UNIVERSITY of DENVER
DANIELS COLLEGE OF BUSINESS
Franklin L. Burns School of Real Estate & Construction Management

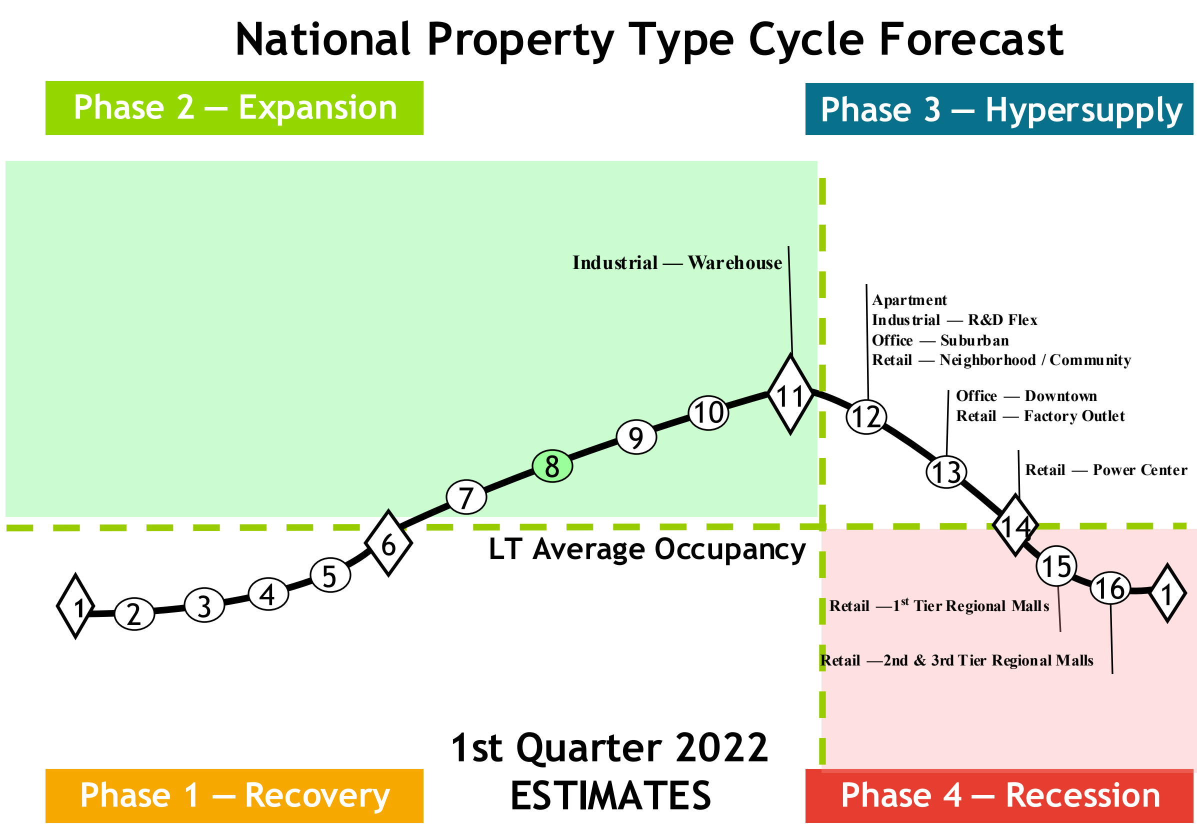
VAN KEUREN
FAMILY OFFICE REAL ESTATE™
INSTITUTE
EXECUTIVE EDUCATION

MUELLER
REAL ESTATE MARKET CYCLE FORECAST

First Quarter 2022 Estimates

COVID immunization should be above the 70% needed for elimination of all restrictions, allowing for normal economic growth. GDP forecasts for 2022 are now averaging about 3%, as strong recovery and economic growth are expected. Inflation is expected to be above 2% which may push up interest rates. But there is a good argument for the government keeping interest rates low as it allows them to issue more debt for economic expansion programs without great harm to budgets. Real Estate is adjusting well to post COVID new normal (discussed in each property type section). COVID essential “Have” businesses should boom while COVID “Have Not” businesses recover and making needed changes.

