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UNIVERSITY OF DENVER

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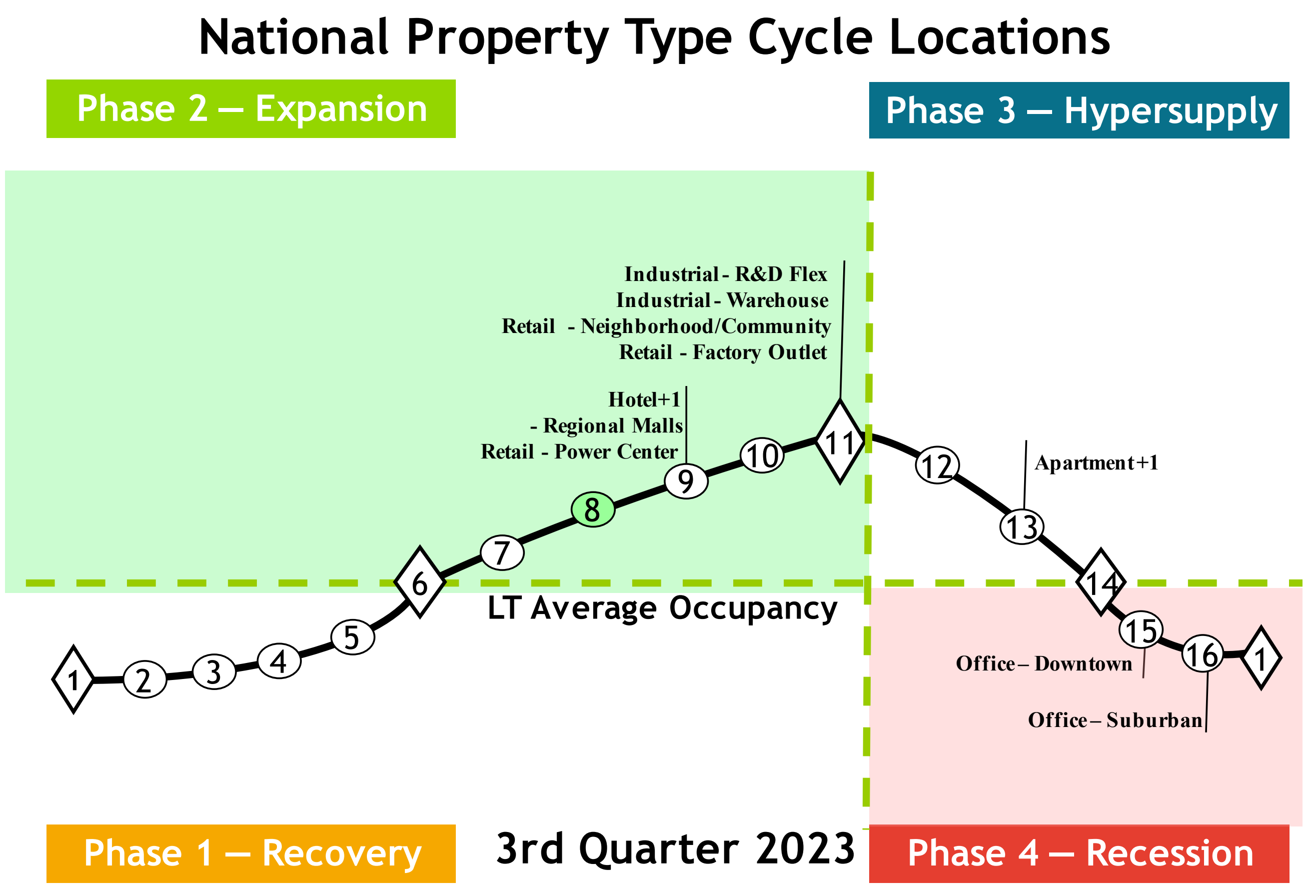
Mueller
Real Estate Market Cycle Monitor
Third Quarter 2023 Analysis – November 2023

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

Inflation continued to hover in the 3%+ range in 2023, thus most economists expect the Fed to hold or increase interest rates further to get to their target 2% inflation goal. We expect the 10-year treasury benchmark rate to remain above 4.0% for the rest of 2023, keeping prime borrowing costs above 5.5%. Commercial real-estate lending has declined to less than half the volume in 2022, this decline has also driven transaction volume to about 1/3 of the peak years in 2021 & 2022. These low levels should help to keep new construction starts to low levels in the next few years allowing demand and supply to balance out over the next few years.

