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

VAN KEUREN
FAMILY OFFICE REAL ESTATE ™
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Mueller
Real Estate Market Cycle Monitor
Second Quarter 2022 Analysis – August 2022

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

GDP declined in 2Q as consumer sentiment was down and people held onto much of the $5 trillion in savings they had accumulated since COVID started (much from government stimulus.). This slowdown was a reaction to higher prices being driven up by labor and material shortages but good consumer demand. Inflation has likely peaked as retailers Wal-Mart and Target are sitting with the highest inventory to sales ratio in 13 years. They may slash prices up to 40% to move inventory. Hard to have a recession when employment growth continues at strong levels and unemployment is at a 40+ year low. With 27 million jobs added in 2022 and 11 million job postings existing – demand for real estate continues to be strong. All the property types had positive demand with occupancy declines only in cities with excess supply.

Office occupancy **increased 0.1%** in 2Q22, and rents **increased 0.2%** for the quarter were up 0.5%% annually.
Industrial occupancy **improved 0.9%** in 2Q22, and rents **grew 3.2%** for the quarter and were up 12.3% annually.
Apartment occupancy **decreased 0.1%** in 2Q22, and rents **grew 2.8%** for the quarter, and were up 9.4% annually.
Retail occupancy **improved 0.1%** in 2Q22, and rents **grew 1.2%** for the quarter and were up 4.4% annually.
Hotel occupancy **improved 4.0%** in 2Q22, and average RevPAR **grew 4.0%** for the quarter and was up 13.7% annually.

National Property Type Cycle Locations
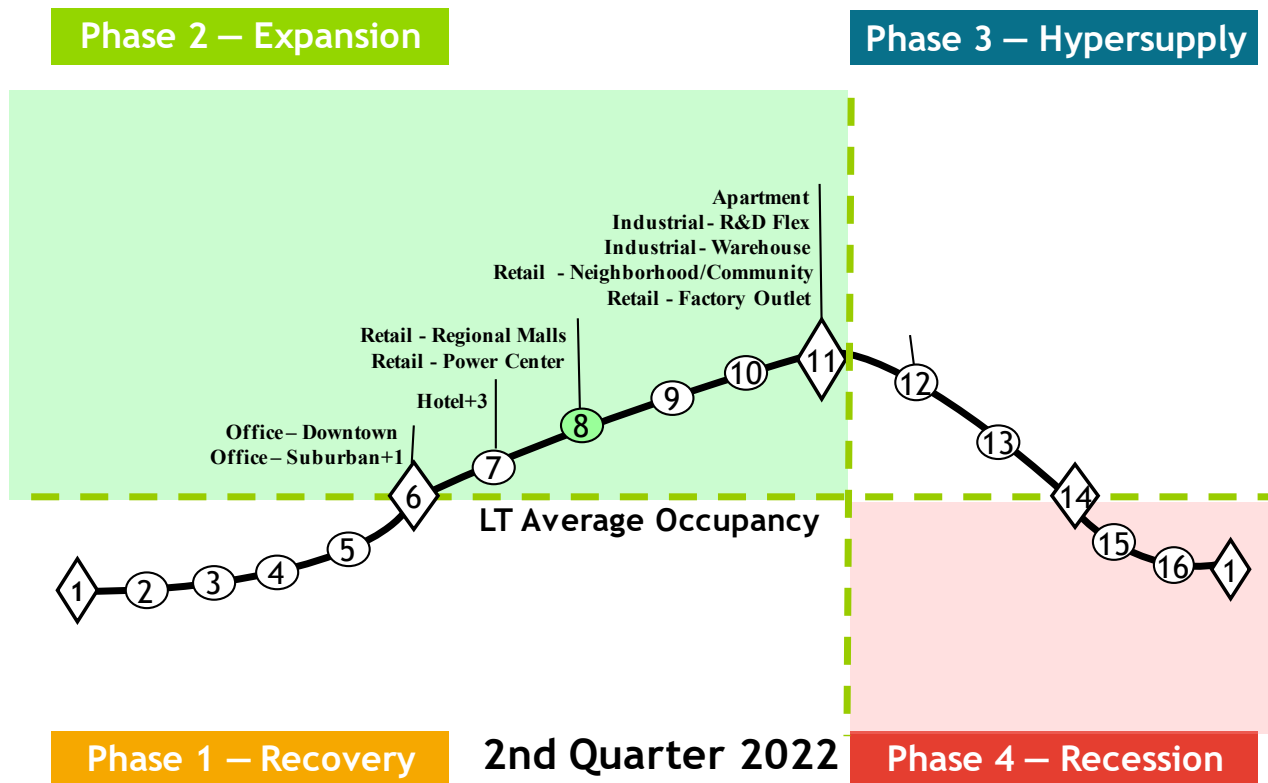
Source: Mueller, 2022

