Research

Independent market review

Phoenix/Tempe

November 2021

Prepared for: DBS Trustee Limited
(in its capacity as trustee of Manulife US Real Estate Investment Trust)
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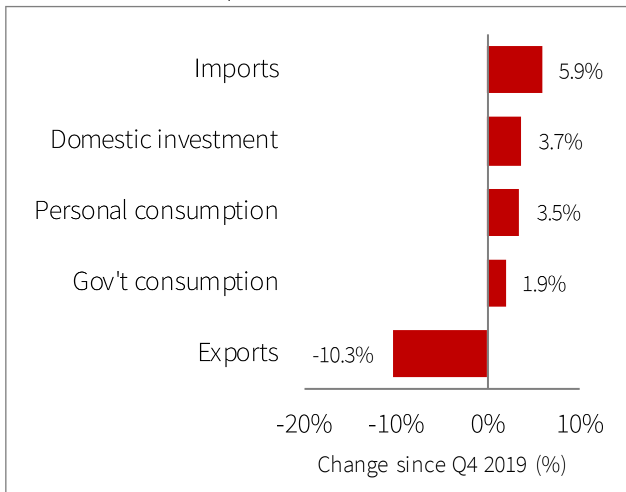
National economic overview

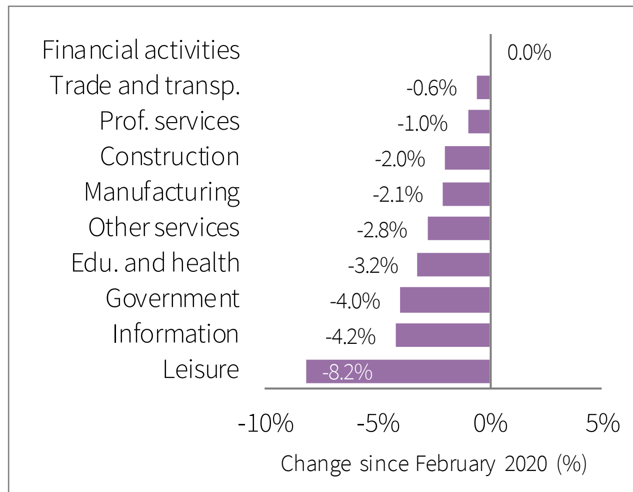
The U.S. economy continues to make progress in its recovery from the effects of the COVID-19 pandemic. While employment inches ever closer to a full rebound, GDP surpassed its pre-pandemic peak in Q3 2021, making the U.S. one of the first developed countries to pass this milestone. Consumer spending remains high, while both short- and long-term prospects are bolstered by newly passed government stimulus surrounding infrastructure. At the same time, inflation as a result of global supply chain disruption and acute labor shortages poses a meaningful impediment to even greater gains, although these are likely transitory in nature, even if they are taking longer than initially expected to be resolved.

GDP stood at $23.2 trillion in Q3 2021 and in real terms is now 1.4% above the previous high recorded in Q4 2019. Fueling this has been a consistent increase in personal consumption expenditures, which is 3.5% above year-end 2019 levels; while GDP is up $262.9 billion in real terms, consumption rose by $470.3 billion since Q4 2019. Private domestic investment and imports also rose.



At the same time, net exports continue to feel the effects of supply chain disruptions, having fallen by 10.3% over the past seven quarters and widening the trade gap to $1.3 trillion. Imports, on the other hand, are incrementally improving, up $200.3 billion over the same time period.

Job creation is also trending the right direction despite Delta variant-induced headwinds. 18.1 million of the 22.4 million jobs lost from February to April 2020 have been recovered, with employment now down just 2.8% from its 152.5-million-job high. This has helped the unemployment rate fall to 4.6%, 110 basis points above its previous low of 3.5%.



At the industry level, office-using as well as transportation and trade are outperforming the broader labor market, having been less affected by shutdowns in in-person activities, whereas leisure is farther from recovery at 8.2% below February 2020 levels. The unlocking of international travel in November combined with continually increasing vaccination rates will help to spur further gains in leisure and hospitality.

Divergence also exists geographically. Unemployment in numerous Sun Belt markets such as Atlanta, Austin, Charlotte, Nashville, Phoenix, Raleigh and Tampa is now below the 4% mark and, in the case of Atlanta and Phoenix, is below the previous low recorded in early 2020. Meanwhile, gateway cities are still dealing with the effects of

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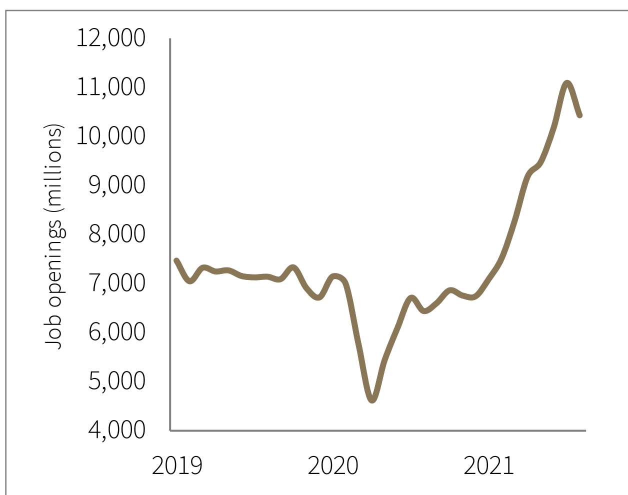
National economic overview

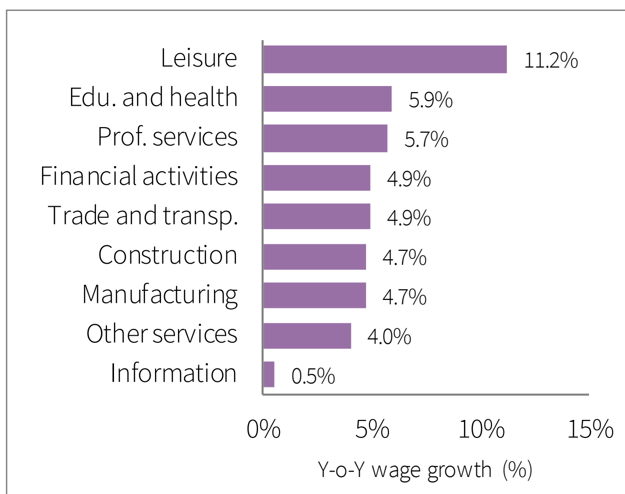
exposure to arts, leisure and tourism, all of which are taking longer to recover. As a result, unemployment is still above 5.5% in Los Angeles, New York and Chicago.

In recent months, labor shortages and inflation have become predominant headwinds complicating further improvements to the economy. In the case of labor shortages, this is likely a structural change given a shift in composition of the labor force, while inflation is broadly transitory on the back of supply chain disruptions, in particular for chips and energy, which has placed significant pressure on segments of the Consumer Price Index such as used car sales.



Job openings data has been among the most dramatic in recent quarters. Since the beginning of 2021, total openings have spiked by 47%, while hiring has grown by only 15.7% so far this year. Compounding this is a 29.2% jump in quits, spurred on by a feedback loop of greater worker confidence in the job market.

This gap in unfilled positions – estimated at 4.1 million – is exerting significant pressure on employers to boost wages and provide higher levels of non-wage or non-salary compensation. Initially boosted by temporary schemes such as Pandemic Unemployment Assistance (PUA) and subsequently due to staffing shortages and an above-average rate of retirement from older workers, wages have grown by 8.6% over the course of the pandemic. Year-over-year increases in wages are high across sectors, but particularly in non-office-using industries such as leisure, which is up an unprecedented 11.2% over the year.



Despite some of these concerns, the broader economic picture remains robust by historic norms, with predicted GDP growth by year-end likely in the 5-7% range and additional runway for output, productivity and employment gains. Consumer sentiment remains high even in the face of inflation, just as venture capital and other financial investments are reaching new highs.

Moving into 2022, a stabilization of the global supply chain's backlogs, resumption of international travel and the beginnings of the $1.2 trillion Infrastructure Investment and Jobs Act being felt will catalyze additional economic growth and ease residual investor and consumer concerns about inflation. The roll-out of under-12 vaccinations will provide a supplementary buffer against another COVID-19 wave, enabling corporates to push for office re-entry and investment at scale.

Source: JLL Research

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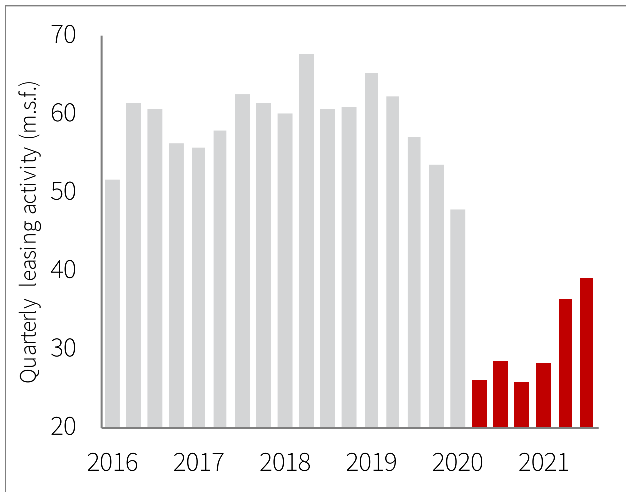
National office overview

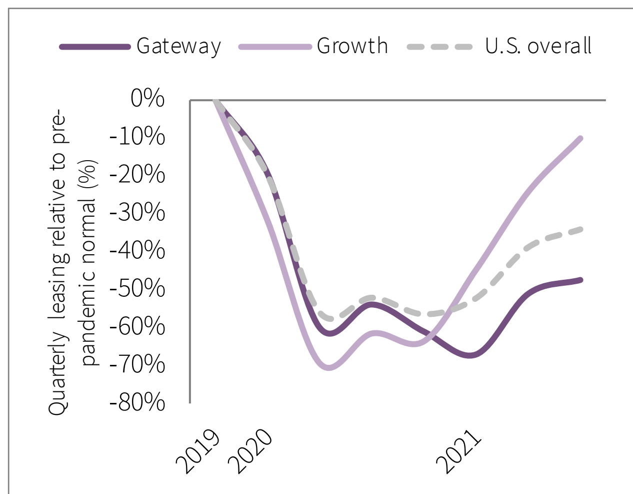
Throughout the first half of 2021, employees and employers alike expected Labor Day in early September to mark a major shift in working conditions, with numerous large and high-profile companies – particularly in but not limited to tech – announcing that most of their remote workforce would be returning to the office in either a full-time or hybrid arrangement.

By mid-summer, however, the arrival of the Delta variant led to a pause in the office market's recovery as mounting cases and stalling vaccination rates created cause for concern among corporates, leading numerous major tenants to extend their timeframes for occupancy either to later in 2021 or out to 2022. At the same time, an intense labor shortage and the prolonged duration of work-from-home policies well beyond initial expectations have forced employers to adjust their workplace planning to provide additional flexibility, creating a much longer period of trial-and-error before the market settles.



The office market showed signs of promise and the beginnings of tenants firming their longer-term utilization plans. Gross leasing volumes rose incrementally by a further 7.8% during the third quarter, approaching 40 million square feet for the first time since the onset of COVID-19. As a result, total transactions are up 1.7% compared to this time in 2020, but are still 43.8% below 2019 levels.

This recovery in leasing is not geographically equal. Lower-cost secondary markets in the Sun Belt and the West dominated during the third quarter, seeing tractions jump by 18.7% relative to the 7.5% rise in gateway geographies as a result of looser business regulations as well as individual and corporate movement towards affordability. In turn, growth markets are only 10.1% away from pre-pandemic "normal" leasing velocity, whereas gateway markets are still 47.4% below 2019. This flow has been an overarching theme of the office market and national demographic shifts over the past decade.



Segmented by industry, tech continues to be the dominant driver of leasing activity. Over the course of 2021, 22.9% of all leasing has come from tech users and has not been limited to "Big Tech" companies, but also from mid- and smaller-sized users. In comparison, the second-largest sector, finance, represented 15.4% of year-to-date volumes. Law firms, defense, health, life sciences and government also contributed to at least 4% of leasing each; notably, the largest deal of 2021 came from AmLaw 100 firm Kirkland & Ellis at Salesforce

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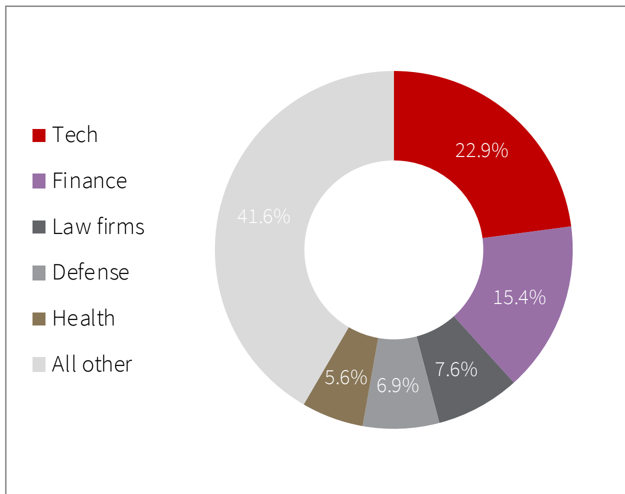
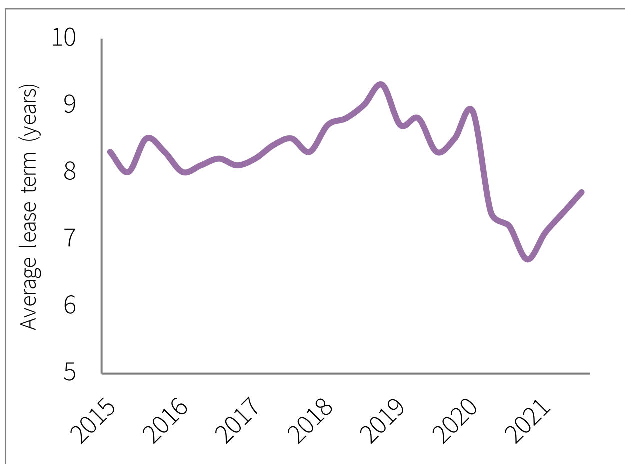
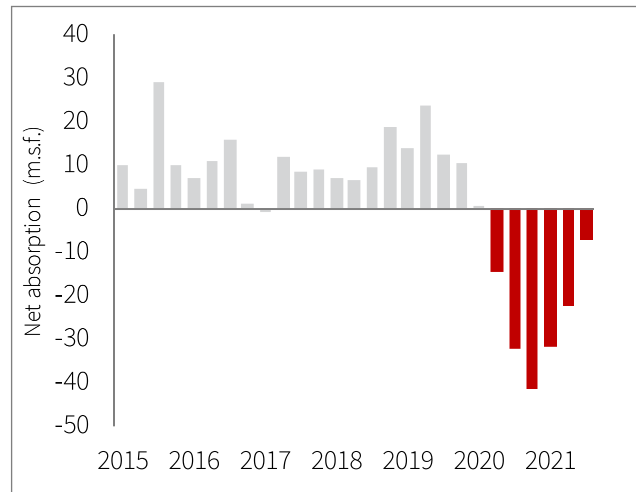
Tower in Chicago for 662,400 square feet. Two other companies – Anduril and Amazon – also took on at least 600,000 square feet of space in 2021.



Importantly, tenants are becoming more comfortable with longer-term leasing, albeit still below normal term lengths. After dropping to just 6.7 years by the end of 2020, the typical term length rose by 14.9% to 7.7 years in Q3 2021. Driving this change was 43% of leasing coming in the form of deals longer than 10 years, the first time since the onset of the pandemic that more than 40% of activity fell into this category.



Despite incremental improvements, the office market is still in correction mode. Net absorption was once again negative in the third quarter at -7.3 million square feet, but occupancy losses slowed for the third consecutive quarter. The market is likely to stabilize by the end of 2021 or early 2022, providing additional momentum for the recovery to begin in earnest.



At the regional level, most markets are still seeing year-to-date decreases in occupancy, although a few have re-entered positive territory. Atlanta, Austin, Miami, Salt Lake City, Silicon Valley and West Palm Beach all recorded net growth in Q3 2021, continuing a trend of faster rebounds in Sun Belt and western geographies. On the other hand, New York, San Francisco, Washington, DC and Los Angeles saw a combined 3.2 million square feet of outflows in the third quarter. The finalization of large-scale transactions and sustained demand from big tech users for space in core markets, however, will see this trend shift in the coming quarters.

As is the case with numerous economic and office indicators, absorption is not occurring in a unified fashion. Flight to quality, already a prominent theme even before the pandemic, is intensifying to

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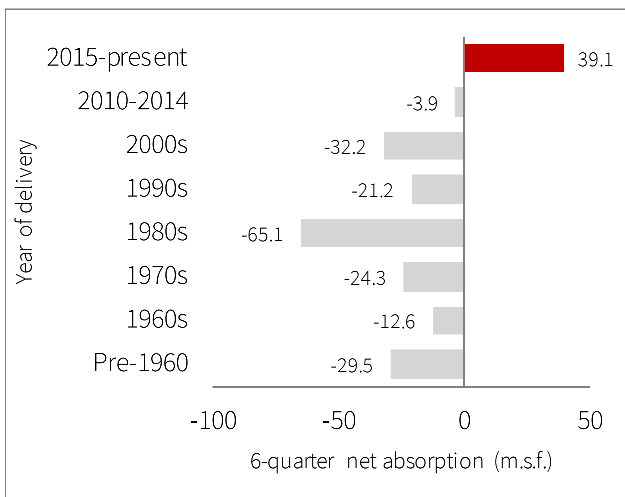
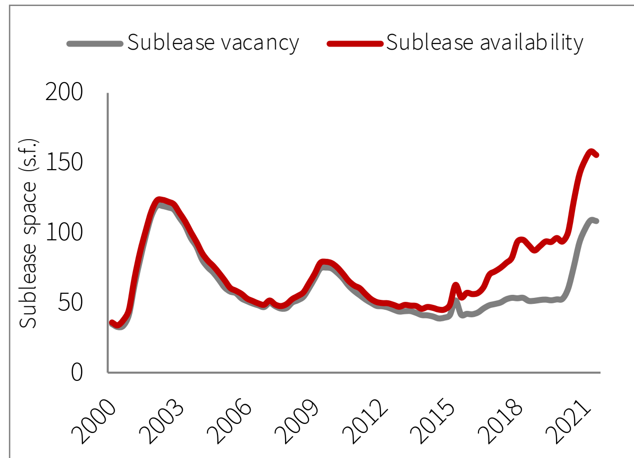
unprecedented levels. Over the past six quarters, the U.S. office market has seen negative net absorption of 149.5 million square feet, but this obscures 39.1 million square feet of net expansion in office buildings delivered since 2015. Tenant and employee preferences for buildings with amble flexibility for workspace arrangements, top-tier levels of amenitization and extensive in-building wellness features, further exacerbated by a robust supply pipeline, will create even greater divergence in asset performance based on age moving forward.



