Executive summary

Q4 2021

U.S. economy

- **Output:** GDP rose by 2.3% in real terms in Q3 2021, bringing it 1.4% above pre-pandemic levels. The U.S. is first major advanced economy to achieve this feat.
- **Employment:** 6.4 million net new jobs helped push unemployment down to 3.9%. Transportation and warehousing as well as financial activities have recovered all lost jobs.
- **Spending and investment:** Consumer spending remains at record highs of more than $600 billion on a monthly basis. Business investment and venture capital are also rising appreciably.

U.S. office market

- **Leasing activity:** A 47% surge in large leasing activity at the end of the year brought Q4 activity to 71.3% of pre-pandemic levels and 2021 activity to 63% of pre-pandemic norms.
- **Net absorption and vacancy:** Q4 2021 registered the first quarter of net occupancy growth since the onset of COVID-19, while flight to quality brought vacancy in new supply down to 18.9%.
- **Rents:** Asking rents remain stable, while net effective rents for CBD Class A space are still 7.1% below year-end 2019, but rising steadily.
- **Construction:** The pipeline fell below 100 m.s.f. for the first time since 2015 as deliveries outpace starts.

Manulife U.S. REIT markets

- **Atlanta:** Buckhead and Midtown are the hubs for the region’s construction pipeline, housing 2.5 million square feet of development. A number of large-scale projects will deliver over the course of 2022, highlighted by Midtown Union, 760 Ralph McGill and One Phipps Plaza. Further inbound migration will keep fundamentals steady.
- **Los Angeles:** Leasing activity in the second half of the year was driven mostly by mid-sized tenants and a combination of renewals and new leases. A traditional anchor of the CBD market, law firms were responsible for the majority of notable leases.
- **New Jersey:** The state’s economic development and incentives packages are some of the most favorable nationally and are likely to help keep corporate demand stable in the face of headwinds. Additionally, Jersey City’s population growth and housing development over the past decade has been among the highest nationally.
- **Northern Virginia:** Zeta Associates’ 210,190-square-foot renewal provided an injection of confidence into Fairfax, which has struggled with tenant attraction and retention due to its aging inventory and lower levels of connectivity. Sales activity was similarly impressive given challenges, with $226.9 million in transactions finalized in H2 2021.
- **Orange County:** Large leasing continued during the latter half of the year, led by three deals larger than 100,000 square feet from Verizon, Amazon and Genesis. Similarly, high-profile companies such as JPMorgan Chase, TYVAK and Bandai Namco made meaningful commitments to the submarket.
- **Phoenix:** Vacancy remains below 2009 and 2010 highs, while asking rents in the core of Tempe have approached $35 per square foot on average. Nine deals larger than $20 million totaling $542.5 million took place in Tempe and Chandler over the past six months, making it one of the most active investment markets nationally.
- **Portland:** The Sunset Corridor remains better positioned from a statistical perspective than during the previous downturn, but faces challenges with respect to competition with the CBD and premier suburban locations such as Lake Oswego as well as aging office product and connectivity.
- **Sacramento:** Demographic and economic drivers will keep activity stable even with a lower presence of higher-growth industries. With only one property currently under construction – the renovation of 6609 J Street – vacancy is unlikely to rise much further, although a lack of quality product is likely to catalyze new speculative construction.
- **Washington, DC:** The DC CBD will remain soft among gateway markets over the near-term as continued supply additions keep vacancy elevated and concessions stay firm at record highs. Legislation to accelerate the process of converting office space in Downtown DC to other asset classes is likely to help correct fundamentals.

U.S. economy overview

By JLL as of 15 January 2022

- GDP is now 1.4% above pre-pandemic levels, while the labor market added a record 6.4 million jobs in 2021.
- Inflation and labor shortages remain the primary challenges to additional economic recovery.
- Forecast growth has been slightly downgraded due to Omicron, but is still likely to exceed 3.5% in 2022.

The Delta and Omicron variants added further uncertainty to the economic recovery nearly two years after the onset of COVID-19. Nevertheless, indicators continued to trend in the right direction in the second half of 2021, aided by widespread vaccination and faster-than-expected drops in unemployment and record consumer demand and business investment.

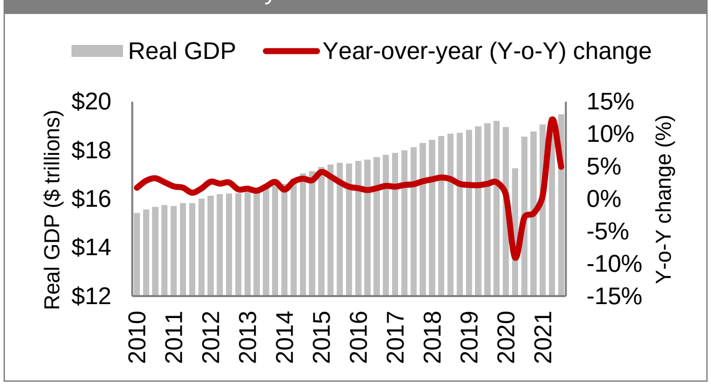
The U.S. is one of only two major economies to have surpassed its pre-pandemic peak in terms of GDP along with China, doing so in Q2 2021. Q3 GDP further improved on this performance, with a 2.3% rise fueled by record levels of consumer spending – notably nine consecutive months of more than $600 billion in retail sales – and business investment. As a result, real GDP now stands $276.6 billion above its Q4 2019 peak, an increase of 1.4%.

Over the course of 2021, total non-farm employment rose by more than 6.4 million jobs, bringing unemployment down from 6.7% one year ago to 3.9% at the end of 2021. Similarly, unemployment claims are at the lowest recorded rate in decades, routinely hovering between 190,000 and 230,000 per week. Gains have been strongest in trade and transportation as well as financial activities, which have recovered all lost jobs. At the same time, the labor market has become exceedingly tight. Shortages of workers across industries, particularly leisure and hospitality, are pushing wages up at unprecedented speed, while the labor force is not expanding fast enough to keep up with demand. Office-using job openings are up more than 30% since the start of 2021, posing challenges for employers in every sector and metro area.

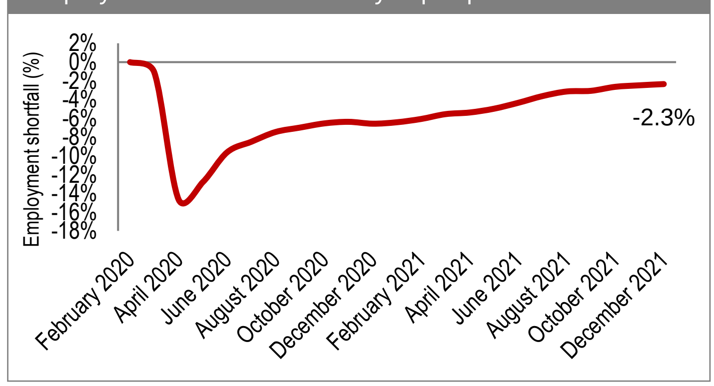
Inflation remains a critical issue facing consumers and businesses alike. Although slowing in December on a monthly basis, the CPI has risen at an annual rate of 7% as of year-end, the highest level since the early 1990s. Supply chain disruptions, accelerating compensation and consumer expectations have kept prices on the rise for longer than previously anticipated. Inflation may also present some challenges for owners as most tenants have escalations locked in between 1.5% and 3% annually, below the current rate of inflation, even as the CPI moderates in 2022.

Despite these challenges, the U.S. economy has not seen this level of growth in decades. Once the Omicron wave subsides, pent-up tenant demand fueled by this level of economic expansion is likely to finally be realized.

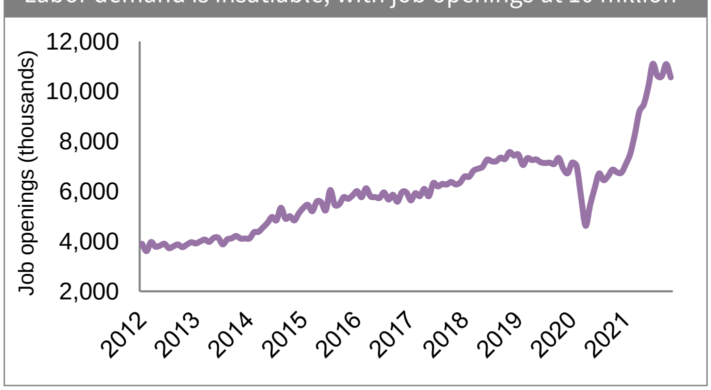
Real GDP has now fully recovered



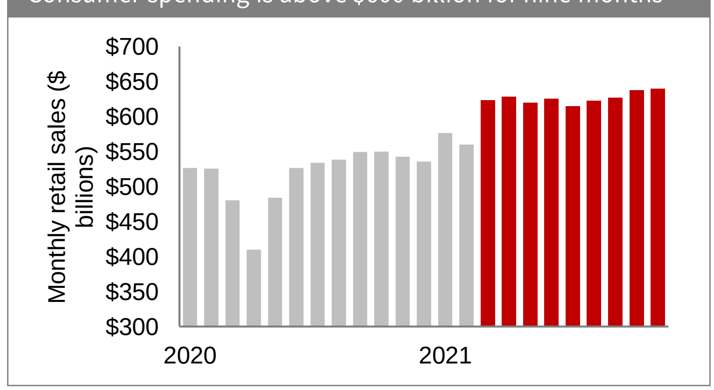
Employment is 97.7% of the way to pre-pandemic levels



Labor demand is insatiable, with job openings at 10 million



Consumer spending is above $600 billion for nine months



U.S. office overview

- Net absorption was positive for the first time since the onset of COVID-19 in Q4 2021, reaching 5.4 million square feet.
- Flight-to-quality is intensifying and becoming the dominant story of the leasing market. 51 million square feet of occupancy growth has occurred in office properties delivered since 2015 compared to 199 million square feet of outflows elsewhere.
- Sublease space further stabilized, while large-scale leasing increased by nearly 47% during Q4. This has brought average terms closer to normal, albeit still with additional runway for recovery.

The U.S. office market registered positive net absorption for the first time since the onset of COVID-19 during the fourth quarter. Despite the Delta and Omicron variants disrupting many elements of daily life and return-to-office policies still evolving, leasing velocity increased by 9.2% in Q4, lifting full-year leasing volume 14.6% above 2020 levels, while sublease space stabilized and vacancy plateaued in line with hitting an inflection point.

At the same time, the broader macroeconomic recovery remained robust, with more than 6.1 million new jobs created over the course of the year, record consumer spending and major legislation introduced surrounding infrastructure investment. Given widespread vaccine availability, the development of new therapeutic treatments and leisure travel trending toward pre-COVID levels, optimism is growing for a continued bounce-back in 2022.

