



THOUGHT
LEADERSHIP
SERIES

2021 Mid-Year Life Science Overview & Market Clusters

NEWMARK



TABLE OF
CONTENTS

Introduction	4
National Overview	8
Top Life Science Owners	8
Life Science Venture Capital Funding	9
Capital Markets: Life Science Real Estate Activity	10
Life Science Fundraising Activity	11
Life Science Index	12
Top Life Science Clusters	14
Potential Future Clusters	23
Local Market Contacts	24



Introduction

COVID-19

Life science real estate in 2021 continues to benefit from unprecedented levels of institutional investor demand across the major cluster markets and secular growth from expanding venture capital-backed biotechnology, medical device and pharmaceutical tenants. One of the early realities responsible for the acceleration of demand during the pandemic was that many life science lab workers could not do vital research and development from home, and therefore circumvented the lockdowns and work-from-home mandates that impacted other property types. While lockdowns and government-mandated restrictions largely ended in most of the United States early in the summer of 2021, concerns are once again rising with the prevalence of the Delta variant of COVID-19. This sentiment continues to feed into investor psychology and impact the demand for

conventional office space, which in turn is heightening the interest in life science and laboratory properties. Additionally, the global push for the creation of multiple COVID-19 vaccines has galvanized US government support for on-shoring of biomanufacturing and research and development efforts, particularly for pharmaceutical and drug companies that ran short of supplies early into the pandemic. These efforts, if included in the proposed infrastructure plan currently working through Congress, would serve to only heighten future demand for life science real estate and infrastructure needed to support a domestic life science supply chain.

From a macroeconomic growth perspective, life science remains at the top of the list of secular growth sectors of the economy that will continue to expand in the future, regardless of economic cycles or changes in monetary and fiscal policy. This has made investments in the space



comparatively more attractive in the pandemic economic environment and has attracted investors that have not traditionally invested in the life science sector. In addition to real estate investors, venture capital firms accelerated their investments in life science companies during the pandemic, with funding reaching a record \$33.1 billion in 2020. This record-setting pace has continued, as venture capital funding hit \$26.7 billion in the first half of 2021 alone.

Capital Markets

Life science capital markets has continued to thrive, not only benefiting from capital seeking thematic growth sectors within real estate, but also from investors wanting to diversify and adjust their portfolios' risk profiles in favor of potentially less-disruptable laboratory and GMP (Good Manufacturing Practice) properties. Reflecting this positive investor sentiment, investment

volume mid-year in 2021 hit \$9.0 billion and is on pace for a record high volume in full-year 2021, aided by the closing of Blackstone's \$3.45 billion acquisition of Brookfield's Cambridge portfolio in 1Q21. Similarly, national life science pricing remains elevated, with June pricing surpassing \$500 per square foot. Life science fundraising activity has surpassed \$24 billion since 2020, led by established life science groups such as Alexandria, Blackstone/BioMed Realty, Boston Properties and IQHQ, which will continue to fuel life science capital markets activity for the remainder of 2021 and beyond. While groups with a proven track record for success have been the fastest to pivot to life science investment and fundraising during the pandemic, institutional investors and private equity groups have created special-purpose life science funds and platforms to compete in the space, such as Tishman Speyer and Belco Capital's Breakthrough Properties.

Clusters


The most established clusters in the country—namely Boston, San Francisco and San Diego—remain the epicenter of life science activity. Combined, the three markets have an estimated 16.6 million square feet of lab space under construction and under renovation, with another 54.5 million square feet proposed. In Boston, the supply of existing lab product cannot keep pace with the nearly six million square feet in lab requirements, particularly in submarkets such as Cambridge where the lab vacancy rate reached 1.4% in 2Q21. While there are some concerns of excess supply, particularly as the number of office-to-lab conversions increases, pre-leasing activity remains above 70% for product currently under construction. San Francisco remains the largest lab market on a square foot basis at over 30 million square feet and benefits from the most direct access to Silicon Valley and its immense venture capital ecosystem, which has propelled life science funding to \$5.4 billion in 2021. The majority of the life science activity in San Diego has been concentrated in the core submarkets such as the Torrey Pines, University Town Center and Sorrento Valley submarkets, where University of California, San Diego and Scripps have driven innovation. However, downtown San Diego has been a recent target for life science developers, with IQHQ's Research and Development District (RaDD) representing the largest life science project in the downtown market to date.

Emerging Clusters

Compared to the prominent clusters, emerging life science markets can offer comparatively attractive opportunities for investors to transact at more favorable pricing (combined with lower land and development costs), with potentially less competition in the bidding process from well-capitalized life science groups. Markets such as Chicago and Houston have an important combination of medical and educational institutions that maintain a pipeline of STEM talent as

well as favorable zoning and development opportunities in mega-projects such as Lincoln Yards and the Texas Medical Center (TMC). Similarly, Los Angeles has become an emerging market, aided by its proximity to Silicon Valley and its increasing number of life science incubator and lab coworking spaces, such as LabLaunch and HATCHspaces, which are supporting life science startups.

Life science investment and expansion activity has even begun in many non-traditional life science markets, such as Dallas, Miami, Pittsburgh, Salt Lake City and Atlanta. Similar to emerging clusters, these markets rely on top education and research institutions as well as public-private partnerships to foster and develop life science ecosystems, often from the ground up. In Dallas, the 23-acre Pegasus Park represents the city's first master planned innovation hub which will cater to startups, including those in the life science and healthcare industries through a partnership with Boston-based incubator BioLabs. In Miami, the Ventas-owned Converge Miami (formerly the University of Miami Life Science and Technology Park), is among the new developments adjacent to the Miami Health District that is supporting the growing life science ecosystem – the building, which features shared laboratory and office spaces, is designed to host an estimated 500 startups and encourage collaboration between Miami's medical community and early-stage life science companies. And in Salt Lake City, a public-private partnership formed at the end of 2020 called Biohive will be the foundation for the city's life science market and healthcare corridor, which will feature the renovation and repurposing of the mixed-use development, The Gateway, in the CBD market. As is the case with tertiary markets in other property types, these small life science markets offer abundant opportunities for first movers but are more speculative in nature and investors must be keenly aware of the life science supply-demand balance.



In Boston, the supply of existing lab product cannot keep pace with the nearly six million square feet in lab requirements, particularly in submarkets such as Cambridge where the lab vacancy rate reached 1.4% in 2Q21.