Office occupancies are forecast to **decline 0.1%** in 1Q22, with rents being flat quarter-over-quarter.
Industrial occupancies are forecast to **increase 0.1%** in 1Q22, with rents increasing 1.3% quarter-over-quarter.
Apartment occupancies are forecast to **be flat** in 1Q22, with rents increasing 1.5% quarter-over-quarter.
Retail occupancies are forecast to **be flat** in 1Q22, with rents increasing 0.5% quarter-over-quarter.



Source: Mueller, 2021

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

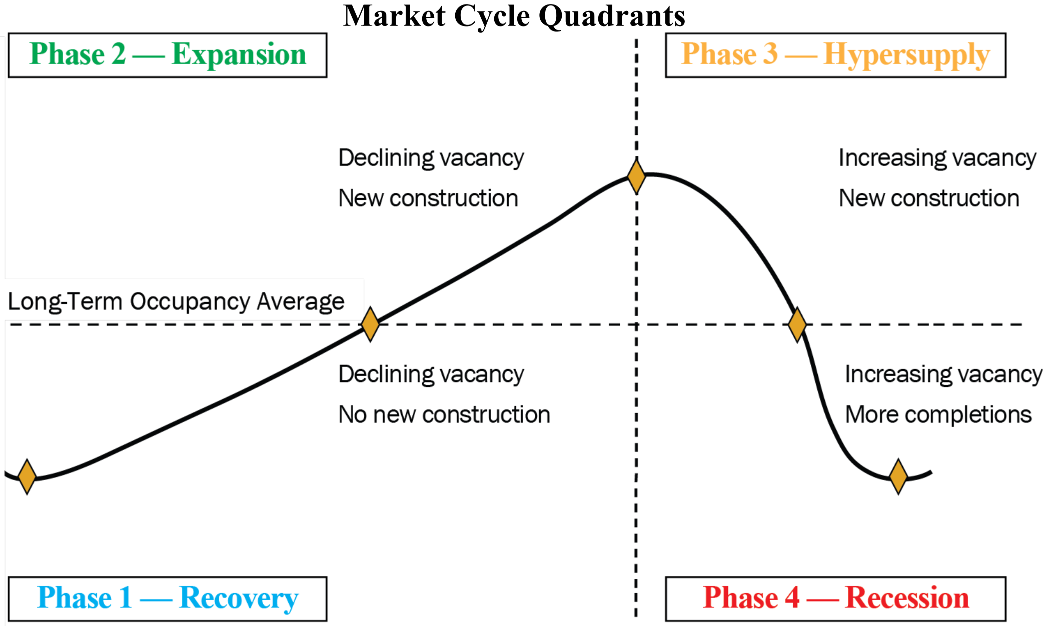
Glenn R. Mueller, PhD
Professor - University of Denver - Burns School of RECM - glenn.mueller@du.edu
Academic Director - Van Keuren Family Office Real Estate Institute – glenn.mueller@fore.institute

UNIVERSITY of DENVER
DANIELS COLLEGE OF BUSINESS
Franklin L. Burns School of Real Estate & Construction Management

