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2022 Mid-Year Life Science Overview & Market Clusters

NEWMARK



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Introduction

Despite the turmoil in the public markets, slowdown in venture capital funding and volatility in interest rates, life science real estate remains well-positioned for future growth. From an investor perspective, the occupancy and expansion risks that continue to affect tenant demand for conventional office do not exist for laboratory product. Therefore, life science landlords can still count on research and development being done in the laboratory, and Good Manufacturing Practice (GMP) manufacturing to be done onsite and not remotely. In contrast to conventional office markets, where overbuilding remains a concern, the majority of cluster markets remain under-supplied, as construction costs and technical expertise remain high barriers to entry for pure-play laboratory space. Similarly, while life science venture capital funding declined 18.5% year-over-year to \$20.8 billion in 1H22, that level of funding is greater than every full-year amount prior to 2018. Venture capital as a whole has become significantly more institutional and global in the past decade, which has made the industry much more resilient to market fluctuations. Additionally, well-capitalized pharmaceutical and life science giants such as Merck, Pfizer and Roche are still expected to contribute positively to tenant demand and tenant bankruptcy watchlists overall remain small.

However, the sector is not completely immune from the

negative impacts affecting virtually every asset class in 1H22. The rising costs of debt driven by increasing treasury rates are impacting top-priced deals and underwriting, leading to some re-trading activity. Investors that have taken losses in the public markets (the S&P biotechnology index is down 33.7% year-to-date) might also be inclined to lessen their allocations to private investments such as real estate, which in turn will impact the depth of bidder pools and the capital available for acquisitions. The deceleration in venture capital funding will have an uneven impact on tenant demand and will affect early-stage companies that are unable to raise sufficient funds in later venture rounds – the pullback will also impact less well-capitalized firms and recently public biotechnology companies that might taper their future leasing activity.

Capital Markets

Following a record year for investment volume in 2021, the pace of life science real estate capital markets activity slowed in 1H22 – volume hit \$7.7 billion, which is a 33.6% decrease compared with 1H21. However, pricing for office product with a laboratory component continued to climb, reaching a record \$564 per square foot nationwide, underlining continued investor demand. The top buyers of life science product in 2022 have been a mix of existing top owners, such as Alexandria, Healthpeak and Harrison Street, but also emerging





players such as Canadian pension plan OMERS and institutional groups such as CBRE Investment Management. Though the pace of life science fundraising activity has also slowed, over \$3 billion in fund targets were announced in 1H22, including a \$2 billion-dollar commitment from Taconic Investment Partners to expand their life science operations outside of New York City.

Top Clusters

Boston, San Francisco, San Diego and Raleigh/Durham remain the top life science clusters in the United States and continue to be the epicenter of life science leasing and capital markets activity. Combined, these four markets make up over 93 million square feet of laboratory and GMP space and have a future construction and renovation pipeline of 33.2 million square feet. In the greater Boston region, Cambridge remains the dominant life science market in the country, with tenant demand keeping vacancy at 2.2% and top-quality laboratory rents reaching \$130 per square foot as of 1H22. Even as macroeconomic headwinds have impacted tenant and investor demand, fierce competition for space and high rents in the core submarkets has led to an increase in demand for laboratory space in the Urban Edge markets, such as Somerville and Watertown. Similarly in the Bay Area, tenant demand is expected to absorb the majority of the 5.2 million

square feet of laboratory space that is projected to be delivered in 2022 and there is an estimated 4.4 million square feet in active tenant requirements as of 1H22. South San Francisco remains the Bay Area's top submarket in terms of inventory, rents and demand, however other markets such as Emeryville in Oakland are attracting developers seeking out lower land and development costs. In San Diego, the core Torrey Pines and UTC markets recorded vacancy rates of 1.3% and 2.6% respectively in 1H22, emphasizing the continued supply-demand imbalance in the cluster. In the Research Triangle (Raleigh/Durham), several former pharmaceutical campuses are being activity converted into institutional-quality laboratory space as the market continues to attract both STEM talent and top biotechnology and life science companies. Similar to other top cluster markets, investors and tenants are seeking space further from the core Raleigh/Durham market, with ongoing developments occurring in Downtown Durham as well as in Western Wake County in cities such as Morrisville and Cary.

National Overview

Top Life Science Owners

Top 10 Life Science Owners					
Company	HQ Location	Investor Type	Number of Properties	Featured Markets Exposure Count	Square Feet*
Alexandria Real Estate Equities	Pasadena, CA	Public REIT	407	9	47,000,000
Blackstone BioMed	New York, NY	Institutional	106	9	14,900,000
Healthpeak Properties	Denver, CO	Public REIT	83	4	12,200,000
Ventas	Chicago, IL	Public REIT	42	6	10,000,000
Longfellow RE Partners	Boston, MA	Private/Developer	56	4	9,100,000
King Street Properties	Boston, MA	Private/Developer	29	3	7,600,000
Boston Properties	Boston, MA	Public REIT	51	3	4,600,000
Diversified Healthcare Trust	Newton, MA	Public REIT	30	6	4,100,000
IQHQ	Solana Beach, CA	Private REIT	21	3	3,800,000
Alloy Properties (TPG)	San Francisco, CA	Institutional	31	5	3,400,000

Total: **116,700,000**

Other Prominent Owners			
Company	HQ Location	Investor Type	Square Feet*
Wareham Development	San Francisco, CA	Private/Developer	3,300,000
Harrison Street	Chicago, IL	Institutional	3,300,000
Nuveen	New York, NY	Institutional	3,200,000
Phase 3 RE Partners	San Diego, CA	Private/Developer	3,000,000
Beacon Capital Partners	Boston, MA	Institutional	2,800,000
Kilroy Realty Corporation	Los Angeles, CA	Public REIT	2,600,000
Pacific Coast Capital Partners	Los Angeles, CA	Institutional	2,400,000
DivcoWest	San Francisco, CA	Institutional	2,200,000
Clarion Partners	New York, NY	Institutional	2,000,000
KKR	New York, NY	Institutional	2,000,000



116.7M
Square Feet

The total approximate life science wet laboratory / R&D space owned by the top ten owners, 70% of which is owned by public or private REITs