Leasing activity rose by 9.2% in Q4 2021, bringing quarterly volumes to 71.3% of pre-pandemic rates. Gross leasing totaled 44.6 million square feet during the fourth quarter, bringing annual activity to 156.9 million square feet, 14.6% above 2020 levels. Sun Belt markets such as Atlanta, Austin, Charlotte, Dallas, Miami, Nashville, Phoenix and Raleigh led activity, with many of these markets approaching pre-pandemic levels of leasing volume, while larger gateway cities continued to lag. Catalyzing these geographies' faster recovery has been a combination of more affordable housing and office real estate costs, combined with laxer regulatory standards for businesses and other positive quality of life attributes, such as shorter commutes and less congestion. Major tech, financial and professional services firms are now routinely setting up satellite campuses and even relocating their headquarters in some cases in these markets, seeking to not only reduce costs but also capture migrating talent.

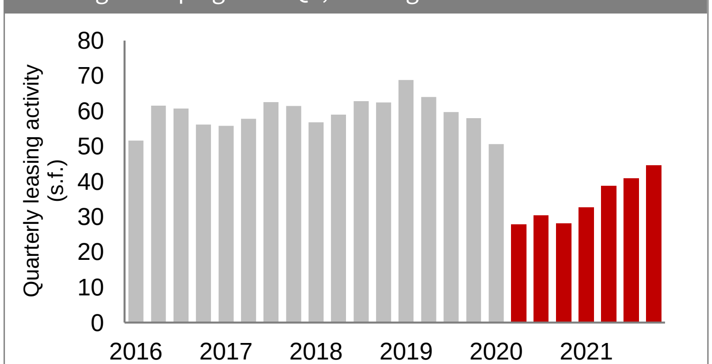
Tech remained the dominant leasing driver to wrap up 2021, representing 21% of quarterly activity. Big tech continues to be responsible for many of these gains, most notably with Meta's (formerly Facebook) suite of leases in Silicon Valley, the San Francisco Peninsula and Seattle totaling 1.1 million square feet. Finance, law firms and insurance tenants also leased more than 1 million square feet each during the quarter, while life sciences outperformed once again and became the sixth-largest industry by deal volume.

Across sectors, leases larger than 100,000 square feet grew significantly faster than the market as a whole, rising by 46.6% over the quarter and representing 43.6% of activity. Additionally, another increase in deals longer than 10 years is underlining growing momentum from major tenants, leading term lengths to rise for a fourth consecutive quarter to 7.8 years on average.

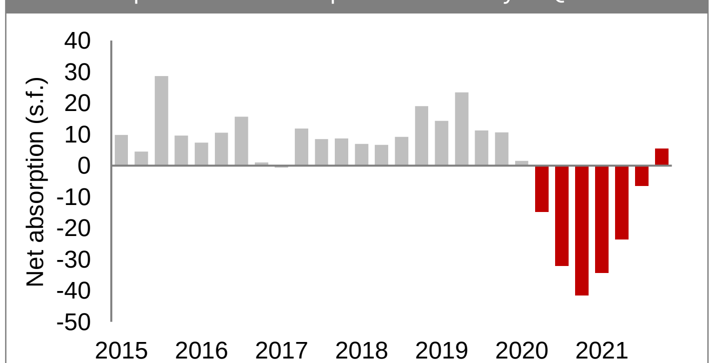
With 5.4 million square feet of net occupancy growth, absorption was positive for the first time since the onset of the pandemic. Leading this were secondary growth markets, which saw a combined 2.6 million square feet of expansion, with Seattle, Boston and New York also rebounding and the remaining gateway markets reporting slower negative net absorption than in previous quarters.

Flight to quality accelerated once again in the fourth quarter, with buildings delivered since 2015 now recording more than 51 million square feet of occupancy gains since Q2 2020 compared to just under 200 million square feet of outflows in second-generation product. This has led to

Leasing was up again in Q4, nearing 45 m.s.f.



Net absorption returned to positive territory in Q4



U.S. office overview

vacancy rates inverting, as total vacancy dropped by 80 basis points to 18.9% for new construction compared to a further rise to 19.7% elsewhere.

Sublease space barely budged in Q4 after dipping slightly during Q3 as re-entry remained subdued and tenants continue to assess their real estate strategies in light of further extensions of return-to-office timeframes. Give-backs and withdrawals of sublease blocks also shifted further into balance, with new subtenants primarily coming from tech, life sciences and boutique financial players such as hedge funds and asset management firms.

Markets were split evenly in terms of quarterly sublease shifts. While Austin, Charlotte and Miami continued their downward trajectories in line with faster recoveries, New York, San Francisco, Boston and Chicago also saw net decreases in sublease availability as companies that placed large portions or their entire portfolios on the market took some or all of it back due to adjustments in space planning.

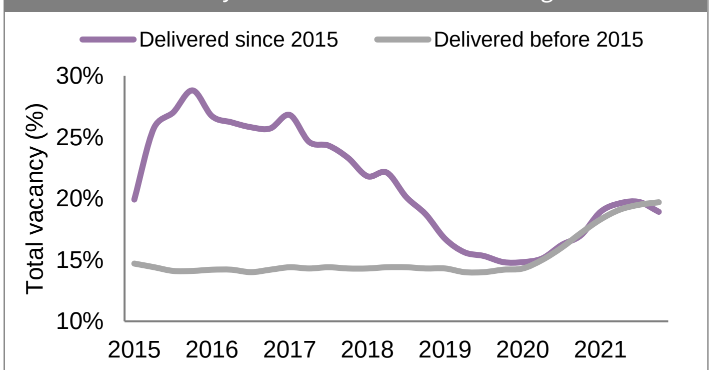
As a result of flight to quality and a stabilization of sublease availability, net effective rents at the top of the market are also showing signs of a slow but steady rebound. After falling by 18.7% upon the onset of COVID-19, three consecutive quarters of falling tenant improvement allowances and free month periods have brought effective rents to 7.1% below pre-pandemic levels, while also pushing the effective rent discount back down closer to 20% of taking rents.

55.4 million square feet of space was delivered over the course of 2021, one of the highest annual totals of the past decade's cycle. Of this, 12.7 million square feet was completed during the fourth quarter. In comparison, just 2.4 million square feet across 11 buildings broke ground during the fourth quarter, pushing the construction pipeline below 100 million square feet for the first time since 2015.

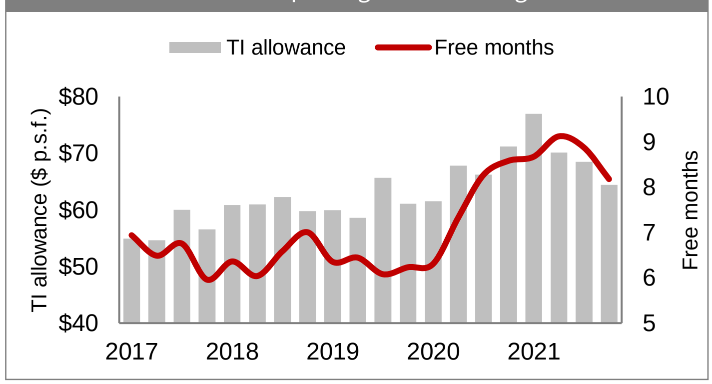
As has been the case throughout the pandemic, new construction was almost entirely build-to-suit or heavily anchored prior to construction. The third office tower at Nashville Yards – anchored by Pinnacle – was by far the largest project to break ground in Q4 at 682,000 square feet, with 1700 M Street NW in Washington, DC and 915 Meeting Street in Suburban Maryland also starting.

Like the leasing market, investment sales is also making a recovery. $120.8 billion in office assets traded hands throughout 2021, equivalent to a 47.6% increase over the year. Investment velocity is accelerating as well, as Q4 2021 transactions were 51.7% higher than in Q4 2020. The recovery in larger-scale liquidity in gateway markets has been the primary contributor to this improvement, coupled with sustained momentum of capital deployment in secondary geographies. In Q4 2020, only one office sale of more than $100 million took place in New York, Los Angeles and Washington, DC, whereas nine of these occurred in Q4 2021, totaling $5 billion.

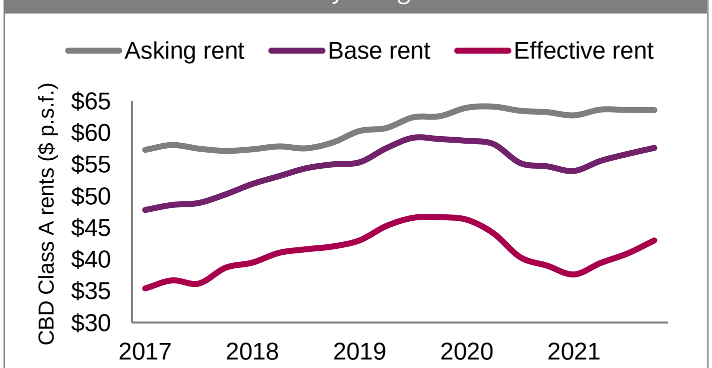
New-build vacancy has now fallen below average



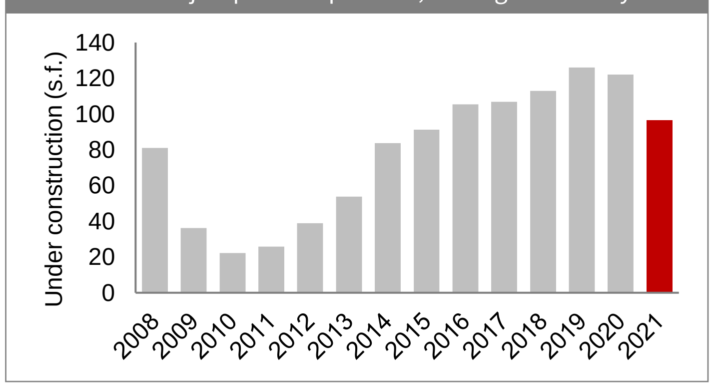
CBD Class A concession packages are starting to correct



Net effective rents are slowly rising



2021 will see a jump in completions, adding to vacancy



Atlanta (Buckhead and Midtown)

- Regional employment is just 0.2% below its pre-pandemic peak, while unemployment has fallen even faster to 2.2% as of November 2021.
- Midtown continues to benefit from large-scale tech, professional services and creative users expanding within the market, in large part from corporate in-migration.
- Both Buckhead and Midtown are ahead of the curve in terms of the regional office market recovery.
- A robust construction pipeline will keep options open, but competition will be intense given flight-to-quality and sustained population and employment growth.

Overall market statistics		Forecast
YTD net absorption (s.f.)	-2,826,731	▲
Under construction (s.f.)	4,267,615	▼
Total vacancy (%)	23.3%	▲
Sublease vacancy (s.f.)	2,376,524	▶
Asking rent ($ p.s.f.)	$31.20	▲
Concessions	Stable	▶

Office market trends

Buckhead and in particular Midtown remain the focal points of office market activity in Atlanta and have been two of the fastest submarkets to rebound since the onset of the pandemic. After a slew of large deals closing in the first half of 2021, transactions fell largely within the 50,000-100,000-square-foot bracket, led by deals from Swift Currie, Novelis and Cisco. Notably, Novelis will be relocating its global headquarters within Buckhead from Two Alliance to Simon Property Group's redeveloped One Phipps Plaza.