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 RE Equities	Pasadena, CA	Public REIT	381	9	40,100,000
BioMed Realty	New York, NY	Institutional	106	9	16,000,000
Healthpeak Properties	Irvine, CA	Public REIT	72	4	11,300,000
Ventas	Chicago, IL	Public REIT	43	4	9,000,000
Longfellow RE Partners	Boston, MA	Private / Developer	45	4	6,500,000
Diversified Healthcare Trust	Newton, MA	Public REIT	33	6	4,300,000
Boston Properties	Boston, MA	Public REIT	47	3	3,400,000
IQHQ	Solana Beach, CA	Private REIT	17	3	3,200,000
King Street Properties	Boston, MA	Private / Developer	24	3	3,100,000
Wareham Development	San Francisco, CA	Private / Developer	45	1	2,700,000

100,000,000

Other Prominent Owners			
Company	HQ Location	Investor Type	Square Feet*
Alloy Properties (TPG)	San Francisco, CA	Institutional	2,600,000
Nuveen	New York, NY	Institutional	2,500,000
Pacific Coast Capital Partners (PCCP)	Los Angeles, LA	Institutional	2,400,000
Phase 3 RE Partners	San Diego, CA	Private/Developer	2,300,000
DivcoWest	San Francisco, CA	Institutional	2,100,000
Clarion Partners	New York, NY	Institutional	2,000,000
Kilroy Realty Corporation	Los Angeles, LA	Public REIT	2,000,000
Harrison Street	Chicago, IL	Institutional	1,900,000
Karlin Real Estate	Los Angeles, LA	Private/Developer	1,800,000
Starwood Capital Group	Miami Beach, FL	Institutional	1,600,000



100 Million Square Feet

The total approximate estimated life science wet laboratory space owned by the top ten owners, 72% of which is owned by public or private REITs.

* Includes properties under construction

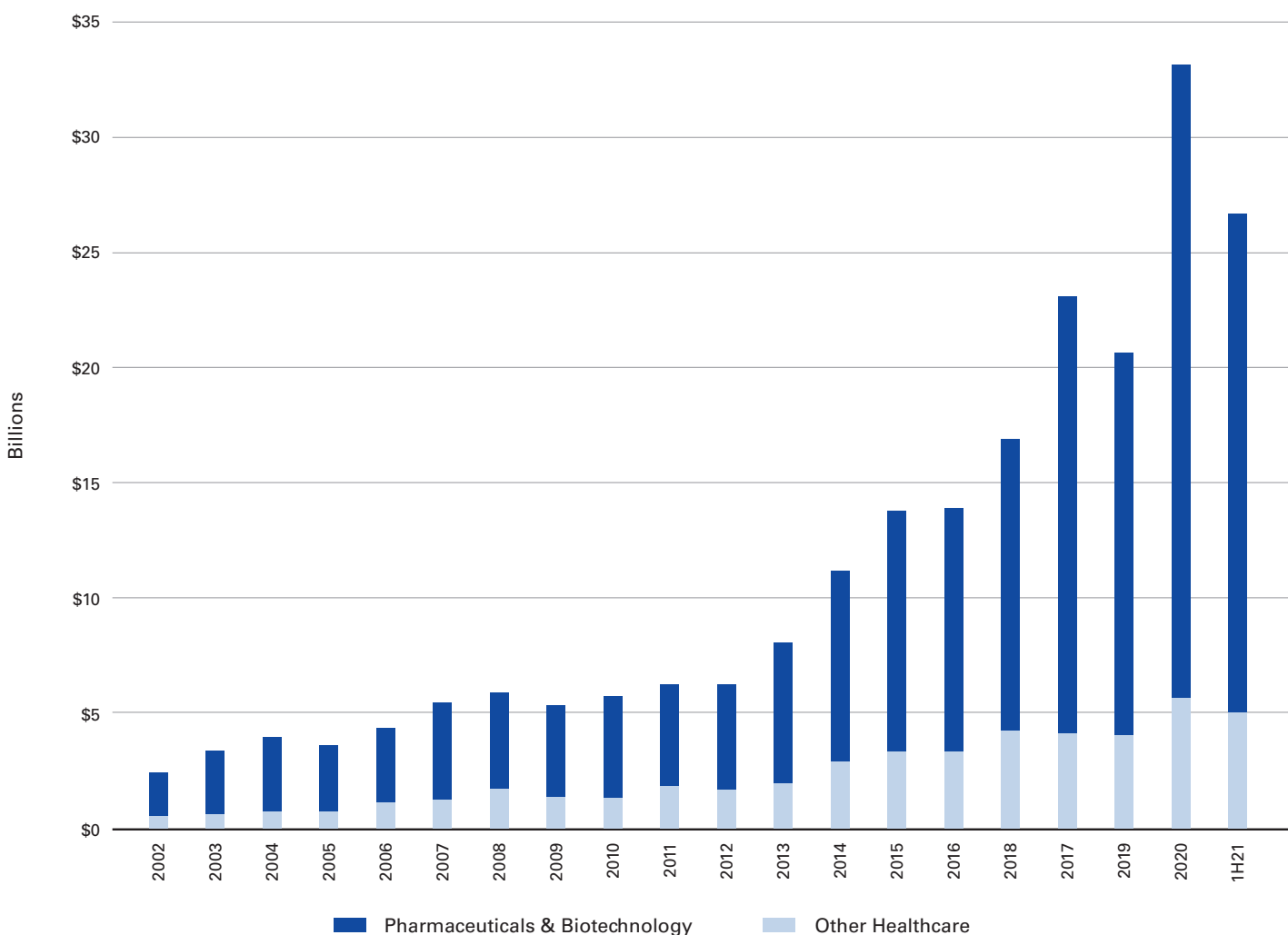
Sources: Newmark Research, Real Capital Analytics

Life Science Venture Capital Funding

Life science venture capital funding is on pace for a record high volume in 2021, with 1H21 funding reaching \$26.7 billion. This record pace follows a previous record high in 2020, despite pandemic-related disruption, where life science funding hit \$33.1 billion. Although many factors are responsible for acceleration of life science investment in 2020 and 2021, the uneven impact of the COVID-19 recession contributed to investors' focus on secular growth sectors of the

economy versus traditional sectors. The number of initial public offerings of biotechnology companies, which are largely VC-backed, is also on a record-breaking pace at 59 IPOs in 1H21. Increased levels of activity in the public markets will continue to validate future venture capital funding and encourage investors to gain exposure to smaller, private life science companies with high growth and IPO potential.