Office occupancy **declined -0.3%** in 3Q23, while rents **grew 0.1%** for the quarter and were up 0.6% annually.
Industrial occupancy **declined -0.3%** in 3Q23, and rents **grew 1.1%** for the quarter and were up 4.6**%** annually.
Apartment occupancy **decreased -0.2%** in 3Q23, and rents **declined -0.7%** for the quarter, but were up 0.8% annually.
Retail occupancy **was flat%** in 3Q23, and rents **grew 0.7%** for the quarter and were up 3.6% annually.
Hotel occupancy **increased 0.1%** in 3Q23, and average RevPAR **grew 1.7%** for the quarter and was up 4.7% annually.



Source: Mueller, 2023

The National Property Type Cycle Locations graph shows relative positions of the sub-property types.

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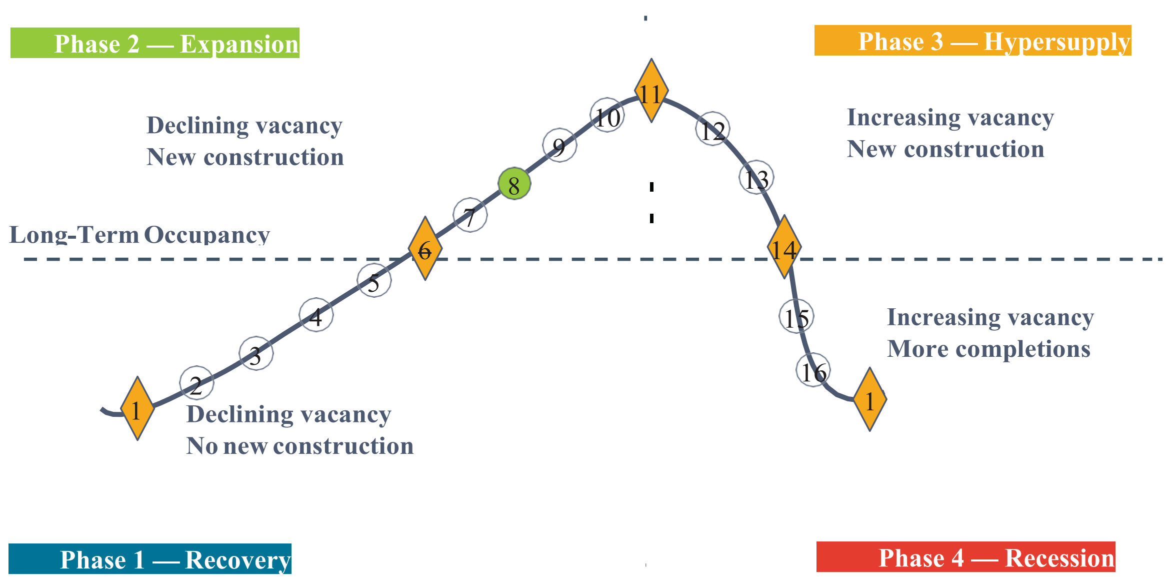
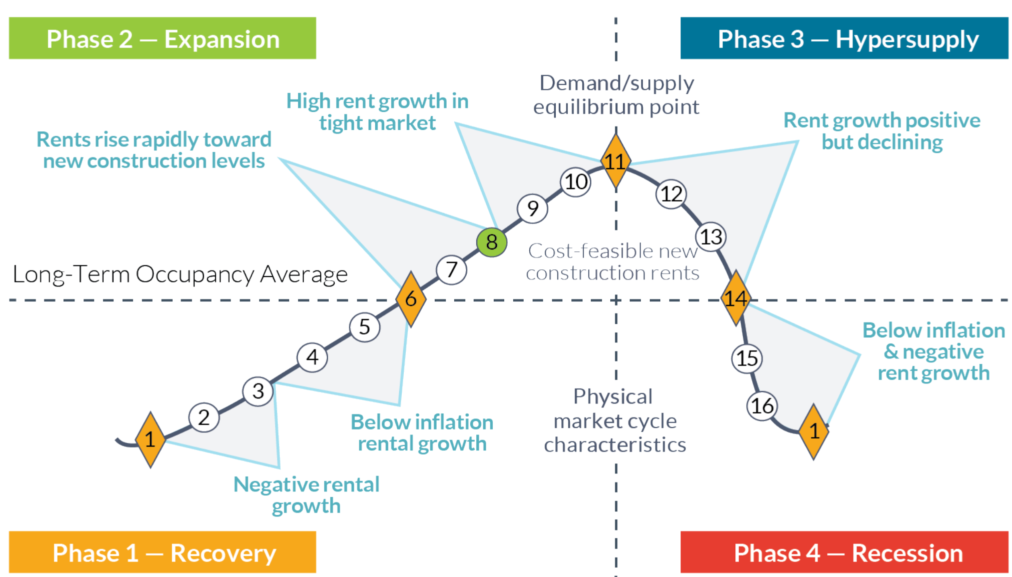
The cycle monitor analyzes occupancy movements in four property types in 54 MSAs. Market cycle analysis should enhance investment-decision capabilities for investors and operators. The five property type cycle charts summarize almost 300 individual models that analyze occupancy levels and rental growth 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.