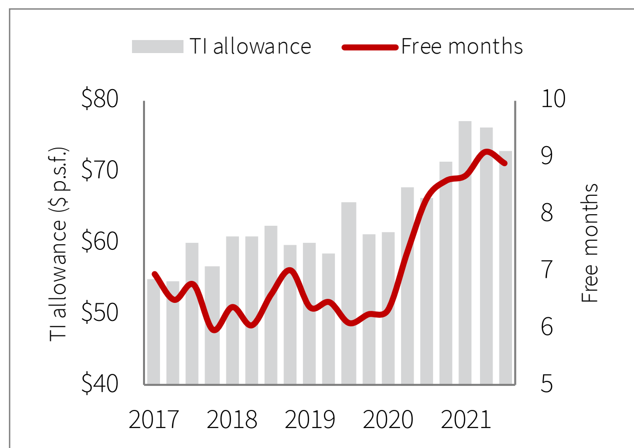
As a result of these rapid shifts in conditions, office vacancy nationally now stands at a new high of 19.4%. Largely contributing to this was a 64.3-million-square-foot surge in sublease availability from Q1 2020 to Q2 2021, when it peaked at 157.9 million square feet, or roughly 3.6% of inventory, a figure higher than the previous record set during the dot-com bubble two decades ago.

In Q3 2021, sublease reached an inflection point and contracted modestly by 1.6% as large-scale give-backs cooled and withdrawals of sublease blocks accelerated. Importantly, this is happening in the majority of markets, primary, secondary and tertiary alike. Although greatest in Sun Belt cities with higher levels of in-migration such as Nashville (-16.5), Miami



(-14.3%), Austin (-10.6%) and Atlanta (-3.7%), this contraction was also observed in Seattle (-10.7%), Boston (-4.8%), New York (-4.3%) and Los Angeles (-1.0%). Sublease is traditionally one of the best forward-looking barometers for tenant demand for office space.

From a pricing perspective, this is among the most tenant-favorable environments ever recorded. The extremely fast shift in occupancy combined with high levels of uncertainty regarding vaccine development and re-entry protocols in 2020 led to a 34% increase in concession packages. In top-tier product, these average $72 per square foot with 8.9 months free on a notional 10-year term.



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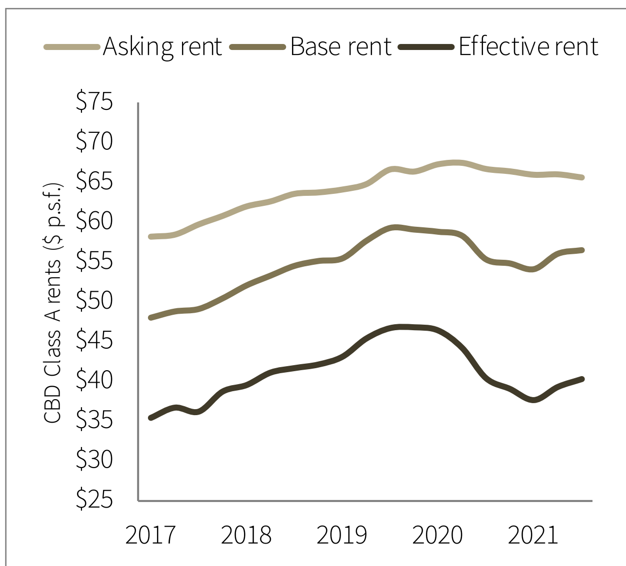
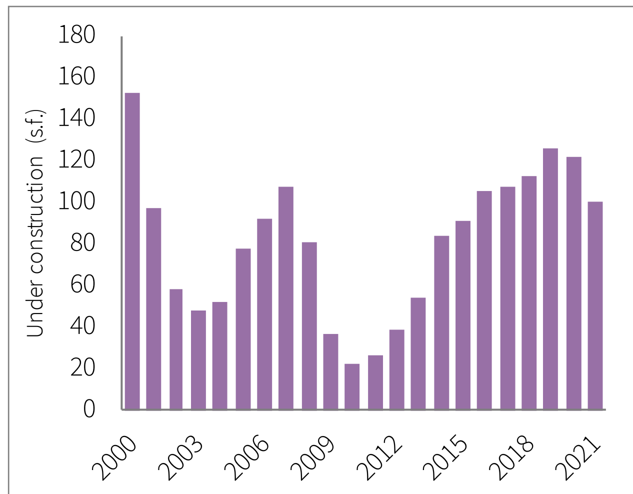
In turn, effective rents have experienced extreme volatility compared to historical norms. From Q1 2020 to Q1 2021, effective rents declined by 18.7% despite asking rents barely nudging at -2.2%. Since that trough, they have risen by 6.9%, but are still 13.8% below pre-pandemic peaks.

Similar to absorption, effective rent recovery will be widely divergent based on asset quality, location and industry clustering. New construction, thoughtfully repurposed second-generation product and life science, creative and other niche spaces will see an accelerated rebound in pricing, while commodity vintage without necessary capital investment will face a much longer recovery.



Finally, the development pipeline remains robust, albeit steadily cooling off. There is currently just over 100 million square feet of office space under construction nationally, falling from a peak of 126.1 million square feet in 2019. This comes after one of the largest development cycles on record, which fundamentally reshaped expectations for new construction in terms of quality, location and build-outs. While this will provide much-needed product to counter aging in many core geographies, it will also prolong a period of elevated vacancy that will likely need some level of out-of-office conversion to help with correction.



Construction is also concentrated geographically, mainly in gateway geographies and high-growth Sun Belt and western markets. Primary markets alone contain 49.3% of all product underway, while Atlanta, Austin, Dallas, Charlotte, Denver, Miami, Nashville, Phoenix and Raleigh are home to a further 21.8% of the pipeline. Outside of these metros, construction is relatively scant and mostly in the form of mid-sized build-to-suit or boutique spec development.

Heading into 2022, the office market will enter its next phase as a slew of high-profile companies begin physical re-occupancy. Federal and company-specific vaccine mandates will help to boost employee comfort with returning to in-person work, albeit with significant changes such as hybrid arrangement, greater emphasis on collaborative spaces and higher levels of flexibility. Just as the pandemic has shown companies that many functions can be done well from remote locations, so too has it underlined the importance of the office as a place for fostering innovation, productivity and corporate culture.

Source: JLL Research

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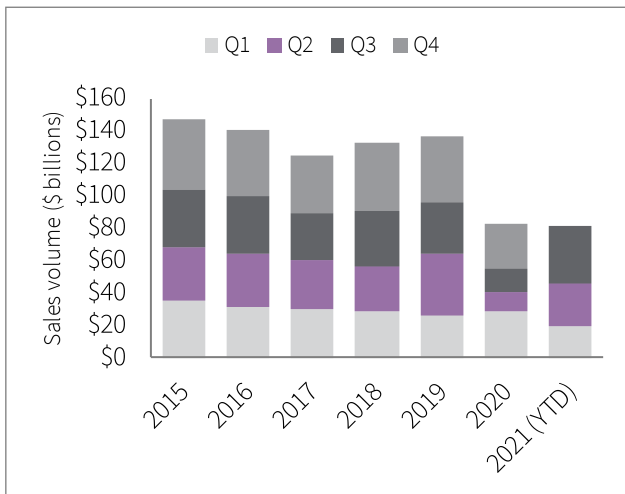
National sales overview

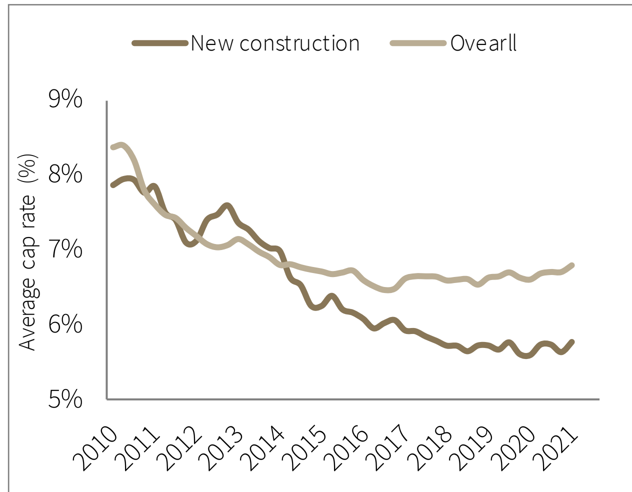
Like the leasing market, the office investment sales environment is showing consistent, albeit incremental, improvements in fundamentals over the course of 2021. Year-to-date, office sales have totaled $81.8 billion, nearly surpassing all activity in 2020 and up 48.7% year-over-year. This is still 14.4% below year-to-date 2019 levels, a much smaller gap than leasing volume. Comparatively, multi-family and industrial sales are 25.1% and 14.7% above YTD 2019 activity, indicating that office may be a better opportunistic play and potential overheating of non-office asset classes.



At the market level, the life sciences boom has pushed Boston far into the lead with $10.6 billion in sales over the past 12 months. In comparison, the three following markets – San Francisco, Seattle and New York – all recorded between $4.4 and $4.8 billion in sales over the same time period.

Like leasing, however, the Sun Belt and West are much closer to normal annualized volumes. While gateways on aggregate are 39.8% off from 2017-2019 average volumes, Miami is 12.6% above pre-pandemic sales activity, while Raleigh, Nashville, San Diego, Denver and Austin are less than 30% below normal. This shift in sentiment is placing consistent pressure on cap rates, which have fallen from 6.7% at the beginning of 2020 to 6.4% in Q3 2021. Still higher than the 5.9% average for gateways, investor appetite is likely to remain robust.

Just like tenants, investors are also flocking to new construction. The cap rate spread between the overall market and new product continued to widen over the course of the pandemic to 100 basis points (5.8% vs 6.8%). As pricing adjusts at the top end of the market, there will be increased interest in repositioned assets and value-add plays.



Other emergent trends in the investment landscape include a significant increase in value-add buyer pools, which have jumped by 13.8% in terms of bids received per transaction in 2021 compared to 2020. Additionally, buyers are placing greater emphasis on WALT for long-term stability and ensuring highly creditworthy tenant rosters. Fully occupied assets traditionally comprised 33-40% of annual sales, but are now roughly 42%-59% of quarterly deals in the post-COVID-onset era.

Moving forward, office sales will benefit from a reset in expectations, an injection of assets available for sale as developments deliver and more favorable pricing than non-office asset classes that prevailed during the pandemic.

Source: JLL Research

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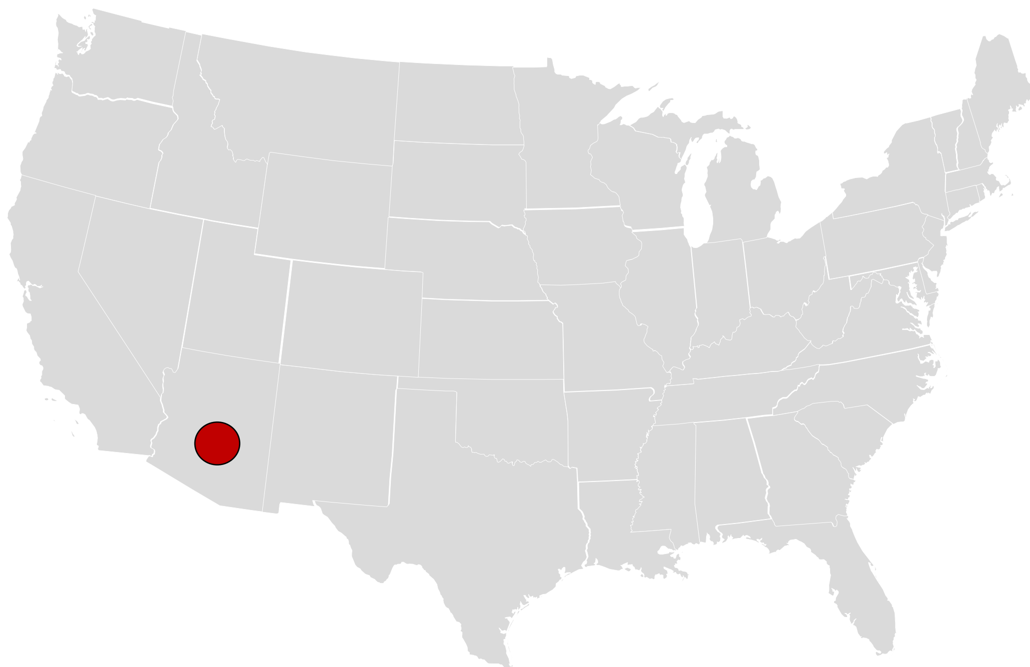
Market introduction (economy and demographics)

The capital of the state of Arizona, Phoenix is the 11th-largest metropolitan area in the United States, home to more than 4.8 million people. Buoyed by a low cost of living and warm climate, it has been one of the fastest-growing areas of the country in recent decades, more than doubling its metropolitan population since 1990.

Traditionally growing due to its status as a major retirement hub and mining outpost rather than business destination, more recent years have seen a sharp diversification of Phoenix's economy and demographic composition, becoming more educated, affluent, skilled and cosmopolitan in the process. Corporates have been attracted to its low office rents, often leading to a more than 50% discount in real estate prices, as well as lower salaries and labor costs.

As spillover and outflows from higher-cost coastal markets such as Los Angeles, San Francisco, San Diego, Chicago and New York have accelerated, so too has its rate of educational attainment, particularly for the prized science, technology, engineering and math (STEM) fields.

Phoenix is not without its challenges, however. The city's location in the Sonoran Desert places significant stress on critical utilities such as water supply, while rising temperatures will require additional climate-related adaptations. Similarly, rapid growth and few barriers to development have led to a highly sprawling urban form with minimal public transit or walkability outside of select neighborhoods until recently. The city has begun to tackle these challenges through large-scale investments in light rail, renewable energy and water conservation initiatives, which are already beginning to show returns. This will help to create a feedback loop for more sustainable growth.



Source: JLL Research

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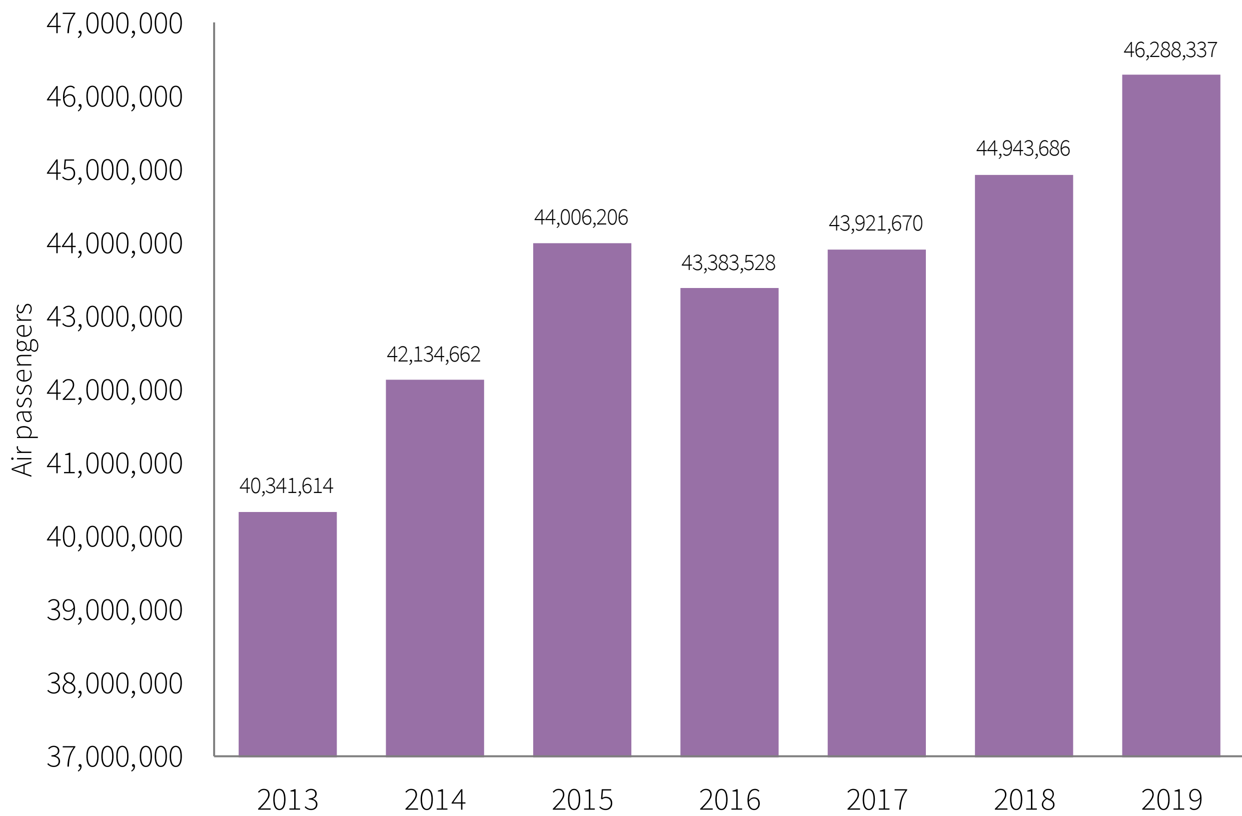
Access and connectivity

Phoenix is a major passenger and freight hub with extensive and growing domestic and hemispheric connectivity. In 2019, Phoenix Sky Harbor International Airport (PHX) recorded nearly 46.3 million travelers, a record high and up 9.9% over the past five years. This made it the 13th-busiest airport nationally. Provisional 2020 figures show that travel was more resilient during the pandemic than in many other hubs, dropping by 52.5% compared to the more than 60% declines in gateway geographies.

Phoenix benefits from being a hub for both a major legacy (American) and low-cost (Southwest) carrier, creating an extensive network of direct flights to primary, secondary and tertiary cities throughout the U.S. Proximity to Central America also means that Phoenix is easily accessible from cities such as Mexico City, Guadalajara, Monterey and Cancun in Mexico and San Jose in Costa Rica. British Airways and Air Canada also provide direct service to London, Toronto and Montreal, with additional flights by WestJet to Calgary, Edmonton and Vancouver, among other Canadian destinations.

