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UNIVERSITY OF DENVER

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# Mueller
## Real Estate Market Cycle Monitor
### Second Quarter 2023 Analysis – August 2023

**The Physical Market Cycle Analysis of 5 Property Types in 54 Metropolitan Statistical Areas (MSAs).**

The economy chugged along with an average 244,000 new jobs per month and 2.4% GDP growth in 2Q23. Wage growth was the main driver of inflation. Recession fears are slowing hiring and firms are adjusting to lower employee levels. The average home mortgage rate hit 7%, the first time in 20+ years. High interest rates continue to constrain commercial real estate transactions and construction financing – allowing market occupancies to stabilize.

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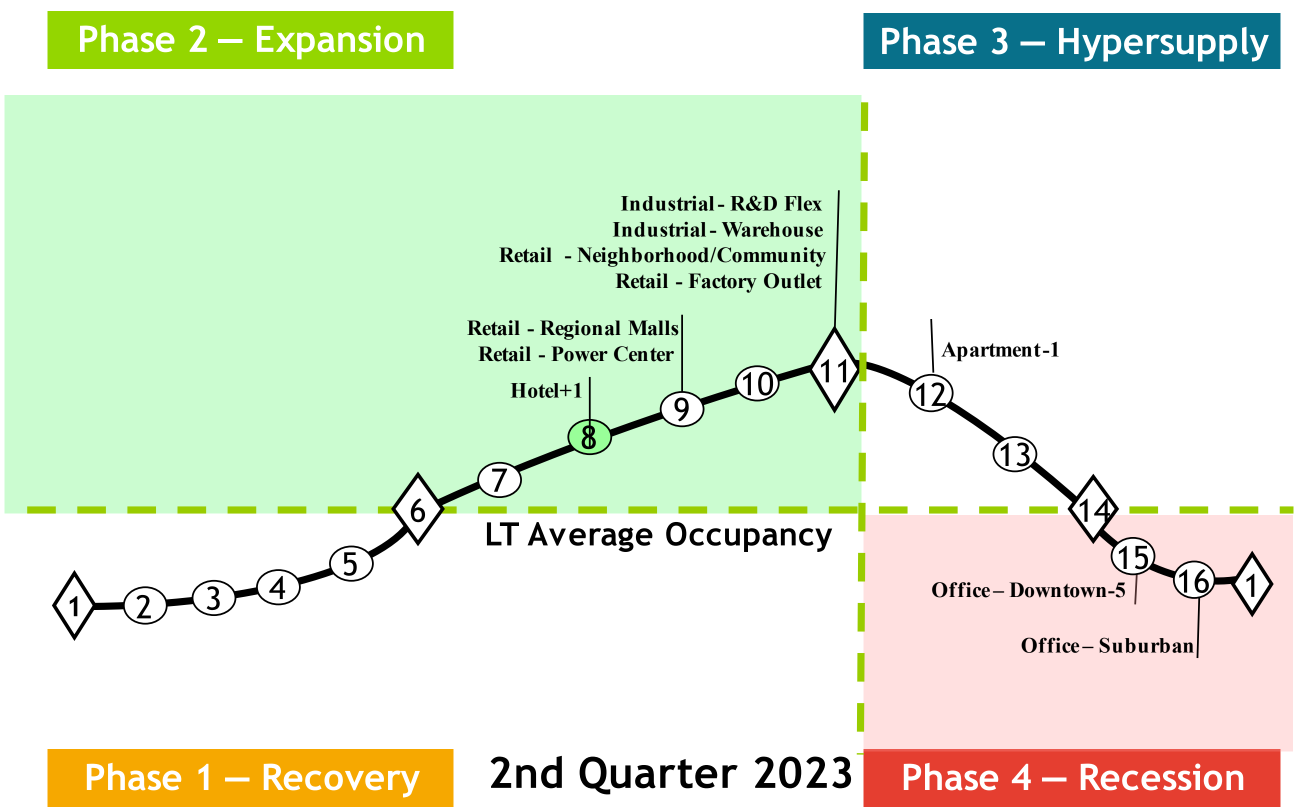
Office occupancy **declined -0.3%** in 2Q23, while rents **grew 0.1%** for the quarter and were up 0.8% annually.
Industrial occupancy **declined -0.3%** in 2Q23, and rents **grew 1.5%** for the quarter and were up **8.9%** annually.
Apartment occupancy **decreased -0.3%** in 2Q23, but rents **grew 1.0%** for the quarter, and were up 1.2% annually.
Retail occupancy **increased 0.1%** in 2Q23, and rents **grew 0.8** for the quarter and were up 3.8% annually.
Hotel occupancy **increased 1.0%** in 2Q23, and average RevPAR **grew 1.3%** for the quarter and was up 2.8% annually.

