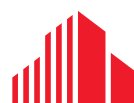


Life Sciences on the Rise

North American Report

2021



CUSHMAN &
WAKEFIELD

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EXECUTIVE SUMMARY

The global life sciences industry has been on the rise, growing more rapidly than ever over the past decade—well before the pandemic struck. In fact, its trajectory only accelerated throughout 2020 and into early 2021—with demand for its products surging and access to capital continuing to greatly expand in both periods. A record \$70 billion of private and public capital (mostly venture capital and initial public offerings) poured into life sciences-related companies in North America in 2020, a 93% increase from the previous record of \$36 billion received in 2018. And if investment continues at the pace we've seen in the first quarter of 2021 (already totaling \$32.9 billion), we could see somewhere in the area of \$90 billion raised this year alone.

With COVID-19 challenging the sector last year like never before, the industry has clearly proven itself, sparking a light that illuminated a better way to work, collaborate and innovate toward the hope of a vaccinated future. The speed at which COVID-19 vaccines have been developed and rolled out is a huge achievement for the pharmaceutical and biotechnology industries and is also a testament to the power of global collaboration. Now that we know what's achievable in a relatively short amount of time, many will ponder what's next for the life sciences industry. What else is it capable of doing? With the recent success of the COVID-19 mRNA vaccine technology, many researchers are increasingly seeing expanded possibilities in the technology to fight against infectious diseases, cancer and more. This acceleration of the life sciences industry comes at a critical time, demonstrating the sector's value and agility when the stakes have been so high.

All of this capital and research driving growth of the life sciences industry is having a significant impact on commercial real estate in markets across the country where this sector has taken root. Lab, medical office and manufacturing space is rising rapidly at a time when other types of real estate such as office and retail are struggling. In fact, real estate investment trusts (REITs) declined 18.2% last year and retail fared even worse, plummeting 21%.¹

Driven by strong demographic and investment trends, healthcare has tended to grow whether the economy is expanding or contracting. Even when the global pandemic caused many office tenants to evaluate their future office requirements in 2020, there was almost no slowdown in the life sciences space. After a very brief pause of transaction activity for lab properties in the second quarter of the year, active deal-making returned in the second half of 2020. For example, two new building leases larger than 150,000 square feet (sf) were executed in the second half of 2020 in the Raleigh-Durham market alone. While offices closed across the globe, life sciences employees continued to go into the lab—because most can't do their work from home. With much of the record-setting funding for life sciences ventures already in the pipeline at the onset of COVID-19, proponents believe the pandemic has further cemented the importance of the life sciences sector well into the future.

With so much potential for companies and investors, the first half of this report breaks down the life sciences industry at a high level by exploring where the research is being done; where the capital is flowing; and where the talent can be found. And the second half goes into a more detailed market by market comparison.

Key Takeaways:

- **The global life sciences industry has been on the rise, growing more rapidly than ever over the past decade; its trajectory only strengthened throughout 2020 and going into 2021.**
- **COVID-19 has further cemented the strength of the life sciences industry with mRNA technology opening the door to new possibilities.**
- **Life sciences is a good alternative asset category for investors since sector is appearing to be recession-proof.**