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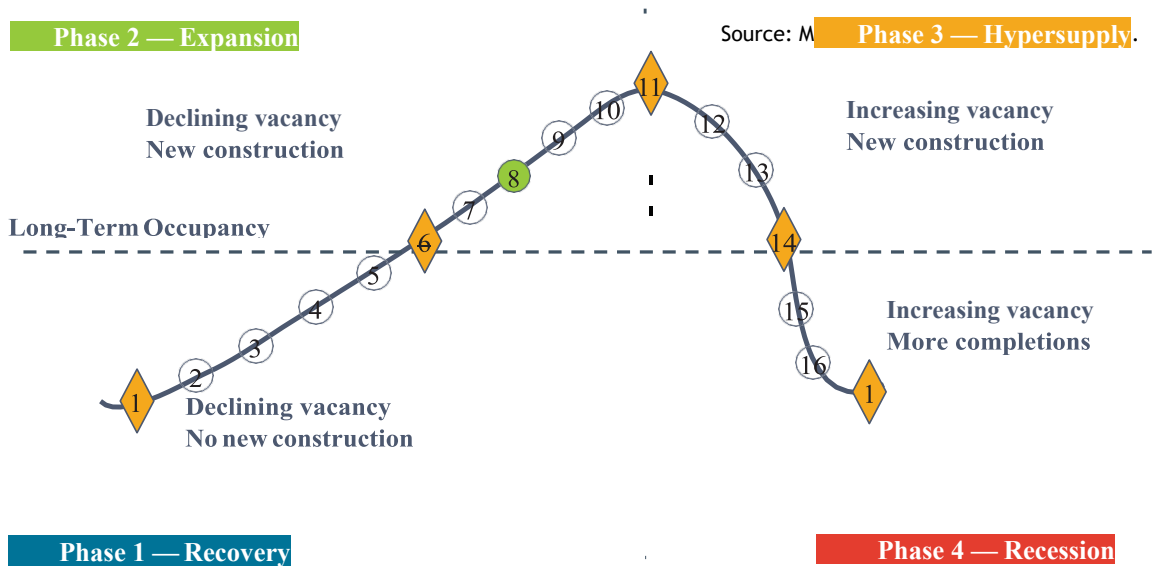
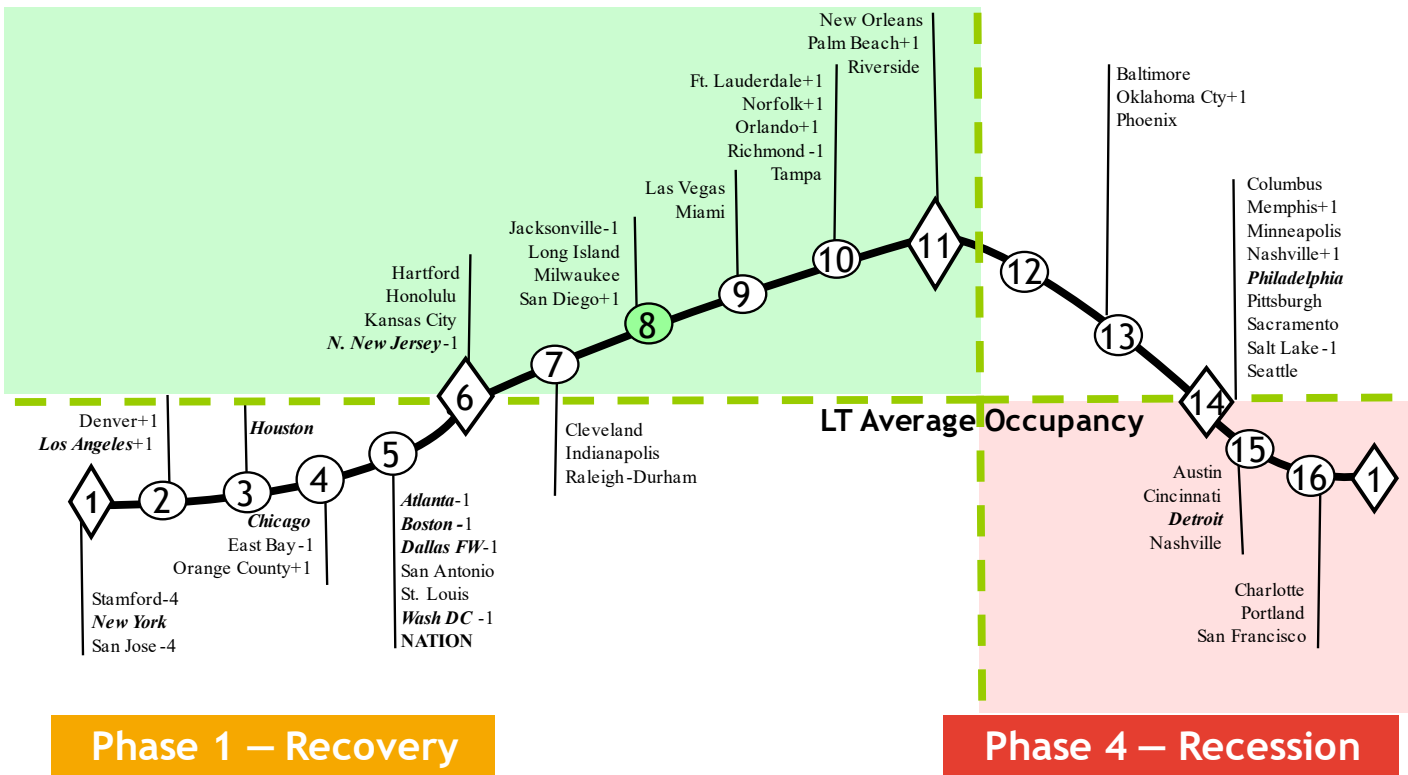Rental growth rates can be characterized in different parts of the market cycle, as shown below.