* Includes under construction and under renovation product

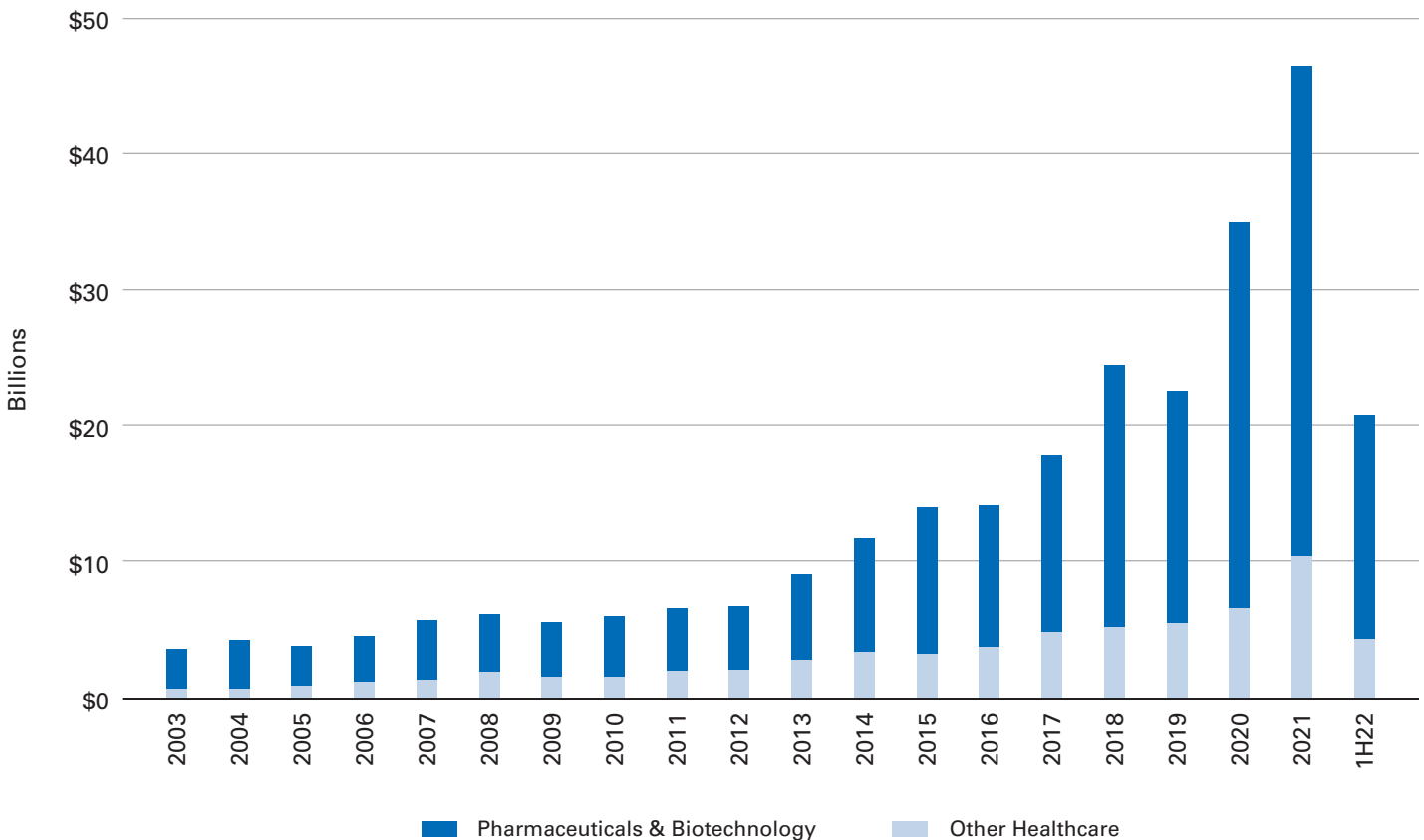
Life Science Venture Capital Funding

Life science venture capital funding declined by 18.5% year-over-year to \$20.8 billion in the first half of 2022. Macroeconomic volatility and declining stock market valuations, particularly for information technology and biotechnology companies, have dampened investor sentiment and expectations for IPOs or M&A exits. However, despite this cooldown, the underlying long-term view remains healthy for life science investment as 1H22 venture

capital funding was up 68.6% compared with 1H19. The pandemic undoubtedly created one of the most favorable environments for the life science sector in venture capital history – not only were the field of investable companies narrowed due to the disruption caused by lockdowns and sudden shifts in consumer behavior, but healthcare and vaccine development were put at the forefront of global priorities.

Additionally, interest rates declined to historic lows and the cost of capital was among the lowest in history for biotechnology companies. While these exact conditions are unlikely to be recreated in the short term, the future for life science companies in the long term remains positive, particularly as technological advancements and breakthroughs in healthcare continue to drive investment.

National Life Science Venture Capital Funding United States | 2003 - 2022 (YTD)

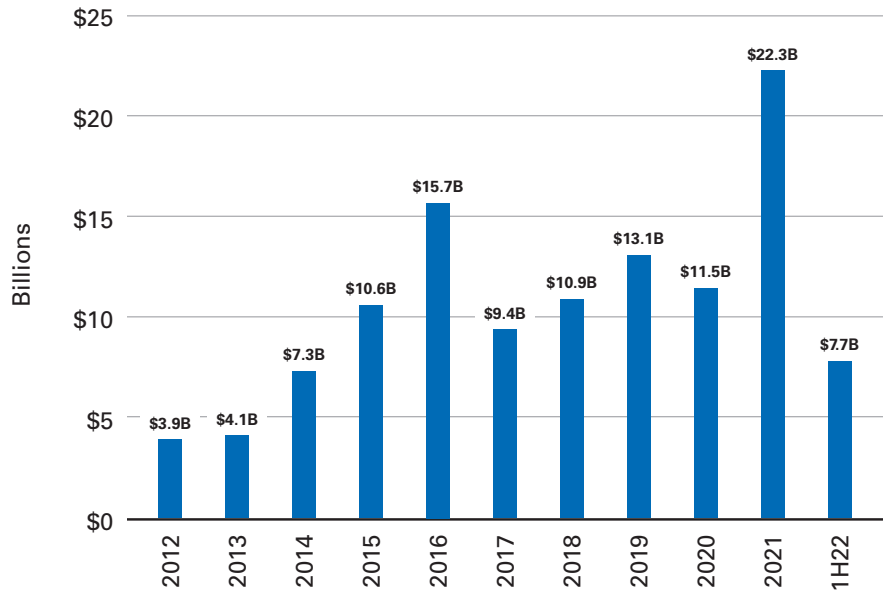


Sources: Newmark Research, PitchBook

Capital Markets: Life Science Real Estate Activity

Mirroring the slowdown in venture capital funding, life science investment activity decelerated in 1H22, reaching \$7.7 billion, which is a 33.6% decrease compared with 1H21. The most active investors were largely the top owners of life science such as Alexandria Real Estate Equities, Longfellow, Healthpeak, and Harrison Street, who all remain committed to life science real estate in the cluster markets. Life science fundraising activity has increased albeit at a slower pace in 1H22, with an estimated \$46.9 billion raised since 2020.