National Life Science Venture Capital Funding United States | 1995 - 2021



Sources: Newmark Research, PitchBook

NATIONAL OVERVIEW

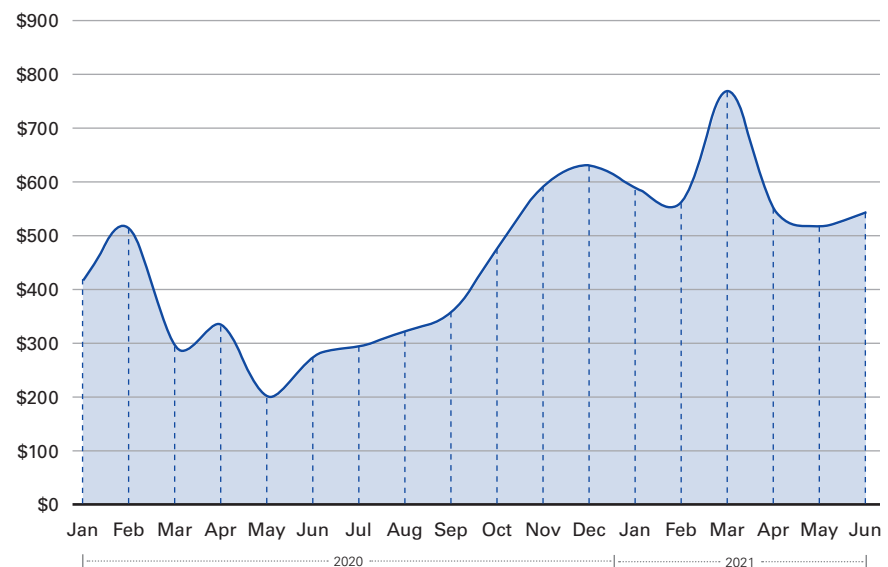
Capital Markets: Life Science Real Estate Activity

Pricing for life science and R&D product remains elevated, averaging \$585 PSF in 2021 which is 50% higher year-over-year compared with the 2020 average. Peak monthly pricing occurred in March of 2021 at over \$750 PSF, largely due to the closing of Blackstone's \$3.45 billion Cambridge lab portfolio for more than \$1,800 PSF.

The limited available supply of built wet lab space in the top cluster markets of Boston, San Francisco and San Diego, coupled with high demand from well-capitalized institutional and REIT investors, has put upward pressure on pricing throughout the pandemic.

R&D / Life Science Pricing

United States | 2020 - June 2021



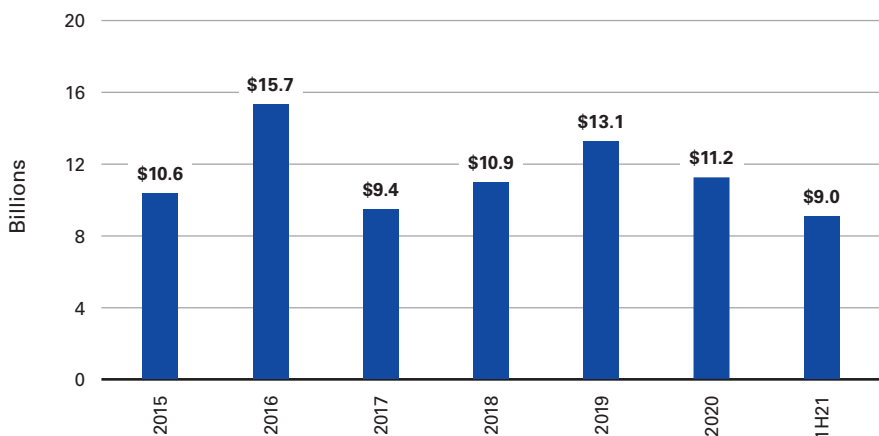
Sources: Newmark Research, Real Capital Analytics

A stronger capital markets environment in 2021 has propelled life science investment volume to \$9.0 billion in 1H21. Life science volume is on pace to not only eclipse 2020 but the record-setting 2016 volume, the year that BioMed Realty was taken private by Blackstone.

Over \$24 billion in fundraising activity for funds targeting life science product and a sizable construction and conversion pipeline (which is expected to deliver over 28 million square feet of institutional-quality product) will support higher levels of investment volume in the near future.