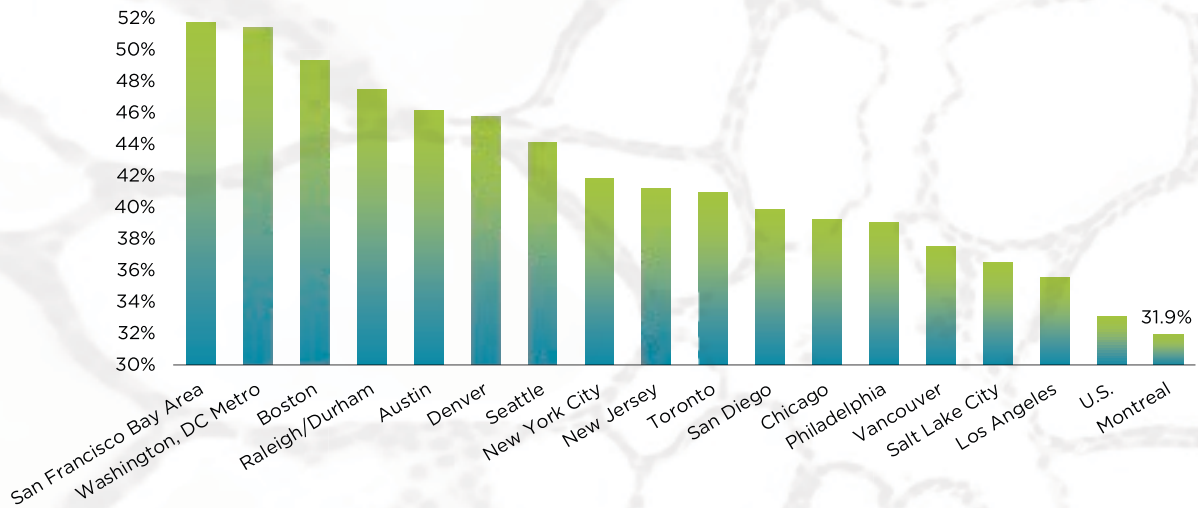
¹ <https://www.cushmanwakefield.com/en/united-states/insights/president-biden-first-100-days>

RESEARCH IS ON THE RISE

Life sciences research has clearly been in the spotlight and on the rise this past year—especially with the successful implementation of the new mRNA technology. Being able to leverage mRNA going forward would allow scientists to manipulate life in astonishing new ways—opening the door to new treatments for diseases like cystic fibrosis, cancer and HIV.

Fortunately, the education level of the population in these markets continues to increase, providing a solid potential pool of labor. The percentage of the population 25 years of age and older that has at least a bachelor's degree ranges from 35.5% in Los Angeles to 51.7% in the San Francisco Bay area. The national average is 33.1%.

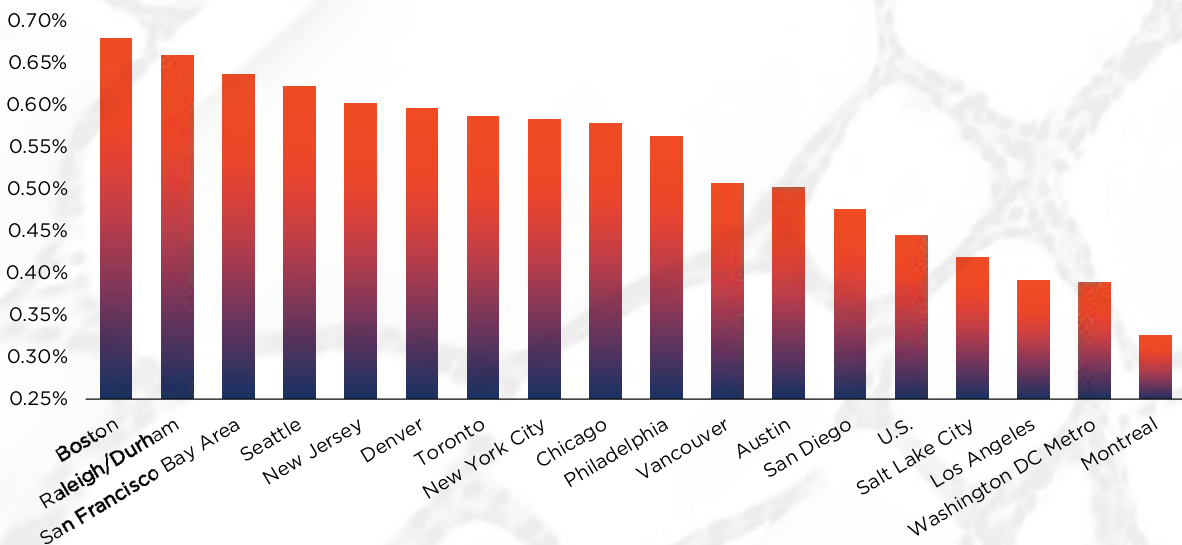
SHARE OF POPULATION OVER 25 WITH A BACHELOR'S DEGREE YEAR END 2019



Source: U.S. Bureau of Labor Statistics / Note: Canadian cities are for 2016

And that number is increasing. Nationally, the share of the population over 25 with a bachelor's degree has increased by 13.8 percentage points since 1988. For several of the top Life Sciences markets, that share has increased by 20 percentage points or more.