Source: Mueller, Real Estate Finance, 1996.
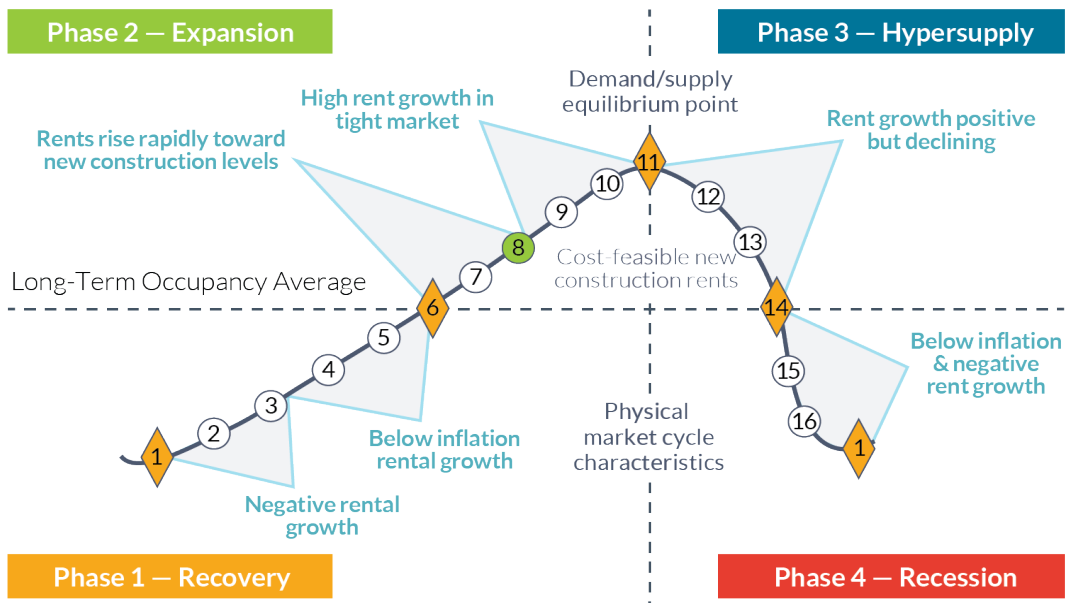
Office

The national office market occupancy level increased 0.1% in 2Q22 and was up 0.5% year-over-year. Absorption of 11.5 million square feet overcame the 64 million square feet of deliveries, but the issue is the 140 million square feet currently under construction. There is still weakness in demand with the continued uncertainty of work from home, as most firms are re-assessing their future office needs. Sub-lease listings have increased to over 200 million square feet. The sunbelt markets have been the best performers around the country so far in 2022. Rent growth has turned positive, as average national asking rents improved 0.2% in 2Q22 but were up 1.2% year-over-year.

Office Market Cycle Analysis
2nd Quarter, 2022

Phase 2 — Expansion

Phase 3 — Hypersupply

New Orleans
Palm Beach+1
Riverside

Ft. Lauderdale+1
Norfolk+1
Orlando+1
Richmond -1
Tampa

Baltimore
Oklahoma Cty+1
Phoenix

Las Vegas
Miami

Columbus
Memphis+1
Minneapolis
Nashville+1
Philadelphia
Pittsburgh
Sacramento
Salt Lake -1
Seattle

