



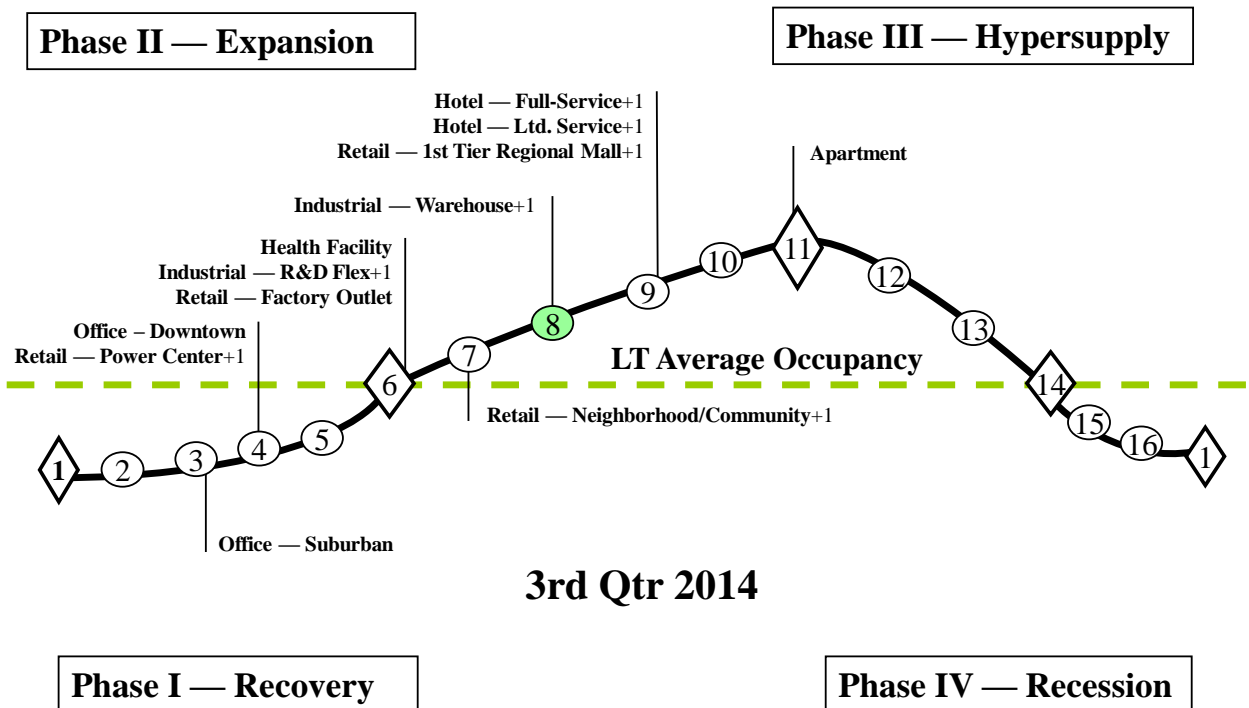
# Cycle Monitor — Real Estate Market Cycles

Third Quarter 2014 Analysis  
November 2014

## Physical Market Cycle Analysis of All Five Major Property Types in More Than 50 MSAs.

Employment growth now appears to be solid at more than 200,000+ jobs per month on a consistent basis as the economy expands above the previous 2007 employment peak. Gross domestic product (GDP) has also responded with growth above 3%. Declining gas prices should motivate consumers to spend more during the holiday season, fueling more economic expansion. All these factors point to increased demand in all property types, while supply is still at historically low recovery phase levels in almost all cities with the exception of apartments, where new supply is approaching levels close to the last cycle peak.

Office occupancies **improved** 0.2% in 3Q14, and rents grew 0.8% for the quarter and 3.7% annually.  
 Industrial occupancies **improved** 0.2% in 3Q14, and rents grew 0.9% for the quarter and 4.3% annually.  
 Apartment occupancies were **flat** in 3Q14, but rents grew 0.2% for the quarter and 2.3% annually.  
 Retail occupancy **improved** 0.1% in 3Q14, and rents grew 0.6% for the quarter and 3.1% annually.  
 Hotel occupancies **improved** 0.7% in 3Q14, while rents grew 1.4% for the quarter and improved 6.2% annually.