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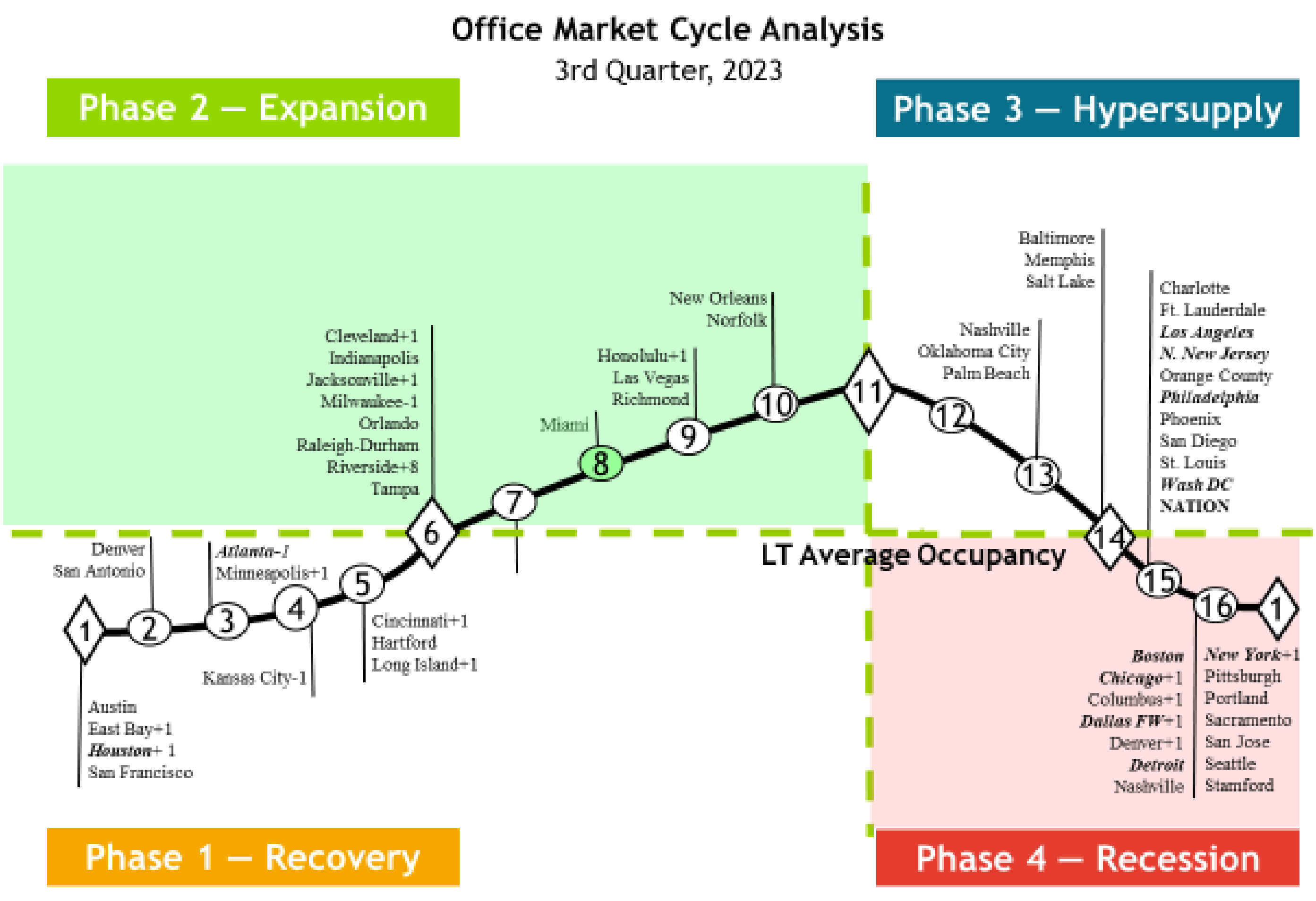
Office

