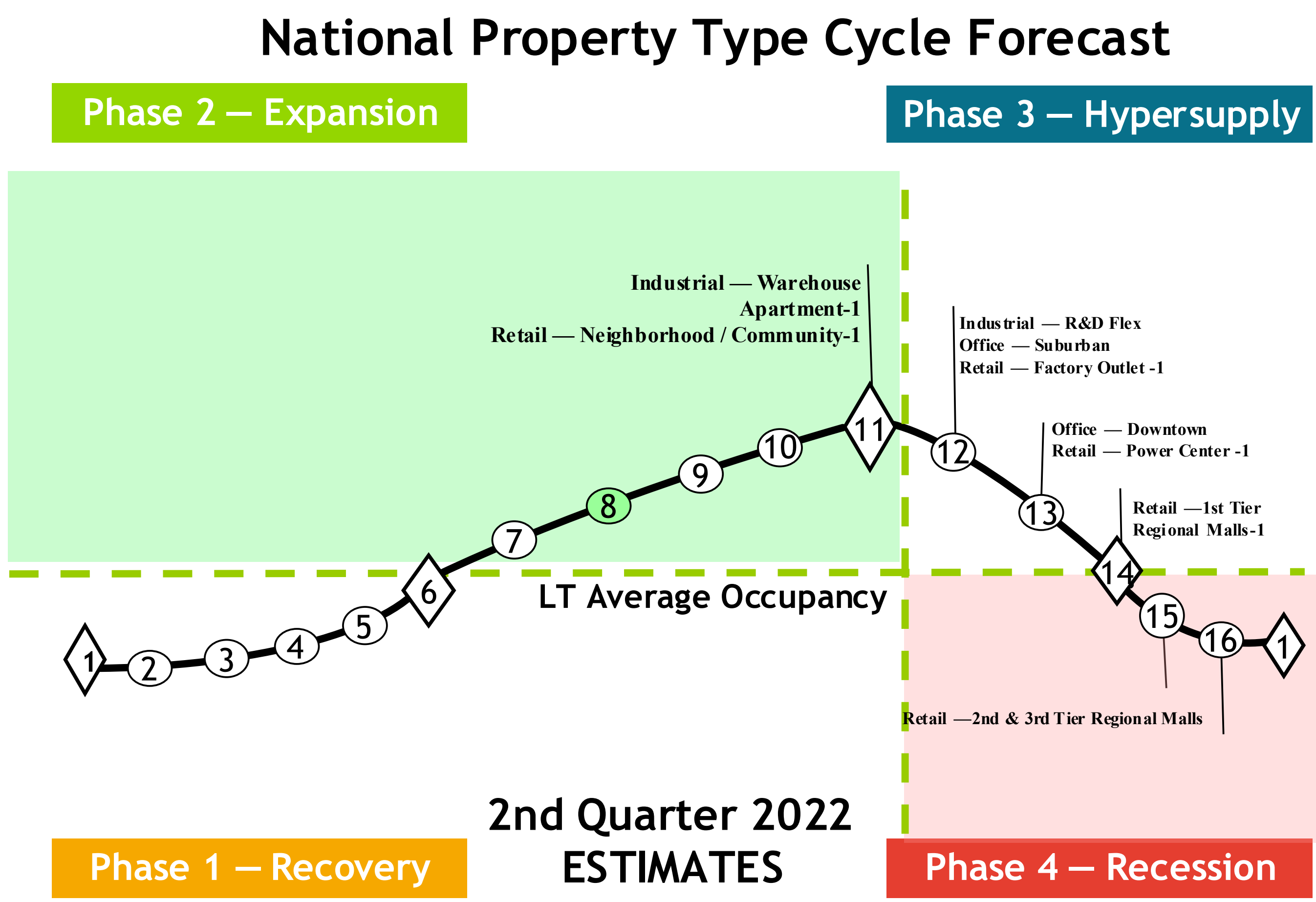
MUELLER
REAL ESTATE MARKET CYCLE FORECAST