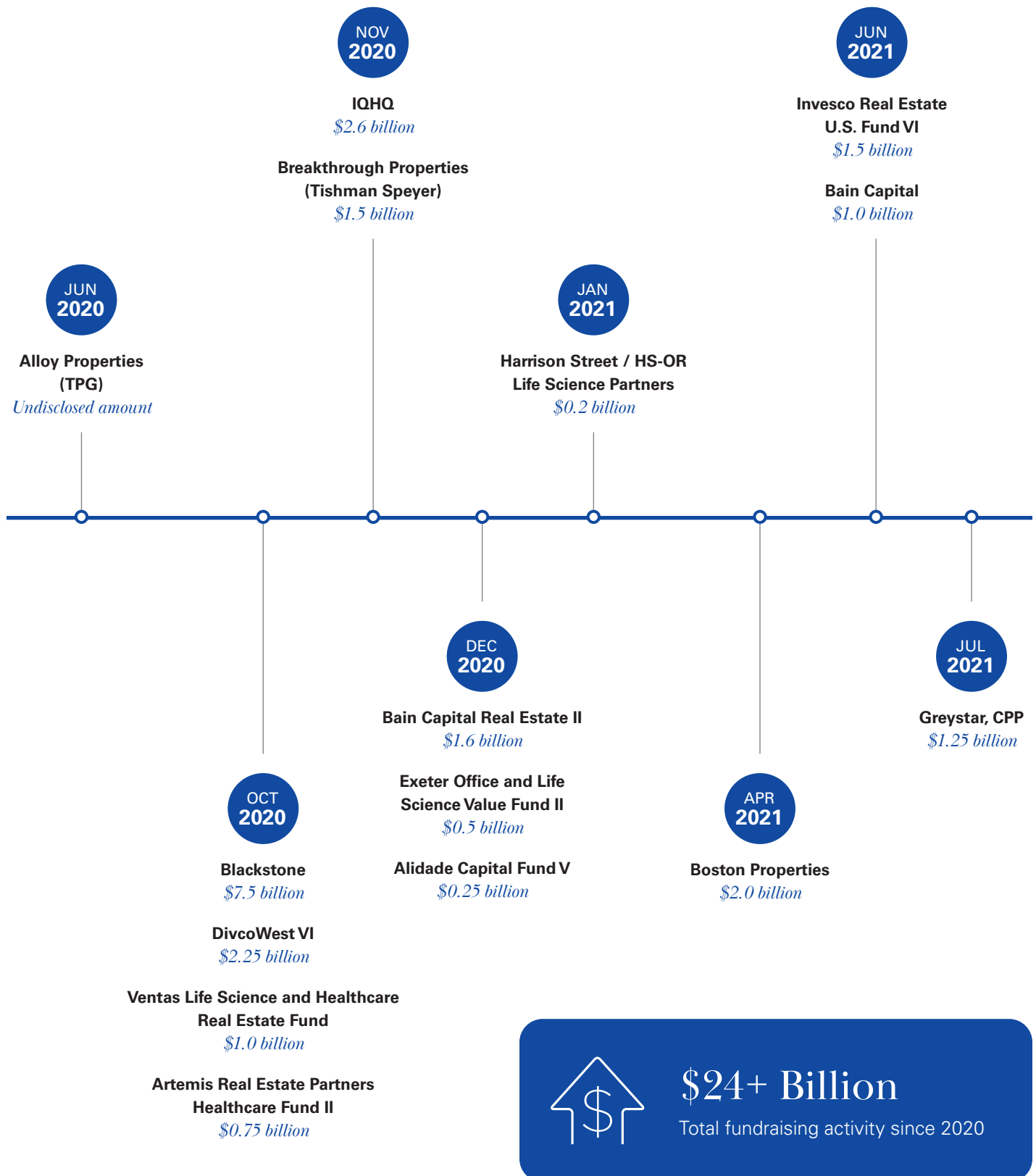
R&D / Life Science Volume

United States | 2015 - June 2021



Sources: Newmark Research, Real Capital Analytics

Life Science Fundraising Activity



Sources: Newmark Research, Prequin

Life Science Index

Life Science Cluster Scores

The data contained in this report was used to calculate market cluster scores, which rank the top life science real estate markets in the country by a combination of market maturity, market momentum both in capital markets and leasing activity, demographic and structural components that support the life science cluster, and, finally, future growth potential.

Life Science Cluster Scores		
Rank	Markets	Market Cluster Score
1	Greater Boston	89.1
2	San Francisco Bay Area	85.3
3	San Diego	70.4
4	Research Triangle	69.8
5	Puget Sound	63.1
6	Philadelphia	62.8
7	Maryland	60.0
8	Los Angeles / Orange County	52.0
9	New York City	50.5
10	New Jersey	50.1
11	Houston	47.5
12	Denver / Boulder	47.0
13	Chicago	38.5
14	Austin	33.0

Sources: Newmark Research, Real Capital Analytics, PitchBook, Jobs EQ



Life Science Cluster Score Components

1

The first sub-score is “market maturity,” which represents 30% of the cluster score and is a combination of wet lab inventory, rental rate, vacancy rate and VC funding. The markets at the top of this ranking are Boston and San Francisco, which have the largest wet lab inventories, highest tenant demand and the most VC funding, supporting the largest ecosystem of seed and early stage companies.

2

The second sub-score “market momentum,” which represents 30% of the cluster score, is composed of five-year rental and pricing growth, as well as 2021 capital markets activity. The markets that score the highest in this category are also Boston and San Francisco, however various other markets such as Raleigh/Durham, Philadelphia and San Diego score similarly, reflecting the fast-evolving market conditions in those markets and tightening of fundamentals.

3

The third sub-score “market innovation,” which represents 30% of the cluster score, is composed of total life science employment, concentration of life science jobs in the overall labor market and the number of top tier medical, government and institutions that support the life science ecosystem. Beyond Boston and San Francisco, markets such as Maryland (which has the highest concentration of federal health agencies) and Seattle (home to world class institutions like the Fred Hutchinson Cancer Center) score highly.

4

The final sub-score “future growth,” which represents 10% of the cluster score, is composed of the construction and conversion pipeline, as well as the expected growth rate of the life science industry over the next five years. Markets that score highly are New York City, which has nearly two million square feet under construction and over three million square feet of proposed life science space expected to be delivered in both Manhattan and Long Island City and Houston, where the 37-acre TMC3 life science campus is currently underway.

Markets	Market Maturity Score: 30%	Market Momentum Score: 30%	Market Innovation Score: 30%	Future Growth Score: 10%
Greater Boston	93.8	86.7	88.3	85.0
San Francisco Bay Area	82.5	95.0	83.3	70.0
San Diego	71.3	66.7	76.7	60.0
Research Triangle	67.5	80.0	65.0	60.0
Puget Sound	63.8	66.7	61.7	55.0
Philadelphia	52.5	76.7	68.3	35.0
Maryland	70.0	43.3	76.7	30.0
Los Angeles / Orange County	55.0	53.3	50.0	45.0
New York City	45.0	46.7	56.7	60.0
New Jersey	48.8	53.3	56.7	25.0
Houston	45.0	40.0	53.3	60.0
Denver / Boulder	50.0	43.3	48.3	45.0
Chicago	45.0	36.7	36.7	30.0
Austin	35.0	23.3	36.7	45.0

Sources: Newmark Research, Real Capital Analytics, PitchBook, Jobs EQ

Top Life Science Clusters



GREATER BOSTON

	Total Market	Cambridge	Seaport District	Lexington & Waltham
Market Size (SF)	26,787,586	12,258,723	2,234,702	4,693,073
Rent (PSF)	\$50 - \$120	\$90 - \$120	\$90 - \$100	\$55 - \$73
Vacancy Rate	7.0%	1.4%	27.6%	7.5%
Under Construction (SF)	7,358,726	2,365,600	1,358,600	1,141,320
Under Renovation (SF)	2,455,890	780,274	554,000	351,847
Proposed (SF)	29,709,534	4,810,050	7,950,748	1,975,332
New/Expanding Tenants	Acceleron Pharmaceuticals, Eli Lilly, Ginkgo BioWorks, GreenLight Bio	Moderna, Prime Medicine, Sana Therapeutics	Monre Rosa Therapeutics, Shape Therapeutics, Vertex	CBSET, Nova Biomedical, Tscan Therapeutics
VC Funding (12-month total)	\$11.7 B			
VC 5-Year Annual Average	\$6.9 B			
Emerging Life Science Investors/Developers	Beacon Capital Partners, KKR, GIC, Nan Fung Group, OMERS, Spear Street Capital, TPG Real Estate			
Sales Volume (12-month total)	\$6.0 B			
Sales Volume PSF (12-month average)	\$685			