Jacksonville-1
Long Island
Milwaukee
San Diego+1

Hartford
Honolulu
Kansas City
N. New Jersey -1

LT Average Occupancy

Denver+1
Los Angeles+1

Houston

Cleveland
Indianapolis
Raleigh-Durham

Austin
Cincinnati
Detroit
Nashville

Chicago
East Bay -1
Orange County+1

Atlanta-1
*Boston -*1
Dallas FW-1
San Antonio
St. Louis
Wash DC -1
NATION

Stamford-4
New York
San Jose -4

Charlotte
Portland
San Francisco

Phase 1 — Recovery

Phase 4 — Recession
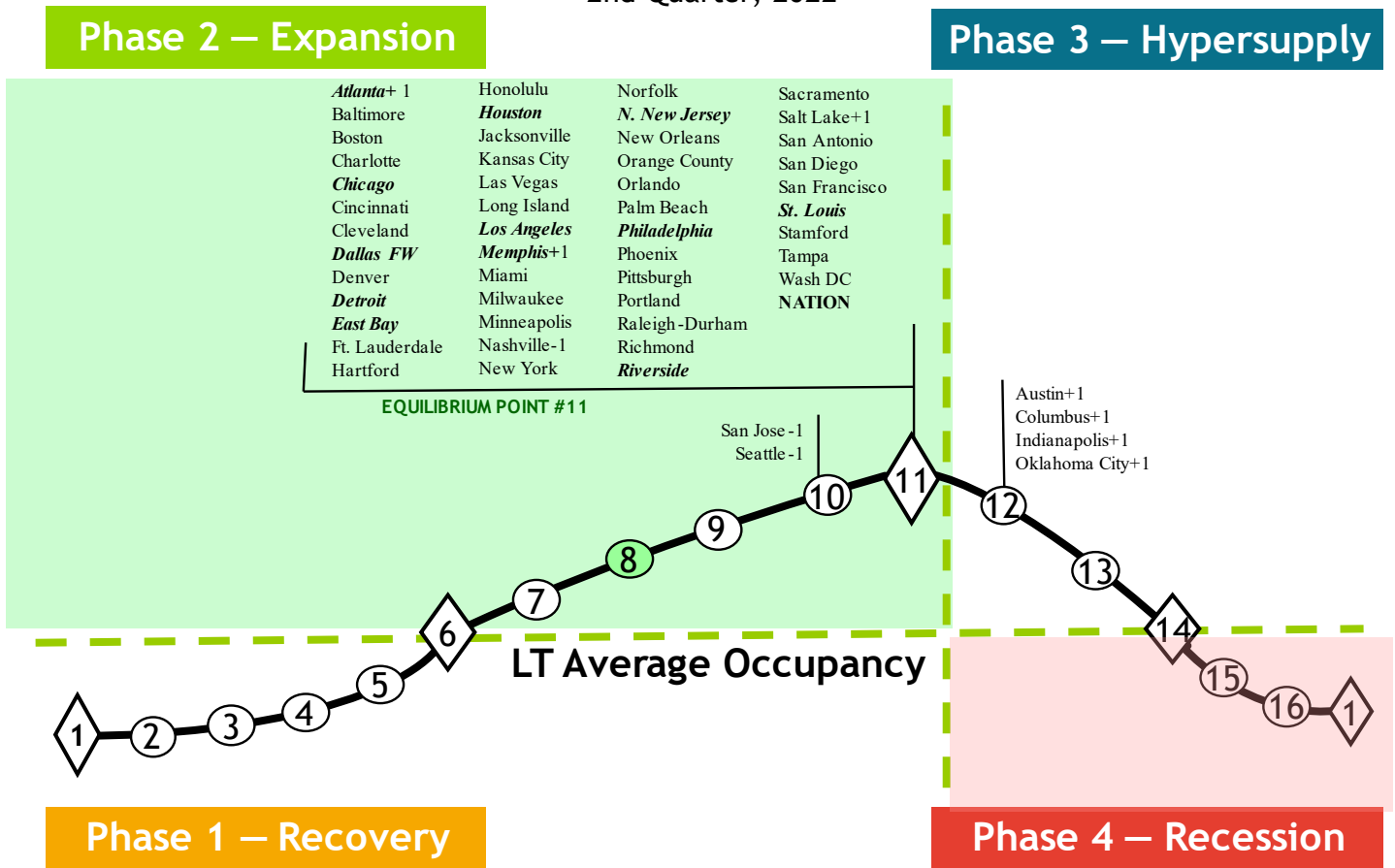
Source: Mueller, 2022

Note: The <u>11-largest office markets</u> 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 increased 0.9% in 2Q22 and were up 1.2% year-over-year, pushing the high occupancy peak even higher! An all-time high absorption of 460 million square feet outpaced deliveries of 362 million square feet. Leasing levels were 60% above pre-pandemic levels! Amazon dripping leases has helped other retailers get the space they need. Only a few markets had some oversupply that should be short lived. Costal markets performed best, especially the major port markets. Rent growth continues to outpace inflation with rents up 3.2% in 2Q22, and annual rents up 12.3% year-over-year.