Over the longer-term, PHX will be expanded through modernization of existing infrastructure at Terminal 3 as well as a new concourse at Terminal 4 and expansion of the automated people mover, aimed at catering for a projected 55% increase in passengers and 88% rise in cargo throughput through 2037.



Source: JLL Research, FAA

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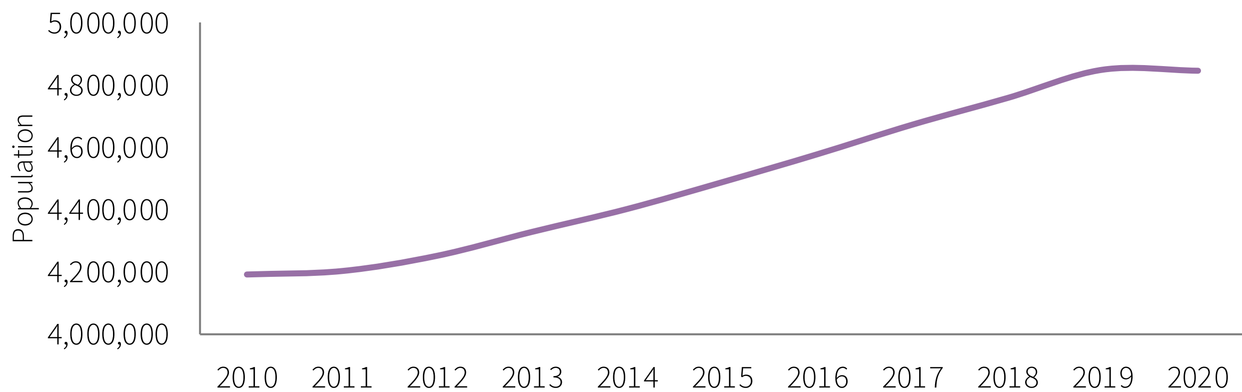
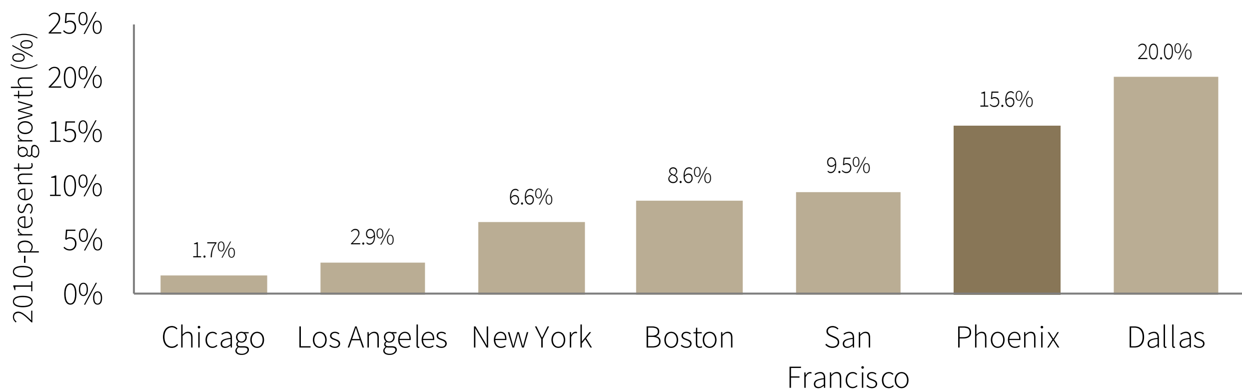
Population growth and demographics

Due to its relatively low cost of living and climate, Phoenix continues to be one of the fastest-growing major metro areas nationally. Since 2010, the region's population has grown by 15.6% to 4.8 million people, surpassing Seattle and Detroit and on the verge of overtaking Boston. In turn, this places Phoenix eighth among metropolitan areas with more than 2 million residents in terms of growth over that time period.

Driving these gains has been a combination of both the traditional retiree segment as well as outflows of younger talent from high-cost markets in search of more affordable housing and lower tax rates, among other reasons. Phoenix's 20-34-year-old population segment rose by a strong 16.6% from 2010 to 2020, in line with broader socio-economic diversification regionally and outperforming the local market as a whole.

Domestic migration has also been highly favorable and among the highest in the country: net inflows from other parts of the country over the past decade have totaled 398,715 people. Phoenix is also a rising location for international migration, recording 106,785 new foreign-born residents in the same time period. The continued expansion of major corporate users – particularly back-office tech, finance and professional services – and abundant housing will keep these trends in place in the coming years.





Source: JLL Research, U.S. Census Bureau

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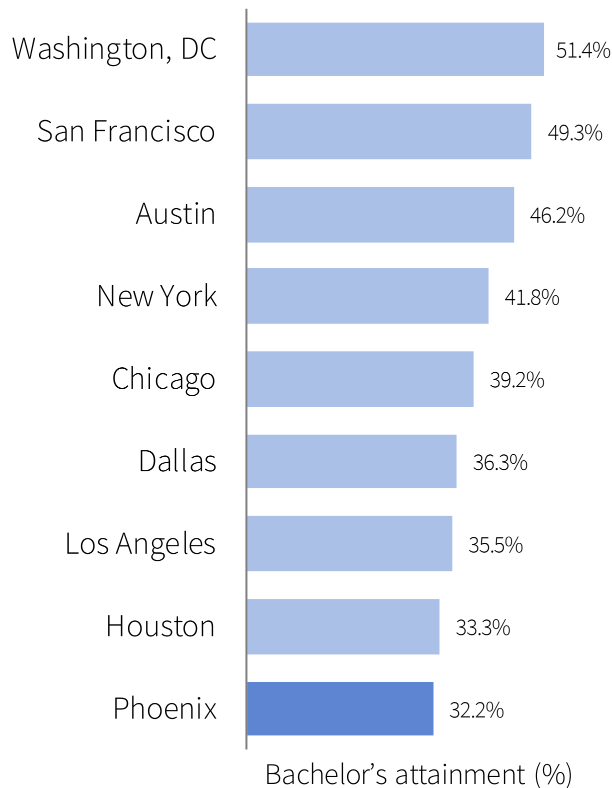
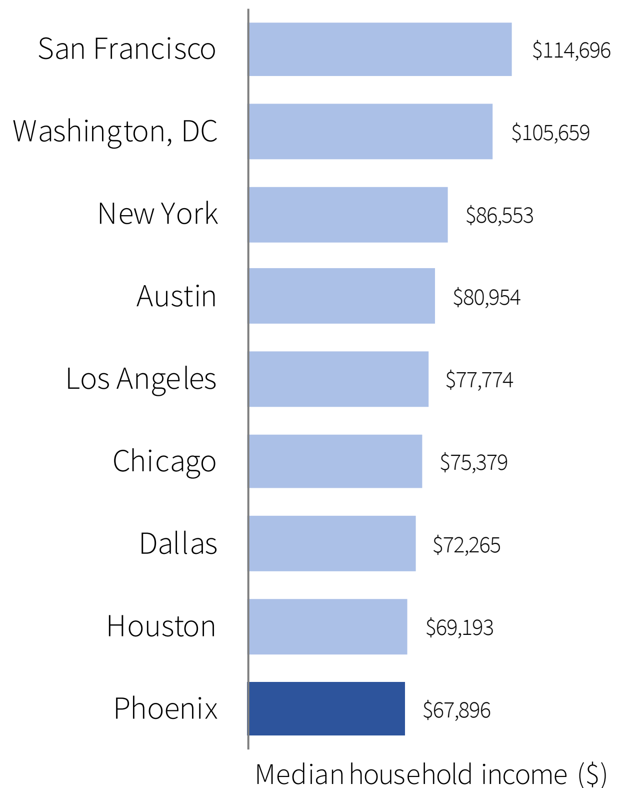
Education and income

Like many secondary markets in the Sun Belt, Phoenix's advantages in terms of cost living and doing business have been hampered by a relatively small skilled talent pool. Over the past decade, this has begun to change, with an increase of more than 342,900 residents with a bachelor's or master's degree, or an increase of 46.9%. This is more than triple the rate of overall population growth.

Although Phoenix's bachelor's degree attainment rate of 32.2% still lags gateway markets (with the notable exception of Los Angeles) considerably. Despite this, it is only marginally lower than corporate growth hubs such as Dallas and Houston, with 36.3% and 33.3% of residents over 25 having a bachelor's degree, respectively.

Similarly, household incomes in Phoenix tend to be lower than gateway markets as well as peer geographies, but this is offset with lower home prices. Lower compensation is routinely cited by major companies as a key consideration for satellite expansion in the market. Whereas a software developer in Silicon Valley, for instance, has an average salary of $157,480, a similar position in Phoenix asks $105,270 per year, a 33.2% reduction. In an environment increasingly dominated by labor shortages and rapidly increasing labor costs, this is a significant advantage for employers.





Source: JLL Research

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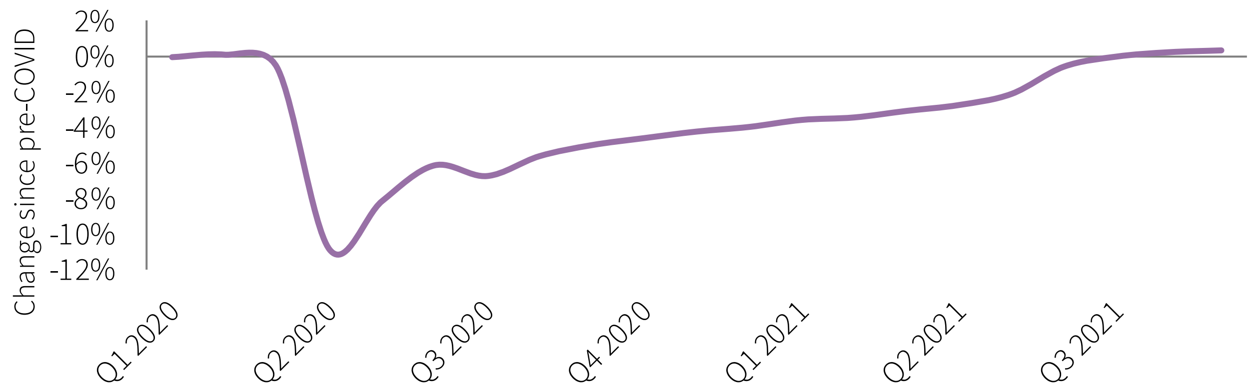
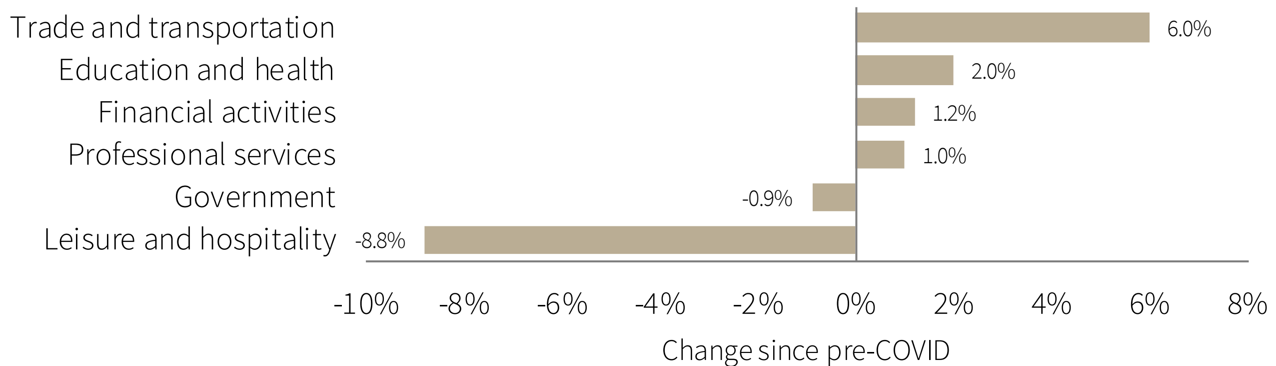
Employment growth

Phoenix is one of the first major metro areas in the United States to exceed pre-pandemic employment levels, finally surpassing its February 2020 totals in August 2021. After seeing a pandemic-induced decline in regional employment of 10.9% by April 2020, total employment in Phoenix is now 0.4% higher than it was before the onset of COVID-19.

Compared to the United States as a whole, this represents both a lower trough and a faster recovery: national employment fell by 14.5% from January to April of 2020 and is still 3.1% away from a full recovery. Driving this divergence is Phoenix's lower reliance on international travel, live events and other in-person sectors of the economy combined with fewer COVID-19 restrictions than many other states.

From an industry perspective, most key sectors are near, at or above pre-pandemic levels. The main exception, as is the case throughout the country, is leisure and hospitality, which is still 8.8% below normal. Labor shortages and structural shifts in this sector will make a full recovery take much longer, while gains in trade, transportation, finance, health and professional services will be aided by sustained inbound migration and improved comfortability by the majority of the population with travel and other in-person activities.





Source: JLL Research, Bureau of Labor Statistics

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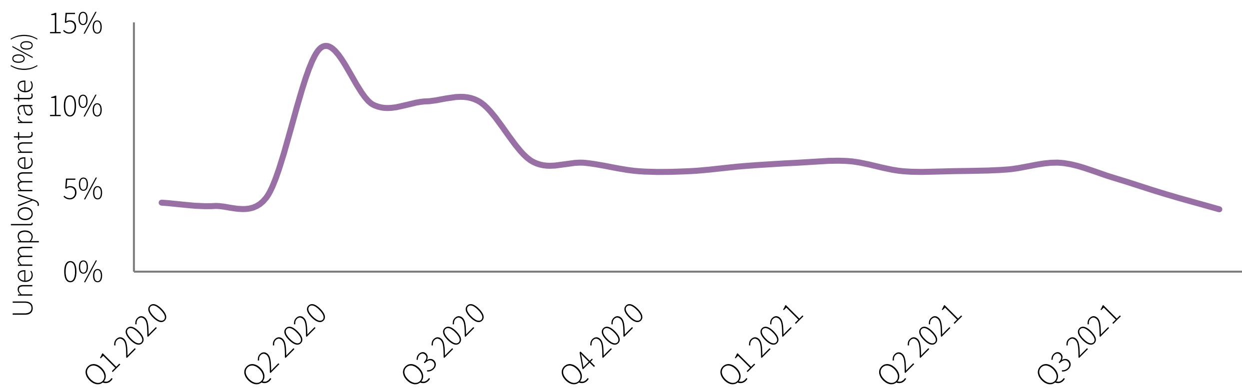
Unemployment

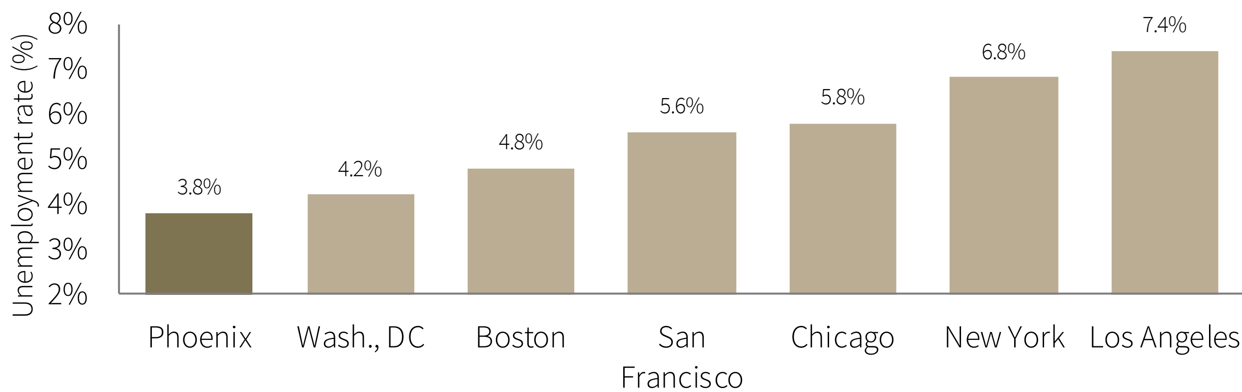
Just as Phoenix's overall employment is now above pre-pandemic levels, the region's unemployment rate of 3.8% is now on par with late 2019 and early 2020 levels. This comes after the pandemic saw unemployment in Phoenix spike to a high of 13.5%, roughly 130 basis points below the national peak of 14.8% recorded in April 2020.

This rate is also significantly lower than gateway markets – most notably Los Angeles at 7.4% - and similar to peer secondary geographies. Other primary metro areas such as New York, Chicago and San Francisco remain above 5% in terms of unemployment and significantly above the national average of 4.8%.

Unemployment is being pushed down faster than employment growth as labor shortages kick into gear and a large swath of the workforce both nationally and regionally has either temporarily or permanently left the workforce.

Over the course of the current recovery, employment has grown 36.3% faster than the expansion of the regional civilian labor force. This will place significant pressure on employers with respect to compensation and benefits to remain attractive in a war for talent. This will be the case across skill levels, but particularly apparent in areas such as leisure and hospitality.





Source: JLL Research, Bureau of Labor Statistics

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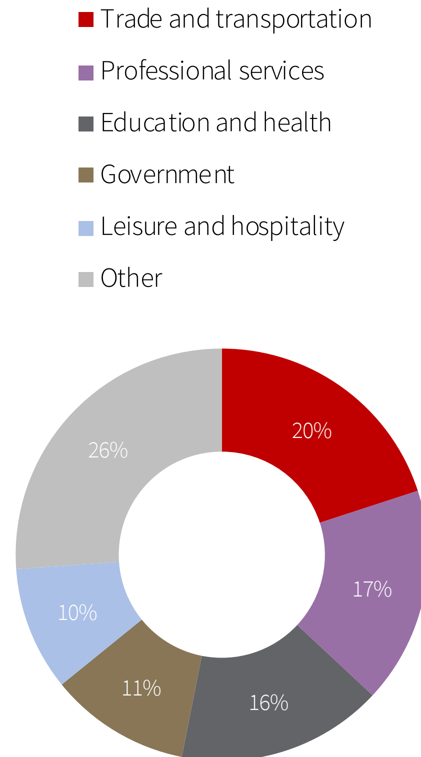
Economic diversity

Phoenix's local economy is highly diversified, with particular focus on tourism, health and back-office professional and financial services activities, the latter of which is being bolstered by tech (notably data processing and hosting) and operations being moved out of higher-cost markets. Moody's most recent scoring of economic vitality placed Phoenix 18th among all 403 metro areas nationally, with a relative score of 83% and noting only modest volatility relative to the U.S. as a whole.