Combined, Buckhead and Midtown registered 421,556 square feet of net occupancy loss over the course of 2021, bringing vacancy to 23.1%. Despite this sharp upswing over the course of the pandemic, this is still below the market-wide vacancy rate of 23.3%, while Buckhead and Midtown have seen three consecutive quarters of positive net absorption compared to two quarters for Atlanta as a whole. Vacancy is also still below its previous peak of 24.2% during the financial crisis.

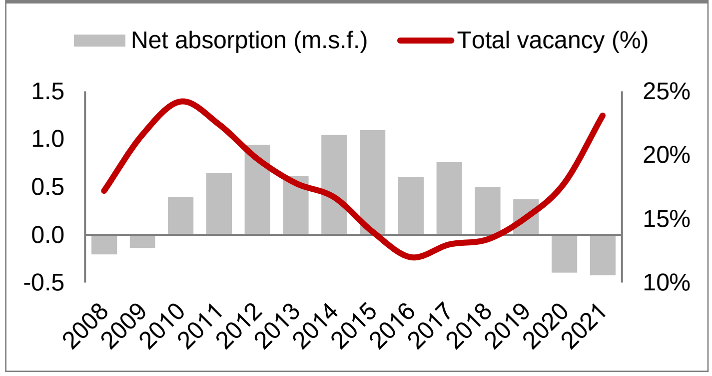
Investment sales remained consistent in the face of sustained uncertainty, with $504.5 million in transactions larger than $20 million across the two submarkets over the past six months. The sales of 999 Peachtree and The Campanile were the third- and fifth-largest of the year for Atlanta after Cousins' record-breaking purchase of 725 Ponce in June and Blackstone's acquisition of the Anthem Technology Center in May.

Outlook

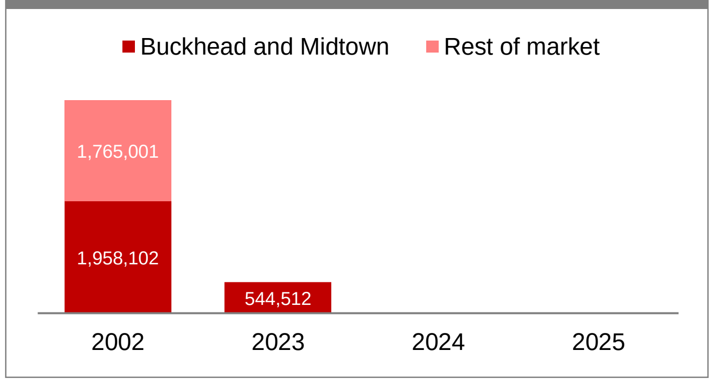
Buckhead and Midtown are the hubs for the region's construction pipeline, housing 2.5 million square feet of development. A number of large-scale projects will deliver over the course of 2022, highlighted by Midtown Union, 760 Ralph McGill and One Phipps Plaza, which will be anchored by Invesco, MailChimp and Novelis, respectively.

As has been the case in recent years, development activity in Midtown is spreading beyond the traditional urban core into peripheral areas, particularly for creative supply. Continued construction will keep vacancy elevated as new blocks hit the market and relocating tenants vacate new supply, although this will be countered by continued inbound migration.

Despite increase, vacancy below financial crisis levels



Buckhead/Midtown capture the majority of construction



Class A cap rates continue to drop

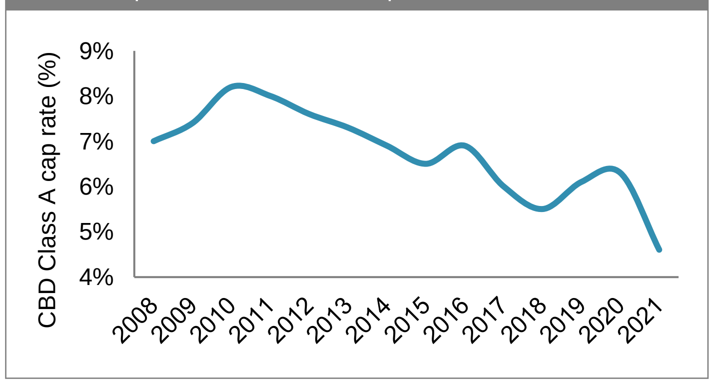


Table refers to overall market, while charts refer to Manulife submarkets

Atlanta market data

Leasing activity (Buckhead and Midtown)				
Tenant	Address	Class	Lease type	Size (s.f.)
Swift Currie	1420 Peachtree Street NE	A	New lease	98,831
Novelis	1 Phipps Plaza	Trophy	Relocation	95,742
Cisco	756 W Peachtree Street NW	Trophy	New lease	93,398
Visa	1200 Peachtree Street NE	A	New lease	61,380
MacDermid	400 Chattahoochee Row NW	A	New lease	45,000
Wipro	3535 Piedmont Road NE	A	Renewal	34,534

Office sales (Buckhead and Midtown)					
Building	RBA (s.f.)	Sales price ($)	Price ($ p.s.f.)	Buyer	Seller
999 Peachtree Street NE	621,217	$223,900,000	$360	Piedmont	Franklin Street
The Campanile	625,000	$185,600,000	$297	Dornin	Dewberry
Pershing Point Plaza	409,579	$73,200,000	$179	FullG	Dilweg
Piedmont Place	91,333	$21,800,000	$239	Foundry	Butters

Active development pipeline (Buckhead and Midtown)					
Building	Developer	Spec/BTS	Completion	RBA (s.f.)	Anchor
Midtown Union	Granite	Spec	2022	588,079	Invesco
760 Ralph McGill Boulevard NE	New City	Spec	2022	475,000	MailChimp
1 Phipps Plaza	Simon	Spec	2022	340,000	Novelis
14th & Spring	Greenstone	Spec	2022	320,089	-
Echo Street West	Lincoln	Spec	2023	255,338	-
Interlock (Phase 2)	SJ Collins	Spec	2023	209,174	-
Allied Studios	Jamestown	Spec	2022	145,000	-

Los Angeles (Downtown)

- Los Angeles, along with New York and San Francisco, continues to lag the nation as a whole in terms of macroeconomic recovery, but is nonetheless making strides as unemployment approaches 7%.
- Downtown, which has lagged the Westside and Mid-Wilshire clusters throughout the previous cycle, continues to witness limited activity, driven mostly by mid-sized renewals.
- New product is mostly coming in the form of conversions of historic assets to creative space on the fringes of Downtown rather than corporate-grade, centrally located space.
- Conditions will stay highly favorable, but also challenge law firms, professional services tenants and other traditional users looking for newer product.

Overall market statistics		Forecast
YTD net absorption (s.f.)	-5,720,854	▶
Under construction (s.f.)	4,718,148	▼
Total vacancy (%)	20.2%	▲
Sublease vacancy (s.f.)	3,878,616	▶
Asking rent ($ p.s.f.)	$45.48	▲
Concessions	Stable	▶

Office market trends

Downtown Los Angeles, like the broader metro area, saw further negative net absorption in Q4, bringing 2021 occupancy losses to 564,899 square feet, an increase over 2020, and pushing vacancy up an additional 260 basis points over the course of the year to 21.2%. As a result, Downtown vacancy is now 100 basis points above the regional average. Asking rents continue to hold steady at $44.36 per square feet, having stayed between $43 and $45 per square foot for more than three years.

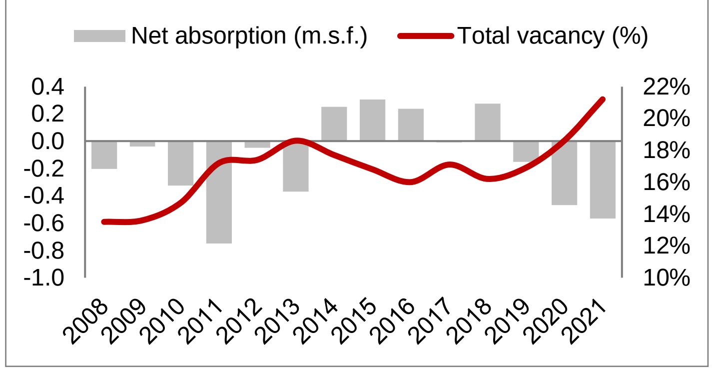
Leasing activity in the second half of the year was driven mostly by mid-sized tenants and a combination of renewals and new leases. A traditional anchor of the CBD market, law firms were responsible for the majority of notable leases, including but not limited to Hueston Hennigan, Vinson & Elkins and Haight Brown, which leased a combined 88,474 square feet. Other activity was sparse, a result of limited blocks of quality space as the submarket's pipeline remains nearly non-existent.

Investment activity for traditional office remained slim, but larger deals are beginning to transact with more regularity. A joint venture between Square Mile Capital and Hackman Capital acquired CBS Studio Center in December for $1.85 billion, and in the same month Brookfield acquired Dreamworks' Glendale campus for $326.8 million. Three other office trades over $100.0 million closed in the second half of the year, lifting year-end sales volume to $3.2 billion for the Los Angeles market.

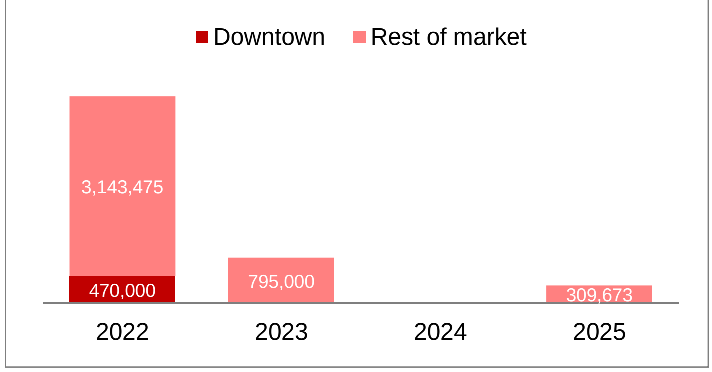
Outlook

Downtown Los Angeles' office market will remain subdued even compared to historical standards as the neighborhood's aging inventory no longer meets many tenants' needs. Regional activity is rebounding in pockets, but largely confined to the Westside and Hollywood from creative and non-traditional users. As a result, Downtown will stay highly tenant-favorable for the foreseeable future, but will also be slow to attract additional investment and new construction.

