Office Outlook

United States | Q4 2016

What's inside:

Despite growing workforce constraints, the tech sector remained the office market's primary demand driver, representing 24.4 percent of national leasing activity and helping offset suppressed tenant demand in the legal and financial services sectors.

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A combination of decelerating leasing velocity and a lower level of "mega leasing" in the fourth quarter of 2016 resulted in the lowest level of occupancy growth in the U.S. office market in 24 months. Just 6.5 million square feet of net absorption was recorded during the fourth quarter as near-full employment and a shortage of skilled talent restricted expansion activity in several major technology hubs and political uncertainty associated with the November election likely caused some tenants to adopt a wait-and-see mentality.

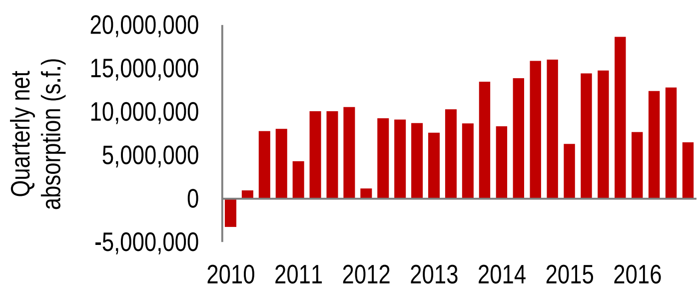
Despite growing workforce constraints, the tech sector remained the office market's primary demand driver, representing 24.4 percent of national leasing activity and helping offset suppressed tenant demand in the legal and financial services sectors. The slowdown within those industries was most apparent in New York City, which recorded 1.4 million square feet of negative net absorption in Q4 2016, and in the District of Columbia, which eked out modest occupancy growth in Q4 but registered 308,000 square feet of negative net absorption over the trailing 12 months.

San Francisco continued its steady growth, although the pace of expansion slowed dramatically year-over-year as the high cost of labor and high cost of living impacted corporate hiring. Given these factors, San Francisco's 2.9 percent occupancy growth in 2015 decelerated to 1.1 percent in 2016. Meanwhile, robust expansion continued in other tech hubs, such as Austin, Seattle and Silicon Valley, which each recorded annual occupancy growth of 2.0 percent or greater. With unemployment rates in these jurisdictions now deeply below the national average, the sustainability of these growth rates is uncertain and may create friction as workforce constraints limit continued industry expansion.

There were no leases larger than 500,000 square feet signed during the fourth quarter and 2016 saw a 43-percent drop in this form of "mega leasing." While we expect a bounce-back in 2017 as large letters of intent near lease execution – notably within the rapidly expanding Hudson Yards development – the availability of skilled talent and rising cost of labor will remain a challenge for employers in major metropolitan areas. A potential pullback in the H-1B visa program as part of broader immigration reform may intensify many industries' battle for talent and shift office demand to secondary markets in the years ahead.

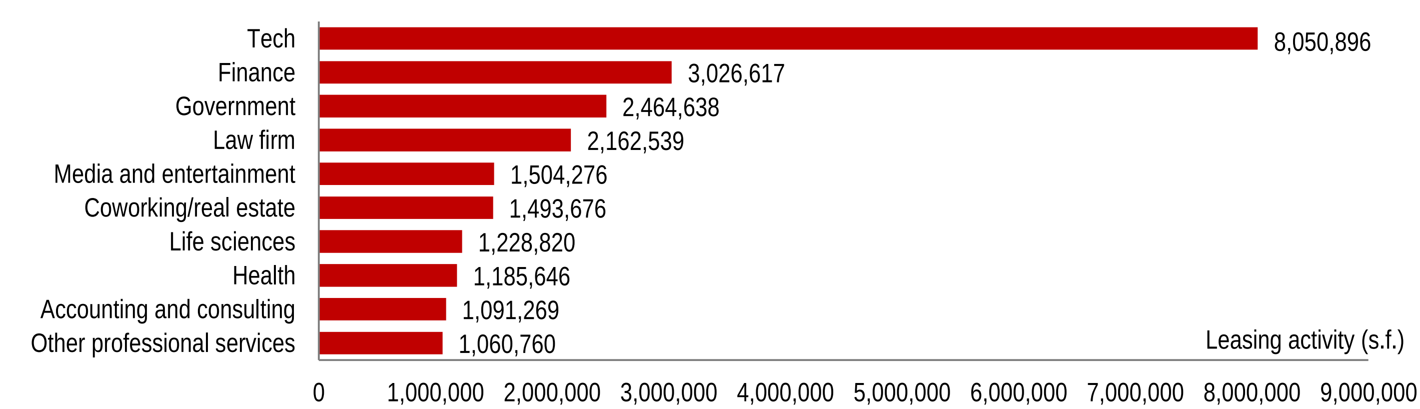
The 11 largest U.S. gateway markets registered occupancy growth in 2016 of 12.9 million square feet (0.6 percent of inventory), relative to 28.9 million square feet (1.5 percent of inventory) in secondary locations – a potential sign that employers are targeting expansion activity in lower-cost markets. Mid-sized markets such as Salt Lake City, Nashville and San Antonio each recorded 12-month occupancy gains in excess of 3.0 percent.

Net absorption slows as increased renewal activity and drop in **"mega leasing" suppresses occupancy growth**



Source: JLL Research

Leasing by industry in Q4 2016: tech continues to drive activity, even as the sector faces growing talent shortages

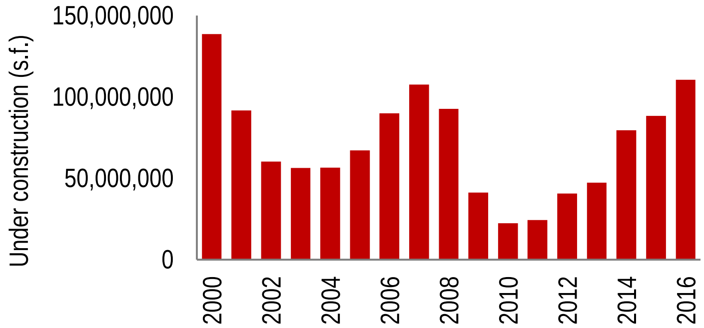


Source: JLL Research – leasing activity > 20,000 s.f.

Meanwhile, in tandem with a 90-basis-point increase in renewal activity and a lower overall rate of expansionary leasing compared to 2015, total occupancy growth across the U.S. in Q4 2016 fell short of recent quarters. Total net absorption of 41.8 million square feet in 2016 represented growth of 1.0 percent, a significant drop from 2015's total of 1.4 percent.

Despite the moderation in leasing demand, construction volumes rose once again and now stand at a cyclical high of 110.5 million square feet. As projected completions for 2017 will likely exceed demand, it is anticipated that construction activity will peak and new groundbreakings will ratchet back in 2017. The risk of future oversupply is most acute in major gateway markets, including New York (12.5 million square feet under construction) and Washington, DC (10.0 million square feet under construction), in which a surplus of quality new space or challenging prospects for backfilling second-generation space may materialize over the next 24 months.

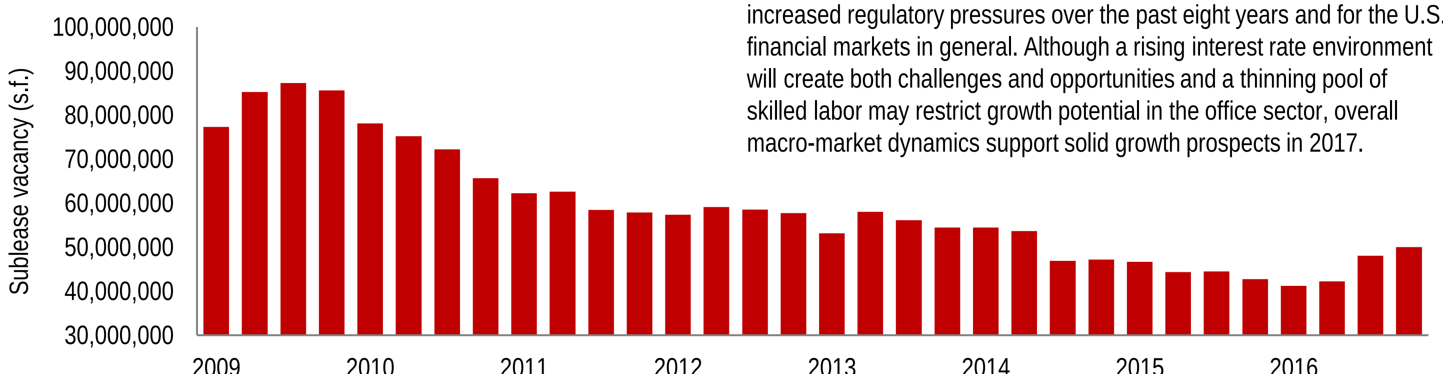
Construction activity reaches a cyclical peak, with new supply now outstripping tenant demand



Source: JLL Research

Volatility within the energy sector has been one of the largest contributors to the recent rise in sublease inventory, which increased by 17.2 percent across the U.S. over the past 12 months. At year-end, Houston had 11.9 million square feet of available sublease space, the most of any market in the U.S. However, following eight consecutive quarters of rising sublease inventory in Houston, decisions by ConocoPhillips and Breitburn Energy to backfill sublet space resulted in a modest downtick in that market's sublease inventory. With WTI Crude ending the year at levels 50.6 percent above its January 2016 low, it stands to reason that Houston will no longer create a drag on the U.S. market in 2017 and that any continued increase in national sublease inventories will be the result of traditional causes, such as merger and acquisition activity, corporate rightsizing and consolidations into new facilities.

U.S. sublease inventory trending higher but no longer hindered by energy sector challenges



Source: JLL Research

Heading into 2017, broader economic trends appear favorable for the office sector. Consumer confidence climbed to a 13-year high in December 2016, suggesting that consumer optimism toward business conditions, personal finances and employment are improving. The strengthening dollar and a recent rise in the U.S. 10-year Treasury provide other indicators of higher growth expectations. The Federal Reserve reaffirmed this optimism with a 25-basis-point increase in the overnight lending rate in December and provided targeted guidance on three additional rate hikes throughout 2017, signifying the central bank's confidence in the improving U.S. economy.

Although rising interest rates can be seen as a sign of higher growth expectations, they will also raise borrowing costs for developers and acquirers of real estate. The office market will need to demonstrate a commensurate increase in rents, or decrease in spreads, relative to rising interest rates to maintain current valuations.

A substantial wave of debt maturities is set to occur in 2017, which may test certain assets that have experienced subdued tenant demand or a deterioration in rents. Delinquency rates rose by 134 basis points year-over-year to 7.1 percent in 2016 and a large tranche of 2017 debt maturities align with the market's peak pricing from back in 2007. It is likely that distressed sales and loan defaults will increase in some struggling submarkets across the country. The compounding challenge of higher borrowing costs may signal more opportunistic and value-add sales as a proportion of overall sales volume. Tenants may be able to drive value by targeting assets that re-trade at a lower basis.

Investor demand is likely to remain solid for real estate assets across the risk spectrum in 2017. Foreign capital is likely to remain aggressive for core assets, where investment strategy and buyer motivations will be driven not only by a search for yield, but also as a hedge against currency and political risk. Asset allocations should also naturally drive more capital to the office sector in tandem with the recent run-up in equities and commodities. More investors are also likely to be drawn to real estate as an inflation hedge as short-term interest rates remain below GDP growth and inflation expectations continue to rise.

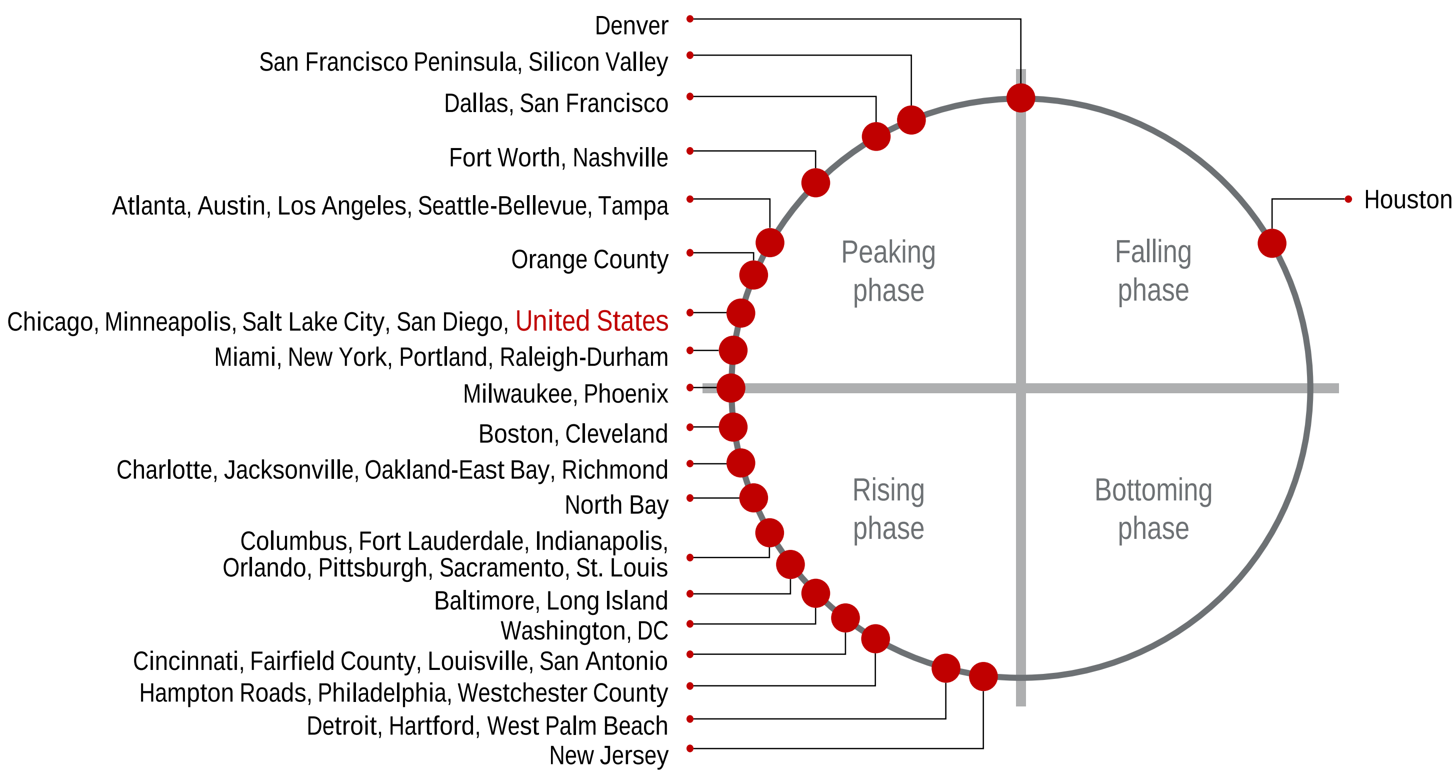
More broadly, a shift in public policy that favors deregulation and lower taxation may serve as a catalyst for select industries that have faced increased regulatory pressures over the past eight years and for the U.S. financial markets in general. Although a rising interest rate environment will create both challenges and opportunities and a thinning pool of skilled labor may restrict growth potential in the office sector, overall macro-market dynamics support solid growth prospects in 2017.

United States

Office clock

Asking rents across the United States rose by 0.1 percent during the fourth quarter, slower than the 1.0-percent increases during the second and third quarters of the year. Relocations to new space and give-backs of second-generation blocks, along with below-average occupancy growth, were responsible for much of the slowdown in rent growth. A number of major gateway markets such as San Francisco, Chicago, Washington, DC and New York also posted minimal rent growth or modest declines, while mid-sized geographies continued to record quarterly increases in excess of 1.0 percent, including Portland, Salt Lake City and Charlotte.

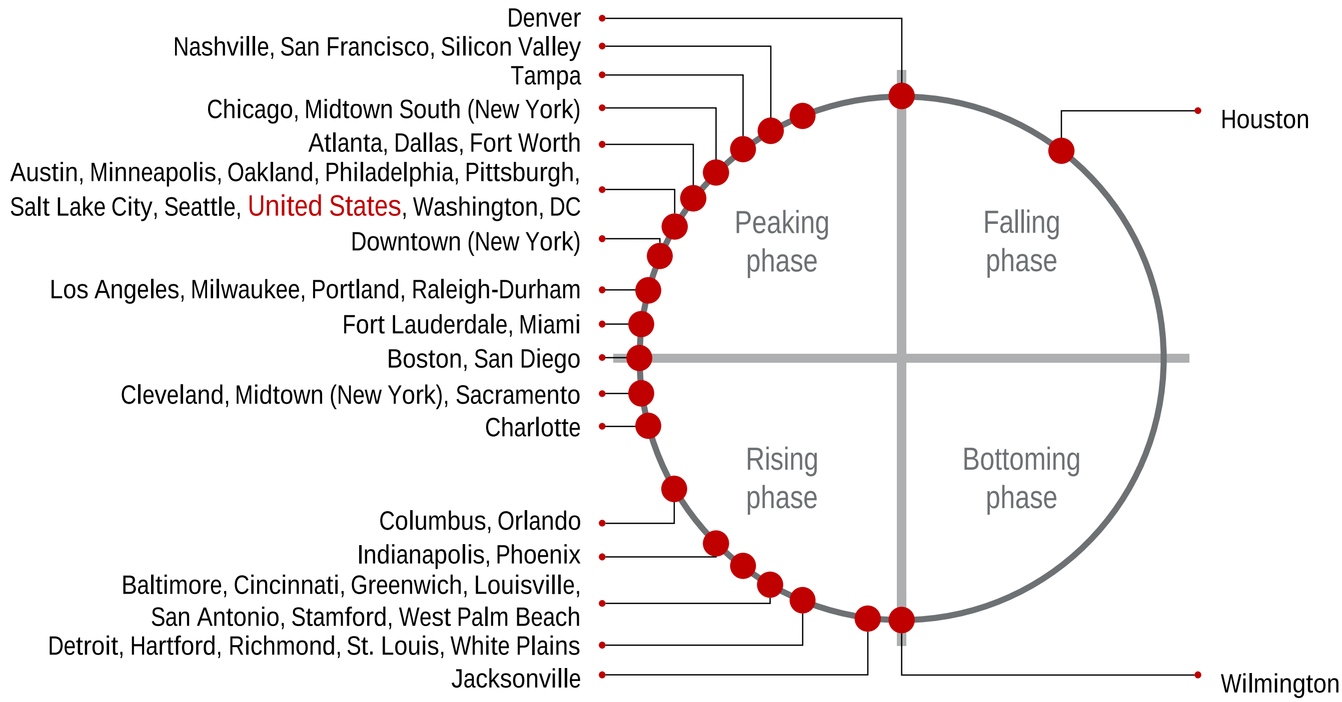
Over the course of 2017 and into 2018, we expect that rents will witness a short-term bump as much of the current development pipeline delivers, bringing blocks with a 50.4-percent rent premium to the market while tenant demand remains strong enough to backfill space put on the sublease market before supply and demand reach equilibrium. CBDs, which continue to move along the clock faster than their suburban counterparts and are now firmly in the peaking phase of the cycle, will see this trend take place first. The CBD Class A segment has also seen sublease vacancy rise by 10 basis points for the third consecutive quarter on the back of deliveries, indicating that changes in rent growth may soon follow.



Source: JLL Research

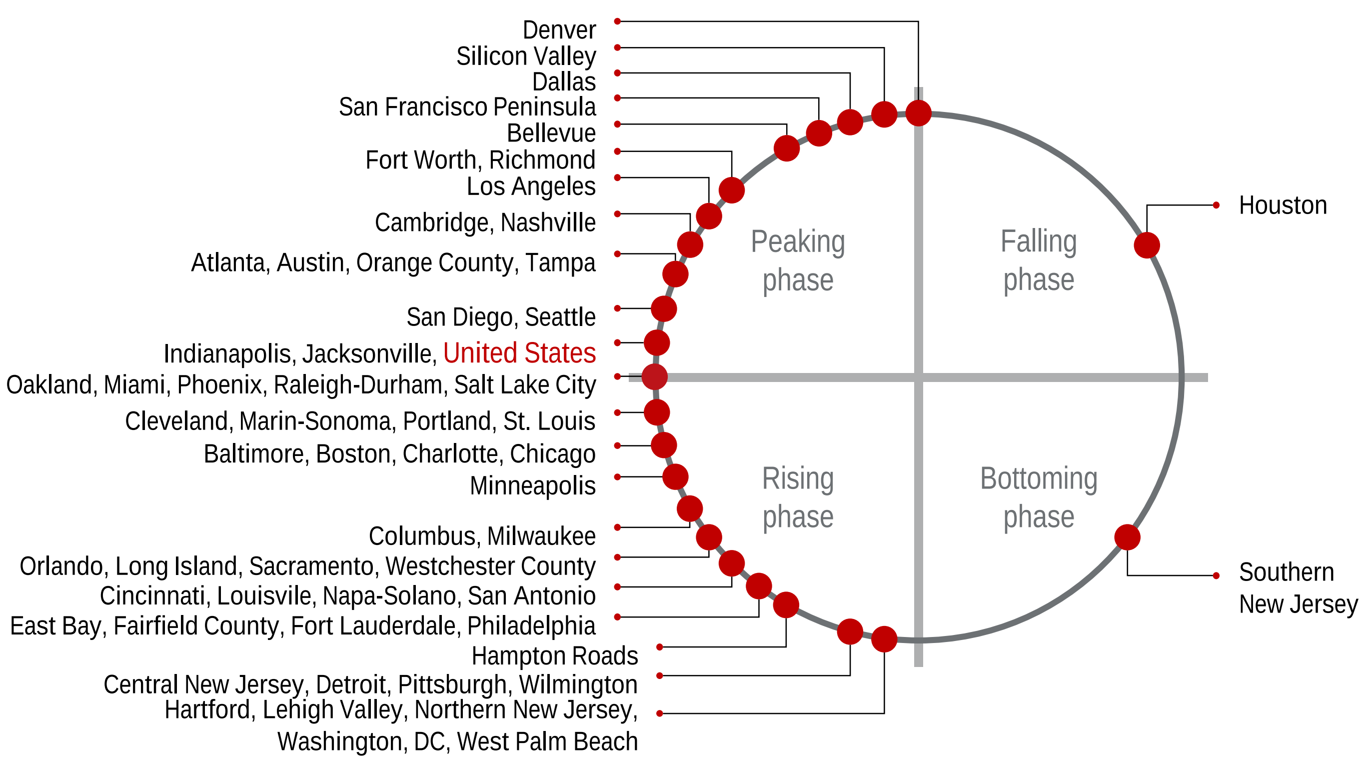
United States

CBD office clock



United States

Suburban office clock



Local markets

Construction activity climbed to a cyclical high of 110.5 million square feet in Q4. As projected completions for 2017 will likely exceed demand, it is anticipated that new groundbreakings will ratchet back in 2017.

Atlanta

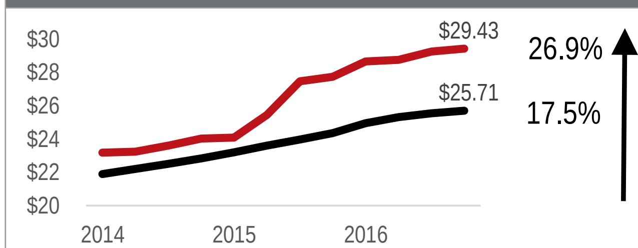
- Craig Van Pelt
Senior Research Manager, Atlanta

Office fundamentals cross into uncharted territory

Tenants may look for relief in more affordable suburban locations

As lease rates for urban Class A space continue to march higher, price sensitive tenants may suffer from sticker shock as their lease terms near expiration and landlords prepare proposals. While suburban Class A rates have increased 17.5 percent since the beginning of 2014, urban Class A rates increased 26.9 percent. The spread between lease rates in urban and suburban spaces averaged $1.30 during the first quarter of 2014, but as 2016 closes that difference is now $3.72. As the disparity in asking rates widens, cost-conscious occupiers situated in the urban core will be motivated to move non-core business operations to less cost prohibitive suburban locations.

Urban Class A asking rents outpacing Suburban Class A

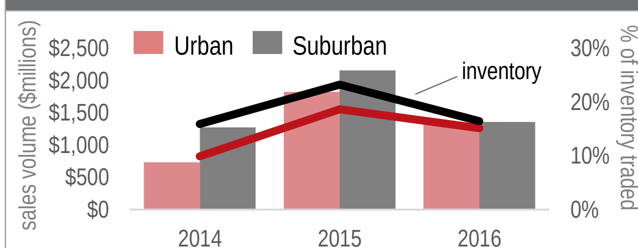


Source: JLL Research

Following a near record 2015, sale volume falls in 2016

During 2015, $4.04 billion in sales were recorded for Class A office properties in the Atlanta metro, which resulted in more than 21 percent of the inventory changing hands. Not surprisingly, following this near record-setting year, transaction totals lagged in 2016, but still topped totals for 2014. Over the past three years, more than 50 percent (47 million square feet) of the Class A inventory has traded, the majority to institutional investors, equity funds, and REITs. Investors will likely hold these properties for multiple years, resulting in a general slowdown in the volume of office transactions moving into 2017.

Class A office transaction volume falls after near record 2015

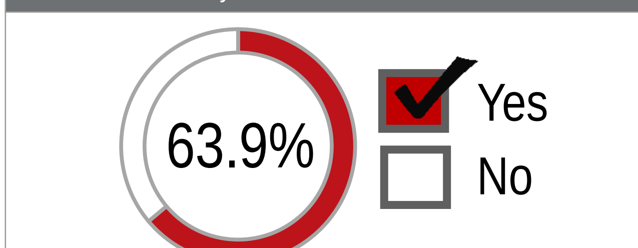


Source: JLL Research

Atlanta metro takes an important step toward improved public transit

On November 8, 2016, two transportation referendums were overwhelmingly approved. The TSPLOST and MARTA expansion referenda will allow the Atlanta metro to improve safety and functionality for pedestrians, bikers and drivers. The tax increase will make funds available for the Beltline, street and traffic flow improvements, and expansion of MARTA buses and rail lines. The four-tenths of a penny sales tax increase associated with TSPLOST is expected to raise approximately $300 million over the five-year collection period, while the additional half penny in sales tax revenue for MARTA is projected to generate $2.5 billion for transit improvements over the next 40 years. TSPLOST projects will directly serve 94 percent of Atlanta residents and 98 percent of jobs within the city.

Atlanta metro voted yes for TSPLOST & MARTA referendums



Source: JLL Research

133,487,744 Total inventory (s.f.)	389,176 Q4 2016 net absorption (s.f.)	$23.91 Direct average asking rent	4,944,149 Total under construction (s.f.)
16.9% Total vacancy	1,186,756 2016 net absorption (s.f.)	6.1% 12-month rent growth	53.7% Total preleased

Austin

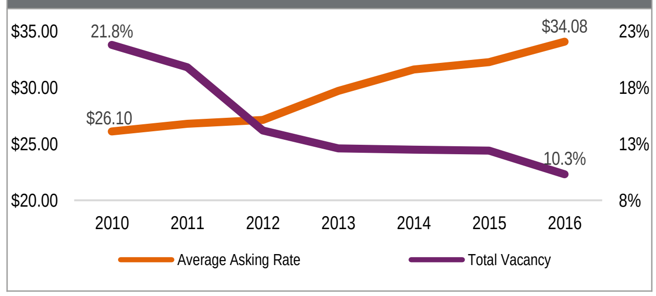
- Emily Hunt
Research Analyst, Austin

Austin still in high demand with even higher rents

It continues to be the same old story, but at least it's a good one

Austin reports yet another year of increasing rental rates paired with decreasing vacancy. Lease rates citywide continue to climb to record highs, seeing a 5.6 percent increase year-over-year. The top three submarkets to see the largest rate increases year-over-year were the Northeast (up 12.0 percent), East (up 11.3 percent) and Southeast (up 8.9 percent) submarkets—typically not the submarkets leading the pace in rent growth. Supply remains tight as vacancy continues to shrink, down to 10.3 percent citywide compared to 12.4 percent at the end of last year. Once again, it was the Northeast and Southeast submarkets that saw the most significant drop in vacancy, due to several large tenants like Trusource Labs and Cenpatico moving into spaces 50,000 square feet and greater.

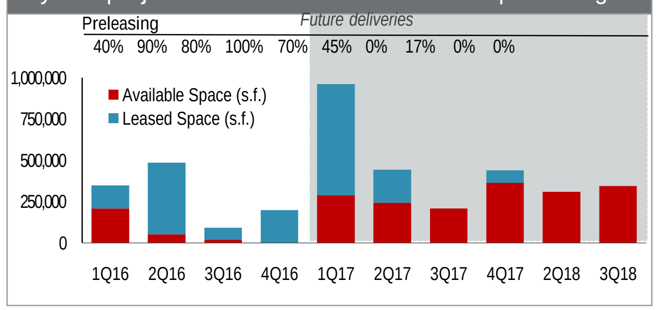
Average Asking Rate & Total Vacancy



Significant construction starts occurred in Q4 2016

Construction commenced on nearly one million square feet in four projects including Third + Shoal (345,000 square feet - CBD), Westview renovation (100,000 square feet - CBD), Domain Tower (310,000 square feet - Northwest) and Reserve at Oak Hill (38,448 square feet - Southwest). Over the course of the next year there is more than two million square feet scheduled to deliver in the Austin market, 46 percent of which has already been preleased.

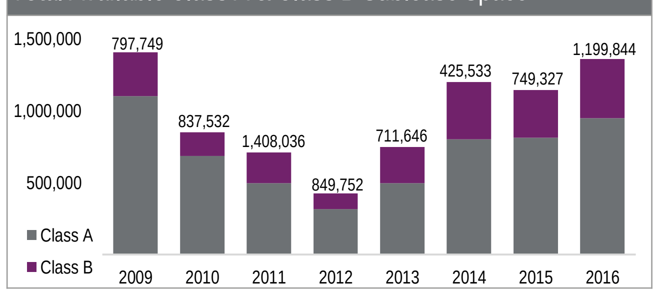
Citywide projected construction deliveries and preleasing



All eyes on sublease space

Austin currently sees nearly as much sublease space on the market than in 2009. Reasons? Companies outgrowing their current space and moving into a larger location, such as Planview, or growing companies who leased more space than they need now in anticipation of growing into that space eventually. More exception than the rule, certain companies have downsized their Austin operations (like SolarWinds) or are vacating their Austin operations altogether, such as BMC Software. JLL Research will continue to keep a close eye on the depth of sublease availability

Total Available Class A & Class B Sublease Space



50,178,897 Total inventory (s.f.)	492,923 Q4 2016 net absorption (s.f.)	$34.08 Direct average asking rent	2,705,514 Total under construction (s.f.)
10.3% Total vacancy	1,619,185 YTD net absorption (s.f.)	5.6% 12-month rent growth	35.0% Total preleased

Baltimore

- Patrick Latimer
Research Manager, Baltimore

Supply jumps while lower tiers of market lag

New deliveries top one million square feet for first time since 2012

New product hit the market at the quickest rate since 2012 and the development pipeline remained robust with additional deliveries expected in the next 18 months. The deliveries reverse the recent trend of a shrinking inventory across Baltimore as residential conversions of obsolete office space in the CBD outpaced new construction. While 63.6 percent was leased at delivery, the new construction is beingdriven by tenants already existing in the market that are primarily consolidating, and in some instances reducing their overall real estate footprint. As a result, Baltimore posted annual net absorption of just 236,469 square feet, which is the lowest in over 10 years, despite the well preleased deliveries.

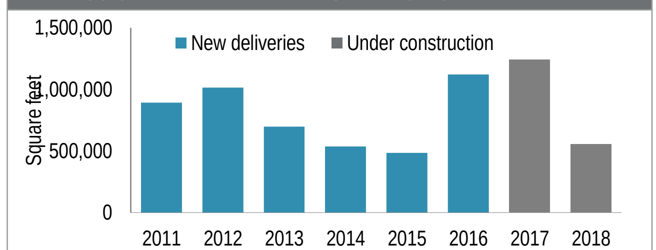
Fundamentals shift towards landlords for Class A space while Class B lags

Market dynamics continued to diverge during the course of 2016 as Class A vacancy sat near historical lows, while Class B vacancy remained stubbornly elevated. During the fourth quarter, Class B vacancy jumped 180 basis points due to several large move-outs in the BWI market and limited new leasing activity. Asking rental rates have responded accordingly. Increasingly landlord favorable conditions in the upper tiers of many submarkets have resulted in year-over-year rental rate gains of 3.9 percent for Class A product, but Class B asking rates have declined 2.2 percent.

Large block availabilities multiple rapidly

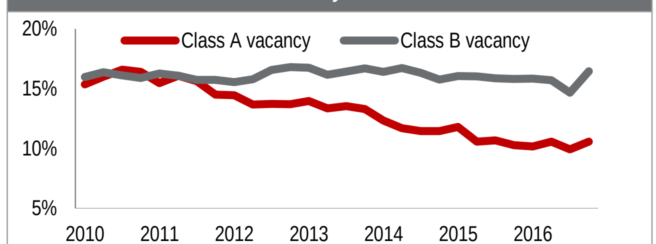
Following increased development activity driven by relocation of existing tenants in the market, the availability of large blocks has increased sharply: 44.9 percent of blocks over 25,000 square feet are either currently under construction or hit the market within the last year. Second generation space created by relocating tenants has already led to significant leasing activity, including RK&K Engineering's backfill of 116,659 square feet of Exelon's space at 111 Market Place in the CBD. With an average time on market of 36 months for blocks older than a year, however, the additional blocks of availability will likely take an extended period of time for the market to absorb.

New supply and current development (s.f.)