Second Quarter 2022 Estimates

2Q2021 GDP grew at 6.6% and consumer savings was over $4 trillion during COVID, which is four times the historic rate of savings. This growth should propel the US economy for at least another year or two. Strong demand growth for industrial and apartments should continue, while retail is expected to rebound due to a surprisingly strong demand recovery as consumers have lots of cash to spend. Office is the one major question mark, as the COVID Delta variant has further postponed the return to office that was expected after Labor Day. Labor and material shortages are expected to constrain construction and keep most market in the growth phase of the market cycle.

Office occupancies are forecast to **decline 0.1%** in 2Q22, with rents increasing 0.7% quarter-over-quarter.
Industrial occupancies are forecast to **increase 0.1%** in 2Q22, with rents increasing 1.4% quarter-over-quarter.
Apartment occupancies are forecast to **increase 0.1%** in 2Q22, with rents increasing 0.7% quarter-over-quarter.
Retail occupancies are forecast to **increase 0.1%** in 2Q22, with rents increasing 1.2% quarter-over-quarter.



Source: Mueller, 2021

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

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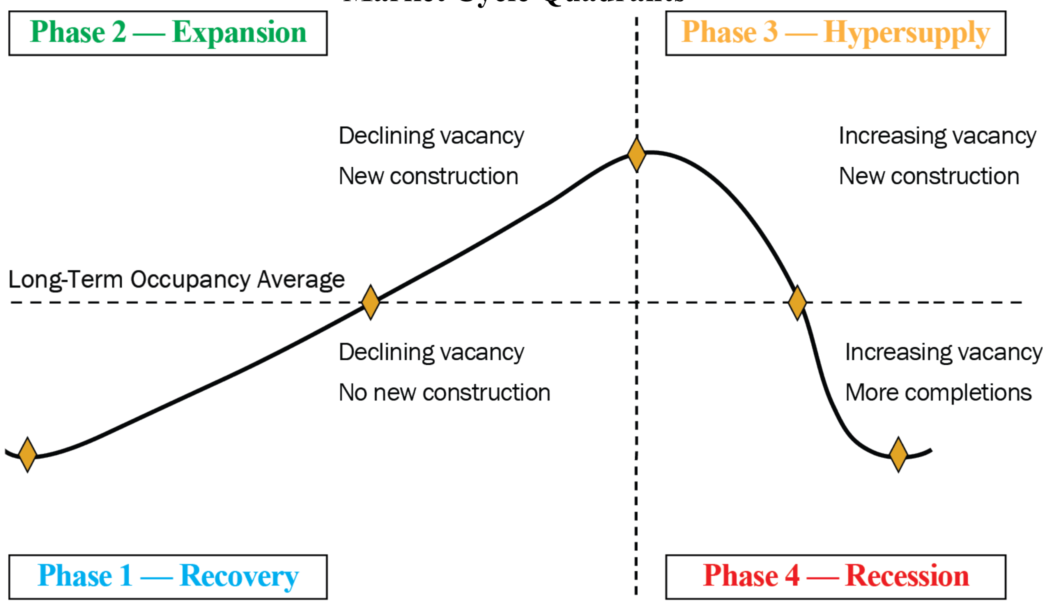
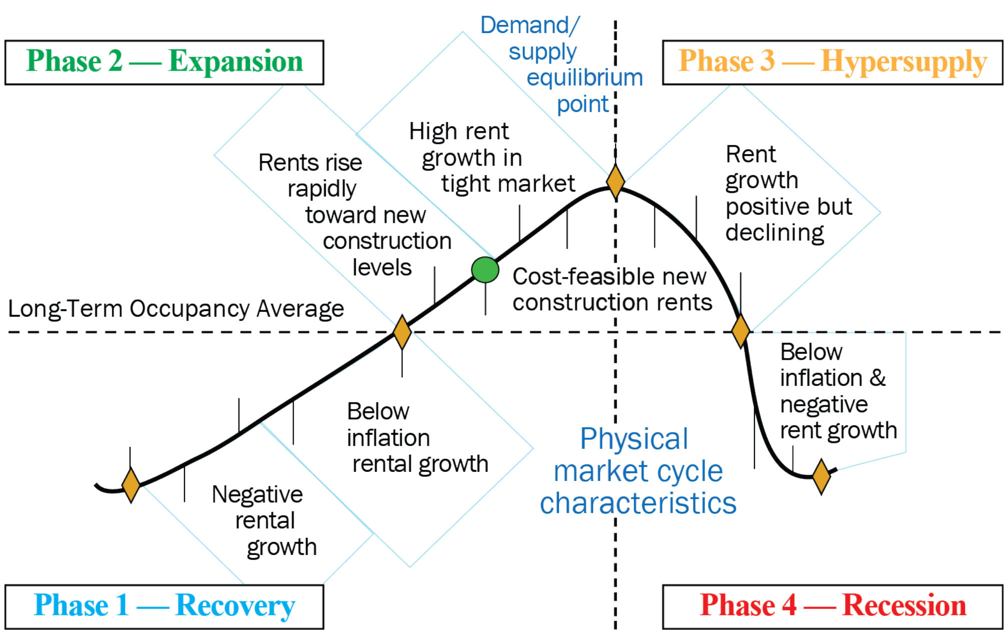
The Cycle Forecast analyzes occupancy movements in four property types in more than 50 Metropolitan Statistical Areas (MSAs). The market cycle analysis should enhance investment-decision capabilities for investors and operators. The four property type cycle charts summarize almost 300 individual models 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 supply and demand 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, 1996.