CBD vacancy continues to rise



Only one building is under construction in the CBD



Class A cap rates are holding firm at around 6%

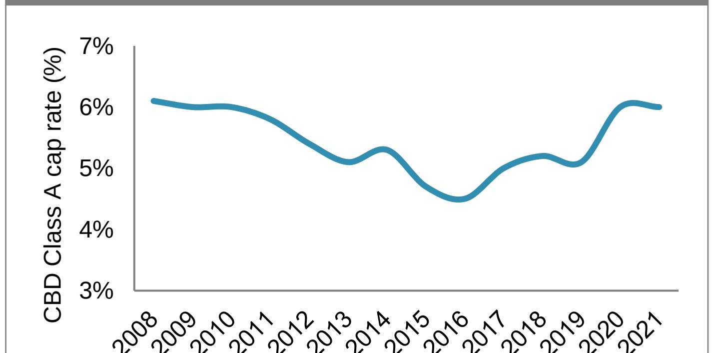


Table refers to overall market, while charts refer to Manulife submarkets

Los Angeles market data

Leasing activity (Downtown)				
Tenant	**Address**	**Class**	**Lease type**	**Size (s.f.)**
HNTB	777 S Figueroa Street	Trophy	New lease	41,000
Hueston Hennigan	523 W 6th Street	A	Renewal	33,703
Johnny Was	712 S Olive Street	C	New lease	31,153
Vinson & Elkins	350 S Grand Avenue	Trophy	Relocation	27,491
Haight, Brown & Bonesteel	555 S Flower Street	Trophy	Renewal	27,280
Burlington Coat Factory	700 S Flower Street	A	Expansion	24,965
Attainment	700 S Flower Street	A	New lease	23,234

Office sales (Downtown)					
Building	**RBA (s.f.)**	**Sales price ($)**	**Price ($ p.s.f.)**	**Buyer**	**Seller**
260 S Los Angeles Street	40,596	$7,500,000	$185	Little Tokyo Arts Tower	Khasrow Rafi Shaulian

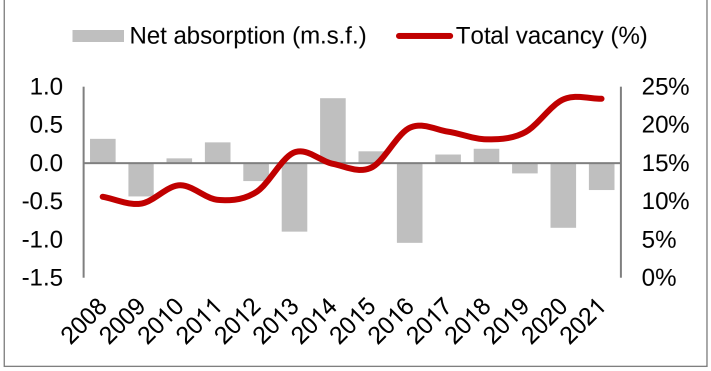
Active development pipeline (Downtown)					
Building	**Developer**	**Spec/BTS**	**Completion**	**RBA (s.f.)**	**Anchor**
Herald Examiner Building	Georgetown	Speculative	2022	470,000	ASU Enterprise Partners

New Jersey (Hudson Waterfront and the Meadowlands)

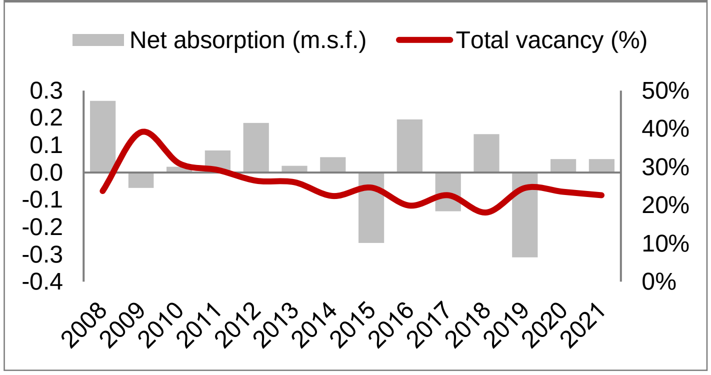
- Northern New Jersey's recovery has been slower than the national average due to the Tri-State Area's higher exposure to pandemic-induced migration and remote work-friendly industries, combined with higher costs of living and doing business.
- Hudson Waterfront and Meadowlands leasing activity has been minimal in recent months, although the former has outperformed New Jersey overall.
- Muted market conditions maintain a tenant-favorable environment, although there is significantly less volatility than in urban gateway cores.
- Intense redevelopment in Jersey City will provide needed housing for employees and help to boost the proximate employee base for local employers.

Overall market statistics		Forecast
YTD net absorption (s.f.)	-1,981,604	▶
Under construction (s.f.)	233,630	▼
Total vacancy (%)	26.8%	▶
Sublease vacancy (s.f.)	7,815,338	▶
Asking rent ($ p.s.f.)	$29.76	▼
Concessions	Rising	▲

Hudson Waterfront vacancy growth has slowed since 2010



Meadowlands vacancy down for a second year



Class A cap rates are stable at 5.5%

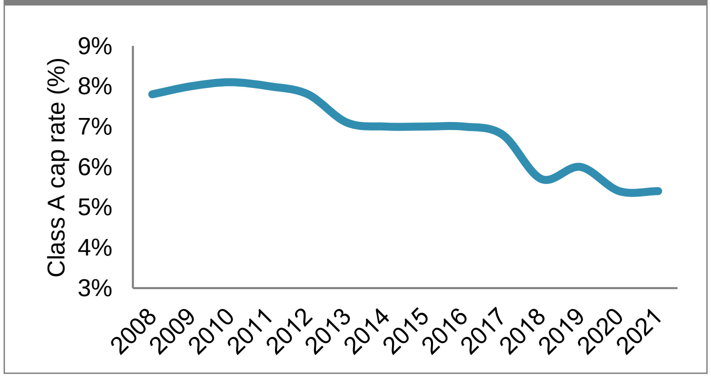


Table refers to overall market, while charts refer to Manulife submarkets

Office market trends

Northern New Jersey's office market remained largely in statis during 2021, with only incremental movement in terms of occupancy, vacancy and asking rents. While the Hudson Waterfront saw a third consecutive year of negative net absorption, growth in vacancy slowed considerably to 23.4% after reaching a record high in 2020. On the other hand, occupancy grew for a second straight year in the Meadowlands, helping to bring vacancy down closer to the 20% mark.

Transaction volumes were minimal throughout the Hudson Waterfront and Meadowlands submarkets in the second half of the year. Only one lease was signed larger than 50,000 square feet – Roar Digital at 200 Hudson Street – with three others larger than 10,000 square feet, all also nearby in Jersey City. The Meadowlands saw no sizeable transactions during this time.

Anemic leasing activity and tenant demand is being countered by an extremely thin pipeline, which is helping to mitigate additional potential oversupply. One of only two speculative projects underway throughout Northern New Jersey – Kushner's Warren at Bay – is taking place in Jersey City, albeit without an office tenant in advance of its mid-2022 delivery.

Outlook

The Hudson Waterfront and the Meadowlands will continue to see soft office market conditions in the coming quarters, compounded by the macroeconomic and structural challenges facing the Northern New Jersey office market, particularly outflows of talent to lower-cost geographies and competition with New York City. At the same time, the state's economic development and incentives packages are some of the most favorable nationally and are likely to help keep activity stable in the face of headwinds. Additionally, Jersey City's population growth and housing development over the past decade has been among the highest nationally, and greater housing affordability will be key to maintaining a skilled employee base.

New Jersey market data

Leasing activity (Hudson Waterfront and the Meadowlands)

Tenant	Address	Class	Lease type	Size (s.f.)
Roar Digital	200 Hudson Street	A	New lease	50,000
Avepoint	525 Washington Boulevard	A	Renewal	15,467
Fork & Goode	95 Greene Street	A	New lease	11,855
RWJ Barnabas Health	95 Greene Street	A	New lease	11,235

Office sales (Hudson Waterfront and the Meadowlands)

Building	RBA (s.f.)	Sales price ($)	Price ($ p.s.f.)	Buyer	Seller
324 Palisade	25,000	$8,400,000	$337	KSPF	324 Palisade LLC

Active development pipeline (Hudson Waterfront and the Meadowlands)

Building	Developer	Spec/BTS	Completion	RBA (s.f.)	Anchor
Warren at Bay	Kushner	Spec	2022	112,630	-

Northern Virginia (Fairfax Center and Fairfax City)

- Northern Virginia continues to drive office market activity throughout the Metro DC region, providing a competitive advantage for local owners.
- Zeta Associates' 210,190-square-foot renewal provided an injection of confidence into Fairfax, which has struggled with tenant attraction and retention due to its aging inventory and lower levels of connectivity.
- Affordability and proximity to skilled workers remain selling points for Fairfax Center and Fairfax City, although tenants will have to navigate a market with no new supply that meets newer preferences.
- With no construction underway, vacancy is unlikely to rise much further in the absence of a significant move-out, while rents will stay firm.

Office market trends

Fairfax Center and Fairfax City saw a significant burst in tenant and investment activity in the second half of the year after numerous quarters of minimal movement. Zeta Associates, a subsidiary of Lockheed Martin, renewed its 210,190-square-foot lease at WillowWood III and IV, the largest single deal seen in the submarkets in years and underscoring its appeal to the aerospace, defense and contracting tenants who drive demand throughout Northern Virginia.

In addition to Zeta Associates' signing, numerous county government transactions took place. The Fairfax County Board of Supervisors and Economic Development Agency renewed (the former through a blend-and-extend deal) a combined 83,626 square feet at 10777 Main Street and WillowWood Plaza, respectively, with a the county renewing a further 17,075 square feet at 12015 Lee Highway for ancillary functions.

As a result of these deals and limited outflows and consolidations, net absorption, while still negative, slowed sharply in 2021, keeping vacancy from hitting 24%. This is moderately above the Northern Virginia average, but impressive given a lack of Metro access or new construction.

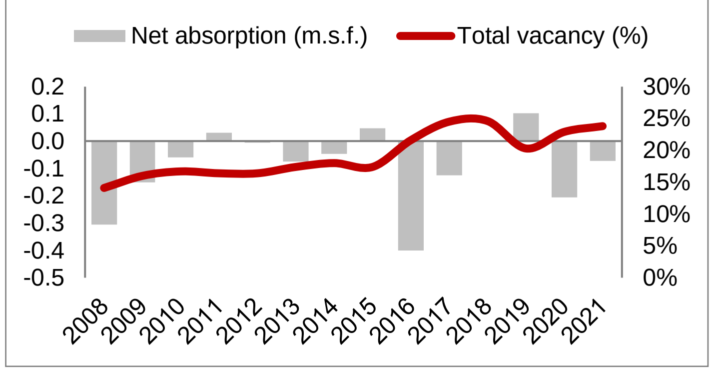
Sales activity was similarly impressive given headwinds, with $226.9 million in transactions being finalized over the past six months. Bridge's acquisition of the three-building Willow Oaks Corporate Center comprised nearly half of this volume. Amenable per-square-foot pricing between $170 and $220 per square foot has worked in investors' favor as prices become out of reach in more traditional submarkets.

Outlook

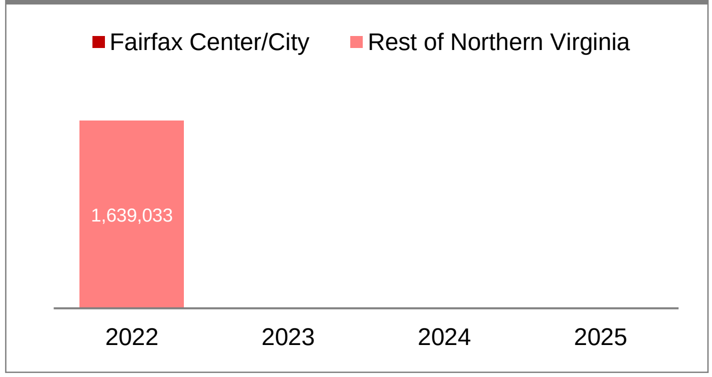
Fairfax Center and Fairfax City will benefit from continued investment in many of Northern Virginia's key private-sector industries such as aerospace and engineering as well as its status as the seat of the county government. However, functional obsolescence and a lack of Metro access will keep the submarkets from being as competitive as those along the Silver and Orange Lines and the Toll Road.