VAN KEUREN FAMILY OFFICE REAL ESTATE™ INSTITUTE
EXECUTIVE EDUCATION

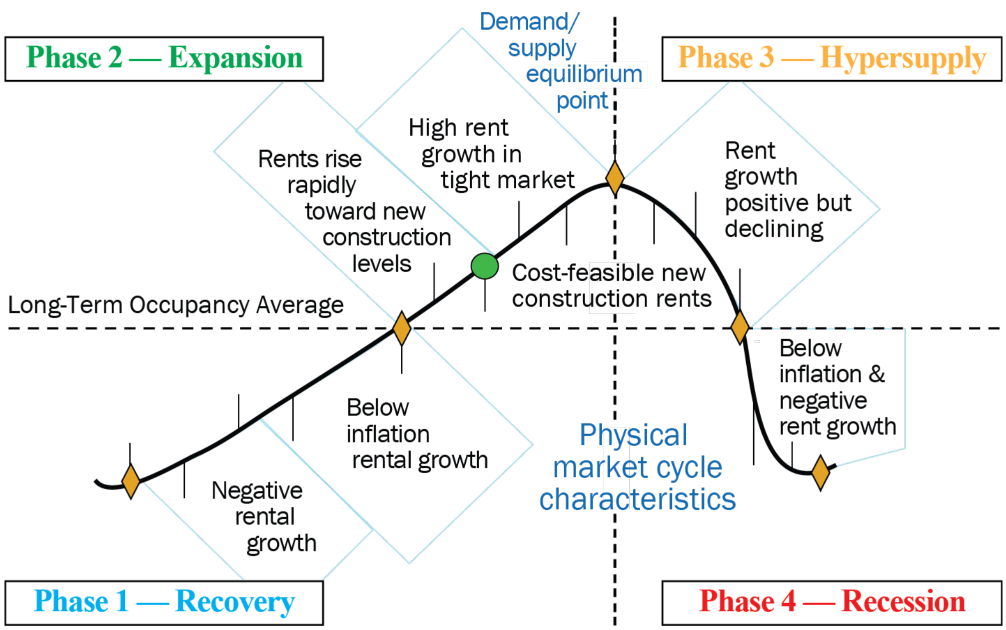
The Cycle Forecast analyzes occupancy movements in four property types in more than 50 Metropolitan Statistical Areas (MSAs). The market cycle analysis should enhance investment-decision capabilities for investors and operators. The four property type cycle charts summarize almost 300 individual models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

UNIVERSITY of DENVER
DANIELS COLLEGE OF BUSINESS
Franklin L. Burns School of Real Estate & Construction Management