Industrial Market Cycle Analysis
2nd Quarter, 2022

Phase 2 — Expansion

Phase 3 — Hypersupply

Atlanta+ 1	Honolulu	Norfolk	Sacramento
Baltimore	*Houston*	*N. New Jersey*	Salt Lake+1
Boston	Jacksonville	New Orleans	San Antonio
Charlotte	Kansas City	Orange County	San Diego
Chicago	Las Vegas	Orlando	San Francisco
Cincinnati	Long Island	Palm Beach	*St. Louis*
Cleveland	*Los Angeles*	*Philadelphia*	Stamford
Dallas FW	*Memphis*+1	Phoenix	Tampa
Denver	Miami	Pittsburgh	Wash DC
Detroit	Milwaukee	Portland	**NATION**
East Bay	Minneapolis	Raleigh-Durham	
Ft. Lauderdale	Nashville-1	Richmond	
Hartford	New York	*Riverside*	

EQUILIBRIUM POINT #11

San Jose -1
Seattle -1

Austin+1
Columbus+1
Indianapolis+1
Oklahoma City+1

LT Average Occupancy

Phase 1 — Recovery

Phase 4 — Recession

Source: Mueller, 2022

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.
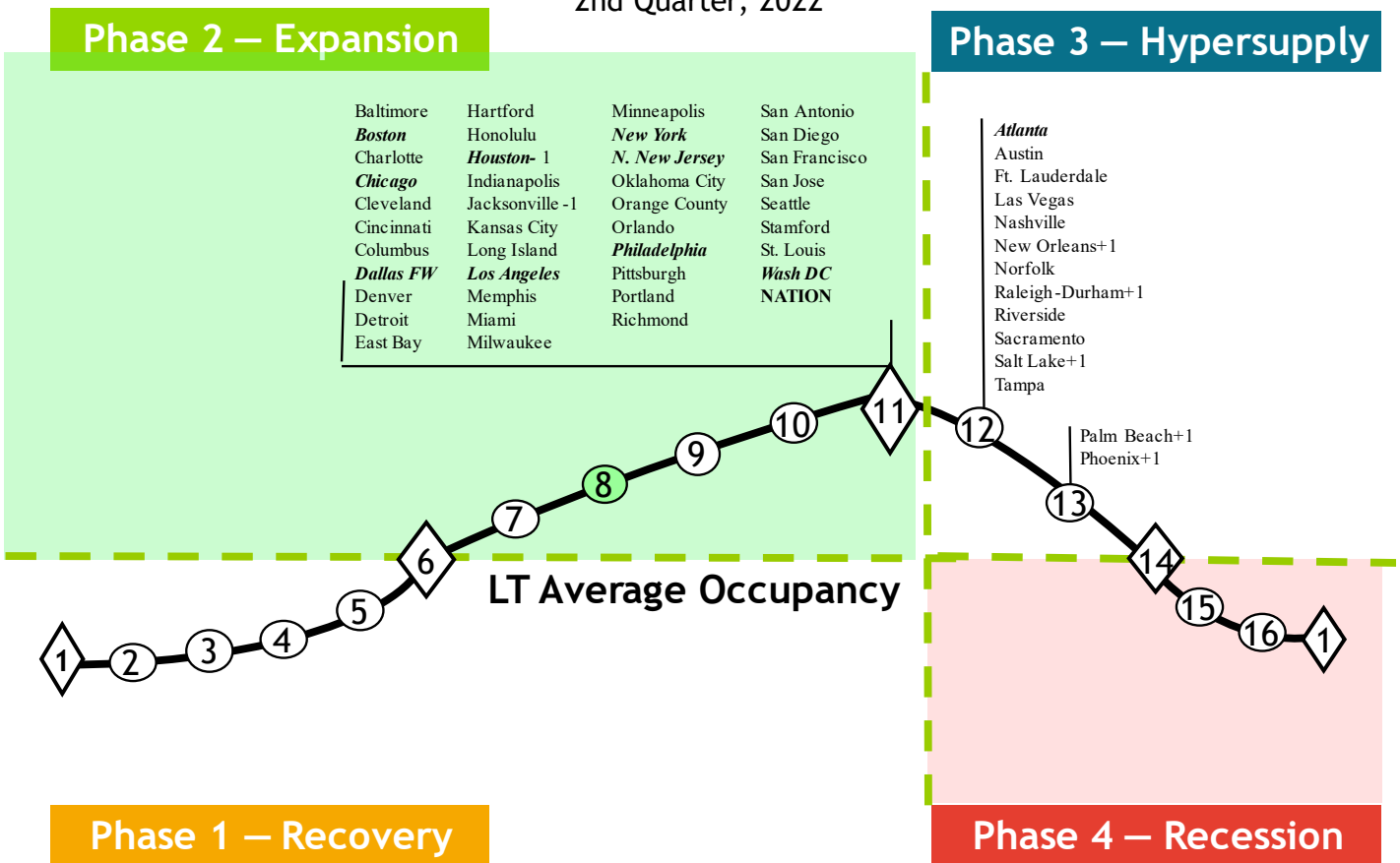
Markets that have moved since the previous quarter are now shown with a + or - symbol next to the market name and the number of positions the market has moved is also shown, i.e., +1, +2 or -1, -2. Markets do not always go through smooth forward-cycle movements and can regress or move backward in their 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.