Overall market statistics		Forecast
YTD net absorption (s.f.)	-3,725,576	▶
Under construction (s.f.)	1,639,033	▼
Total vacancy (%)	22.9%	▲
Sublease vacancy (s.f.)	2,350,174	▲
Asking rent ($ p.s.f.)	$35.85	▶
Concessions	Stable	▶

Occupancy losses slowed sharply in 2021



There is limited new construction in Fairfax



Class A cap rates have had little movement this cycle

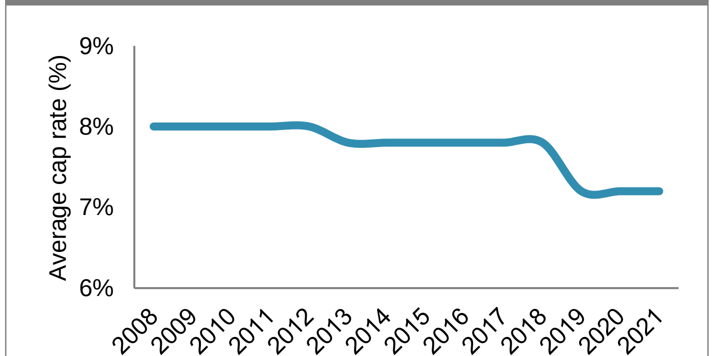


Table refers to overall market, while charts refer to Manulife submarkets

Northern Virginia market data

Leasing activity (Fairfax Center and Fairfax City)				
Tenant	**Address**	**Class**	**Lease type**	**Size (s.f.)**
Zeta Associates	WillowWood III-IV	A	Renewal	210,190
Fairfax County Board of Supervisors	10777 Main Street	C	Blend and extend	61,563
Fairfax County EDA	10306 Eaton Place	B	Renewal	22,063
Tiber Creek	12015 Lee Highway	B	Blend and extend	19,926
Fairfax County	12015 Lee Highway	B	Renewal	17,075
Rummel Klepper & Kahl	12600 Fair Lakes Circle	B	Renewal	15,666

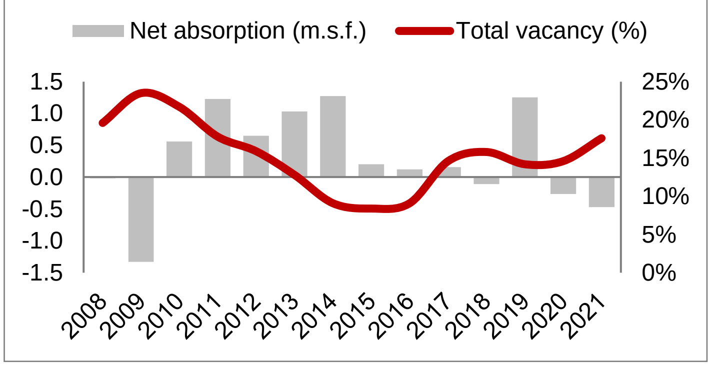
Office sales (Fairfax Center and Fairfax City)					
Building	**RBA (s.f.)**	**Sales price ($)**	**Price ($ p.s.f.)**	**Buyer**	**Seller**
Willow Oaks Corporate Center	597,363	$106,000,000	$177	Bridge	KBS
CGI Building	263,900	$55,300,000	$210	Opal	Prudential
WillowWood III-IV	278,979	$46,300,000	$166	Turnbridge	Twenty Lake
10777 Main Street	74,087	$19,300,000	$260	Boyd Watterson	Stephen Goldberg

Orange County (Irvine)

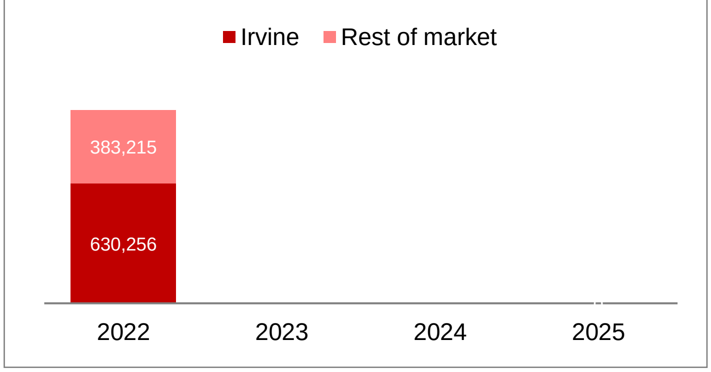
- Orange County leads Los Angeles and San Diego in terms of economic recovery, with an unemployment rate of 4.1% and total employment 3.4% from pre-pandemic levels.
- Large leasing is coming from tenants across a variety of industries, including tech, life sciences, aerospace and defense, among others.
- Irvine's diversified tenant base is helping it withstand uncertainty and rapidly changing economic conditions better than many peer markets and submarkets.
- With all construction underway to be delivered by the end of 2022, the potential for oversupply is less severe than other high-profile markets.

Overall market statistics		Forecast
YTD net absorption (s.f.)	-820,813	▶
Under construction (s.f.)	1,013,471	▼
Total vacancy (%)	16.2%	▲
Sublease vacancy (s.f.)	1,565,155	▶
Asking rent ($ p.s.f.)	$33.98	▲
Concessions	Stable	▶

Occupancy loss less severe than other submarkets



The pipeline in both Irvine and OC is limited



Class A cap rates recovered in 2021

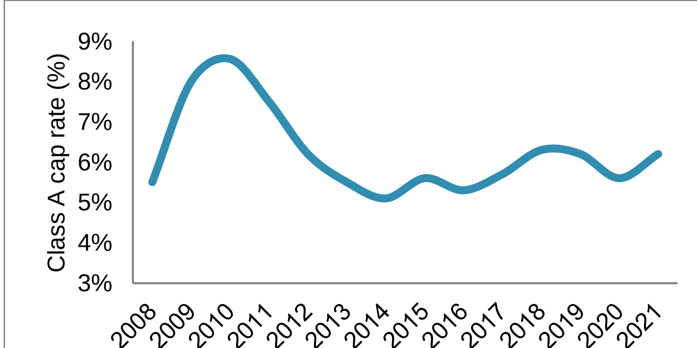


Table refers to overall market, while charts refer to Manulife submarkets

Office market trends

Orange County and in particular Irvine's diversified and skilled tenant base has helped it to weather the pandemic better than many peer office markets. Large leasing continued during the latter half of the year, led by three deals larger than 100,000 square feet from Verizon, Amazon and Genesis. Similarly, high-profile companies such as JPMorgan Chase, TYVAK and Bandai Namco made meaningful commitments to the submarket, underlining the variety of industries taking advantage of Irvine's developed talent pool.

Combined with a smaller development pipeline that brought 680,717 square feet of new supply to the submarket throughout 2021, occupancy losses have been less acute in Irvine than in similar markets. The rate of increase in vacancy slowed once again, rising to 17.6% at year-end. As major users have taken down top-priced blocks, asking rents dipped slightly in Q3 and Q4, but are likely to rebound as vacancy remains in check and the recovery continues incrementally throughout 2022 and into 2023.

A more attractive cost basis and better macroeconomic performance also led to continued investor interest in Irvine. Skyline's purchase of 1-3 Glen Bell Way for $159 million was the largest single sales transaction in Irvine in 2021 and one of the most expensive at $582 per square foot. Additionally, it only slightly fell short of being the largest in Orange County during the year, edged out by the sale of 275 Valencia Avenue in Brea.

Outlook

Irvine will continue to be one of the premier submarkets in both Orange County and Southern California as a whole given its concentration of key tenants in both traditional (finance, professional services) and emerging (tech, advanced manufacturing, aerospace) industries. Limited new construction will bring fundamentals back into check faster than the market overall.

Orange County market data

Leasing activity (Irvine)

Tenant	Address	Class	Lease type	Size (s.f.)
Verizon	15505 Sand Canyon Avenue	A	Renewal	119,049
Amazon	17300 Laguna Canyon Avenue	A	New lease	116,260
Genesis	15555 Laguna Canyon Avenue	A	New lease	105,600
JPMorgan Chase	3 Park Plaza	A	Renewal	96,211
TYVAK	400 Spectrum Center Drive	A	Sublease	89,068
Bandai Namco	15550 Sand Canyon Avenue	B	New lease	69,647
Accurate Background	7515 Irvine Center Drive	B	New lease	63,415
Super73	2722 Michelson Drive	A	Sublease	61,582

Office sales (Irvine)

Building	RBA (s.f.)	Sales price ($)	Price ($ p.s.f.)	Buyer	Seller
1-3 Glen Bell Way	273,180	$159,000,000	$582	Skyline	LBA
Apha IDG Portfolio	108,916	$40,200,000	$369	MicroPort	Alpha IDG
Skypark Business Center	82,748	$24,100,000	$291	DJ Sky Park	Koll
17891 Cartwright Road	29,058	$10,400,000	$358	Ian Russell	17891 Cartwright LLC

Active development pipeline (Irvine)

Building	Developer	Spec/BTS	Completion	RBA (s.f.)	Anchor
Spectrum Terrace (Phase 3)	Irvine Company	Spec	2022	374,256	TGS
Innovation Park	Irvine Company	Spec	2022	256,000	-

Phoenix (Tempe and Chandler)

- Phoenix is one of the fastest-rebounding markets in the United States. The metro area reached pre-pandemic employment in September and has seen unemployment fall to 2.8%, one of the lowest rates nationally.
- Tempe and Chandler continue to be dominant in attracting new-to-market tenants across industries, with particular strengths in finance, tech and professional services.
- After a very active development cycle, the pipeline will be fully delivered by year-end. With sustained population growth and corporate expansion, this will bring vacancy back down starting later in 2022 and into 2023.
- The need for quality space will spur further new construction, but with a lag this will keep fundamentals tightening until 2024 at the earliest.

Overall market statistics		Forecast
YTD net absorption (s.f.)	-1,191,070	▲
Under construction (s.f.)	1,210,926	▶
Total vacancy (%)	21.3%	▶
Sublease vacancy (s.f.)	2,881,598	▶
Asking rent ($ p.s.f.)	$28.78	▲
Concessions	Stable	▶

Office market trends

Tempe and Chandler maintained their status as dominant hubs for leasing, sales and development in the Phoenix office market in 2021. Despite negative net absorption for the first time since 2008, vacancy remains below 2009 and 2010 highs, while asking rents in the core of Tempe have approached $35 per square foot on average – up 2.6% over the year – and compete with the Camelback Corridor at just below $40 per square foot for Class A space to be the most expensive submarket in the region.