Underlining this remains the dominance of major health systems in terms of overall employment: Banner Health and HonorHealth combined employ 58,147 people in the metropolitan area. From a corporate perspective, however, financial institutions such as Wells Fargo, Bank of America and JPMorgan Chase all have more than 10,000 people in recently established hubs throughout the market, with further expansion from companies such as State Farm, American Express and Freedom Financial in recent years.

On the tech side, domain hosting company GoDaddy has become a breakout user of office space. This presence is helping to bolster other tech firms' expansion into Phoenix. Large educational institutions such as Arizona State University are also driving sustained office demand and younger population attraction.

Employers	Employed
Banner Health	45,984
Walmart	33,619
Fry's	20,165
Wells Fargo	16,700
Arizona State University	14,889
HonorHealth	12,163
Intel	10,400
Bank of America	10,000
JPMorgan Chase	10,000
Freeport-McMoRan	9,300



Source: JLL Research, Bureau of Labor Statistics, Moody's

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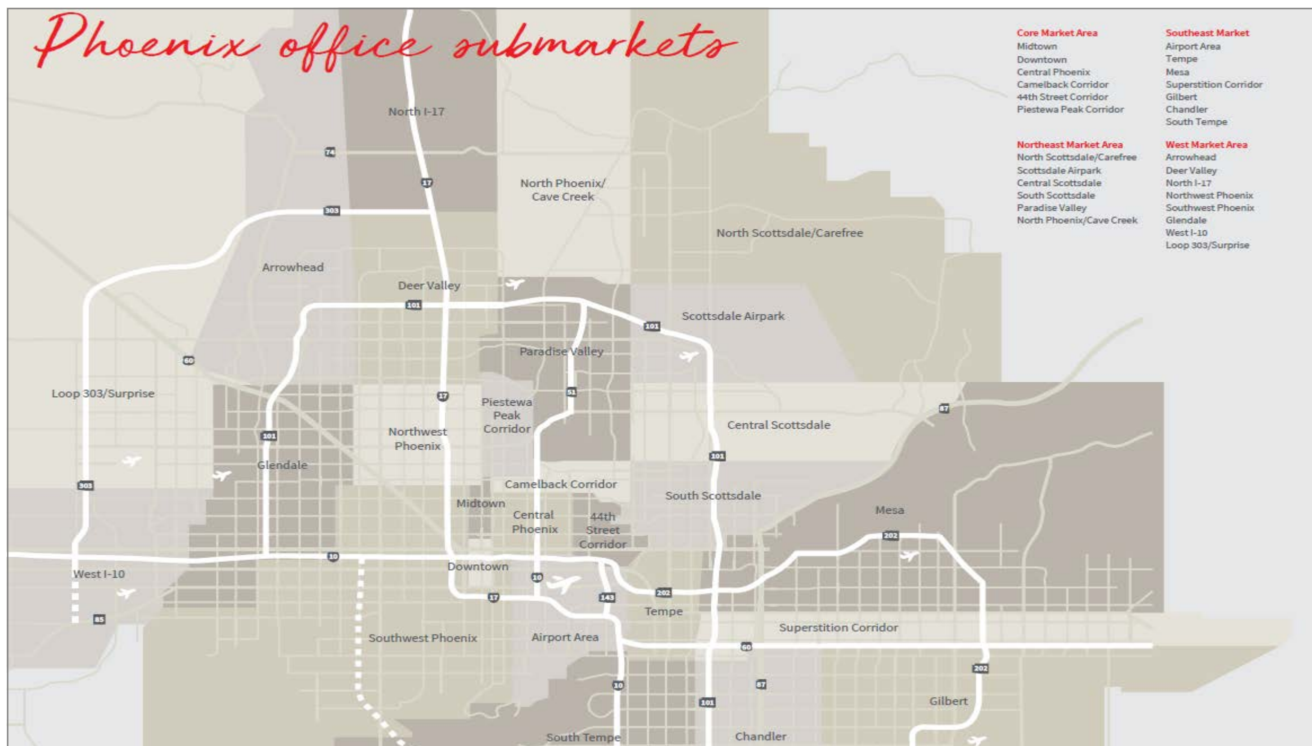
Market introduction (office)

Phoenix is one of the larger mid-sized office markets in the United States. Comprising just over 97 million square feet of space, it is comparable in size to Denver (117.9 million square feet), Seattle (99.4 million square feet) and Orange County (96.3 million square feet), all three of which have also benefitted from the diversification of office investment and growth in skilled employment sectors such as tech, media, engineering and professional services.

Phoenix is highly dispersed and polycentric compared to many of the United States' more established and larger office markets, most similar to Los Angeles, Dallas and Houston than other primary geographies. Its traditional Downtown represents only 16.9% of regional office inventory, with satellite subs focused but not exclusively found along the eastern range of the metro area in clusters such as Tempe, Scottsdale, Chandler, Mesa and the Camelback Corridor, among others.

Connecting these hubs is an extensive highway and arterial roadway network, leading to widespread car dependence. Increasingly, Phoenix has invested in light rail to tackle rising congestion and climate change. Since its opening in 2008, the Valley Metro light rail network has expanded to 38 stations along 28 miles of track, providing a key connection between the inner northern suburbs, Downtown Phoenix, Sky Harbor Airport, Tempe and Mesa and spurring large-scale mixed-use development along its route. Future extensions under construction and in the planning phases could lead to a doubling of the size of the system.

The shift to more walkable, amenitized and climate-centric development will reshape the Phoenix office market in the coming years, making it even more competitive and attractive as it rides a wave of in-migration and search for affordability from individuals and corporations alike.



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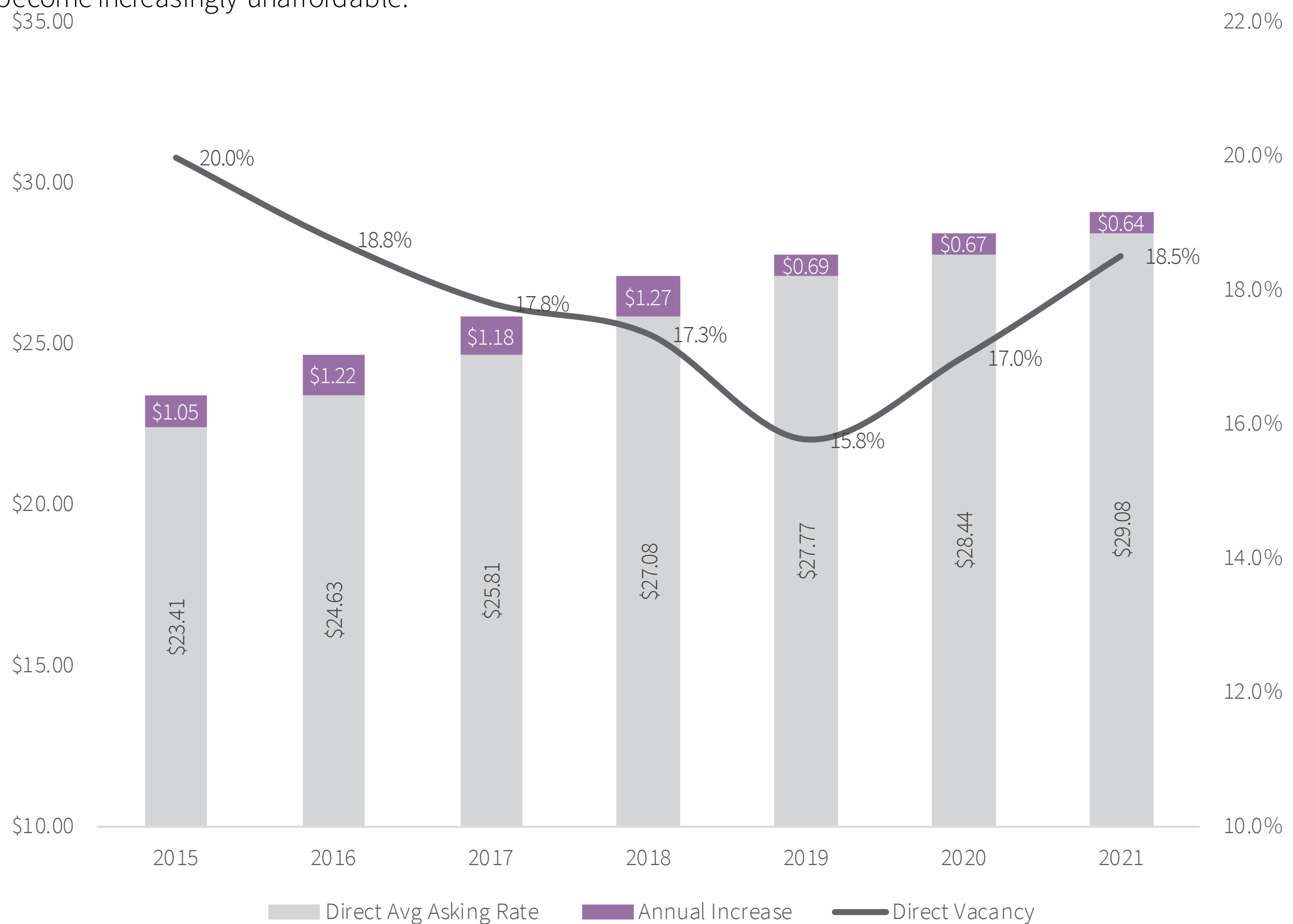
Metro Phoenix poised to become a major player in semiconductor industry

The fundamentals of a business-friendly environment, along with a diverse workforce, continue to stir interest in Phoenix as one of the nation's most attractive metro areas to relocate and expand. This is evidenced by a recent increase in out-of-state companies looking at Phoenix as a long-term investment to take advantage of the lower costs of doing business and a rapidly growing talent pool.

Despite being one of the largest metropolitan areas in the country, Phoenix has only recently gained recognition as one of the top secondary markets for tech companies. With low costs of living and doing business, companies from across the country have chosen to relocate or expand into the Valley of the Sun, especially as large tech markets on the coasts become increasingly unaffordable.

The Greater Phoenix metro is poised to become a major player in America's semiconductor manufacturing industry, thanks to a large existing cluster of industry-leading firms, such as Intel who recently announced a $20 billion expansion along with new companies like Taiwan Semiconductor Manufacturing Co.'s, which has invested over $12 billion to enter the Phoenix market.

The direct average asking rate for office space has increased year-over-year for the past seven years. In recent months, landlords have opted to adjust concessions rather than asking rates, with more willingness to provide relief for credit-worthy tenants. Rents for new product is likely to keep rent levels elevated.



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Phoenix Biomedical Campus

A partnership between Northern Arizona University and the University of Arizona, the Phoenix Biomedical Campus (PBC) is a 30-acre medical and bioscience campus located in the Phoenix metropolitan area.

At full build-out, the Phoenix Biomedical Campus is anticipated to generate an economic impact of $2.1 billion annually.

This innovative campus – anchored by leading institutions of higher education – will help diversify the Phoenix economy and provide growth potential within one of the hottest segments of the economy.

Source: JLL Research

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Office statistics by submarket

	Inventory (s.f.)	YTD net absorption (s.f.)	YTD net absorption (% of inv.)	Total vacancy (%)	Direct asking rent ($ p.s.f.)	YTD deliveries (s.f.)	Under const. (s.f.)
Downtown	7,538,734	-553,555	-7.3%	25.6%	$33.72	227,113	0
Midtown	8,811,739	-60,022	-0.7%	24.0%	$24.15	0	0
CBD	16,350,473	-613,577	-3.8%	24.7%	$28.73	227,113	0
Central Scottsdale	5,220,392	-133,436	-2.6%	16.5%	$28.84	0	100,000
North Scottsdale	246,019	38,153	15.5%	12.6%	$27.07	0	0
Paradise Valley	1,796,559	37,446	2.1%	10.1%	$29.06	0	0
Scottsdale Airpark	9,026,045	212,684	2.1%	19.0%	$31.57	635,111	150,000
South Scottsdale	4,653,846	-241,489	-5.2%	19.8%	$36.07	0	244,998
Northeast Market Area	20,942,861	-86,642	-0.5%	17.7%	$31.78	635,111	494,998
44th Street Corridor	2,457,726	-50,911	-2.1%	22.2%	$27.53	0	0
Camelback Corridor	7,362,360	-95,297	-1.3%	22.8%	$36.09	0	263,766
Central Phoenix	1,309,852	16,803	1.3%	7.5%	$19.32	0	0
Piestewa Peak Corridor	1,790,555	21,841	1.2%	18.3%	$23.89	0	0
Outer Core Market Area	12,920,493	-107,564	-0.8%	20.5%	$32.65	0	263,766
Airport Area	8,206,706	-228,179	-2.8%	24.8%	$24.16	0	0
Chandler	7,158,466	-20,988	-0.3%	23.6%	$30.06	420,000	0
Gilbert	371,476	8,557	2.3%	6.6%	$23.00	0	0
Mesa	717,467	164,459	22.9%	17.4%	$32.83	238,349	0
South Tempe	4,647,786	-210,532	-4.5%	21.1%	$26.11	0	0
Superstition Corridor	2,318,031	-24,483	-1.1%	15.4%	$21.82	0	0
Tempe	9,492,420	-4,893	-0.1%	16.3%	$34.35	93,125	470,526
Southeast Market Area	32,912,352	-316,059	-1.0%	20.5%	$28.65	751,474	470,526
Arrowhead	582,181	-13,999	-2.4%	12.9%	$26.84	0	0
Deer Valley	6,676,957	-55,084	-0.8%	25.2%	$25.69	144,000	0
Glendale	814,413	-47,083	-5.8%	17.2%	$26.73	0	0
Loop 303/Surprise	201,084	10,772	5.4%	17.3%	$27.09	0	0
North I-17	65,218	0	0.0%	100.0%	$25.33	0	0
Northwest Phoenix	4,853,463	-17,112	-0.4%	27.3%	$20.95	0	0
Southwest Phoenix	417,615	-28,970	-6.9%	41.3%	$27.82	0	0
West I-10	269,828	6,084	2.3%	11.1%	$26.77	0	228,628
West Market Area	13,880,759	-145,392	-1.0%	25.4%	$23.61	144,000	228,628
Phoenix	97,006,938	-1,269,234	-1.3%	21.3%	$29.08	1,757,698	1,457,918

Source: JLL Research

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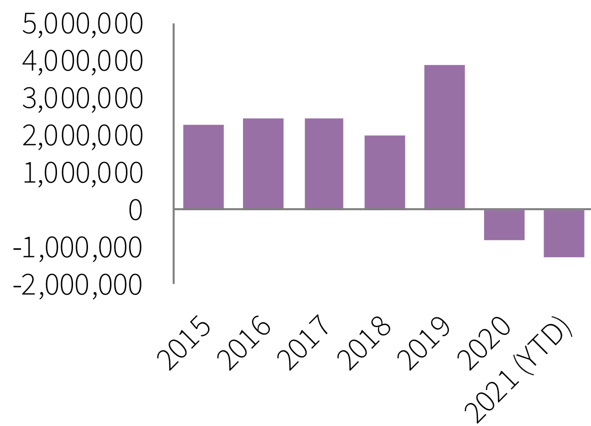
Key performance indicators (Phoenix)

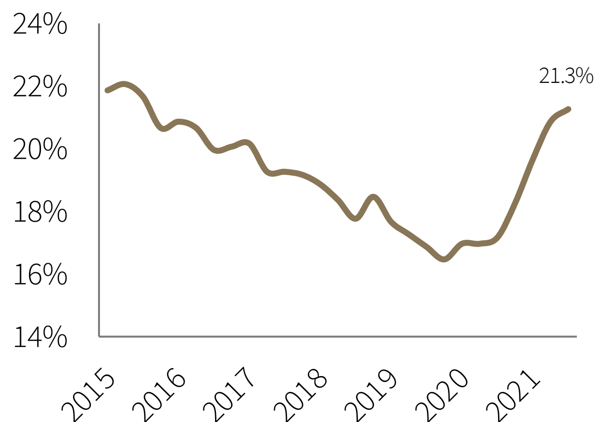
Net absorption

Before the onset of COVID-19, Phoenix registered 13.1 million square feet of occupancy growth from 2015 through 2019; since then, pandemic-related negative net absorption has totaled -2.1 million square feet. At 2.5% of inventory, this drop is much lower than the 3.4% seen across the United States, indicating a greater level of resilience and more acute rebound.



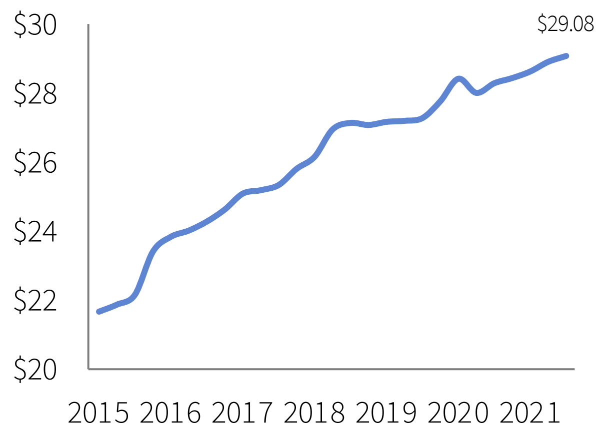
Vacancy

Unlike many other markets, Phoenix's pandemic-induced move-outs have not brought vacancy above pre-pandemic highs, in part due to a slower recovery from the financial crisis and more subdued development pipeline. After falling from a peak of 22.1% in 2015 to 16.5% in 2019, vacancy spiked to 21.3% by Q3 2021. Although it will rise further, vacancy is likely to top out around 2015 levels rather than sharply exceed it.



Rent

Asking rent growth has remained consistent throughout 2020 and into 2021 despite large-scale headwinds surrounding the office sector, instead being offset modestly by elevated concession packages. Since the onset of the pandemic, asking rents are up 2.3% across Phoenix to a new high of $29.08 per square foot, slightly lower than the 3.7% seen nationally. The delivery of top-tier new blocks of space will place additional upward pressure on rents through 2022.



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Largest tenants (Phoenix)

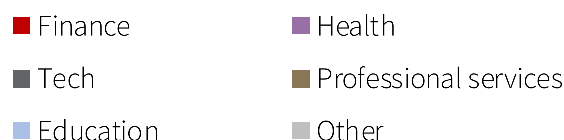
Phoenix's economic diversity is mirrored in the industry composition of office utilization. The largest sector by occupancy – finance – represents just 26.7% of all occupied space, while just under 60% of occupancy comes from the top five largest industries. Health, tech, professional services and education round out the region's largest users of office space.