Sources: Newmark Research, Real Capital Analytics, PitchBook, NIH



SAN FRANCISCO BAY AREA

	Total Market	South San Francisco	Palo Alto	San Carlos	Menlo Park	Emeryville
Market Size (SF)	31,030,265	10,763,569	1,987,730	1,171,934	953,183	2,030,482
Rent (PSF)	\$63 - \$81	\$66 - \$80	\$72 - \$83	\$63 - \$81	\$69 - \$75	\$63 - \$71
Vacancy Rate	5.6%	3.6%	17.7%	4.0%	0.0%	0.0%
Under Construction (SF)	3,826,312	2,070,008	–	173,757	–	–
Under Renovation (SF)	1,781,529	–	298,036	–	–	439,818
Proposed (SF)	17,859,592	5,594,613	576,847	1,931,332	380,000	706,010

New/Expanding Tenants	Adverum Biotechnologies, Alexza Pharmaceuticals, Arcus Biosciences, Eat Just, Plexxikon, Senti Bio, SmartLabs, TrueBinding	Calico, Dice Molecules, Nkarta	Delfi Diagnostics	Iovance Biotherapeutics, Nautilus Biotechnology, Vaxcyte	Boost Neuroscience	Geltor, Finless Foods, Zymogen
-----------------------	---	--------------------------------	-------------------	--	--------------------	--------------------------------

VC Funding (12-month total)	\$10.5 B
-----------------------------	-----------------

VC 5-Year Annual Average	\$8.1 B
--------------------------	----------------

Emerging Life Science Developers/ Investors	Angelo Gordon, Blue Vista Capital, Cannae Partners, Graymark Capital, KKR
---	--

Sales Volume (12-month total)	\$3.3 B
-------------------------------	----------------

Sales Volume PSF (12-month average)	\$793
-------------------------------------	--------------

Sources: Newmark Research, Real Capital Analytics, PitchBook, NIH

TOP LIFE SCIENCE CLUSTERS



SAN DIEGO

Market Size (SF)	18,034,088
Rent (PSF)	\$50 - \$67
Vacancy Rate	4.9%
Under Construction (SF)	566,739
Under Renovation (SF)	623,465
Proposed (SF)	6,948,777

	Becton Dickinson (expanding)
New/Expanding Tenants	Bristol-Myers Squibb (expanding)
	Neurocrine Biosciences (expanding)

VC Funding (12-month total)	\$3.4 B
VC 5-Year Annual Average	\$1.6 B
Emerging Life Science Investors/ Developers	BentallGreenOak, BLT Enterprises, Harrison Street, Lasalle, Lincoln Property Company, Nuveen
Sales Volume (12-month total)	\$300 M
Sales Volume PSF (12-month average)	\$377



RESEARCH TRIANGLE

Market Size (SF)	9,793,933
Rent (PSF)	\$28 - \$42
Vacancy Rate	9.3%
Under Construction (SF)	377,855
Under Renovation (SF)	467,789
Proposed (SF)	9,940,000

	Azzur Clean Rooms on Demand (new)
New/Expanding Tenants	Invitae (new)
	Locus Biosciences (expanding)

VC Funding (12-month total)	\$573 M
VC 5-Year Annual Average	\$401 M
Emerging Life Science Investors/ Developers	Alidade Capital, Alloy Properties, Easton Group, Nuveen, Starwood, Thor Equities, Trinity Capital
Sales Volume (12-month total)	\$630 M
Sales Volume PSF (12-month average)	\$300

Sources: Newmark Research, Real Capital Analytics, PitchBook, NIH



PUGET SOUND

Market Size (SF)	9,857,488
Rent (PSF)	\$30 - \$85
Vacancy Rate	4.6%
Under Construction (SF)	990,185
Under Renovation (SF)	152,050
Proposed (SF)	5,200,000

	Adaptive Biotechnologies (expanding)
New/Expanding Tenants	Seattle Genetics (expanding)
	Shape Therapeutics (expanding)
VC Funding (12-month total)	\$992 M
VC 5-Year Annual Average	\$735 M
Emerging Life Science Investors/ Developers	Alloy Properties, Angelo Gordon, Beacon Capital Partners, Clarion Partners, Lincoln Property Company, Oxford Properties Group, Rialto Capital, SteelWave
Sales Volume (12-month total)	\$446 M
Sales Volume PSF (12-month average)	\$915



PHILADELPHIA

Market Size (SF)	10,100,000
Rent (PSF)	\$35 - \$60
Vacancy Rate	13.4%
Under Construction (SF)	1,173,614
Under Renovation (SF)	1,041,948
Proposed (SF)	1,642,855

	Cabaletta Bio (expanding)
New/Expanding Tenants	Lucas Pye Bio (expanding)
	Spark Therapeutics (expanding)
VC Funding (12-month total)	\$1.3 B
VC 5-Year Annual Average	\$872 M
Emerging Life Science Investors/ Developers	Beacon Capital Partners, Ensemble Real Estate, GIC, New Mountain Capital
Sales Volume (12-month total)	\$400 M
Sales Volume PSF (12-month average)	\$580

Sources: Newmark Research, Real Capital Analytics, PitchBook, NIH

TOP LIFE SCIENCE CLUSTERS



MARYLAND*

Market Size (SF)	11,485,653
Rent (PSF)	\$22 - \$43
Vacancy Rate	4.0%
Under Construction (SF)	393,798
Under Renovation (SF)	165,253
Proposed (SF)	2,196,160

	Ellume (new)
New/Expanding Tenants	MaxCyte (expanding)
	Novavax (expanding)

VC Funding (12-month total)	\$1.3 B
VC 5-Year Annual Average	\$574 M
Emerging Life Science Investors/ Developers	GlenLine Investments, Singerman Real Estate
Sales Volume (12-month total)	\$500 M
Sales Volume PSF (12-month average)	\$412

*Metropolitan area

Sources: Newmark Research, Real Capital Analytics, PitchBook, NIH



LOS ANGELES / ORANGE COUNTY

Market Size (SF)	11,178,654
Rent (PSF)	\$40 - \$50
Vacancy Rate	5.4%
Under Construction (SF)	274,150
Under Renovation (SF)	506,294
Proposed (SF)	453,640