CHANGE IN SHARE OF POPULATION OVER 25 WITH A BACHELOR'S DEGREE

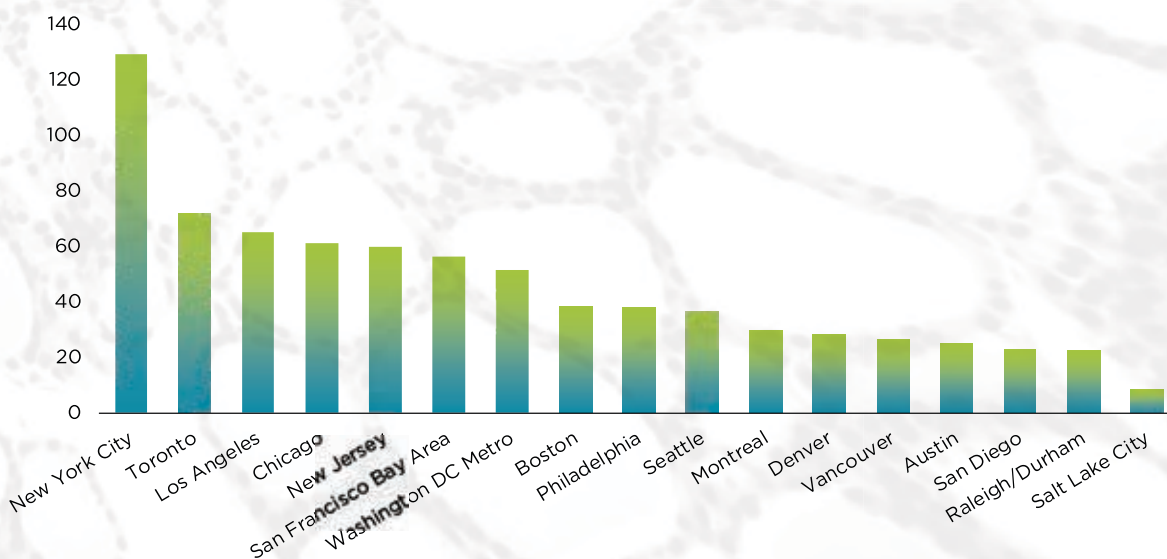


Source: U.S. Bureau of Labor Statistics / Note: U.S. Cities change is from 1988 to 2019. Canadian Cities change is from 2001 to 2016

Life sciences research has clearly been in the spotlight and on the rise this past year—especially with the successful implementation of the new mRNA technology.

That share increase has occurred even as the population has risen, so the actual number of people in each market with at least a bachelor's degree has increased even more rapidly. Ten of the 17 markets have seen the number of residents with a bachelor's degree increase by more than one million people since 1988, substantially increasing the pool of knowledge workers that are available for the life sciences companies to tap into.

CHANGE IN NUMBER OF PEOPLE OVER 25 WITH A BACHELOR'S DEGREE PER YEAR



Source: U.S. Bureau of Labor Statistics / Note: U.S. Cities change is from 1988 to 2019. Canadian Cities change is from 2001 to 2016

Government research grants are the primary source of funding for academic and medical practitioners.