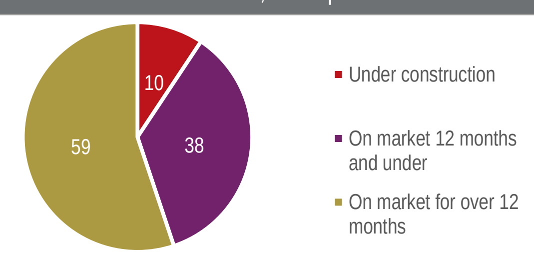
Source: JLL Research

Class A versus Class B vacancy



Source: JLL Research

Time on market for blocks over 25,000 square feet



Source: JLL Research

71,861,587 Total inventory (s.f.)	74,158 Q4 2016 net absorption (s.f.)	$23.34 Direct average asking rent	1,796,303 Total under construction (s.f.)
13.2% Total vacancy	236,469 YTD net absorption (s.f.)	1.8% 12-month rent growth	55.3% Total preleased

Boston

- Lisa Strope
Vice President, Research, New England

2016 ends on solid footing

Property fundamentals tighten heading into 2017

The market hit a soft patch earlier in the year due to uncertainty from abroad and the November election but 2016 ended strong. The market as a whole added over 3.3 million square feet of new construction in 2016. At the same time, direct vacancy continued to decline, slipping under 11.0 percent in the fourth quarter for the first time since the dot-com boom. Direct average asking rents ticked up slowly over the last quarter and the year. Rents grew just under 1.0 percent year-over-year. While Greater Boston market rents overall are reaching just above 2008 highs, they are still below the all-time highs of early 2001.

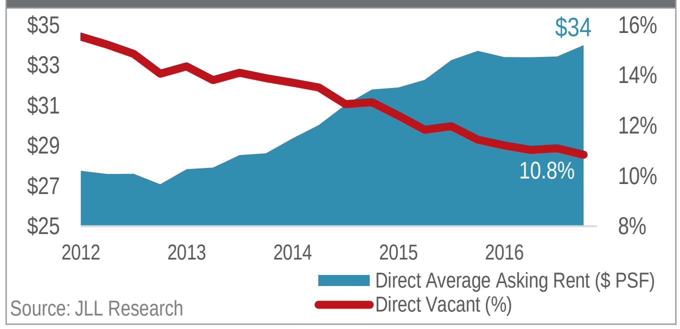
2016 ends with a flurry of large leases

As 2016 came to an end, leasing activity regained momentum. In fact, nearly 3.0 million square feet of large leasing deals (over 20,000 square feet) closed in the last three months, one of the largest quarterly volumes on record. Notably this quarter, five leases over 200,000 square feet were signed across Greater Boston. The top two deals from Akamai Technologies and Shire Pharmaceuticals both found creative ways to grow their headcount in the tight East Cambridge market. Two-thirds of these large leases were from growing companies and 40.0 percent were technology focused companies. Leasing activity remains healthy across a variety of sectors and should keep this momentum going as we kick-off 2017.

Long recovery tightens talent pool

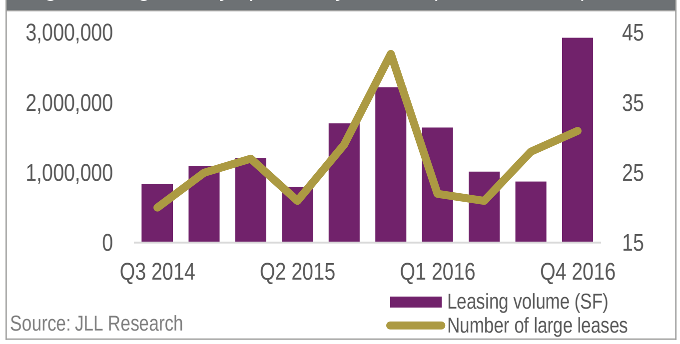
Greater Boston has been in economic recovery since 2011. Driven by steady job growth in healthcare and education, and a boost from growing sectors such as technology, finance and life sciences, the MSA has logged a consistent 2.0 percent year-over-year job growth rate for the last six years. In 2016 alone, Greater Boston added over 50,000 new jobs. As a result of this solid, long-term growth, the unemployment rate for the Boston MSA is near historic lows this quarter at 2.6 percent, the lowest rate of any major metro in the U.S. Access to talent will continue to drive real estate decisions for all players in this tight labor market.

Greater Boston: Five year view



Source: JLL Research

Large leasing activity spikes at year end (over 20,000 sf)



Source: JLL Research

Record low unemployment puts talent at top of decision matrix

2.6%
Boston MSA
-1.5% in 2016

4.6%
United States
No change in 2016

Source: bls.org

166,905,911 Total inventory (s.f.)	235,289 Q4 2016 net absorption (s.f.)	$33.99 Direct average asking rent	3,597,421 Total under construction (s.f.)
13.6% Total vacancy	2,410,441 YTD net absorption (s.f.)	0.8% 12-month rent growth	35.0% Total preleased

Charlotte

- Patrick Byrnes
Research Analyst, Charlotte

Supply catching up to heavy demand

Suburban rivaling Urban rental rates

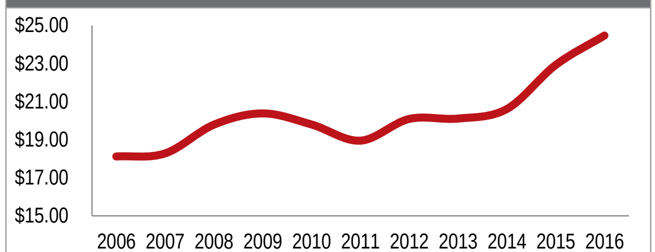
Historically strong suburban submarkets SouthPark and Highway 51/Ballantyne are reaching rental rates that rival the Uptown and Midtown submarkets. SouthPark's newest developments, Capitol Towers I & II have both been advertising rates in the mid $30.00-per-square-foot range. Strong leasing activity at Capital Towers I has justified the advertised rates. The Highway 51/Ballantyne submarket's average asking rate for Class A product currently sits at $29.72 per square foot, just shy of the $30.00 per square foot mark. With vacancy trending downward across suburban submarkets, look for Highway 51/Ballantyne to continue to push that high water mark in the new year.

A big factor in rates trending up has been the surplus of new development in both urban and suburban markets on a speculative basis. Developers recognize the direct vacancy rate has been on a downward motion over the last six years, currently at 11.9 percent, and have leverage to drive rates upward. Build-to-suit projects have become a theme within the suburban submarkets of Charlotte. Sealed Air Corporation is set to open their 300,000-square-foot headquarters in the Airport submarket in the first quarter of 2017 and there will be a large research and development component to the operation. CPI Security Systems is also expected to open their 136,000-square-foot office in the new year and completion is slated for the third quarter of 2017.

Anchor tenant found in Ballantyne Corporate Park

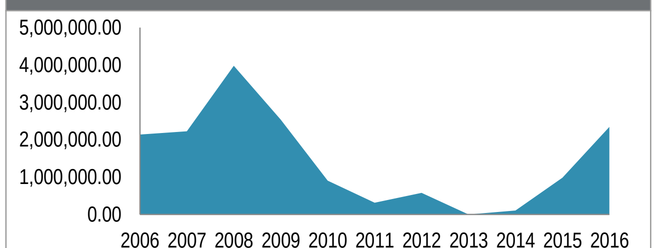
Recently announced, Wells Fargo will move forward with expanding their already substantial footprint when they occupy the entire Brigham Building upon completion. One of the largest and most well known tenants in Charlotte will take all 287,500 square feet of Ballantyne Corporate Park's newest Class A project. Originally advertised as a speculative building, the Brigham Building is expected to reach completion in the first quarter of the new year.

Asking rates continue to push



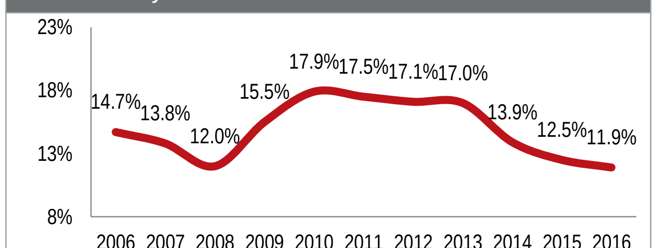
Source: JLL Research

Under construction



Source: JLL Research

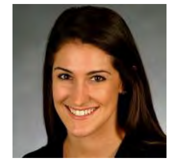
Direct vacancy



Source: JLL Research

47,781,075 Total inventory (s.f.)	280,534 Q4 2016 net absorption (s.f.)	$24.47 Direct average asking rate	2,343,472 Total under construction (s.f.)
12.5% Total vacancy	679,681 YTD net absorption (s.f.)	6.3% 12-month rent growth	59.9% Total preleased

Chicago (CBD)



- Hailey Harrington
Research Manager,
Chicago CBD

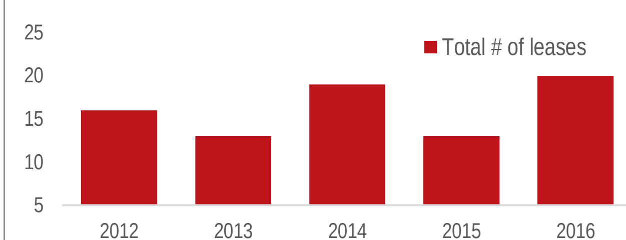
Chicago's historic year ends with Cubs World Series win

Large users backfilling shadow space
Demand for space in Downtown Chicago has yet to ease. There were 20 leases of 100,000 square feet and greater signed in 2016, up from 14 leases in 2015. Outside of the ongoing demand from suburban migration, a substantial portion of leasing activity over the past 12 months has been generated by a few deep-pocketed tech companies and law firms signing up for space through backfilling shadow space or pre-leasing new developments. Projects under construction and entitled new developments are attracting plenty of interest as contiguous space options greater than 100,000 square feet are becoming few and far between for occupancy in the next 24 months.

Sublease space concern mitigated by demand and high construction costs
This year many oversubscribed tenants have started shedding excess space, releasing plenty of opportunities in the 15,000-30,000 square foot range and tenants are capitalizing on the discounted spaces. Through Q4 2016, there were 154 sublease spaces totaling 3.4 million square feet available, down slightly from just over 3.6 million square feet the prior month, but still below the market peak of 191 subleases totaling 3.7 million square feet in Q4 2015. With costs to build out new space running between $130 and $160 per s.f., tenants needing to expand may find sublease space to be the best deal on the market. Moreover, demand for space with limited upfront capital expenditures is strong and will continue to trend up as firms look to become more efficient and focus on profitability.

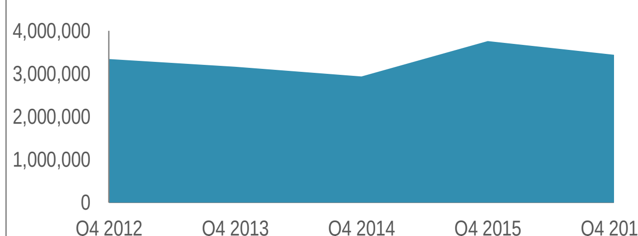
Preleasing slows despite strong tenant demand
Amid a flurry of new development projects currently under construction, some owners are finding it more challenging to land tenants for new space despite great interest in the market. Preleasing activity slowed this quarter contrasting with last year's robust numbers. All of the new projects under construction cluster in the West Loop and Fulton Market, which has emerged as one of the hottest submarkets in the country with strong rent growth. During this past quarter, another redevelopment project is underway which will add 76,000 square feet of office space. Despite the slowdown in preleasing, the 6.1 million square feet of tenants touring the market all point to a positive first half of 2017.

CBD lease transactions 100,000 s.f. & greater



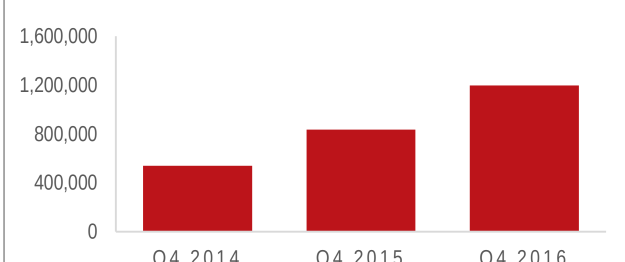
Source: JLL Research

Sublease space (s.f.) slowly declining from Q4 2015 peak



Source: JLL Research, excludes subleases less than 3,500 s.f.

Fulton Market office under construction is climbing (s.f.)



Source: JLL Research

141,699,061 Total inventory (s.f.)	288,385 Q4 2016 net absorption (s.f.)	$38.20 Direct average asking rent	6,183,564 Total under construction (s.f.)
10.3% Total vacancy	2,389,680 YTD net absorption (s.f.)	3.8% 12-month rent growth	33.9% Total preleased

Chicago (Suburban)

- Jack Trager
Research Analyst,
Chicago Suburbs

Suburban rental rates continue slow, steady climb

Absorption all positive save one large move out in Q4

Midsized leases were the name of the game in the fourth quarter as many completed leases were between 10,000-25,000 square feet. Additionally, almost all of the suburban submarkets saw positive net absorption in the fourth quarter. The lone exception was the Northwest submarket, where Zurich vacated their prior home of roughly 882,000 square feet in Zurich Towers for their new, slightly smaller but much improved, 783,000-square-foot North American headquarters. Had this move not ceded roughly 100,000 square feet of negative absorption, the Northwest would have joined its suburban counterparts in positive territory. Even with the large Zurich move, total negative absorption for the quarter was only just over 27,000 square feet.

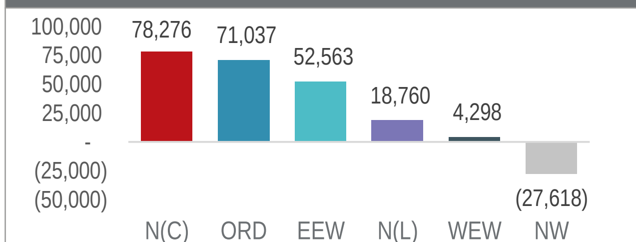
Consistent year-over-year rent growth continues through 2016

Consistency remained the tune in the Chicago suburbs as rent growth was positive in five of the six submarkets since the end of 2015. North (Lake County) was the exception, with many large available campuses competing on rates to attract corporate users. In the North (Cook County) submarket, rents grew at a remarkable annual rate of 8.6 percent. The Northwest also exceeded expectations with rents growing 6.7 percent year-over-year. These increases reflect the high demand for suburban properties that have modern amenities and access to transit. Conversely, the flat rent growth in the Western East/West and North (Lake County) submarkets signify the slower recovery that has been observed in areas that lack density and public transportation options.

Sales activity remains strong through the close of 2016

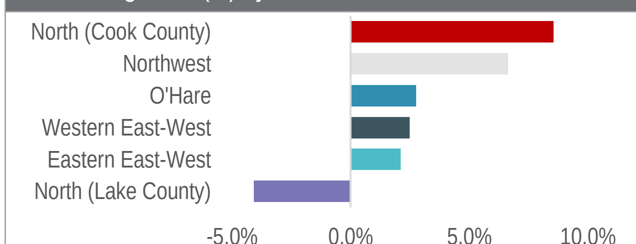
Following a stellar third quarter, suburban capital markets activity barely showed any signs of slowing as buyers looked to capitalize on rising demand and low interest rates, leading up to the Federal Reserve's recent rate hike. Though the total number and total volume of sales transactions declined slightly in the fourth quarter, the market did see the largest transaction in over two years. In this case, Blackstone sold Riverway, an 869,120-square-foot multi-tenant complex in Rosemont. The buyer, Adventus Realty Trust, is reported to have paid roughly $173 million ($201 per square foot) for three buildings, a daycare facility, and three parking garages, all of which combined are currently at 95.0 percent leased.

Absorption by submarket (sf)



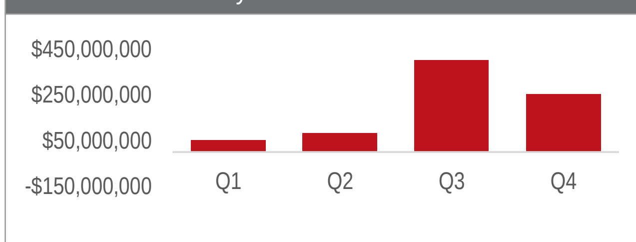
Source: JLL Research

Y-O-Y rent growth (%) by submarket



Source: JLL Research

2016 YTD sales activity



Source: JLL Research *50,000 s.f. and higher

102,008,716 Total inventory (s.f.)	197,316 Q4 2016 net absorption (s.f.)	$23.98 Direct average asking rent	596,000 Total under construction (s.f.)
19.1% Total vacancy	766,355 YTD net absorption (s.f.)	2.3% 12-month rent growth	100% Total preleased

Cleveland

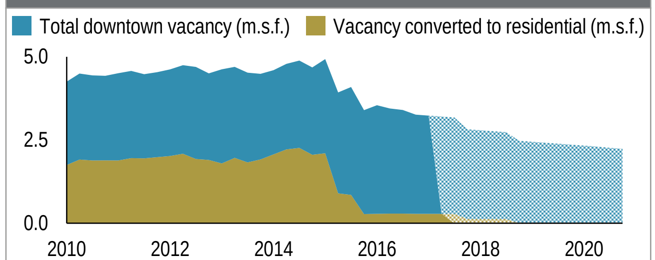
- Andrew Batson
Vice President, Research, Great Lakes

All indicators point to a strengthening downtown

Residential conversions have had a dramatic effect on office vacancy

At the start of 2010, more than 4.2 million square feet (m.s.f.) of office product sat vacant downtown. Fast forward to 2016, and downtown vacancy has declined to 3.1 m.s.f. By 2020, vacancy is projected to sit at 2.2 m.s.f., less than half the 2010 figure. Conversion of office properties into residential use has been the primary driver behind the dramatic reduction in office vacancy. Cleveland's downtown population is surging and developers have converted, or plan to covert, more than 15 underperforming office buildings (totaling 4.2 m.s.f.) to residential use. The redevelopment of these properties has reduced the downtown office supply and has led to a tightening of market conditions.

Downtown vacancy projections and the conversion impact

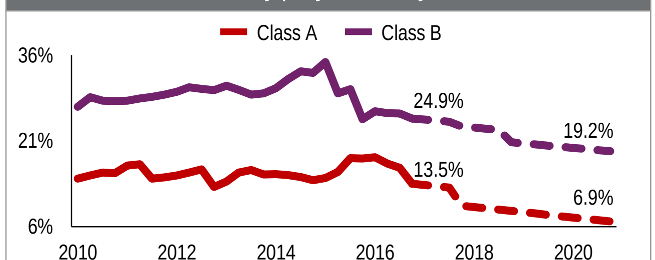


Source: JLL Research

Class A options downtown for large users are diminishing quickly

Vacancy rates in Class B buildings have seen dramatic declines as tenants have spilled over from office-to-residential conversions. Class B vacancy spiked in the first quarter of 2015 at 34.8 percent and has subsequently declined as residential conversions have commenced. Class B properties have not been the only benefactors, as Class A assets have also recorded gains. These premier office buildings have benefited from a flight to quality as well as the reduction in the office supply. Class A vacancy currently sits at 13.5 percent, down from 18.1 percent in the first quarter of 2016. Pending decisions by Forest City and Millennia Companies will likely drive Class A vacancy down even further.

Downtown office vacancy projections by class

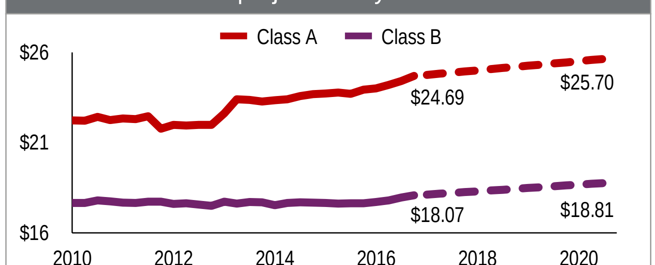


Source: JLL Research

Rents are poised to move higher as the downtown office market tightens

Rents in the Cleveland office market are known for their consistency. This can be a nuisance for landlords but a benefit for tenants. However, with so much disruption taking place in the downtown office market, rents have broken free from their static state. Asking rents downtown are up an average of 2.5 percent year-over-year. And with market conditions forecasted to become even more constrained over the next few years, rents are poised for further gains. Class A asking rents downtown currently average $24.69 per square foot, and by 2020, office tenants could be paying an extra $1.00 per square foot if rents appreciate at a modest pace of 1.0 percent annually for the next few years.

Downtown office rent projections by class



Source: JLL Research

28,537,841 Total inventory (s.f.)	268,598 Q4 2016 net absorption (s.f.)	$18.98 Direct average asking rent	197,000 Total under construction (s.f.)
18.8% Total vacancy	324,694 YTD net absorption (s.f.)	0.3% 12-month rent growth	8.1% Total preleased

Columbus

- Sam Stouffer
Research Analyst,
Great Lakes

Landlord investment and tenant expansion continue

Ageing properties are evolving due to landlord investment
Landlords are recognizing the value in significant investment geared toward space efficiency and aesthetic upgrades. A number of recent announcements include investments ranging from restroom and roof upgrades at the Northwoods II office complex in Worthington, to atrium improvements and space modernization efforts at JP Morgan Chase's McCoy Center in Polaris. Similar capital investments were announced throughout the Columbus region in 2016, aiding in the rise of two noticeable market trends: property owner recognition of necessary capital investment in ageing properties and the importance of accommodating an evolving workforce with efficient, collaborative work spaces.

Relocations, expansions speak to the region's strengths
In 2016, submarkets throughout the region received welcome news of headquarter and corporate office relocations and expansions, bringing along hundreds of workers and new job opportunities. The high number of relocation and expansion announcements is indicative of the region's strength, as a variety of submarkets have the ability to fulfill corporate demand with respect to workforce talent and real estate needs. The Gahanna submarket had a particularly strong year, rounding out the final quarter of 2016 with 200 new jobs and over 65,000 square feet of new activity. Zulily opened an expanded 87,500-square-foot office that will result in at least 50 new jobs, while Intermedix plans to move 160 employees into 34,000 square feet from its office in the CBD.

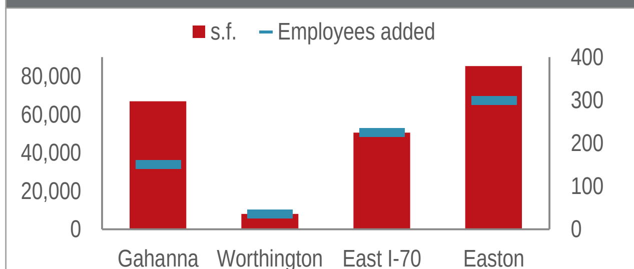
Tenants are seeking high-end space downtown
Demand for Class A space continues to outpace older, less efficient space in the CBD. This was a prominent trend in 2015, and leasing activity in 2016 followed suit with over 70,000 square feet of net absorption. Meanwhile, Class B space in the CBD has experienced less demand for consecutive years, signaling a shift in tenant preference. This trend is likely to continue, as over 200,000 square feet of Class A space is planned for construction in 2017. While newer product has played a significant role in this shift, such as recently renovated buildings like The Buggyworks, existing inventory is also experiencing high demand thanks in part to sustained investment from landlords.

Office investment announcements

Property	Submarket	Investment	s.f.
JP Morgan Chase HQ	Polaris	$200M	2,000,000
Huntington Center	CBD	$9M	907,010
Northwoods II	Worthington	$1M	110,700
JP Morgan Chase	Easton	TBD	500,000

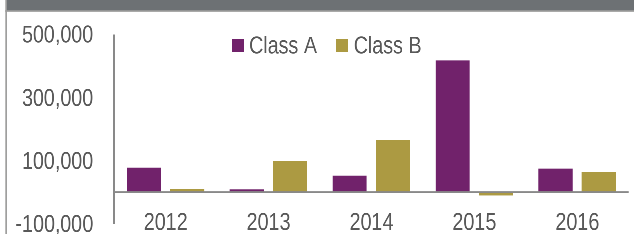
Source: JLL Research

Q4 2016 market relocations and expansions



Source: JLL Research

CBD net absorption



Source: JLL Research

28,937,078 Total inventory (s.f.)	301,505 Q4 2016 net absorption (s.f.)	$19.34 Direct average asking rent	480,700 Total under construction (s.f.)
11.6% Total vacancy	729,745 YTD net absorption (s.f.)	5.3% 12-month rent growth	50.0% Total preleased

Dallas

- Walter Bialas
Vice President, Research, Dallas

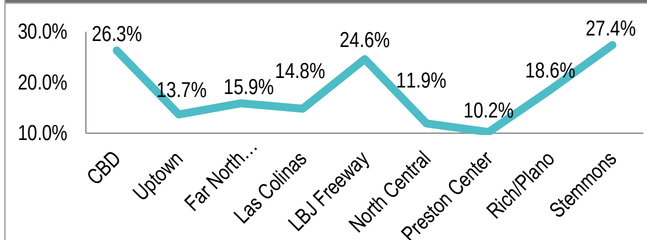
New product attracting tenants, activity still high

Market fundamentals stabilize as tenants opt for new space
Like most of the year, the vast majority of positive net absorption in the fourth quarter was attributed to new construction recently delivered to the market. Spec projects like McKinney & Olive have shown pent up demand for high quality space, with the property essentially leased up with 93 percent of the space leased just one quarter after completion. Still, even with the pent up demand, the market is largely balanced due to the high construction pipeline. Overall vacancy fluctuated the past couple of quarters but is on par with the end of last year with total vacancy rate of 18.7 percent.

Rental rates increase, but growth slowing in recent quarters
Strong rate pressure remains a factor for almost all submarkets, though the increase over the past few quarters point to lesser increases than the previous few years. Rates on a quarterly basis are up less than 1 percent. New construction deliveries have set the high watermark for the market (in the low $50s) and other high-quality properties have been raising rates, in some cases at equal levels to the newest construction.

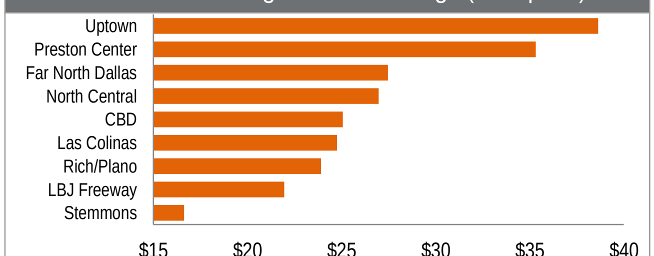
Construction pipeline dips, but points to higher vacancy ahead
While the construction pipeline is not at record highs, it is above the long term average and above recent net absorption rates. Dallas traditionally has a large spec construction pipeline with about 20 percent being made up of build-to-suit projects. Currently 60 percent of the construction pipeline is made up of large build-to-suits (most of which will deliver in 2017 and early 2018). Still, for most of the current build-to-suits underway, older existing space will need to be backfilled to keep the market in balance. In 2016, just over 4 million square feet of new construction was completed. In 2017, a surge of new construction is scheduled for delivery. Of the 10.6 million square feet underway, 7.5 million is expected for 2017.

Construction concentrated in low vacancy submarkets



Source: JLL Research

New construction moving rents to new high (A&B p.s.f.)



Source: JLL Research

Spec construction set for delivery in 2017

2.5 million s.f.

(vacant spec set for 2017)

Source: JLL Research

166,718,209	673,646	$25.94	10,596,272
Total inventory (s.f.)	Q4 2016 net absorption (s.f.)	Direct average asking rent	Total under construction (s.f.)
18.7%	2,214,846	6.4%	68%
Total vacancy	YTD net absorption (s.f.)	12-month rent growth	Total preleased

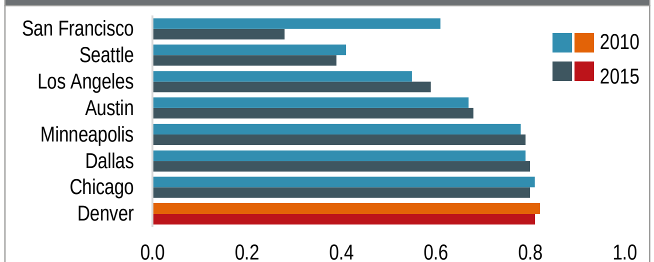
Denver

- Amanda Seyfried
Senior Research Analyst, Denver

Despite flat office market, Denver economy thrives

Denver boasts one of the nation's most diverse economies
A more economically-diverse region will measure closer to the U.S. average of 1.0 while a value closer to 0.0 indicates a much less diverse economy. Denver's diversity score of 0.81 outranks many considerably larger cities and has increased by 0.14 since April 2005. Denver has broadened and diversified its economy, which has multiplied the avenues of growth for the region. Marked growth in technology, healthcare and business services has lessened the blow from the latest energy slump—certainly more so than in the past. Going forward, increasing industry diversity will help Denver avoid its historical boom-and-bust reputation and will also assist in attracting new companies to our area.

Industry diversity: Denver versus select metros



Source: JLL Research, Moody's Analytics

Labor market still firing on all cylinders
Denver area office- and industrial-using payroll growth has consistently outpaced national gains over the last 25 years—and especially since emerging from the last recession. In the six years since 2010, payrolls in the metro have steadily and rapidly expanded and have strongly outpaced the national average of 14.5 percent by a 1.8 multiple and the entire western region average of 19.1 percent by a 1.4 multiple. According to projections by Moody's Analytics, Denver should add 130,000 net new jobs by 2020—a clip that measures higher than all but 10 other larger metro areas throughout the entire nation. This is good news in a market where energy was once a one-man show and is now just a part of a bigger picture of a diverse, growing economy.

Employment growth since 2010

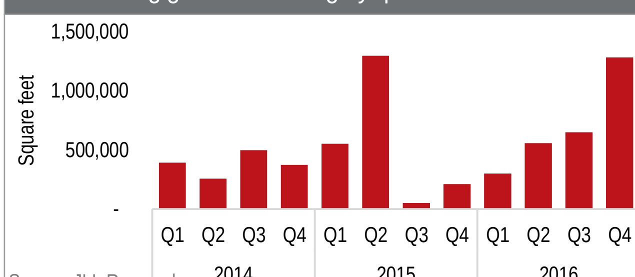
+25.1%

Denver's employment growth 2010-2018

Source: JLL Research, Moody's Analytics

Despite cloudy horizon for CRE, ground-breakings continue
Although absorption slowed and rental rate growth flattened during 2016, developers remained more bullish than not this past year. The fourth quarter alone saw eight new buildings break ground—the most in this cycle. None are located within the CBD, but nearly half surround downtown in Platte Valley and RiNo. Four of the remaining five are located in Southeast Suburban. Of the 1.3 million square feet under construction, nearly 32.0 percent is pre-leased: Charter Communications committed to the entire 306,000-square-foot Village Center Station II, and BOA Technologies signed for 70.0 percent of Flight in RiNo. Expect construction to slow in 2017 as the market absorbs existing space.

Office building ground breaking by quarter



Source: JLL Research

108,329,487 Total inventory (s.f.)	266,577 Q4 2016 net absorption (s.f.)	$26.99 Direct average asking rent	4,620,881 Total under construction (s.f.)
13.8% Total vacancy	260,990 YTD net absorption (s.f.)	4.0% 12-month rent growth	32.7% Total preleased

Detroit

- Harison West
Research Analyst,
Great Lakes

Detroit office market keeps gaining momentum

Downtown office space is tight

Although office space in the CBD is available, large contiguous blocks of Class A space are becoming increasingly difficult to identify. Bedrock's Monroe Block plan includes an estimated 600,000 square feet of office space to help meet this demand. In the near-term, as tenants are continually attracted to Detroit and its recent resurgence, they are exploring options in the New Center and Midtown submarkets in order to meet their needs. The Qline—a streetcar connecting the CBD, Midtown and New Center—will make this adjustment more viable. As ground-up construction is projected to increase in the coming years, expect these developments to include office space in addition to residential and retail.

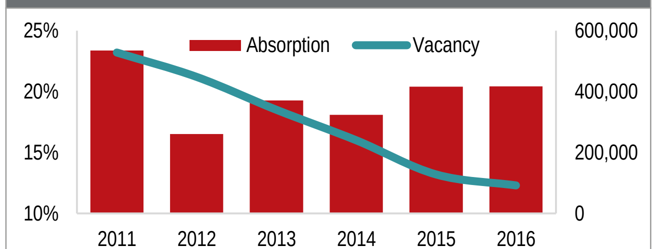
Renovations underway to modernize dated buildings

As prime, large block office space has been gobbled up in recent quarters, owners are looking for ways to bring their properties back to life and prove attractive to large tenants. The owners of the Fisher and Kahn buildings, two of Detroit's architectural icons, are modernizing their office space and creating a live-work-play environment in the New Center submarket. The Raleigh Officentre in Southfield has a somewhat similar story to the Fisher. After years of distress, a change in ownership has brought about a renovation effort to lure back tenants. The Old Wayne County building, an architectural gem downtown owned by an out of state investor, has also begun a restoration project.

Coworking spaces continue to create collaborative environment

As a collaborative environment for startups and young businesses, coworking spaces provide an exciting alternative to traditional office space. These operators lease space to startups and entrepreneurs, taking them out of coffee shops and garages and putting them in collaborative spaces. WeWork signed a lease for 80,000 square feet split evenly between two downtown buildings and Bamboo Detroit, a successful coworking company, is opening its second location in early 2017. Companies like Regus and Ponyride have already built a presence in the city. Look for entrepreneurs to continue to utilize these spaces moving forward, given the current rents and availabilities in traditional office space.

CBD vacancies and absorption



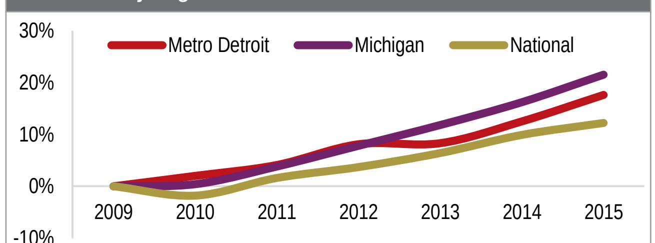
Source: JLL Research

Scope of current renovations

Building	Submarket	Size (s.f.)	Renovation Use
Fisher Building	New Center	634,819	Office/Residential/Retail
Raleigh Officentre	Southfield	297,000	Office
Old Wayne Co. Building	CBD	225,000	Office
Kahn Building	New Center	290,144	Office/Residential/Retail

Source: JLL Research

Tech sector job growth



Source: Detroit Regional Chamber

66,652,512 Total inventory (s.f.)	198,814 Q4 2016 net absorption (s.f.)	$19.88 Direct average asking rent	677,410 Total under construction (s.f.)
20.2% Total vacancy	1,101,651 YTD net absorption (s.f.)	0.10% 12-month rent growth	55.5% Total preleased

East Bay

- Katherine Billingsley
Research Analyst, Oakland-East Bay

Amenity-rich locations drive demand

Demand remains focused on transit-oriented submarkets

Demand continues to follow the BART lines in the suburban East Bay, and assets located in amenity-rich submarkets are commanding higher premiums along the 680 Corridor. In the North 680, interest from companies out of Oakland has increased in recent months, driven by limited availability in the CBD in addition to rising rents. Submarkets such as Downtown Walnut Creek and Pleasant Hill BART exhibit the highest asking rents in the suburbs, about 37.0 percent above the market average.