## National Property Type Cycle Locations




Source: Mueller, 2023

The National Property Type Cycle Locations graph shows relative positions of the sub-property types.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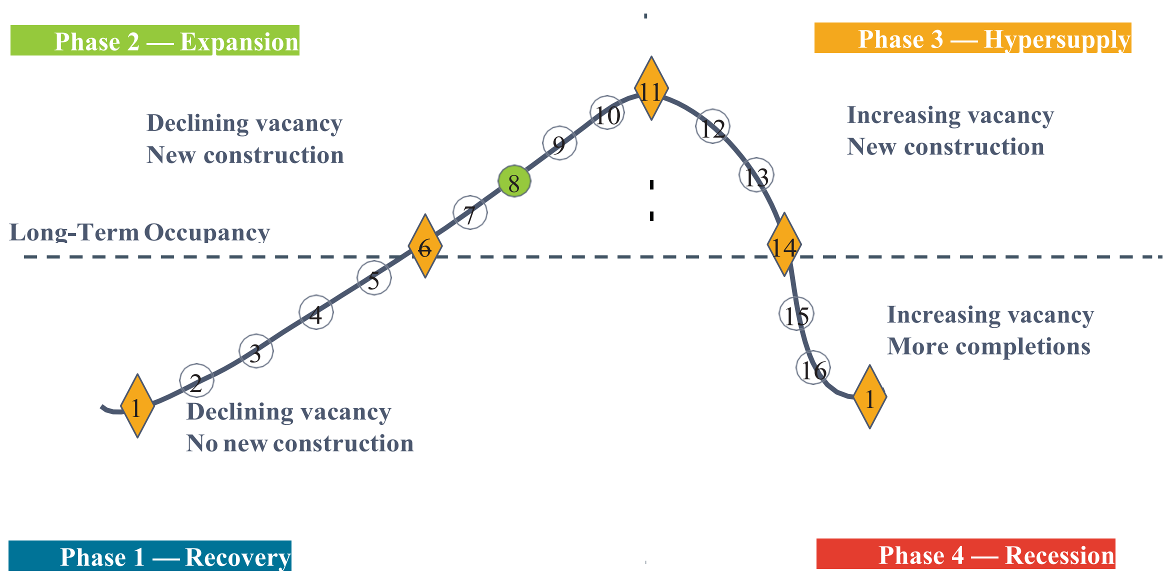
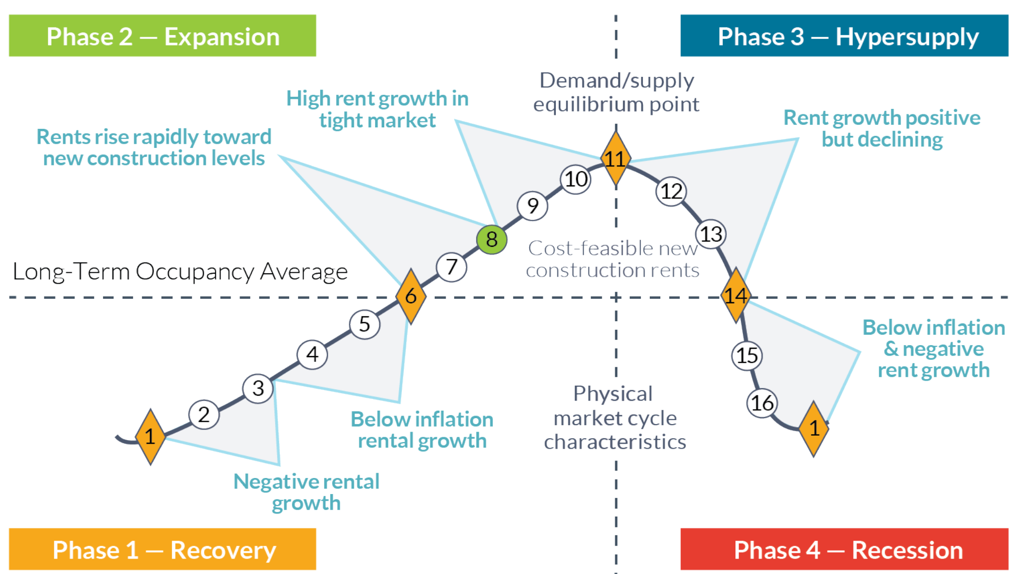
The cycle monitor analyzes occupancy movements in four property types in 54 MSAs. Market cycle analysis should enhance investment-decision capabilities for investors and operators. The five property type cycle charts summarize almost 300 individual models that analyze occupancy levels and rental growth 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 income and thus returns.