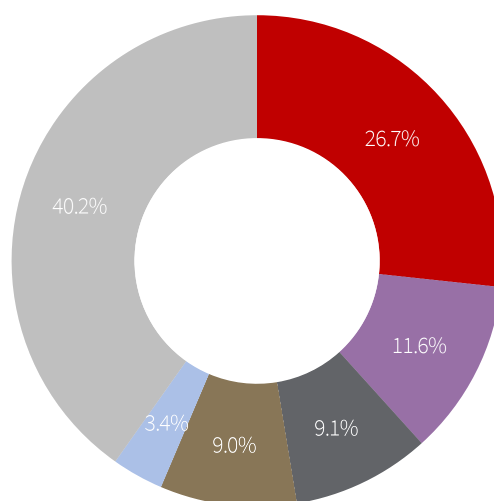
At the company level, major financial and institutional tenants such as Wells Fargo, USAA and Vanguard are well represented, while city and state governments have an outsized presence given Phoenix's status as the capital of Arizona.

Alongside these high-profile names, corporations including American Express, Discover, Freedom Financial, Charles Schwab, JPMorgan Chase and Bank of America all have established presences in Phoenix due to the metro area's strengths in payment processing, operations, financial technology and payroll support.

With the exception of Carvana, however, there are no tech users with more than 500,000 square feet of space in the market as of yet, speaking to the growth of mid-sized tenancies and ad-hoc expansion plans. DoorDash, Intel, Amazon, PayPal, GoDaddy and Indeed all have between 100,000 and 400,000 square feet of space, with additional tenants to join them as Phoenix becomes increasingly attractive as a secondary tech hub.

Tenant	Size (s.f.)
Wells Fargo	1,370,029
Banner Health	1,345,308
City of Phoenix	1,191,397
USAA	1,052,544
Arizona DoA	706,443
Vanguard	626,519
University of Phoenix	617,254
McKesson	571,659
Boeing	550,000
Carvana	511,954





Source: JLL Research

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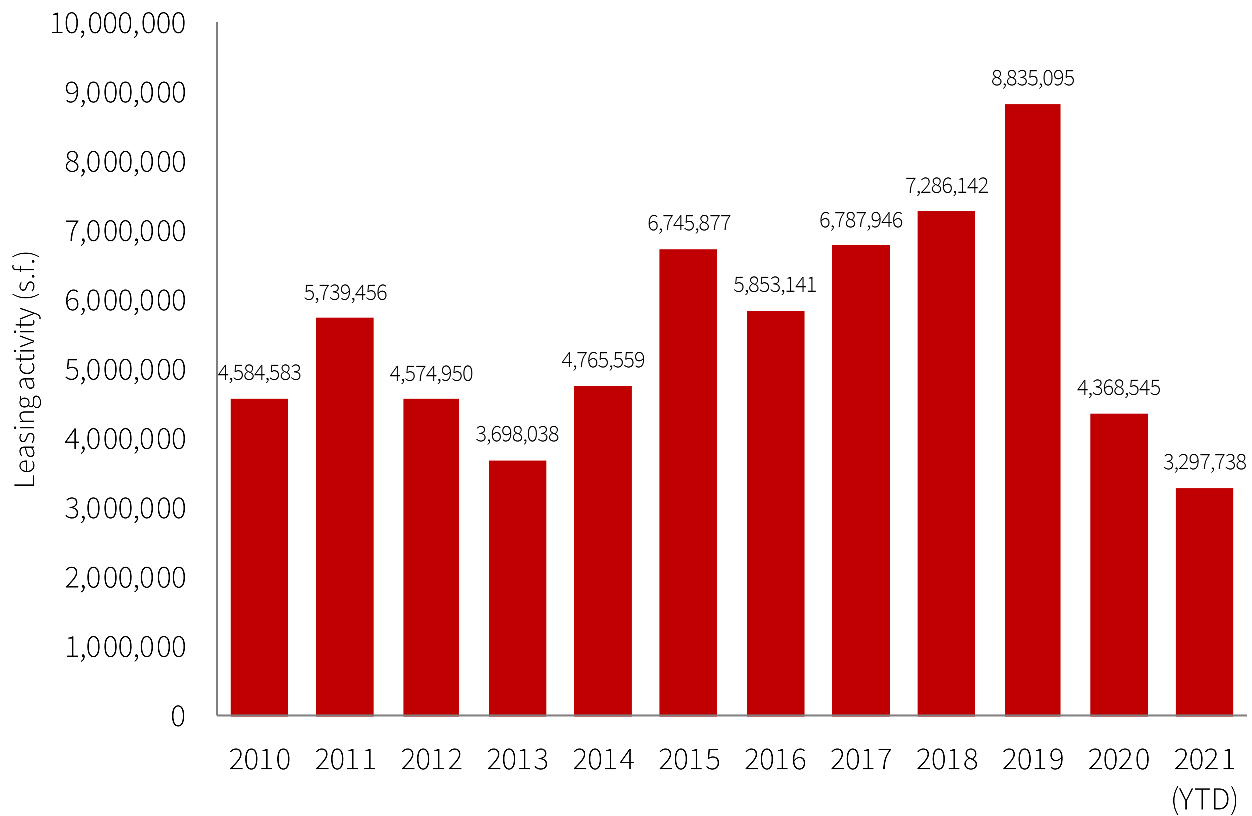
Leasing activity (Phoenix)

After averaging 5.9 million square feet per year from 2010 through 2019, leasing activity in Phoenix slowed by 25.8% in 2020 to 4.4 million square feet and a similar annualized rate in 2021. As with other economic and real estate indicators for Phoenix, this represented a shallower contraction than the U.S. as a whole, a sign of the market's underlying diversity and fundamentals.

Since the onset of COVID-19, Phoenix has recorded 6.1 million square feet of leasing. Of this activity, 63% came in the form of new leases, with 27% being renewals, 7% expansion and the remainder relocations or blend-and-extend deals. This level of new activity is much higher than the national average, indicative of high rates of inbound movement and organic expansion.

Geographically, three submarkets – Tempe, Downtown and the Camelback Corridor – have been responsible for one-third of all pandemic leasing activity, driven by financial, professional services, health and tech users. Wells Fargo's 214,303-square-foot renewal was the largest since the onset of COVID-19, while The Grove at 4300 E Camelback Road saw three pre-leases from Banner Health, Sendoso and JPMorgan Chase. Additionally, deals from Carvana and Peloton further emphasized sustained demand from high-growth occupiers in Tempe.



Source: JLL Research

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Notable recent leases (Phoenix)

	Wells Fargo	Banner Health	Sendoso
Address	1150 W Washington	4300 E Camelback	4300 E Camelback
Submarket	Tempe	Camelback Corridor	Camelback Corridor
Size (s.f.)	214,303	70,000	60,000
Year 1 rent ($ p.s.f.)	$31.00 FSG	$31.50 FSG	$46.00 FSG
Term (months)	44	120	132
Lease type	Renewal	New lease	New lease
Industry	Finance	Health	Tech

	Western Alliance	Carvana	Peloton
Address	101 E Washington	1621 W Rio Salado	615 S River Dr
Submarket	Downtown	Tempe	Tempe
Size (s.f.)	57,691	51,789	46,371
Year 1 rent ($ p.s.f.)	$37.50 FSG	$19.50 NNN	$25.50 FSG
Term (months)	103	-	30
Lease type	Expansion	New lease	Renewal
Industry	Finance	Tech	Consumer goods

Source: JLL Research

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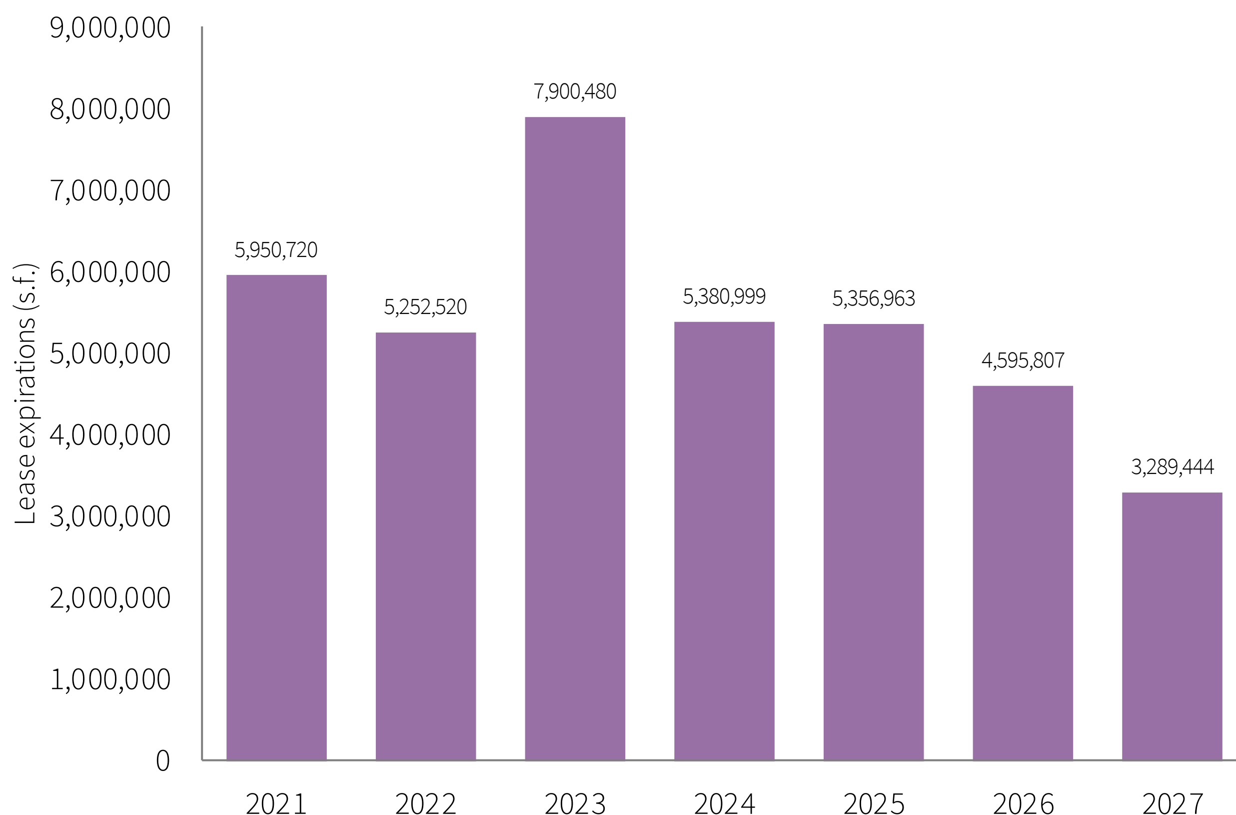
Lease expirations (Metro Phoenix)

The Metro Phoenix office market is poised to experience nearly 38 million square feet of lease expirations by 2027 with over 20% of those occurring in 2023. The finance, insurance and real estate (FIRE) sectors account for 21% of the total square feet

With one of the largest footprints in the Valley, Banner Health has nearly 800,000 square feet of space expiring over the next six/seven years. However, this is of little concern due to Banner's continued growth year over year.

Regus, one of the first co-working companies in Phoenix currently occupies over 345,000 square feet set to roll over in the coming years. What Regus decides to do, could influence other co-working companies such as WeWork who currently occupies over 250,000 square feet.

Accounting for more than 11% of the expirations, the airport area will be hit the hardest with such tenants as University of Phoenix vacating over 450,000 square feet, without plans to renew.



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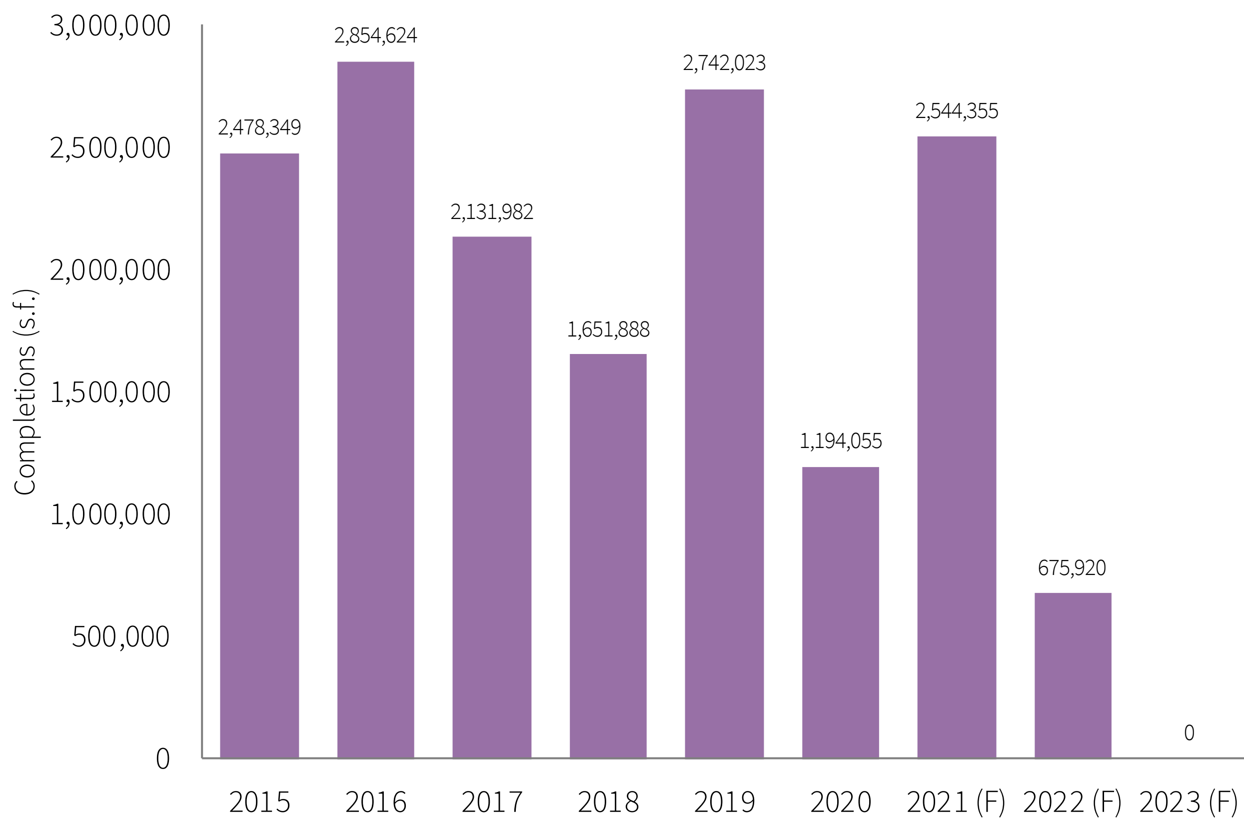
Development pipeline (Phoenix)

Since 2015, more than 14.8 million square feet of new supply has hit the Phoenix office market, with a further 1.5 million square feet currently under construction or renovation, all of which will be delivered by the end of 2022. This pullback in construction volumes, predominately the result of COVID-19 but also that of a general slowdown in new speculative developments, will help to balance market conditions moving forward.

The development pipeline remains focused in Scottsdale (494,998 square feet) and Tempe (470,526 square feet), with the remainder found in the Camelback Corridor and the West-10 Corridor. In contrast, 34.7% of all new construction since 2015 has been in Tempe, the dominant development hub by a wide margin more broadly this cycle. This is clearly evidenced by the success of Cousins Properties and Hines' 100 S Mill Avenue in Tempe, which has been pre-leased by Amazon, Deloitte and Neudesic. Nearby, WageWorks is now occupying the majority of The Union in Mesa.

Of properties under the construction, the largest is the office component of the mixed-use Scottsdale Entrada development, where all 248,006 square feet remain available. Similarly, the Beam on Farmer, which will deliver 183,526 square feet of new space to Tempe, has also yet to secure an anchor tenant, providing needed options in the tight submarket.



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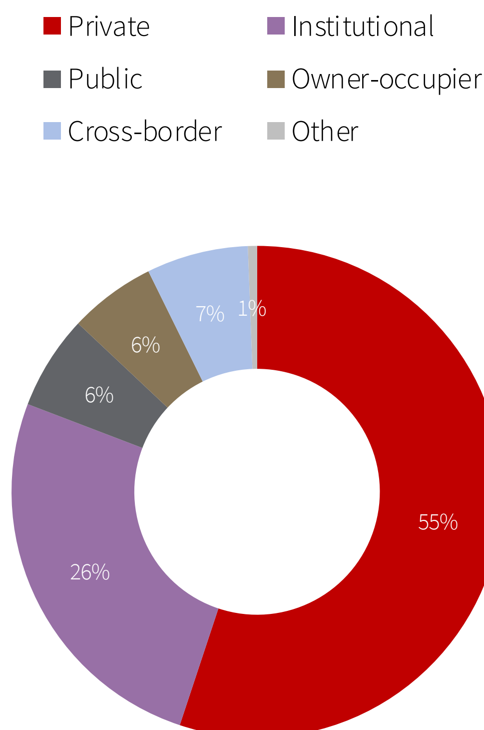
Ownership composition (Phoenix)

The majority of the Phoenix office market is held by local or West Coast-based private investors, developers and operators, but the market has long maintained a sizable institutional presence. Institutional ownership of the Phoenix office market saw flux during the past cycle, peaking at around 32.0 percent of the market in 2015, but sell-side activity among institutional landlords in recent years has driven down that share. Still, institutional groups have largely targeted increased allocations to secondary markets, particularly those in the Southeast and Sun Belt with strong demographics, so institutional appetite for Phoenix office remains healthy.

Cross-border groups actively expanded their holdings in Phoenix during the past cycle, rising from 5.3% ownership of the market in 2010 to 6.7% currently. While Canada comprises the majority of cross-border ownership in Phoenix, there has been acquisition activity from all major global regions in the past decade.

The share of owner-occupied product in Phoenix mirrors the overall U.S. office market, as Phoenix remains a predominantly secondary location for corporate occupiers as opposed to a headquarters location.