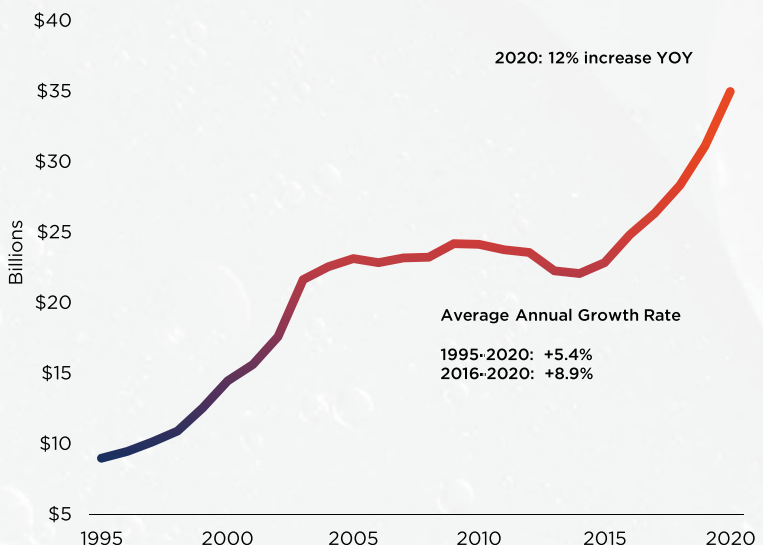
FUNDING IS ON THE RISE

Since bioscientific pursuits require significant capital investment, the development of an increasingly sophisticated funding environment has been critical to the explosion of biotechnology ventures we see today. National Institutes of Health (NIH) funding has been foundational to education, training and institutionally-led biotechnology research projects and companies. More recently, private and public equity investors have increasingly become the primary source for capital, with select venture capital investment groups creating mini hubs of portfolio companies in the major cluster markets.

The National Institutes of Health (NIH)

Government research grants are the primary source of funding for academic and medical practitioners. The grants tend to be concentrated in major medical research institutes, primarily hospitals and major universities. Regardless of which party holds office, NIH funding typically increases over time. In fact, 2020 funding saw a 12% year-over-year increase and it has grown 8.9% annually, on average, over the last five years. Although NIH funding is set in the federal budget years in advance, extra money was allocated to NIH for research during the pandemic.

TOTAL U.S. NIH FUNDING OVER TIME



Source: U.S. National Institutes of Health

THE TOP 10 MARKETS CAPTURED 43% OF TOTAL FUNDING OVER THE LAST FIVE YEARS:

(Total Funding 2016-2021)