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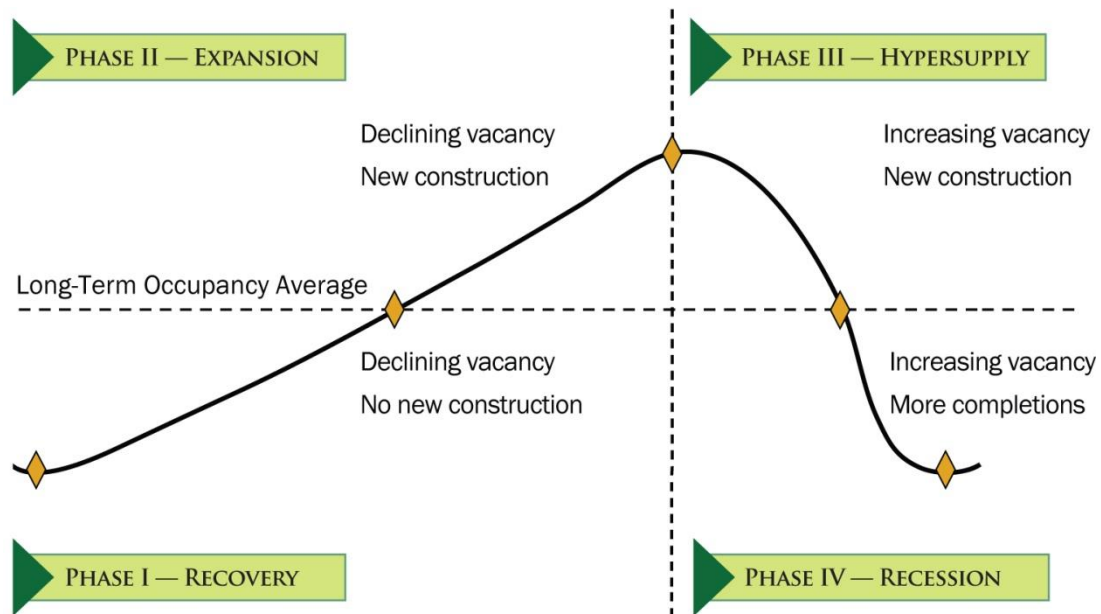
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All relevant disclosures and certifications appear on page 9 of this report.

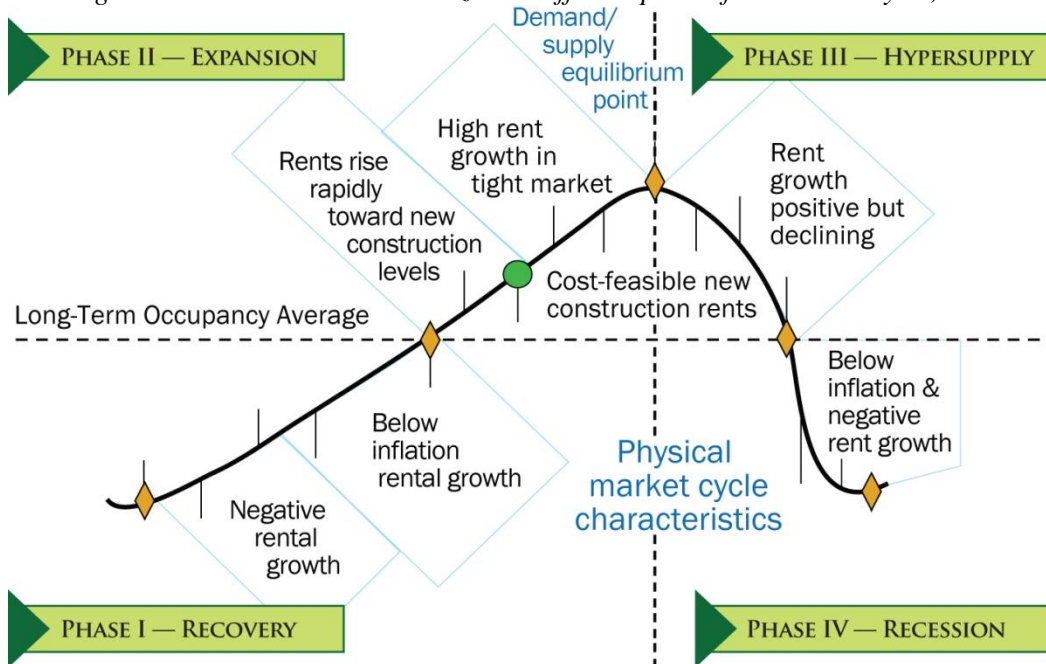
The cycle monitor analyzes occupancy movements in five property types in more than 50 Metropolitan Statistical Areas (MSAs). Market cycle analysis should enhance investment-decision capabilities for investors and operators. The five property type cycle charts summarize almost 300 individual models that analyze occupancy levels and rental growth rates to provide the foundation for long-term investment success. 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 real estate returns.