## Market Cycle Quadrants




Source: Mueller, Real Estate Finance, 1996.

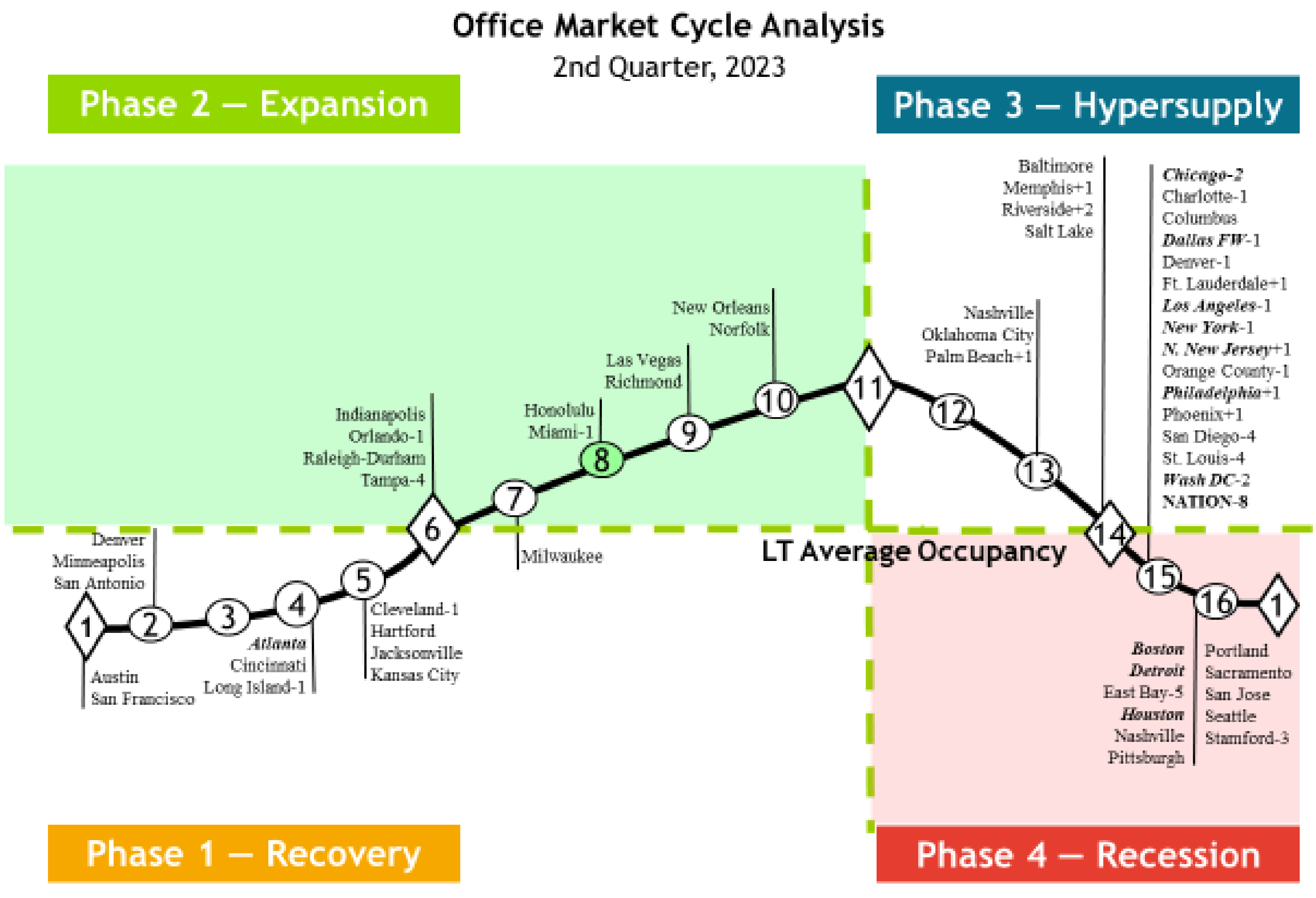
Rental growth rates can be characterized in different parts of the market cycle, as shown below.