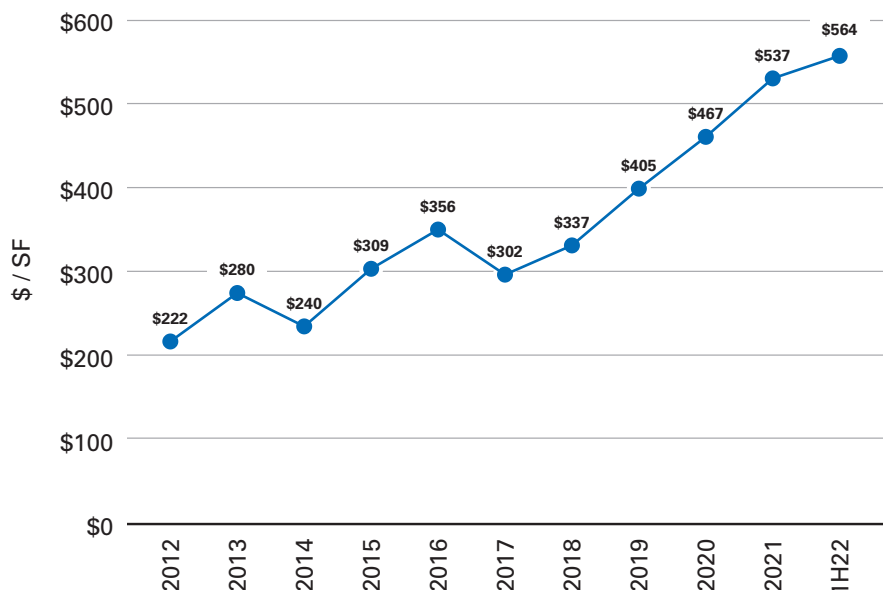
R&D / Life Science Volume
United States | 2012 - 2022 (YTD)



Sources: Newmark Research, Real Capital Analytics

Despite a slowdown in investment activity, pricing for life science and R&D assets remains at a record high, hitting \$564 per square foot in 1H22. Although bidding pools have thinned compared with 2021, investors are still attracted to laboratory assets, in part due to supply-demand imbalance that still exists in the largest cluster markets. For Class A product in Cambridge, South San Francisco, Sorrento Mesa, and South Lake Union, pricing is above \$1,000+ per square foot in 2022, with high water market pricing over \$2,000 per square foot for best-in-class assets in Cambridge's Kendall Square.

R&D / Life Science Pricing
United States | 2012 - 2022 (YTD)



Sources: Newmark Research, Real Capital Analytics

Life Science Fundraising Activity

Announcement Date

OCTOBER 2020	Blackstone	\$8.30 B
OCTOBER 2020	DivcoWest VI	\$2.25 B
OCTOBER 2020	Ventas Life Science and Healthcare Real Estate Fund	\$1.00 B
OCTOBER 2020	Artemis Real Estate Partners Healthcare Fund II	\$0.75 B
NOVEMBER 2020	IQHQ	\$2.60 B
NOVEMBER 2020	Breakthrough Properties (Tishman Speyer)	\$3.00 B
DECEMBER 2020	Bain Capital Real Estate II	\$1.60 B
DECEMBER 2020	Exeter Office and Life Science Value Fund II	\$0.50 B
DECEMBER 2020	Alidade Capital Fund V	\$0.25 B
JANUARY 2021	Harrison Street / HS-OR Life Science Partners	\$0.20 B
FEBRUARY 2021	Cadre Direct Access Fund	\$0.40 B
APRIL 2021	Boston Properties & Sovereign Wealth Funds Joint Venture	\$2.00 B
JUNE 2021	Bain Capital Real Estate	\$3.00 B
JUNE 2021	Invesco Real Estate U.S. Fund VI	\$1.50 B
JULY 2021	KKR Property Partners Americas	\$1.50 B
JULY 2021	Greystar & CPP Joint Venture	\$1.25 B
JULY 2021	GI Partners	\$0.50 B
SEPTEMBER 2021	Brookfield & King Street Properties Joint Venture	\$1.50 B
NOVEMBER 2021	NPS-Tishman Speyer Thematic Platform / Separate Account	\$1.50 B
DECEMBER 2021	Carlyle Realty Partners IX	\$8.00 B
DECEMBER 2021	Hines	\$2.00 B
JANUARY 2022	Gaw US Fund IV	\$0.50 B
FEBRUARY 2022	Ivanhoe JV Lendlease (Development)	\$0.50 B
MARCH 2022	Marcus Capital Partners Fund IV	\$0.30 B
JUNE 2022	Taconic / Elevate Research Properties	\$2.00 B

TOTAL FUNDRAISING ACTIVITY SINCE 2020

\$46.90 B

Life Science Clusters



GREATER BOSTON

- Despite a softening in the biotech sector during the first half of 2022, fundamentals throughout Greater Boston remain positive. Asking rents have increased by 6.9% since the end of 2021 and vacancies are holding steady. However, the uptick in sublease options and anticipated new supply have shifted more bargaining power to tenants, which could impact concessions and rents in the second half of 2022.
- In response to limited IPO activity and public market volatility, many early-stage biotech companies are now focused on cash preservation in order to extend their runways. Consequently, several Boston-area firms have implemented layoffs and/or put space on the sublease market.
- Greater Boston's lab development pipeline is still robust, with three developments delivering in the second quarter alone. Total square feet underway has now surpassed 11 million square feet as developers focus on emerging life science clusters within the Route 128 and Urban Edge markets.
- While investment sales momentum has slowed nationally, investor demand for Boston life science product remains healthy, with the cluster attracting \$5.2 billion in volume in the past 12 months, which is 71.0% higher than pre-pandemic (2019) volume.