In the Tri-Valley, owners continue to transform their office parks to create an urban-suburban atmosphere, providing on-site amenities, transportation, and recreational facilities for their employees. Revamping business parks have had a positive effect on leasing activity this year, appealing to the talented workforce and urban-suburban workplace trends. Additionally, corporations are expanding within the market, including GE Digital which leased 100,000 square feet at Bishop Ranch this quarter.

East Bay boasts strongest net migration in the region

Over the last six years, the East Bay has welcomed nearly 100,000 new residents, driven by the escalating cost of living in the Greater Bay Area. Today, more than one-third of the Bay Area's population lives in the East Bay. Outbound traffic is increasing as a result of the strong net migration, with over 44.0 percent of East Bay's workforce commuting outside of the region for work. As a result, increased traffic and changing commute patterns are driving decision-making in the suburbs. Companies are capitalizing on migration trends by expanding or relocating their offices to gain direct access to the workforce and alleviate commuter stress on their employees. Since 2010, over 1.7 million square feet of migration and expansion activity has been recorded.

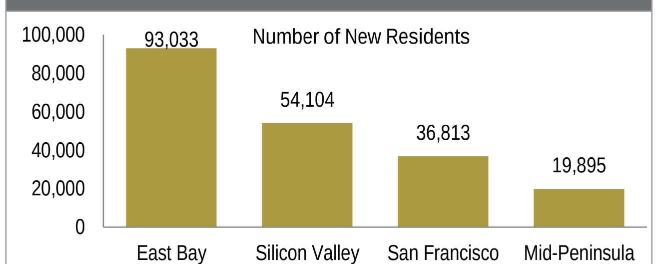
680 Corridor submarkets continue to stand out for investors

Overall investment fundamentals along the 680 Corridor showed continued improvement throughout 2016, with over $900 million of sales transactions recorded in 2016. Class A pricing maintained an average price per square foot of $300, a 42.1 percent increase from 2015. Institutional buyer interest has increased in Walnut Creek. Notably, two Class A assets traded this quarter (2999 Oak and Cal Plaza) for $370 per square foot and $340 per square foot, respectively. Core suburban submarkets such as Downtown Walnut Creek and Pleasant Hill BART will continue to be an appealing market for investors and tenants moving into 2017. Moreover, we can expect secondary markets like Concord and the Tri-Valley to benefit from increased buyer interest in the East Bay.

Average asking rent along I-680 Corridor

Source: JLL Research, direct average asking rent

Shift happens, residents head East (In-bound net migration)



Source: JLL Research, Department of Finance, aggregate data from 2010-2015

YTD Sales volume by building class (millions)

Source: JLL Research, RCA

28,266,307 Total inventory (s.f.)	191,283 Q4 2016 net absorption (s.f.)	$32.51 Direct avg. asking rent	0 Total under construction (s.f.)
12.5% Total vacancy	651,834 YTD net absorption (s.f.)	6.0% 12-month rent growth	0.0% Total preleased

Fairfield County

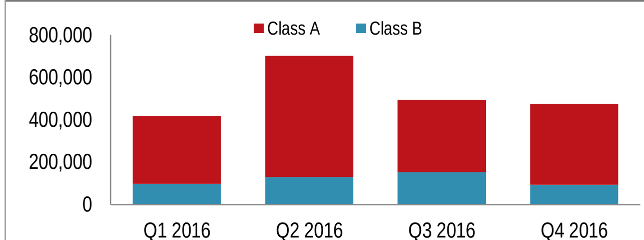
- Dayna McConnell
Research Analyst,
Fairfield County

Class A demand drives leasing velocity

Class A buildings remain product of choice for tenant requirements

After nearly 500,000 square feet of leasing transactions were completed in the Fairfield County office market during the third quarter, demand persisted through the final three months of the year as an additional 475,200 square feet of leases were signed. Demand for Class A space was a recurring theme in Fairfield County during the past year. More than three-quarters of the 2.1 million square feet of leasing transactions completed in 2016 involved Class A product. The Fairfield County Class A vacancy rate subsequently retreated from 24.4 percent in 2015 to 21.2 percent one year later. Amenity-rich Class A buildings are expected to remain on the radar screen of tenants in the coming year as well.

Fairfield County office leasing activity (s.f.)

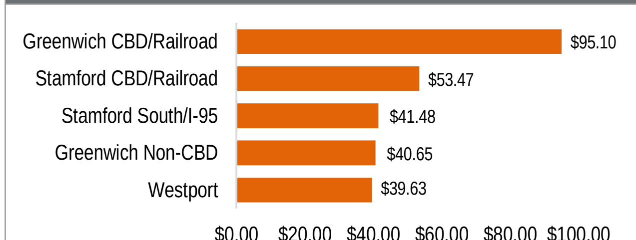


Source: JLL Research

Absorption of high-end Class A space keeps asking rents in check

While the Fairfield County Class A vacancy rate trended lower, the average asking rental rate for Class A space remained in check. The average asking Class A rental rate for direct space slipped 1.0 percent from the third quarter to less than $41.80 per square foot at year-end 2016. This decline can be attributed to the absorption of higher-priced Class A office space, which ultimately exerted downward pressures on the Fairfield County rental rate. With an average asking rent of $95.10 per square foot, the Greenwich CBD/Railroad submarket maintained the highest Class A rents in the Fairfield County office market.

Top five submarkets by Class A asking rental rate (p.s.f.)

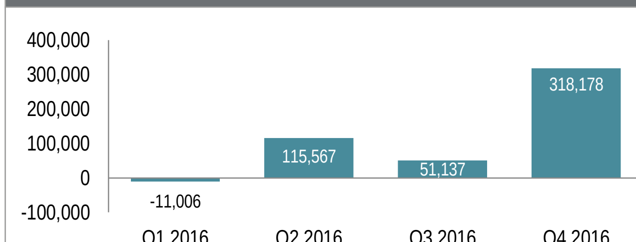


Source: JLL Research

Henkel Corporation plants headquarters flag in Stamford

The Stamford CBD/Railroad submarket garnered the office spotlight during the fourth quarter as leasing activity within the Class A market translated into nearly 318,200 square feet of positive net absorption. This represented the largest volume of positive net absorption recorded in the Fairfield County Class A office market during the fourth quarter. A large portion of this absorption was traced to 200 Elm Street - BLT Financial Centre in Stamford, where Henkel Corporation leased 135,020 square feet for its new North American headquarters. Henkel will be relocating its laundry and beauty divisions from Scottsdale, Arizona. In addition, RSM McGladrey leased 27,800 square feet at 200 Elm Street during the fourth quarter.

Stamford CBD/Railroad Class A net absorption trends (s.f.)



Source: JLL Research

43,945,867 Total inventory (s.f.)	231,974 Q4 2016 net absorption (s.f.)	$35.94 Direct average asking rent	0 Total under construction (s.f.)
22.4% Total vacancy	1,109,507 YTD net absorption (s.f.)	-0.7% 12-month rent growth	0.0% Total preleased

Fort Lauderdale

- Ilyssa Shacter
Research Analyst, Florida

Majority of Class A buildings have traded amidst strengthening market

Much anticipated investment sales close early in the fourth quarter

Another downtown asset, along with a major suburban portfolio traded early in the fourth quarter. The downtown sale of 110 Tower marks the fifth Class A asset to trade hands in the submarket this year, following a 12-month period where none of the Class A assets exchanged hands. The Tower was purchased by IP Capital for $112.9 million ($286 per square foot) and was 82.7 percent leased at the time of the sale. Additionally, Liberty Property Trust sold a national office portfolio, which include six Class A buildings in Broward County (two in Sawgrass Park and four in Southwest Broward) to Workspace Property Trust – total investment in Broward County was $140.9 million with an average price of $189 per square foot. Following recent activity, there are just 35 Class A assets in Broward County that have not traded over the previous 36 months – the majority of which are located in Cypress Creek, the submarket with the largest inventory and the slowest recovery.

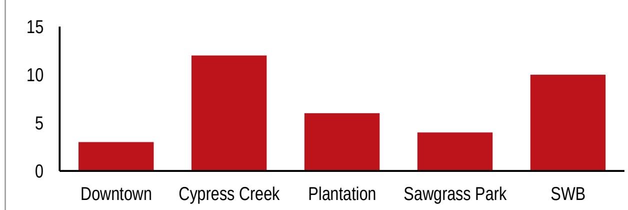
Cypress Creek shows positive growth as absorption climbs

While Cypress Creek has led a slow recovery compared with the rest of Broward County, the submarket had a strong year-end to propel it positive for the year. The fourth quarter concluded with 86,900 square feet of positive absorption, 59.6 percent of which came from Class A assets. For Class A properties, the quarter was the submarkets' strongest since early 2014. The recovery was led by a few buildings which saw strong lease up in 2016. Most notable was Cypress Park West I, which saw vacancy decline 1,150 basis points. Major leases signed this year include Hayes Locums who expanded by 15,000 square feet (singed in Q2) at Cypress Park West I and EnvisionRX who signed a new lease for 23,000 square feet in Bayview Corporate Tower.

Downtown leads base rent growth in Broward County

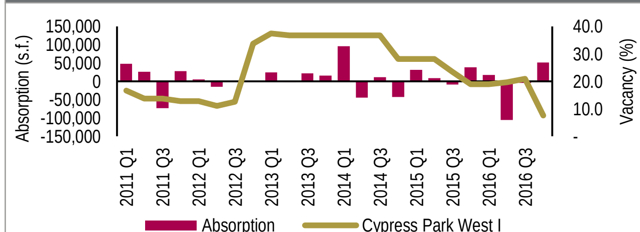
With occupancy rising landlords continue to push base rents in Broward County, which have increased 6.0 percent to $20.10 per square foot (NNN) year-over-year. The CBD led growth as rates rose 15.4 percent to $28.14 per square foot. Northwest Broward and Sawgrass Park were the next two strongest growth markets for rent hikes as landlords pushed base rental rates up 11.7 and 6.8 percent, respectively.

Only 35 Class A buildings have not sold since the start of 2014



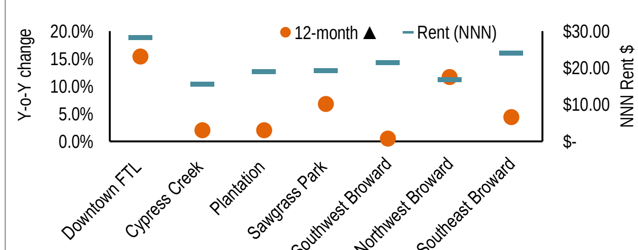
Source: JLL Research

Class A absorption picks up in Cypress Creek



Source: JLL Research

Class A change in asking rate growth – 2001 to current



Source: JLL Research

22,807,800 Total inventory (s.f.)	216,400 Q4 2016 net absorption (s.f.)	$29.13 Direct average asking rent	91,800 Total under construction (s.f.)
14.2% Total vacancy	453,700 YTD net absorption (s.f.)	3.4% 12-month rent growth	0.0% Total preleased

- John French
Research Analyst,
Fort Worth

Fort Worth

Downtown stabilizes, despite no energy rebound

Energy office space has normalized for now, with some hope for 2017

It appears that energy tenants have reached a new normal, with no significant energy subleases hitting the market since July. In the last six months, downtown Class A sublease space has actually dropped nearly 20 percent, after sublease availability rose 233,000 square feet from the beginning of 2015 to the summer of 2016. Of note, sublease vacancy has hovered around 30,000 square feet since 2015, even with a high of 251,000 square feet sublease availability. Many companies are testing the sublease market even as they continue to occupy the space. While energy companies will likely remain cautious in their leasing activity for some time, there is some reason for optimism in the upcoming year with oil prices hitting their highest point of the year in December and the recent announcement of the Wolfcamp shale.

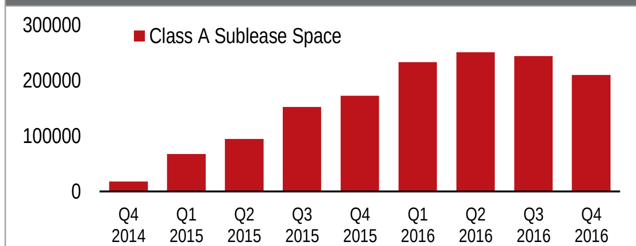
Downtown has hit a surprising level of stability

As energy companies have stabilized, so has downtown office space. The last nine months of 2016 saw less overall volatility in Class A vacancy than any other three-quarter period over the past decade. Indeed the market actually tightened somewhat, as the end of 2016 saw the second steepest six-month decrease in available space in five years. Although downtown has been hit hardest by the energy woes since the end of 2014, both vacancy and availability are down over 1.5 percent over that period. Rents have also remained stable, with almost no discernible decrease from the 1st quarter to the 4th quarter.

Negative absorption driven by one building in North Fort Worth

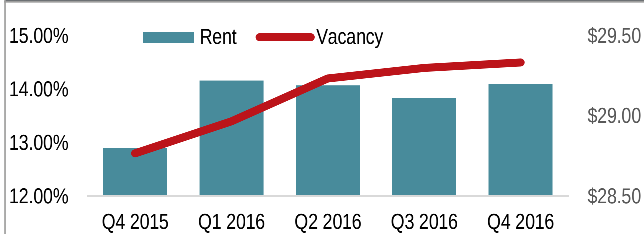
Outside of a 431,579-square-foot call center in North Fort Worth, the market as a whole was mostly neutral with 11,222 square feet of positive absorption. This property also accounted for most of the 1.2 percentage-point increase in vacancy this quarter. Bank of America moved out of the high-end call center this quarter after selling the building earlier this year. Since it is uniquely situated, this property should see strong immediate interest from larger tenants, including some out-of-market office and call center users. Between this building, the recently renovated Gourley Plaza in Mercantile, and the Alliance market, North Fort Worth is poised for a strong year in 2017.

Downtown sublease space is already declining from its peak



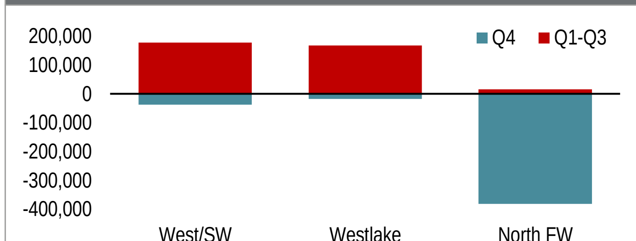
Source: JLL Research

Downtown Class A market is stabilizing



Source: JLL Research

Absorption was stable across other suburban markets



Source: JLL Research

40,491,397 Total inventory (s.f.)	-420,357 Q4 2016 net absorption (s.f.)	$22.46 Direct average asking rent	1,429,451 Total under construction (s.f.)
16.2% Total vacancy	-133,462 YTD net absorption (s.f.)	3.3% 12-month rent growth	30.4% Total preleased

Hampton Roads

- Mike Metzger
Research Analyst,
Hampton Roads

Less leasing activity, but lower vacancy rates

Leasing activity and vacancy rates down for the quarter and the year

Whether it was due to uncertainty about the impact of the 2016 election, delays in final determination of tenant budgets or real changes in overall demand, fourth-quarter leasing activity was 30.7 percent below the third quarter, while 2016 totals were down 8.0 percent from 2015. At 13.9 percent for all classes and submarkets, however, the overall vacancy rate was down 10 basis points (bps) from the previous quarter and 90 bps from the end of 2015. Overall Class A vacancy climbed 30 bps to 10.9 percent, however, and without the addition and occupancy of one building, Class B vacancy would have been flat and overall vacancy would have risen by 20 bps.

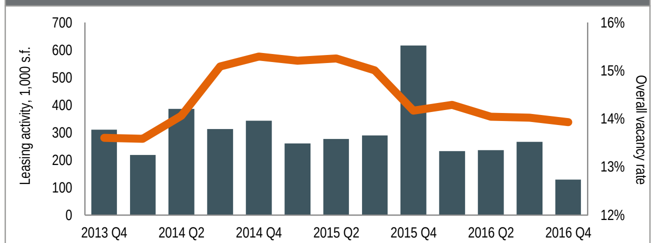
Positive absorption this quarter, but by only one building

That building was Two Commercial Place, the Downtown Norfolk site of ADP's operation center. The 287,858 square feet (s.f.) added to inventory and absorption totals overcame givebacks of Class A space to keep overall net absorption positive for the quarter, at 277,287 s.f., and the building comprised all but 236 s.f. of the market's total net absorption of Class B space. Positive net absorption for the entire year of 2016 did not depend entirely on the contribution of Two Commercial Place, however, with Class A net absorption at 36,643 s.f. for the year and Class B absorption at 40,307 s.f., without the building, for a year-end figure of 76,950 s.f. without that building distorting the total.

Downtown Norfolk begins to outperform the Virginia Beach CBD

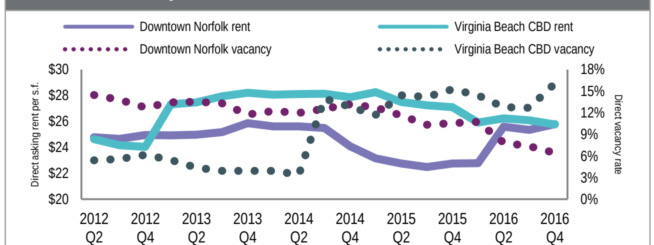
For some time, recovery in Downtown Norfolk was outpaced by the suburbs—certainly in less expensive areas such as Greenbrier and Lynnhaven, but also by the Virginia Beach CBD, where much of the Class A space was in high-rises competing directly with downtown towers. But as asking rents peaked at Town Center's newest and most expensive building, 4525 Main Street, interest waned, and it now holds over 44 percent of vacant Class A space in the submarket. In contrast, downtown is more balanced, with about 36 percent of vacant space at Dominion Tower and between 17 and 20 percent at the other three large offerings. A market resistant to paying $30 per s.f. in the suburbs may explain why Class A vacancy is now lower and rents $0.03 higher downtown.

Vacancy rates reflect leasing activity - usually



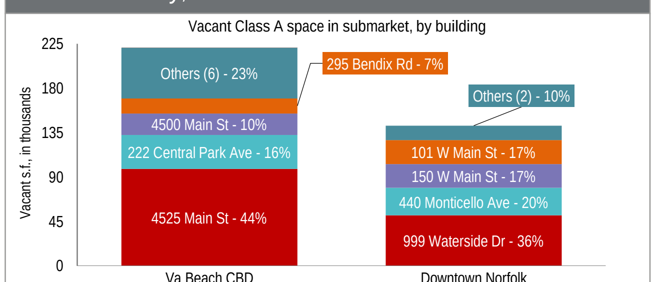
Source: JLL Research

Class A vacancy & rent, Downtown Norfolk & Va. Beach CBD



Source: JLL Research

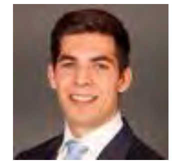
Class A vacancy, Downtown Norfolk vs. Va. Beach CBD



Source: JLL Research

18,126,233 Total inventory (s.f.)	277,287 Q4 2016 net absorption (s.f.)	$18.82 Direct average asking rent	209.109 Total under construction (s.f.)
13.9% Total vacancy	364,808 YTD net absorption (s.f.)	7.6% 12-month rent growth	47.8% Total preleased

Hartford



- Wes Simon
Research Analyst,
Boston

Renewals solidify importance of CBD presence

CBD highlighted by long term leases

The Hartford market continued to strengthen in 2016. An uptick in suburban leasing activity resulted in over 50,000 square feet of positive absorption in the fourth quarter while lease renewals in the CBD served as a positive indicator for the future prosperity of downtown. On top of multiple lease extensions by Travelers Insurance, renewals for 253,000 square feet and 190,000 square feet by Prudential Retirement and Lincoln Financial, respectively, bolstered the long term fundamentals of the market. The average asking rent for the metro as a whole increased to $21.10 per square foot Gross, up 3.0 percent year-over-year. More specifically, Class A rent in the CBD reached $23.53 psf Gross while direct vacancy remained stable at 14.6 percent.

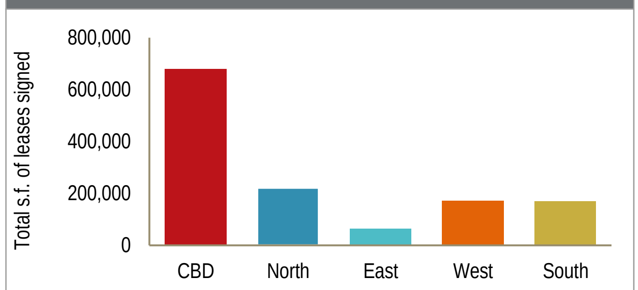
Increased tenant activity contributes to positive absorption in suburbs

The suburbs experienced 91,000 square feet of net absorption as vacancy decreased to 14.5 percent. Leasing in the West remained strong as Stanley Black & Decker took 67,000 square feet off the market at 400 Executive Boulevard in Southington. In the North, a pair of leases were signed at 175 Addison Road in Windsor as Quest Engineering expanded by 45,000 square feet and now leases 63,000 square feet and Belcan Technologies expanded and now leases 75,000 square feet. In the South submarket, AECom renewed for 47,000 square feet at 500 Enterprise Drive in Rocky Hill. 2016 also featured several suburban investment sales. This included RREEF America selling 195 Scott Swamp Road to Novaya Investors for $3.5 million. Woodgreen Management purchased 1111 Cromwell Avenue in Rocky Hill for $10.3 million, or $162 psf. Capstone Properties rounded out the year by acquiring 95 Glastonbury Boulevard in Glastonbury for $23.6 million, or $160 psf.

Outlook

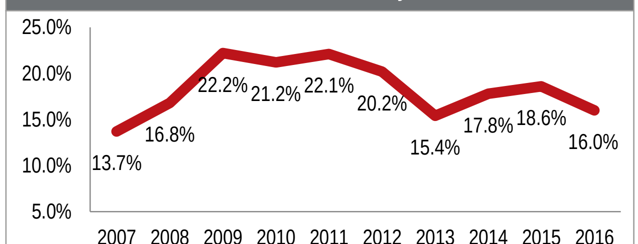
The past year has been marked by gradual growth and positive indicators. In addition to leases by Travelers, Prudential and Lincoln Financial, the city remains focused on urban revival. An unexpected increase in demand for downtown residential units in tangent with the unemployment rate trending downward gives us much to look forward to in Hartford in 2017.

2016 Leasing transactions by submarket



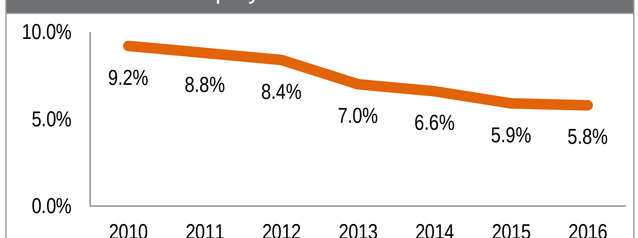
Source: JLL Research, leases signed over 20,000 s.f.

Greater Hartford Class A total vacancy



Source: JLL Research

Hartford MSA unemployment rate



Source: JLL Research, Moody's, Hartford MSA

25,313,531 Total inventory (s.f.)	52,374 Q4 2016 net absorption (s.f.)	$21.10 Direct average asking rent	60,484 Total under construction (s.f.)
15.7% Total vacancy	-16,767 YTD net absorption (s.f.)	3.0% 12-month rent growth	0.0% Total preleased

Houston

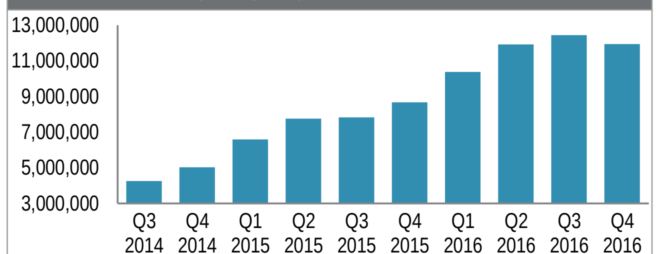
- Eli Gilbert
Vice President, Research, Houston

Healing sublease inventory offset by pain elsewhere

Sublease inventory contracts for the first time since Q3 2014

Following eight consecutive quarters of expansion, the Houston office sublease inventory decreased in size during the fourth quarter, dropping from 12.4 million square feet in Q3 to 11.9 million s.f. in Q4. Much of the drop is attributed to ConocoPhillips decision to relocate their Houston headquarters to Energy Center Four, a 597,000-square-foot Class A building located in the Energy Corridor that was formerly available for sublease. Additionally, Q4 also brought with it the two largest sublease deals of the year, Breitburn Energy's 109,000-square-foot deal at Heritage Plaza and Thompson & Knight's 60,000-square-foot deal at BG Group Place. Moving forward, the sublease inventory will likely continue to contract in 2017.

Sublease inventory drops by over 489,000 s.f. from Q3 to Q4

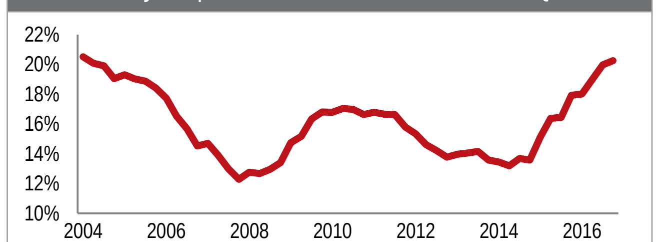


Source: JLL Research

Total vacancy climbs higher amid weak leasing activity

Due in large part to a weak showing in leasing activity, which was approximately 54.0 percent below its 10-year quarterly average of 3.7 million square feet, market-wide total vacancy reached 20.3 percent during the fourth quarter. The total vacancy rate has been steadily on the rise since the fourth quarter of 2014. During this time, total leasing activity has lagged behind its 10-year quarterly average in seven of the eight quarters and the total vacancy rate has risen for eight consecutive quarters. Given the slowdown in leasing demand, the total vacancy rate is anticipated to remain at elevated levels in 2017.

Total vacancy eclipses 20% for the first time since Q2 2004

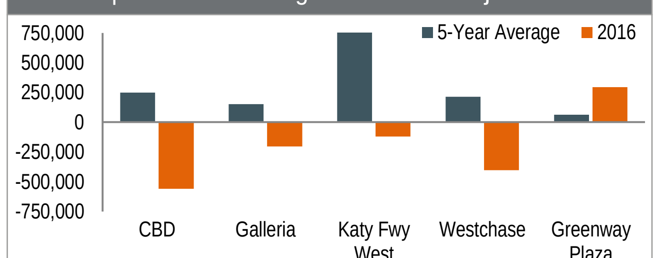


Source: JLL Research

Prominent submarkets account for bulk of negative net absorption in 2016

With the exception of Greenway Plaza, net absorption among the top five largest submarkets in Houston severely lagged behind their respective five-year averages, falling behind by an average of -119.0 percent. The weak performance of the major submarkets all but assured that the office market would record its second consecutive year of negative net absorption, which marks the first time that this has happened since 2002. Energy sector move-outs lay at the heart of the issue in 2016, as low oil prices drove many energy sector tenants to reduce their headcounts, place excess space on the sublease market and later vacate their space.

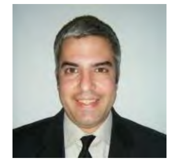
Net absorption below average in 4 of the 5 major submarkets



Source: JLL Research

163,623,452 Total inventory (s.f.)	-125,349 Q4 2016 net absorption (s.f.)	$30.78 Direct average asking rent	3,514,081 Total under construction (s.f.)
20.3% Total vacancy	-1,925,298 YTD net absorption (s.f.)	-0.1% 12-month rent growth	53.0% Total preleased

Indianapolis



- Mike Cagna
Senior Research Analyst, Indianapolis

CBD occupancy grows while suburbs see investment

More companies relocating from suburbs to downtown

This year, nearly 170,000 square feet was leased by tenants new to the CBD. This total is more than the past two years combined. With more companies looking to relocate from the suburbs to downtown, it is no surprise that the CBD posted the highest level of net absorption in the Indianapolis market for the year. It was also one of the only submarkets to see vacancy decrease since last quarter. This trend will surely continue as almost 150,000 square feet in active requirements of current suburban tenants are looking to move downtown.

Leasing activity by industry

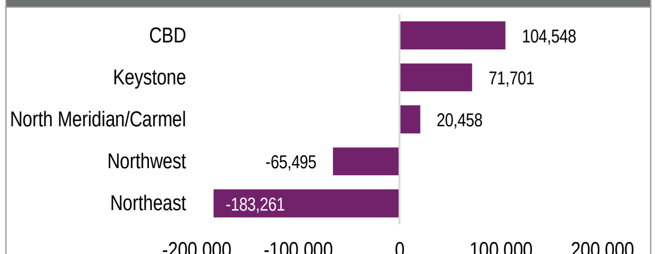
Tenant	Size (s.f.)	New location	Previous submarket
Flaherty & Collins	24,503	Regions Tower	Keystone
Teradata Corp.	20,454	BMO Plaza	North Meridian/Carmel
Section 127	11,924	425 W South St	East/Southeast
Pondurance	10,500	500 North (sublease)	Keystone

Source: JLL Research

CBD, Keystone see greatest occupancy growth

Occupancy growth this quarter was limited as a result of a few large tenants vacating their space for owner-occupied locations. Most notably was Roche Diagnostics bringing employees located in 10300 Kincaid Drive in the Northeast submarket back to its headquarters, creating nearly 200,000 square feet of newly vacant space. The CBD, Keystone, and North Meridian/Carmel all finished off 2016 with positive net absorption, with the CBD showing the greatest amount with over 50,000 square feet for the quarter and 100,000 square feet for the year.

YTD net absorption by submarket (s.f.)

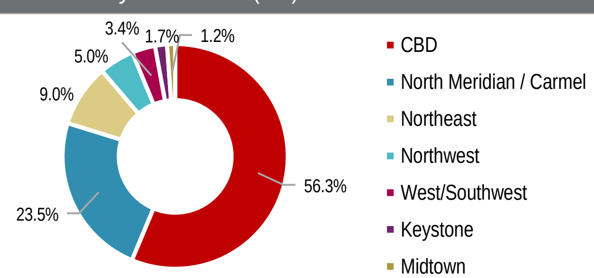


Source: JLL Research

Investors focus on northern suburbs

Six million square feet of office space traded hands this year, resulting in almost $600 million in sales activity. Three sales closed this quarter, and unlike previously this year, all occurred in the suburbs. In North Meridian/Carmel, Northpoint Center and Pennwood I & II were sold to Tryperion Partners and Kimmel Square, LLC, respectively. Nearby in Keystone, Haverstick I & II were acquired by Prism Capital. In total, 23 sales transactions occurred this year with several more set to close in early 2017.

Sale volume by submarket (s.f.)



31,818,290 Total inventory (s.f.)	-332,956 Q4 2016 net absorption (s.f.)	$19.78 Direct average asking rent	427,977 Total under construction (s.f.)
16.4% Total vacancy	-53,454 YTD net absorption (s.f.)	4.7% 12-month rent growth	56.4% Total preleased

Jacksonville

- Drew Gilligan
Senior Research Analyst, Central Florida

Declining vacancy driving record high rents

Asking rates continue to rise

Class A product in Jacksonville is currently experiencing an all-time high in asking rates, increasing 2.1 percent growth year-over-year. The majority of the growth taking place is in Class A product. Historically Class A rates have fluctuated between $19.00-$20.75 per square foot, with current rates at $22.16, which is an all-time high. The few available large blocks and lack of new development in the Butler Boulevard and CBD submarkets will allow landlords to continue to be aggressive heading into 2017.

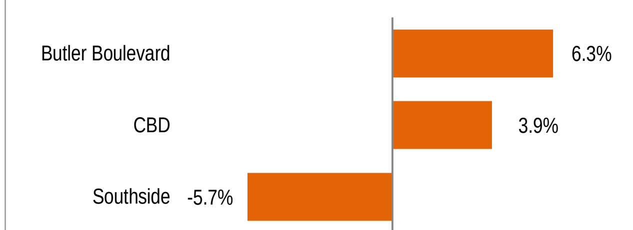
Fifth consecutive year of positive absorption

Jacksonville has experienced five straight years of positive absorption totaling more than 1.3 million square feet. The positive absorption has been evenly distributed between the CBD and Butler Boulevard submarkets, with both submarkets experiencing more than 600,000 square feet over the time period. The Butler Boulevard submarket had a notable year in 2016, seeing more than 245,000 square feet of positive net absorption. Jacksonville is seeing multiple companies expanding their operations locally, which is accounting for a large portion of the positive growth in the market. Multiple companies new to Jacksonville are rumored to be looking for space which will likely create continued positive absorption in 2017.

Vacancy approach all-time lows

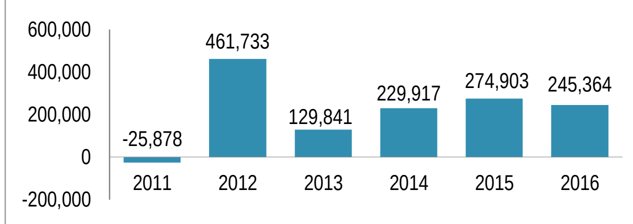
Total vacancy is currently 14.6 percent, the lowest it has been since the early 2000's. Multiple large blocks of space have been taken off the market in 2016, limiting tenant's options who are looking for more space across the market. There are only five blocks in Jacksonville larger than 100,000 square feet, some of which don't have enough parking for the requirements currently touring the market further limiting options. Landlords expect tenants to take more of those blocks off the market in the coming year as companies out of state look to target business friendly locations with strong employee bases, such as Jacksonville.