Source: Mueller, Real Estate Finance, 1996.

# Office

The national office market occupancy level decreased 0.3% in 2Q23 and was down 0.9% year-over-year. Leasing activity was down 15% from the long-term average, and the average square footage leased has declined 20%. Sublease space offered stands at 50 million sq.ft. above the long-term average, and tenants' space give backs totaled 40 million sq.ft. in the first half of 2023. Average office attendance remained in the 50-60% range, while government office attendance was only 25%. New and premium class A space is the only space being sought after and leasing well. Asking rental rates improved 0.1% in 2Q23 and were up 0.8% year-over-year – but concessions have caused effective rents to decline.




Source: Mueller, 2023

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.

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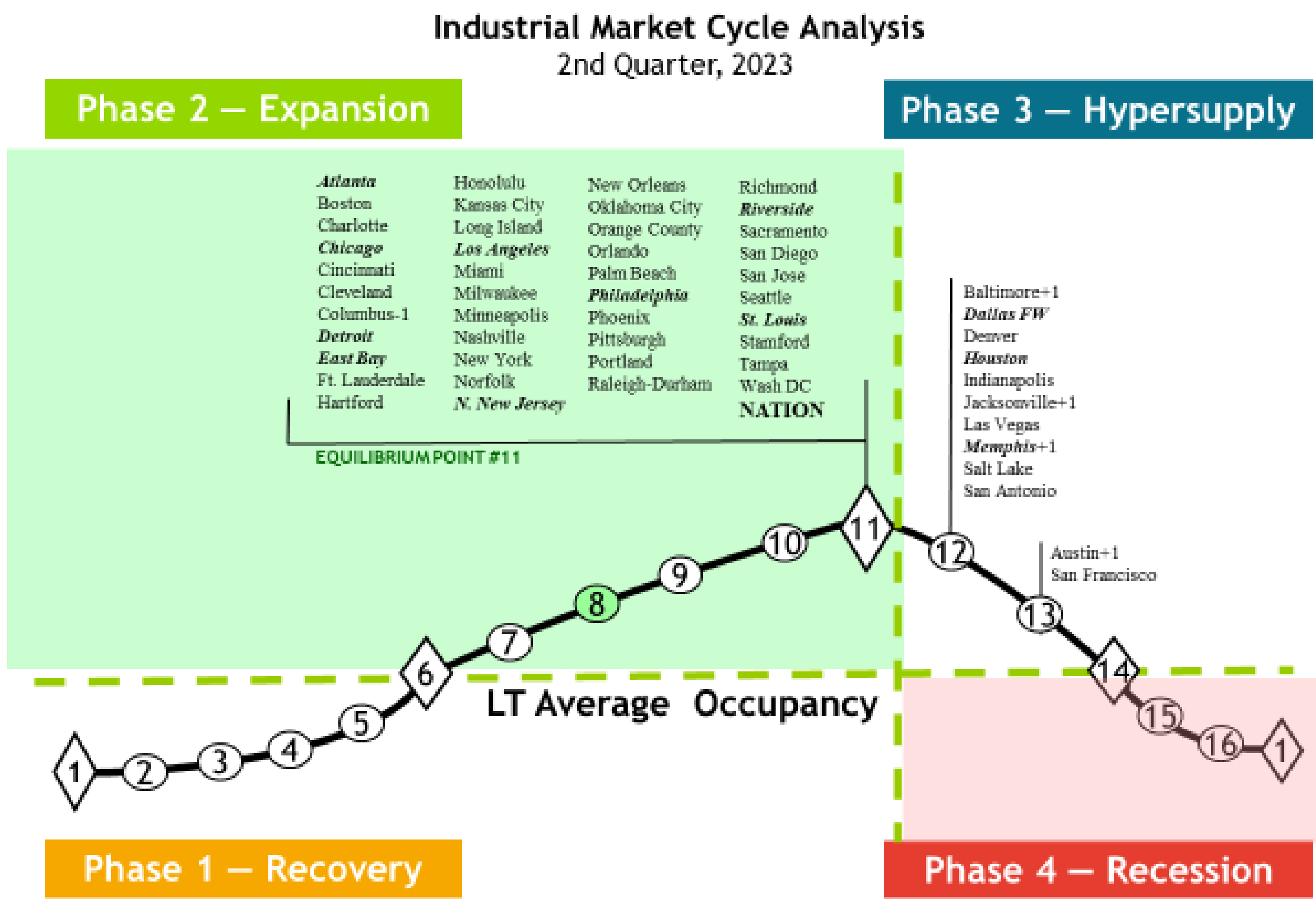
# Industrial