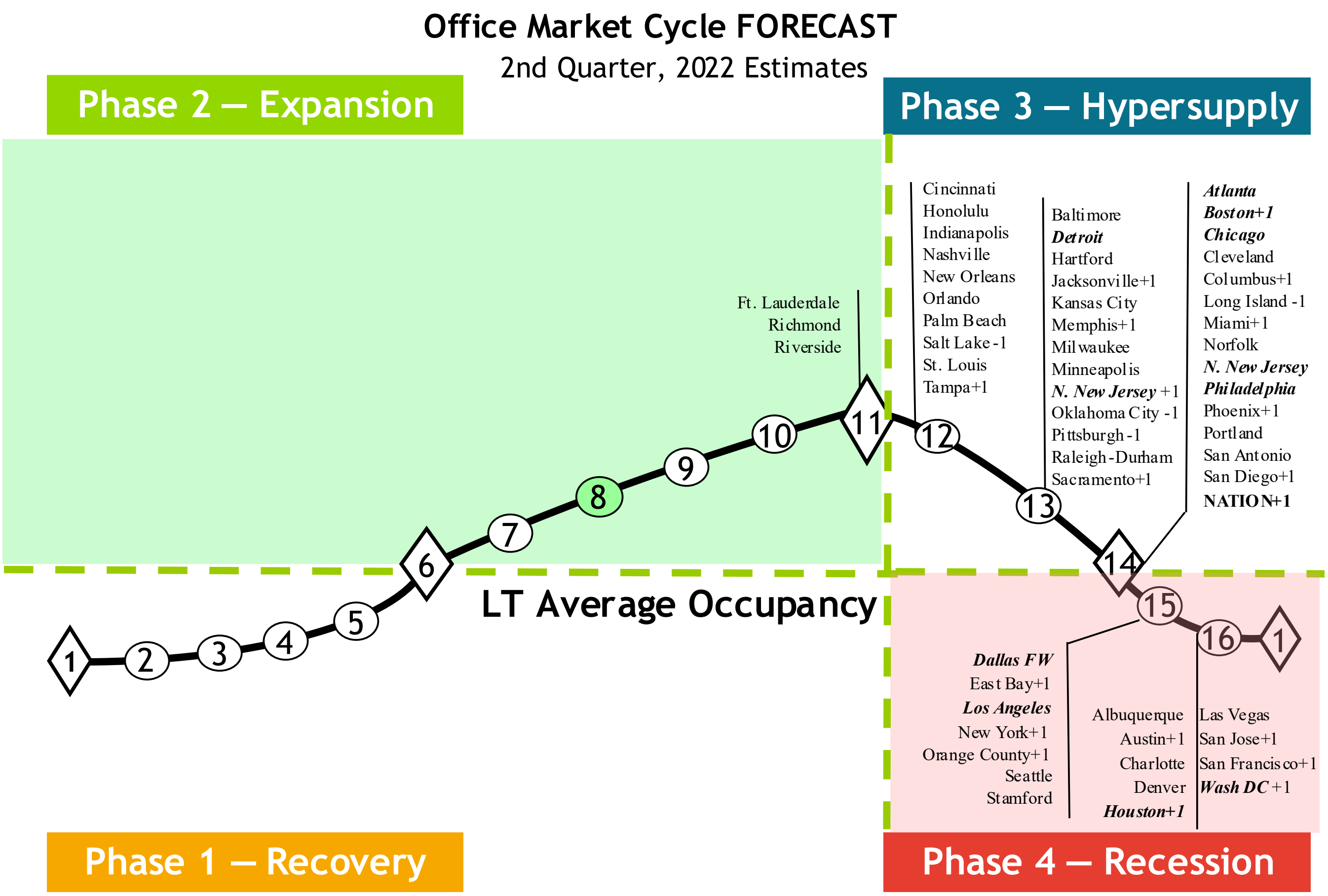
Rental growth rates can be characterized in different parts of the market cycle, as shown below.