Asking rate growth year-over-year



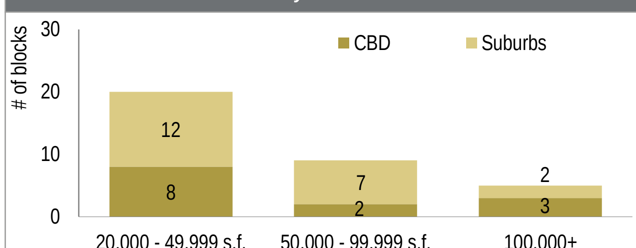
Source: JLL Research

Annual net absorption 2011-2016



Source: JLL Research

Historical suburban vacancy



Source: JLL Research

20,128,022 Total inventory (s.f.)	38,264 Q4 2016 net absorption (s.f.)	$19.66 Direct average asking rent	0 Total under construction (s.f.)
14.6% Total vacancy	245,364 YTD net absorption (s.f.)	2.1% 12-month rent growth	0% Total preleased

Long Island

- Sarah Bouzarouata
Research Analyst, Long Island

Strengthening market fundamentals drives sales activity

Low vacancies in prime office buildings prompt surge in investment sales

The Long Island office market experienced a surge of investment sale activity in 2016 as investors sought opportunities in prime office assets. Perhaps an indication of a healthy market, top performing properties drew interest from REITs. The total sale volume peaked at $366.8 million in 2016, slightly declining after generating record high volumes in 2015. This trend will undoubtedly continue through the next year as several office properties financed in CMBS loans reach maturity in upcoming months. Among the notable sales this quarter was the four-story trophy building at 3 Huntington Quadrangle in Melville. The 95.0 percent occupied property was sold for $36.0 million.

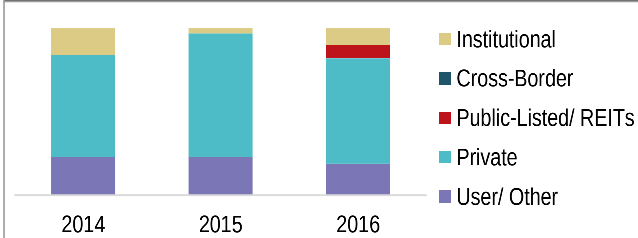
Western Nassau overall vacancy rate falls a full percentage point since Q3

The overall vacancy rate retreated nearly 100 basis points from three months ago, to 13.4 percent during the fourth quarter. Western Nassau registered the lowest Class A vacancy rate at 4.2 percent, as a result of heightened demand for prime office space in transit-centric areas. Corporate occupiers held their own in the healthcare-driven market during year-end 2016; Capital One Bank purchased and expanded into a 198,000-square-foot property at 1307 Walt Whitman Road in Melville, formerly owned by First Data Corporation. Additionally, Picciano & Scahill and Signature Bank leased 20,000 square feet at 1055 Stewart Avenue in Bethpage and 16,000 square feet at 900 Stewart Avenue in Garden City, respectively.

Supply constraints in Nassau County push demand to Western Suffolk

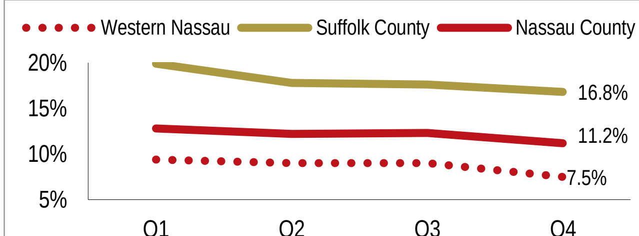
The overall market posted approximately 1.26 million square feet of net absorption in 2016, evenly distributed between Western Nassau and Western Suffolk. While Central Nassau experienced few vacancy shifts, the submarket recorded the two largest renewals in the market: Merrill Lynch's renewal of 50,000 square feet in Garden City, and Nassau County Government's renewal of 217,000 square feet in Uniondale. Supply constraints in Nassau County coupled with downtown revitalization efforts throughout Long Island will further push demand to Suffolk County, particularly in Western Suffolk where healthcare occupiers in pursuit of prime office space will find substantive options in Melville.

2016 investment sale activity by buyer type



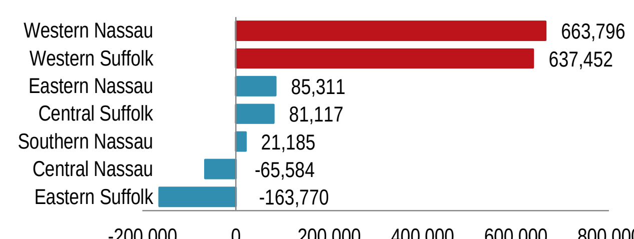
Source: JLL Research, Real Capital Analytics

Overall vacancy rate trends (2016)



Source: JLL Research

2016 net absorption by submarket (s.f.)



Source: JLL Research

41,983,140 Total inventory (s.f.)	407,321 Q4 2016 net absorption (s.f.)	$26.10 Direct average asking rent (p.s.f.)	338,885 Total under construction (s.f.)
13.4% Total vacancy	1,259,507 YTD net absorption (s.f.)	-0.9% 12-month rent growth	68.7% Total preleased

- Henry Gjestrum
Senior Research Analyst,
Los Angeles

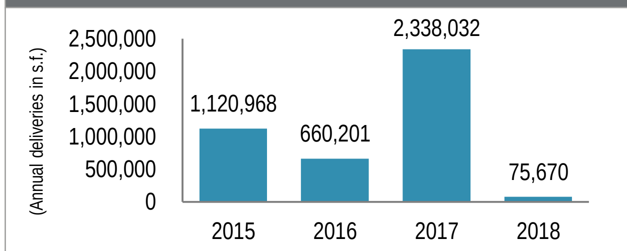
Los Angeles

Deliveries swell in 2017 but pipeline is empty beyond that

Thinning Los Angeles office construction pipeline keeps market tight

There is currently 2.4 million square feet of office space under construction in Los Angeles. The bulk of projects are expected to deliver in 2017, with a small amount spilling over to 2018. Looking ahead, the development pipeline is thinning out, with only a handful of proposed projects in the hopper. While mostly speculative, these projects are leasing up within the first few quarter after delivery. Developers have targeted well preforming micro-markets like Hollywood or Playa Vista, with significant tenant in-migration who appear less price-sensitive and have an appetite for new, creative product. As a result, Los Angeles is better positioned in the event of a downturn as supply is not outstripping demand.

Office deliveries spike in 2017

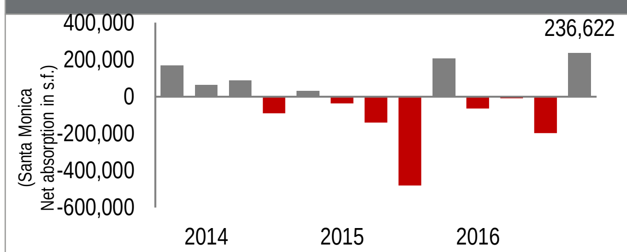


Source: JLL Research

Santa Monica is poised to make a large-scale comeback

Santa Monica had fallen out of favor in recent years for many technology tenants who found it difficult to grow. Playa Vista quickly emerged as the market of choice for companies looking to expand their footprint without foregoing the creative build outs which were once the attractive hallmark of Santa Monica. As large firms like Yahoo and Google moved south to Playa Vista, Santa Monica was left with large blocks of space. Santa Monica's leasing momentum slowed and the vacancy rate, which was in the single digits just eight quarters ago, has risen into the mid-teens. This trend seems to be correcting as tenants like Kite Pharma, Oracle and AwesomenessTV made large space commitments that will boost absorption in the coming quarters.

Tenant demand refocuses on Santa Monica



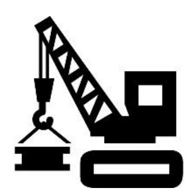
Source: JLL Research

Warner Music legitimizes LA**'s Arts District**

The Arts District is best known as a community rich with stylish galleries, trendy restaurants, bars and coffee shops in the middle of an "active" industrial zone. With Warner Music Group (WMG) signing for 257,028 square feet in an industrial conversion that once housed the Ford Model T assembly line, the Arts District is now gaining recognition as an office market. There is currently about 1.5 million square feet of product in the pipeline targeted for office conversion in the Arts District. Similar to Playa Vista, where tech giants now cluster, WMG's presence will potentially attract other media and entertainment firms to the market.

Arts District office pipeline

1.5 million s.f.
of industrial-to-office conversion underway



Source: JLL Research

189,189,812 Total inventory (s.f.)	462,647 Q4 2016 net absorption (s.f.)	$38.27 Direct average asking rent	2,413,702 Total under construction (s.f.)
14.6% Total vacancy	1,610,909 YTD net absorption (s.f.)	6.5% 12-month rent growth	17.5% Total preleased

Marin-Sonoma: North San Francisco Bay

Katherine Bilingsly
Research Analyst, Oakland-East Bay

Marin-Sonoma market closes 2016 on a strong note

Unemployment rates in both counties continue to dip, sitting below both state and national averages

Strong employment growth throughout Marin and Sonoma Counties continues to drive demand for office space and market activity. Both submarkets posted decreased year-over-year unemployment rates as of October, with Marin dropping from 4.3 percent to 3.8 percent, and Sonoma dipping from 5.7 percent to 5.3 percent. Southern Marin County continued its upward trend and closed the year with the highest asking rental rates. While this submarket averages $42.60 per square foot, Class A space in this region commands upwards of $54.00 to $66.00 per square foot in several major projects. While roughly 38.0 percent and 70.0 percent higher than Northern Marin County and Sonoma County rates, respectively, the area led quarterly absorption with 51,768 square feet, signaling that the high price points have not yet entirely deterred tenant demand for space.

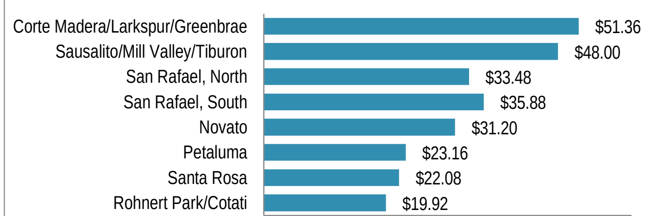
Three-story Kaiser Permanente building breaks ground, adding second Kaiser medical center in Santa Rosa

The 80,000-square-foot Kaiser Permanente building broke ground this quarter at 2240 Mercury Way, just seven miles south of the provider's existing facility. With an anticipated delivery of 2018, the additional center is a testament to the area's growing healthcare and life science industries. Other industry leaders such as BioMarin Pharmaceuticals, Medtronic, and Buck Institute for Age Research, have contributed to the development of a solid local network and welcoming business environment for the industry as a whole.

Market activity sets positive outlook for 2017

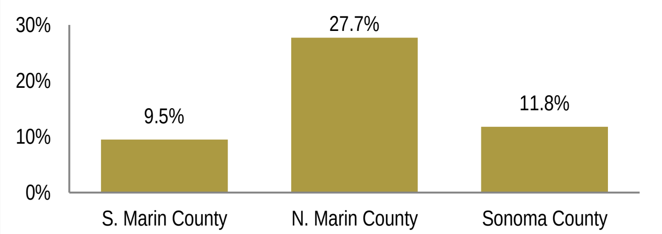
Quarterly leasing activity for Marin-Sonoma totaled 129,496 square feet. UBS Financial Services leased 7,107 square feet of space in Mill Valley, and Sutter West Bay Medical Foundation took 10,422 square feet of space in Santa Rosa. Marin County's vacancy rate wrapped up the year at 20.1 percent, substantially higher than Sonoma County's 11.8 percent. However, the Fireman's Fund campus in Novato continues to heavily weigh down Marin's vacant space, and if excluding the three-building, 710,000-square-feet property, vacancy drops to 12.7 percent. Overall, the growing local economies and healthy tenant demand for space hold positive implications going into 2017.

Average Class A asking rents across all markets *(full service gross)*



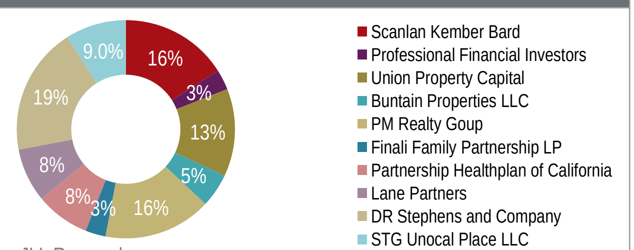
Source: JLL Research

Total vacancy by submarket



Source: JLL Research

Top 10 buyers by square foot volume, year-to-date



Source: JLL Research

19,666,581 Total inventory (s.f.)		55,685 Q4 2016 net absorption (s.f.)	$34.44 Direct average asking rent Marin County	80,000 Total under construction (s.f.)
20.1% Total vacancy Marin County	11.8% Total vacancy Sonoma County	-97,863 YTD net absorption (s.f.)	$21.00 Direct average asking rent Sonoma County	100% Total preleased

Miami

- Tim Powers
Research Analyst, Miami

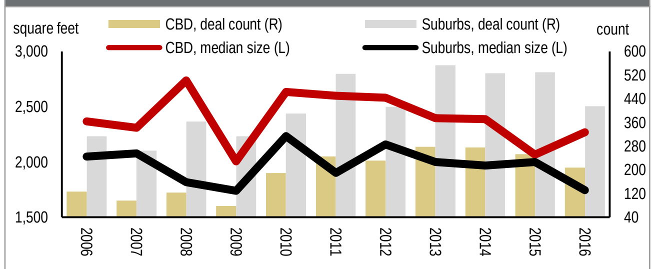
Miami-Dade landlords maintain positive outlook despite tepid 2016

Leasing activity remains moderate to close 2016
Miami-Dade County's pace of total office leasing activity slowed significantly to close the year, as roughly 135 transactions of a median 1,750 square feet were signed during Q4 2016 (versus an average through the previous three quarters of 170 deals averaging 1,900 square feet - already a moderated pace). Representing the slowest quarter of leasing activity in more than five years, the fourth quarter was characteristic of the year's tepid leasing activity, increasingly efficient lease transactions, and correspondingly low absorption. Leasing activity totaled fewer than 2.2 million square feet—the first year total leasing activity has fallen short of 3.0 million square feet since 2010. Suburban markets—most notably the Miami Airport—weighed heavily on county-wide performance measures, as the confluence of supply constraints and economic uncertainty stemming from a volatile election year stymied tenants' leasing appetites.

Class A landlord confidence healthy despite tepid leasing activity
The exuberance exhibited by county-wide landlords through the past 10 quarters and which engendered an average 1.3 percent quarter-on-quarter rate increase through that period, has—at least momentarily—been tempered by the recent sustained period of lukewarm leasing activity. County-wide total weighted average rate direct asking rates in Q4 rose just 0.1 percent quarter-on-quarter, depressed almost exclusively by rate discounting in Class B buildings (down 0.4 percent county-wide). Confidence amongst the Class A subsector, in contrast, remains healthy with rates rising from 0.8 percent (County-wide) to 3.4 percent (Downtown Miami).

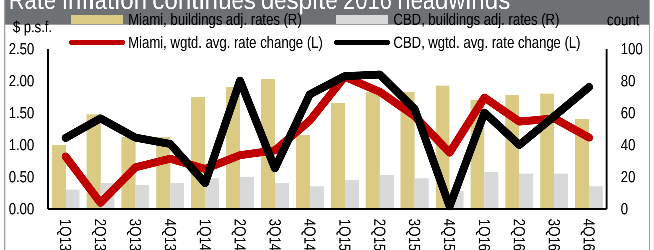
Capital markets activity unperturbed as investors eye Miami
Indeed, with the fourth quarter sale of the market's largest office building, Southeast Financial Center, to Ponte Gadea closing out a year that opened with the sale of the market's sixth largest office building, Miami Tower, to Sumitomo, there has been a significant volume of the County's major assets trading to foreign buyers and at heady prices. So despite an underwhelming county-wide annual net absorption of just 10,000 square feet, recent sales and a continued pattern of pre-existing rate inflation indicate both a faith amongst institutional investors in Miami-Dade's near-term growth outlook and that upward pressure on already record-high Class A asking rates is likely to remain significant.

Miami-Dade transaction activity 2006 - 2016



Source: JLL Research

Rate inflation continues despite 2016 headwinds



Source: JLL Research

Notable 2016 office building sales

Building Name	$ MN	$ p.s.f.	Buyer
Southeast Financial Center	516.6	422.0	Ponte Gadea
Miami Tower	220.0	348.0	Sumitomo
Waterford at Blue Lagoon	68.3	183.0	Ivy Realty
Doral Corporate Center	48.8	176.0	Rialto Capital

Source: JLL Research

37,587,986 Total inventory (s.f.)	60,576 Q4 2016 net absorption (s.f.)	$36.94 Direct average asking rent	959,838 Total under construction (s.f.)
13.4% Total vacancy	10,091 YTD net absorption (s.f.)	4.7% 12-month rent growth	39.5% Total preleased

Milwaukee

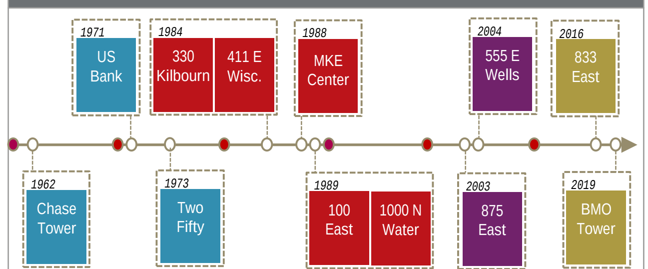
- Kyle Koller
Research Analyst, Milwaukee

Milwaukee rises to meet office demand

Milwaukee will see its second office tower in recent history

Over the course of 2016, Milwaukee was met with a swell of development proposals for office, hotel, and residential uses alike. As some of the largest tenants began looking at the potential for new space, they were met with very limited existing options. For BMO Harris and law firm Michael Best & Friedrich, the answer would lie in the opportunity to co-anchor a 360,000-square-foot office tower on North Water Street. Together, the firms will take roughly 175,000 square feet, leaving another 180,000 square feet available on market. With what remains at 833 East, area firms will have a couple options for new, albeit expensive, space.

Skyline timeline

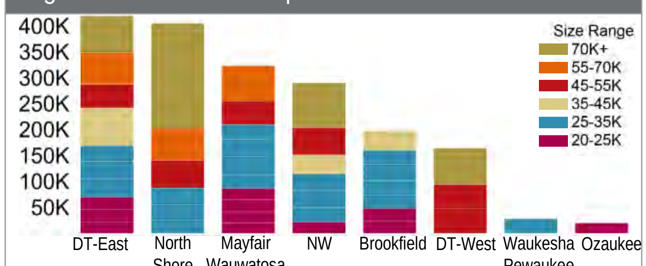


Source: JLL Research

Large blocks of space differ by submarket

A larger firm looking to accommodate growth, rebrand, or simply upgrade their space, wants to be met with multiple relocation options to do so. In some Milwaukee submarkets with few existing options, firms of any significant size must choose between attempting to anchor a built-to-suit venture or moving outside of their desired area. As a few more large blocks of space are claimed over the 4th quarter, the case for mid-sized speculative office development grows stronger. While developers will likely stick to prior anchor tenant commitment for now, the near future may provide a comfortable enough environment to build speculatively.

Large blocks of available space

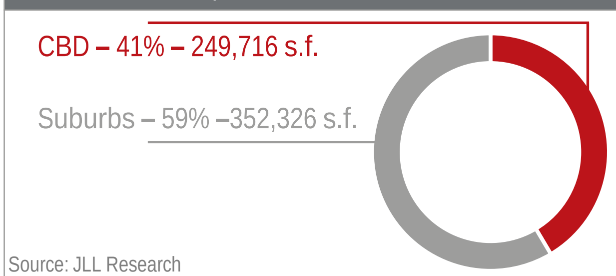


Source: JLL Research

While all eyes are on downtown, the suburbs take the year

While the suburbs were given less attention over the year as talks of a downtown renaissance, tenant migration, and development fueled most conversations regarding Milwaukee, the suburban share of total net absorption for 2016 was nearly 60 percent. The I-94/I-45 corridor submarkets (Mayfair/Wauwatosa, Brookfield, North Shore, Park Place) drove this 350,000 square feet of absorption, as ease of access continues to be a priority for suburban firms. It goes to show that not everyone enjoys the bustling downtown environment, and longer commutes and parking costs can be a hard sell to employees that have settled in the suburbs.

2016 total net absorption



Source: JLL Research

27,718,527 Total inventory (s.f.)	64,553 Q4 2016 net absorption (s.f.)	$19.85 Direct average asking rent	137,500 Total under construction (s.f.)
16.9% Total vacancy	602,042 YTD net absorption (s.f.)	7.1% 12-month rent growth	53.6% Total preleased

Minneapolis

- Carolyn Bates
Senior Research Analyst, Minneapolis

Expect churn in Class B CBD office inventory in 2017

An uncertain future for newly vacant Class B office in the Minneapolis CBD

The last two quarters of 2016 saw significant negative absorption due to Wells Fargo and Xcel Energy vacating numerous leased locations for their new build-to-suit (BTS) single-tenant buildings. Considering that the residential vacancy in the CBD is now significantly below the office vacancy rate, expect to see conversion of older Class B space into multifamily development. Northstar East will likely be the first apartment or condo conversion as soon as its sale is finalized. The future of the Macy's block will also be determined in 2017. The historic 914,000-square-foot building is currently for sale and the majority of its floors have sat vacant in recent decades. Without substantial capital improvements, mediocre Class B space will languish in a market that has a vacancy rate of 21.7 percent. As such, the former TCF Bank is undergoing a major renovation to be repurposed into 130,0000 square feet of creative multi-tenant office.

Foreign capital helps to set record office sales this year

In the final quarter of 2016, Shorenstein Properties sold 33 South Sixth Street to Chinese investor HNA Group for $315 million. This is a marked increase from its last sale in 2012 for $205 million. The sale price is also the highest ever paid for a Minneapolis building. The opportunity for additional foreign direct investment (FDI) will escalate as Asian and European firms seek real estate in growing, stable markets. Chinese firms looking for U.S. properties typically make three stops: Los Angeles, San Francisco and New York, but Midwest markets like Minneapolis are increasingly attracting a larger share of that FDI.

Tech and creative tenants were the first to sign at new buildings in 2016

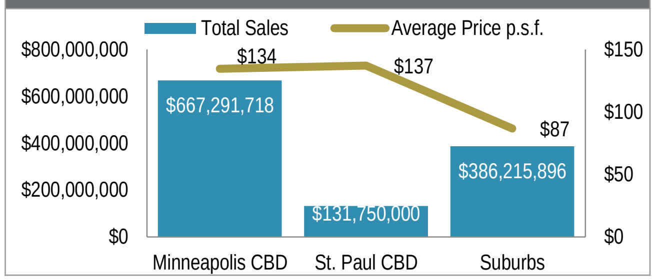
If you want to predict who will be the first to prelease a building that is under construction or renovation, look to the tech and creative types. Cray Supercomputing will become the first tenant at Offices @ MOA when it relocates 350 employees in early 2017 from its namesake tower in the St. Paul CBD. The digital shipping logistics company, Coyote Logistics, signed at Swervo's newly redeveloped Nate's Clothing building this year. Ryan began construction on the spec Millwright Building, where the construction firm will be its own anchor tenant. And in Q3, marketing firm Clear Night Group preleased the Maytag Building, currently under renovation in the North Loop.

Minneapolis CBD vacancy increases in Q3 and Q4

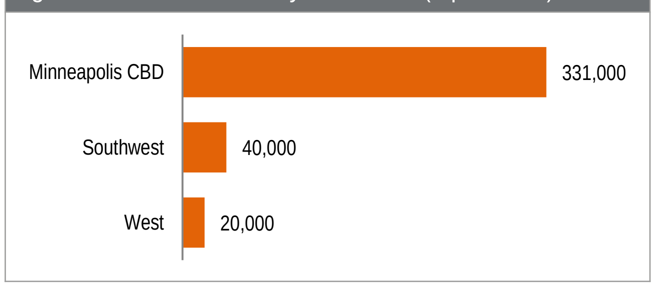
-525,000 s.f.

Wells Fargo's impact on Q4 absorption

Total 2016 office sales by submarket



High-tech tenant demand by submarket (square feet)



69,475,895 Total inventory (s.f.)	-304,195 Q4 2016 net absorption (s.f.)	$25.87 Direct average asking rent	430,500 Total under construction (s.f.)
16.0% Total vacancy	-72,474 YTD net absorption (s.f.)	2.8% 12-month rent growth	24.9% Total preleased

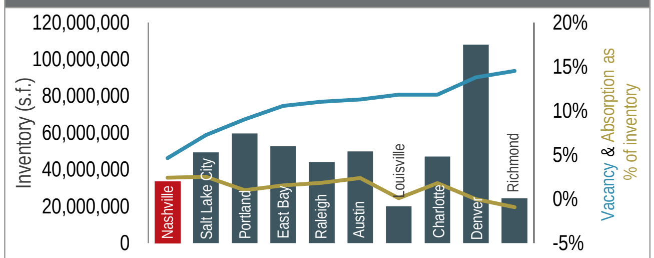
Nashville

- Hensley Loeb
Research Analyst, Nashville

A year for the record books: momentum in the market

How does Nashville stack up to other hot cities?
Compared to the rest of the country, Nashville's vacancy remains the lowest in the country. However, for the first time in six quarters, vacancy has begun to increase. At the end of Q4, vacancy was at 6.2 percent overall compared to last quarter's 4.6 percent. Class A and B space saw an increase in vacancy, while Class C decreased. Class A space increased the most from 6.3 percent in Q3 to 8.5 percent in Q4. Despite an increase in supply, the increasing demand in the market has contributed to rental rate increases; overall rent landed at $23.59. With rental rates this high, Nashville has surpassed some hot cities. Nashville's construction pipeline is heftier than most. See the chart to the right for how Nashville stacks up in terms of inventory, vacancy and absorption rates.

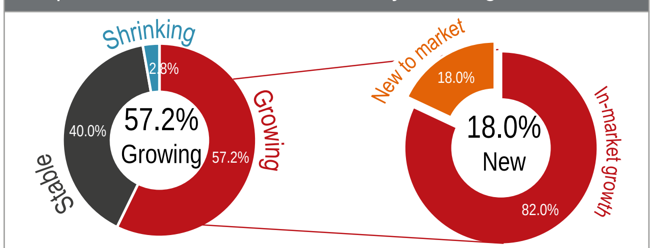
Nashville vis-à-vis hot cities*



Source: JLL Research | *Based on Q3 2016 numbers

Is market growth driven more by those in the market or those joining?
While Nashville has received a number of corporate relocations, in-market growth accounts for the majority of the absorption in the market. Over the past 24 months, 300 plus deals (new deals, renewals, expansions and subleases) have been executed. 57.2 percent had a growing footprint. 40.0 percent had a stable footprint and 2.8 percent have shrinking footprints. Of those growing footprint deals, 18.0 percent were new to market and 82.0 percent were already in the market. In-market growth accounts for roughly 2.6 million square feet, compared to new-to-market growth contributing well over 500,000 square feet.

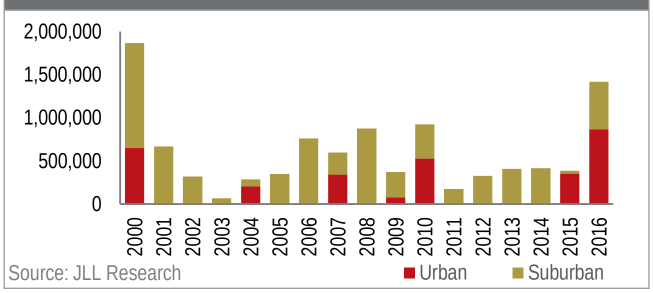
Footprints in the market: how are they trending?



Source: JLL Research

Office eight ball: what's ahead?
2016 building deliveries hit a 16-year high, construction activity is solid, and interest in Nashville remains sound. 10 buildings delivered in 2016, totaling 1.5 million square feet. All buildings came to market 78.4 percent preleased with an average asking rate of $32.28. Another 2.7 million square feet is under construction with an even higher average asking rate of $34.33. Despite higher than average rates, product is already 74.7 percent preleased. The big question is: what about the backfill space? As tenants relocate from second generation space, existing space is being backfilled at a steady pace. Nonetheless, there will be a subtle increase in vacancy. Even with the decrease in market occupancy, Nashville will continue to be the most occupied market in the country.

Historical deliveries by year (urban vs suburban)



Source: JLL Research

34,573,197 Total inventory (s.f.)	262,512 Q4 2016 net absorption (s.f.)	$23.59 Direct average asking rent	2,731,079 Total under construction (s.f.)
6.2% Total vacancy	1,139,944 YTD net absorption (s.f.)	2.1% 12-month rent growth	74.7% Total preleased

New Jersey

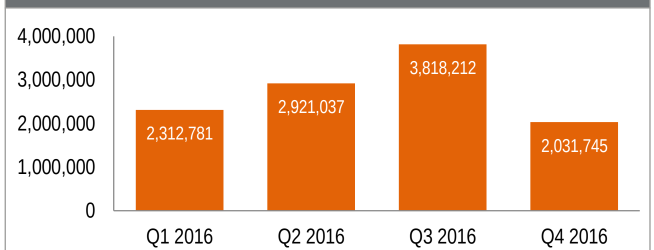
- Steve Jenco
Vice President, Research,
New Jersey

Vacancy rate changes course in late 2016

Office leasing velocity downshifts after third quarter spike

Following a sluggish start to the year, leasing velocity in the Northern and Central New Jersey office market accelerated over the course of the next two quarters in response to increased Class A tenant space requirements. However, demand downshifted again to only 2.0 million square feet of leasing transactions during the final three months of 2016. Moderating demand combined with additional vacancies collectively boosted the Northern and Central New Jersey overall vacancy rate from 24.0 percent in the third quarter to 24.5 percent at year-end 2016. The vacancy rate now stood only 10 basis points lower from a year ago.

Northern and Central NJ office leasing activity (s.f.)

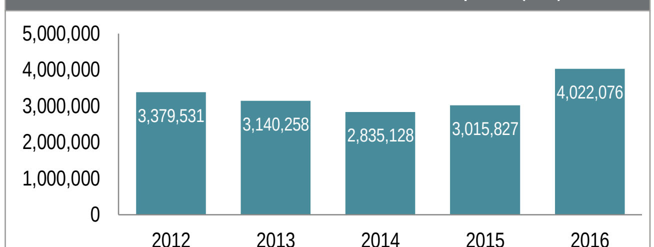


Source: JLL Research

Class A sublease space ticks higher during the fourth quarter

After ranging near the 3.0 million-square-foot level during the past few years, Class A sublease space eclipsed 4.0 million square feet during the fourth quarter in the wake of restructurings and relocations. Despite this increase, sublease space accounted for only 16.0 percent of Class A space compared to a high-water mark of 40.0 percent of available space in 2002. Contributing to the recent sublease space uptick was 205,400 square feet marketed by Sanofi at 55 Corporate Drive in Bridgewater. Novo Nordisk also placed 166,790 square feet on the market for sublease at 1100 Campus Road in Princeton. The Danish pharmaceutical company had relocated its headquarters to Plainsboro in 2013.

Northern and Central NJ Class A sublease space (s.f.)

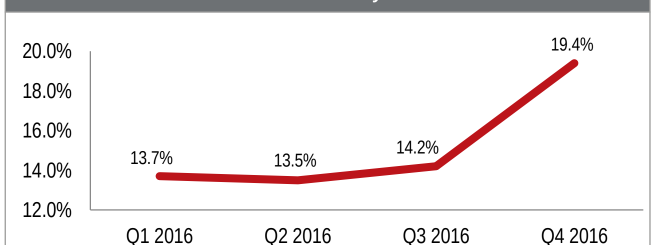


Source: JLL Research

Hudson Waterfront Class A vacancy rate hits highest level in 11 years

After retreating to 13.5 percent in mid-2016, the Hudson Waterfront Class A vacancy rate trended higher during the second half of the year as additional availabilities outpaced tenant requirements. The Class A vacancy rate eclipsed 14.0 percent in the third quarter and then surged to 19.4 percent by year-end 2016. Approximately 883,370 square feet of negative net absorption occurred in the Waterfront Class A office market during the fourth quarter. This represented the largest volume of negative absorption in the Northern and Central New Jersey office market. Contributing to this negative absorption was 222,990 square feet marketed for lease at Harborside Plaza 5 in Jersey City. Forest Labs formerly occupied this space prior to being acquired by Actavis in 2015.

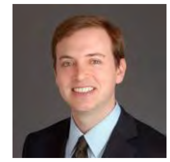
Hudson Waterfront Class A vacancy rate trends



Source: JLL Research

159,871,192 Total inventory (s.f.)	-789,191 Q4 2016 net absorption (s.f.)	$26.27 Direct average asking rent	45,000 Total under construction (s.f.)
24.5% Total vacancy	489,854 YTD net absorption (s.f.)	4.4% 12-month rent growth	100.0% Total preleased

New York



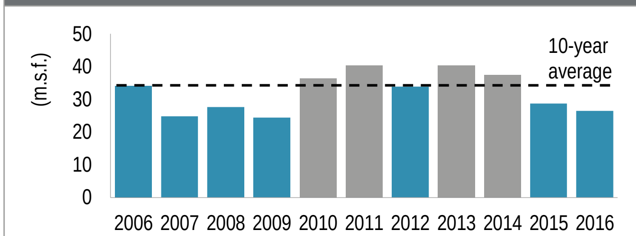
- Tristan Ashby
Vice President, Research,
New York City

Vacancy rises amid weaker demand

Leasing activity falls to the lowest level since 2009

Manhattan leasing activity fell again in 2016 amid political and economic uncertainty to the lowest level in seven years. Those tenants that did complete transactions often chose to remain in place, with renewals capturing five of the top ten leases for the year. A post-election increase in volume is expected, with several large leases on track to close in the first part of 2017. The pending transactions could help bring 2017 activity to levels more in line with historical averages.