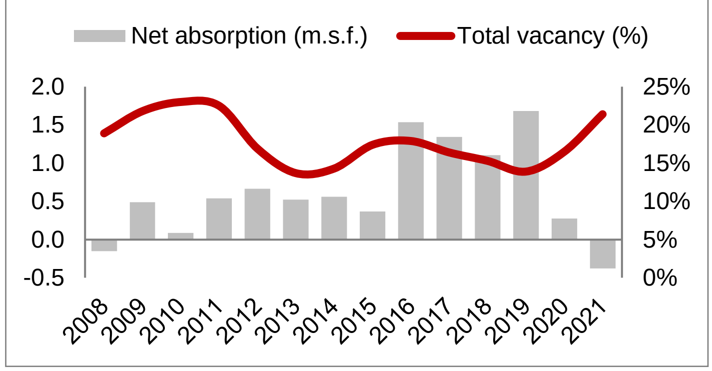
Fueling this activity is Tempe and Chandler's attractiveness to new-to-market tenants interested in the region's affordability as well as Tempe's walkable and mixed-use nature for tenants originating within Phoenix. During the second half of the year, Amazon expanded by 50,000 square feet at 1300 W Southern Avenue, while Cenlar, Peloton, Blue Parasol and Live Ramp rounded out major deals over the past six months. These leases underline the variety of industry sectors looking at Tempe and Chandler, ranging from consumer goods to health to finance.

Strong performance and sustained migration have attracted an array of investors to these submarkets in recent years, with the second half of 2021 being no exception. Nine deals larger than $20 million totaling $542.5 million took place in Tempe and Chandler over the past six months, making it one of the most active investment markets nationally. Notably, high-profile institutional and equity owners such as Macquarie and Shorenstein are placing significant capital into the region, signaling long-term confidence.

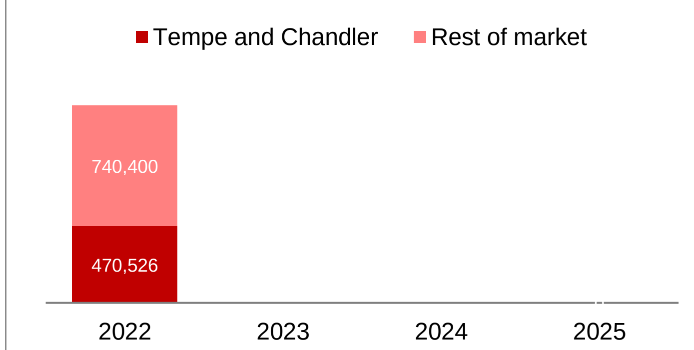
Outlook

Along with Scottsdale, Tempe and Chandler will continue to be outsized contributors to market activity in Phoenix in the coming years, aided by infrastructure improvements, high levels of amenitization, a younger population due to the presence of ASU and a cluster of high-profile, new-to-market tenants.

Vacancy is rising from new supply



Vacancy to decline as the pipeline delivers by year-end



Cap rates continue to decrease

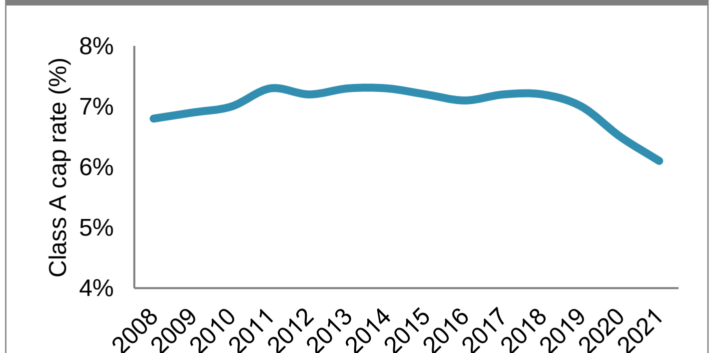


Table refers to overall market, while charts refer to Manulife submarkets

Phoenix market data

Leasing activity (Tempe and Chandler)

Tenant	Address	Class	Lease type	Size (s.f.)
Cenlar	8160 S Hardy Drive	B	Renewal	65,580
Amazon	1330 W Southern Avenue	B	Expansion	50,000
Peloton	615 S River Drive	B	Renewal	46,371
Blue Parasol	2141 E Broadway Road	A	Renewal	38,016
LiveRamp	100 S Mill Avenue	A	New lease	31,660

Office sales (Tempe and Chandler)

Building	RBA (s.f.)	Sales price ($)	Price ($ p.s.f.)	Buyer	Seller
Rio 2100	300,848	$132,000,000	$439	Strategic Office Partners	Boyer
Fountainhead Plaza	446,000	$117,500,000	$263	Shorenstein	KBS
Park Place	274,700	$106,000,000	$386	Manulife	Douglas Allred
Offices at Chandler Viridian	248,700	$102,000,000	$410	Macquarie	Hines/New York Life
Chandler Center Commons	447,969	$26,800,000	$60	Beacon	Northstar
Chandler Business Center	106,892	$19,100,000	$179	ScanlanKemperBard	Fullerton
Agave Center	219,741	$16,800,000	$77	White Mountain	Dornin
Ash Business Center	89,728	$12,000,000	$134	Investcorp	BKM
2705 S Alma School Road	44,473	$10,300,000	$232	Stratton Road	Off Five

Active development pipeline (Tempe and Chandler)

Building	Developer	Spec/BTS	Completion	RBA (s.f.)	Anchor
100 S Mill Avenue	Cousins	Spec	2022	287,000	Amazon, Deloitte
Beam on Farmer	Mortenson	Spec	2022	183,526	-

Portland (Sunset Corridor)

- Portland has one of the lowest unemployment rates on the West Coast – 3.2% – as it remains more insulated from the worst economic effects of the pandemic. Migration from higher-cost markets is helping to more quickly recover lost jobs.
- The Sunset Corridor has been slow to rebound from the pandemic, with relatively light leasing and sales activity, but is well positioned over the long-term due to the presence of major anchors such as Intel and Nike.
- Only one project is under construction and entirely pre-leased. With an inherent lag for new supply to be approved, break ground and deliver, proactive repositioning will help assets in the submarket to remain competitive.

Overall market statistics		Forecast
YTD net absorption (s.f.)	-1,846,552	▶
Under construction (s.f.)	860,400	▶
Total vacancy (%)	18.6%	▲
Sublease vacancy (s.f.)	664,653	▲
Asking rent ($ p.s.f.)	$34.04	▲
Concessions	Stable	▶

Office market trends

The Sunset Corridor rounded off 2021 in a similarly slow fashion as 2020, albeit with a slowdown in the rate of occupancy loss and increase in vacancy. The submarket remains better positioned from a statistical perspective than during the previous downturn, but faces challenges with respect to competition with the CBD and premier suburban locations such as Lake Oswego as well as aging office product and connectivity.

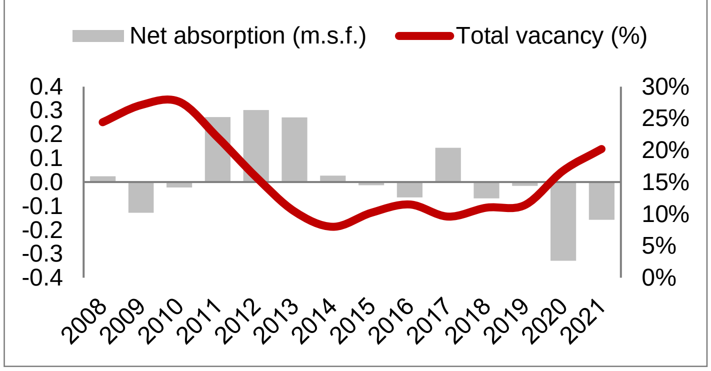
Only one lease larger than 50,000 square feet took place during the second half of the year, with Planar renewing 72,242 square feet at 1195 NW Compton Drive. A sublease from Q5id and expansion by Skyworks rounded out notable leasing in the submarket this quarter, but activity is still well below pre-pandemic levels. However, the Portland market more broadly is also registering below-average leasing velocity, indicating that more wide-ranging economic growth and demand will be necessary for a sustained recovery.

At the same time, only one building – Ambercreek – is on the verge of completion. It will house Microsoft as it expands further in Portland, spurred on by the presence of both established and emerging tech companies in the immediate surroundings and throughout the Portland metro area. The lack of additional construction hitting the Sunset Corridor will help to accelerate a correction in fundamentals in the coming quarters.

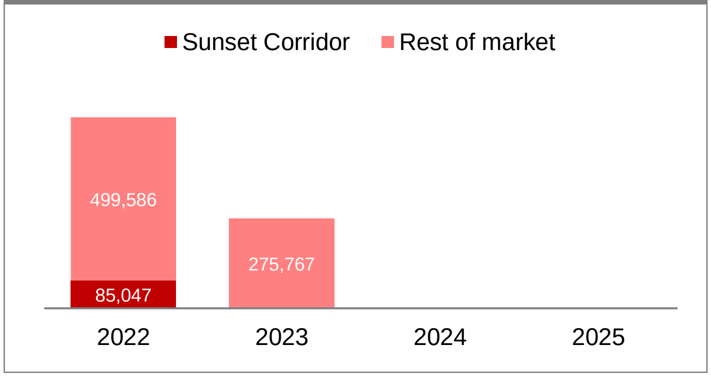
Outlook

The Sunset Corridor faces a number of substantial challenges in a post-COVID world, but is better positioned than many of its nearby suburban submarkets given its cluster of critical employers in high-growth industries, proximity to public transit to attract urban residents and skilled workforce. Repositioning existing assets with newer amenities will yield promising results when done proactively.

Vacancy continues to rise, but still below 2010 high



The Sunset Corridor has no speculative space underway



Cap rates have flatlined at just above 6%

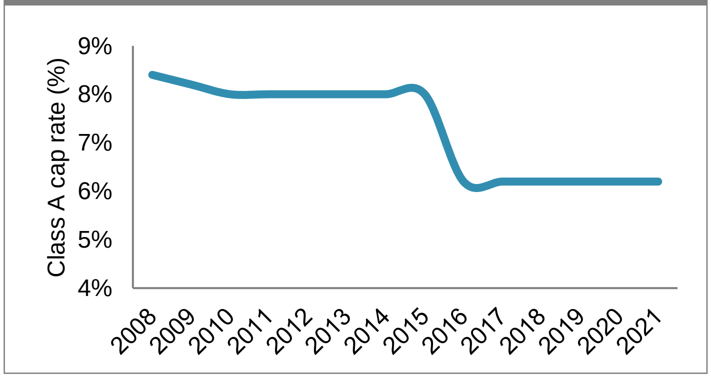


Table refers to overall market, while charts refer to Manulife submarkets

Portland market data

Leasing activity (Sunset Corridor)				
Tenant	**Address**	**Class**	**Lease type**	**Size (s.f.)**
Planar	1195 NW Compton Drive	A	Renewal	72,242
Q5id	22823 NW Bennett Street	A	Sublease	44,407
Skyworks	1400 NW Compton Drive	B	Expansion	11,369

Office sales (Sunset Corridor)					
Building	**RBA (s.f.)**	**Sales price ($)**	**Price ($ p.s.f.)**	**Buyer**	**Seller**
Tanasbourne Commerce Center	103,420	$28,500,000	$275	Manulife	Westport
Graymark Portfolio	210,181	$14,700,000	$70	Loboda	Graymark

Active development pipeline (Sunset Corridor)					
Building	**Developer**	**Spec/BTS**	**Completion**	**RBA (s.f.)**	**Anchor**
Ambercreek	Southwest Value	Spec	2022	85,047	Microsoft

Sacramento (overall)

- Sacramento's status as the capital of California and lower exposure to volatile economic sectors has led to a much less severe economic contraction and faster recovery. Employment is 1.9% below pre-pandemic levels, while unemployment has fallen to 4.7%.
- Government, health and regulatory tenants remain the primary drivers of leasing activity, although largely through renewals rather than expansions.
- The construction pipeline is exceedingly thin. A lack of new supply will challenge occupiers looking for quality space and may accelerate groundbreakings to accommodate changing tenant preferences.
- Vacancy is likely to be at or near a cyclical peak, with few new blocks to hit the market through give-backs or deliveries.