Source: Mueller, Real Estate Finance, 1996.

OFFICE FORECAST

Office occupancies are forecast to decline 0.1% in 2Q22 and be down 0.6% year-over-year. Many markets moved further into the hypersupply phase of the cycle as occupancies are forecast to decline from supply outpacing demand over the next year. The post COVID use of office space is still the biggest question mark in everyone's forecast of future office demand. While many companies state they will demand return to office full time, many employees state they plan to leave if they are not allowed a more flexible work schedule with at least some remote work available. How office space might be used and what new space configurations might be is also a large question on most managements' minds. This type of uncertainty has never been seen before. National average office asking rents are expected to increase 0.7% in 2Q22 and be up 1.0% year-over-year, not keeping pace with inflation.



Source: Mueller, 2021

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

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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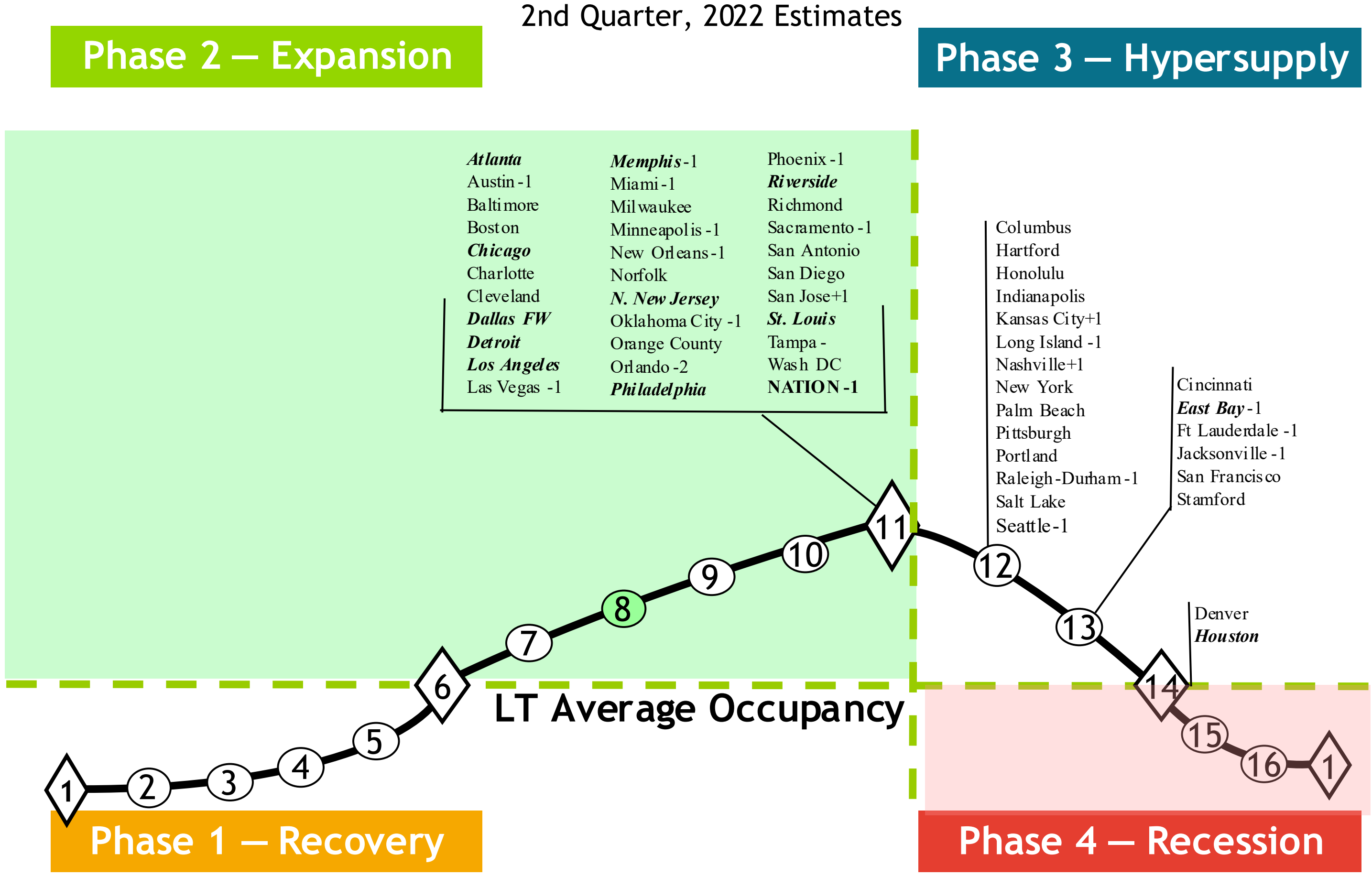
INDUSTRIAL FORECAST

Industrial occupancies are forecast to increase 0.1% in 2Q22 and be up 0.2% year-over-year coming close to a new all-time peak. 2022 demand is forecast to be even higher than it was three months ago, as strong GDP growth and consumer savings numbers are expected to continue over the next year. The previous over-supply forecast has moderated due to labor and materials shortages slowing new construction and increasing costs. Demand is also expanding into more markets, as primary industrial market supply cannot keep up with demand, pushing tenants to look in nearby secondary markets. In addition, fast delivery has pushed supply chains to hold more inventory, increasing space demand further. We expect national average asking rents to increase 1.4% in 2Q22 and be up 16.7% year-over-year, more than twice the rate of inflation.