Owner	Owned (s.f.)
Wells Fargo	2,181,305
American Express	2,089,000
Transwestern	2,079,000
LBA Realty	1,964,813
ViaWest Group	1,926,367
Oaktree Capital Management	1,799,673
Douglas Allred Company	1,775,311
Cousins Properties	1,563,663
Harvard Investments	1,560,000
Lincoln Property Company	1,415,495



Source: JLL Research, Real Capital Analytics

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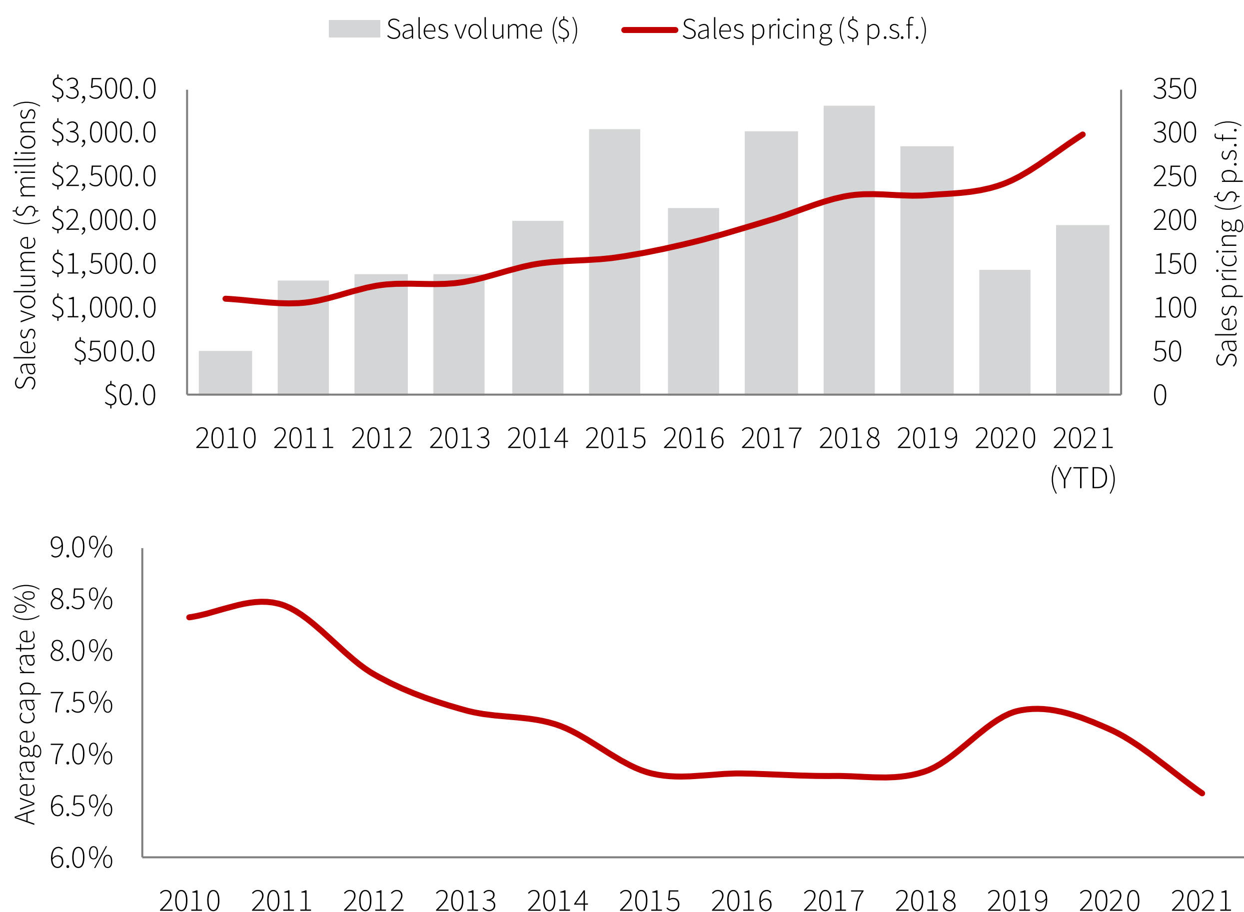
Sales volume, pricing and cap rates (Phoenix)

Despite boasting among the nation's strongest demographics, Phoenix has slightly underperformed the U.S. average for transaction volume since the pandemic began, falling by about 43 percent relative to pre-COVID averages on an annualized basis, but there has been positive momentum in 2021 year-to-date. Phoenix has benefitted from an influx of new entrants and groups seeking to gain exposure, as part of a broader investment thesis targeting marketing with strong demographic momentum. One way this has manifested is in strong large-scale liquidity: five single-asset transactions in Phoenix above $100.0 million have closed in the past 12 months, compared to just seven transactions larger than $100.0 million closing from 2017-2019 combined.

Pricing in Phoenix was moderately impacted by the pandemic, seeing a sharper impact than some peer Sun Belt markets including Salt Lake City, Austin and Nashville, but outperforming West Coast gateways including Los Angeles and San Francisco. Pricing continues to trend upwards throughout 2021, with the strongest appetite found for well-leased assets with credit tenancy and new construction. Three of the five transactions over $100.0 million were assets constructed since 2019 as differentiation of physical product becomes increasingly important.



Source: JLL Research, Real Capital Analytics

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Notable recent sales (Phoenix)

	Norterra West II	Rio 2100	Fountainhead Plaza
Date sold	2021 Q4	2021 Q3	2021 Q3
Address	25800 N Norterra	2116 E Freedom	1601 W Fountainhead
Submarket	Deer Valley	Tempe	Airport Area
RBA (s.f.)	150,000	300,848	446,000
Sales price ($)	$48,500,000	$132,000,000	$117,500,000
Sales price ($ p.s.f.)	$323	$439	$263
Cap rate (%)	N/A	N/A	N/A
Buyer	SCD Norterra	Strategic Office Partners	Shorenstein
Seller	Anthony Hepner	Boyer Co.	KBS Realty

Owner	CASA	Gainey Ranch Corp Ctr	Chandler Business Ctr
Date sold	2021 Q3	2021 Q3	2021 Q3
Address	7878 N 16th	8877 N Gainey	6150 W Chandler
Submarket	Piestewa Peak	Central Scottsdale	South Tempe
RBA (s.f.)	181,188	203,642	106,986
Sales price ($)	$56,428,571	$39,000,000	$19,100,000
Sales price ($ p.s.f.)	$311	$192	$179
Cap rate (%)	N/A	6.11%	5.29%
Buyer	Macquarie Goup	Dansons	ScanlanKemperBard
Seller	George Oliver Co.	Nationwide Insurance	Fullerton Properties

Source: JLL Research, Real Capital Analytics

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Market outlook (Phoenix)

Already bouncing off an above-average rate of recovery, Phoenix is poised to continue its outperformance streak in the coming years. Structural macroeconomic advantages regarding the cost of living and doing business, a more favorable tax and regulatory environment and amicable climate will induce further in-migration that will increase demand for office product.

In common with other fast-growing Sun Belt markets such as Dallas, Houston, Atlanta and Raleigh, urban form means that there are few barriers to entry, which has the disadvantage of reducing capital appreciation because of the surplus of developable sites. However, there is a significant disconnect between the quality and location of existing stock and where corporates and employees want to work, leading to a shortfall in competitive space.

The relatively swift rate of population and job growth in the region will keep this imbalance elevated over the near-term, reducing concerns of oversupply. Standing to benefit from this will be submarkets proximate to “hot” locations such as Tempe and Scottsdale, where pricing may be more affordable and still within readily commutable distance from critical pools of talent.

As Phoenix continues to mature, it will emerge more prominently as a leader in operations, systems and web hosting, leading to the development of an innovation cluster that will boost organic growth in small-, medium and large-sized enterprises and spur additional office demand. The reshaping of Phoenix’s urban environment will also prove appealing for workers potentially moving from gateway geographies but hesitant to leave denser and more active environments.

- Affordability and climate are key drivers of quality of life and ease of doing business.

- Investments in infrastructure and changes in development patterns will ease accommodation of growth.

- A mismatch between supply and demand buffers against concerns of overbuilding.

Source: JLL Research

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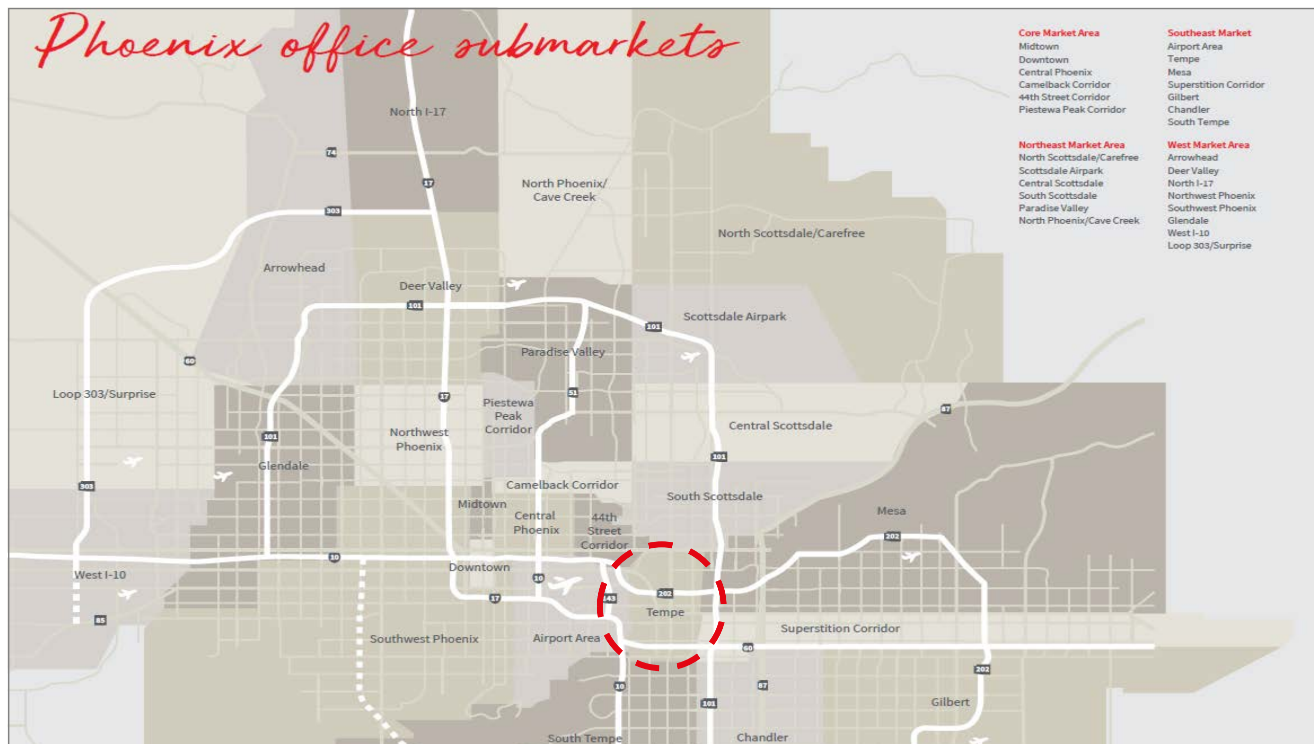
Submarket introduction (Tempe)

Tempe is an inner southeastern suburb of Phoenix, located roughly 10 miles from Downtown and directly to the south of Scottsdale. Anchored by Arizona State University (ASU), it lies at a critical juncture of multiple major highways and forms a focal node of the region's nascent public transit network. It also abuts Sky Harbor International Airport, making it convenient for business travelers as well as residents and tourists.

Tempe's stature as an office market has grown sharply over the course of the current cycle, with its inventory roughly doubling since 2015 and being home to the largest assortment of new construction and high-quality space throughout Phoenix. In turn, it is among the most expensive markets in the metropolitan area with average asking rents in excess of $34 per square foot.

Fueling much of this growth is the presence of one of the country's largest educational institutions, creating a pool of latent young talent highly desirable to tech, professional services and other high-growth companies. Among the high-profile users setting up satellite offices in Tempe include State Farm, Robinhood, JPMorgan Chase and Morgan Stanley, alluding to a step change in expectations from occupiers about space and the need for premium quality assets, which remain in limited supply.

Tempe also benefits from being one of the few submarkets in Phoenix with a walkable core as well as convenient light rail access. Sense of place, amenities within walking distance and being able to live near work have all become paramount in assessments of where to locate and grow in recent years, providing Tempe with a competitive advantage compared to its peers, most notably Scottsdale.



Source: JLL Research

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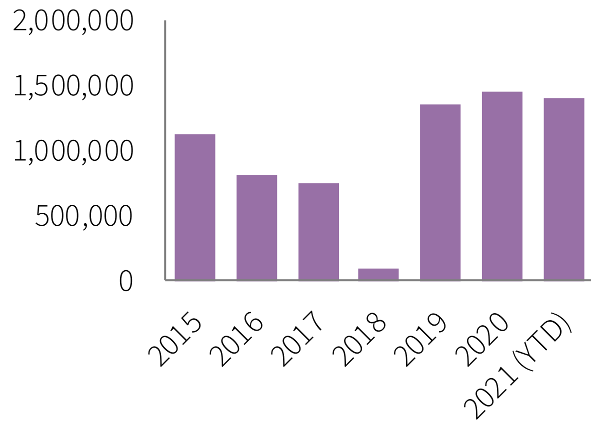
Key performance indicators (Tempe)

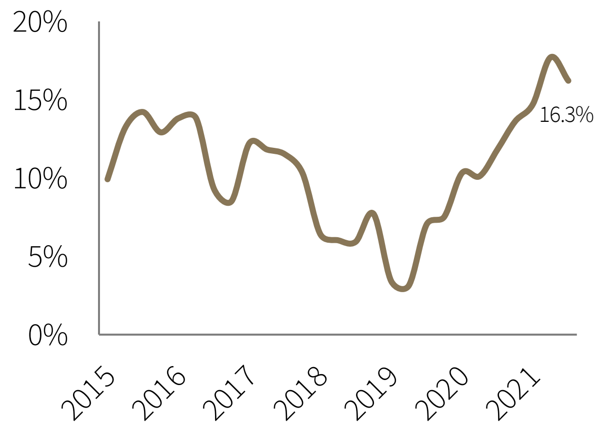
Net absorption

Tempe is rare among submarkets both within Phoenix and nationally in that it has seen no net decrease in occupancy throughout the pandemic, instead recording two of its highest levels of net absorption in 2020 and 2021 so far. This intense increase in occupancy is coming from a combination of intra-market relocation and inbound corporate migration to existing but in particular new supply.



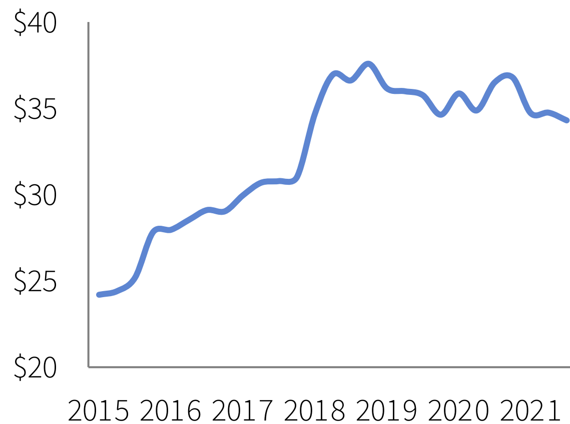
Vacancy

Vacancy in Tempe has been more volatile than in Phoenix as a whole, dropping from 14.3% in 2015 to just 3.2% in 2019. Since then, it has risen sharply to 16.3% on the back of additional blocks of new space delivering, whereas most of the office market saw rising vacancy due to move-outs with less of a focus on new construction outside of select submarkets.



Rent

The past decade has represented a step change in pricing expectations and occupancy costs in Tempe: sub-$25 rents in the early 2010s have shifted to $35-$40 on average, with certain top-tier blocks commanding more than $50 per square foot. As a result, Tempe is by far the most expensive submarket in Phoenix along with South Scottsdale, achieving an 18.1% rental premium relative to the rest of the market. This has had the effect of catalyzing additional construction as well as spillover to proximate submarkets.



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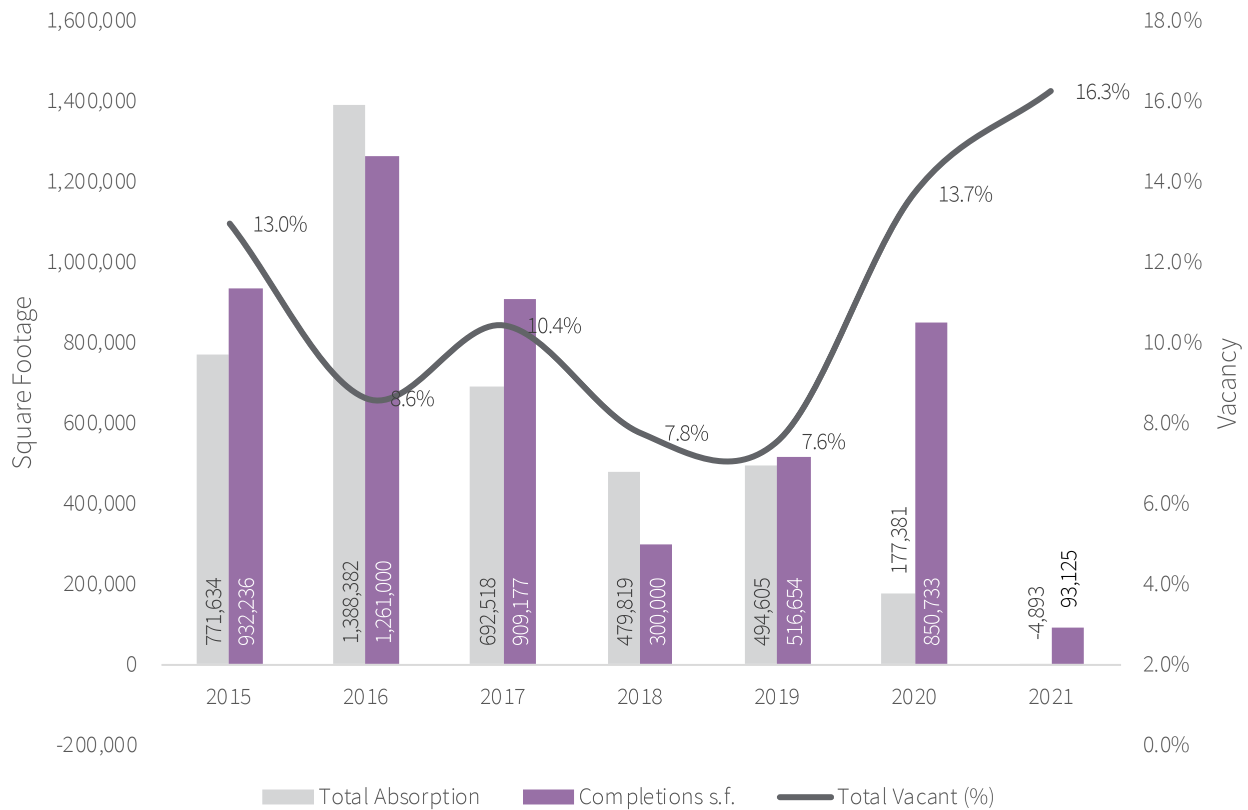
Tempe remains top submarket for new users in the Valley

The Tempe submarket has become the most desirable area for new to market tenants due to:

- Home of Arizona State University, which has been named the most innovative college six years running.
- Highly amenitized area
- Newly developed Class A product
- Home to Fortune 500 companies

Most of the activity in the submarket has been concentrated in Class A space, leaving most of the remaining availability in less desirable Class B space.