Overall market statistics		Forecast
YTD net absorption (s.f.)	-819,419	▶
Under construction (s.f.)	124,471	▶
Total vacancy (%)	18.1%	▶
Sublease vacancy (s.f.)	793,434	▶
Asking rent ($ p.s.f.)	$26.28	▶
Concessions	Stable	▶

Office market trends

Sacramento's counter-cyclical and government, health and education-heavy office market kept fundamentals more balanced than other geographies in not only California but throughout the country in the face of numerous economic and public health headwinds. Net absorption over the course of 2021 totaled -819,418 square feet, bringing vacancy to a cyclical high of 18.1%, but this is still below the financial crisis peak of 24.5% and vacancy in submarkets such as Folsom and Midtown remains below 12%.

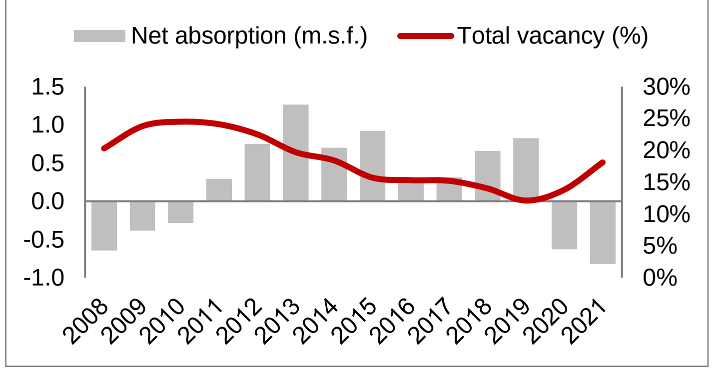
Leasing activity was overwhelmingly in the form of renewals from government anchors, although the largest deal of the second half of the year was healthcare company Penumbra's 96,505-square-foot expansion at 620 Roseville Parkway, bringing its total footprint to 254,000 square feet. Outside of this deal, California's Department of Health Care Service, State Comptroller's Office and Department of Motor Vehicles all renewed a combined 216,777 square feet of space across the market.

The local investment sales market also had a strong second half, registering $361.3 million in assets trading hands in deals larger than $20 million. The Cherng Family Trust's acquisition of the seven-building California Capitol Collection portfolio for $116.1 million from Buzz Oates was responsible for much of this activity, although five other substantial sales took place in the second half of the year, underlining investors' search for yield as pricing in the Bay Area and Southern California remains out of reach for many potential buyers.

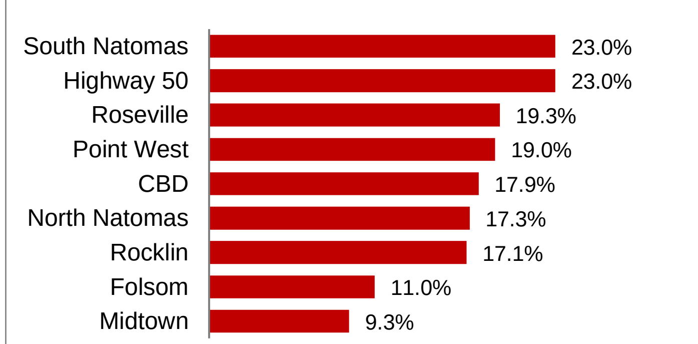
Outlook

Sacramento's underlying demographic and economic drivers will keep activity stable even with a lower presence of higher-growth industries. With only one property currently under construction – the renovation of 6609 J Street (known as XC) – vacancy is unlikely to rise much further, although a lack of quality product is likely to catalyze new speculative construction.

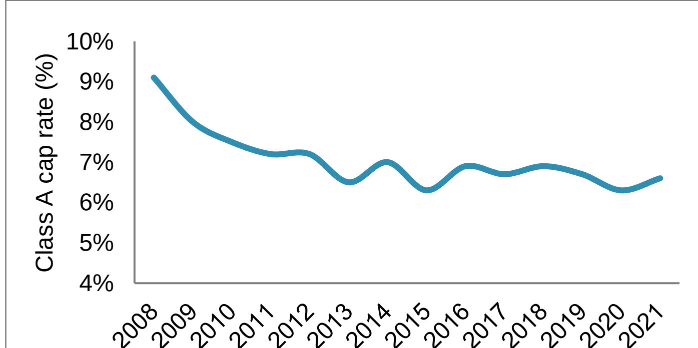
Little new supply is keeping vacancy in check



Midtown and Folsom remain the tightest submarkets



Class A cap rates have dipped only slightly in recent years



All data refers to overall market

Sacramento market data

Leasing activity (overall)				
Tenant	**Address**	**Class**	**Lease type**	**Size (s.f.)**
Penumbra	620 Roseville Parkway	B	Expansion	96,505
Gainwell	620 Roseville Parkway	B	Renewal	96,300
California Dept. of Health Care Services	1700 K Street	B	Renewal	77,742
State Controller's Office	10600 White Rock Road	B	Renewal	76,251
California Dept. of Motor Vehicles	2730 Broadway	B	Renewal	62,784
Travelers	11090 White Rock Road	B	Renewal	43,777

Office sales (overall)					
Building	**RBA (s.f.)**	**Sales price ($)**	**Price ($ p.s.f.)**	**Buyer**	**Seller**
California Capitol Collection	843,646	$116,100,000	$139	Cherng Family Trust	Buzz Oates
The Ziggurat	373,725	$90,000,000	$241	Nome	Zurich
Parkshore Plaza	271,484	$72,200,000	$266	Kingsbarn	Asset Preservation
620 Roseville Parkway	193,573	$33,200,000	$172	NexCore	Strada
Ridge Capital Portfolio	199,598	$29,500,000	$148	River City	Ridge Capital
9832 Business Park Drive	108,020	$20,300,000	$187	Corsair	David Fite

Active development pipeline (overall)					
Building	**Developer**	**Spec/BTS**	**Completion**	**RBA (s.f.)**	**Anchor**
XC	Sacramento Kings	Spec	2022	124,471	-

Washington, D.C. (CBD)

- Regional employment is only 1.5% below the peak seen in February 2020, while unemployment has fallen to 3.6%. This is among the strongest labor markets of any primary city.
- Traditionally counter-cyclical due to the presence of the federal government, DC is struggling to absorb a significant amount of new supply as federal tenants shift more aggressively to remote work.
- Although it will be largely delivered by the end of 2022, a wave of new construction in recent years has yet to be absorbed and will keep conditions soft in the absence of high-growth and expanding tenants.

Overall market statistics		Forecast
YTD net absorption (s.f.)	-2,056,454	▼
Under construction (s.f.)	1,703,154	▼
Total vacancy (%)	18.5%	▲
Sublease vacancy (s.f.)	3,396,577	▲
Asking rent ($ p.s.f.)	$59.82	▶
Concessions	Rising	▲

Office market trends

Washington, DC and in particular the CBD submarket continued to experience softening conditions on the back of a combination of the COVID-19 pandemic, ample new supply and a lack of high-growth tenant industries to absorb space being delivered and given back from relocating users. Vacancy rose to 21.5% in the CBD, above the District-wide average of 18.5%, while net absorption totaled nearly -1.1 million square feet.

The CBD is particularly prone to flight to quality, albeit at a slower pace than peer gateways given the trends toward consolidation from key occupiers. Net absorption in buildings delivered since 2015 has been positive at 173,582 square feet, equating to a rate of roughly 13.2% of inventory. This is somewhat less divergent than DC as a whole, however, which saw absorption of 1.9 million square feet in 2015-present vintage, aided by expansion in new developments at the Wharf, Union Market and the Ballpark on the urban fringe.

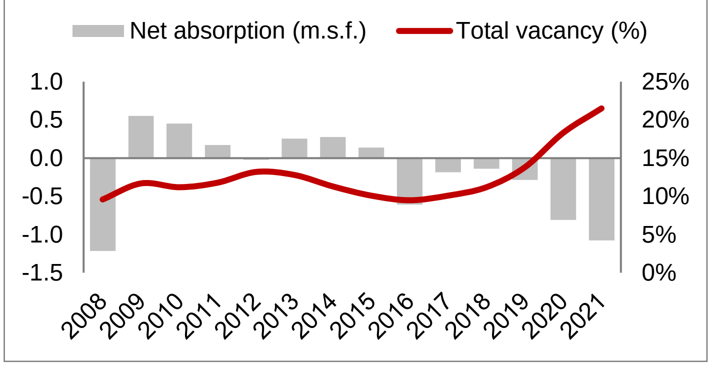
Apart from Gibson Dunn's pre-lease for 163,750 square feet at 1700 M Street NW, leasing activity was subdued throughout Q3 and Q4 2021. A combination of legal services, consulting and real estate firms such as Katten Muchin, Guidehouse, Industrious and Brown Advisory all signed on for between 30,000 and 60,000 square feet, but in the form of renewals and relocations with contraction rather than new or expansionary leasing.

One project broke ground in the second half of 2021: 1700 M Street NW, which will be anchored by Gibson Dunn upon its delivery in 2024. There are two major spec development also underway that will hit the market in 2022 – 1700 and 2100 Pennsylvania Avenue NW – adding 611,562 of new product to the CBD.