The national office market occupancy level decreased 0.3% in 3Q23 and was down 0.7% year-over-year. Warren Buffett warned that a storm is brewing in office real estate markets: "The buildings don't go away … but the owners do". Employers who want workers back in the office must manage a vastly different set of employee priorities than existed pre-COVID. The five-day office schedule is gone, while flexibility, short commutes, and cool neighborhoods being more important. High amenity office space may no longer be the big draw. Many believe that more than 1billion SF of office space could be obsolete within seven years. The only office bright spot is the premium class A space that financial, and wealth advisory firms desire to impress clients. Unfortunately, 59 million SF of new office space deliveries have been met with a net negative 63 million SF of absorption in 2023. Asking rental rates improved 0.1% in 3Q23 and were up 0.6% year-over-year – but concessions continue to depress net effective rents.



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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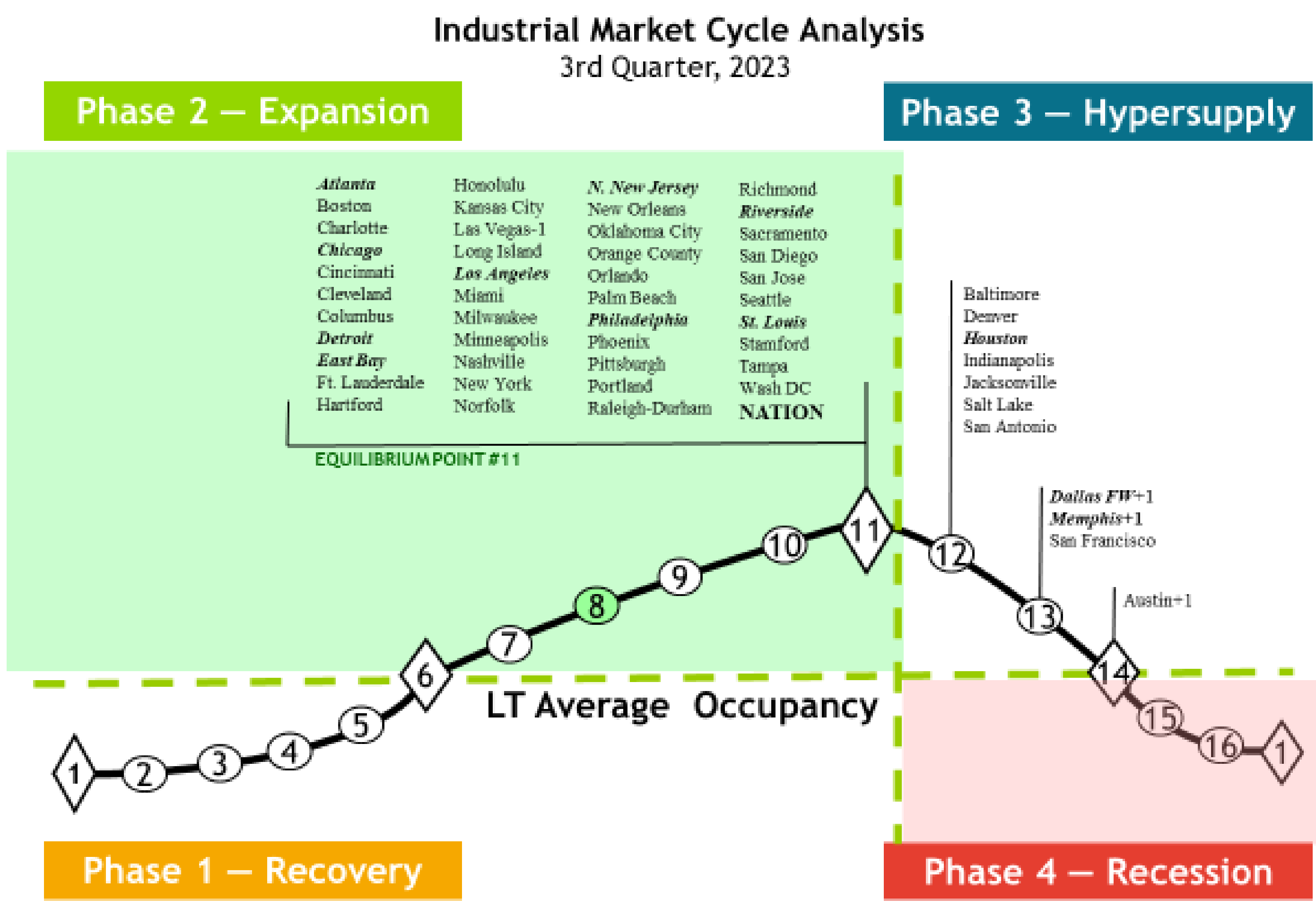
Industrial