The Tempe submarket continues to hold the highest Class A rate in the Valley and with over 470,000 square feet of Class A space currently under construction, rental rates are expected to climb.



Source: JLL Research

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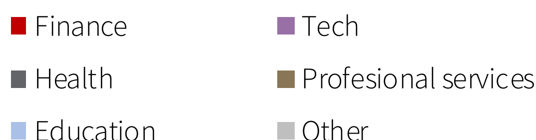
Largest tenants (Tempe)

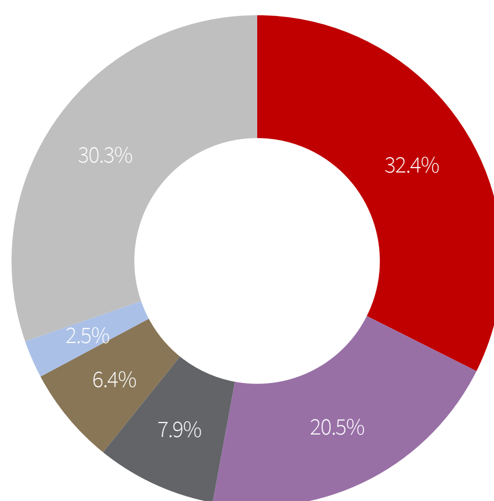
As one of the premier submarkets in Phoenix, Tempe is home to some of the highest-profile tenants in the region, with a particular emphasis on companies relocating or expanding from higher-cost metro areas in the search for talent and affordability.

Most notable in comparison to the rest of the market is Tempe's stronghold on finance and tech, which comprise 52.9% of occupied space in the submarket compared to just 35.8% for Phoenix overall. Anchored by Arizona State University, Tempe is also a hub for education and health, two of the fastest-growing sectors of the regional economy. The university's presence is in part responsible for Tempe's rapid evolution from a satellite submarket to a key business, residential and cultural hub for the Phoenix area.

Many of Tempe's largest tenants are new entrants to the market over the past decade, having set up back-office or satellite operations in industries such as finance and technology to take advantage of the region's lower-cost labor pool. Among the most prominent of these are DoorDash at 1033 W Roosevelt Way, JPMorgan Chase at 100 and 150 W University Drive and ADP at 111 W Rio Salado Parkway. The submarket's active development pipeline is likely to attract future out-of-market entrants when they search for space in Phoenix.

Tenant	Size (s.f.)
Wells Fargo	743,878
Carvana	338,663
DoorDash	358,800
Salt River Project	315,000
Freedom Financial	300,000
JPMorgan Chase	269,929
ADP	225,000
Union Bank	214,725
Endurance	206,625
Silicon Valley Bank	200,000





Source: JLL Research

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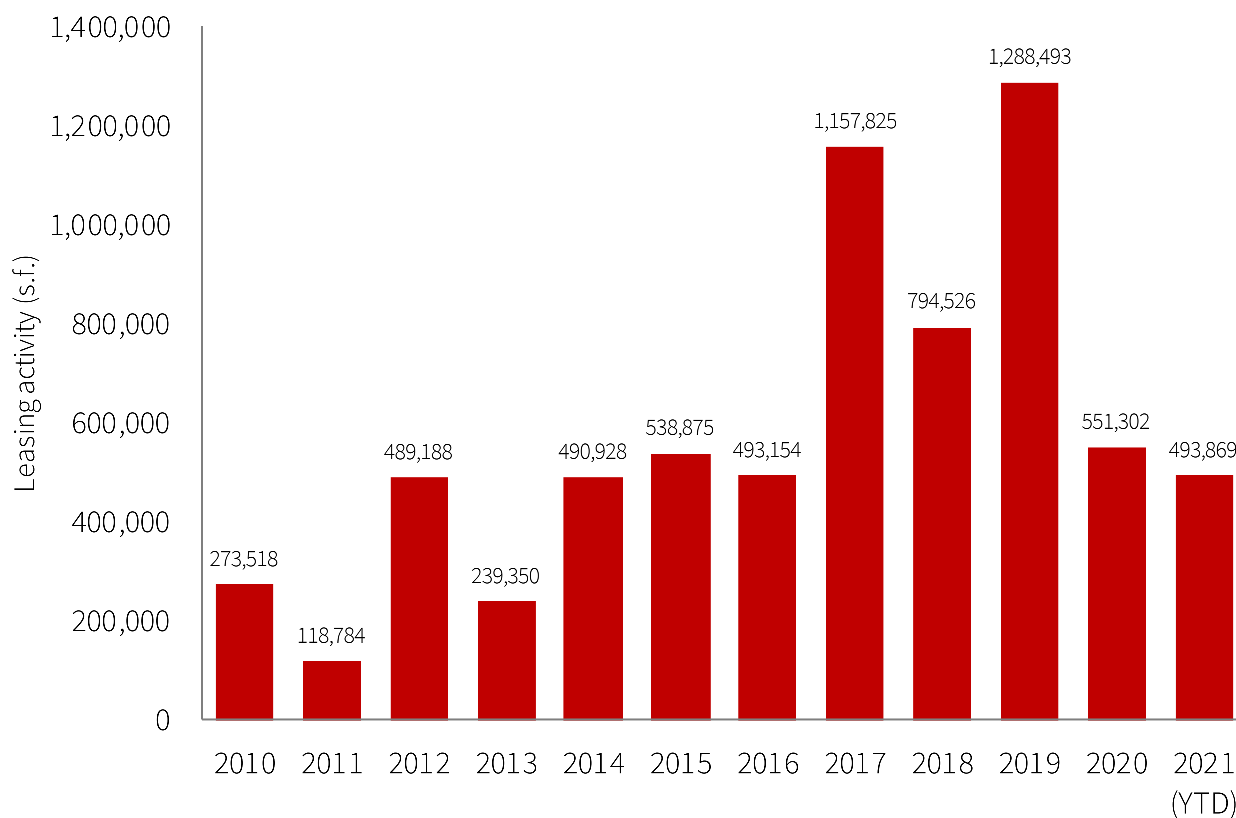
Leasing activity (Tempe)

With more than 6.9 million square feet of leasing since 2010, Tempe is disproportionately driving transaction activity in Phoenix. Over this time period, the submarket has contributed to 10.4% of all regional leasing velocity despite representing 9.8% of all inventory. Deals in Tempe are coming from an eclectic group of high-growth tenants in key industry sectors, particularly tech, finance and education, many of whom have only recently arrived in Phoenix.

Over the course of the pandemic, Wells Fargo's 214,303-square-foot renewal at 1150 W Washington Street was the largest single transaction, with Union Bank and Arizona State University both signing on for 72,000 square feet. Additionally, Carvana further increased its presence in Phoenix with a 51,789-square-foot expansion into 1621 W Rio Salado Parkway.

Although smaller, a number of well known names also dipped their toes into the Tempe office market, signing on for top-tier new product. Stock trading app Robinhood was among the most notable, taking on 53,405 square feet at recently delivered first phase of The Watermark alongside Align Technologies. Morgan Stanley's home loans division also agreed to occupy more than 40,000 square feet at the nearby Rio 2100 development, where property management company Mynd also signed on for 20,246 square feet.



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Notable recent leases (Tempe)

	Wells Fargo	Union Bank	Arizona State Uni.
Address	1150 W Washington	1500 N Priest	777 S Novus
Size (s.f.)	214,303	72,715	72,195
Year 1 rent ($ p.s.f.)	$31.00 FSG	$30.00 FSG	$35.90 FSG
Term (months)	44	-	161
Lease type	Renewal	New lease	New lease
Industry	Finance	Finance	Education

	Robinhood	Carvana	Morgan Stanley
Address	410 N Scottsdale	1621 W Rio Salado	58 S River
Size (s.f.)	53,405	51,789	43,975
Year 1 rent ($ p.s.f.)	$43.00 FSG	$19.50 NNN	$36.50 FSG
Term (months)	66	-	128
Lease type	New lease	New lease	New lease
Industry	Finance	Tech	Industry

Source: JLL Research

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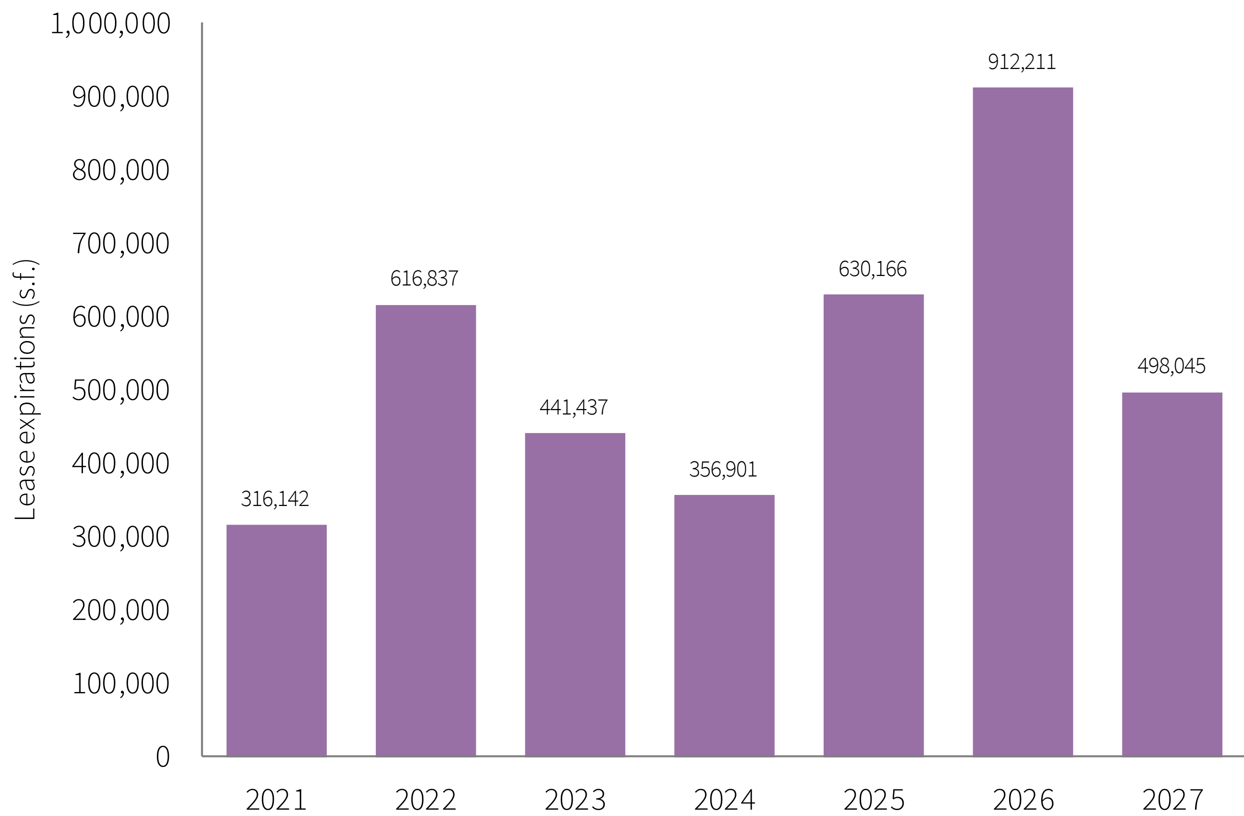
Lease expirations (Tempe)

- Total lease expirations 2021 – 2027 = 3,771,739 square feet.
- Average lease size = 19,851 square feet.
- Major industries = Banks, Savings Institutions & Credit Unions, Accounting, Consulting, Research, Strategy and Advisory, Software & Web Services
- Major Tenants = Wells Fargo, Robinhood, Align Technology



Source: JLL Research

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Large availabilities (Tempe)

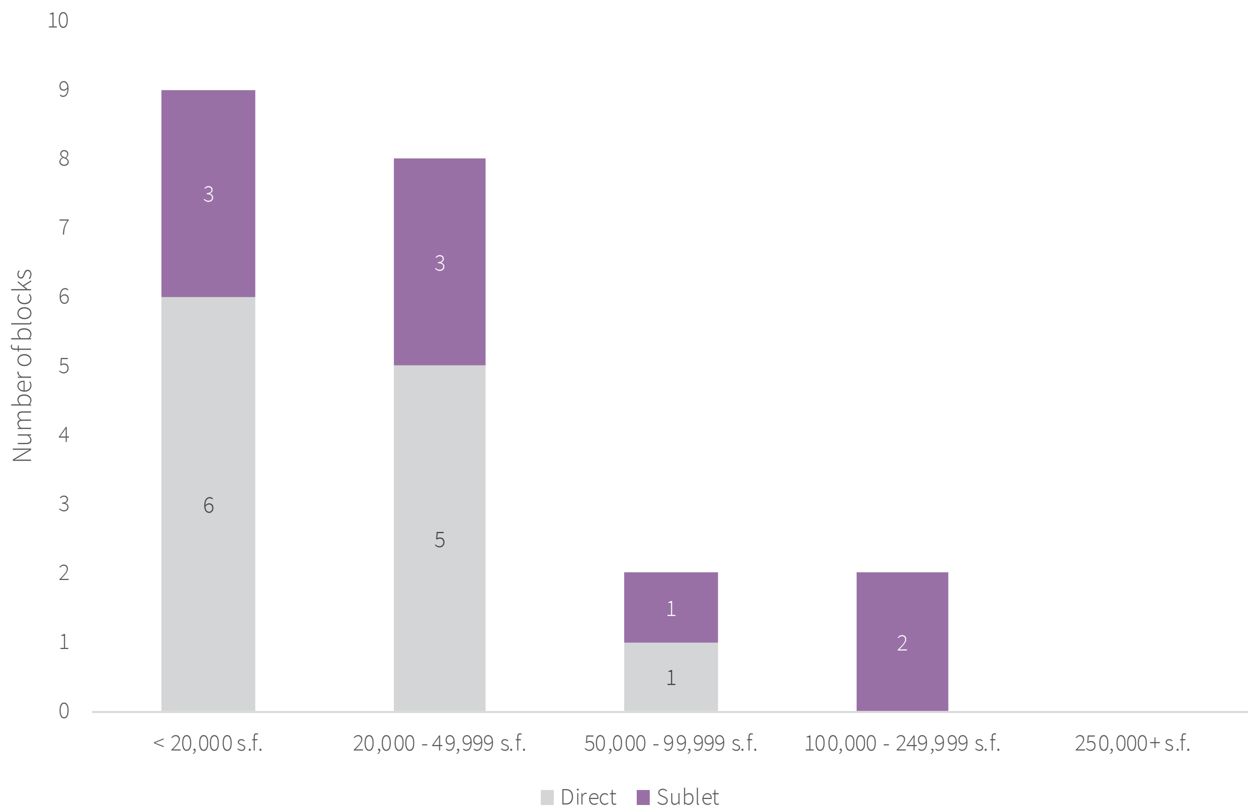
- Total large-block space = 792,490 square feet
- Direct large-block space = 297,920 square feet

  Sublet large-block space = 194,570 square feet

  Average size large block = 37,738 square feet

  Average weighted age of buildings = 2005
- Average time on market = 194 days
- Direct Asking Rate = $34.66 per square foot
- Sublet Asking Rate = $28.59 per square foot

“Large block” defined as contiguous space > 10,000 s.f.



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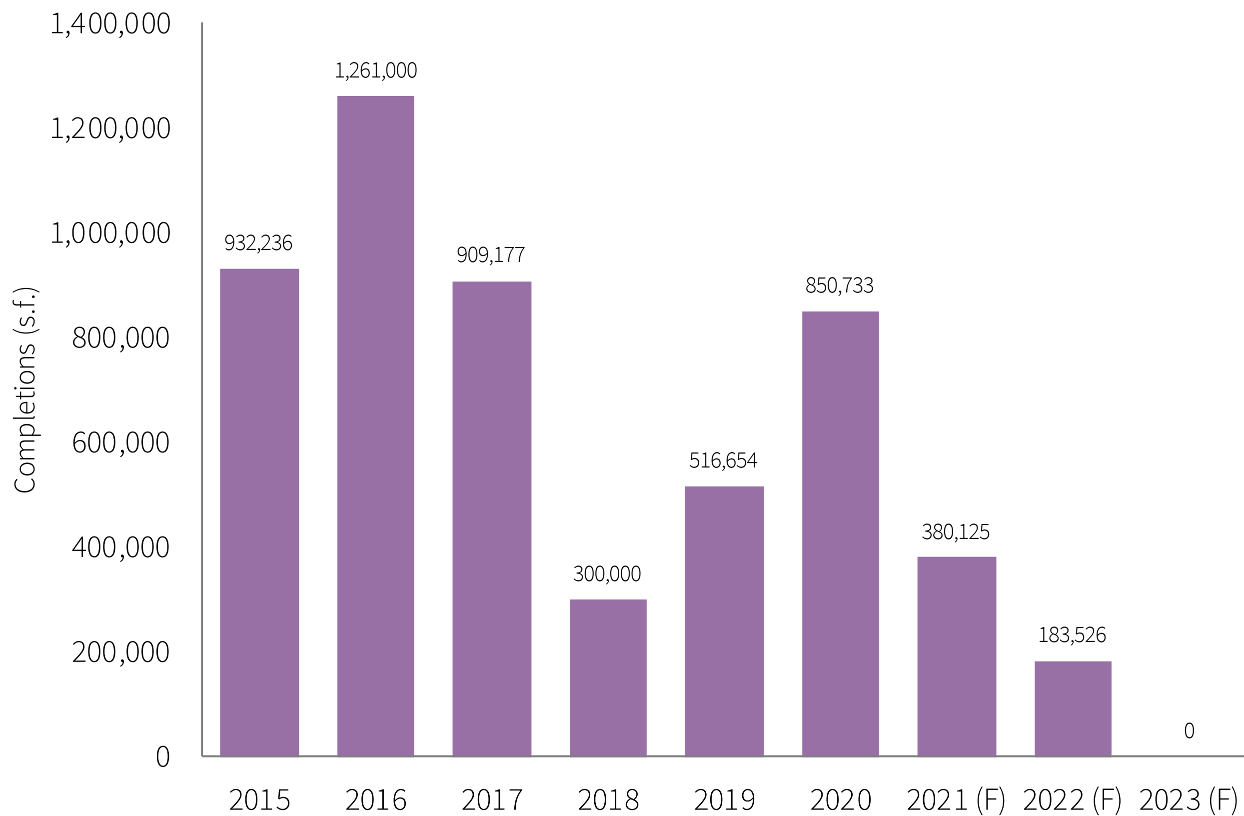
Development pipeline (Tempe)

Nearly 4.9 million square feet of deliveries has taken place in Tempe since 2015, representing 51.2% of the submarket's existing product and nearly one-third of all new supply in Phoenix over the same time period.