Industrial occupancies decreased 0.3% in 2Q23 and were down 0.8% year-over-year. Net absorption was still positive at 248 million sq.ft. but slowed by 30% from the previous year. Cautious retailers and wholesalers began pausing inventory expansions and imports declined from record high levels in expectation of a recession. On the positive side, Amazon sales have been increasing at double-digit rates, causing them to slow their distribution center closings. New construction starts have begun to slow, which should help keep markets in balance. Asking rent growth was 1.5% in 2Q23 and annual rent growth averaged 8.9% year-over-year.




Source: Mueller, 2023

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.

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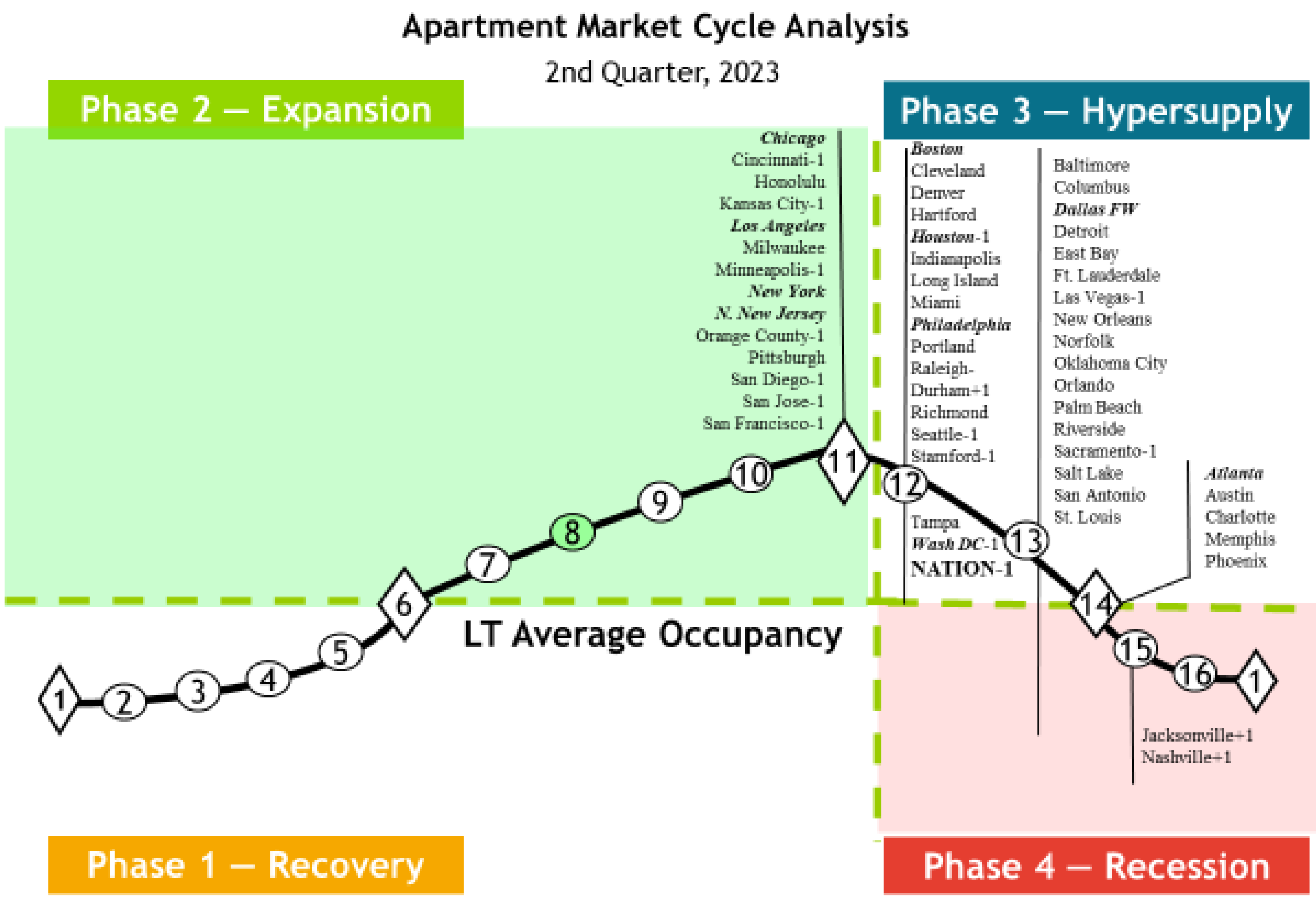
# Apartment