Industrial occupancies decreased 0.3% in 3Q23 and were down 0.6% year-over-year. Demand growth continues but is decelerating as tenants slow their inventory accumulation in anticipation of a slower economy and higher carrying costs. Orders of core capital goods increased 0.9% so far this year, but durable goods were up only 0.2%. Prologis, Inc believes larger logistics real estate space saves on costs and 800,000 square feet of space is now needed to support each $1 billion in retail sales. There were 50 million SF of deliveries so far in 2023 while absorption was more than triple at 181 million SF. 12 month net absorption was also positive at 248 million sq.ft. but slowed by 30% from the previous year. Amazon's strong sales growth has them expanding same day delivery space facilities in the 100,000 to 250,000 SF range. Asking rent growth was 1.1% in 3Q23 and annual rent growth averaged 4.6% year-over-year.



Source: Mueller, 2023

Note: The <u>12-largest industrial markets make up 50%</u> of the total square footage of industrial space we monitor. Thus, the 12-largest industrial 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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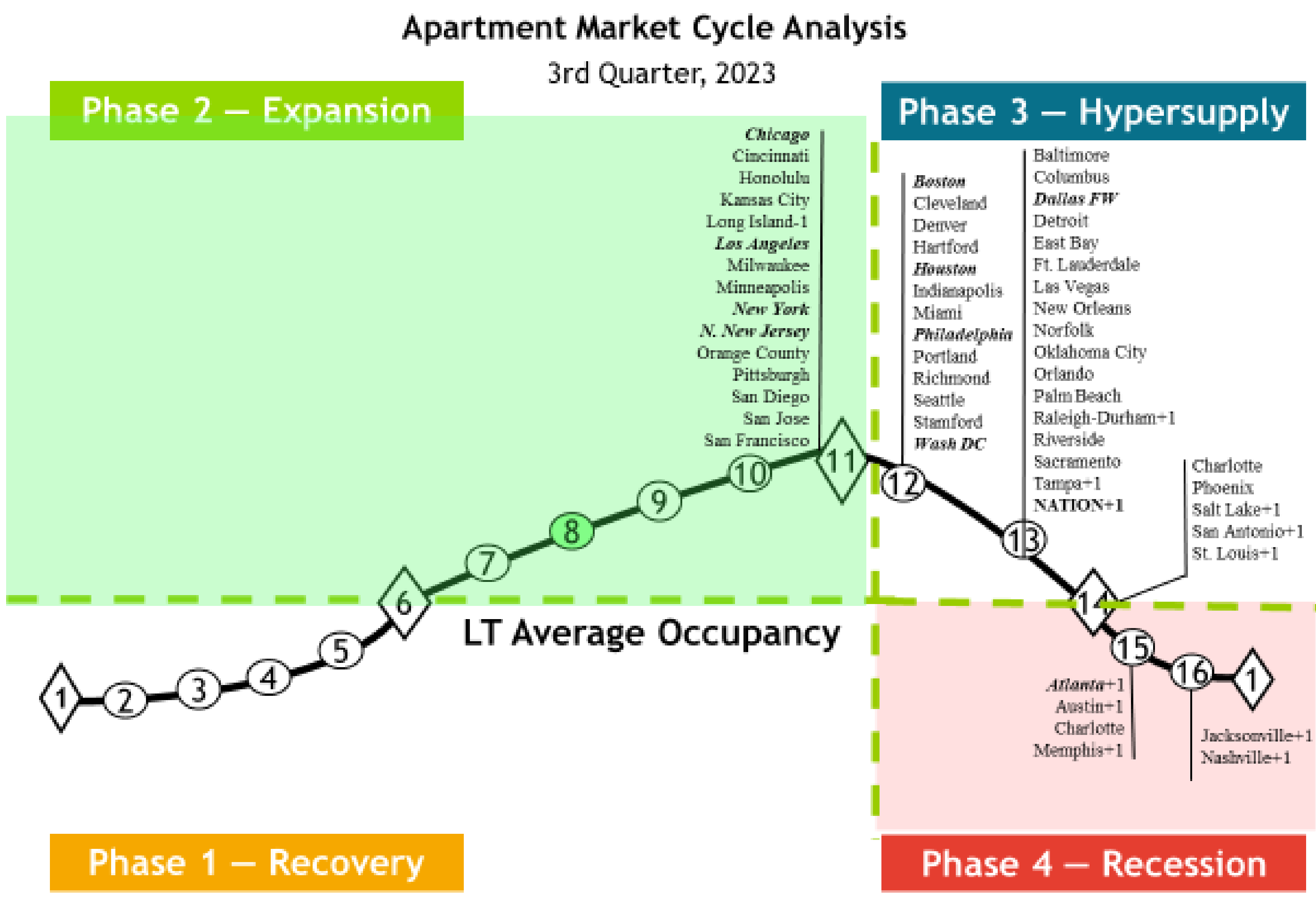
Apartment