Apartment

The national apartment occupancy average declined 0.1% in 2Q22 but was up 0.1% year-over-year. 325 thousand units were leased, while 393 thousand were delivered. Absorption was below pre-pandemic levels and occupancy was hardest hit in Class A properties that had raised their rents the most. Sunbelt markets continue to perform the best, with major cities like New York and Los Angeles finally rebounding. Those markets in the hyper-supply phase of the cycle (points #12 & #13) are likely to return to peak occupancy over the next few quarters. The pace of rent growth has slowed down finally with national average apartment asking rent growth of 2.8% in 2Q22 and rent growth up 9.4% year-over-year.

Apartment Market Cycle Analysis
2nd Quarter, 2022

Phase 2 — Expansion

Phase 3 — Hypersupply

Baltimore	Hartford	Minneapolis	San Antonio
Boston	Honolulu	*New York*	San Diego
Charlotte	*Houston*- 1	*N. New Jersey*	San Francisco
Chicago	Indianapolis	Oklahoma City	San Jose
Cleveland	Jacksonville -1	Orange County	Seattle
Cincinnati	Kansas City	Orlando	Stamford
Columbus	Long Island	*Philadelphia*	St. Louis
Dallas FW	*Los Angeles*	Pittsburgh	*Wash DC*
Denver	Memphis	Portland	**NATION**
Detroit	Miami	Richmond	
East Bay	Milwaukee		

Atlanta
Austin
Ft. Lauderdale
Las Vegas
Nashville
New Orleans+1
Norfolk
Raleigh-Durham+1
Riverside
Sacramento
Salt Lake+1
Tampa

Palm Beach+1
Phoenix+1

LT Average Occupancy

Phase 1 — Recovery

Phase 4 — Recession

Source: Mueller, 2022

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 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.
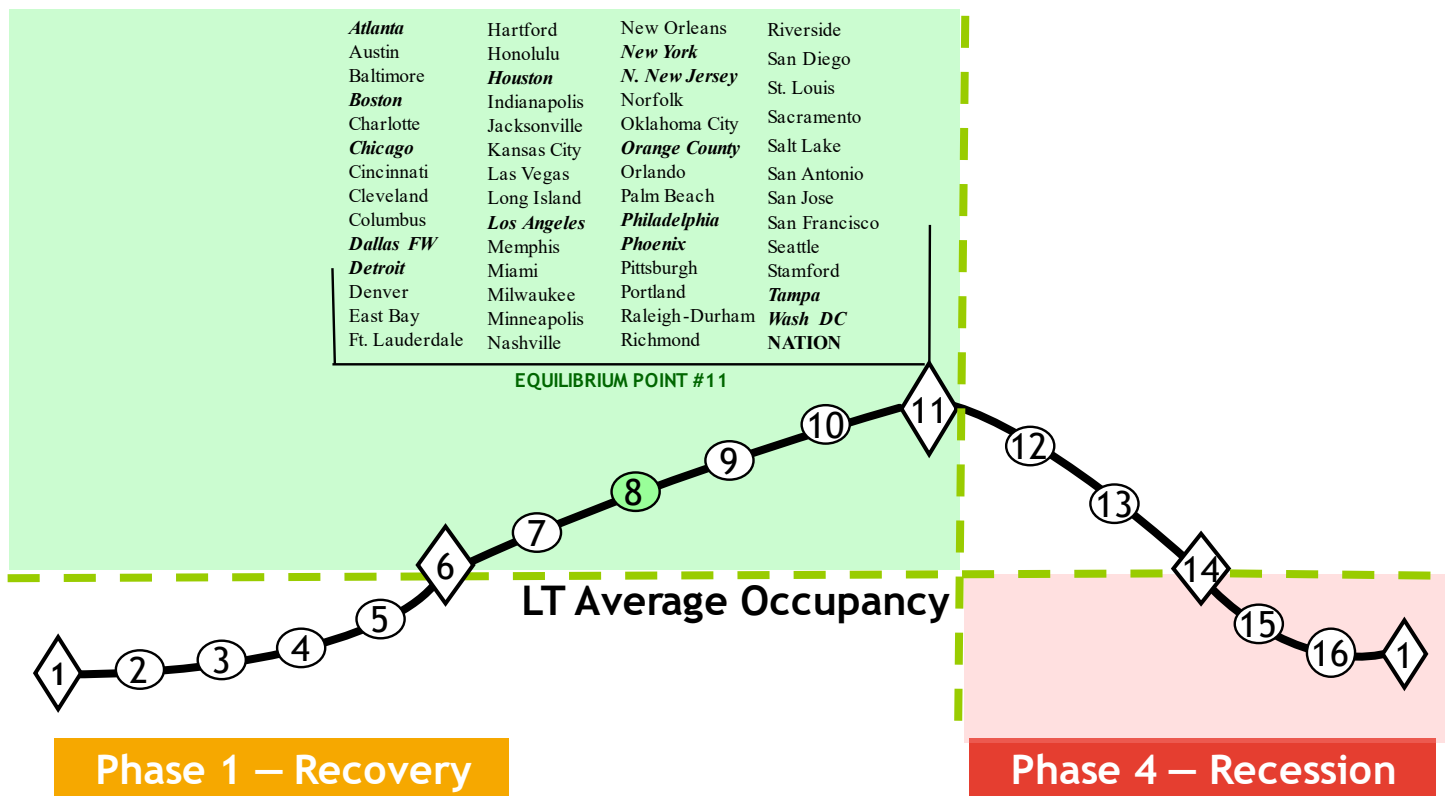
Retail

