16, and increased 3.1% year-over-year.

## Hotel Market Cycle Analysis 4th Quarter, 2016



Note: The 14-largest hotel markets make up 50% of the total square footage of hotel space that we monitor. Thus, the 14-largest hotel markets are in boldface italics to help distinguish how the weighted national average is affected.

Markets that have moved since the previous quarter are shown with a + or - symbol next to the market name and the number of positions the market has moved is also shown, e.g., +1, +2 or -1, -2. Markets do not always go through smooth forward-cycle movements and can regress, or move backward in their cycle position when occupancy levels reverse their usual direction. This can happen when the marginal rate of change in demand increases (or declines) faster than originally estimated or if supply growth is stronger (or weaker) than originally estimated.

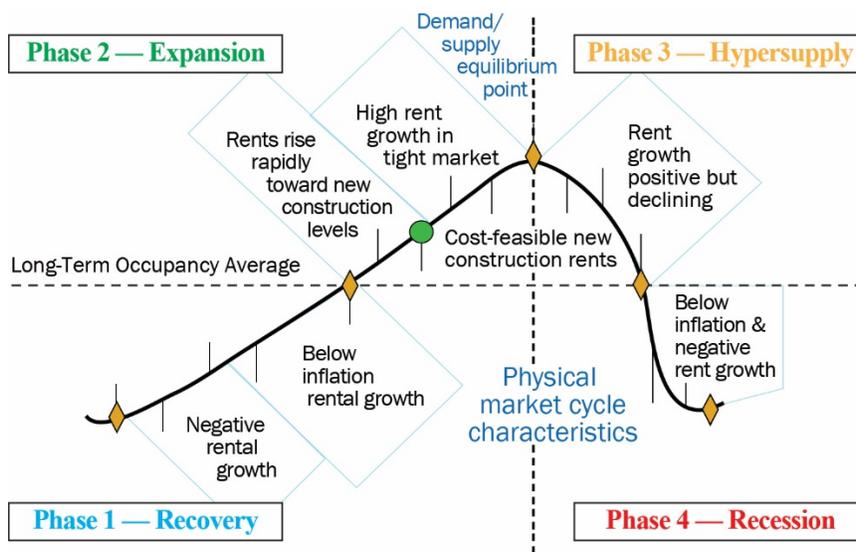
**MARKET CYCLE ANALYSIS — Explanation**

**Supply and demand interaction is important to understand. Starting in Recovery Phase I at the bottom of a cycle** (see chart below), the marketplace is in a state of oversupply from either previous new construction or negative demand growth. At this bottom point, occupancy is at its trough. Typically, the market bottom occurs when the excess construction from the previous cycle stops. As the cycle bottom is passed, demand growth begins to slowly absorb the existing oversupply and supply growth is nonexistent or very low. As excess space is absorbed, vacancy rates fall, allowing rental rates in the market to stabilize and even begin to increase. As this recovery phase continues, positive expectations about the market allow landlords to increase rents at a slow pace (typically at or below inflation). Eventually, each local market reaches its *long-term occupancy average*, whereby rental *growth is equal to inflation*.

**In Expansion Phase II, demand growth continues at increasing levels, creating a need for additional space.** As vacancy rates fall below the *long-term occupancy average*, signaling that supply is tightening in the marketplace, rents begin to rise rapidly until they reach a cost-feasible level that allows new construction to commence. In this period of tight supply, rapid rental growth can be experienced, which some observers call “rent spikes.” (Some developers may also begin speculative construction in anticipation of cost-feasible rents if they are able to obtain financing). Once cost-feasible rents are achieved in the marketplace, demand growth is still ahead of supply growth — a lag in providing new space due to the time to construct. Long expansionary periods are possible and many historical real estate cycles show that the overall up-cycle is a slow, long-term uphill climb. As long as demand growth rates are higher than supply growth rates, vacancy rates will continue to fall. The cycle peak point is where demand and supply are growing at the same rate *or equilibrium*. Before equilibrium, demand grows faster than supply; after equilibrium, supply grows faster than demand.

**Hypersupply Phase III of the real estate cycle commences after the peak / equilibrium point #11 — where demand growth equals supply growth.** Most real estate participants do not recognize this peak / equilibrium’s passing, as occupancy rates are at their highest and well above long-term averages, a strong and tight market. During Phase III, supply growth is higher than demand growth (hypersupply), causing vacancy rates to rise back toward the long-term occupancy average. While there is no painful oversupply during this period, new supply completions compete for tenants in the marketplace. As more space is delivered to the market, rental growth slows. Eventually, market participants realize that the market has turned down and commitments to new construction should slow or stop. If new supply grows faster than demand once the long-term occupancy average is passed, the market falls into Phase IV.