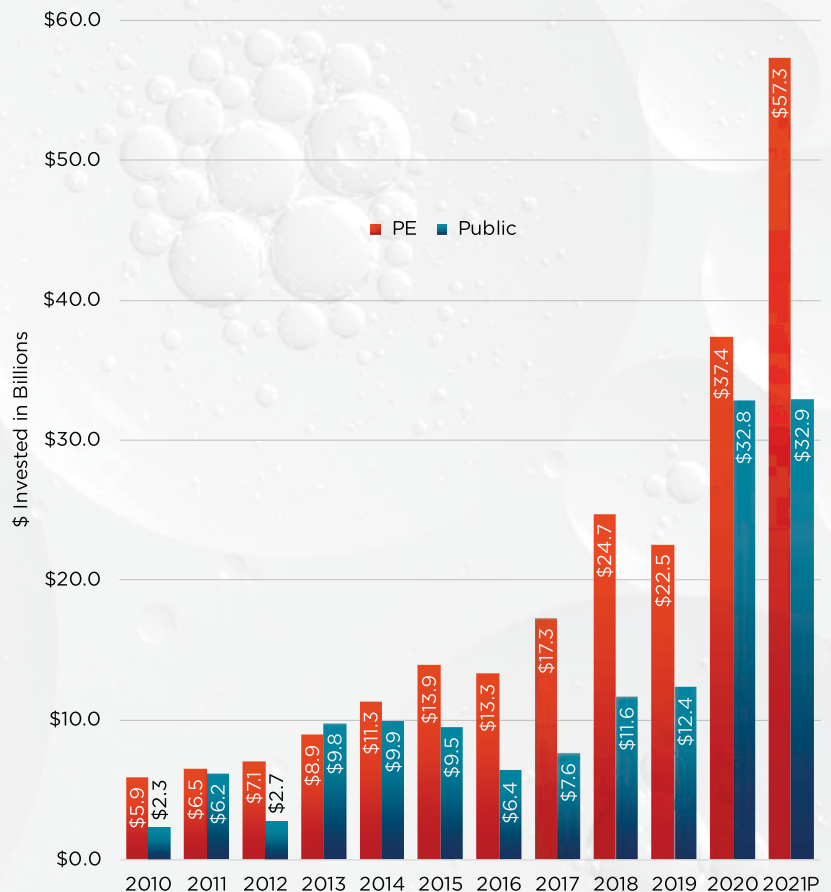


Source: U.S. National Institutes of Health

Public & Private Investment, 2010 through Now

A record \$37 billion of private equity and \$33 billion of public investment poured into North American life sciences companies in 2020. The combined total, a 93% increase from the previous record investment received in 2018, could be topped in 2021. The deal timeframe for these investments being long, it is clear that 2020 would likely have been a record year of investment for life sciences companies without the global COVID-19 outbreak, though many observers expect there to be potentially increased focus on biotechnology solutions as a long-term impact from the pandemic.

NORTH AMERICAN BIOTECHNOLOGY VENTURE AND PUBLIC OFFERING CAPITAL RAISES 2020 THROUGH APRIL 2021



Note: 2021 estimates based on Q1-2021 actual data at an annual rate.

Source: PitchBook

30 Largest Transactions: Private Equity and Public Offerings

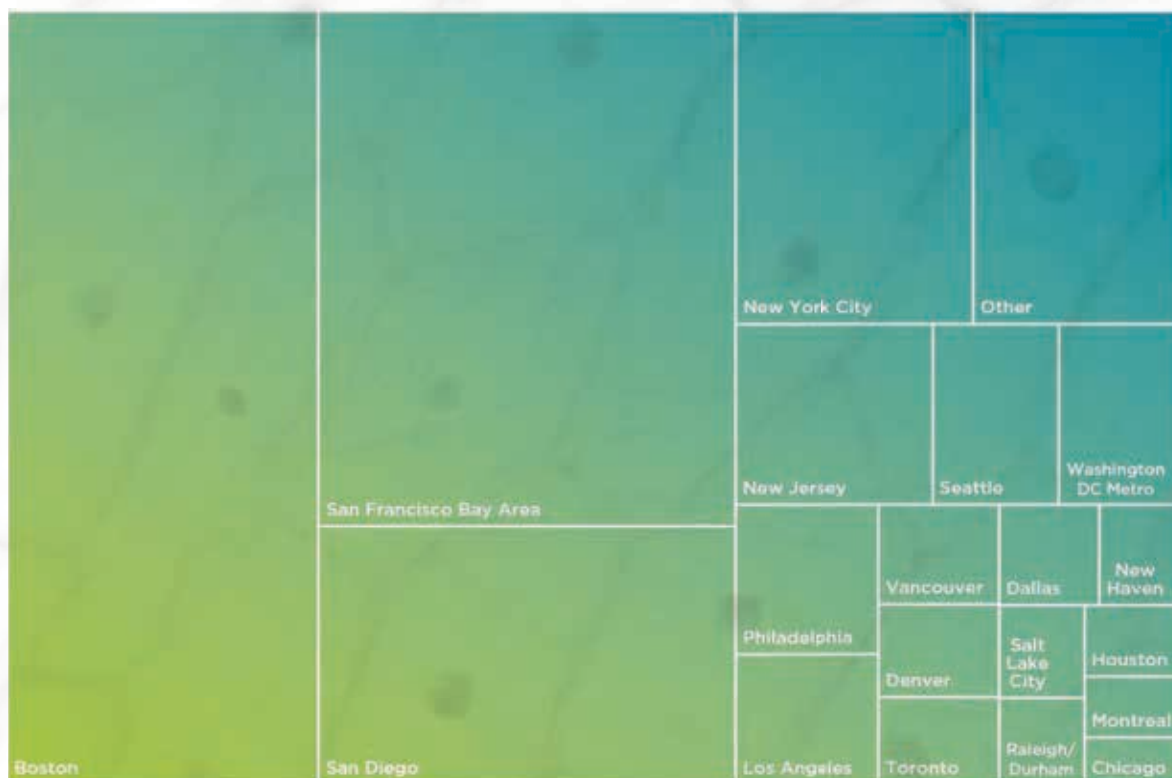
While the number of transactions and total amount raised in the private equity market eclipses that of the public market, the largest transactions have tended to be public offerings, with all four of the deals raising more than \$1 billion. All but one of the largest 30 transactions occurred in regions covered by this report.