	Edwards Lifesciences Corp. (expanding)
New/Expanding Tenants	HRL Laboratories (expanding)
	Xencor (expanding)

VC Funding (12-month total)	\$750 M
VC 5-Year Annual Average	\$626 M
Emerging Life Science Investors/ Developers	Angelo Gordon, Cantor Fitzgerald, Lincoln Property Company
Sales Volume (12-month total)	\$131 M
Sales Volume PSF (12-month average)	\$464



NEW YORK CITY

Market Size (SF)	2,351,385
Rent (PSF)	\$90 - \$110
Vacancy Rate	27.7%
Under Construction (SF)	—
Under Renovation (SF)	1,755,000
Proposed (SF)	3,357,947

New/Expanding Tenants	Immunai (new) Envisagenics (new)
-----------------------	---

VC Funding (12-month total)	\$4.2 B
VC 5-Year Annual Average	\$2.0 B
Emerging Life Science Investors/ Developers	Botanic Properties, Carlyle Group, GFP, LaSalle
Sales Volume (12-month total)	\$570 M
Sales Volume PSF (12-month average)	\$955



NEW JERSEY

Market Size (SF)	8,843,580
Rent (PSF)	\$22 - \$25
Vacancy Rate	16.1%
Under Construction (SF)	250,000
Under Renovation (SF)	350,885
Proposed (SF)	2,812,850

New/Expanding Tenants	Ascentis Pharma (new) Infinity Biologix (expanding) PTCT Therapeutics (expanding) Quest Diagnostics (expanding)
-----------------------	--

VC Funding (12-month total)	\$625 M
VC 5-Year Annual Average	\$452 M
Emerging Life Science Investors/ Developers	JLL IPT, Thor Equities
Sales Volume (12-month total)	\$134 M
Sales Volume PSF (12-month average)	\$221

Sources: Newmark Research, Real Capital Analytics, PitchBook, NIH

TOP LIFE SCIENCE CLUSTERS



HOUSTON

Market Size (SF)	7,380,560
Rent (PSF)	\$30 - \$50
Vacancy Rate	5.2%
Under Construction (SF)	1,750,000
Under Renovation (SF)	—
Proposed (SF)	2,550,000

New/Expanding Tenants	Castle Bio-Science (expanding)
	Jlabs (expanding)
	Lonza (expanding)
	Nanospectra Biosciences (expanding)

VC Funding (12-month total)	\$258 M
VC 5-Year Annual Average	\$161 M
Emerging Life Science Investors/ Developers	Hines, Medistar Corporation
Sales Volume (12-month total)	\$24 M
Sales Volume PSF (12-month average)	\$100



DENVER / BOULDER

Market Size (SF)	1,600,000
Rent (PSF)	\$45 - \$53
Vacancy Rate	—
Under Construction (SF)	—
Under Renovation (SF)	177,367
Proposed (SF)	321,725

New/Expanding Tenants	Archer DC (expanding)
	Medtronic (expanding)

VC Funding (12-month total)	\$687 M
VC 5-Year Annual Average	\$341 M
Emerging Life Science Investors/ Developers	Invesco Real Estate, Kodiak Real Estate Group
Sales Volume (12-month total)	\$112 M
Sales Volume PSF (12-month average)	\$543

Sources: Newmark Research, Real Capital Analytics, PitchBook, NIH



CHICAGO

Market Size (SF)	1,327,910
Rent (PSF)	\$35 - \$60
Vacancy Rate	10.0%
Under Construction (SF)	743,454
Under Renovation (SF)	—
Proposed (SF)	1,950,000

New/Expanding Tenants	Portal Innovations (expanding) Xeris Pharmaceuticals (expanding)
-----------------------	---

VC Funding (12-month total)	\$305 M
VC 5-Year Annual Average	\$200 M
Emerging Life Science Investors/Developers	Far Point Development, Mark Goodman & Associates, Sterling Bay, Trammell Crow
Sales Volume (12-month total)	—
Sales Volume PSF (12-month average)	—



AUSTIN

Market Size (SF)	1,560,750
Rent (PSF)	\$22 - \$25
Vacancy Rate	6.0%
Under Construction (SF)	408,000
Under Renovation (SF)	—
Proposed (SF)	205,000

New/Expanding Tenants	Healthtronics (expanding) Molecular Templates (new) Thermo Fisher Scientific (expanding)
-----------------------	--

VC Funding (12-month total)	\$104 M
VC 5-Year Annual Average	\$56 M
Emerging Life Science Investors/Developers	Graymark Capital
Sales Volume (12-month total)	\$80 M
Sales Volume PSF (12-month average)	\$231

Sources: Newmark Research, Real Capital Analytics, PitchBook, NIH

TOP LIFE SCIENCE CLUSTERS

Life Science Clusters: Headline Stats YTD July 2021						
Market	Market Size (SF)	Rent*	Vacancy Rate*	Under Construction (SF)	Under Renovation (SF)	Proposed (SF)
Greater Boston	26,787,586	\$50 - \$120	7.0%	7,358,726	2,455,890	29,709,534
San Francisco Bay Area	31,030,265	\$63 - \$81	5.6%	3,826,312	1,781,529	17,859,592
San Diego	18,034,088	\$50 - \$67	4.9%	566,739	623,465	6,948,777
Research Triangle	9,793,933	\$28 - \$42	9.3%	377,855	467,789	9,940,000
Puget Sound	9,857,488	\$30 - \$85	4.6%	990,185	152,050	5,200,000
Philadelphia	10,100,000	\$35 - \$60	13.4%	1,173,614	1,041,948	1,642,855
Maryland	11,485,653	\$22 - \$43	4.0%	393,798	165,253	2,196,160
Los Angeles / Orange County	11,178,654	\$40 - \$50	5.4%	274,150	506,294	453,640
New York City	2,351,385	\$90 - \$110	27.7%	–	1,755,000	3,357,947
New Jersey	8,843,580	\$25 - \$22	16.1%	250,000	350,885	2,812,850
Houston	7,380,560	\$30 - \$50	5.2%	1,750,000	–	2,550,000
Denver / Boulder	1,600,000	\$45 - \$53	0.0%	–	177,367	321,725
Chicago	1,327,910	\$35 - \$60	10.0%	743,454	–	1,950,000
Austin	1,560,750	\$22 - \$25	6.0%	408,000	–	205,000
Aggregate / Average	151,331,852 SF	\$44 - \$72	7.2%	18,160,833 SF	9,300,103 SF	85,148,080 SF

*Weighted Average

Sources: Newmark Research, Real Capital Analytics, PitchBook, NIH

Potential Future Clusters

Sacramento, CA

Aggie Square, a planned 25-acre innovation and life science campus adjacent to UC Davis' medical center, will anchor the city's future life science cluster.