Retail occupancies were up 0.1% in 2Q22 and up 0.7% year-over-year to a new peak level. There were 4,328 announced store openings and 1,912 announced closures for the first half of the 2022. 85 million square feet of absorption easily overcame 41 million square feet of deliveries and 80% of new construction is currently pre-leased. Brick & mortar sales of $378 Billion is a new record high that is 22% higher than pre-pandemic levels – this gives retailers the motivation to expand. Quick service restaurants, discounters and fitness centers lead the leasing volume. The south and southwest markets with highest population growth performed best. Higher quality retail is still s the highest demand. National average retail asking rents were up 1.2% for the quarter and were up 4.4% year-over-year.

Retail Market Cycle Analysis
2nd Quarter, 2022

Phase 2 — Expansion

Phase 3 — Hypersupply

Atlanta	Hartford	New Orleans	Riverside
Austin	Honolulu	*New York*	San Diego
Baltimore	*Houston*	*N. New Jersey*	St. Louis
Boston	Indianapolis	Norfolk	Sacramento
Charlotte	Jacksonville	Oklahoma City	Salt Lake
Chicago	Kansas City	*Orange County*	San Antonio
Cincinnati	Las Vegas	Orlando	San Jose
Cleveland	Long Island	Palm Beach	San Francisco
Columbus	*Los Angeles*	*Philadelphia*	Seattle
Dallas FW	Memphis	*Phoenix*	Stamford
Detroit	Miami	Pittsburgh	*Tampa*
Denver	Milwaukee	Portland	*Wash DC*
East Bay	Minneapolis	Raleigh-Durham	NATION
Ft. Lauderdale	Nashville	Richmond	

EQUILIBRIUM POINT #11

LT Average Occupancy

Phase 1 — Recovery

Phase 4 — Recession

Source: Mueller, 2022

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.

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.
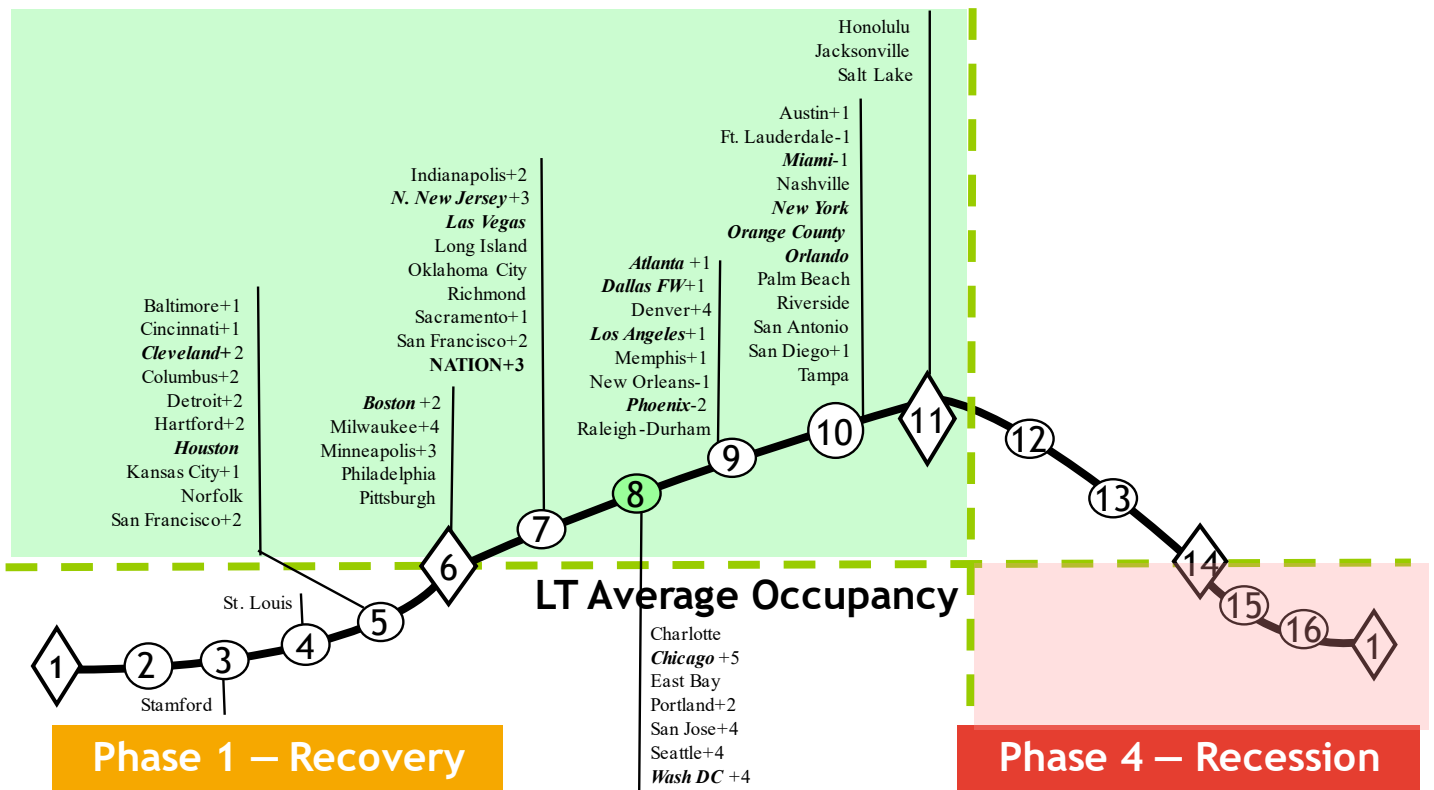
Hotel