The national apartment occupancy average declined 0.2% in 3Q23 and was down 1.1% year-over-year. Demand growth has been positive for eight quarters in a row, with 3Q23 seeing 116,000 units absorbed, but 140,000 units delivered. The oversupply problem continues with almost 300,000 units absorbed in the last 12 months, but almost 550,000 units supplied. Lower cost - less than class A properties have been in highest demand with their occupancies being 1% higher than the national average. The majority of new supply has been in sunbelt cities that had strong in-migration during and after COVID that spurred strong new construction starts. The Midwest and Northeast cities are now in better balance with less new supply and better rent growth. The national average apartment asking rent growth declined -0.7% in 3Q23, but rents grew 0.8% year-over-year.



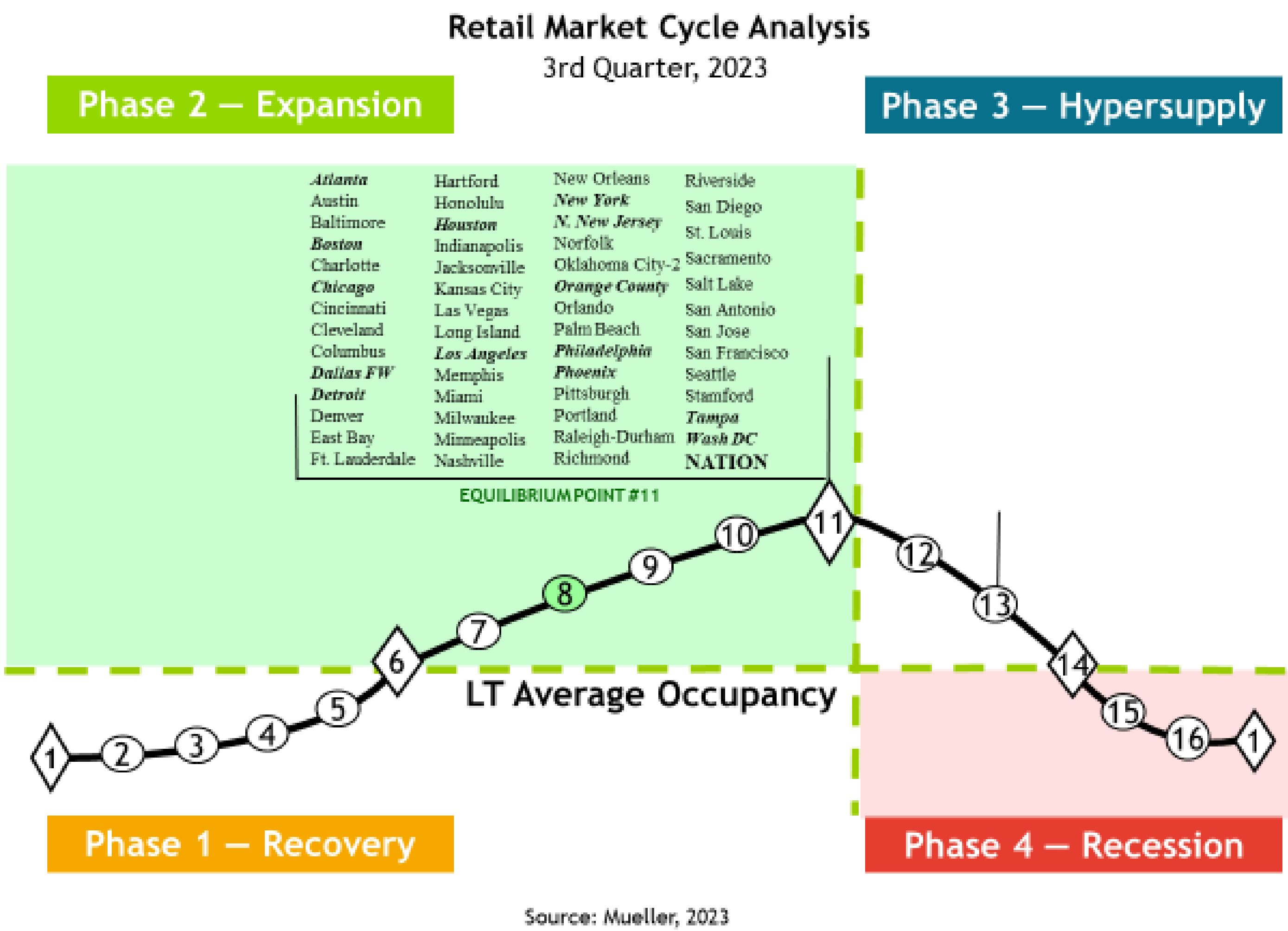
Source: Mueller, 2023

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.

Retail

Retail occupancies were flat in 3Q23 and remained unchanged year-over-year, holding at the all-time peak occupancy level for retail. Demand continued in 3Q23 with 52 million SF absorbed over the past year and new supply held at a reasonable 50 million SF. The number of store closures and move-outs has also been low. Finding space in the best locations has been a problem for retailers in most markets. Supply has also been kept in check with over 30 million SF of retail being demolished or repurposed each year for the past 5 years. Most new construction continues to be pre-leased. National average retail asking rents were up 0.7% for the quarter and were up 3.6% year-over-year.



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.