Pittsburgh, PA

A combination of top-ranked hospitals, such as the University of Pittsburgh Medical Center (UPMC) and R&D institutions such as the University of Pittsburgh Innovation Institute, serve as the foundation for the city's fast-growing life science cluster, which managed to produce one of the earliest vaccine candidates for COVID-19. Additionally, UPMC is committed to spending \$1 billion on future life science startups and collaborating on projects such as the Pittsburgh Innovation institute.

Providence, RI

The Providence Innovation & Design District (PIDD) is an ongoing life science development that represents a partnership between Wexford and various local universities, such as Brown and the University of Rhode Island.



Salt Lake City, UT

The University of Utah Research Park, founded in 1968, has attracted prominent life science companies such as Myriad Genetics, which have collaborated with the university's top-ranked medical and biological sciences programs.

Dallas, TX

The 23-acre Pegasus Park represents the city's first master planned innovation hub which is partnering with Boston-based incubator BioLabs and the top-ranked UT Southwestern Medical Center to create an ecosystem for growing life science companies.

Atlanta, GA

Various real estate groups such as TPG's Alloy Properties and Trammell Crow are partnering with Georgia Tech on a planned 18 acre innovation district in West Midtown, which will feature various ground-up life science / lab developments.

Miami, FL

The Ventas-owned Converge Miami serves as the innovation hub connecting the Miami Health District (one of the nation's largest, with over 20 independent research institutes) and the Miller School of Medicine with non-profits such as Venture Café as well as lab and technology coworking providers like the Cambridge Innovation Center.