MARKET STATS

	Total Market	Cambridge	Seaport District	Lexington & Waltham
Market Size (SF)	28,415,143	13,049,772	2,054,774	5,031,487
Rent (PSF)	\$60 - \$130	\$95 - \$130	\$95 - \$120	\$65 - \$90
Vacancy Rate	4.6%	2.2%	23.8%	5.3%
Under Construction (SF)	11,110,002	1,985,616	3,272,569	883,700
Under Renovation (SF)	6,543,388	1,280,716	791,195	812,289
Proposed (SF)	39,692,372	3,860,452	7,805,965	2,750,656
1H22 Venture Capital Funding	\$6.4 B			
Compared with 1H21	-35.5%			
Compared with Pre-Covid (1H19)	75.7%			
12-Month Sales Volume	\$5.2 B			
12-Month Sales Price (PSF Avg)	\$737			

Emerging Life Science Investors/Developers

Anchor Line Partners, Beacon Capital Partners, Phase 3 Real Estate Partners, KKR, GIC, Nan Fung Group, OMERS, Spear Street Capital, TPG Real Estate, WS Development

*'Venture Capital Funding' includes both Healthcare and Life Science funding.



SAN FRANCISCO BAY AREA

- The San Francisco Bay Area life science market continues to be the #2 ranked life science cluster in the country, supported by over 33 million square feet of laboratory inventory, continued tenant demand and strong venture capital networks adjacent to Silicon Valley.
- Bay Area healthcare and life science venture capital funding increased by 19.3% in 1H22 compared with 1H21 – this is a stark contrast to a national slowdown in the venture capital space and is an encouraging sign for tenant demand.
- While an estimated 5.2 million square feet of laboratory space is projected to be delivered in 2022, tenant demand is expected to absorb the majority of this space and there is an estimated 4.4 million square feet in active tenant requirements.
- Conversion of existing flex/R&D and office properties to laboratory product is a driver of supply growth, particularly in markets such as Emeryville, as land and development costs in the Bay Area remain a sizable barrier to entry.
- Alexandria, Healthpeak and Blackstone BioMed Realty are dominant life science landlords, with a combined footprint of nearly 20 million square feet, however emerging investors such as private REIT IQHQ are aggressively acquiring development sites, such as Elco Yards in Redwood City, and have long term commitments to the cluster.

MARKET STATS

	Total Market	South SF	Palo Alto	San Carlos	Menlo Park	Emeryville
Market Size (SF)	33,874,386	11,377,186	2,104,764	1,223,308	954,197	2,111,580
Rent (PSF)	\$63 - \$92	\$78 - \$92	\$78 - \$88	\$81 - \$84	\$76 - \$81	\$75 - \$81
Vacancy Rate	6.8%	5.4%	15.1%	22.4%	0.6%	0.3%
Under Construction (SF)	5,565,289	2,093,008	0	416,932	0	0
Under Renovation (SF)	4,170,592	473,598	422,598	0	0	510,209
Proposed (SF)	34,087,912	8,060,106	891,860	3,792,509	436,585	1,704,913
1H22 Venture Capital Funding	\$12.3 B					
Compared with 1H21	19.3%					
Compared with Pre-Covid (1H19)	135.0%					
12-Month Sales Volume	\$5.7 B					
12-Month Sales Price (PSF Avg)	\$602					

Emerging Life Science Investors/Developers

Breed's Hill Capital, Center Capital Partners, City Center Realty Partners, Contrarian Capital Management, Long Market Property Partners, Montana Avenue Capital Partners, Prince Street Partners, Walton Street

LIFE SCIENCE CLUSTERS



SAN DIEGO

- San Diego is the third largest biotech cluster in the United States and has been a top focus of life science REITs and institutional investors, which own an estimated 44% of existing life science product in the region. Investors are attracted to the market’s top research institutions centered around the UC San Diego campus, high concentration of R&D and laboratory facilities and record-setting venture capital funding.
- Demand for life science space has far outstripped supply, as there is an estimated 2.9 million square feet of active requirements in the market – tenants that are in expansion mode include Eurofins, Cibus, Debut Bio, LocanoBio, InvivoScribe and SmartLabs.
- As rents continue to increase, particularly in Sorrento Mesa and Torrey Pines, nearby submarkets such as Del Mar Heights have started to emerge as new life science clusters, driven by expanding biotech companies searching for large blocks of space outside of the supply-constrained core.

MARKET STATS

	Total Market	Sorrento Mesa	Sorrento Valley	Torrey Pines	UTC	Emerging Submarkets
Market Size (SF)	21,299,965	6,867,219	1,520,247	5,530,808	4,031,236	3,350,455
Rent (PSF)	\$69 - \$81	\$63-\$78	\$63-\$81	\$75-\$83	\$71-\$83	-
Vacancy Rate	3.4%	5.7%	2.6%	1.3%	2.6%	11.1%
Under Construction (SF)	3,058,792	339,633	–	409,484	–	2,309,675
Under Renovation (SF)	1,345,968	569,968	–	–	–	776,000
Proposed (SF)	11,010,633	5,456,777	620,000	205,666	3,099,000	1,629,190
1H22 Venture Capital Funding	\$1.6 B					
Compared with 1H21	-49.5%					
Compared with Pre-Covid (1H19)	112.0%					
12-Month Sales Volume	\$3.4 B					
12-Month Sales Price (PSF Avg)	\$677					

Emerging Life Science Investors/Developers

Longfellow Real Estate Partners, IQHQ, Sterling Bay, Kilroy Realty, Breakthrough Properties, Stockdale Capital Partners, Lincoln Property Company, Phase 3 Real Estate Partners, Sea Breeze Properties, Healthpeak Properties, Oxford/McCarthy Cook, BioScience Property Investments

Venture Capital Funding includes both Healthcare and Life Science funding.



RESEARCH TRIANGLE (RALEIGH / DURHAM)

- Raleigh / Durham’s life science market fundamentals remain strong across the major submarkets relative to other asset classes. However, the first half of 2022 saw a slowdown in leasing activity, in part due to the tumultuous macro market conditions that end-users are facing.
- Though office-to-laboratory conversions remain attractive to tenants, the majority of development activity has been focused on purpose-built life science assets with experienced owners which remain nearly 100% leased.
- There is nearly 1.5 million square feet of speculative development planned throughout the market for 2022/2023. This will be a mix of vertical development in RTP/RDU and Downtown Durham for R&D labs, as well as GMP assets that will be located along Airport Boulevard corridor and the US-1 corridor.
- Total planned development now exceeds 14 million square feet, which will more than double the market’s size over the next 5-10 years and ultimately drive additional capital markets and leasing activity. However, many of these projects may never break ground or will pivot to other uses, particularly as supply chain issues and rising construction costs impact deliveries and as landlords more closely watch demand fundamentals in the wake of macroeconomic uncertainty.