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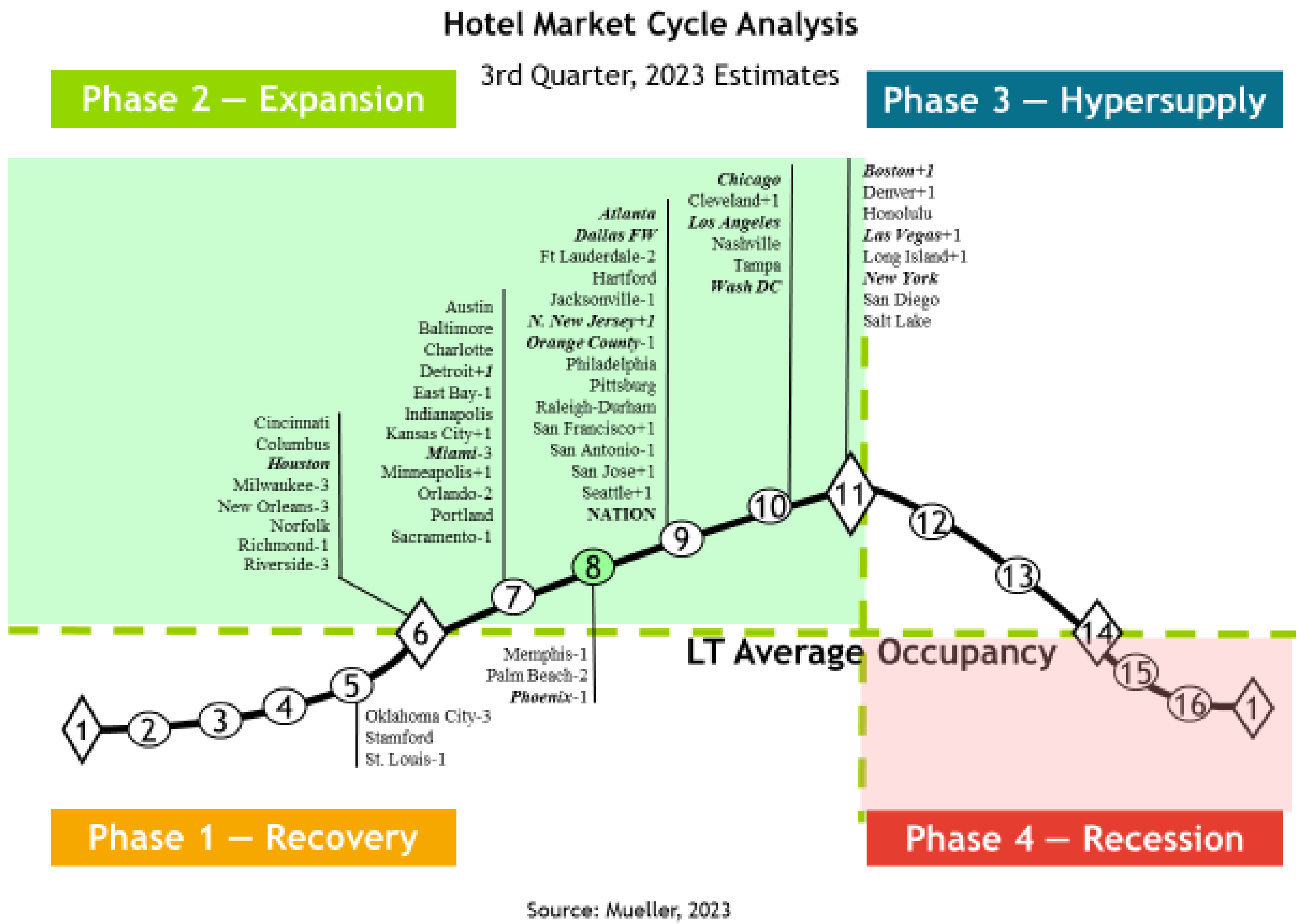
Hotel

Hotel occupancies were down 0.1% in 3Q23 and down 0.2% year-over-year. The positive economic environment provided good consumer confidence and travel growth. Recreational and conference demand continued to be strong, and business travel marched ahead at a still slow, but positive, growth rate. Many small and medium sized businesses created much of the new business travel demand according