The national apartment occupancy average declined 0.3% in 2Q23 and was down 1.9% year-over-year. Occupancies are now 2% lower than the all-time peak high in 2020. The new supply of 154,00 units outpaced demand of 105,000 units in 2Q23. Most of this new supply was in sunbelt markets where new construction increased by 64% since 2019. The strongest supply was in Austin and Las Vegas where rent growth was actually negative in 2Q23. Mature Midwest and Northeast markets performed the best with many markets' rent growth hitting double the national average rate. The national average apartment asking rent growth increased 1.0% in 2Q23, and rents grew 1.2% year-over-year.




Source: Mueller, 2023

Note: The <u>10-largest apartment markets make up 50%</u> of the total square footage of multifamily space we monitor. Thus, the 10-largest apartment markets are in ***<u>bold italic</u>*** 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.

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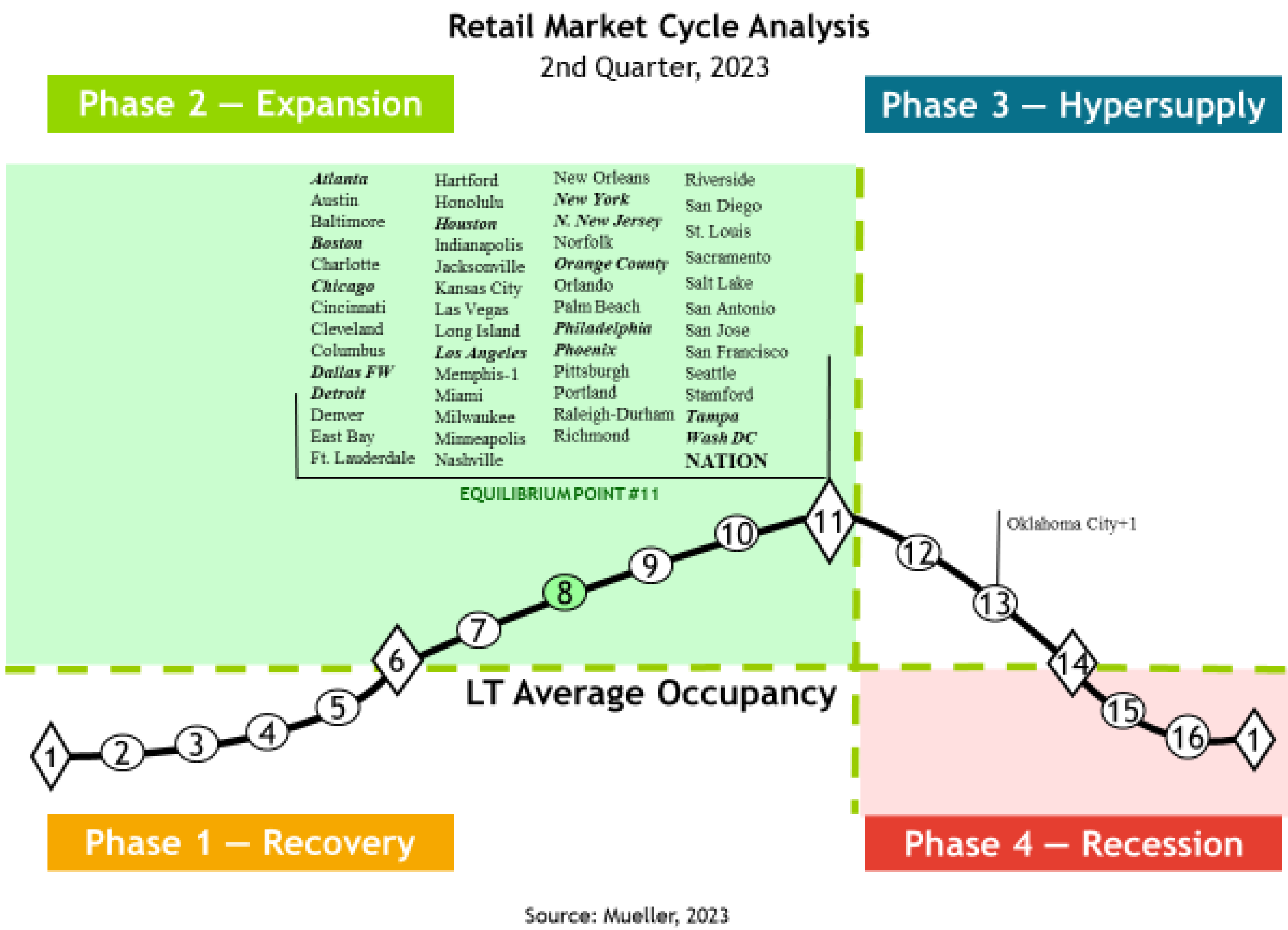
# Retail