**Recession Phase IV begins as the market moves past the long-term occupancy average with high supply growth and low or negative demand growth.** The extent of the market down-cycle will be determined by the difference (excess) between the market supply growth and demand growth. Massive oversupply, coupled with negative demand growth (that started when the market passed through long-term occupancy average in 1984), sent most U.S. office markets into the largest down-cycle ever experienced. During Phase IV, landlords realize that they will quickly lose market share if their rental rates are not competitive. As a result, they then lower rents to capture tenants, even if only to cover their buildings’ fixed expenses. Market liquidity is also low or nonexistent in this phase, as the bid–ask spread in property prices is too wide. The cycle eventually reaches bottom as new construction and completions cease, or as demand growth turns up and begins to grow at rates higher than that of new supply added to the marketplace.



Source: Mueller, Real Estate Finance, 2016.

This research currently monitors five property types in more than 50 major markets. We gather data from numerous sources to evaluate and forecast market movements. The market cycle model we developed looks at the interaction of supply and demand to estimate future vacancy and rental rates. Our individual market models are combined to create a national average model for all U.S. markets. This model examines the current cycle locations for each property type and can be used for asset allocation and acquisition decisions.

## Important Disclosures and Certifications

**I, Glenn R. Mueller, Ph.D. certify that the opinions and forecasts expressed in this research report accurately reflect my personal views about the subjects discussed herein; and I, Glenn R. Mueller, certify that no part of my compensation from any source was, is, or will be directly or indirectly related to the content of this research report.**

The information contained in this report: (i) has been prepared or received from sources believed to be reliable but is not guaranteed; (ii) is not a complete summary or statement of all available data; (iii) is not an offer or recommendation to buy or sell any particular securities; and (iv) is not an offer to buy or sell any securities in the markets or sectors discussed in the report.

The opinions and forecasts expressed in this report are subject to change without notice and do not take into account the particular investment objectives, financial situation or needs of individual investors. Any opinions or forecasts in this report are not guarantees of how markets, sectors or individual securities or issuers will perform in the future, and the actual future performance of such markets, sectors or individual securities or issuers may differ. Further, any forecasts in this report have not been based on information received directly from issuers of securities in the sectors or markets discussed in the report.

Dr. Mueller serves as a Real Estate Investment Strategist with Dividend Capital Group. In this role, he provides investment advice to Dividend Capital Group and its affiliates regarding the real estate market and the various sectors within that market. Mr. Mueller's compensation from Dividend Capital Group and its affiliates is not based on the performance of any investment advisory client of Dividend Capital Group or its affiliates.

Dividend Capital Group is a real estate investment management company that focuses on creating institutional-quality real estate financial products for individual and institutional investors. Dividend Capital Group and its affiliates also provide investment management services and advice to various investment companies, real estate investment trusts, and other advisory clients about the real estate markets and sectors, including specific securities within these markets and sectors.

Investment advisory clients of Dividend Capital Group or its affiliates may from time to time invest a significant portion of their assets in the securities of companies primarily engaged in the real estate industry, such as real estate investment trusts, or in real estate itself, and may have investment strategies that focus on specific real estate markets, sectors and regions. Real estate investments purchased or sold based on the information in this research report could indirectly benefit these clients by increasing the value of their portfolio holdings, which in turn would increase the amount of advisory fees that these clients pay to Dividend Capital Group or its affiliates.

Dividend Capital Group and its affiliates (including their respective officers, directors and employees) may at times: (i) release written or oral commentary, technical analysis or trading strategies that differ from or contradict the opinions and forecasts expressed in this report; (ii) invest for their own accounts in a manner contrary to or different from the opinions and forecasts expressed in this report; and (iii) have long or short positions in securities or in options or other derivative instruments based thereon. Furthermore, Dividend Capital Group and its affiliates may make recommendations to, or effect transactions on behalf of, their advisory clients in a manner contrary to or different from the opinions and forecasts in this report. Real estate investments purchased or sold based on the information in this report could indirectly benefit Dividend Capital Group, its affiliates, or their respective officers, employees and directors by increasing the value of their proprietary or personal portfolio holdings.

Dr. Mueller may from time to time have personal investments in real estate, in securities of issuers in the markets or sectors discussed in this report, or in investment companies or other investment vehicles that invest in real estate and the real estate securities markets (including investment companies and other investment vehicles for which Dividend Capital Group or an affiliate serves as investment adviser). Real estate investments purchased or sold based on the information in this report could directly benefit Dr. Mueller by increasing the value of his personal investments.

© 2016 Dividend Capital Research, 518 17<sup>th</sup> Street, Denver, CO 80202

**NOT A DEPOSIT | NOT FDIC INSURED | NOT GUARANTEED BY THE BANK | MAY LOSE VALUE |  
NOT INSURED BY ANY FEDERAL GOVERNMENT AGENCY**