to Marriott. The 12-month demand was 1.3 billion room nights, while 12-month supply was 2 billion room nights. National average Revenue Per Available Room – (RevPAR) was up 1.7 for the quarter and up 4.7% 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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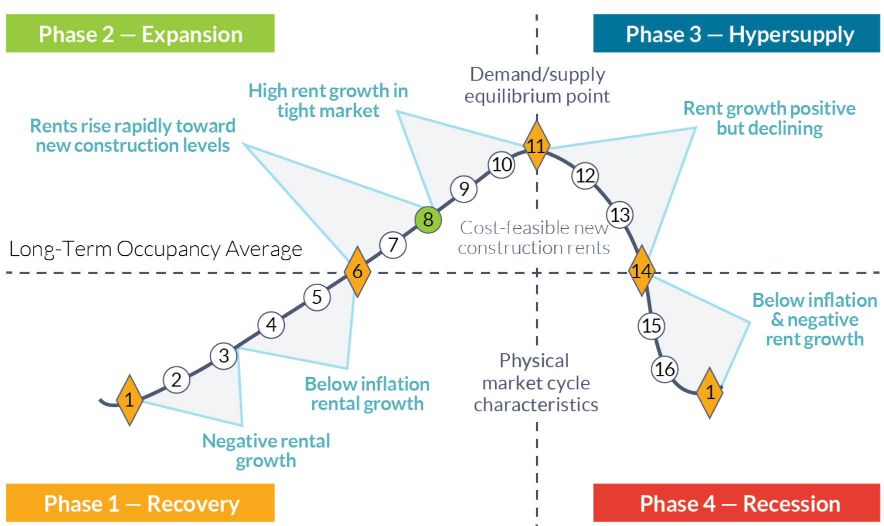
Market Cycle Analysis — Explanation

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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