Manhattan gross leasing activity

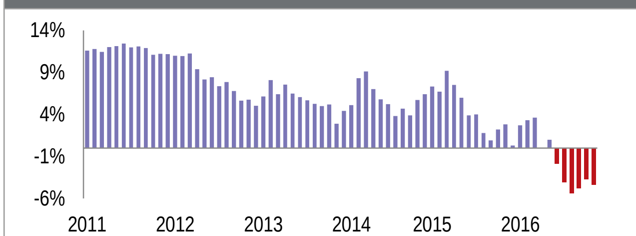


Source: JLL Research

After years of exponential growth, tech jobs decline

Technology has been one of NYC's fastest growing industries, with employment increasing by 47 percent since the recession in 2008. However, year-over-year tech employment has fallen for the last six months, as the industry has become unable to maintain the rapid level of growth recorded over the last few years. A talent shortage, investor selectivity and recent political and economic uncertainty have all weighed on the total job count throughout the year. As a result, subdued employment growth has impacted leasing volume in tech and the larger TAMI sector. Overall TAMI leasing activity declined by 15 percent from 2015 to 2016.

NYC tech employment 12-month change

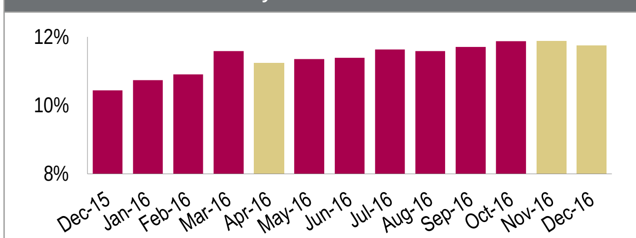


Source: JLL Research, NYS Dept. of Labor

Midtown vacancy steadily increased throughout 2016

The Midtown Class A vacancy rate decreased in December for only the second month this year following a flat November. For the rest of the year vacancy grew gradually as new construction and returned space outweighed lighter activity in the market. Despite a strong October, where four leases greater than 100,000 square feet were signed, vacancy ended the year 1.4 percentage points higher than 2015. Leasing volume is expected to pick up in the first quarter of next year, but could be tempered by additional space returning to the market.

Midtown Class A vacancy rate



Source: JLL Research

449,872,906 Total inventory (s.f.)	-1,439,942 Q4 2016 net absorption (s.f.)	$73.01 Direct average asking rent	13,390,233 Total under construction (s.f.)
10.4% Total vacancy	-1,563,010 YTD net absorption (s.f.)	2.2% 12-month rent growth	44.3% Total preleased

Northern Virginia

- Robert Sapunor
Research Analyst, Northern Virginia

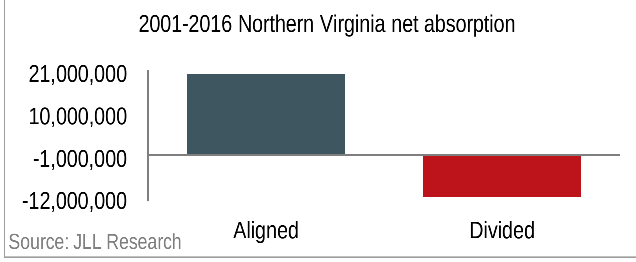
Tenant demand could ramp up in 2017

Possible dynamic change coming in 2017
While Northern Virginia has posted seven straight quarters of positive net absorption, tenant growth has been limited due to continued government contractor and federal agency move-outs. However, historical trends show that tenant demand dramatically increases when one party is control of both the executive and legislative branches. If defense spending increases, this could lead to rapid growth by government contractors. Since government contractors have consolidated so much over the last few years there is limited shadow vacancy and sublet vacancy is also near an all-time low. All these factors mixed with the ongoing tenant diversification in the market could lead to a shift in market dynamics in 2017.

Tenants continue to relocate and expand along the Silver Line Corridor
The 2014 opening of the Silver Line to Tysons and Reston corresponded with a shift in tenant preferences to Metro-accessible locations. 15 of the 29 leases signed over 20,000 square-feet this quarter were in buildings situated along the Silver Line Corridor between Rosslyn and Herndon. Six of the seven leases that involved growth were also located along that corridor. 80.3 percent of the space under construction is located in-between Rosslyn and Reston. Meanwhile, non-Metro accessible submarkets have struggled. For example, Fairfax Center has posted 416,697 square feet of negative net absorption this year after large move-outs by CACI, Fairfax County Public Schools and CSRA.

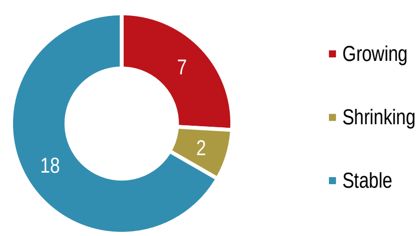
Construction activity stays hot
After three buildings broke ground during the third quarter, construction began on an additional two offices during the fourth quarter. National Industries for the Blind started construction on 3000 Potomac Avenue in Alexandria. The nonprofit will occupy 58,000 square feet in the 100,000-square-foot building. Miller & Smith began construction on 20408 Bashan Drive in Ashburn. The 72,000-square-foot building will be the next phase of the One Loudoun mixed-use development. 22318 Glenn Drive was the only building to deliver this quarter. The 182,000-square-foot building is fully leased to U.S. Customs and Border Protection.

Party alignment in government has led to positive absorption



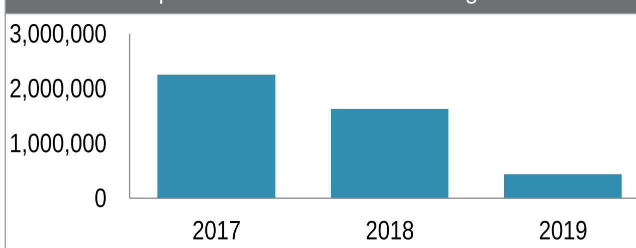
Source: JLL Research

The balance has shifted from tenants shrinking to growing



Source: JLL Research

Deliveries will peak in 2017 with nine buildings scheduled



Source: JLL Research

148,271,828 Total inventory (s.f.)	43,848 Q4 2016 net absorption (s.f.)	$33.08 Direct average asking rent	4,349,740 Total under construction (s.f.)
20.0% Total vacancy	422,560 YTD net absorption (s.f.)	0.5% 12-month rent growth	71.0% Total preleased

Oakland

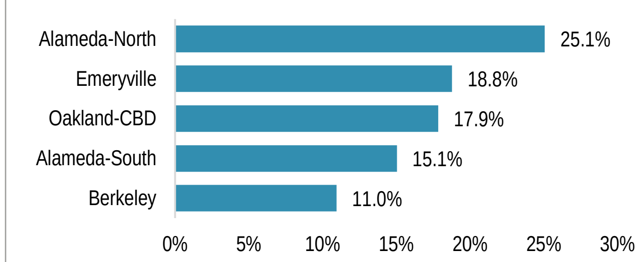
- Katherine Billingsley
Research Analyst,
Oakland-East Bay

Landlords maintain leverage moving into 2017

Relatively light leasing activity in the CBD, still moderate rent growth

Leasing volume dipped this quarter, largely due to the lack of space in the CBD with vacancy down to just 3.2 percent. However, rental rates are still on an upward trend, while demand remains steady as large tenants continue to evaluate the market, where full-floors are available for lease in top-tier assets. Meanwhile, smaller tenants are being priced out of Oakland into tertiary markets such as Alameda and Emeryville, where rental rates have shown the greatest year-over-year growth due to increased demand.

Non-CBD submarkets surpass CBD rent growth

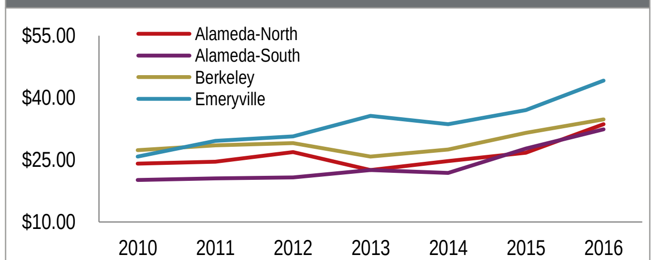


Source: JLL Research, y-o-y rent growth

Peripheral markets dominate leasing activity in Q4

Emeryville and Alameda drove leasing activity this quarter, in part because of a tightening market in the CBD. Non-CBD markets experienced organic growth in Q4 as existing companies expanded or renewed, especially companies in the life sciences sector. Aerotek, Inc. expanded their space at Alameda Center, set to occupy 16,794 square feet next year. Additionally, Zymergen expanded into nearly 30,000 square feet of space at EmeryStation. The life sciences sector maintains a strong presence in Oakland Metro and should gain more traction once Wareham's 200,000 square-foot project, EmeryStation West, delivers in Q4 of 2017.

Declining CBD vacancies push rents in nearby markets

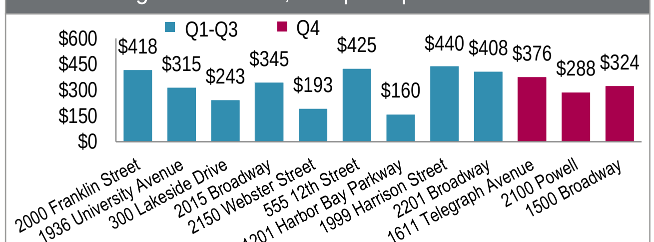


Source: JLL Research, y-o-y direct avg. rents

Oakland remains a stand-out market to institutional investors

The overall investment market activity this year was driven by institutional buyer interest in Oakland and Emeryville. Year-to-date investment sales volume totals just north of $1.0 billion, with an average pricing per square foot at $350, and a historical high watermark price of $440 per square foot. This quarter, several building transactions occurred, including Latham Square, 2100 Powell, and 1500 Broadway.

2016 building transactions, sale price p.s.f.



Source: JLL Research, Real Capital Analytics

24,496,701 Total inventory | Oakland Metro (s.f.)	34,712 Q4 2016 total net absorption (s.f.)	$53.10 CBD direct average asking rent	260,000 Total under construction (s.f.)
3.2% Total vacancy Oakland CBD | 11.6% Total vacancy Non-CBD	459,138 YTD total net absorption (s.f.)	17.8% 12-month rent growth	0.0% Total preleased

Orange County

- Jared Dienstag
Senior Research Analyst,
Orange County

Rents close in on peak levels at year-end

Class B segment leads market to sixth straight year of occupancy gains

In 2016, all five submarkets recorded positive net absorption and all with the exception of South County were led by their Class B markets. Rising rents are causing a significant number of tenants to get priced out of Class A buildings and move to Class B space. This spurred the Class B market to record five times more positive net absorption than Class A during the year. Over the last 12 months, positive demand has driven down direct vacancy 260 basis points from 13.5 percent to 10.9 percent, the lowest year-end vacancy rate since 2006. Vacancy could be tested in 2017 with 1.9 million square feet of new construction set to deliver to the market.

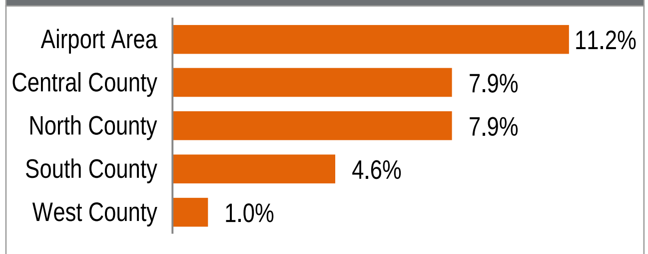
Airport Area surpasses previous peak rents

The Airport Area ended 2016 by setting a new monthly average asking rent high mark of $3.06 per square foot, full service gross. The previous peak was reached in Q3 2007 with a rental rate of $3.02 per square foot. The Q4 push was spearheaded by Broadcom's large blocks of space they currently occupy being listed with near top of the market rents as the tech company prepares to move to South County. The overall Orange County market is marching toward the previous peak level of $2.74 per square foot, which was attained in Q3 2007. Average asking rents have risen 37.4 percent since the end of 2012 to $2.68 per square foot. New construction deliveries in 2017 will place upward pressure on rents, while leasing activity levels will be key to maintain rent growth for the rest of the market.

Then (2007) and now (2016)

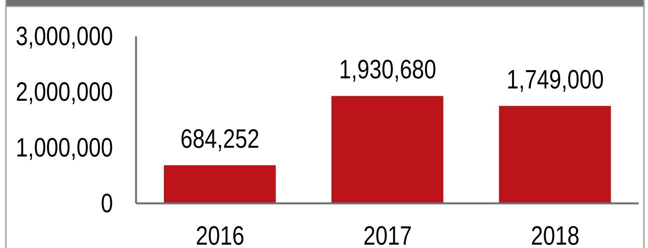
As the popularity to compare these cycles has grown, it is important to understand the different conditions between them. The last time Orange County had asking rents and vacancy rates similar to the current market, there was 571,333 square feet more sublease space available than now, a difference of 26.4 percent. The local economy had a total nonfarm employment base of 1,520,400, while the current workforce totals 1,614,100. Back then, Orange County lost 10,300 jobs during the previous 12 months, compared to now when the economy added 38,300 jobs.

Class B rental rate appreciation year-over-year



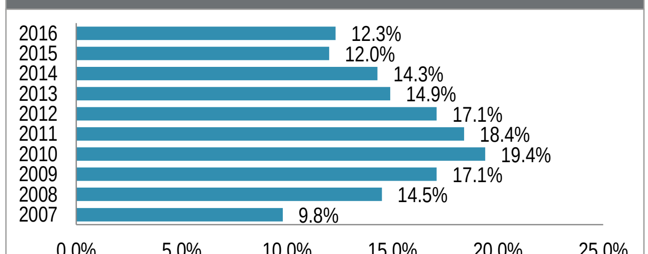
Source: JLL Research

Office deliveries (s.f.)



Source: JLL Research

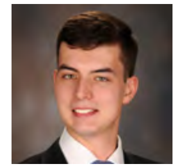
Class A total vacancy



Source: JLL Research

95,769,930 Total inventory (s.f.)	112,219 Q4 2016 net absorption (s.f.)	$2.68 Direct average asking rent	1,930,680 Total under construction (s.f.)
11.3% Total vacancy	782,223 YTD net absorption (s.f.)	8.5% 12-month rent growth	27.1% Total preleased

Orlando



- Will Harding
Research Analyst,
Central Florida

Orlando's office market steady in uncertain times

Sublease availabilities surge

Over the previous 12 months, sublease availabilities have increased 67.6 percent. This increase is primarily due to 18 subleases over 10,000 square feet coming to market, primarily focused in the education, defense, and financial services sectors. Subleases larger than 10,000 square feet are historically uncommon in Orlando, and this increase has significantly changed the sublease landscape. Given the relatively low historical sublease leasing activity, compared to sublease availabilities, the sublease availabilities may remain elevated for the foreseeable future. With the anticipation of additional large sublet availabilities coming online in the months to come, these availabilities have the potential to linger on the market and lapse into direct space.

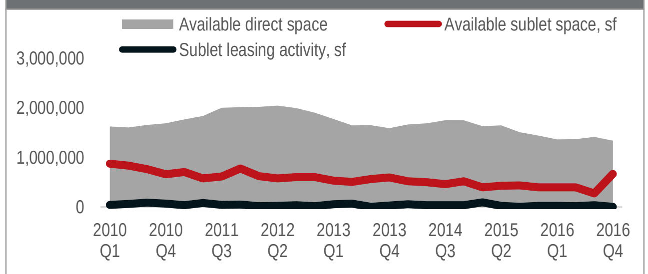
Speculative development begins in Orlando

After nearly five years, speculative office construction has started again in Orlando. Kirkman Pointe II in the Tourist Corridor broke ground earlier this year, and is expected to deliver 135,000 square feet in Q4 2017. In addition, the Edison at Primera will break ground in Q1 2017, and is expected to deliver 216,141 square feet, also by year end 2017. These two developments are being built with no preleasing, and will be a key indicator for tenant demand, especially in two of the most popular office submarkets, Lake Mary and Southwest. This is an important development for the Orlando office market, since the last speculative office building built was Kirkman Pointe I, delivered in March of 2012. These developments come on the heels of the delivery of 500 TownPark.

Orlando employment outpacing the nation

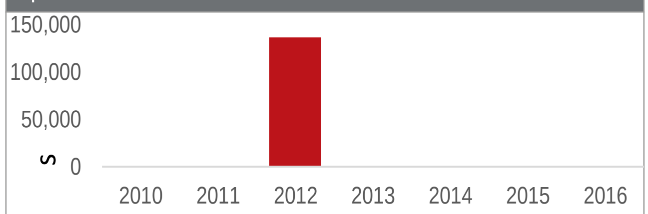
According to the December jobs report from the BLS, the national unemployment rate matches Orlando's unemployment rate, at 4.4 percent. The last time that the national unemployment rate matched or undercut Orlando's rate was in April of 2015. However, Orlando's job growth more than doubles the national numbers, with Orlando's 12-month job growth at 4.0 percent, while the U.S. 12-month growth rate stands at 1.7 percent. This job growth is dominated by the leisure and hospitality sector, but business services, government, and financial activities—all prime office users—have posted sector growth over the last 12 months.

Orlando Sublease Activity



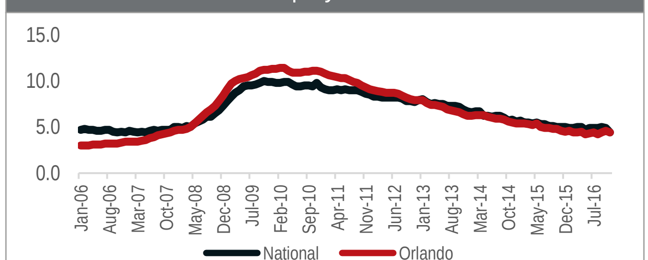
Source: JLL Research

Speculative office deliveries in Orlando



Source: JLL Research

Orlando and national unemployment rate



Source: JLL Research, Orlando Sentinel, Yahoo Finance

29,358,590 Total inventory (s.f.)	889,317 Q4 2016 net absorption (s.f.)	$20.96 Direct average asking rent	135,000 Total under construction (s.f.)
12.7% Total vacancy	87.3% Occupancy percent	1.3% 12-month rent growth	0.0% Total preleased

- Clint Randall
Research Analyst, Philadelphia

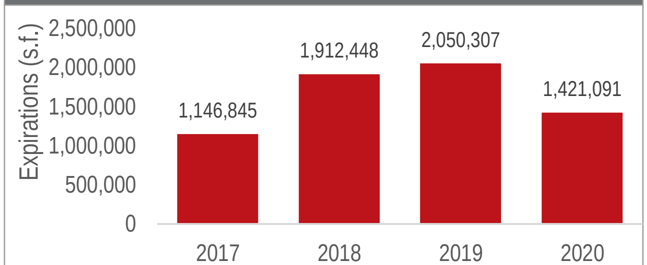
Philadelphia (CBD)

Year-end uptick in leasing activity, construction kick off multi-year game of musical chairs

Relocations open up unexpected blocks across the CBD, shrink others

Five Below's corporate headquarters relocation to 701 Market is not only a tripling in size for the growing company but is also a "reverse migration" from west to east. The move speaks to Market East's increasing appeal and may bode well for the 360,000 square feet coming online at 1101 Market in 2018. Montgomery McCracken's move to 1735 Market from its long-time home at 123 S. Broad, coupled with Hogan Lovells' 34,000-square-foot lease, removes three floors of the former FMC block from the market. Merrill Lynch's downsizing to Four Penn from the One Liberty opens another unexpected Trophy availability that will join a growing list of blocks in the market as 6.5 million square feet of mid- and large-size tenants seek new deals between now and 2020.

CBD existing large tenants (75,000+) with leases expiring

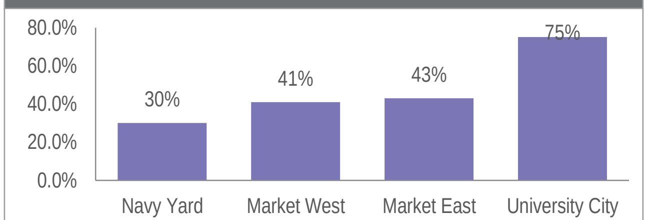


Source: JLL Research

New deliveries experiencing mixed leasing results; new blocks coming

Leasing of FMC Tower's 14th floor to Radnor-based FreedomPay and the 10th and 11th floors to a growing CBD-based tenant puts the building near 90 percent leased less than six months since delivery. 3675 Market is officially moving into construction after the December announcement that Cambridge Innovation Center will occupy 127,000 square feet on top of the Science Center's 50,000-square-foot commitment. This means the building will begin construction 50 percent leased, while 34 S. 11th is delivering with only three floors occupied and 1200 Intrepid has yet to lease its bottom three floors. With each submarket building out drastically different product, future absorption will depend on tenant mix.

Preleasing rates at new and pending office deliveries



Source: JLL Research

The 2017 question: Can leasing activity sustain spec construction?

The fourth quarter brought a sharp uptick in leasing activity across the CBD, but the late rally could not bring this year's transaction volumes up to the levels of the previous five. Between 2015 and 2016, approximately 1.1 million square feet (or 21 percent) of all deals came from the suburbs or out of market. If this level of inbound tenant attraction continues or accelerates, the market could absorb existing and future blocks in fairly short order. While only one purely speculative project is currently rising (the 209,000 square feet of office at One Franklin Tower), Pulver's recent announcement of 1301 Market Street indicates that the market expects growth from both local companies and out-of-market users.

2015-2016 share of inbound tenants (suburbs & beyond)

21.0%

Leasing activity from outside the CBD

Source: JLL Research

44,708,491 Total inventory (s.f.)	152,448 Q4 2016 net absorption (s.f.)	$30.24 Direct average asking rent	2,630,400 Total under construction (s.f.)
10.2% Total vacancy	206,698 YTD total net absorption (s.f.)	7.3% 12-month rent growth	891,000 Total deliveries YTD

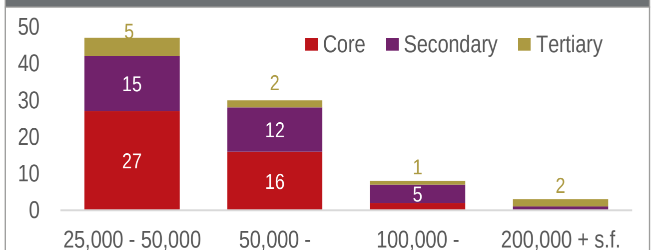
Philadelphia (Suburban)

-Gina Lavery
Research Analyst, Philadelphia

New construction and major transactions show core suburbs still attracting investment

Core submarkets have more **than half of the PA Suburbs' large blocks**
Nearly half of all large blocks of space available today in the PA Suburbs are located in the core submarkets, a perennially tight market for larger tenants. In the King of Prussia/Wayne submarket, the 14 large block availabilities (nearly 900,000 square feet of space) are partly the result of the shifting dynamics of the pharmaceutical industry—Shire's departure from the Chesterbrook Corporate Center to Malvern/Exton and Auxilium's move to sublease 640 Lee Road after its acquisition by Endo. Also notable is some softening in the Radnor submarket, closing 2016 with its highest availability rate (20 percent) since the recession and large blocks available at 555 E Lancaster and 5 Radnor Corporate Center.

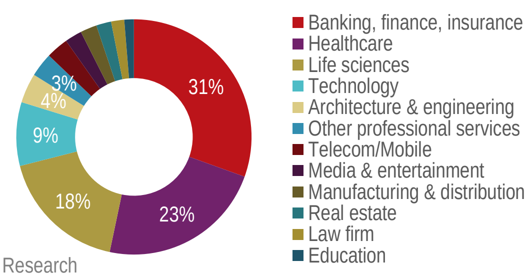
Core submarkets offer most large blocks of space



Source: JLL Research

Healthcare and life sciences dominate market demand
Looking forward to 2017, nearly half of all tenants in the suburban Philadelphia office market are in the healthcare, life sciences, and technology sectors, reflecting the region's perennial strength in these areas. Nearly one million square feet of office space are currently being sought by science and technology companies looking to expand their footprint in the market, the majority of which are looking along the Route 202 Corridor. While the continued expansion of the healthcare and pharmaceutical industry is a good sign for the ongoing strength of the suburban office market, all of the current demand is locally-generated, a reminder that Philadelphia and its suburbs may be growing but not attracting new businesses.

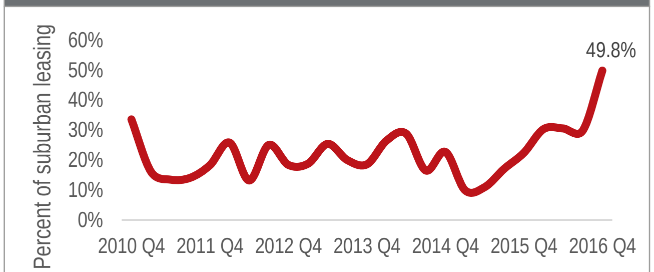
Distribution of tenants in the market with 2017/2018 timing



Source: JLL Research

King of Prussia/Wayne tenant reshuffling generates major leasing activity
Thanks to competitive rental rates and some new vacancies in the submarket's most attractive buildings, King of Prussia/Wayne closed 2016 with a record proportion (nearly 50 percent) of the Pennsylvania suburbs' total quarterly leasing activity. Behind the flurry of leasing are within-submarket tenant expansions: Vertex will lease almost all of GSK's 2301 Renaissance, and Dell Boomi will move into 1400 Liberty Ridge, which leaves Shire's two other former buildings, 1200 Morris and 735 Chesterbrook, as the largest vacancies in the submarket.

King of Prussia accounted for 50% of leasing in Q4



Source: JLL Research

53,001,999	102,853	$25.87	184,000
Total inventory (s.f.)	Q4 2016 net absorption (s.f.)	Direct average asking rent	YTD delivered construction (s.f.)
14.1%	411,717	4.8%	42%
Total vacancy	YTD net absorption (s.f.)	12-month rent growth	Total preleased

Phoenix

- Keeley Byer
Research Analyst, Phoenix

Absorption surpasses 3.1 million square feet

Office net absorption reaches 10-year high

Total positive net absorption in Phoenix exceeded 3.1 million square feet for the year, the most recorded demand in the Valley since 2005 when more than four million square feet was taken up by the market. With over 1.4 million square feet in 2016, the Tempe submarket accounted for nearly 45 percent of all absorption, due in large part to the completion of three of the five office buildings that comprise State Farm's Marina Heights campus. Scottsdale Airpark recorded the second highest positive net absorption with 498,649 square feet, followed by Chandler with 301,463 square feet. Total vacancy held steady from the previous quarter at 19.7 percent, down 120 basis points from one year prior.

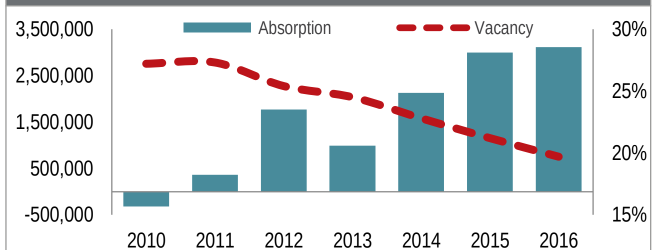
Highest average asking rent in South Scottsdale

The average asking rent in Phoenix reached $24.48 per square foot (FSG) at the close of 2016, up 4.2 percent from one year ago, but still 8.7 percent below the peak of $26.82 set in 2007. The South Scottsdale submarket reported the most expensive asking rent in the Valley at $30.84, approximately 26 percent higher than Phoenix overall. Half of the top ten most expensive submarkets can be found in the Northeast Market Area, comprised of Paradise Valley and Scottsdale submarkets. Of the top ten submarkets, South Tempe was 2.5 percent less expensive than the overall market.

Phoenix office deliveries surpass 2.4 million square feet

The Downtown submarket saw 122,220 square feet of new office space delivered in the fourth quarter of 2016, marking the first time new inventory has been added to the submarket since 2010. Situated in the fast-growing Warehouse District, 515 East Grant Street, a redeveloped warehouse, is currently 100 percent pre-leased and will be the future home for tech start-ups WebPT and Galvanize. More than 2.4 million square feet of new office space was delivered in Phoenix in 2016, just shy of the 2.5 million square feet of office space delivered in 2015. Tempe led all submarkets in construction with over 1.2 million square feet of Class A office space delivered at Marina Heights.

Net absorption



Source: JLL Research

Average asking rent

Source: JLL Research

Downtown office development

Project name	Size	Status
Block 23 At Cityscape	220,000 s.f.	Proposed
515 East Grant Street	122,220 s.f.	Completed
411 South 1st Street	26,174 s.f.	Proposed

Source: JLL Research

84,653,247 Total inventory (s.f.)	530,477 Q4 2016 net absorption (s.f.)	$24.48 Direct average asking rent	1,710,257 Total under construction (s.f.)
19.7% Total vacancy	3,142,088 YTD net absorption (s.f.)	4.2% 12-month rent growth	53.0% Under construction preleased

Pittsburgh

- Tobiah Bilski
Research Analyst,
Great Lakes

Tenant demand makes for higher quality supply

The value in Pittsburgh value-add properties

Office tenant demand continues to drive positive year-over-year rent growth for Class-A office space, however rents are not achieving the rate necessary for additional new construction to be viable. Accordingly, investors are seeking higher returns in value-add properties. This year, the new owners at Union Trust and Nova Place have benefited from the renovations of Class B office space into Class A, flipping virtually vacant properties into mostly leased buildings. As more buildings are bought and renovated, future investors may experience limited inventory. However, Class B vacancy in the CBD remains highest of all urban submarkets and rents have stagnated between $21.00-$22.00 per square foot for the past three years, leaving room for improvement.

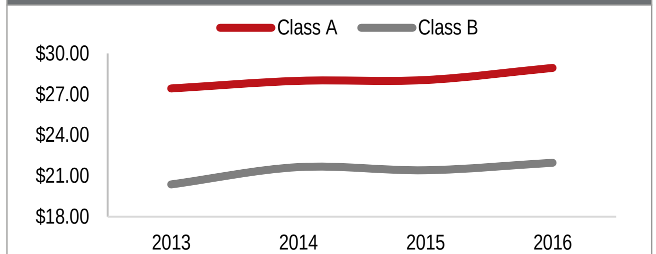
Where is the steady office demand coming from?

Manufacturing, health services, education, and finance industries have nearly the same percentage of employees in Pittsburgh's metropolitan statistical area and are the region's top industries. However, technology is a sector that has seen significant growth in recent history. Tenant's like Google and Uber have been capturing much attention, with large deals in both the Oakland/East End and Fringe submarkets. In the fourth quarter, Uber continued their rapid growth in Pittsburgh by taking an additional 63,000 square feet in the Crucible Building located in the Fringe, while another tech company signed a 123,000-square-foot build-to-suit lease on the North Shore. As the tech industry grows, these larger tech leases will continue to drive up demand in Pittsburgh.

The jury is in – law firms are on the move

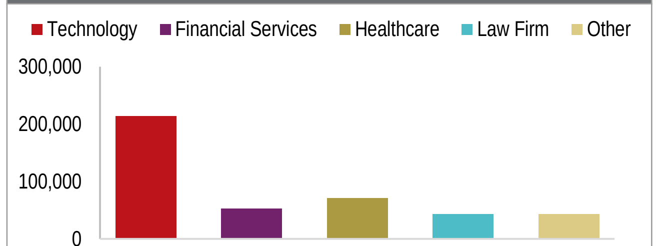
A current national trend for law firms is to reduce space per attorney in an effort to achieve cost savings. Another trend is relocating to newer workspaces designed to attract young talent. In the fourth quarter, several Pittsburgh law firms moved within the CBD, two of which relocated to the newly renovated Union Trust Building. Marshall Dennehey was the largest firm to move this quarter, taking all of the 46,000 square feet on the seventh floor of Union Trust. Also, Dinsmore signed a lease for 29,000 square feet in Six PPG, doubling their square footage from One Oxford Centre due to growth. Another firm currently located in One Oxford Centre, Buchanan Ingersoll & Rooney, initiated a site search earlier this year in the 160,000- to 170,000-square-foot range.

CBD Class A rents vs CBD Class B rents (p.s.f.)



Source: JLL Research

Fourth quarter office leasing activity by industry (s.f.)



Source: JLL Research

Law firm activity within the past 12 months

9 law firm leases

Average lease size
33,500 s.f.

Top 5 law firm leases (s.f.)	
Marshall Dennehey	46,000
Tucker Arensberg	43,000
Morgan Lewis	36,000
McGuire Woods	36,000
Frost Brown Todd	17,700

Source: JLL Research

50,355,528 Total inventory (s.f.)	-328,617 Q4 2016 net absorption (s.f.)	$23.05 Direct average asking rent	397,000 Total under construction (s.f.)
16.6% Total vacancy	43,975 YTD net absorption (s.f.)	1.7% 12-month rent growth	31.2% Total preleased

Portland

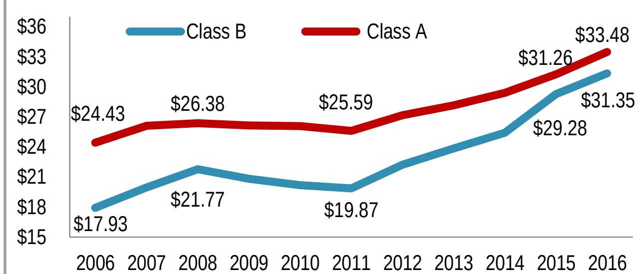
- Tim Harrison
Research Analyst,
Portland

New construction pushing rents to new highs

Flight to quality

Absorption appears to be muted in the fourth quarter, but a closer look reveals a growing disparity between asset classes. Class A absorption in the CBD experienced its second best quarterly performance since 2014, after Q2 2016. A large part of the positive absorption was due to leases commencing in newly delivered buildings, indicating that tenants are increasingly taking advantage of all the additional quality space being brought to the market. On the flip side, Class C space in the CBD suffered its worst decline in more than 5 years as the DEQ vacated the CBD for Class A space in the Lloyd District. Class B & C buildings are now being forced to reposition themselves in an effort to attract and hold on to tenants.

CBD Class A vs CBD Class B asking rents

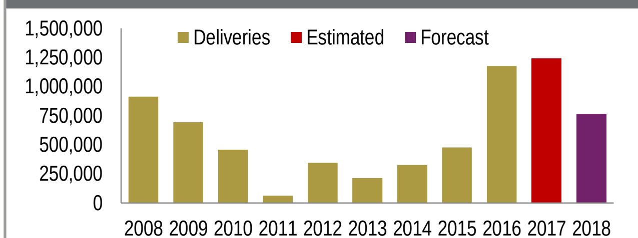


Source: JLL Research

New construction; higher rents

The flurry of construction activity in the past two years resulted in over 1.1 million square feet of new office space delivered in 2016, the most in over 15 years, and with over 1.4 million square feet currently under construction, 2017 looks to be an even bigger year. This newer, higher quality product is pushing rents up significantly in the metro, which are up 13.0 percent year on year, to $27.56 per square foot, predominantly led by CBD Class A buildings, now averaging $33.48 full service. New construction rates are also shattering past records, with rents routinely being quoted above $40.00 per square foot full service and some as high as $46.00.