Retail occupancies were up 0.1% in 2Q23 and up 0.5% year-over-year, to yet another new peak occupancy level for retail. Demand was 12 million sq.ft. in 2Q23, causing occupancy to increase for the 9th quarter in a row. New supply was below average, making it difficult for tenants to find space in desired locations. Leasing activity was down 20% due to the lack of available space listed or rent. Demolition of 145 million sq.ft. in 2023 was mostly in malls where redevelopment to apartments is the major theme, followed by upgrades to improve tenant mix and anchor backfilling. National average retail asking rents were up 0.9% for the quarter and were up 3.8% year-over-year.




Note: The <u>14-largest retail markets make up 50%</u> 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.

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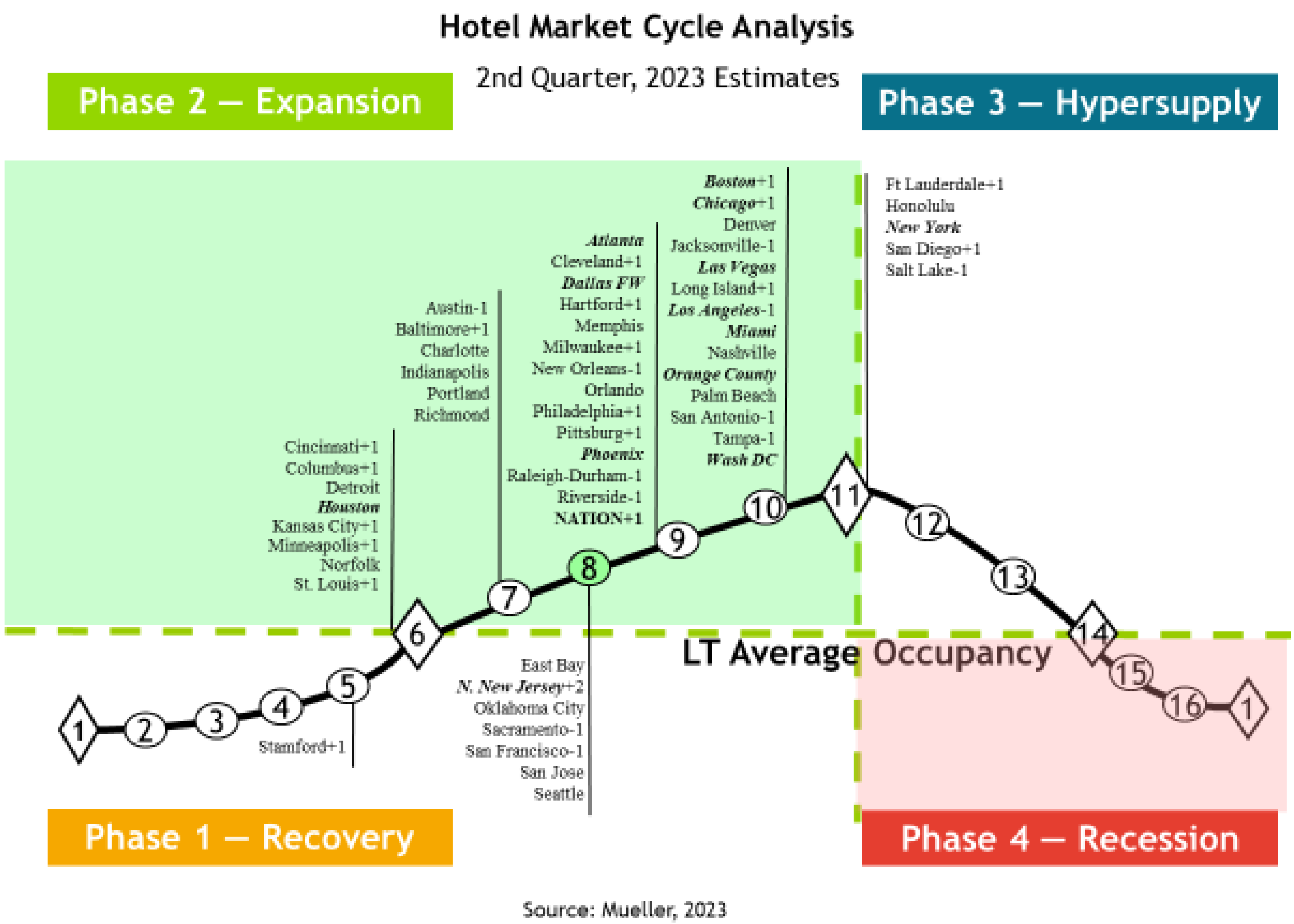
# Hotel