This robust pipeline, which consists of a further 470,526 square feet of space currently under construction, is being fueled by intense demand from highly capitalized tenants seeking top-tier space and a significant deficit of available blocks in well situated locations.

Since the onset of the pandemic, however, Tempe's development pipeline has slowed markedly due to a combination of a pause on groundbreakings for buildings without a confirmed anchor tenant as well as previously mounting concerns surrounding potential oversupply nearly a decade into the economic expansion. This drop-off, which will conclude once The Beam on Farmer delivers in mid-2022, will help to stabilize fundamentals faster than Phoenix and the U.S. as a whole.

Over the longer-term, Tempe's desirability, boosted by transit access, higher levels of walkability and a surplus of development sites, will likely mean a rebound in construction as flight to quality both within the market and from new entrants intensifies.



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Ownership composition (Tempe - Phoenix)

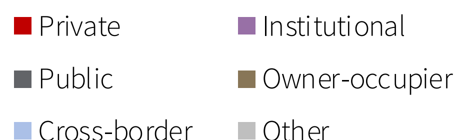
Tempe has generated substantial interest from institutional investors in the past several years, and their share of ownership has grown substantially in the past cycle, from 19.9 percent in 2010 to over one-third of the market today. Transwestern's JV acquisition of the State Farm campus in 2017 was the largest contributor to this shift, but acquisitions by Innovatus, Harrison Street, Menlo Equities and TPG Real Estate in 2019 also helped to increase these groups' exposure.

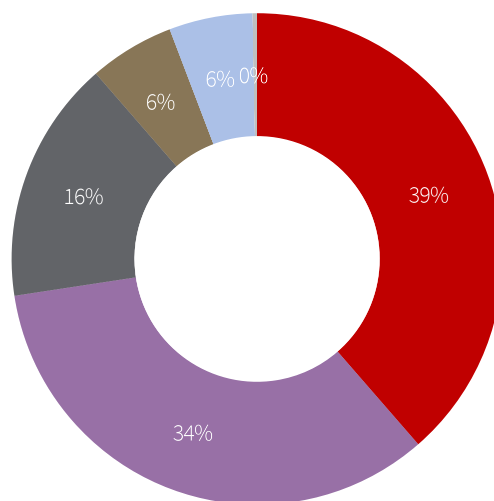
While Phoenix is not a traditional office REIT market, Tempe has generated some interest from public groups in recent years. Cousins Properties, notably, has acquired over 1.5 million square feet in the past five years.

Owner-occupiers in Tempe mirror the composition of the overall market, with the majority of that being comprised by local government tenants.

Tempe has seen an influx of Middle Eastern capital in the past several years, with Investcorp of Bahrain and Dimah Capital of Kuwait making acquisitions.

Owner	Owned (s.f.)
Transwestern	2,079,000
Cousins Properties	1,563,663
City of Tempe	702,000
Fenix Development Inc	595,000
Salt River -West Valley	553,560
Principal Real Estate Group	531,816
Wells Fargo	509,963
Wentworth Group LLC	450,000
JP Morgan	448,954
Innovatus Capital Partners	425,995





Source: JLL Research, Real Capital Analytics

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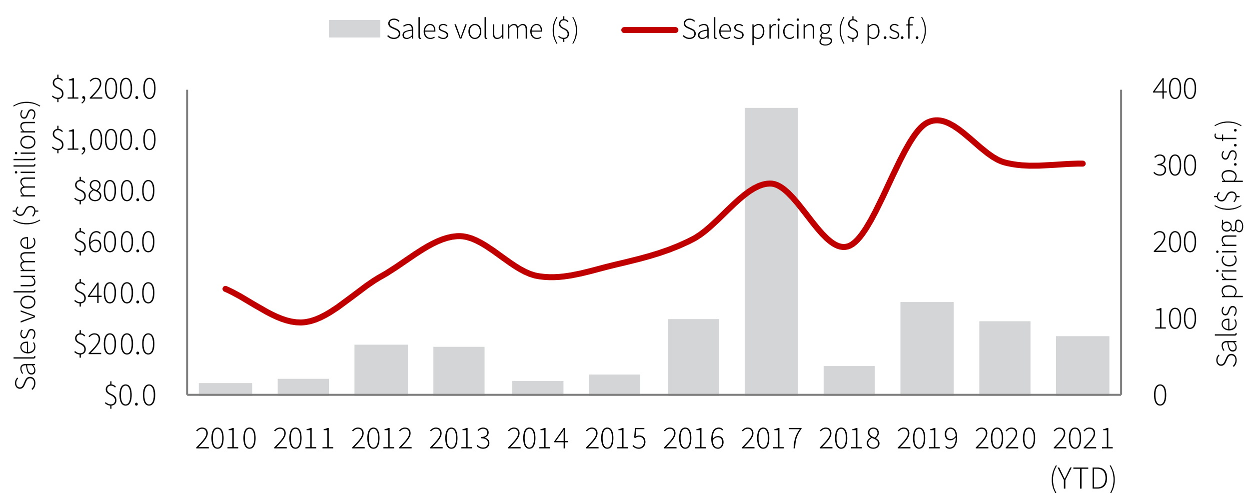
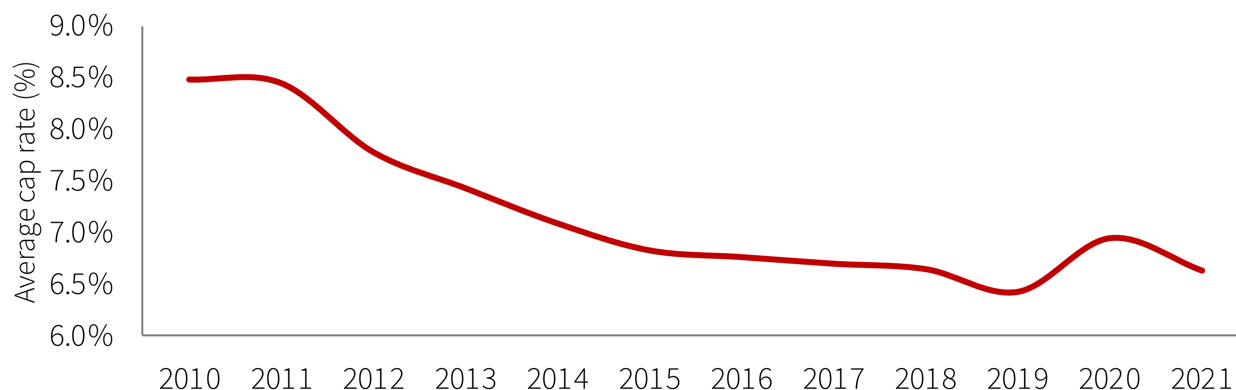
Sales volume, pricing and cap rates (Tempe - Phoenix)

Tempe's heightened development activity late in the last cycle positioned the submarket well for post-pandemic office demand, as newer-vintage assets have generated significantly stronger pricing and liquidity amid a flight to quality from occupiers. Transactions of institutional scale are frequent, but are generally still under $200.0 million, so the avoidance of large-scale transactions that took place during the pandemic was not especially impactful. In fact, Tempe saw two of its largest trades ever after the onset of the pandemic, as The Grand Two sold in Q4 2020 for $187.5 million, and Rio 2100 sold in Q3 2021 for $132.0 million. These assets were both constructed in 2019, and these and other recently-developed campuses have dominated notable sales activity of late as investors seek assets of quality with established occupancy. A bourgeoning technology presence and the continued addition of new product aims to make Tempe one of the primary Phoenix submarkets for investment activity in coming years.





Source: JLL Research, Real Capital Analytics

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Notable recent sales (Tempe - Phoenix)

	Rio 2100	Hayden Station	777 Tower @ Novus
Date sold	2021 Q3	2021 Q1	2020 Q4
Address	2116 E Freedom	51 W 3rd	777 E Packard
Submarket	Tempe	Tempe	Tempe
RBA (s.f.)	300,848	106,834	163,000
Sales price ($)	$132,000,000	$22,600,000	$61,150,000
Sales price ($ p.s.f.)	$439	$212	$375
Cap rate (%)	N/A	N/A	N/A
Buyer	Strategic Office Partners	George Oliver Co.	Ascentris, Cypress
Seller	Boyer Co.	YAM Properties	Ryan Companies, ASU

Owner	The Grand Two	Papago Spectrum	Grand 1 at Papago Park
Date sold	2020 Q4	2020 Q3	2019 Q4
Address	1027 W Roosevelt	1225 W Washington	1101 W Washington
Submarket	Tempe	Tempe	Tempe
RBA (s.f.)	358,000	159,764	219,212
Sales price ($)	$187,500,000	$37,000,000	$90,000,000
Sales price ($ p.s.f.)	$524	$232	$411
Cap rate (%)	N/A	N/A	N/A
Buyer	Dimah Capital	SW Value Partners	Susquehanna Holdings
Seller	LPC, Goldman Sachs	Alidade Capital	Lincoln Property Co.

Source: JLL Research, Real Capital Analytics

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Submarket outlook

Tempe's rapid emergence as one of the focal points of the Phoenix office market is positioning it for well above-average growth over the long term. Many of its advantages are both structural – a more amenitized urban form conducive to walking and transit, established university presence and younger talent pool – and real-estate related, namely a mix of high-profile tech, financial and education users with ample runway for growth. In doing so, Tempe has set itself up as an innovation and satellite office cluster with few peers in other secondary geographies.

This level of demand, combined with a receding construction pipeline in the near-term and higher levels of pre-leasing, will help bring fundamentals in Tempe back into equilibrium faster than Phoenix and the U.S. as a whole. Additionally, Tempe's much younger inventory and greater availability of new blocks will induce additional flight to quality that will accelerate the office recovery towards more normal levels of occupancy.

Pricing is likely to become the main barrier for runway in Tempe, as new blocks in excess of $45 or even $50 per square foot will be out of reach for most tenants in the market and limited to out-of-market entrants. Even so, this remains remarkably affordable relative to quality space in gateway geographies despite its premium to the rest of Phoenix. This represents an opportunity specifically for peripheral assets such as Diablo Technology Park as they can absorb priced-out and more value-conscious tenants as they spill over geographically.

The high-value combination of migration to affordability, premium space and latent talent will serve Tempe will both in the short- and long-term, with its newfound role as an innovation cluster to create a feedback loop of growth.

- Tempe's emergence as a hub for out-of-market tenants in high-growth industries bodes well for longer-term performance.

- Walkability, light rail access and university presence all differentiate Tempe, providing significant competitive advantages.

- High pricing by Phoenix standards will likely catalyze some spillover to nearby submarkets, helping to boost office demand.

Source: JLL Research

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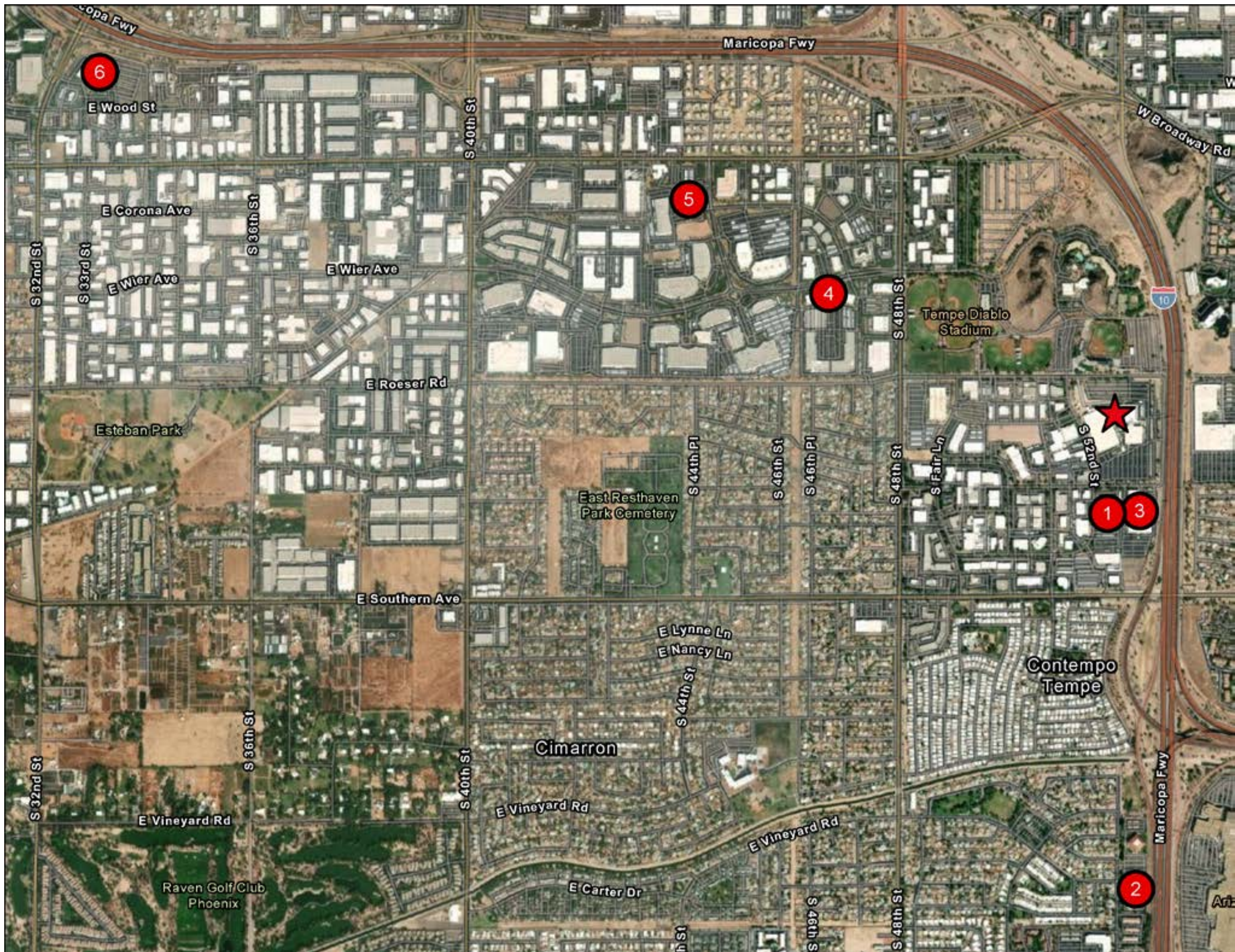
Competitive set (Tempe)

1. 3011 S 52nd St
2. 4625 & 4940 S Wendler Dr
3. 1919 W Fairmont Dr
4. 4645 E Cotton Center Blvd
5. 4550 S 44th Pl
6. 4025 S 32nd St



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Competitive set (Tempe)

	3011 S 52nd St	4415 & 4625 S Wendler Dr
Class	B	B
Owner	EdgeConnex	Allegis Group
Year built	1980	1985/2015
RBA (s.f.)	79,183	90,000
Occupancy (%)	100%	100%
Availability (s.f.)	0	0
Max. contiguous space (s.f.)	0	0
Typical floor size (s.f.)	79,183	22,500
Direct asking rent	N/A	N/A
Op-ex and taxes	$8.13	$8.40
Walk score	46	61
Transit score	42	41
Parking ratio	6.5/1,000	7.1/1,000

Source: JLL Research

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Competitive set (Tempe)

	1919 W Fairmont Dr	4645 E Cotton Center Blvd
Class	B	A
Owner	Arizona Department of Transportation	True North Management Group
Year built	1981	2000/2017
RBA (s.f.)	85,890	116,858
Occupancy (%)	100%	55.7%
Availability (s.f.)	0	51,826
Max. contiguous space (s.f.)	0	51,826
Typical floor size (s.f.)	85,890	58,429
Direct asking rent	N/A	$18.50 NNN
Op-ex and taxes	$6.13	$8.86
Walk score	39	40
Transit score	42	42
Parking ratio	6.5/1,000	7.0/1,000

Source: JLL Research

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Competitive set (Tempe)

	4550 S 44th Pl	4025 S 32nd St
Class	B	B
Owner	Workspace Property Trust	Douglas Allred Company
Year built	2008	2012
RBA (s.f.)	54,489	80,309
Occupancy (%)	100%	0%
Availability (s.f.)	0	80,309
Max. contiguous space (s.f.)	0	80,309
Typical floor size (s.f.)	54,489	80,309
Direct asking rent	N/A	$17.00 NNN
Op-ex and taxes	$10.26	$9.75
Walk score	44	43
Transit score	41	45
Parking ratio	5.5/1,000	5.0/1,000

Source: JLL Research

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SWOT analysis

Strengths

- Tempe address
- Central location
- Excellent freeway access

Weaknesses

- No adjacent amenities
- Limited/poor window line
- Dated exterior

Source: JLL Research

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SWOT analysis

Opportunities

- Potential to convert current storage yard on NW portion of the site
- Ability to convert to high-tech manufacturing with decreased parking
- Data center uses

Threats

- I-10 widening project for the next 3 years
- Structural challenges related to COVID and expanded work from home

Source: JLL Research

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Property outlook

Diablo Technology Park is a four-building office park located near the convergence of the I-10 – a major artery for the Pheonix metropolitan area connecting the southern and eastern ends of Arizona – and the US-60 – the main thoroughfare connecting the Southeast Valley to central Phoenix.

These buildings are some of the largest in the area, providing an ideal campus environment for a single user or multiple tenancies.

The properties are currently occupied by several tenants from a diverse range of industries, mirroring the top-growing industries in the Phoenix Metro Area: education, technology and professional services.

Although the area is dense with similar competing properties, Diablo Technology Center is poised to take advantage of increasing post-pandemic demand due to its quality interior finishes, campus environment and on-site amenities that rival the best of its competition.

Ample available parking also allows the park to accommodate dense users that require a high parking ratio – an attribute that has grown in appeal due to the growth of the technology sector and other knowledge-economy tenants that seek denser workplaces to drive employee interaction and collaboration.

- On-site amenities (fitness center, café) stand out from most competitive properties

- Central location near airport and at convergence of two highways allow for exceptional labor access

- Nearby amenities, especially spring training facilities, are some of the best in the airport area.

Source: JLL Research

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