MARKET STATS

	Total Market	RTP / RDU	Downtown Durham	Western Wake Country / US-1
Market Size (SF)	10,713,544	9,075,852	689,206	948,486
Rent (PSF)	\$30 - \$47	\$32 - \$40	\$38 - \$47	\$30 - \$36
Vacancy Rate	16%	10.3%	10%	72.5%
Under Construction (SF)	522,600	302,600	0	220,000
Under Renovation (SF)	1,105,898	575,324	37,300	568,474
Proposed (SF)	14,200,000	9,550,000	1,200,000	3,446,000
1H22 Venture Capital Funding	\$508 M			
Compared with 1H21	1.7%			
Compared with Pre-Covid (1H19)	-20.7%			
12-Month Sales Volume	\$500 M			
12-Month Sales Price (PSF Avg)	\$579			

Emerging Life Science Investors/Developers

CMP REIT, Alloy Properties, Crescent Communities, Easton Group, Goldman Sachs, King Street Properties, Nuveen, Starwood Capital, TPG, Trinity Capital

LIFE SCIENCE CLUSTERS



PHILADELPHIA

- Greater Philadelphia is one of the largest life science markets by employment and laboratory inventory nationwide, supported by its rich concentration of colleges and universities, renowned healthcare institutions and a strong legacy of pharmaceutical manufacturing.
- The market's world-class healthcare and educational institutions have fostered expanding innovation in biotech research and development, especially relating to novel gene and cell therapies, leading to the region developing the moniker, "Cellicon Valley".
- The University of Pennsylvania in particular has been instrumental in the continued growth of Philadelphia's cluster, with its 23-acre mixed-use development "Pennovation Works" serving as an example of the collaboration between the university and both public and private sectors to develop office and laboratory product.
- Demand from research institutions as well as from biotechnology and pharmaceutical companies remains high, at an estimated 2.5 million square feet in active tenant requirements as of 1H22, with University City remaining the most sought-after life science submarket.

MARKET STATS

Market Size (SF)	11,685,611
Rent (PSF)	\$30 - \$85
Vacancy Rate	10.0%
Under Construction (SF)	650,000
Under Renovation (SF)	1,643,000
Proposed (SF)	–
1H22 Venture Capital Funding	\$624 M
Compared with 1H21	-31.5%
Compared with Pre-Covid (1H19)	-21.3%
12-Month Sales Volume	\$196 M
12-Month Sales Price (PSF Avg)	\$245

Emerging Life Science Investors/Developers

Breakthrough Properties, Gattuso Development Partners, Longfellow



PUGET SOUND

- The life science market in the Puget Sound region, which is concentrated in the South Lake Union and Waterfront submarkets of Seattle, has continued to exceed the performance of the traditional office market. Similarly, the Eastside (Bothell) market where Alexandria and other operators have created a life science hub, is expected to continue to grow.
- The South Lake Union submarket remains the tightest submarket for laboratory space with continued demand and virtually no new construction of life science properties to deliver until 2024
- Overall vacancy for 2nd generation lab space is virtually non-existent, resulting in continued tenant demand to support office-to-lab conversions and leasing activity in submarkets outside of the core life science submarkets, such as in Bothell.

MARKET STATS

Market Size (SF)	10,702,568
Rent (PSF)	\$40 - \$85
Vacancy Rate	8.6%
Under Construction (SF)	791,119
Under Renovation (SF)	194,765
Proposed (SF)	5,903,441
1H22 Venture Capital Funding	\$585 M
Compared with 1H21	-22.1%
12-Month Sales Volume	\$426 M
12-Month Sales Price (PSF Avg)	\$924

Emerging Life Science Investors/Developers

Beacon Capital Partners, Clarion Partners, Invesco, Lincoln Property Company, Oxford Properties Group, SteelWave

'Venture Capital Funding' includes both Healthcare and Life Science funding.



MARYLAND*

- Maryland and the overall BioHealth Capital Region feature some of the most prominent government research and medical institutions in the United States, including the National Institute of Allergies and Infectious Disease (NIAID), NIH and the FDA. Subsequently, Maryland ranks first nationally in NIH Research & Development contracts awarded, federal obligations for R&D, and concentration of employed doctoral scientists.
- The strong flow of federal and venture capital funding for life science and biotechnology has accelerated private sector growth. Established anchors in the community include AstraZeneca, GSK, and Novavax, however the region has also attracted new companies including Ellume, and Horizon Therapeutics.
- Rapidly growing demand for modern lab-supportive space has boosted investor interest in the region and has resulted in a growing construction pipeline, measuring 1.3 million square feet in mid-2022. Large-scale speculative construction activity has risen recently, which will provide modest upward pressure on vacancy as new product delivers unoccupied.
- Maryland's DNA Alley along I-270 has seen increased attention from investors for office-to-lab conversions, lab-supportive coworking concepts, and a greater prevalence of pre-built speculative suite complexes.

MARKET STATS**

Market Size (SF)	17,259,502
Rent (PSF)	\$24.50 - \$45
Vacancy Rate	6.8%
Under Construction (SF)	1,312,087
Under Renovation (SF)	170,556
Proposed (SF)	4,783,209
1H22 Venture Capital Funding	\$676 M
Compared with 1H21	-40.2%
Compared with Pre-Covid (1H19)	42.9%
12-Month Sales Volume	\$95 M
12-Month Sales Price (PSF Avg)	\$330

Emerging Life Science Investors/Developers

Boston Properties, Matan, Alexandria Real Estate Equities, Rock Creek Property Group, Trammel Crow



NEW YORK CITY

- The office and life science market slowdown nationally has not materially impacted New York City's life science market as tenant demand has steadily increased since 2020 due to the abundance of institutional users that have a long-term outlook on leasing.
- Despite a year-over-year decline, venture capital funding through 1H22 remains 63.0% above Pre-COVID-19 levels, reinforcing the continued strength of the tenant ecosystem.
- The incubator model for biotechnology and life science companies has been successful for New York City-based start-ups, and new developments boast expansive floorplates for large tenants. However, tenants looking for graduation space (3,000-12,000 square feet) are underserved by the existing lab inventory.
- Life science developers with vast experience nationally are increasingly showing interest in potential opportunities in various submarkets in New York City, including Long Island City in Queens, and several biotechnology companies have made the city their East Coast headquarters, such as Eikon Therapeutics.