COMPANY NAME	SIZE MM	DATE	TYPE	CUSHMAN & WAKEFIELD MARKET
Royalty Pharma	\$2,180	Jun 2020	Public	New York City
Pharmaceutical Product Development	\$1,863	Feb 2020	Public	Other
Maravai Life Sciences	\$1,620	Nov 2020	Public	San Diego
Moderna Therapeutics	\$1,338	May 2020	Public	Boston
Resilience	\$755	Oct 2020	VC	San Diego
Certara	\$668	Dec 2020	Public	New Jersey
Sana Biotechnology	\$588	Feb 2021	Public	Seattle
EQRx	\$570	Jan 2021	VC	Boston
MyoKardia	\$551	May 2020	Public	San Francisco Bay Area
Catalent	\$548	Jun 2020	Public	New Jersey
ElevateBio	\$525	Mar 2021	VC	Boston
Iovance Biotherapeutics	\$525	May 2020	Public	San Francisco Bay Area
10x Genomics	\$506	Sep 2020	Public	San Francisco Bay Area
Indigo Agriculture	\$500	Jun 2020	VC	Boston
Insulet	\$500	May 2020	Public	Boston
Bluebird Bio	\$500	May 2020	Public	Boston
Lyell	\$493	Mar 2020	VC	San Francisco Bay Area
AbCellera	\$483	Dec 2020	Public	Vancouver
Everest Medicines	\$451	Oct 2020	Public	New York City
Recursion	\$436	Apr 2021	Public	Salt Lake City
Legend Biotech	\$424	Jun 2020	Public	New Jersey
Immunomedics	\$420	Apr 2020	Public	New Jersey
Relay Therapeutics	\$400	Jul 2020	Public	Boston
GRAIL	\$390	May 2020	VC	San Francisco Bay Area
Instil Bio	\$368	Mar 2021	Public	Dallas
Zymergen	\$350	Jul 2020	VC	San Francisco Bay Area
RBNC Therapeutics	\$340	Sep 2020	VC	San Francisco Bay Area
Adagio Therapeutics	\$336	Apr 2021	VC	Boston
Schrödinger	\$330	Aug 2020	Public	New York City
Blueprint Medicines	\$325	Jan 2020	Public	Boston

Investment by Region

Despite increasing interest by many geographies to expand the biotechnology industry in their areas, the industry remains significantly clustered in a few select areas with established histories in biotechnology and pharmaceuticals. Seventy-four percent of the \$98 billion raised by life sciences companies in the five quarters ending with the first quarter of 2021 has been by ventures based in Boston, the San Francisco Bay Area, San Diego, New York City and New Jersey, with Boston-targeted investment accounting for 27% of the North American total. Despite the heavily clustered nature of the business, we do expect that public support, the increasing availability of biotechnology talent, and an increasing availability of capital will grow the industry in areas with currently scant drug discovery activity.