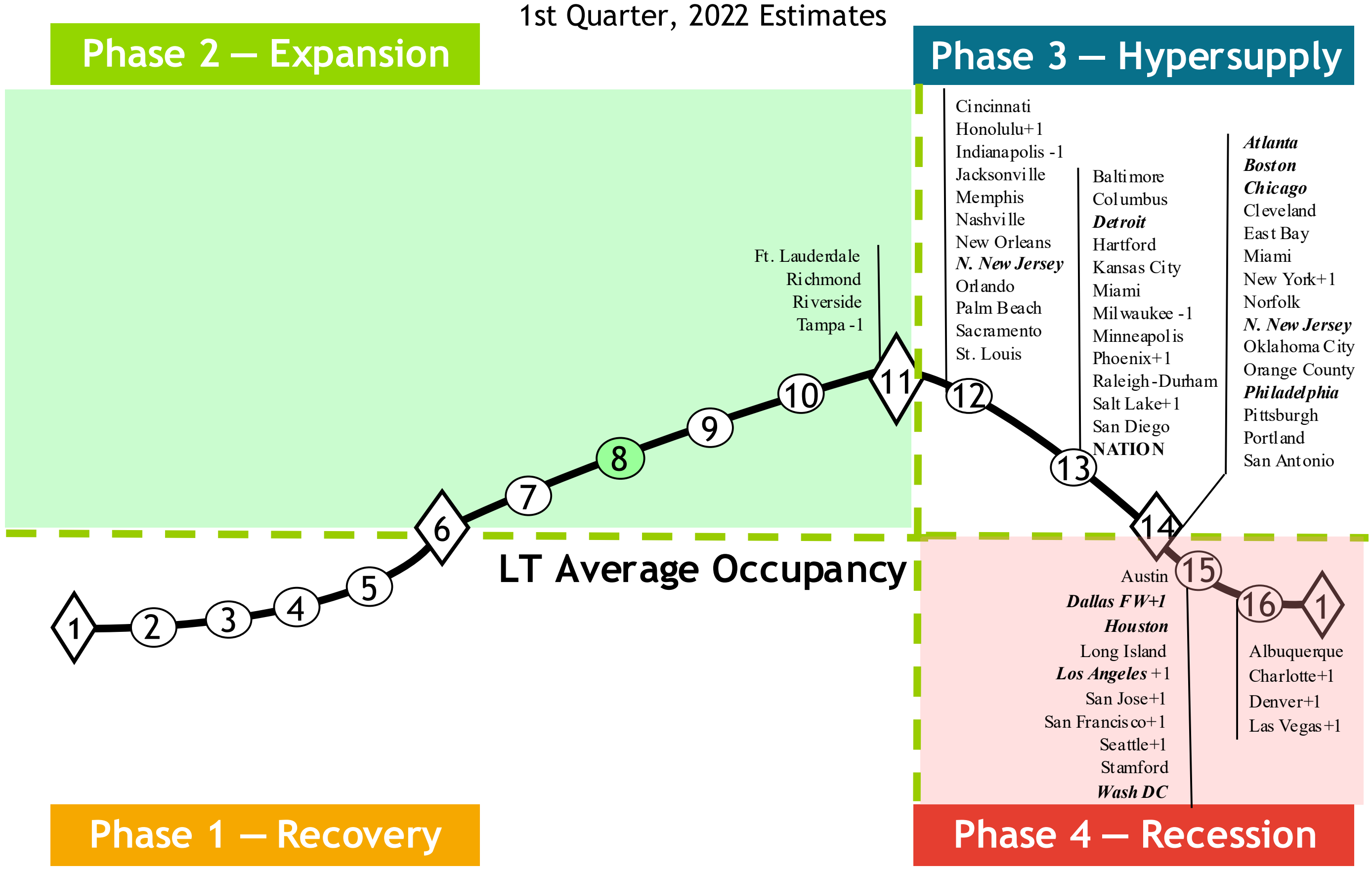
VAN KEUREN
FAMILY OFFICE REAL ESTATE™
INSTITUTE
EXECUTIVE EDUCATION

OFFICE FORECAST

Office occupancies are forecast to decline 0.1% in 1Q22 and be down 0.6% year-over-year. A few markets changed positions in the hyper-supply phase as the effects of businesses moving from large high-cost markets to lower cost second tier markets is expected to continue. At the same time the large number of new completions at double the historic average growth rate during 2021 in many markets creates oversupply without enough absorption. Post COVID office design is the new unknown variable that may or may not favor new construction space. The shift from urban to suburban may or may not continue – one indicator is that urban apartment occupancy declines reversed course at the end of 1Q2021. National average office asking rents are expected to be flat 1Q22 and be down 0.8% year-over-year.

Office Market Cycle FORECAST

1st Quarter, 2022 Estimates



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.