Metro deliveries and forecast

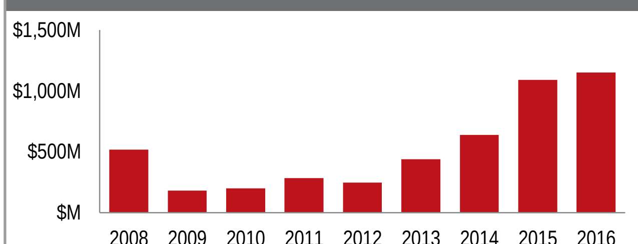


Source: JLL Research

Another big sales year

Portland is now firmly embedded on institutional investors' maps, with the city establishing itself as one of the leading 'transitional' markets between the old and new guard. Sales in the metro surpassed last year's post great-recession high of $1.1 billion, totaling over $1.15 billion for 2016 with an average price per square foot of $255. The end of year sale of Pacwest Center for $170 million was the largest sale of the year and traded at a price per square foot of $312. The nod to Portland as a credible alternative to primary markets has been characterized by sharply declining cap rates in recent years, with 2016 reaching a new low; averaging 5.2 percent for core assets in the CBD.

Total sales volume ($10M +)



Source: JLL Research

59,824,741 Total inventory (s.f.)	35,060 Q4 2016 net absorption (s.f.)	$27.56 Direct average asking rent	1,434,651 Total under construction (s.f.)
9.4% Total vacancy	634,140 YTD net absorption (s.f.)	13.0% 12-month rent growth	24.0% Total preleased

Raleigh-Durham

- Ashley Lewis
Senior Research Analyst, Raleigh-Durham

Fourth quarter brings lease expansions to triangle

Lease expansion announcements hit Triangle in the fourth quarter

The two largest came in mid-December when INC Research and Citrix both announced plans to expand operations in the Triangle. INC plans to expand and move their headquarters from their current suburban Route 1 site to the Research Triangle in Morrisville. Focusing in Downtown Raleigh, Citrix is making a $5 million investment by adding another 400 jobs to the CBD in the next five years. Neither expansion has announced real estate plans yet but INC Research rumors suggest Perimeter Park while Citrix's goal is to keep the employee base close to their current Warehouse District redevelopment. Nutanix and Smartlink also released Raleigh-Durham expansion plans in the past quarter in Downtown Durham and Cary, respectively.

Large office portfolio sales round out 2016

2016 saw 4.2 million square feet of office product trade throughout the year with 1.3 million square feet in the last three months. Singerman Real Estate, out of Chicago, picked up just under 500,000 square feet of office and flex product with six buildings in Perimeter Park. In another notable transaction, local real estate investment firm, The Dilweg Companies, purchased Quadrangle Business Park in Chapel Hill for $21.5 million or $156.95 per square foot. This Class A park totals 264,410 square feet and was 91 percent leased at the time of sale. As GlaxoSmithKline sold off its Triangle real estate, Longfellow Real Estate purchased its second lab building of the portfolio with the Stiefel building on TW Alexander Drive. Longfellow Real Estate also acquired Venture Center in late 2015 from GlaxoSmithKline's property downsize.

Construction groundbreakings continue among suburban submarkets

Raleigh-Durham suburban submarkets saw two additional groundbreakings fourth quarter contributing to a total of seven suburban groundbreakings in 2016 and two urban. Legacy at Brier Creek in the Glenwood/Creedmoor submarket and Churchill Hall at Imperial Center in the RTP/RDU submarket both broke ground. With 2.2 million square feet under construction, Raleigh-Durham speculative construction has caught up with demand. With numerous recent expansion announcements in addition to North Carolina's steady job growth, in general, leasing activity is expected to keep up with abundant supply as it delivers.

Citrix and INC Research job announcement for next 5 years

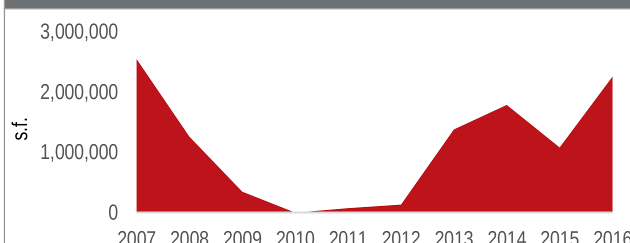
950 jobs

Source: JLL Research

2016 investment sales

Source: JLL Research

Historic Raleigh-Durham development pipeline



Source: JLL Research

44,221,958 Total inventory (s.f.)	194,861 Q4 2016 net absorption (s.f.)	$22.27 Direct average asking rent	2,587,695 Total under construction (s.f.)
10.2% Total vacancy	1,112,253 YTD net absorption (s.f.)	8.4% 12-month rent growth	64.4% Total preleased

Richmond

- Geoff Thomas
Senior Research Manager, Richmond

CBD fundamentals pivot toward recovery

CBD Class A and Trophy leasing increases, toning record-high vacancy

New leasing velocity in the CBD saw an uptick in 2016 after several years of relatively stagnant new deal volume. CoStar Group will lease 99,075 square feet, or the top three floors of the WestRock HQ at 501 S 5th Street. This move alone will absorb over 60,000 square feet of office space vacated by WestRock after its merger with RockTenn in Atlanta, Georgia. CoStar plans to takeover additional floors currently occupied by WestRock, citing an eventual footprint of 130,000 square feet for its global research center. This influx of net absorption comes off the heels of momentous law firm downsizes and the delivery of a new tower which caused Class A vacancy rates to reach 21.1 percent in the first quarter of 2016—the highest vacancy rate ever recorded in the CBD since 2005.

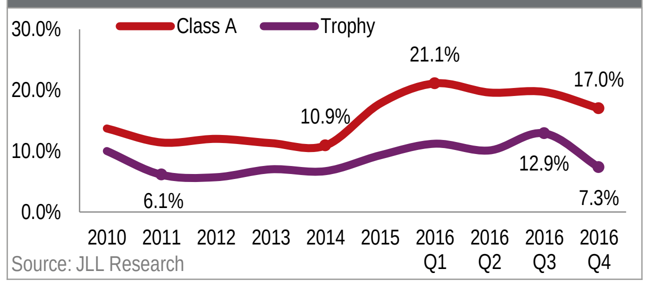
Foreign capital ventures into office product this year

Since 2013 the Richmond market has been infused by $1.8 billion in foreign capital, both in sales, recapitalization, and entity-level acquisitions. In comparison, between 2009 and 2012 foreign capital investment totaled $48.0 million. These investments ranged from sovereign wealth funds, pension funds, and investment managers, to foreign retailers expanding market share in the US. After several years of foreign capital consistently funneled into apartment, retail, and industrial product, $185.2 million was redirected towards office buildings in 2016 after a ten-year hiatus.

Owner-occupied real estate still dominated supply pipeline

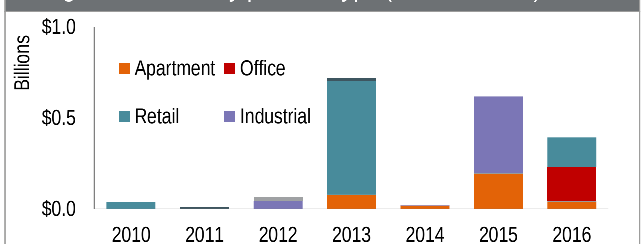
Demolition of Richmond Plaza concluded in the fourth quarter, making way for the official ground breaking of Dominion Resources new 607,000-square-foot Trophy tower in the CBD. Although 100 percent owner-occupied, its 2019 delivery could impact Class B fundamentals if Dominion decides to vacate and dispose of it's 325,000-square-foot tower at 707 E Main Street. Outside the CBD, office construction, excluding medical office, was concentrated in urban submarkets, such as Spyrock's 60,000-square-foot office building in Scott's Addition. This demonstrated increased demand for non-traditional office space within walkable communities, which generally have a limited supply of office buildings. While interest was strong for several proposed developments in core suburban submarkets, rising rents (due to inflated construction costs) and prolonged occupancy timetables outweighed the immediate need for expansion space.

Trophy and Class A historical vacancy in the CBD



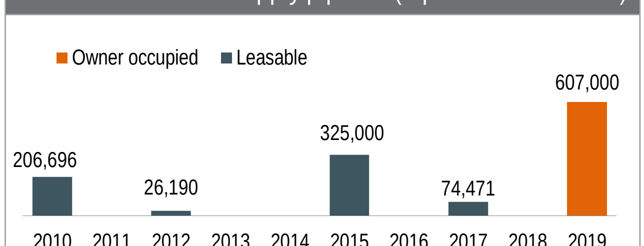
Source: JLL Research

Foreign investment by product type (dollar volume)



Source: JLL Research

Future and historical supply pipeline (square feet delivered)



Source: JLL Research

24,314,674 Total inventory (s.f.)	265,350 Q4 2016 net absorption (s.f.)	$19.17 Direct average asking rent	74,471 Total under construction (s.f.)
13.6% Total vacancy	-116,758 YTD net absorption (s.f.)	2.3% 12-month rent growth	41.2% Total preleased

Sacramento

- John Sheaffer
Senior Research Analyst, Sacramento

Market gains steam despite looming uncertainty

Market posts the second largest annual occupancy gain of the decade

The overall Sacramento office occupancy rate has surged past the previous cycle's high water mark and now sits at the highest point since the dot.com bubble, clocking in at 87.0 percent. Over 365,000 square feet of positive net absorption in the fourth quarter of 2016 capped off a strong year of gains, totaling 1.3 million square feet. The State of California continues to provide a boon to the CBD and inner-ring suburban submarkets, however, a healthy mix of expanding education, healthcare, and insurance groups has also contributed to those gains. Construction is much more constrained than during previous cycles and no major projects are on the immediate horizon, which will help depress the vacancy rate toward record lows in 2017.

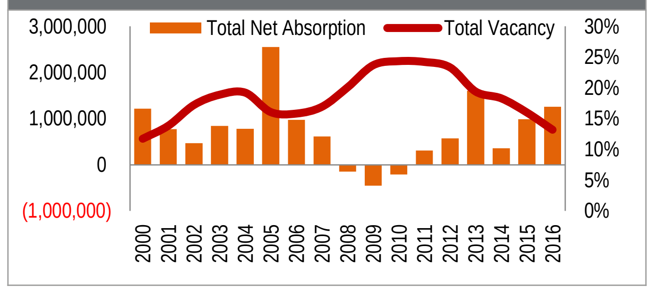
CBD average asking rent hikes directly tied to arena construction/opening

While a number of factors can be attributed to increased demand and renewed interest for downtown Sacramento office space, the new Golden 1 Center has played an undeniable role in the pricing of neighboring office space. During the 12 months following the groundbreaking of the new arena, the average asking rate among downtown buildings increased by 4.0 percent and the average asking rate of buildings located within two blocks of the construction site surged by 9.5 percent. Escalated pricing hasn't deterred tenants from expanding or relocating downtown, which recorded nearly 110,000 square feet of positive net absorption for the year, the largest annual occupancy gain since 2009.

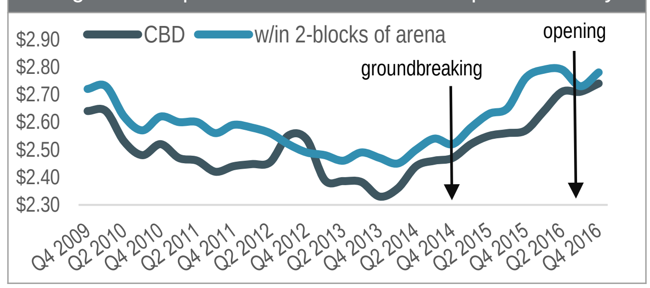
Previously lagging submarkets now pulling weight

Much of the recovery in Sacramento can be characterized by local companies and agencies leveraging tenant-favorable conditions to trade up in space and relocate to more coveted submarkets. This trend left submarkets like Point West and North Natomas by the wayside, with sustained high vacancy. Now, a dearth of available space in the hottest submarkets has led to demand spilling over into previously overlooked submarkets. Twelve months ago, six submarkets posted a vacancy rate of 15.0 percent or higher. That figure is now down to three submarkets: Point West, North Natomas and the Highway 50 Corridor. With no significant new office product expected to break ground in the near future, these submarkets will continue to receive demand overflow into 2017.

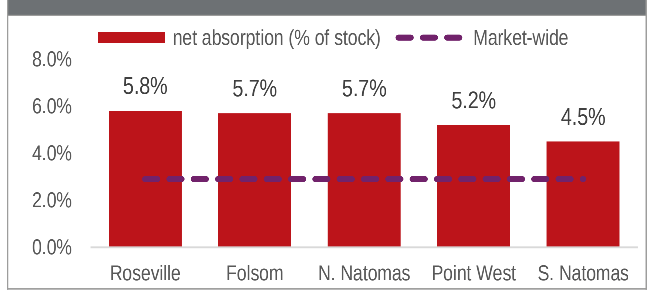
Absorption in 2016 more than doubles the 10-year average



Asking rate bumps correlate to arena development activity



Hottest submarkets of 2016



43,877,872 Total inventory (s.f.)	375,610 Q4 2016 net absorption (s.f.)	$23.76 Direct average asking rent	110,372 Total under construction (s.f.)
13.2% Total vacancy	1,257,672 YTD net absorption (s.f.)	3.0% 12-month rent growth	0.0% Total preleased

Salt Lake City

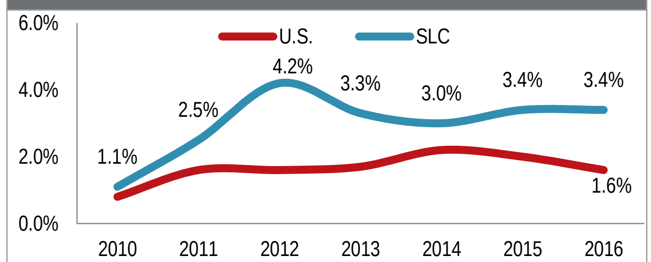
TJ Jaroszewski
Research Director, Salt Lake City

Thriving economy brings flight to quality space

Robust tenant demand drives growing market

Salt Lake's office market continues to fire on all cylinders—illustrative of its sustained growth over the past decade and attributable to a rapidly expanding economy that has resoundingly created more jobs per capita than the U.S. as a whole. Compare 2016 figures that saw a 3.4-percent annual job growth rate for Salt Lake to the national 1.6-percent mark. Looking ahead to 2017, Salt Lake remains poised to enjoy payroll expansion that again bests the national average. New-to-market and expanding companies have driven higher levels of construction, absorption, leasing activity and elevated lease rates in 2016.

Metro annual job growth consistently outpaces U.S.

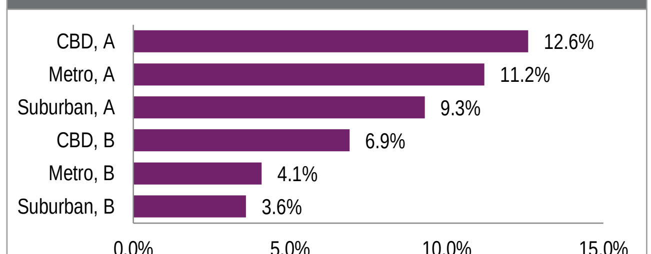


Source: JLL Research, Bureau of Labor Statistics

Tenants keenly focused on prime class A space

Over the last 12 months, lease rates have climbed across the board in Salt Lake. The most significant rate hikes were recorded within Class A space in both the suburbs (plus 9.3 percent) and the CBD (plus 12.6 percent). Robust, sustained tenant demand for quality space spurred more than 1.5 million square feet (m.s.f.) of Class A net absorption out of the 1.6 m.s.f. total net absorption and is predominantly responsible for the 11.2 percent annual growth for the overall direct asking rent. The locations of choice—CBD, Sandy, Draper and north Utah County—all share commonalities: proximity to a growing labor force and immediate access to Interstate-15.

Tenant demand for class A spurs annual lease rate growth

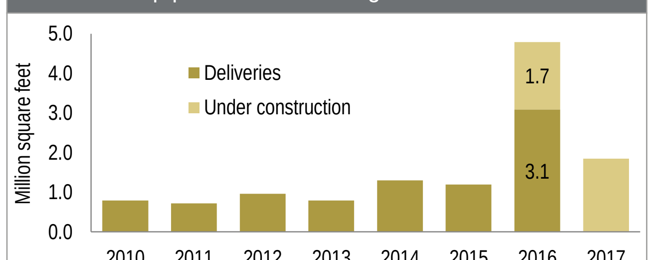


Source: JLL Research

Tenatns seek the best-in-class; developers meeting their demand

Within a market that has boasted seemingly insatiable occupier demand for the last several years, developers banked on strong demand for Class A space in 2016, and they responded by delivering more than 2.6 m.s.f. of new product. Further still, an additional 1.7 m.s.f. remains currently under construction. Despite this flurry of new development, total vacancy remains low, and nearly seven of every 10 square feet delivered in 2016 is already leased. What remains available commands an average asking rent of $26.30 per square foot—marking a 14.0-percent premium over the overall metro's figure.

Construction pipeline shows strength of market



Source: JLL Research

50,304,728 Total inventory (s.f.)	155,265 Q4 2016 net absorption (s.f.)	$22.99 Direct average asking rent	1,699,795 Total under construction (s.f.)
7.7% Total vacancy	1,667,357 YTD net absorption (s.f.)	11.2% 12-month rent growth	39.3% Total preleased

San Diego

- Josh Brant
Senior Research Analyst, San Diego

Strong year for the San Diego office market

Highest annual total of positive net absorption in a decade
The San Diego office market tallied 1.3 million square feet of positive net absorption in 2016, which was the highest annual total since 2007. Twenty of 26 office submarkets posted positive net absorption for the year. Surprisingly Sorrento Mesa was among the leaders for annual positive net absorption. Sorrento Mesa is home to Qualcomm, one of two Fortune 500 companies headquartered in San Diego. Qualcomm did some downsizing earlier in the year, after announcing major layoffs in 2015. But, Sorrento was able to come out well in the black thanks to activity and expansion from tenants such as Dexcom, Google, and Verizon Wireless.

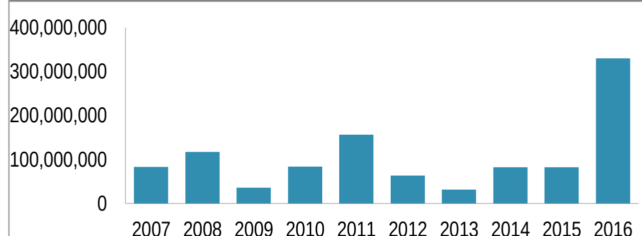
2016 total net absorption

1.3 million s.f.

Source: JLL Research

Dollar volume of user-sales spikes in 2016
Acquisitions by occupiers totaled $329 million in 2016, which was the highest annual total since 2004. The largest contributor of this surge was Intuit's $262.3 million acquisition of their 466,000 square foot campus where the company is headquartered. UC San Diego's acquisition of the Torrey Pines Court project for $134.2 million was not counted as a user-sale, even though they occupy a portion of the office project, which is located adjacent to its campus. But, in the long run this will probably end up being a user purchase of sorts, as UC San Diego's continued growth likely pushes it to take the property for its own use.

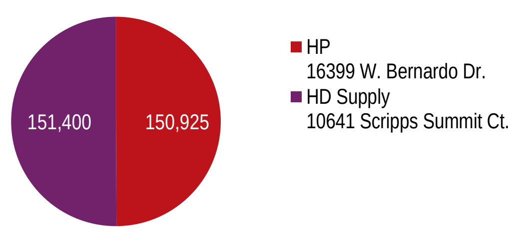
Owner-user sales volume in dollars



Source: JLL Research

Owner-occupiers injecting vacancy into market
Occupiers purchasing real estate may have helped push up the dollar volume of office sales transactions, but occupiers transitioning from owners to renters are giving back large blocks of office space. Two large transactions in the fourth quarter will eventually give back 302,000 square feet of office space. HP sold their 782,211-square-foot campus to Swift Real Estate. HP leased-back 79.0 percent of the space, leaving behind a 3-story,150,925-square-foot-office building. HD Supply also sold its building in Q4. The 4-story office was acquired by Newport National to be repositioned for leasing. These give backs from occupiers selling off real estate are a headwind to occupancy gains for the overall office market.

Large blocks given back by owner-occupiers in Q4 sales



Source: JLL Research

78,169,788 Total inventory (s.f.)	209,630 Q4 2016 net absorption (s.f.)	$31.44 Direct average asking rent	247,597 Total under construction (s.f.)
12.9% Total vacancy	1,326,796 YTD net absorption (s.f.)	5.2% 12-month asking rent growth	16.2% Total preleased

San Francisco

- Jack Nelson
Research Analyst, San Francisco

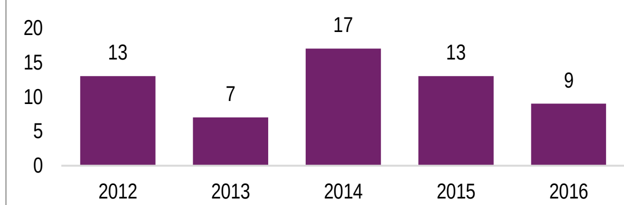
2016 closes with strong leasing activity, but rates flat from mid-year

San Francisco leasing fundamentals rebound following slow summer
San Francisco recorded more leasing activity this quarter than any other for the year, totaling more than 1.56 million square feet. There were four deals executed over 100,000 square feet, including two renewals from Charles Schwab and Morgan Stanley, and expansions from Adobe and NerdWallet. This brought the total number of leases 100,000 square feet or greater to nine for 2016. Leasing demand, both for large blocks and otherwise, continues to target quality built-out space on a direct and sublease basis, in line with the reoccurring theme of limiting capital expenditures. Corollary, landlords have begun to offer increased tenant improvements on tired, second generation space, with a handful of turnkey buildouts. We expect this to continue through 2017.

Breaking ground! San Francisco's development continues
The market has undergone significant development this cycle, delivering 2.9 million square feet of new office inventory since 2012. This trend continued into the fourth quarter, with the ground breaking of two major office developments: Oceanwide's Oceanwide Center, totaling more than 1.0 million square feet and Kilory's 100 Hooper, totaling 400,000 square feet. There are now more than 5.8 million square feet under construction set to deliver over the next five years. Asking rates on developments average $92 full-service gross, a 26 percent premium over market rates. Of space scheduled to deliver in 2017, 1.8 million square feet remains available, an equivalent to 2.4 percent of future vacancy.

Despite strong leasing activity in the quarter, rents flatten
Asking rates increased just 10 basis points in Q4, the lowest quarterly increase since Q1 2014. Sublease space continues to act as a release valve for tenants, placing less upward pressure on direct availabilities. Of the new deals over 20,000 square feet for Q4, subleases represented 46 percent. Three of the top five leases in the quarter, excluding renewals, were subleases. These include NerdWallet, which subleased space from Twitter, and Gymboree, which took Bare Escentuals' sublease at 71 Stevenson. However, the supply of large subleases continues to decline with just four subleases over 50,000 square feet left available. This shift will help aid demand for direct space into 2017.

Leases over 100,000 square feet



Source: JLL Research

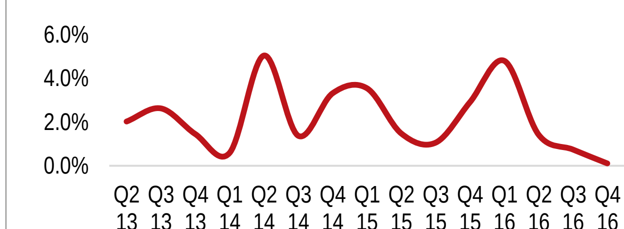
Office development expanding San Francisco inventory

1,444,000

Square feet broke ground in Q4 2016

Source: JLL Research

Quarter-over-quarter rent growth tapers



Source: JLL Research

76,335,189	121,608	$73.65	5,879,830
Total inventory (s.f.)	Q4 2016 net absorption (s.f.)	Direct average asking rent	Total under construction (s.f.)
8.2%	864,099	7.1%	34.1%
Total vacancy	YTD net absorption (s.f.)	12-month rent growth	Total preleased

San Francisco Mid-Peninsula

- Eduardo Romero
Research Analyst,
San Francisco Mid-Peninsula

Subleases space declines; leasing activity rebounds

Sublease space reduced from levels at start of the year, rents stabilize

At the beginning of 2016 more than 800,000 square feet of space was on the market for sublease. That number declined to 400,000 square feet by the end of the Q4 2016. Large block deals contributed to this; however, There was significant amount taken off market due to term expiration. The decline subleases has helped to stabilize market rents. These spaces are usually priced below market and typically weight on overall asking rents. The rise in subleases at the beginning of 2016 also affected neighboring San Francisco and Silicon Valley, who both still have large amounts of space for sublease that could attract tenants and potentially prevent any rent growth in 2017 for assets in the Mid-Peninsula.

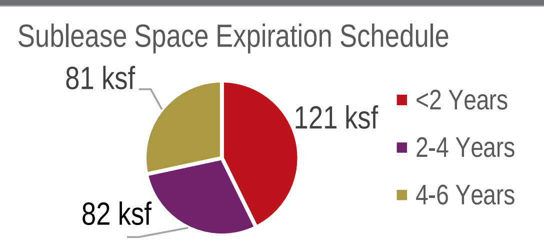
Tech giants poised to expand could push demand levels higher

Google continues it's aggressive Peninsula expansion. The properties it currently owns at Redwood City's Pacific Shores office complex were reportedly taken off the market for leasing indicating that occupancy could occur in the near future. The internet giant has also acquired two more buildings at Pacific Shores as their likely strategy is to control the entire campus. The same situation occurred a few months earlier with the buildings it had just acquired in a San Bruno office complex. In total, Google has taken more than 2 million square feet of office off the market in 2016.

Most new construction to be delivered in 2017 will likely pre-lease prior to completion

Most of the new construction to break ground between 2015 and 2016 will be delivered in 2017. These new developments have recorded impressive pre-leasing deals and interest is rapidly picking up as completion nears. Downtown Redwood City is experiencing strong demand from local tenants seeking to relocate near Caltrain, which has provided support for aggressive pricing comparable to other hot submarkets like Downtown Palo Alto. Overall, downtown markets along the Mid-Peninsula have largely outperformed non-downtown areas in terms of occupancy and pre-lease dealflow.

Space for sublease subsidies after peaking at start of 2016



Source: JLL Research

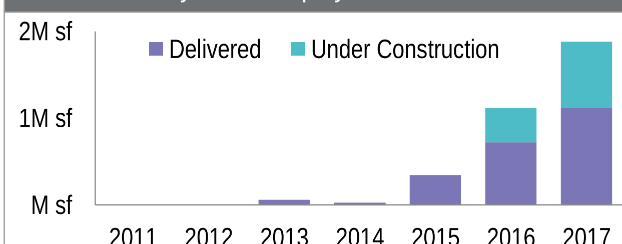
Sprawling giants reduce opportunities for everyone else

+2.0 million s.f.

has been taken off the market by Google in 2016 as they have increased acquisitions of office buildings.

Source: JLL Research

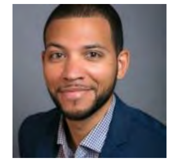
Class A inventory boosted up by new construction in 2017



Source: JLL Research

27,101,589 Total inventory (s.f.)	391,969 Q4 2016 net absorption (s.f.)	$58.02 Direct average asking rent	1,118,675 Total under construction (s.f.)
10.7% Total vacancy	896,688 YTD net absorption (s.f.)	7.5% 12-month rent growth	52.6% Total preleased

Seattle-Bellevue



- Alex Muir
Research Manager, Seattle-Bellevue

New development influences strong activity

New inventory continues disappearing as flight to quality trend intensifies

Ten office buildings were delivered in the Seattle-Bellevue region in 2016, adding 2.3 million square feet of Class A inventory to the market. 5.9 million square feet of product is currently under construction, with 4.6 million square feet scheduled to deliver in 2017, 51.2 percent of which has been accounted for. This would make 2017 the most active year for deliveries since 2000. Six of the 10 largest leases signed in 2016 involved new construction buildings, including Google at Lakefront Blocks, Facebook at Arbor Blocks and Valve at 400 Lincoln Square. Based on preleasing trends we expect buildings to continue delivering with limited available space.

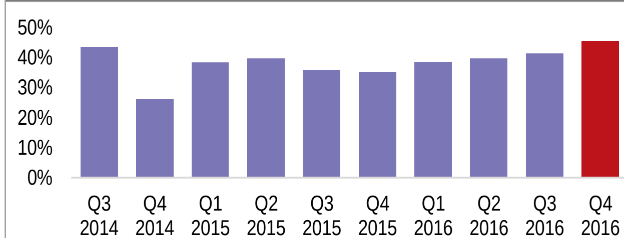
Unprecedented absorption streak continues in 2016

For the fourth consecutive year the Seattle-Bellevue market has experienced more than 2.0 million square feet of positive net absorption, as 2.5 million square feet of space was taken down in 2016. Average asking rates are up 2.7 percent year-over-year, to the current rate of $34.90 per square foot, full service. While this is slightly above the national average, it is less than half the average cost of space being marketed in San Francisco. Total vacancy remains in the single digits, however it has increased from last quarter by 90 basis points due to major office deliveries expanding the market, such as Midtown 21, Troy Block – South Tower and Centre 425. This increase in vacancy should be temporary, as each of those buildings are fully leased by tenants expected to move in next year.

Market record for pricing is eclipsed once again

More than $4.3 billion in office sales either closed or went under contract in 2016, nearly matching 2015's total and far exceeding the 10-year historical average. A new market record for pricing was achieved in Q4, when KOMO Plaza was sold by Hines to GI Partners for $276.0 million, or $940 per square foot. This is a 72.5 percent price increase from when Hines purchased the building for $160 million just five years ago. Prior to 2016, the region had not seen an office building trade above $800 per square foot. Urban Union, a 12-story Trophy tower that delivered in Q3, is currently under contract for a reported $270 million, or $928 per square foot. In ULI and PwC's Emerging Trends in Real Estate 2017 report, Seattle was ranked the top market in terms of local investor demand and the second best market for investment potential.

Preleased percentage of office space under construction



Source: JLL Research

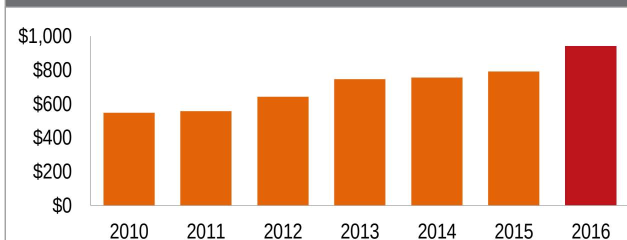
Net absorption

11,610,452 s.f.

Net absorption in the region 2010-2016

Source: JLL Research

High watermark price (p.s.f.)



Source: JLL Research

94,529,651	213,400	$34.90	5,948,146
Total inventory (s.f.)	Q4 2016 net absorption (s.f.)	Direct average asking rent	Total under construction (s.f.)
9.2%	2,476,060	2.7%	45.5%
Total vacancy	2016 net absorption (s.f.)	12-month rent growth	Total preleased

Silicon Valley

- Christan Basconcillo
Research Manager,
Silicon Valley

Absorption streak ends; tenants wait for 2017

Occupancy growth ends its 6-year hot streak

For the first time since 2010, the Valley experienced more space returning to market than being absorbed, ending a 23-quarter positive growth streak. Leasing activity during the second half of 2016 remained quiet, likely due to the post election “wait-and-see” mentality. Year-to-date absorption however remains above water. Though the Valley dipped into the red in Q4 2016, over 2.5 million square feet of gross positive absorption is expected to hit within the next 12 months as pre-leased office construction projects complete. Google, Palo Alto Networks, AMD, and Toshiba are all expected to occupy their respective campuses next year. For the time being, market conditions still point to growth, but this brief lull in leasing could indicate that the Valley is preparing to switch to cruise control.

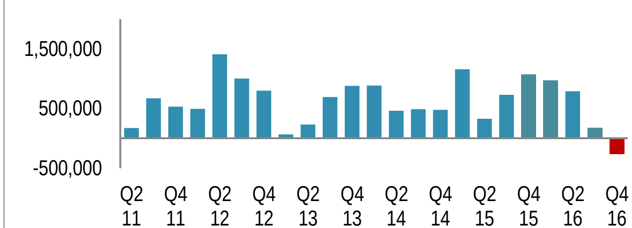
Sublease space rises as a byproduct of growth and M&A

The volume of available subleases has risen considerably over the past 12 months, raising questions as to whether or not the Valley’s “bubble” is close to bursting. Despite sublease space rising by 50.0 percent year-over-year, companies that expanded or were acquired account for half of the subleases on the market. Given that venture capital rounds are becoming more difficult to land for seed and series A startups, space with flexible terms offer an alternative to committing to a long-term direct deal. With the average sublease term at 4 years, demand is expected to be driven primarily by smaller, full-floor tech tenants looking to buckle down on expenses.

Valley still attracting buyers with more coming in 2017

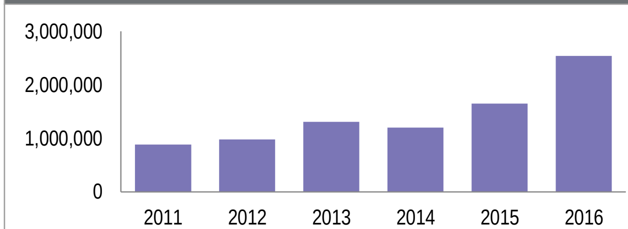
Although tenant leasing has cooled, investors continue to put capital down on Silicon Valley real estate. Though 2016 was not as big of a year for acquisitions when compared to 2015, some publicly traded REITs made headlines with high-profile portfolio transactions. Blackstone acquired all of Alecta’s U.S.-based properties for a reported $1.8B, some of which are located in core Valley submarkets. Sales volume has remained stable over the past four quarters with overall average pricing settling in at $400 per square foot, 6 percent higher than a year ago. 2017 is expected to bring more sales offerings to the market with international investors becoming more active.