MARKET STATS

Market Size (SF)	3,714,011
Rent (PSF)	\$85 - \$130
Vacancy Rate	28.0%
Under Construction (SF)	–
Under Renovation (SF)	776,000
Proposed (SF)	4,864,735
1H22 Venture Capital Funding	\$2.7 B
Compared with 1H21	-59.4%
Compared with Pre-Covid (1H19)	63.0%
12-Month Sales Volume	N/A
12-Month Sales Price (PSF Avg)	N/A

Emerging Life Science Investors/Developers

Botanic Properties, Georgetown Company, Longfellow Real Estate Partners

* Data includes Suburban Maryland and Baltimore

** Washington DC Metropolitan Area

LIFE SCIENCE CLUSTERS



LOS ANGELES / ORANGE COUNTY

- While the Los Angeles metropolitan area is an emerging life science market, it has the building blocks to become a major cluster. A deep and diverse labor pool provides opportunities for major pharmaceutical and biotechnology companies, whether based in San Diego or the Bay Area, to expand.
- A lack of leasable laboratory product is a present challenge, however national life science developers and investors have announced plans to meet future expected tenant demand. Alexandria intends to develop a 300,000-square-foot life science campus on 19 acres in Thousand Oaks, which represents a major milestone in the market's reputation as a life science cluster.
- The Conejo Valley, West LA, Pasadena and Irvine are the most active development pockets, which benefit from their proximity to major universities and occupiers, such as Amgen in Thousand Oaks and Edwards Lifesciences in Irvine.
- The 1.2 million square feet of proposed wet laboratory and life science space is over 70% larger than the amount proposed at the end of 2021 which, if built, will drive life science investment and capital markets activity.

MARKET STATS

Market Size (SF)	11,587,690
Rent (PSF)	\$45 - \$60 FSG
Vacancy Rate	5.4%
Under Construction (SF)	–
Under Renovation (SF)	546,403
Proposed (SF)	1,246,951
1H22 Venture Capital Funding	\$895 M
Compared with 1H21	-29.9%
Compared with Pre-Covid (1H19)	20.1%
12-Month Sales Volume	\$265 M
12-Month Sales Price (PSF Avg)	\$534

Emerging Life Science Investors/Developers

Cantor Fitzgerald, HATCHspaces, Lincoln Property Company, BEP Helix, NexCore Group, Stos Partners



DENVER / BOULDER

- The Boulder life science market has quickly transitioned from mostly as-is deals to investors funding lab-ready white box spaces. The next stage in the market's evolution will likely see investors delivering spec lab space in order to meet the timing and financing needs of many tenants in the market.
- Life science real estate investment volume year-to-date has already outpaced 2021's total of \$491M which includes SteelWave's acquisition of the 74,000 square foot "Boulder Life Science Campus" and the life science components of BioMed Realty's acquisition of "Flatiron Business Park" in Boulder.
- Numerous Boulder-based companies expanded in 2022 with SomaLogic leasing 200,000 square feet, Biondesix 80,000 SF, Enveda 58,000 SF, Edgewise Therapeutics 18,000 SF and Vitrivax 10,000 SF. Boulder is still the top choice for many firms but limited large blocks have led some firms to relocate along the US 36 Corridor.

MARKET STATS

Market Size (SF)	3,500,000
Rent (PSF)	\$45 - \$60
Vacancy Rate	<1%
Under Construction (SF)	93,834
Under Renovation (SF)	390,000
Proposed (SF)	750,000
1H22 Venture Capital Funding	\$397 M
Compared with 1H21	-56.6%
Compared with Pre-Covid (1H19)	-24.2%
12-Month Sales Volume	\$510 M
12-Month Sales Price (PSF Avg)	\$579

Emerging Life Science Investors/Developers

Barings, Beacon Capital Partners, BioMed Realty, Breakthrough Properties, Invesco Real Estate, Partners Group, NexCore Group, Nuveen, Lincoln Property Company, SteelWave, Tritower Financial, Unico Properties

'Venture Capital Funding' includes both Healthcare and Life Science funding.



NEW JERSEY

- New Jersey is a proven life sciences hub, home to 14 of the top 20 global pharmaceutical companies, 8 of the top 10 R&D companies, and the most FDA registered biomanufacturing facilities in the nation.
- While overall employment showed little change, employment in the life sciences sector grew by 9.3% over the past five years. Record levels of public and private funding, as well collaboration between elite research universities and private firms have helped grow the sector.
- Healthy activity among biotech and pharma companies caused a decline in vacancy from 16.2% to 7.6% since the beginning of 2020. Strong demand and limited new development led to a 30% increase in asking rents on average, although New Jersey still remains an inexpensive alternative to the other high-priced lab clusters in the northeast, such as Boston and New York City.
- Due to a shortage of lab-ready product, the state's large corporate campuses and legacy pharmaceutical sites are being targeted by users looking to expand their operations as well as investors looking to capitalize on growing life science demand. Transit-oriented urban markets such as Jersey City and New Brunswick are also recording life science conversion and development activity.

MARKET STATS*

Market Size (SF)	10,334,928
Rent (PSF)	\$28 - \$32 NNN
Vacancy Rate	7.6%
Under Construction (SF)	147,000
Under Renovation (SF)	0
Proposed (SF)	2,402,865
1H22 Venture Capital Funding	\$580 M
Compared with 1H21	-7.0%
Compared with Pre-Covid (1H19)	31.5%
12-Month Sales Volume	N/A
12-Month Sales Price (PSF Avg)	N/A

Emerging Life Science Investors/Developers

JLL IPT, Harrison Street, Thor Equities, Lincoln Equities



HOUSTON

- The Texas Medical Center (TMC) represents the center of Houston's life science industry and aims to become a leader in life science innovation, research, and education. Its new 5 million square foot development, TMC3, will help solidify the system as one of the largest life science clusters in the country.
- In 1Q22 the Texas Medical Center Board of Directors approved a further \$50 million contribution to the TMC Venture Fund, which was started in 2017 to invest in health technologies, medical devices and therapeutics, with a focus on early-stage founders.
- Over the past three years, wages in Houston's life science sector rose 4.8%, for an average annual wage of \$141,623, while life science employment has grown 24.6%.
- Phase I of Levit Green, a 53-acre life science complex has topped out with an expected completion in Q4 2022. The property is being developed by Hines and will include nine buildings totaling four million square feet. Phase I of the development will include 294,000 square feet of laboratory and office space.