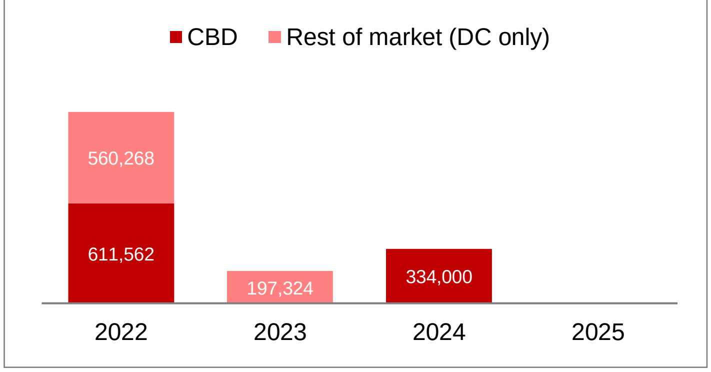
Outlook

Washington, DC as a whole, especially the CBD, will remain soft among gateway markets over the near-term as continued supply additions keep vacancy elevated and concessions stay firm at record highs. New legislation to accelerate the process of converting office space in Downtown DC to other asset classes, particularly residential, is likely to help correct fundamentals in the coming years.

Net absorption negative for the fifth year in a row



The pipeline is thinning; to be delivered by 2024



Class A cap rates see little movement without large deals

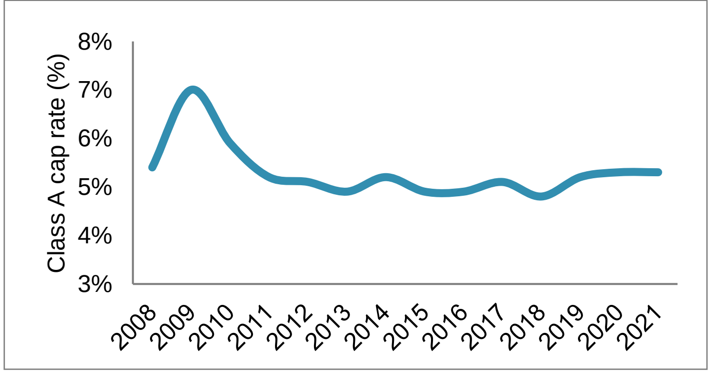


Table refers to overall market, while charts refer to Manulife submarkets

Washington, D.C. market data

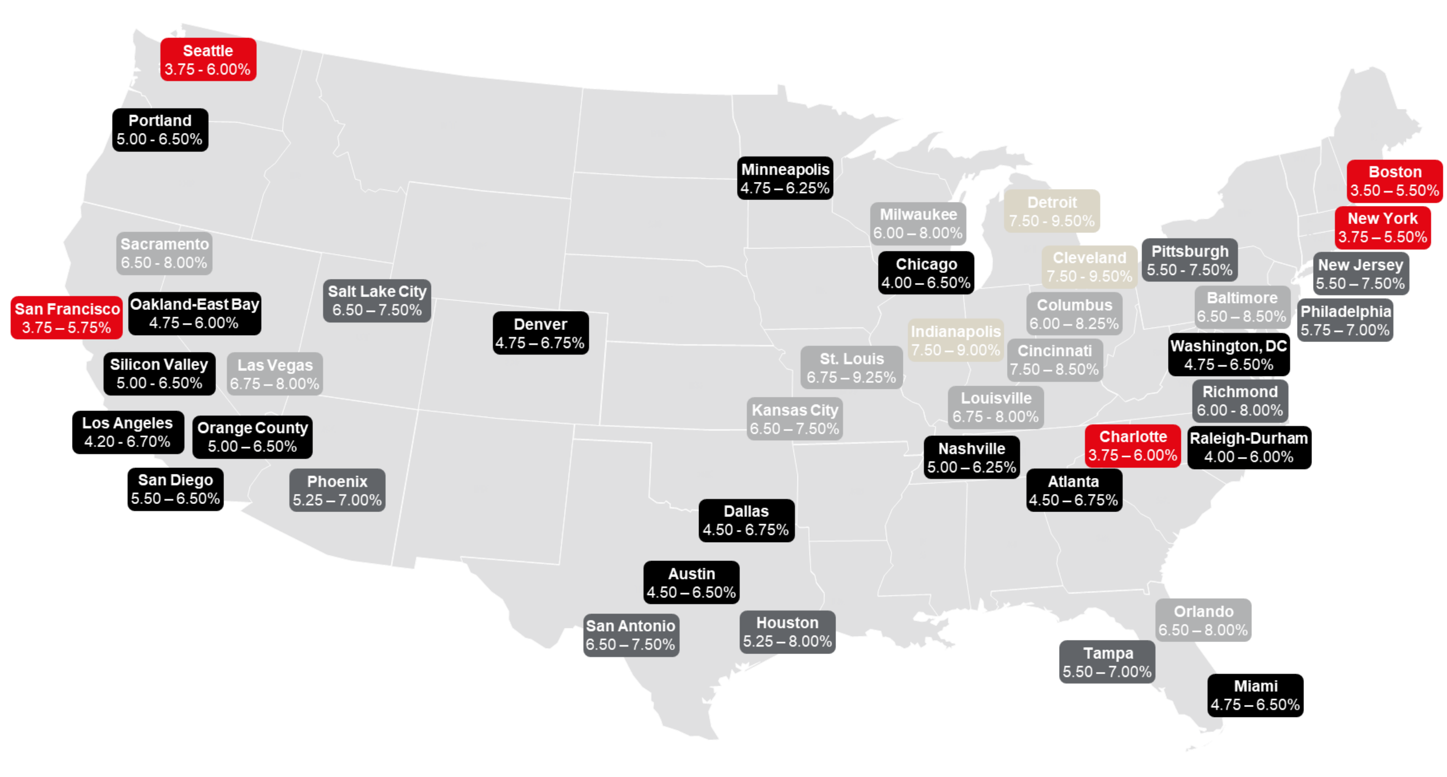
Leasing activity (CBD)				
Tenant	**Address**	**Class**	**Lease type**	**Size (s.f.)**
Gibson Dunn	1700 M Street NW	Trophy	Relocation	163,750
Katten Muchin Rosenman	1919 Pennsylvania Avenue NW	B	Relocation	51,527
Guidehouse	1200 19th Street NW	A	Renewal	51,118
Industrious	1615 L Street NW	A	Renewal	40,456
Brown Advisory	1801 Pennsylvania Avenue NW	A	Relocation	32,302

Office sales (CBD)					
Building	**RBA (s.f.)**	**Sales price ($)**	**Price ($ p.s.f.)**	**Buyer**	**Seller**
WashREIT Portfolio	678,593	$364,500,000	$537	Brookfield	WashREIT
1735 K Street NW	97,000	$22,500,000	$232	Beacon	FIRA

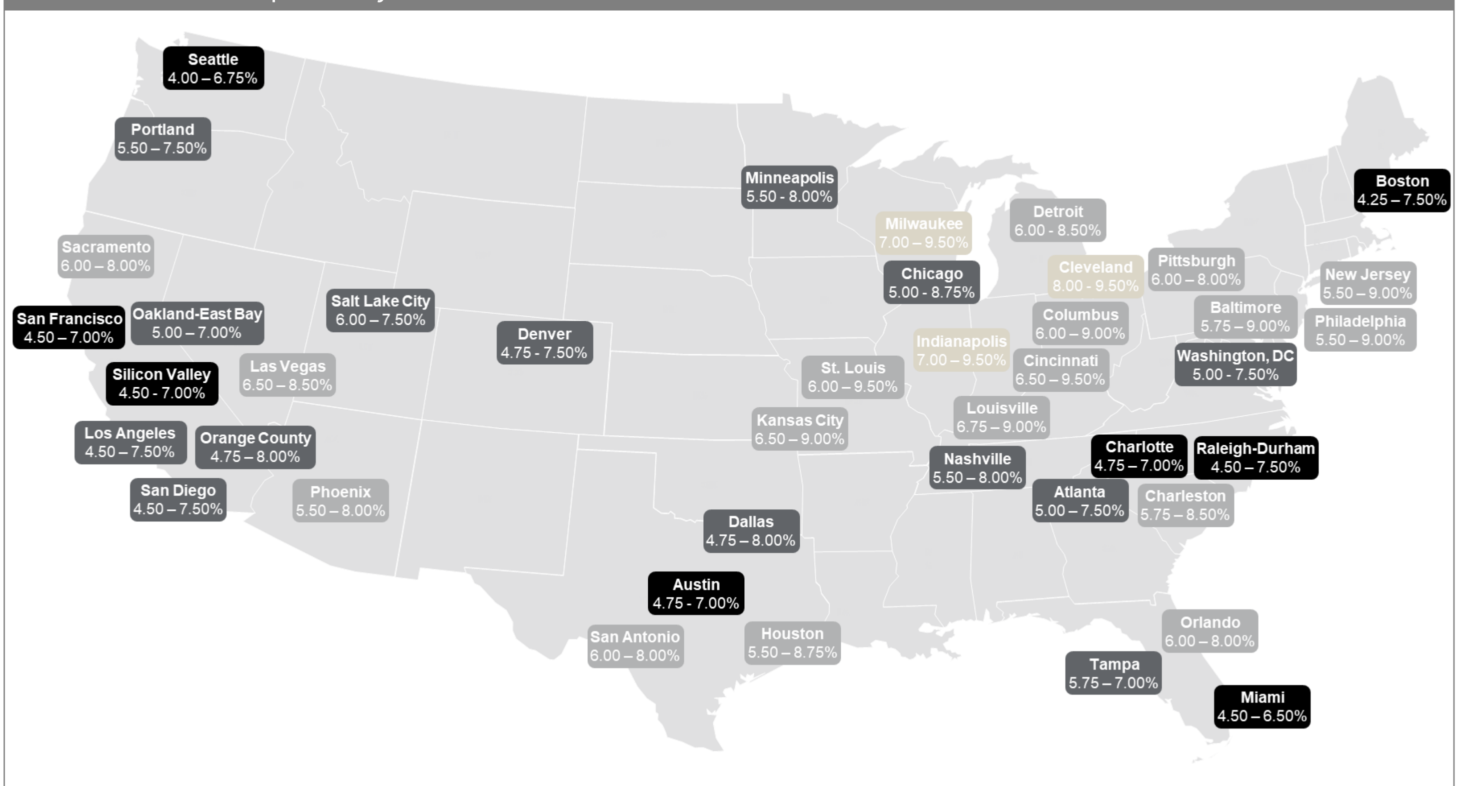
Active development pipeline (CBD)					
Building	**Developer**	**Spec/BTS**	**Completion**	**RBA (s.f.)**	**Anchor**
2100 Pennsylvania Avenue NW	Boston Properties	Spec	2022	423,562	WilmerHale
1700 M Street NW	Skanska	Spec	2024	334,000	Gibson Dunn
1700 Pennsylvania Avenue NW	Akridge	Spec	2022	188,000	-

Cap rates by market

CBD Class A cap rates by market



Suburban Class A cap rates by market



Methodology and terms of use

Methodology

JLL leverages proprietary leasing data with a blend of public, government-issued and third-party sources to produce our economic and market reports.

Office inventory spans 50+ U.S. local markets and is generally limited to investment-grade assets larger than 30,000 s.f., excluding medical office and owner-occupied assets.

Net absorption is recognized upon lease commencement and/or physical move-in, not lease sign date. Vacancy is recognized upon physical move-out or lease expiration date, not the time at which space is advertised for lease.

All sources are deemed reliable, but in some cases, information cannot be independently verified.

Use and reliance

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