Industrial Market Cycle FORECAST

2nd Quarter, 2022 Estimates



Source: Mueller, 2021

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

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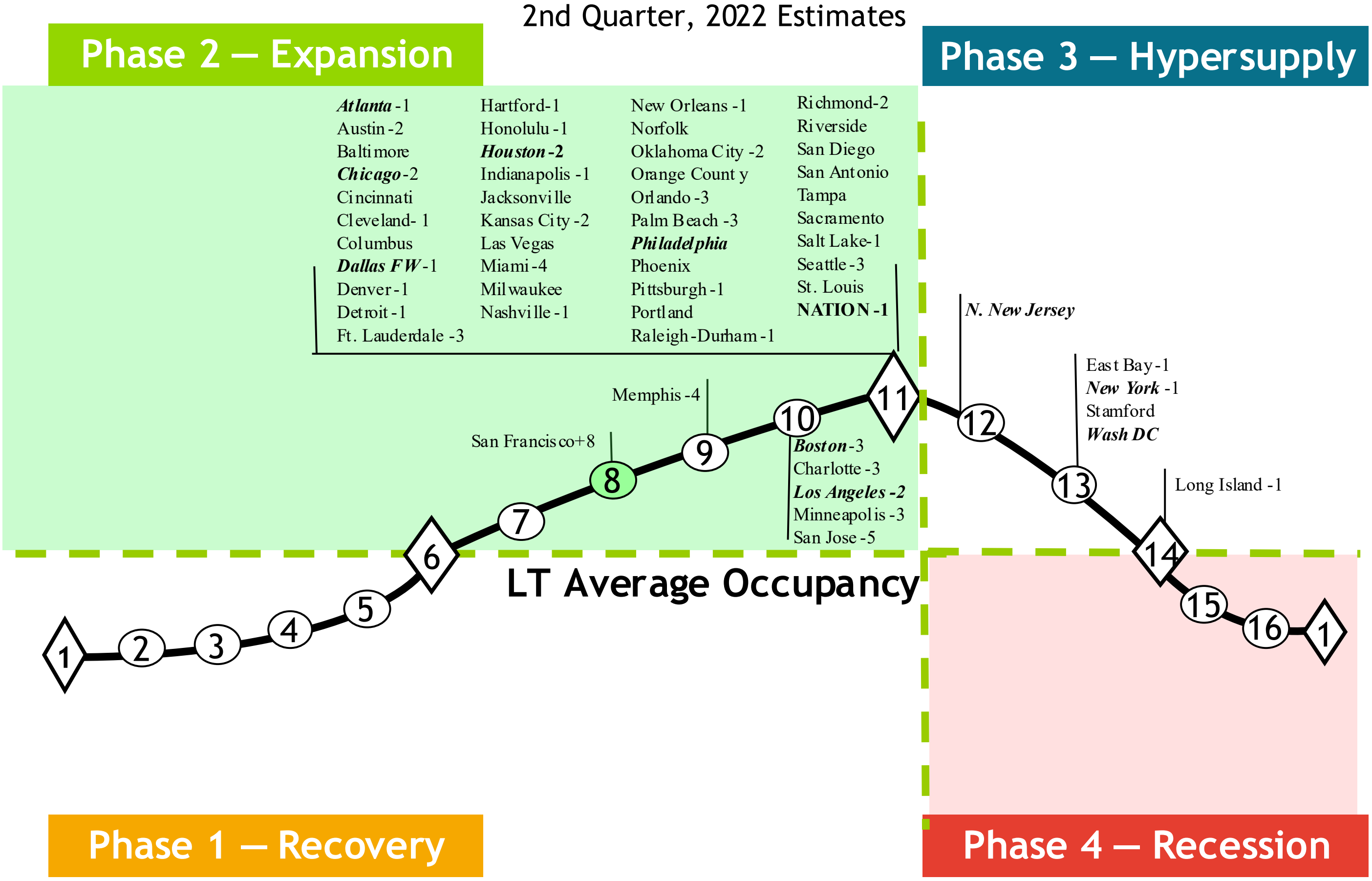
APARTMENT FORECAST

Apartment occupancies are forecast to increase 0.1% in 2Q22 and be up 0.2% year-over-year, as new peak occupancy levels are reached in many markets. Employment growth is driving future apartment demand and the loss of renters to home ownership is expected to continue to be low. Soaring housing prices and increasing interest rates are making housing less affordable/attainable for many renters. Oversupply is expected to slow due to increasing labor and materials prices that make cost feasible new construction less attainable. We expect that peak occupancy levels should continue in most of the 41 markets that now sit at point #11 in the cycle forecast. Whether urban or suburban submarkets do better is still major speculation. The national apartment asking rental rate may increase by 0.7% in 2Q22 and be up 7.4% year-over-year.