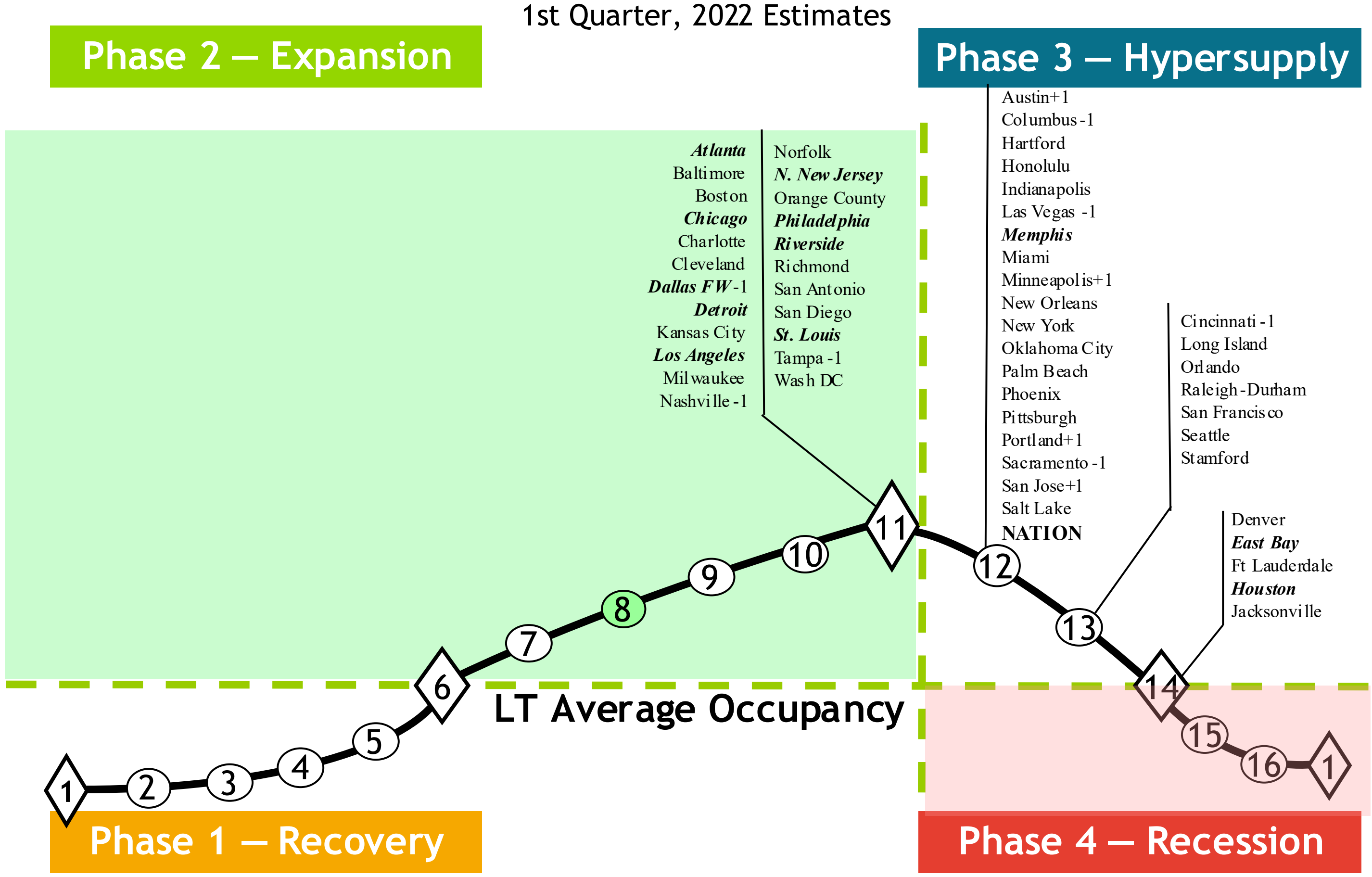
Markets do not always go through smooth forward-cycle movements and can regress or move backward in their cycle position when occupancy levels reverse their usual direction. This can happen when the marginal rate of change in demand increases (or declines) faster than originally estimated or if supply growth is stronger (or weaker) than originally estimated.

Industrial Forecast

Industrial occupancies are forecast to increase 0.1% in 1Q22 and be flat year-over-year. 2022 demand forecasts are strong and are pushing new supply plans to even higher numbers. Seven markets have improved occupancy forecasts, while only two showed enough decline to move down a position on the cycle graph. Bulk warehouse is forecast to have the highest demand followed by last mile close in distribution space. We expect R&D Flex space demand to continue lagging as small retailers and small suppliers are challenged by the continued internet sales growth. We expect national average asking rents to increase 1.3% in 1Q22 and be up 4.0% year-over-year.

Industrial Market Cycle FORECAST

1st Quarter, 2022 Estimates



Source: Mueller, 2021

Note: The <u>**12-largest industrial markets make up 50%**</u> 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.

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.