Local Market Contacts

Seattle

Leasing: Jesse Ottele

Capital Markets: Kevin Shannon

San Francisco

Leasing: Mary Hines,
Jennifer Vergara

Capital Markets:
Steven Golubchik

Los Angeles / Orange County

Leasing: George Thomson, Jay Nugent

Capital Markets: Kevin Shannon

San Diego

Leasing: Chris High, Steve Bruce

Capital Markets: Brunson Howard

Austin

Leasing: Josh LaFico, Jesse Weber

Capital Markets: Chris Murphy, John Alvarado

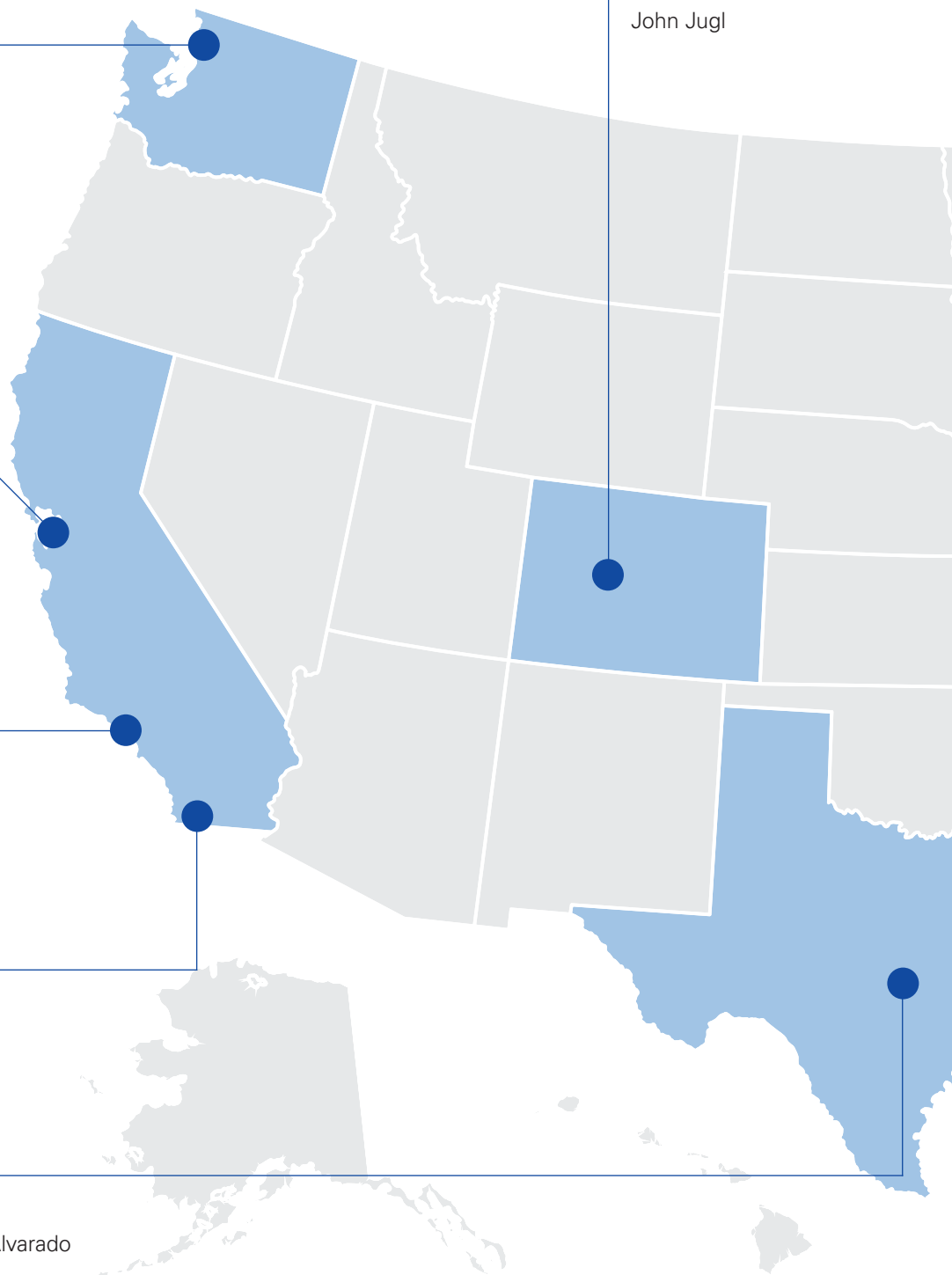
Denver / Boulder

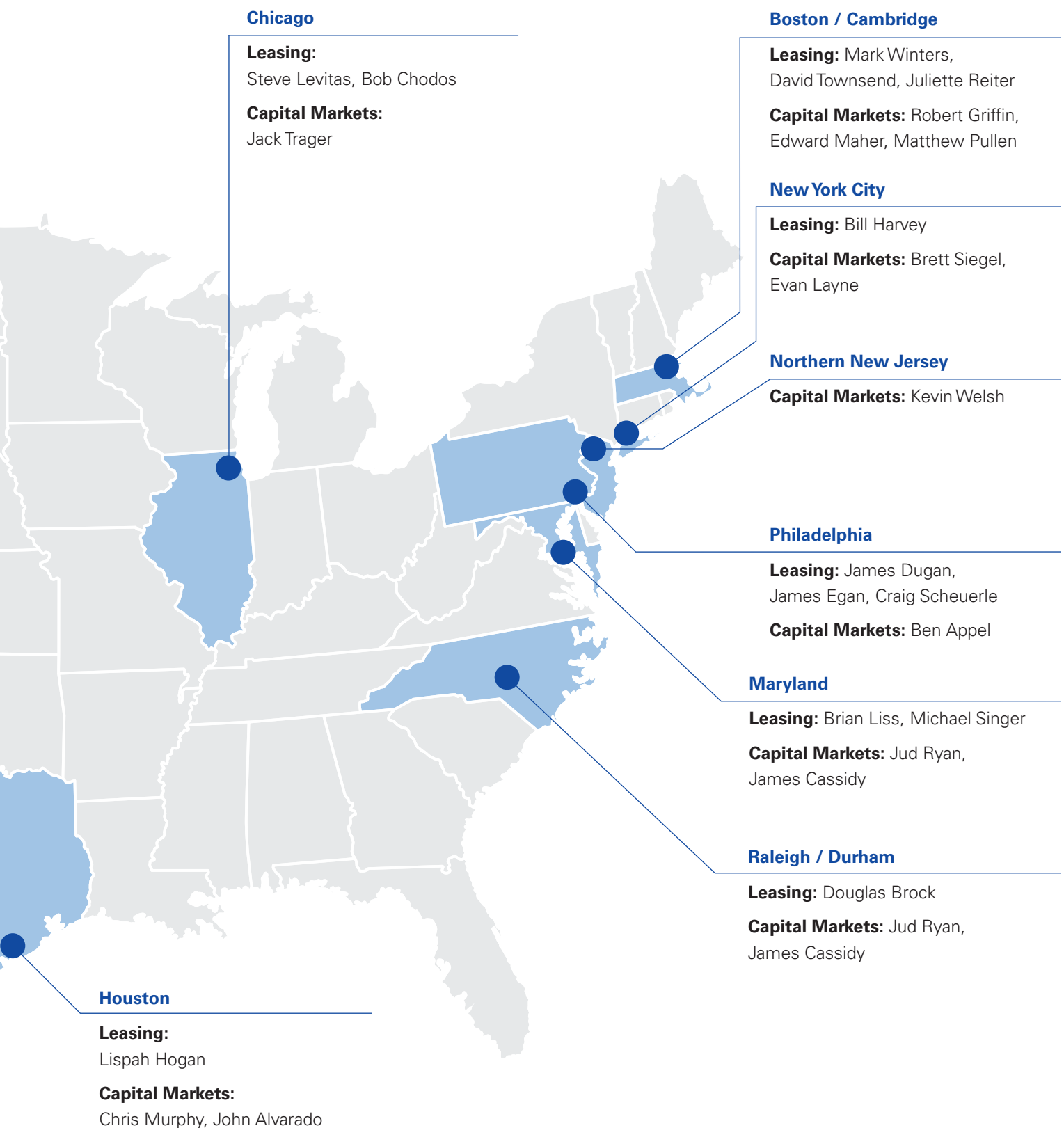
Leasing:

John Gustafson

Capital Markets:

John Jugl





New York Headquarters

125 Park Avenue
New York, NY 10017
t 212-372-2000

nmrk.com

*National Research Contacts***Jonathan Mazur**

Senior Managing Director,
National Research
jonathan.mazur@nmrk.com

*Primary Report Author***Daniel Littman**

Associate Director,
Capital Markets Research
daniel.littman@nmrk.com

Additional Research Support

Andrea Arata
Garrick Brown
Liz Berthelette
Brent Don
Dain Fedora

Graham Hildebrand
Matt Kruczynicki
Michael Miceli
Mark Russo

*Design***Justin Choy**

Sr. Graphic Designer
justin.choy@nmrk.com

Sources and Acknowledgments

Newmark Research
Jobs EQ
NIH

PitchBook
Real Capital Analytics
S&P Global

NORTH AMERICA

Canada
United States

LATIN AMERICA

Argentina
Brazil
Chile
Colombia
Costa Rica
Mexico
Panama
Peru
Puerto Rico

EUROPE

Austria
Belgium
Czech Republic
France
Germany
Ireland
Italy
Netherlands
Poland
Portugal
Romania
Russia
Spain
Switzerland
United Kingdom

ASIA PACIFIC

Australia
Cambodia
China
Hong Kong
India
Indonesia
Japan
Malaysia
New Zealand
Philippines
Singapore
South Korea
Taiwan
Thailand

AFRICA

Botswana
Kenya
Malawi
Nigeria
South Africa
Tanzania
Uganda
Zambia
Zimbabwe

MIDDLE EAST

Saudi Arabia
United Arab Emirates

All information contained in this publication is derived from sources that are deemed to be reliable. However, Newmark has not verified any such information, and the same constitutes the statements and representations only of the source thereof, and not of Newmark. Any recipient of this publication should independently verify such information and all other information that may be material to any decision that recipient may make in response to this publication, and should consult with professionals of the recipient's choice with regard to all aspects of that decision, including its legal, financial and tax aspects and implications. Any recipient of this publication may not, without the prior written approval of Newmark, distribute, disseminate, publish, transmit, copy, broadcast, upload, download or in any other way reproduce this publication or any of the information it contains. This document is intended for informational purposes only and none of the content is intended to advise or otherwise recommend a specific strategy. It is not to be relied upon in any way to predict market movement, investment in securities, transactions, investment strategies or any other matter.

NEWMARK