Absorption in the red, but tenant expansions coming in 2017



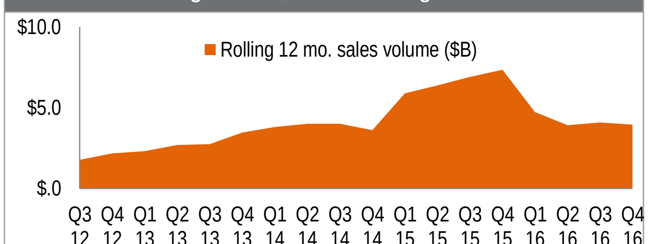
Source: JLL Research

Available office sublease on the market



Source: JLL Research

Investors scouting market, some cooling



Source: JLL Research, RCA

69,768,545 Total inventory (s.f.)	-260,991 Q4 2016 net absorption (s.f.)	$47.84 Direct average asking rent	7,972,955 Total under construction (s.f.)
12.4% Total vacancy	1,524,963 YTD net absorption (s.f.)	12.8% 12-month rent growth	48.7% Total preleased

St. Louis

- Blaise Tomazic
Senior Research Manager,
St. Louis

Vacancy continues its descent

Office employment surges ahead to new highs

The end of 2016 marked the first time in the history of St. Louis that office employment exceeded 500,000 workers. Financial activities and professional and business services (PBS) have led the way. Since 2010, PBS has doubled the pace of St. Louis non-farm payroll growth, increasing by 23.6 percent. Large employers continue to add jobs; Boeing, Charter, and Centene announced or signed lease expansions this quarter. Some smaller employers are trimming staff. Lord and Taylor announced the closure of its Downtown St. Louis location; the move will leave behind a vacant 60,000-square-foot block next year at 500 N Broadway. Bankrupt solar company, SunEdison, is planning further layoffs. Its entire 90,000-square-foot space in Northwest County could be available early in 2017. SunEdison leased the space less than three years ago.

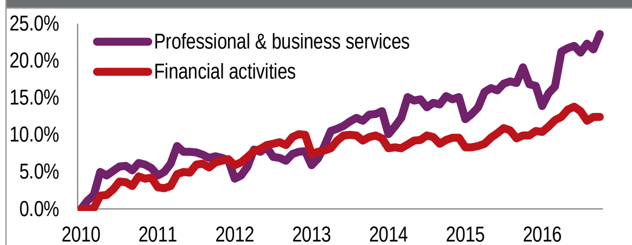
Leasing activity once again tops two million square feet

Nearly 64.0 percent of leasing activity in 2016 took place in West County and Clayton, advancing the trend of tenants preferring the suburbs to the CBD. This leasing activity has pushed absorption over 600,000 square feet for the second consecutive year. Centene continues to be a driver of occupancy growth. The Clayton-based company accounted for almost 10.0 percent of leasing activity in 2016 after four new leases in Clayton and West County. Looking forward, the region has 1.3 million square feet of tenants in the market. Leasing activity is expected to remain steady next year.

M&A brings jobs and office space into question

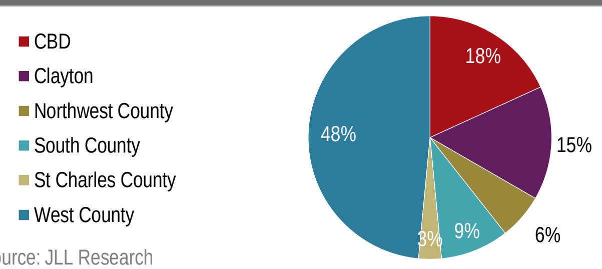
Several acquisitions of St. Louis companies bring the potential for future occupancy loss. The three most notable were Scottrade, Isle of Capri, and Monsanto. Scottrade owns and occupies almost 700,000 square feet of space in West County. A lot of this space could be coming back to the market after its acquisition by TD Ameritrade closes. Isle of Capri, also in West County, is set to be purchased by Eldorado Resorts out of Nevada; the impact on the 100 St. Louis employees in West County is still to be determined. The biggest transaction was Bayer AG’s $66 billion purchase of Monsanto. With 4,000 local employees, Monsanto has a significant real estate footprint across the region.

Change in employment since 2010



Source: JLL Research, BLS

Leasing activity by submarket (> 10,000 square feet)



Source: JLL Research

Significant acquisitions of St. Louis companies

Company	Acquirer	Value
Monsanto	Bayer AG	$66 billion
Scottrade	TD Ameritrade	$4 billion
Isle of Capri	Eldorado Resorts	$1.7 billion

Source: JLL Research

42,154,174	218,607	$19.05	170,234
Total inventory (s.f.)	Q4 2016 net absorption (s.f.)	Direct average asking rent	Total under construction (s.f.)
12.7%	628,821	-3.4%	52.8%
Total vacancy	YTD net absorption (s.f.)	12-month rent growth	Total preleased

Suburban Maryland

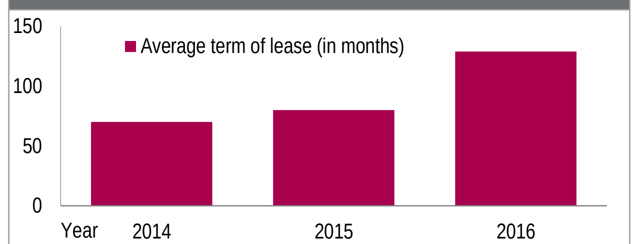
- Sara Hines
Senior Research Analyst,
Suburban Maryland

Federal action drives leasing activity

Federal agencies are signing leases with longer term

Federal leasing activity dominated headlines at the end of 2016 as the U.S. National Institutes of Health (NIH) leased 670,992 square feet and accounted for four of the top five leases in the fourth quarter. The General Services Administration (GSA) recently announced a new initiative to decrease the total cost of real estate spending, to solicit leases for longer time periods. The rhetoric turned into action in the fourth quarter as three of the federal leases executed were signed for a 15-year term. The average term for a large federal lease in 2016 was 129 months, a 62.0 percent increase from 2015.

Term increases in federal leases

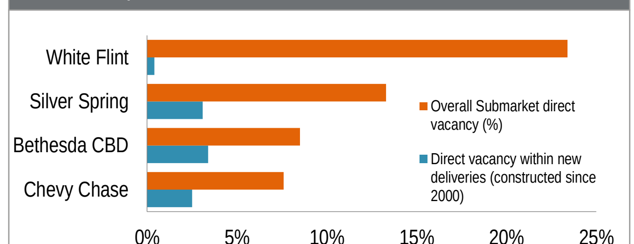


Source: JLL Research. Leases over 20,000 s.f.

Vacancy continues to decrease in new office buildings (delivered since 2000)

Suburban Maryland's new-since-2000 office product has continued to push vacancy downward and selected submarkets near Metro were in the single-digits at the end of the fourth quarter. In 2016, four private sector tenants moved into 11810 Grand Park Avenue in North Bethesda and vacancy dropped from 50.0 percent at the end of 2015 to fully occupied by the end of 2016. Another new building that experienced an increase in occupancy was 4500 East West Highway. The building was 25.6 percent leased at the beginning of 2016. After signing five private sector deals this year, the newest building in the Bethesda skyline was over 90.0 percent leased at the end of the fourth quarter.

Available space shrinks within new deliveries

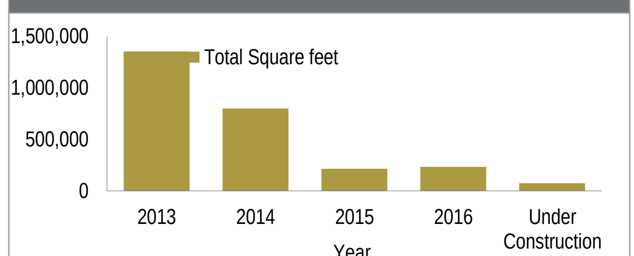


Source: JLL Research.

Under construction levels are at a historic low

Tenant demand has waned in Suburban Maryland in recent years, which has caused office development to continue to fall. At the end of the fourth quarter, no office buildings were under construction in Montgomery County and only one office development was under construction in the Suburban Maryland region. No office buildings will be completed in 2017, with the next office building scheduled to deliver in the third quarter of 2018. The lack of new construction has put the region at a disadvantage when competing with other Metro DC regions in terms of attracting tenants, since other regions have newer and more creative space.

Office deliveries continue to decline



Source: JLL Research.

65,263,106 Total inventory (s.f.)	-29,348 Q4 2016 net absorption (s.f.)	$26.76 Direct average asking rent	75,000 Total under construction (s.f.)
18.5% Total vacancy	957,670 YTD net absorption (s.f.)	-0.4% 12-month rent growth	0.0% Total preleased

Tampa

- Drew Gilligan
Senior Research Analyst, Central Florida

Lack of new supply driving market rates higher

Average asking rents currently at an all-time high

Every submarket in Hillsborough County is currently experiencing asking rates at all-time high levels. The delta between Class A and Class B rates has narrowed in recent quarters, but in some submarkets there remains a $4.00-$5.00 difference. Westshore Class A rates are nearing $30.00 per square foot, a ceiling that the submarket has never broken through before, led by some of the premier space asking for mid-$30.00 dollar rates. There are only two spaces larger than 40,000 square feet across the Westshore and Tampa CBD submarkets. With no buildings currently under construction tenants entering the market will be limited by their options, driving rents higher in most submarkets.

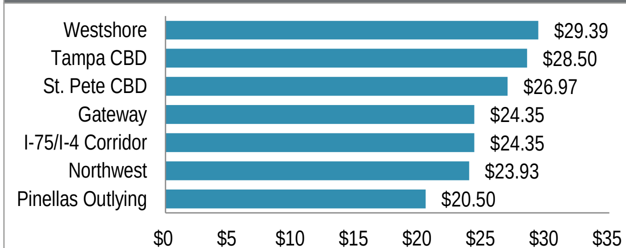
Multiple projects underway in Tampa CBD

There hasn't been an office building delivered in downtown Tampa since 1992, a streak that may come to an end sooner rather than later. There are two proposed projects downtown with office components that are currently searching for a large tenant to prelease space, which would allow each respective ownership to move forward with their project. Strategic Property Partners recently broke ground on a $35 million project which will reconfigure the roads around Amalie Arena, laying the groundwork for the whole project. In addition, there are multiple multifamily projects and a Publix currently under construction downtown.

Tampa Bay employment base continues to grow

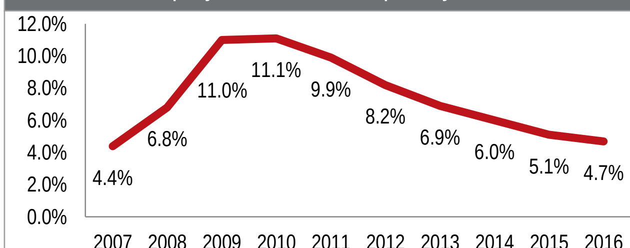
Over the past 12 months Tampa Bay added 33,400 jobs, which equates to 2.6 percent growth. The Professional Business Services, Trade, Transportation, and Utilities industries experienced the most growth over the past 12 months, adding 8,800 and 6,800 jobs, respectively. Over the past quarter multiple groups around Tampa Bay have announced plans to expand their operations within the MSA. CareSync announced in December their plans to relocate their headquarters to the I-75/I-4 Corridor and add 350 jobs by the end of 2017. Tampa Bay is poised for more growth heading into 2017, especially with Tampa Bay gaining more interest from groups looking to relocate from out of state to a more business friendly environment with a strong employee base.

Class A average asking rates



Source: JLL Research

Historical unemployment rate – Tampa Bay MSA



Source: JLL Research

Historical unemployment rate – Tampa Bay MSA

33,400

Jobs added in Tampa Bay MSA over last 12 months

Source: JLL Research, FDEO

34,430,206 Total inventory (s.f.)	26,663 Q4 2016 net absorption (s.f.)	$23.82 Direct average asking rent	176,069 YTD Deliveries (s.f.)
13.2% Total vacancy	593,297 YTD net absorption (s.f.)	3.7% 12-month rent growth	0 Total under construction (s.f.)

Washington, DC

- Carl Caputo
Senior Research Analyst,
Washington, DC

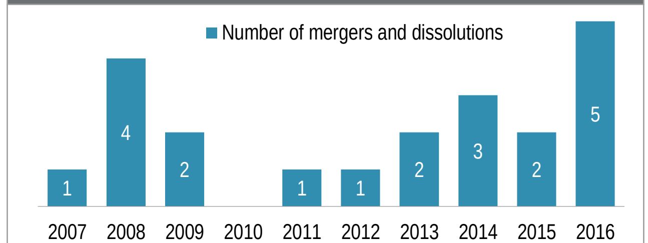
Consolidation impacts core as emerging markets develop

Law firm rightsizing and consolidations continue to impact market
The core of the DC market saw 185,000 square feet become vacant during the fourth quarter as a result of continued consolidation across the legal sector as firms such as Kenyon & Kenyon relocated to Andrews Kurth's space at 1350 Eye, leaving space behind at 1500 K, and Kaye Scholer moved into Arnold & Porter's space at 601 Massachusetts, leaving space at 901 15th, both as a result of recent mergers. While a majority of large law firms in DC have become more efficient over the past five years, eight of the 18 firms larger than 20,000 square feet that are in the market are planning to rightsize by 25% or greater, which will return more than 600,000 square feet to the market through as far out as 2024.

Class B market in the core continues to shift toward **landlords' favor**
The Class B market in the CBD and East End recorded 134,000 square feet of occupancy gains during the fourth quarter as total vacancy dropped to 8.5%, the lowest point in eight years. The shift in the Class B market is largely a result of the repositioning of Class B buildings, with more than 2.0 million square feet removed from supply over the past two years and potentially 5.8 million square feet over the next six years. This redevelopment activity is driving demand for existing B product; for example, Segal Group relocated from JBG's 1920 N, which is a proposed redevelopment, to 30,000 square feet at 1130 Connecticut.

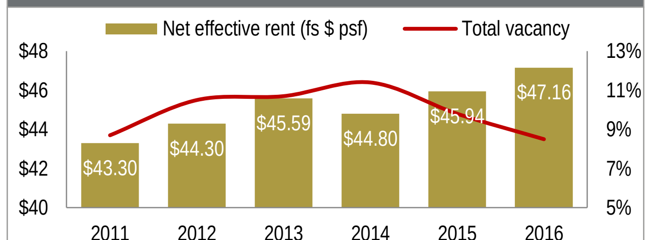
Emerging markets gaining momentum and attracting private sector tenants
As mixed-use development, primarily in the form of multifamily and retail, builds up in the east of the city, tenants are increasingly considering the emerging neighborhoods of the Ballpark, Shaw, NoMa and The Wharf. The most notable deal signed during the fourth quarter within these nodes was Fish & Richardson, which leased 60,000 square feet at 1000 Maine at the Wharf, becoming the first law firm to relocate from the CBD to an emerging area of the city. In Southeast, WeWork signed a deal for 69,000 square feet at 80 M, while a handful of other private sector tenants grew closer to signing at The Wharf and 99 M.

5 mergers between law firms in DC returned 185,000 s.f. in Q4



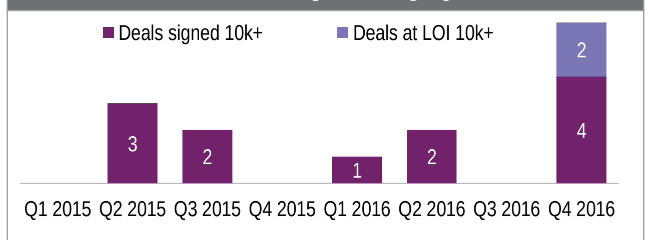
Source: JLL Research

Class B market in core seeing net effective rent growth



Source: JLL Research

Private sector tenants looking to emerging markets



Source: JLL Research

114,284,826 Total inventory (s.f.)	228,259 Q4 2016 net absorption (s.f.)	$55.48 Direct average asking rent (fs)	5,605,736 Total under construction (s.f.)
12.0% Total vacancy	-307,918 YTD net absorption (s.f.)	1.6% 12-month rent growth	48.4% Total preleased

West Palm Beach

- Ilyssa Shacter
Research Analyst,
Fort Lauderdale

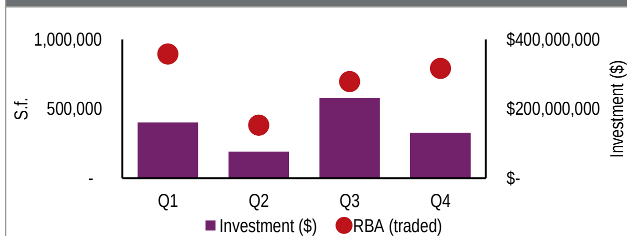
Continued Trophy rate growth downtown

Fourth quarter sees strong sales activity to close out 2016
Investment in Palm Beach County continued in the fourth quarter as $130.9 million exchanged hands through the sale of eight major assets, for an annual total of $597.9 million. Buildings sold had an average occupancy of 89.0 percent and sales price of $165 per square foot. Further, the fourth quarter accounted for 21.9 percent of national investment this year; the third quarter recorded the highest investment volume propelled by the $125.8 million sale of Esperante Corporate Center to Red Sky Capital. This quarter, Colonnade Properties purchased the office buildings at Centrepark from JPMorgan for an average price of $160 per square foot—a 9.9 percent discount compared to the property's previous sale in 2008. Further, Workspace Property Trust purchased three assets in Palm Beach County (six additional properties traded in Broward County) as part of a national office portfolio sale. Liberty Property Trust sold the Palm Beach County portfolio for an average price of $146 per square foot.

Class A suburban markets outperform downtown in terms of absorption
In Palm Beach County, 86.3 percent of all absorption occured in the suburbs in 2016; comparably, the suburbs account for 83.0 percent of the office product in the county. While this difference seems relatively inconsequential the spread is much larger among Class A assets. The Class A suburban assets accounted for 97.4 percent countywide absorption while making up 79.1 percent of the Class A inventory. This major differential can be attributed to strong demand of Trophy assets in 2015, where they reached peak occupancy and experienced strong rent growth, coupled with the lack of activity seen within the other Class A assets downtown in recent quarters.

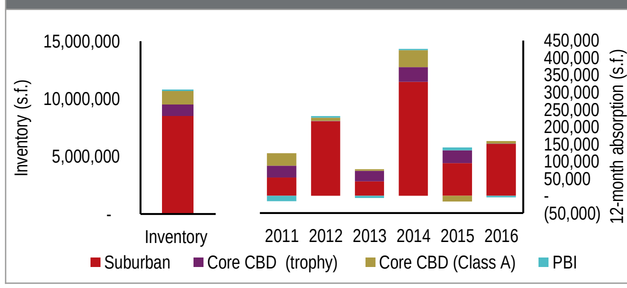
Trophy rates experience some of the strongest rent growth on record
As new ownership continues to see steady activity among Trophy assets; albeit, mostly propelled by renewals, with limited availability for new tenants, landlords continued to push rates. Direct full service Trophy rents have increased 19.9 percent year-over-year to $64.56 per square foot. This represents the strongest 12-months of rent growth since 2006 when rates rose only slightly more, growing 20.5 percent from the fourth quarter of 2005 through the fourth quarter of 2006. The major difference compared with today's market is that in 2006, CityPlace Tower was under construction. CityPlace Tower broke ground in the first quarter of 2006 and was delivered in the second quarter of 2008. While there are talks of new office properties in the pipeline, nothing has broken ground and likely won't over the near-term. As a prime address continues to be a top priority of many anchor tenants, space will continue to be limited and rates should continue to rise.

Strong year-end investment in Palm Beach County

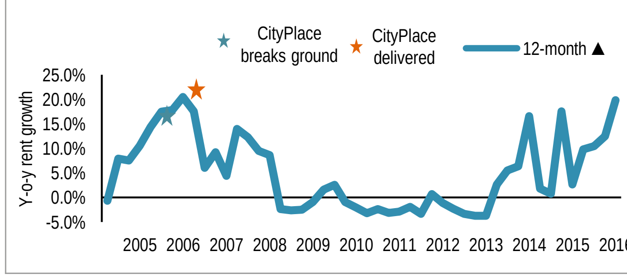


* Chart includes data from multi-tenant non condo buildings in JLL competitive set

Class A absorption concentrated in suburban markets



Historic annual Trophy rent growth reaches highest point since CityPlace construction



20,794,200	-16,600	$31.46	0
Total inventory (s.f.)	Q4 2016 net absorption (s.f.)	Direct average asking rent	Total under construction (s.f.)
15.7%	304,600	3.8%	0
Total vacancy	YTD net absorption (s.f.)	12-month rent growth	Total preleased

Westchester County

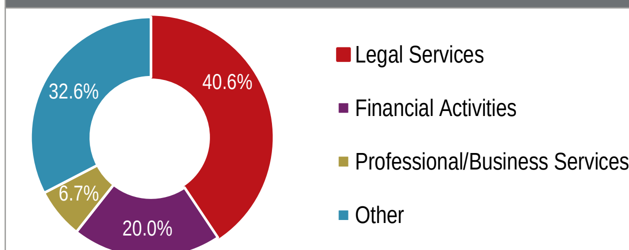
- Dayna McConnell
Research Analyst, Fairfield County

Demand in Class A office complexes drives leasing

White Plains CBD sustains momentum toward end of 2016

As the trend of tenants shifting to transit-centric urban markets endures in Westchester County, the White Plains CBD continued to see healthy market activity. Strengthened demand in this submarket enabled landlords to easily retain and attract larger tenants, predominantly within the legal services and professional business services sectors. Among these was J.P. Morgan Chase's leasing of 16,000 square feet at 925 Westchester Avenue, and Lowey Dannenberg's leasing of 14,912 square feet at 44 South Broadway. The outlook for the CBD remains optimistic as several plans for transit-oriented, mixed-use developments have been approved and solidified for 2017.

White Plains CBD Q4 leasing activity by sector

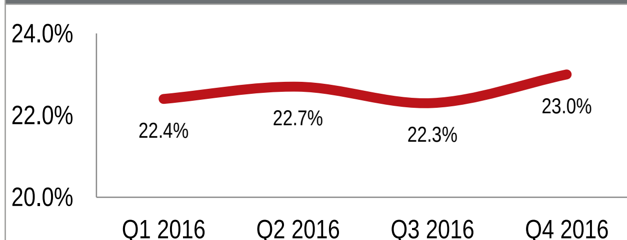


Source: JLL Research

Renovations to Class A complexes drawing tenants to I-287 West Corridor

The Westchester County overall vacancy rate increased 70 basis points from the previous quarter on account of slowing demand and smaller space requirements. Renovations of the Class A office complexes in the I-287 West Corridor proved to be helpful in offsetting increasing vacancy rates in the County as the submarket saw an increase in market activity among new tenants. Notable transactions include Pillinger Miller Tarallo LLP's signing of a 17,600-square-foot lease at 555 Taxter Road and Westchester Library System's leasing of 14,316 square feet at 570 Taxter Road in Elmsford. Additionally, Dominican Sisters moved from Ossining and took 15,000 square feet at 115 Stevens Avenue.

Westchester County overall vacancy rate

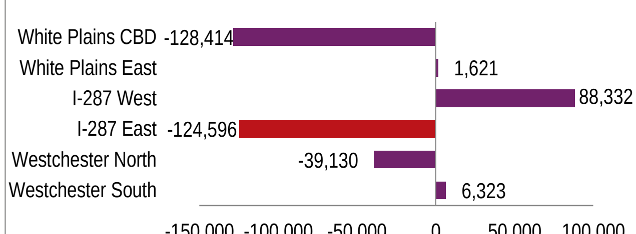


Source: JLL Research

Downsizings in I-287 East Corridor contribute to negative absorption

Westchester County posted a total negative net absorption of approximately 470,000 square feet in 2016 due to the shifting of corporate tenants to live-work-play spaces. The I-287 East Corridor submarket recorded the largest negative net absorption among the suburban markets at 125,000 square feet, primarily due to Allen Systems Group's downsizing of 16,000 square feet at 287 Bowman Riverview Plaza in Purchase and Mitsubishi's downsizing of more than 10,000 square feet at 555 Theodore Fremd Avenue in Rye. Net absorption in the CBD is expected to gain momentum as a result of the uptick in leasing activity the submarket has experienced in recent months.

Q4 net absorption by submarket (s.f.)



Source: JLL Research

31,734,296 Total inventory (s.f.)	-195,864 Q4 2016 net absorption (s.f.)	$27.13 Direct average asking rent	0 Total under construction (s.f.)
23.0% Total vacancy	-468,288 YTD net absorption (s.f.)	0.3% 12-month rent growth	0.0% Total preleased

Appendix

Stats

Employment

Rankings

Leases

Sales

Developments

UNITED STATES Office statistics

Market totals (CBD and Suburban)	Inventory (s.f.)	Quarterly total net absorption (including subleases)	YTD total net absorption (including subleases)	YTD total net absorption (% of inventory)	Direct vacancy (%)	Total vacancy (%)	Current quarter direct average marketed rent ($ p.s.f.)	Quarterly percent change	YTD Completions / deliveries (s.f.)	Under construction (s.f.)	Under construction as % of inventory
Atlanta	133,487,744	389,176	1,186,756	0.9%	16.0%	16.9%	$23.91	1.1%	0	4,944,149	3.7%
Austin	50,178,897	492,923	1,619,185	3.2%	9.7%	10.3%	$34.08	0.1%	1,124,338	3,163,014	6.3%
Baltimore	71,861,587	74,158	236,469	0.3%	12.9%	13.2%	$23.34	-0.5%	1,121,040	1,796,303	2.5%
Boston	166,905,911	230,851	2,406,003	1.4%	10.8%	13.6%	$33.99	1.8%	3,307,832	3,597,421	2.2%
Charlotte	47,781,075	280,534	679,681	1.4%	11.9%	12.5%	$24.47	1.5%	0	2,342,001	4.9%
Chicago	243,707,777	485,701	3,156,035	1.3%	12.9%	14.0%	$30.00	0.1%	1,886,900	6,779,564	2.8%
Cincinnati	35,264,038	37,114	1,150,419	3.3%	15.6%	16.1%	$19.35	-0.3%	843,000	203,000	0.6%
Cleveland	43,883,152	480,420	458,910	1.0%	18.8%	19.4%	$18.98	-1.6%	0	263,000	0.6%
Columbus	28,937,078	301,505	729,745	2.5%	11.3%	11.6%	$19.37	1.0%	677,400	480,700	1.7%
Dallas	166,718,209	673,646	2,214,846	1.3%	17.7%	18.7%	$25.94	0.8%	4,040,329	10,596,272	6.4%
Denver	108,329,487	266,577	260,990	0.2%	12.4%	13.8%	$26.99	1.6%	763,467	4,620,881	4.3%
Detroit	66,652,512	198,814	1,101,651	1.7%	19.1%	20.2%	$19.88	0.9%	0	418,334	0.6%
Fairfield County	43,945,867	231,974	1,282,361	2.9%	20.3%	22.4%	$35.94	-1.2%	0	0	0.0%
Fort Lauderdale	22,807,818	216,368	453,735	2.0%	13.1%	14.2%	$29.13	0.8%	0	91,819	0.4%
Fort Worth	40,491,397	-420,357	-133,462	-0.3%	15.4%	16.2%	$22.46	-0.3%	429,469	1,429,451	3.5%
Hampton Roads	18,126,233	277,287	364,808	2.0%	13.4%	13.9%	$18.62	1.9%	314,758	209,109	1.2%
Houston	163,623,452	-125,349	-1,568,830	-1.0%	17.5%	20.3%	$30.78	1.0%	3,992,574	3,194,543	2.0%
Indianapolis	31,818,290	-332,956	-53,454	-0.2%	15.8%	16.4%	$19.78	0.5%	307,608	427,977	1.3%
Jacksonville	20,128,022	38,264	245,364	1.2%	14.1%	14.6%	$19.66	0.4%	0	0	0.0%
Long Island	41,983,140	407,321	1,259,507	3.0%	12.1%	13.4%	$26.10	-0.5%	0	294,885	0.7%
Los Angeles	189,189,812	462,647	1,610,909	0.9%	13.7%	14.6%	$38.27	0.7%	660,201	2,413,702	1.3%
Louisville	21,492,373	111,903	361,812	1.7%	11.5%	12.2%	$17.44	4.6%	328,400	0	0.0%
Miami	37,587,986	60,576	10,091	0.0%	13.0%	13.4%	$36.94	0.1%	266,832	959,838	2.6%
Milwaukee	27,718,527	64,553	602,042	2.2%	16.1%	16.9%	$19.85	2.0%	506,924	137,500	0.5%
Minneapolis	69,475,895	-304,195	-72,474	-0.1%	15.7%	16.0%	$25.87	-1.4%	254,666	430,500	0.6%
Nashville	34,573,197	262,512	1,139,944	3.3%	5.7%	6.2%	$23.59	-0.3%	1,507,884	2,731,079	7.9%
New Jersey	159,871,192	-789,191	489,854	0.3%	21.4%	24.5%	$26.27	3.1%	440,445	45,000	0.0%
New York	449,872,906	-1,439,942	-1,563,010	-0.3%	8.5%	10.4%	$73.01	-0.7%	3,003,470	12,499,325	2.8%
N. San Francisco Bay	25,740,395	95,976	-25,284	-0.1%	14.1%	15.1%	$27.12	1.1%	175,221	184,000	0.7%
Oakland-East Bay	52,763,008	225,995	1,110,972	2.1%	9.7%	10.1%	$36.84	2.4%	0	260,000	0.5%
Orange County	95,769,930	112,219	782,223	0.8%	10.9%	11.3%	$32.16	1.8%	684,252	1,930,680	2.0%
Orlando	29,273,590	283,064	840,819	2.9%	12.7%	13.1%	$21.01	-0.4%	135,000	136,000	0.5%
Philadelphia	131,434,102	346,263	1,048,879	0.8%	12.1%	12.6%	$26.25	0.4%	1,629,788	4,164,584	3.2%
Phoenix	84,653,247	530,477	3,142,088	3.7%	18.3%	19.7%	$24.48	1.1%	2,421,613	1,710,257	2.0%
Pittsburgh	50,355,528	-328,617	43,975	0.1%	15.0%	16.6%	$23.05	0.4%	850,000	397,000	0.8%
Portland	59,824,741	35,060	634,140	1.1%	8.8%	9.4%	$27.56	6.0%	1,176,643	1,434,651	2.4%
Raleigh-Durham	44,221,958	194,861	1,112,253	2.5%	9.6%	10.2%	$22.27	2.3%	313,655	2,189,105	5.0%
Richmond	19,177,412	236,022	-98,192	-0.5%	12.4%	14.0%	$19.17	-0.1%	0	74,471	0.4%
Sacramento	43,877,872	375,610	1,257,672	2.9%	12.8%	13.2%	$23.76	1.0%	129,398	110,372	0.3%
Salt Lake City	50,304,728	155,265	1,667,357	3.3%	6.3%	7.7%	$22.99	1.4%	3,092,611	1,699,795	3.4%
San Antonio	26,660,441	800,885	1,473,863	5.5%	12.0%	12.3%	$23.68	3.4%	422,605	812,060	3.0%
San Diego	78,169,788	209,630	1,326,796	1.7%	12.1%	12.9%	$31.44	0.8%	425,341	247,597	0.3%
San Francisco	76,335,189	121,608	864,099	1.1%	6.8%	8.2%	$73.65	0.1%	768,077	5,879,830	7.7%
SF Peninsula	27,101,589	391,969	896,688	3.3%	9.2%	10.7%	$58.08	0.4%	1,118,675	975,550	3.6%
Seattle-Bellevue	94,529,651	213,400	2,476,060	2.6%	8.6%	9.2%	$34.90	-1.1%	2,268,083	5,948,146	6.3%
Silicon Valley	69,768,545	-260,991	1,524,963	2.2%	10.3%	12.4%	$47.88	3.6%	2,890,404	7,972,955	11.4%
St. Louis	42,068,604	218,607	628,821	1.5%	12.3%	12.7%	$19.05	-2.0%	0	170,234	0.4%
Tampa Bay	34,430,206	26,663	593,279	1.7%	12.7%	13.2%	$23.01	-2.3%	176,089	0	0.0%
Washington, DC	327,819,760	242,759	1,072,312	0.3%	16.1%	16.9%	$37.25	-0.3%	2,233,838	10,030,476	3.1%
West Palm Beach	20,794,203	-16,605	304,614	1.5%	15.5%	15.7%	$31.46	1.7%	0	0	0.0%
Westchester County	31,734,296	-195,864	-468,288	-1.5%	22.8%	24.9%	$26.88	-0.3%	0	0	0.0%
United States	4,078,535,888	6,496,587	41,823,229	1.0%	13.3%	14.5%	$32.40	0.1%	46,688,830	110,462,614	2.7%