Apartment Market Cycle FORECAST

2nd Quarter, 2022 Estimates



Source: Mueller, 2021

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

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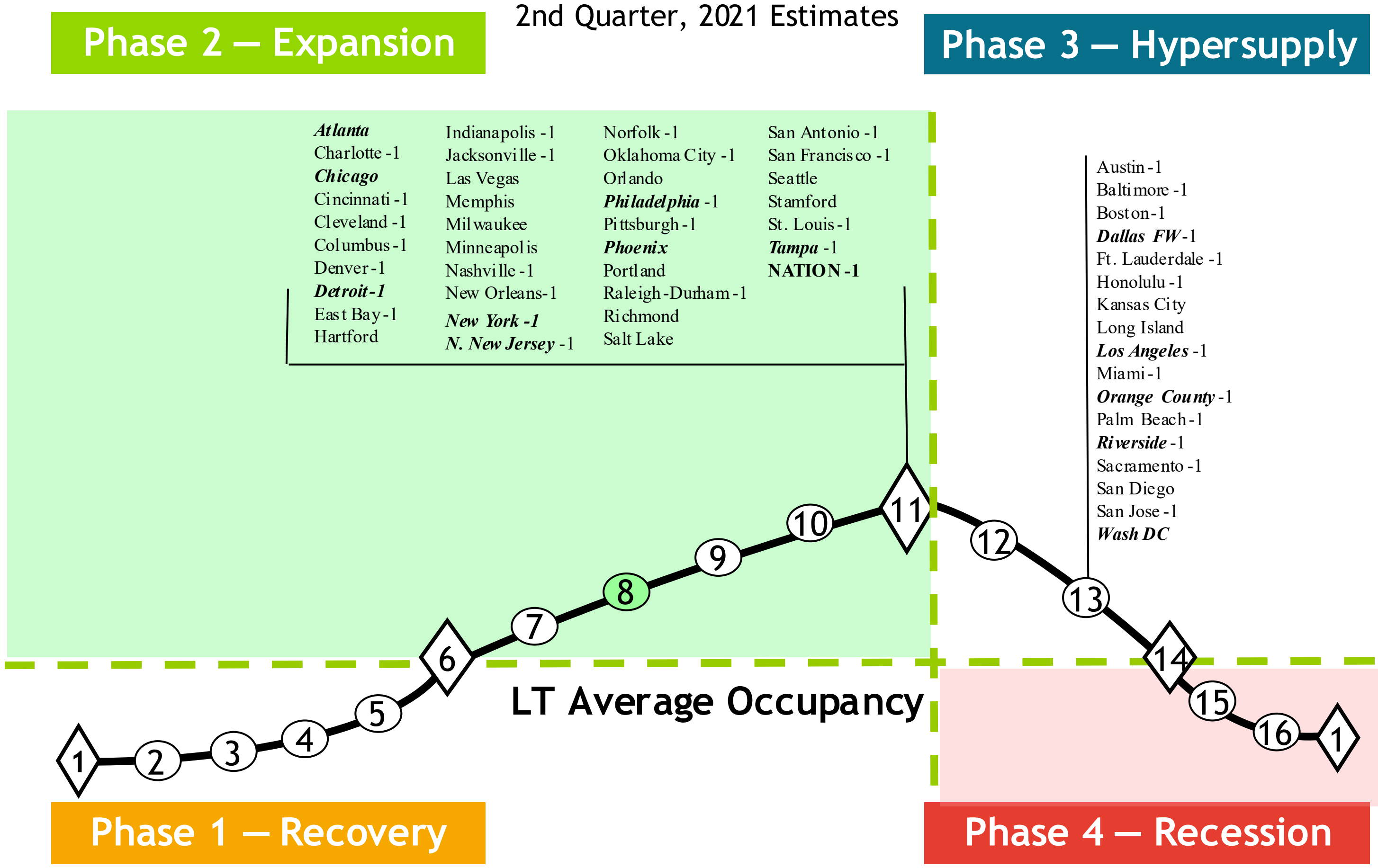
Retail Forecast