Hotel occupancies were up 1.0% in 2Q23 and up 4.0% year-over-year. Demand was driven by recreational travel, which hit new all-time highs, even with many storm-related hiccups in spring and summer. Business travel mirrored the 50-60% post pandemic office usage rates, which held Tuesday to Thursday occupancy levels lower. Conference and corporate meetings were the only bright spots to continue business travel demand growth, as people do want face-to-face interactions. Construction of 150,000 rooms was still well below the pre-pandemic peak of 212,000 rooms. National average Revenue Per Available Room – (RevPAR) was up 1.3% for the quarter and up 2.8% year-over-year.




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

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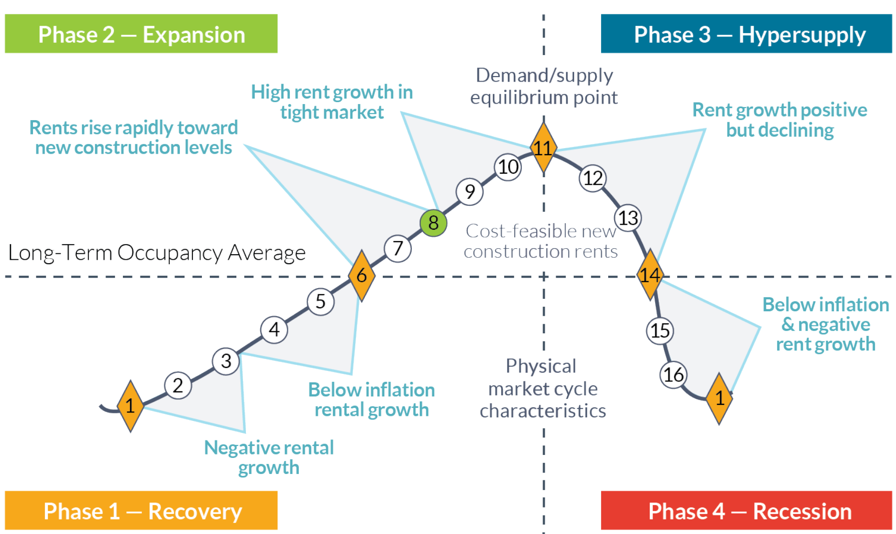
# Market Cycle Analysis — Explanation

**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 should 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 is 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 could 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, 1996

This research currently monitors five property types in 54 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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