LIFE SCIENCES VC & PUBLIC CAPITAL INVESTED BY GIVEN REGION, 2020 THROUGH APRIL 2021: TOTAL RECTANGLE: \$70 BILLION



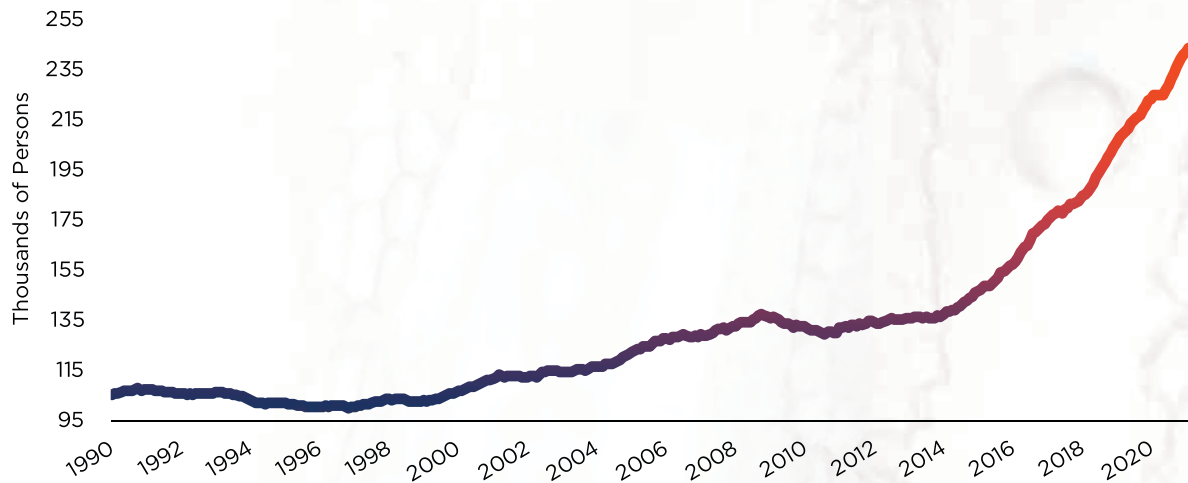
Source: PitchBook

74%
of the \$98 billion raised by life sciences companies in the five quarters ending with the first quarter of 2021 has been by ventures based in Boston, the San Francisco Bay Area, San Diego, New York City and New Jersey

TALENT IS ON THE RISE

Although there are only approximately 245,000 people currently employed in the biotechnology industry, employment has been growing rapidly, having risen 79% since the end of 2013—compared to 42% for the U.S. as a whole. Even with a brief pause in employment growth from February to May 2020 due to the pandemic, employment growth re-accelerated as the industry’s focus turned to developing a vaccine. And with research and funding at an all-time high, employment too is on the rise.

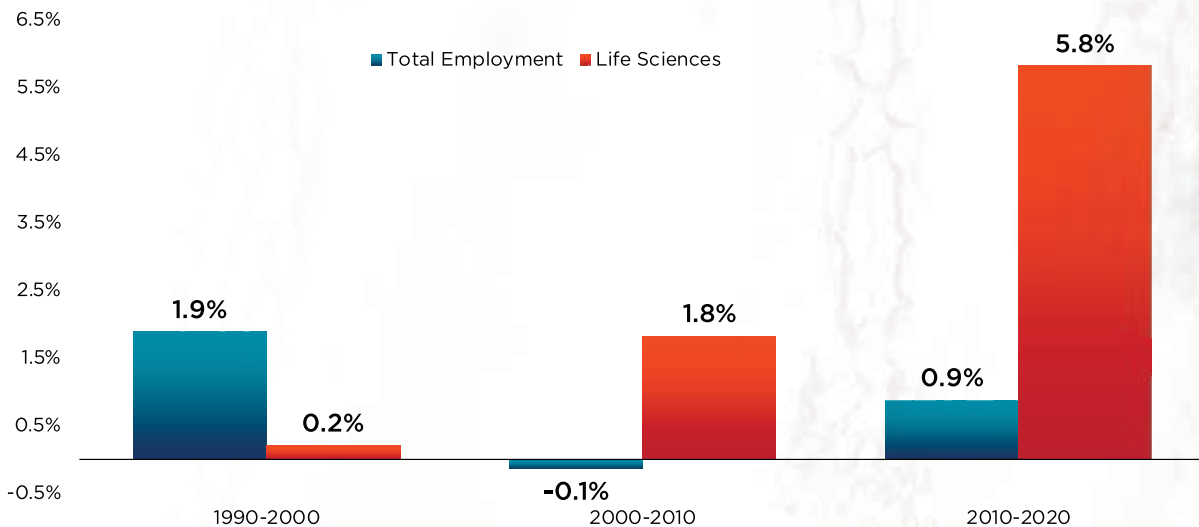
EMPLOYMENT IN THE RESEARCH AND DEVELOPMENT IN BIOTECHNOLOGY INDUSTRY AS OF MARCH 2021