MARKET STATS

Market Size (SF)	8,034,643
Rent (PSF)	\$35 - \$65
Vacancy Rate	19.3%
Under Construction (SF)	994,000
Under Renovation (SF)	–
Proposed (SF)	7,550,000
1H22 Venture Capital Funding	\$200 M
Compared with 1H21	-42.8%
Compared with Pre-Covid (1H19)	131.7%
12-Month Sales Volume	N/A
12-Month Sales Price (PSF Avg)	N/A

Emerging Life Science Investors/Developers

CryoPort, 2ML, Beacon Capital Partners/Braidwell, Hines, Medistar Corporation

* New York City Metropolitan Area

LIFE SCIENCE CLUSTERS



CHICAGO

- While Chicago is still an emerging life science market, it is home to 11 research universities and several world-class hospital systems as well as mature pharmaceutical and medical device companies including Abbott Labs, Abbvie, Baxter, Hospira (Pfizer), Tempus, Akorn, Fresenius Kabi, Astellas Pharma, and Horizon Therapeutics.
- Life science leasing has been strong in the first half of 2022, despite concerns over the slowdown in venture capital dollars, particularly to earlier stage companies. Notable tenant expansions in the Fulton Market submarket include Portal Innovations, a life science investment and incubation company as well as a new lease signed by Celadyn Technologies.
- Life science job growth in Chicago continues to be strong with the number of data and medical scientist roles increasing the most— amongst recent graduates the number of degrees being earned for biological and biomedical sciences has doubled in the last 15 years.

MARKET STATS

Market Size (SF)	1,527,910
Rent (PSF)	\$35 - \$60
Vacancy Rate	12.0%
Under Construction (SF)	543,454
Under Renovation (SF)	–
Proposed (SF)	1,950,000
1H22 Venture Capital Funding	\$326 M
Compared with 1H21	-83.5%
Compared with Pre-Covid (1H19)	-18.2%
12-Month Sales Volume	\$131 M
12-Month Sales Price (PSF Avg)	\$274

Emerging Life Science Investors/Developers

Far Point Development, Mark Goodman & Associates, Singerman, Sterling Bay, Trammell Crow



AUSTIN

- Austin’s emerging life science market has continued to benefit from demographic tailwinds, with life science employment expanding 73.7% over the past three years – job growth is expected to continue to grow, at a predicted 6.5% through 2025. Similarly, life science venture capital funding for healthcare and life science companies has increased 47.8% year-over-year in 1H22, making it among the top performing cluster markets.
- The Innovation District is expected to anchor Austin’s life science cluster along with the Dell Medical School at the University of Texas at Austin. The flagship building in the district, Innovation Tower, is expected to deliver in 3Q22, marking a significant milestone in the market’s growth.
- Other notable developments include the Parmer Labs development, which is currently under construction, delivering 100,000 square feet of lab and office space in 2023, as well as the conversion of the Highland Mall (on Austin Community College’s campus) into the ACC Bioscience Incubator.

MARKET STATS

Market Size (SF)	1,652,794
Rent (PSF)	\$30 - \$36
Vacancy Rate	46.6%
Under Construction (SF)	176,000
Under Renovation (SF)	–
Proposed (SF)	0
1H22 Venture Capital Funding	\$558 M
Compared with 1H21	47.8%
Compared with Pre-Covid (1H19)	212.7%
12-Month Sales Volume	N/A
12-Month Sales Price (PSF Avg)	N/A

Emerging Life Science Investors/Developers

Karlin Real Estate

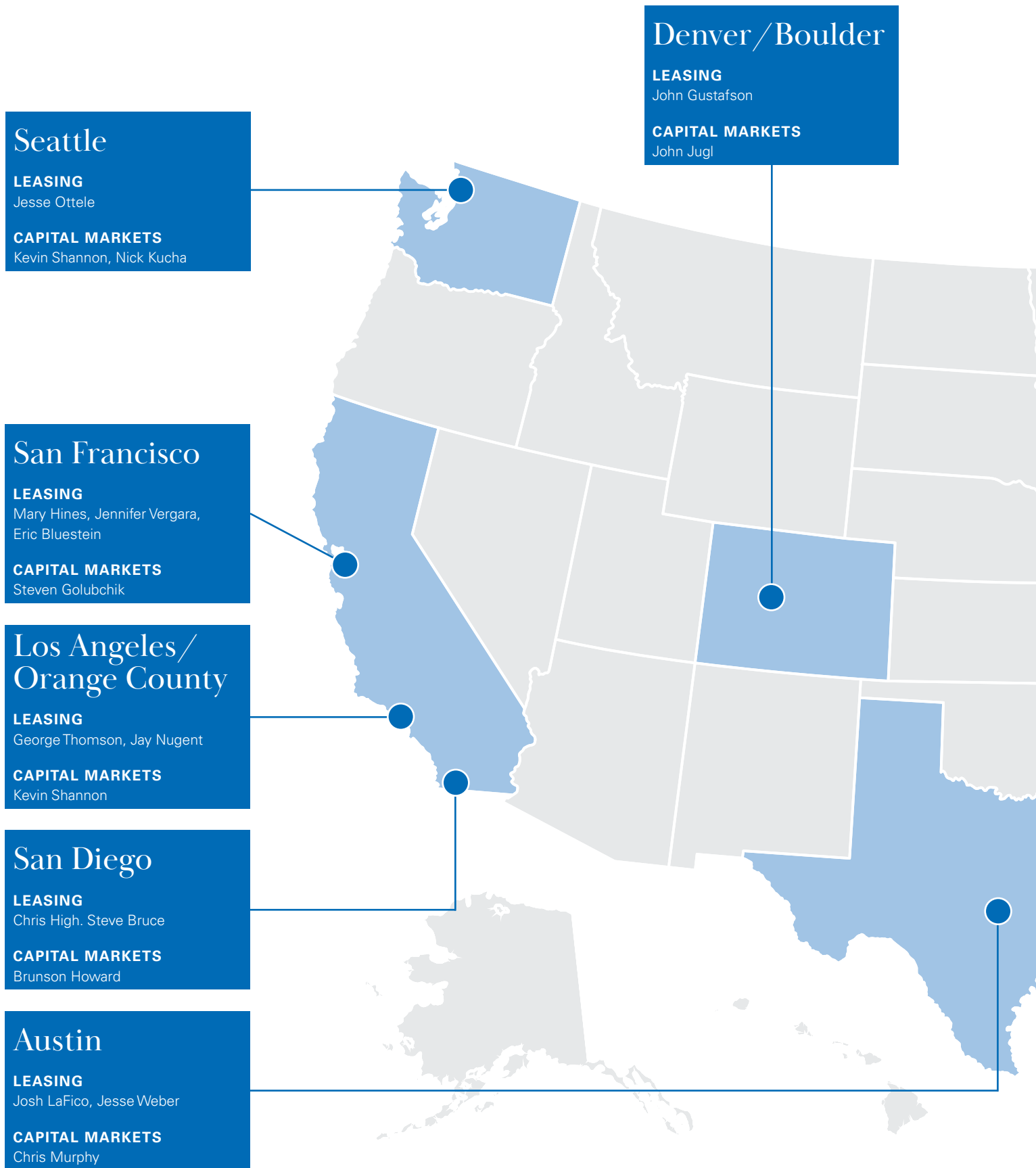
Venture Capital Funding includes both Healthcare and Life Science funding.