Hotel occupancies were up 4.0% in 2Q22 and up 5.0% year-over-year. Leisure travel was very strong in spring. Also, conference group meeting travel has rebounded well, while corporate travel was still 50% below pre-pandemic levels (hard to visit someone in their office when they are working from home). Hospitality's biggest struggle is to regain their million jobs lost during the pandemic - can full-service hotels return to full-service levels without enough employees? Hotels continued to be successful in raising room rates. National average Revenue Per Available Room RevPAR was up 4.7% for the quarter and up 13.7% year-over-year.

Hotel Market Cycle Analysis
2nd Quarter, 2022

Phase 2 — Expansion

Phase 3 — Hypersupply

Honolulu
Jacksonville
Salt Lake

Austin+1
Ft. Lauderdale-1
Miami-1
Nashville
New York
Orange County

Indianapolis+2
N. New Jersey+3
Las Vegas
Long Island
Oklahoma City
Richmond
Sacramento+1
San Francisco+2
NATION+3

Orlando
Palm Beach
Riverside
San Antonio
San Diego+1
Tampa

Atlanta +1
Dallas FW+1
Denver+4
Los Angeles+1
Memphis+1
New Orleans-1
Phoenix-2
Raleigh-Durham

Baltimore+1
Cincinnati+1
Cleveland+ 2
Columbus+2
Detroit+2
Hartford+2
Houston
Kansas City+1
Norfolk
San Francisco+2

Boston +2
Milwaukee+4
Minneapolis+3
Philadelphia
Pittsburgh

LT Average Occupancy

St. Louis

Stamford

Charlotte
Chicago +5
East Bay
Portland+2
San Jose+4
Seattle+4
Wash DC +4

Phase 1 — Recovery

Phase 4 — Recession

Source: Mueller, 2022

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.

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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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
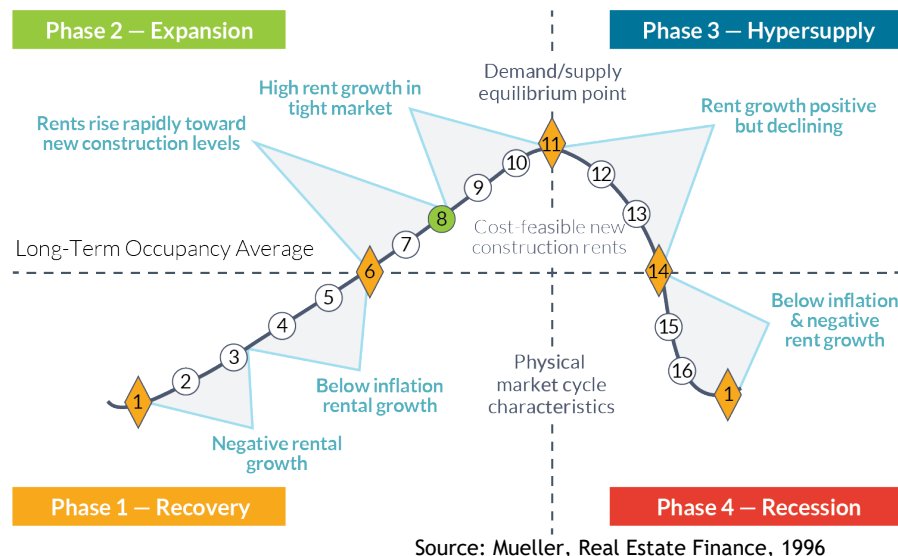
This research currently monitors five property types in 54 major markets. We gather data from numerous sources to evaluate and forecast market movements. The market cycle model we developed looks at the interaction of supply and demand to estimate future vacancy and rental rates. Our individual market 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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