UNITED STATES Employment

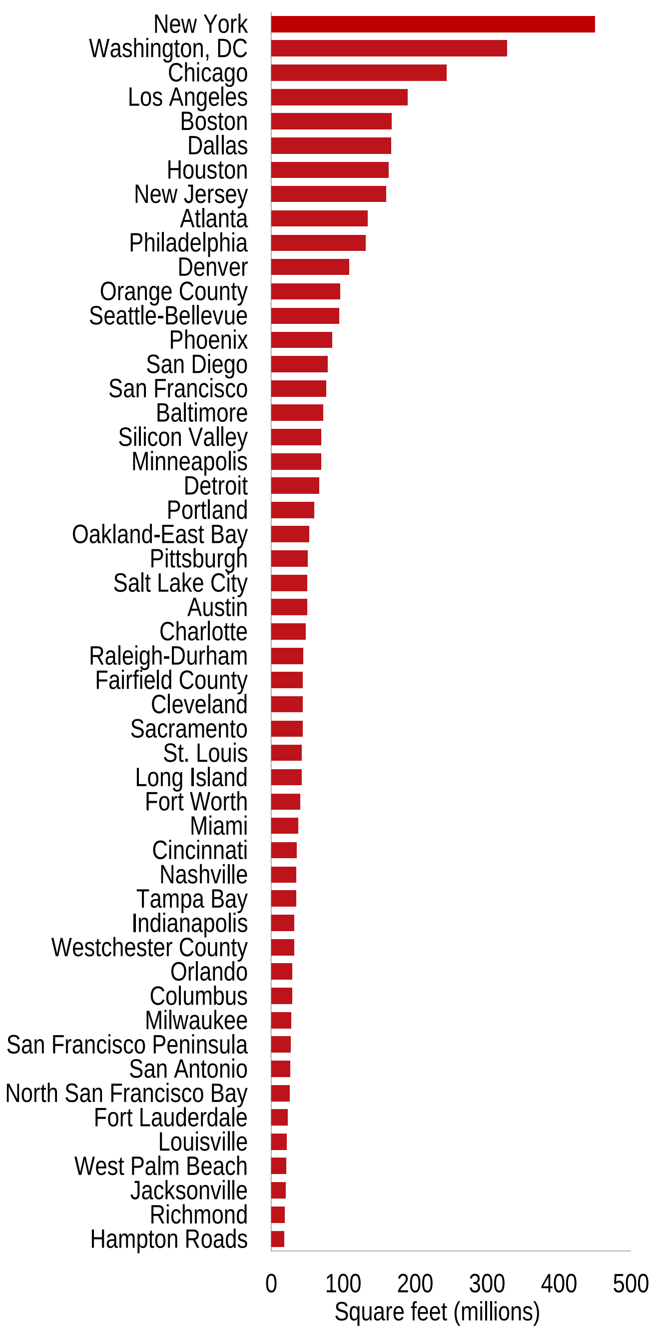
Market	Total nonfarm jobs 12-month net change (000s)	Total nonfarm jobs 12-month percent change	Office jobs* 12-month net change (000s)	Office jobs* 12-month percent change	Unemployment (2016)	Unemployment (2015)	12-month unemployment change (bp)
Atlanta	68.2	2.6%	28.5	3.8%	4.8%	4.9%	-10
Austin	19.5	2.0%	5.4	2.2%	3.0%	3.0%	0
Baltimore	23.6	1.7%	9.5	2.9%	4.2%	5.0%	-80
Boston	47.5	1.8%	15.4	2.1%	2.4%	4.1%	-170
Charlotte	21.9	1.9%	7.8	2.6%	4.5%	5.1%	-60
Chicago	37.9	0.8%	14.7	1.2%	5.3%	5.4%	-10
Cincinnati	17.0	1.6%	3.6	1.4%	3.8%	4.3%	-50
Cleveland	7.9	0.7%	-0.9	-0.4%	4.5%	3.9%	60
Columbus	19.2	1.8%	4.2	1.5%	3.7%	3.9%	-20
Dallas	89.7	3.6%	30.9	4.1%	3.4%	3.8%	-40
Denver	43.4	3.1%	8.3	2.0%	2.6%	3.1%	-50
Detroit	34.4	1.8%	21.6	4.1%	5.1%	5.1%	0
Fairfield County	-3.5	-0.8%	-2.0	-1.6%	3.7%	4.9%	-120
Fort Lauderdale	30.7	3.8%	10.2	4.6%	4.6%	4.6%	0
Fort Worth	25.1	2.5%	10.2	5.7%	3.6%	4.1%	-50
Hampton Roads	-1.6	-0.2%	1.8	1.2%	4.6%	4.5%	10
Hartford	2.1	0.4%	1.0	0.7%	3.7%	5.0%	-130
Houston	16.1	0.5%	-4.2	-0.6%	4.9%	4.8%	10
Indianapolis	21.6	2.1%	5.8	2.4%	3.6%	4.2%	-60
Jacksonville	23.7	3.6%	7.4	4.2%	4.7%	4.8%	-10
Long Island	14.0	1.1%	0.7	0.2%	4.0%	4.1%	-10
Los Angeles	65.3	1.5%	17.2	1.7%	4.8%	5.8%	-100
Louisville	10.9	1.7%	7.6	5.3%	3.5%	4.5%	-100
Miami	18.0	1.6%	7.5	2.9%	5.0%	5.6%	-60
Milwaukee	-2.0	-0.2%	-6.2	-3.2%	4.0%	4.6%	-60
Minneapolis	27.1	1.4%	10.3	2.1%	3.0%	2.9%	10
Nashville	23.5	2.5%	4.8	2.0%	3.6%	4.3%	-70
New Jersey	22.1	0.5%	5.9	0.6%	4.1%	4.5%	-40
New York	66.7	1.5%	12.7	0.9%	5.7%	5.2%	50
North Bay	4.3	3.7%	0.9	3.4%	3.0%	3.4%	-40
Oakland-East Bay	25.6	2.3%	2.7	1.1%	4.0%	4.6%	-60
Orange County	38.3	2.4%	10.9	2.5%	3.7%	4.3%	-60
Orlando	53.1	4.5%	6.5	2.2%	4.4%	4.6%	-20
Philadelphia	43.6	1.5%	14.6	2.0%	4.6%	4.4%	20
Phoenix	21.5	1.1%	5.7	1.0%	4.1%	4.9%	-80
Pittsburgh	8.4	0.7%	5.8	2.2%	5.1%	4.5%	60
Portland	29.5	2.6%	10.2	3.8%	4.3%	4.8%	-50
Raleigh-Durham	20.8	2.1%	7.2	4.4%	4.0%	4.5%	-50
Richmond	5.8	0.9%	2.3	1.3%	4.1%	4.0%	10
Sacramento	26.2	2.8%	8.3	4.5%	4.9%	5.6%	-70
Salt Lake City	24.4	3.5%	10.9	5.6%	2.4%	2.8%	-40
San Antonio	15.8	1.6%	4.2	1.8%	3.5%	3.7%	-20
San Diego	30.9	2.2%	7.7	2.3%	4.3%	5.0%	-70
San Francisco	26.7	2.5%	9.8	2.4%	3.0%	3.3%	-30
Seattle-Bellevue	67.0	3.5%	17.9	3.8%	4.3%	5.3%	-100
Silicon Valley	35.3	3.3%	20.5	6.2%	3.6%	4.1%	-50
St. Louis	41.5	3.1%	8.2	2.6%	3.8%	4.4%	-60
Tampa	33.4	2.6%	11.1	3.1%	4.7%	4.7%	0
Washington, DC	65.5	2.0%	19.6	2.0%	3.7%	4.1%	-40
West Palm Beach	13.2	2.2%	2.2	1.4%	4.9%	4.7%	20
Westchester County	2.2	0.3%	0.5	0.4%	4.1%	4.1%	0
United States	2,157.0	1.5%	679.0	2.2%	4.7%	5.0%	-30

Source: JLL Research, Bureau of Labor Statistics
** Office jobs includes professional and business services, information and financial activities sectors*
** United States totals represent national employment, not sum of markets above*

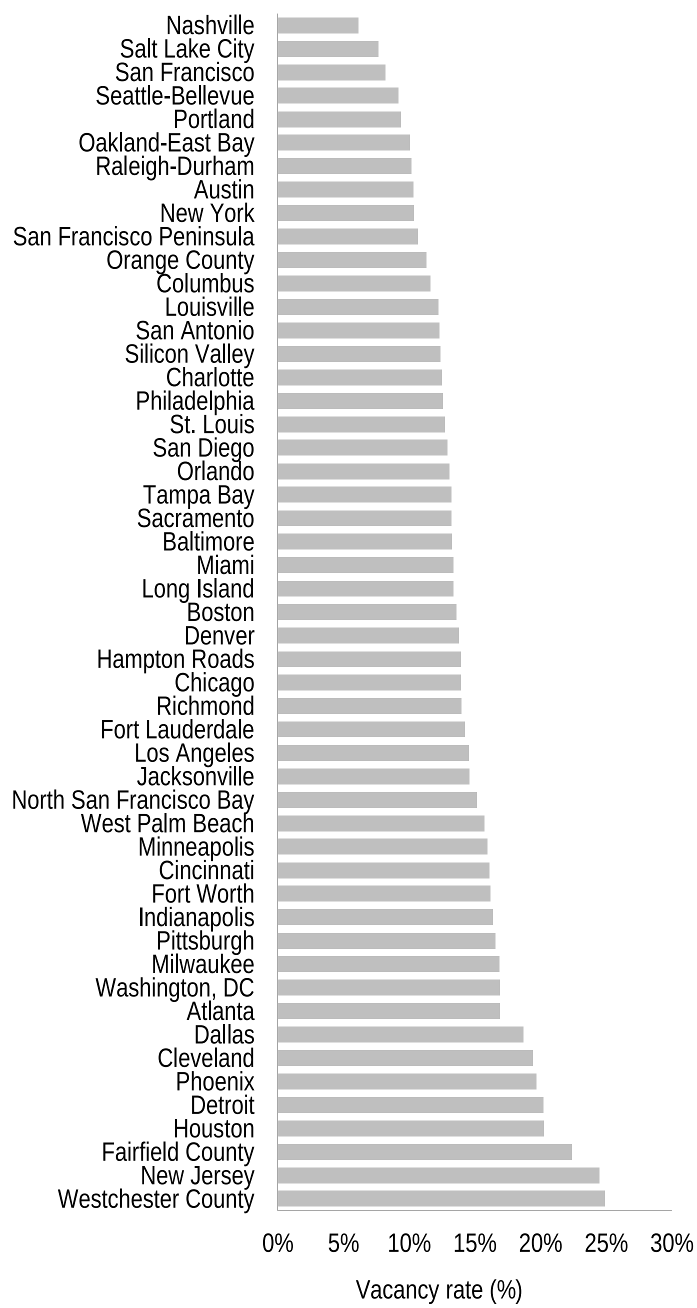
United States

Office rankings

Inventory



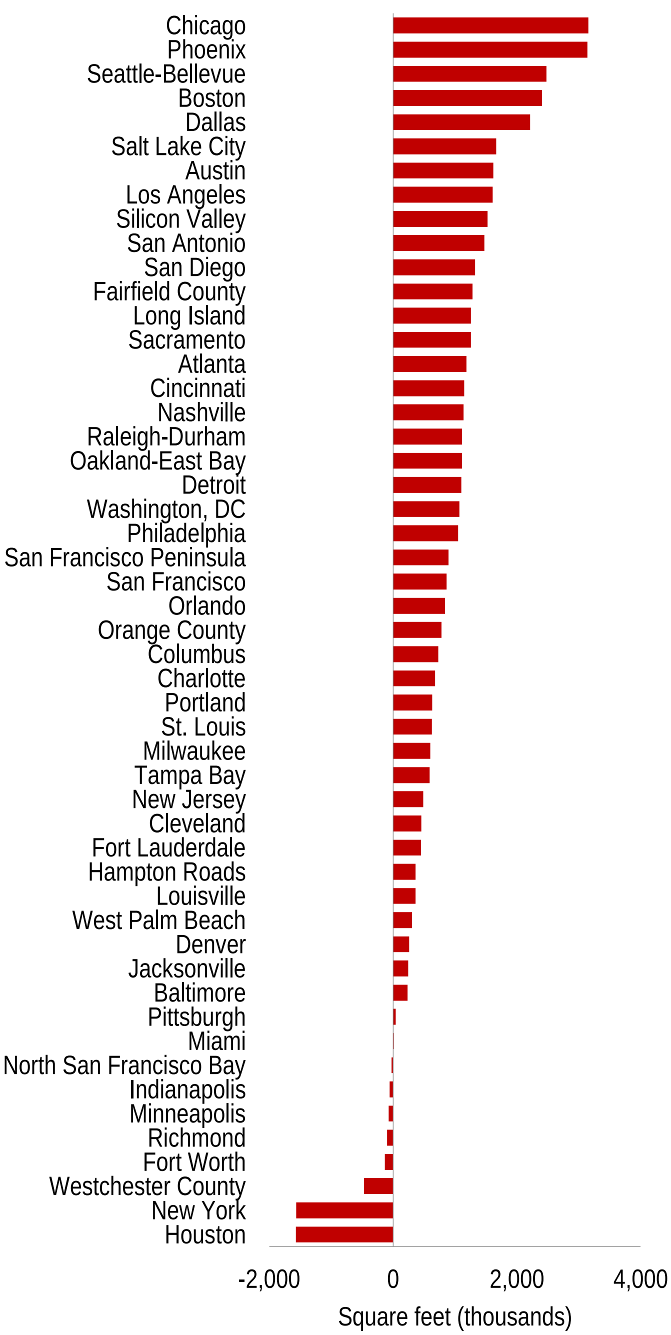
Total vacancy rates (including sublease)



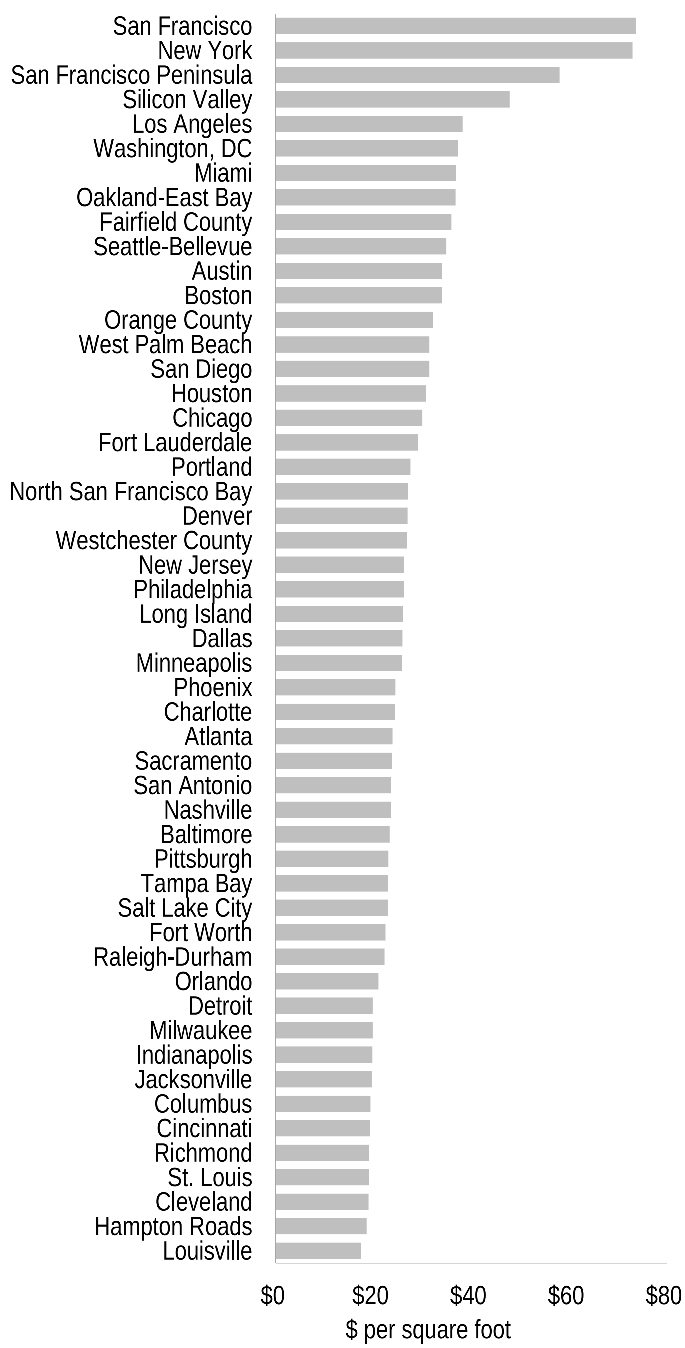
United States

Office rankings

YTD total net absorption (including sublease)



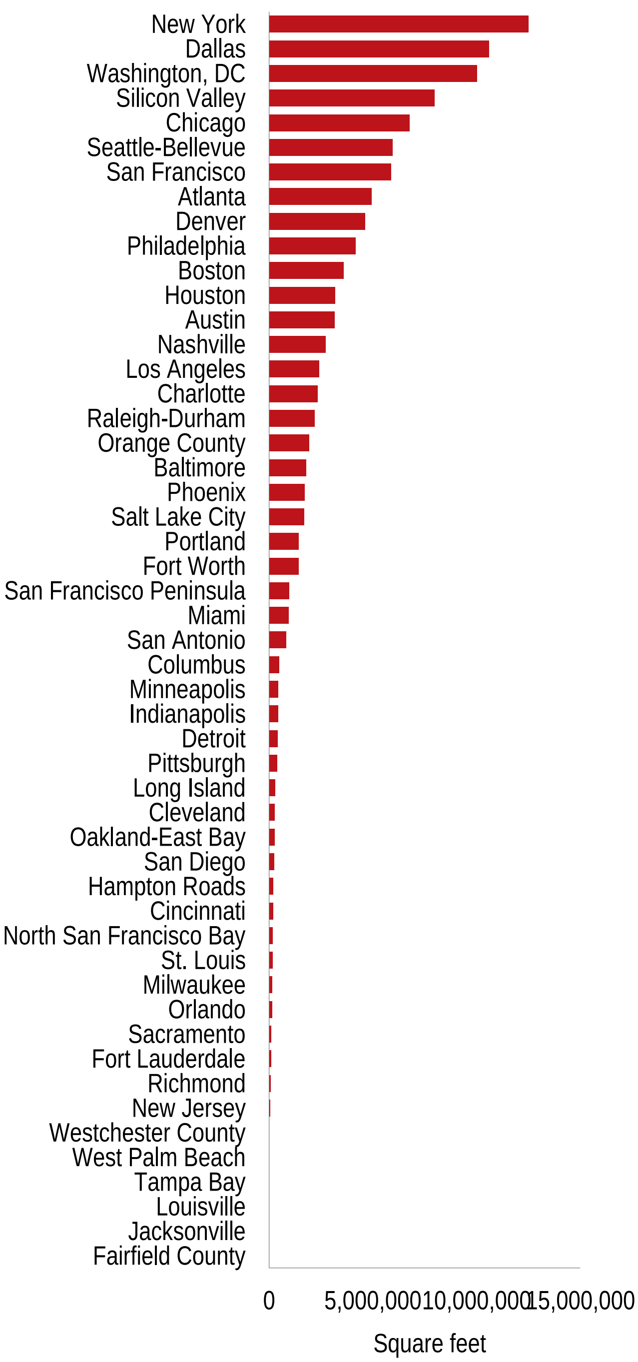
Marketed rents



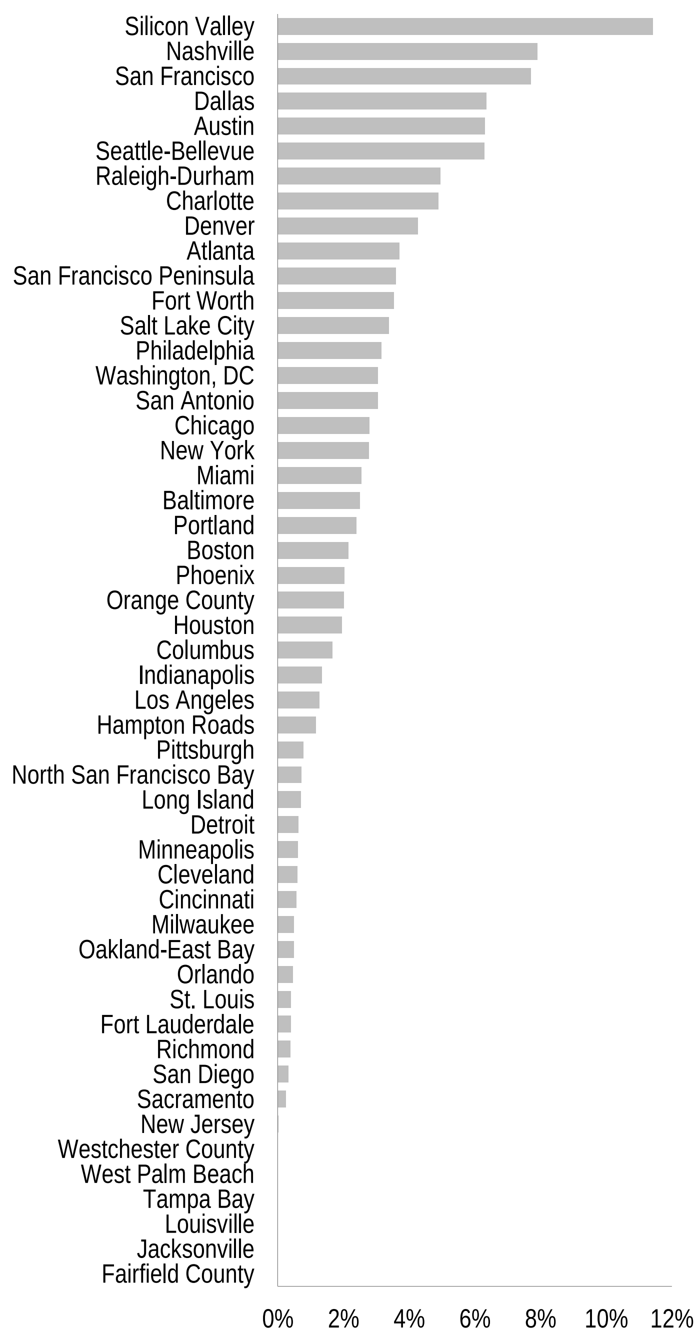
United States

Office rankings

Under construction



Under construction as % of inventory



Select large leases

> 100,000 square feet

Sorted by lease size and completed during Q4 2016

Market	Tenant	Address	Size (s.f.)	Lease type
Boston	Akamai	145 Broadway	486,048	Expansion in market
Chicago	Sidley Austin	1 S Dearborn Street	475,000	Renewal
San Francisco	Charles Schwab	211 Main Street	417,266	Renewal
New York	MLB	1271 Avenue of the Americas	400,000	Relocation within market
Seattle-Bellevue	Facebook	300-333 8th Avenue N	388,911	Expansion in market
Seattle-Bellevue	*confidential*	1007 Stewart Street	362,892	Expansion in market
Seattle-Bellevue	*confidential*	415 106th Avenue NE	354,918	Expansion in market
Boston	Shire	500 Kendall Street	343,000	Relocation within market
Boston	Dassault	185 Wyman Street	320,694	Renewal
San Diego	City of San Diego	101 Ash Street	315,000	Relocation within market
Boston	Oracle	35 Network Drive	310,905	Renewal
Denver	Charter Communications	6370 S Fiddlers Green Circle	306,053	Relocation within market
Seattle-Bellevue	*confidential*	321 Terry Avenue N	272,798	Expansion in market
Phoenix	McKesson	N Pima Road	271,000	Expansion in market
New York	NYC Human Resources Administration	109 E 16th Street	264,358	Renewal
Los Angeles	Warner Music Group	777 S Santa Fe Avenue	257,028	New
New York	New York State Department of Health	90 Church Street	256,000	Renewal
Suburban Maryland	National Institutes of Health	6705 Rockledge Drive	250,000	Renewal
Los Angeles	City National Bank	350 S Grand Avenue	242,000	Relocation within market
Suburban Maryland	National Institutes of Health	6701 Rockledge Drive	240,492	Renewal
New York	Hogan Lovells	390 Madison Avenue	239,601	Relocation within market
Phoenix	ADP	111 W Rio Salado Parkway	225,000	Expansion in market
Boston	Digitas	40 Water Street	220,000	Relocation within market
Denver	Raytheon	16800 E Centretech Parkway	215,000	Renewal
San Francisco	Adobe	100 Hooper Street	207,000	Expansion in market
Seattle-Bellevue	Big Fish Games	901-999 Western Avenue	186,974	Relocation within market
Washington, DC	Akin Gump	2000 L Street NW	182,994	Relocation within market
Philadelphia	Five Below	701 Market Street	180,000	Relocation within market
Denver	Charter Communications	6399 S Fidders Green Circle	179,571	Relocation within market
Boston	Akamai	150 Broadway	177,000	Renewal
New York	Point72	55 Hudson Yards	176,366	Relocation within market
New York	NBA	645 Fifth Avenue	175,000	Renewal
Silicon Valley	Huawei	2220-2330 Central Expressway	171,382	Renewal
Washington, DC	Government of the District of Columbia	1050 1st Street NE	168,101	Relocation within market
Philadelphia	Vertex	2301 Renaissance Boulevard	168,000	Relocation within market
St. Louis	Peabody Energy	701 Market	161,418	Renewal
San Diego	Renovate America	16399 W Bernardo Drive	160,925	Relocation within market
New York	NHL	1 Manhattan West	160,000	Relocation within market
Los Angeles	Kite Pharma	2400 Broadway	159,310	Relocation within market
Northern Virginia	Wells Fargo	1751 Pinnacle Drive	157,000	Renewal
Chicago	Mercer	155 N Wacker Drive	145,000	Renewal
New Jersey	Mathematica	600 Alexander Park	141,200	Renewal
Austin	*confidential*	11601 Alterra Parkway	136,584	Expansion in market
Fairfield County	Henkel	695 E Main Street	135,020	New
New Jersey	Broadridge	2 Gateway Center	135,000	New
Los Angeles	Infineon	101 N Sepulveda Boulevard	134,000	Renewal
Chicago	Reed Smith	30 S Wacker Drive	130,075	Renewal
Seattle-Bellevue	Attorney General's Office	800 5th Avenue	129,977	Expansion in building
Raleigh-Durham	Bandwidth.com	940 Main Campus Drive	128,262	Expansion in building
Chicago	Omnicom	225 N Michigan Avenue	126,484	Relocation within market

Select large sales

> 100,000 square feet

Sorted by total sales price and completed in Q4 2016

Market	Building	RBA (s.f.)	Sale price $	Price ($ p.s.f.)	Buyer	Seller
Dallas	State Farm Campus	2,200,000	$825,000,000	$375	Mirae/Transwestern	State Farm
Boston	1 Kendall Square	644,771	$725,000,000	$1,124	Alexandria	DivcoWest
Los Angeles	Howard Hughes Center	1,354,237	$583,000,000	$431	Blackstone	Hines
New York	1250 Broadway	645,977	$565,000,000	$875	Global Holdings	Jamestown/MHP/Werner
San Francisco	1 Front Street	651,732	$521,000,000	$799	Paramount	Invesco/State of Florida
Miami	Southeast Financial Center	1,225,000	$516,600,000	$422	Ponte Gadea	JPMorgan Chase
Los Angeles	The Bluffs at Playa Vista	500,943	$413,000,000	$824	Minskoff	JPMorgan Chase
Los Angeles	Lantana Campus	482,377	$403,000,000	$835	Brightstone	Jamestown
Washington, DC	300 E Street SW	579,000	$385,600,000	$665	KTB/Kiwoom/Meritz	Piedmont
San Francisco	505 Howard Street	291,093	$349,893,786	$1,202	American Realty Advisors	Tishman/JPMorgan
Orange County	Park Place	1,910,210	$338,680,233	$394	Allianz	Principal
Los Angeles	Citigroup Center	891,056	$336,000,000	$377	Coretrust	Thines
New York	441 9th Avenue	350,000	$330,000,000	$943	Cove/Buapost	EmblemHealth
Atlanta	One Atlantic Center	1,102,246	$318,100,000	$289	Starwood	Hines
Minneapolis	33 S 6th Street	1,617,888	$315,000,000	$195	HNA	Shorenstein
SF Peninsula	455-475 E Grand Avenue	456,788	$311,300,500	$682	Genentech	HCP
Los Angeles	6500 Wilshire Boulevard	456,679	$295,000,000	$646	Cedars-Sinai	Lincoln/Morgan Stanley
Washington, DC	655 15th Street NW	628,229	$288,100,000	$573	Blackstone/Boston Prop.	Boston Properties/NYRF
Los Angeles	2600-2800 Colorado Avenue	310,800	$269,800,000	$868	Oracle	Invesco
Atlanta	191 Peachtree Street NE	1,209,721	$268,000,000	$222	Banyan/Oaktree	Cousins
Suburban MD	9613 Medical Center Drive	574,614	$260,150,000	$453	USAA	JBG
Orange County	Google Center	573,000	$260,000,000	$454	Jacaranda	Scholle
Seattle-Bellevue	400 9th Avenue N	317,189	$244,000,000	$769	RFR/Tristar	Vulcan
Austin	100 Congress Avenue	411,536	$230,460,160	$560	Invesco	MetLife
Washington, DC	1030 15th Street NW	322,022	$228,000,000	$708	UNIZO	Invesco
Seattle-Bellevue	1100 112th Avenue NE	480,389	$217,000,000	$452	Gemini Rosemont	Principal
Philadelphia	Two Liberty Place	940,564	$202,000,000	$215	CoreTrust	Parkway
Seattle-Bellevue	Civica Office Commons	305,835	$193,000,000	$631	AEW/Unico	Hines
Boston	Landmark Building	354,000	$190,000,000	$537	LaSalle	Beacon
Washington, DC	815 Connecticut Avenue NW	236,000	$190,000,000	$805	Blackstone	Alecta
Silicon Valley	Middlefield Crossing	158,294	$187,600,000	$1,185	Blackstone	Alecta
Charlotte	214 N Tryon Street	972,000	$185,500,000	$191	Cousins	Parkway
San Diego	Torrey Ridge Science Center	294,993	$182,500,000	$619	Alexandria	Walton Street
New York	292 Madison Avenue	203,000	$180,000,000	$887	Vanbarton	Marciano
Seattle-Bellevue	Hill7	285,680	$179,822,000	$629	Hudson Pacific/CPPIB	Touchstone/Principal
Sacramento	Wells Fargo Center	511,034	$175,500,000	$343	Starwood	Hines
New Jersey	80 Park Plaza	973,000	$174,500,000	$179	Nightingale	Columbia

Select developments underway

> 100,000 square feet

Sorted by square feet and underway as of Q4 2016

Market	Submarket	Building	Construction type	RBA s.f.	Preleased %	Expected delivery year
New York	World Trade Center	3 World Trade Center	Speculative	2,861,402	37.0%	2018
New York	Penn Plaza/Garment	30 Hudson Yards	Speculative	2,600,000	100.0%	2019
Chicago	South Loop	Old Main Post Office	Speculative	2,450,000	0.0%	2019
New York	Penn Plaza/Garment	1 Manhattan West	Speculative	2,216,609	40.7%	2019
Dallas	Far North Dallas	Toyota HQ	BTS	2,100,000	83.3%	2017
New York	Grand Central	One Vanderbilt	Speculative	1,732,955	11.5%	2021
Silicon Valley	Sunnyvale	Moffett Place	Speculative	1,647,142	57.4%	2017
New York	Penn Plaza/Garment	55 Hudson Yards	Speculative	1,556,136	43.8%	2018
San Francisco	South Financial District	Salesforce Tower	Speculative	1,420,081	57.8%	2017
Dallas	Far North Dallas	JPMorgan Chase Campus	BTS	1,400,000	100.0%	2018
Philadelphia	Market Street West	Comcast Technology Center	BTS	1,334,000	100.0%	2018
Chicago	West Loop	150 N Riverside Plaza	Speculative	1,229,064	95.1%	2017
Silicon Valley	Santa Clara	The Campus @ 3333	Speculative	1,144,880	100.0%	2017
Silicon Valley	Santa Clara	Santa Clara Square	Speculative	1,100,780	26.8%	2017
Dallas	Far North Dallas	Liberty Mutual Campus	BTS	1,100,000	95.0%	2017
Chicago	West Loop	River Point	Speculative	1,073,100	97.2%	2017
Houston	CBD	609 Main at Texas	Speculative	1,056,658	38.1%	2017
San Francisco	South Financial District	Oceanwide Center	Speculative	1,050,000	0.0%	2021
Northern Virginia	Tysons Corner	Capital One HQ	BTS	975,000	100.0%	2018
Washington, DC	East End	Midtown Center	BTS	868,721	91.9%	2018
New York	Grand Central	390 Madison Avenue	Speculative	862,154	24.0%	2017
Chicago	West Loop	CNA Center	Speculative	825,000	51.5%	2018
Silicon Valley	Sunnyvale	Central at Wolfe	Speculative	777,170	100.0%	2018
Seattle-Bellevue	Seattle CBD	The Mark	Speculative	766,779	32.2%	2017
Washington, DC	East End	Advisory Board HQ	BTS	761,024	85.4%	2018
Seattle-Bellevue	Seattle CBD	Madison Centre	Speculative	754,000	25.0%	2017
San Francisco	South Financial District	Park Tower	Speculative	751,500	0.0%	2018
Seattle-Bellevue	Renton/Tukwila	Southport Office Campus	Speculative	730,000	0.0%	2018
Seattle-Bellevue	Bellevue CBD	400 Lincoln Square	Speculative	724,693	71.7%	2017
New York	Hudson Square	One SoHo Square	Speculative	700,000	50.2%	2017
Northern Virginia	Eisenhower Avenue	NSF HQ	BTS	700,000	100.0%	2017
San Francisco	Mission Bay/China Basin	The Exchange on 16th	Speculative	680,000	0.0%	2017
New York	Plaza District	425 Park Avenue	Speculative	670,000	29.9%	2018
Denver	West CBD	1144 15th Street	Speculative	670,000	30.1%	2018
Charlotte	CBD	300 S Tryon Street	Speculative	638,459	54.4%	2017
Atlanta	Midtown	Coda	BTS	620,000	44.7%	2018
Chicago	Fulton Market	Randolph West	BTS	608,000	91.4%	2018
Houston	Galleria	BHP Billiton HQ	BTS	600,000	100.0%	2017
Washington, DC	Capitol Hill	Capitol Crossing	Speculative	559,921	0.0%	2019
Northern Virginia	Rosslyn	CEB Tower	Speculative	552,781	64.6%	2018
Washington, DC	CBD	Alexander Court	Speculative	536,019	44.5%	2018
Philadelphia	Market Street West	2400 Market Street	Speculative	525,000	38.6%	2018
Dallas	Uptown	Park District	Speculative	516,093	94.7%	2018
Nashville	Downtown	Bridgestone HQ	BTS	514,000	100.0%	2017
Boston	495/Mass Pike	1 Boston Scientific Place	BTS	510,878	70.6%	2017
Atlanta	Buckhead	Three Alliance	Speculative	510,000	23.1%	2017
New York	World Trade Center	3 World Trade Center	Speculative	2,861,402	37.0%	2018
New York	Penn Plaza/Garment	30 Hudson Yards	Speculative	2,600,000	100.0%	2019
Chicago	South Loop	Old Main Post Office	Speculative	2,450,000	0.0%	2019
New York	Penn Plaza/Garment	1 Manhattan West	Speculative	2,216,609	40.7%	2019

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