### Market Cycle Quadrants



Source: Mueller, *Real Estate Finance*, 1995.

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



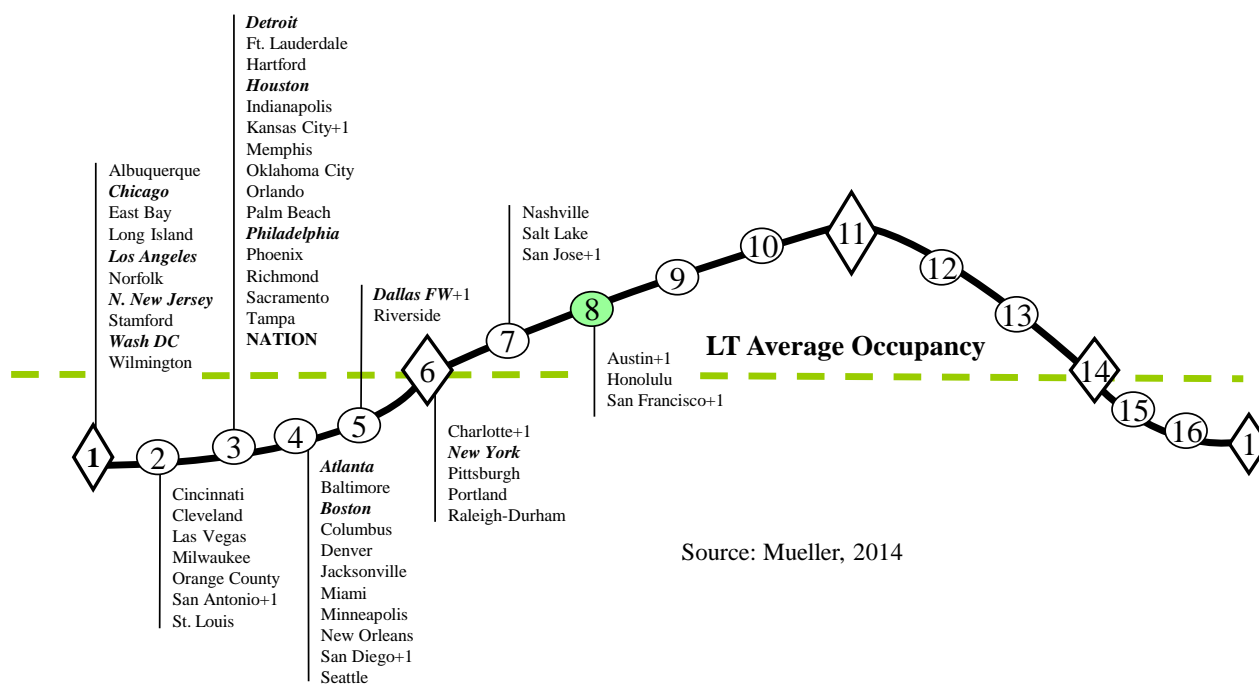
Source: Mueller, *Real Estate Finance*, 1995.

## OFFICE

The national office market occupancy level improved 0.2% in 3Q14, and was up 0.5% year-over-year. Total monthly employment is now growing consistently above 200,000 jobs per month, with more than half being office space jobs. However, much of the new space leased is now happening at an average of 150 square feet per person (SFPP) which is a 25% reduction per person from historic averages. Office absorption was almost 8 million square feet in 3Q14 with downtown outpacing suburban submarkets. Only seven markets inched forward in their cycle positions in the third quarter. These moderate improvements should continue over the next year as the economy expands. Average national rents were up 0.8% in 3Q14 and rents were up 3.7% year-over-year, almost keeping pace with inflation.

### Office Market Cycle Analysis

3rd Quarter, 2014



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.