UNIVERSITY of DENVER
DANIELS COLLEGE OF BUSINESS
Franklin L. Burns School of Real Estate & Construction Management

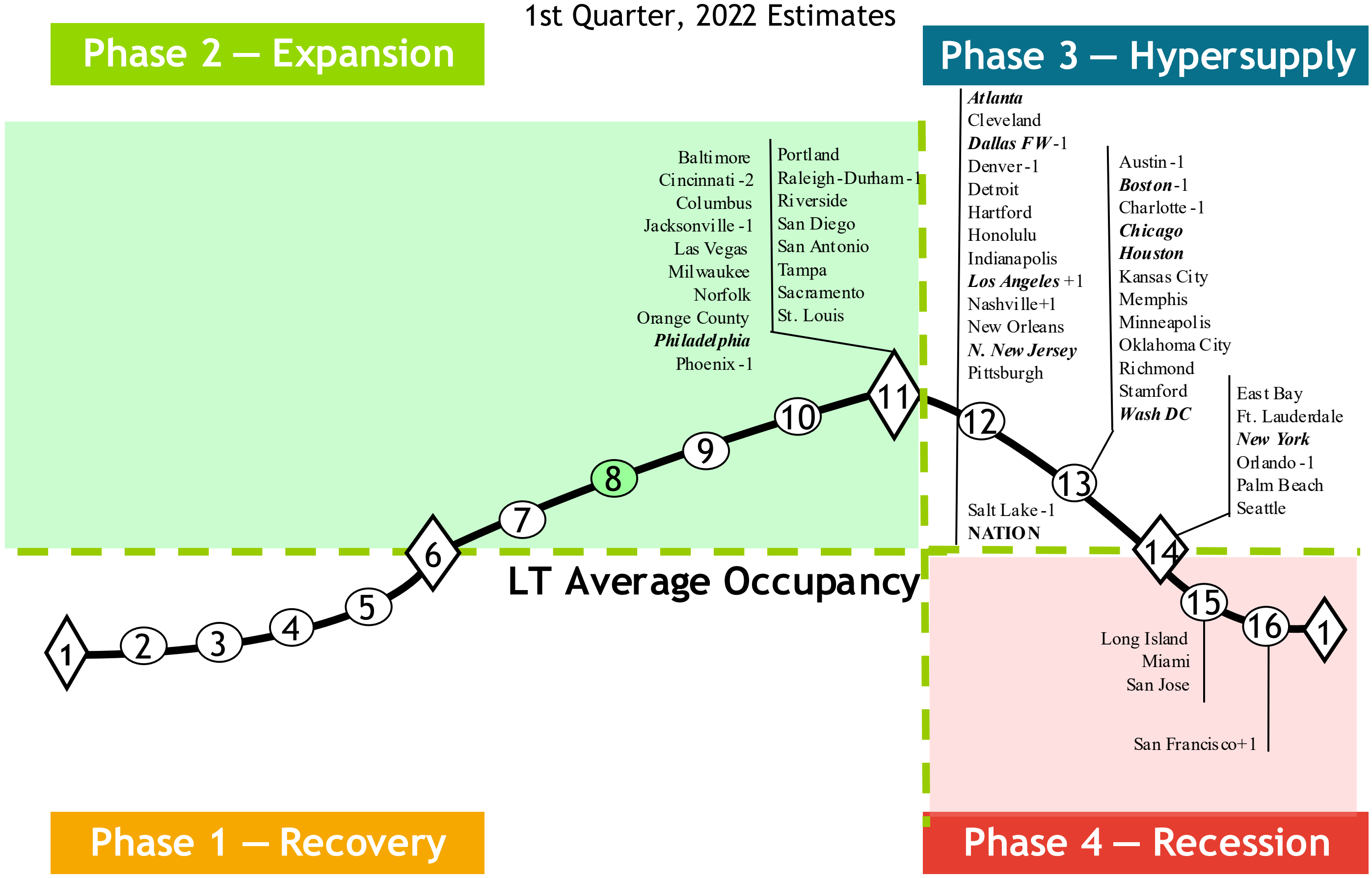
VAN KEUREN
FAMILY OFFICE REAL ESTATE™
INSTITUTE
EXECUTIVE EDUCATION

APARTMENT FORECAST

Apartment occupancies are forecast to be flat in 1Q22 and be down 0.4% year-over-year. Moderate demand growth coupled with slowed supply growth in 2021 should have helped improve the oversupply of the previous three years. 10 markets improved their occupancy positions in the cycle forecast. The urban to suburban migration shift slowed in 1Q21 and may turn around as urban restaurants and entertainment venues reopen – attracting millennials back to downtowns. Single family rental homes are expected to have the highest demand growth as millennials begin to have kids. The national apartment asking rental rate may increase by 1.5% in 1Q22 and be up 4.7% year-over-year.