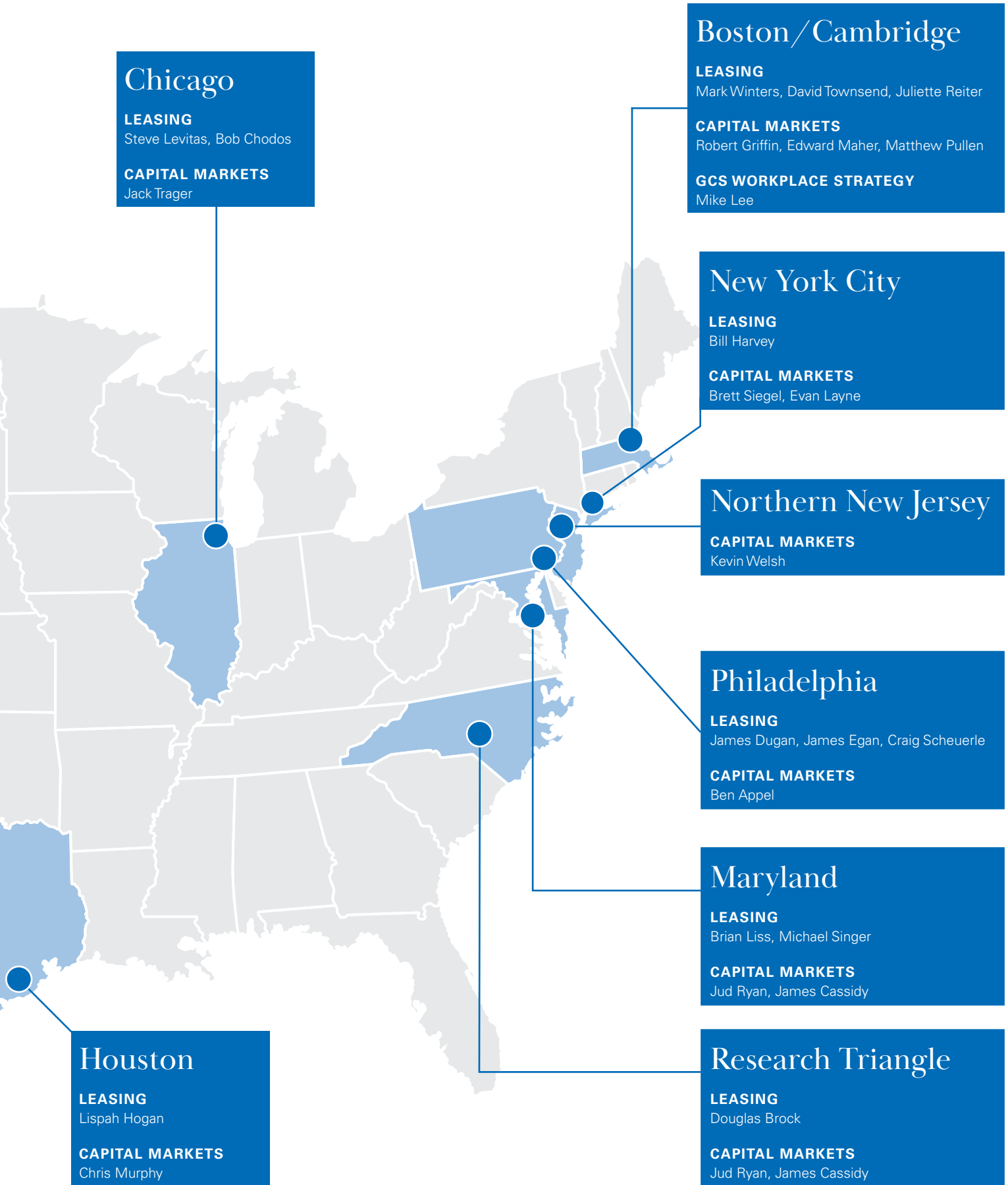
Life Science Clusters: Summary

Mid-Year 2022

Market	Market Size (SF)	Rent (PSF)	Vacancy Rate	Under Construction (SF)	Under Renovation (SF)	Proposed (SF)
Greater Boston	28,415,143	\$60 - \$130	4.6%	11,110,002	6,543,388	39,692,372
San Francisco Bay Area	33,874,386	\$63 - \$92	6.8%	5,565,289	4,170,592	34,087,912
San Diego	21,299,965	\$69 - \$81	3.4%	3,058,792	1,345,968	11,010,633
Research Triangle	10,713,544	\$30 - \$47	16%	522,600	1,105,898	14,200,000
Philadelphia	11,685,611	\$30 - \$85	10.0%	650,000	1,643,000	–
Puget Sound	10,702,568	\$40 - \$85	8.6%	791,119	194,765	5,903,441
Maryland	17,259,502	\$25 - \$45	6.8%	1,312,087	170,556	4,783,209
New York City	3,714,011	\$85 - \$130	28.0%	–	776,000	4,864,735
Los Angeles / Orange County	11,587,690	\$45 - \$60	5.4%	–	546,403	1,246,951
Denver / Boulder	3,500,000	\$45 - \$60	<1%	93,834	390,000	750,000
New Jersey	10,334,928	\$28 - \$32	7.6%	147,000	0	2,402,865
Houston	8,034,643	\$35 - \$65	19.3%	994,000	–	7,550,000
Chicago	1,527,910	\$35 - \$60	12.0%	543,454	–	1,950,000
Austin	1,652,794	\$30 - \$36	46.6%	176,000	–	0

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