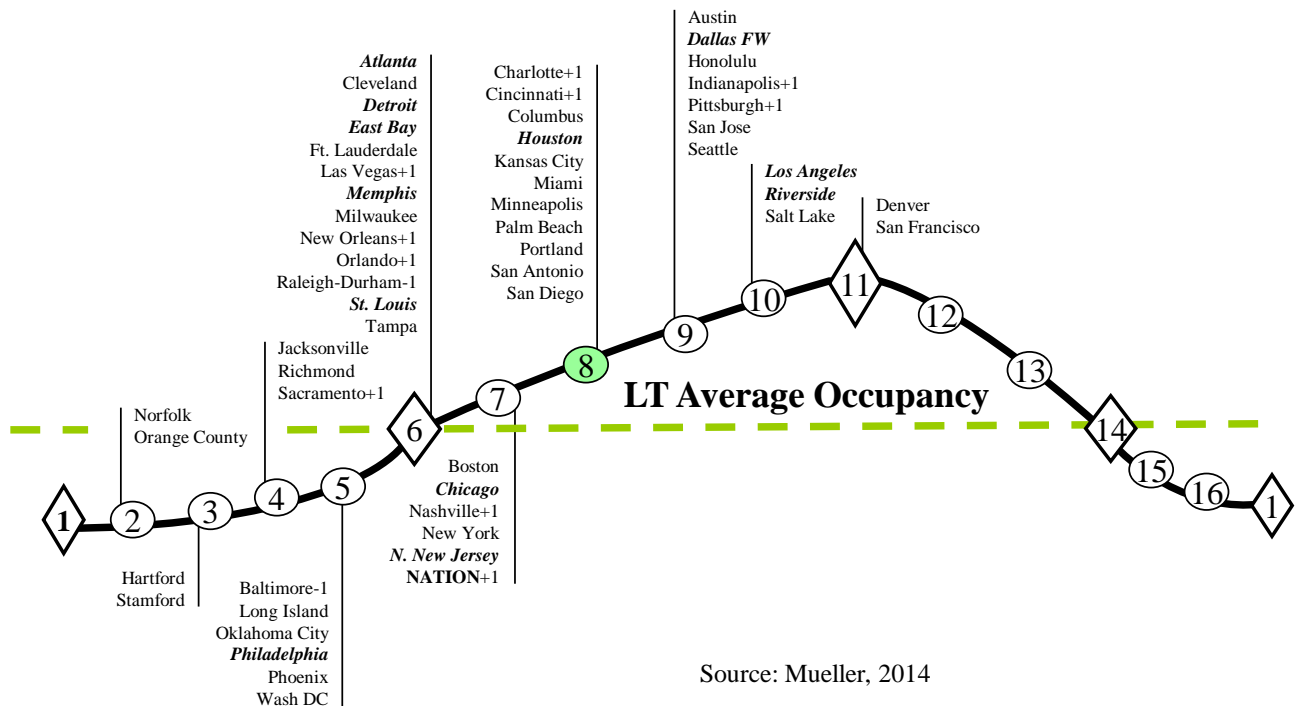
Markets that have moved since the previous quarter are now shown with a + or - symbol next to the market name and the number of positions the market has moved is also shown, i.e., +1, +2 or -1, -2. Markets do not always go through smooth forward-cycle movements and can regress, or move backward in their 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 0.2% in 3Q14, and were up 0.8% year-over-year. Strong absorption continues in the majority of markets with new distribution space having the highest demand and thus highest new supply. New supply was about 10 million square feet higher than completions from a year ago. Low natural gas prices are driving manufacturing back to the United States. Improving consumer confidence and spending are helping to increase goods demand. The national average cycle position should be increasing above the long-term average (point #6) sometime in the next two quarters. The industrial national average rent index increased 0.9% in 3Q14 and was up 4.3% year-over-year.

### Industrial Market Cycle Analysis

3rdQuarter, 2014



Source: Mueller, 2014

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.