Apartment Market Cycle FORECAST

1st Quarter, 2022 Estimates



Source: Mueller, 2021

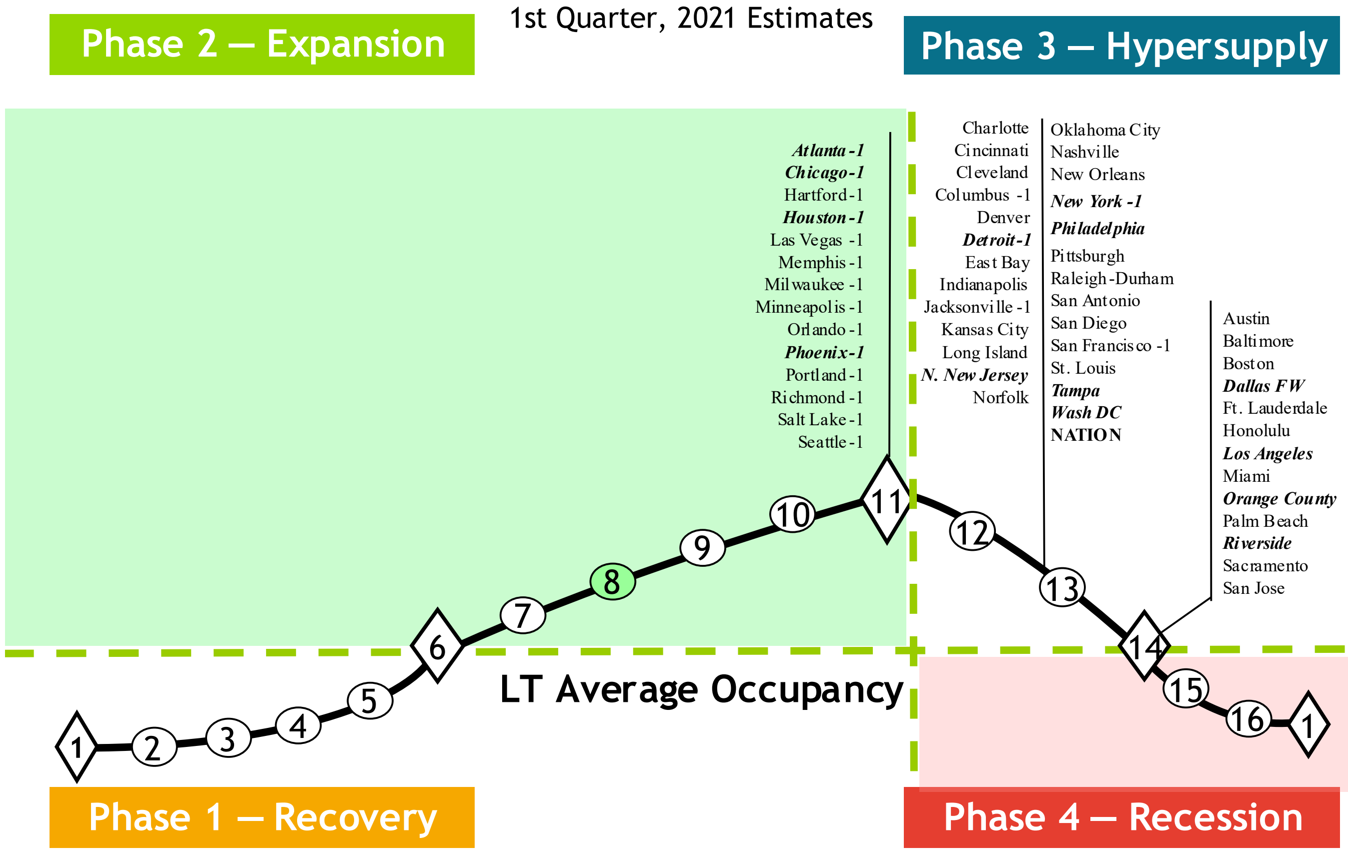
Note: **<u>The 10-largest apartment markets make up 50%</u>** of the total square footage of apartment space that we monitor. Thus, the 10-largest apartment markets are in ***bold italics*** to help distinguish how the weighted national average is affected.