Retail occupancy is forecast to increase 0.1% in 2Q22 and increase 0.1% year-over-year. The national average is forecast to return to peak occupancy levels. Retail sales are forecast to be strong from the high consumer savings ($ 4 trillion) experienced during COVID and increasing consumer confidence as people go back to work. Retail supply is expected to be constrained, not only by higher labor and construction costs, but also by the conversion of much retail space to alternative uses including apartment, industrial and other non-retail uses. Strong retailers (COVID haves) are forecast to continue their expansions, including Amazon going to larger format stores. The post COVID retail forecast has improved substantially. Retail asking rental rates are expected to increase 1.2% in 2Q22 and be up 0.6% year-over-year after previous COVID induced declines.

Retail Market Cycle FORECAST

2nd Quarter, 2021 Estimates



Source: Mueller, 2021

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

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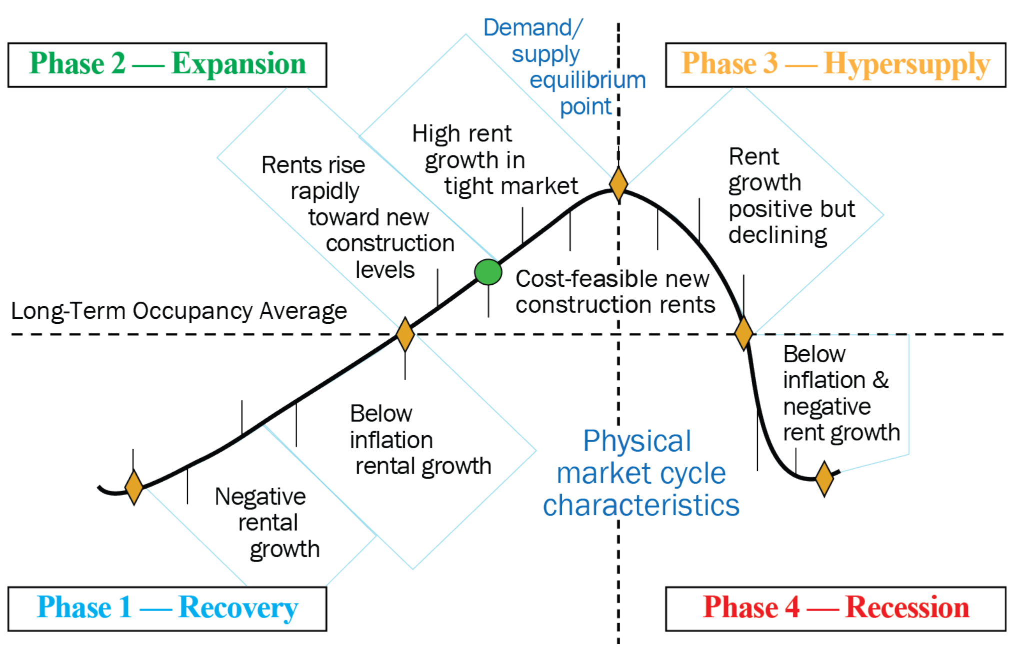
MARKET CYCLE ANALYSIS — Explanation

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 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; 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.

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