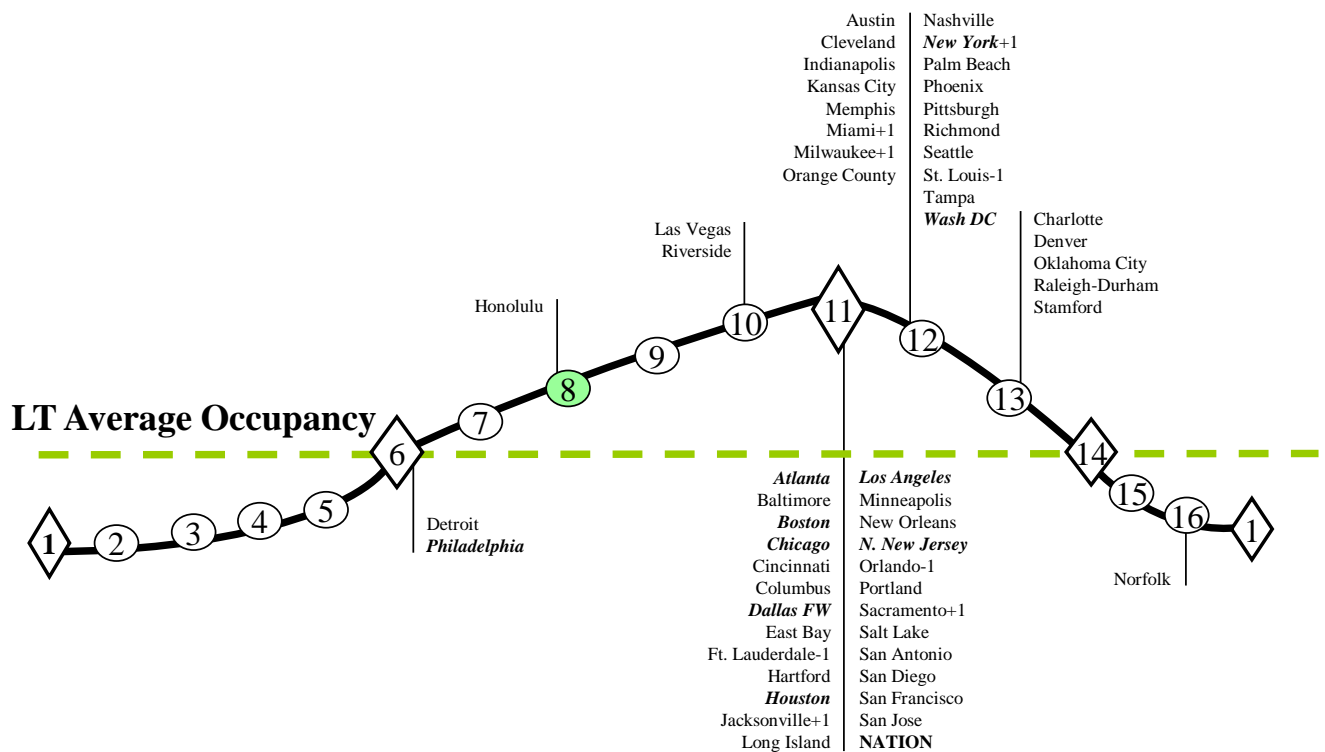
Markets that have moved since the previous quarter are shown with a + or - symbol next to the market name and the number of positions the market has moved is also shown, e.g., +1, +2 or -1, -2. Markets do not always go through smooth forward-cycle movements and can regress, or move backward in their 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 was flat in 3Q14, and was down 0.1% year-over-year. Three more markets moved past their peak occupancy level (point #11) into the hypersupply phase of the cycle. Supply is expected to grow by 1.5% in 2014, a rate that is 80% of the 2006 peak construction and that has not been seen since 2008. The risk is that the construction already underway translates into even higher completions in 2015. Most of this new construction is in or near city centers where the millennial generation wants to live. This growth pushes apartment markets further into the hypersupply phase of the cycle (points #12 and #13). Rents still grow in the hypersupply phase of the cycle (as occupancies are above the long-term average), but the rate of growth slows down. Average national apartment rent growth was 0.2% in 3Q14 (a major slowdown) and was up 2.3% year-over-year.

### Apartment Market Cycle Analysis

3rd Quarter, 2014



Source: Mueller, 2014

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.