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 Forecast

Retail occupancy is forecast to be flat in 1Q22 and decrease 0.2% year-over-year. Retail landlords are expected to continue to be creative with their space by going after non-retail tenants such as medical, health clubs, ghost kitchens as well as pursuing internet fulfillment centers when allowed by zoning. Expansion by the COVID "Have" retailers that sell essential goods and services are expected to continue their strong growth trend. Restaurants are expected to be running at normal full open levels across the entire country in 2022 but may still be experiencing staff shortages. The post COVID retail picture is still not clear. Retail asking rental rates are expected to increase 0.2% in 1Q22 and be up 0.5% year-over-year.

Retail Market Cycle FORECAST



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.

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.

UNIVERSITY of DENVER
DANIELS COLLEGE OF BUSINESS
Franklin L. Burns School of Real Estate & Construction Management

VAN KEUREN
FAMILY OFFICE REAL ESTATE ™
INSTITUTE
EXECUTIVE EDUCATION

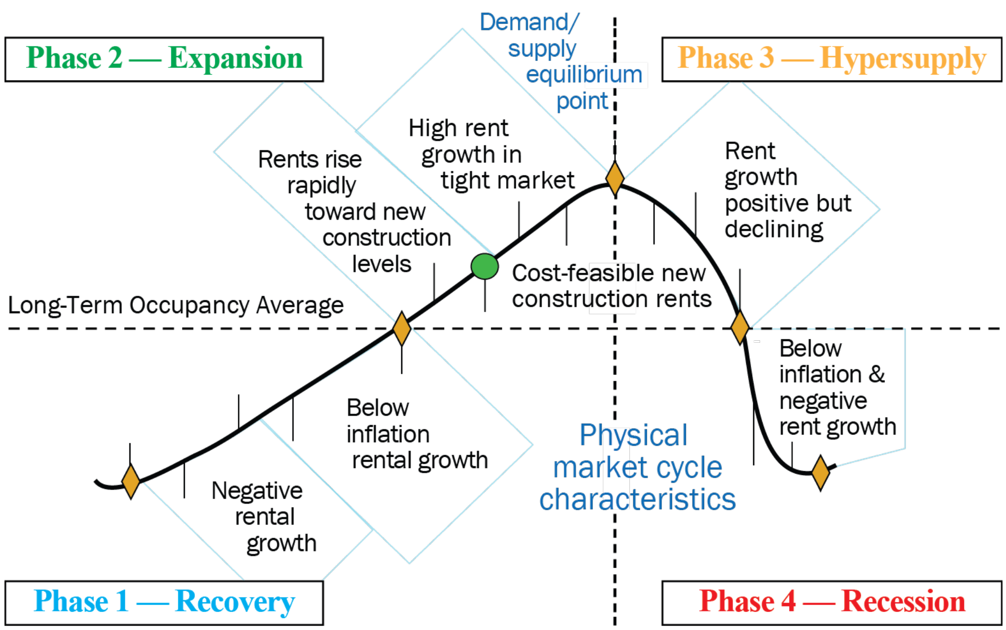
MARKET CYCLE ANALYSIS — Explanation

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.

Glenn R. Mueller, PhD - Professor
F.L. Burns School of Real Estate & Construction Management - glenn.mueller@du.edu
University of Denver - https://daniels.du.edu/burns-school

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.