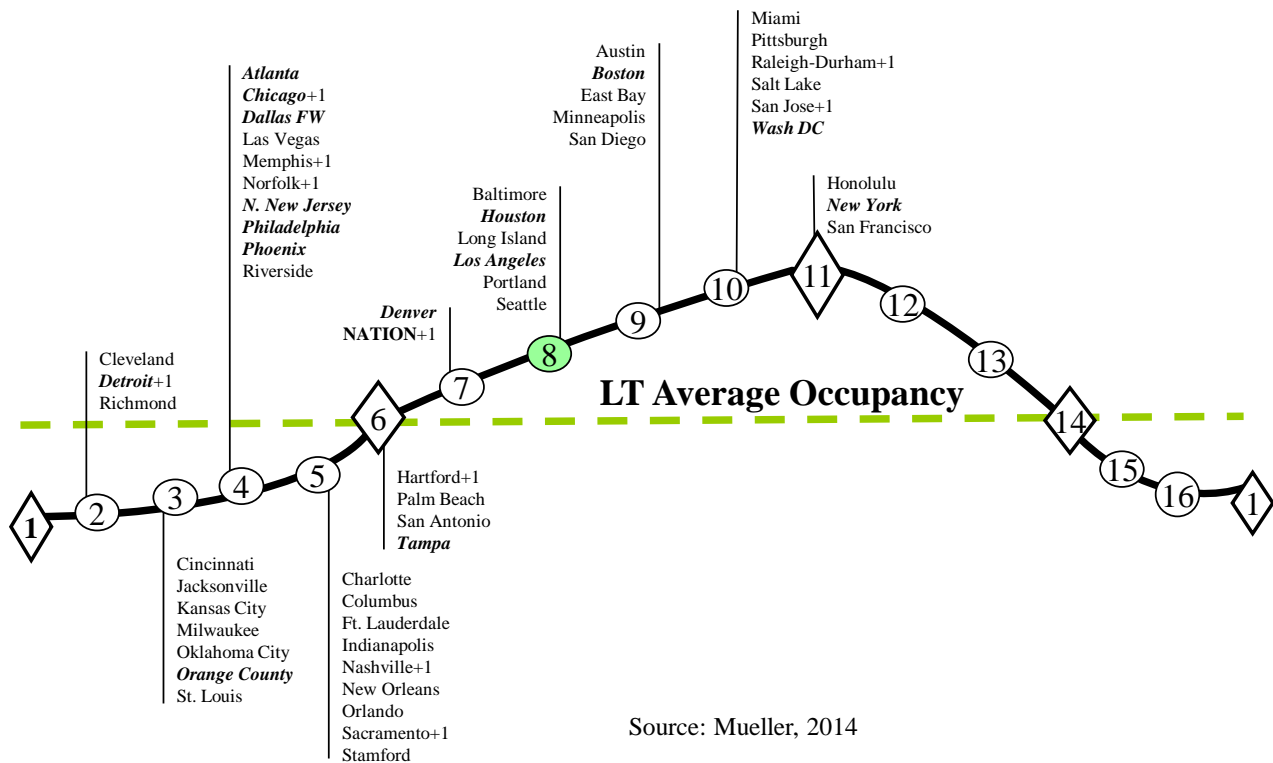
Markets that have moved since the previous quarter are shown with a + or - symbol next to the market name and the number of positions the market has moved is also shown, e.g., +1, +2 or -1, -2. Markets do not always go through smooth forward-cycle movements and can regress, or move backward in their 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 3Q14, and were up 0.4% year-over-year. This was enough to move the national average up to point #7 on the cycle chart. Retail sales continue to grow at a sustainable pace that motivates retailers to expand and lease more space. There are also strong holiday sales projections in place. Lower gas prices should provide strong support for more consumers to increase their spending. National average retail rents increased 0.6% in 3Q14 and were up 3.1% year-over-year.

### Retail Market Cycle Analysis

3rd Quarter, 2014



Note: The 15-largest retail markets make up 50% of the total square footage of retail space we monitor. Thus, the 15-largest retail markets are in **bold italic** type to help distinguish how the weighted national average is affected.

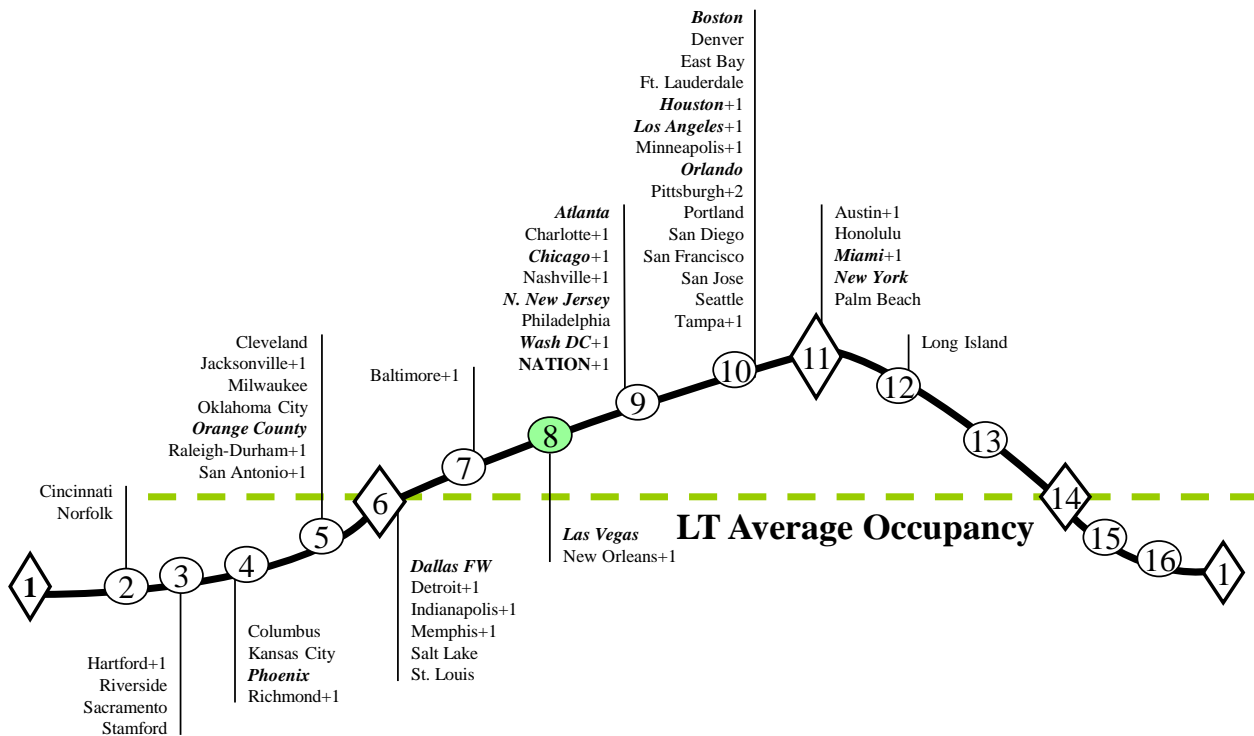
Markets that have moved since the previous quarter are shown with a + or - symbol next to the market name and the number of positions the market has moved is also shown, e.g., +1, +2 or -1, -2. Markets do not always go through smooth forward-cycle movements and can regress, or move backward in their 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 an average of 0.7% in 3Q14, and were up 2.2% year-over-year. The strong recovery in hotel demand over the past four years has prompted many hotel chains to expand and it looks like supply may be up over 1% for the year in 2014. Operators have also been able to raise room rates in response to the increased demand in the marketplace from both business and leisure travelers. National average hotel rents improved 1.4% in 3Q14 and were up 6.2% year-over-year.

### Hotel Market Cycle Analysis

3rd Quarter, 2014



Source: Mueller, 2014

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.



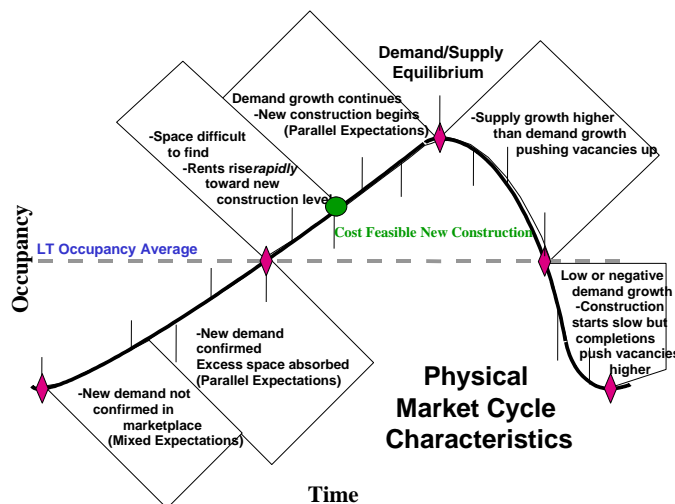
**MARKET CYCLE ANALYSIS — Explanation**

**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 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; 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, 1995

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.



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