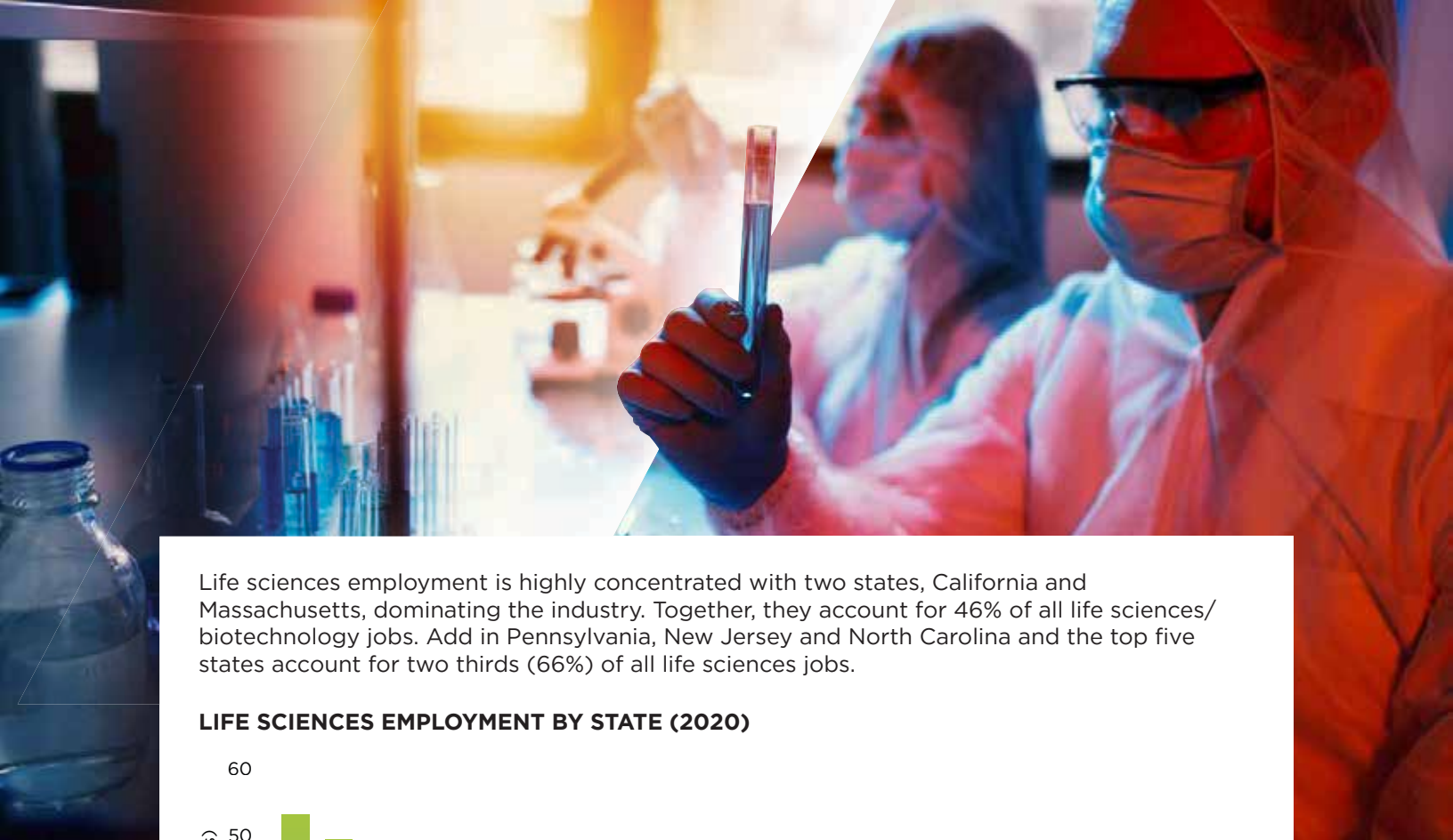
Source: U.S. Bureau of Labor Statistics

Since 2000, the life sciences industry has far outpaced the rest of the economy in terms of job growth, and employment in this industry has especially soared during the last decade.

LIFE SCIENCES EMPLOYMENT GROWTH BY DECADE

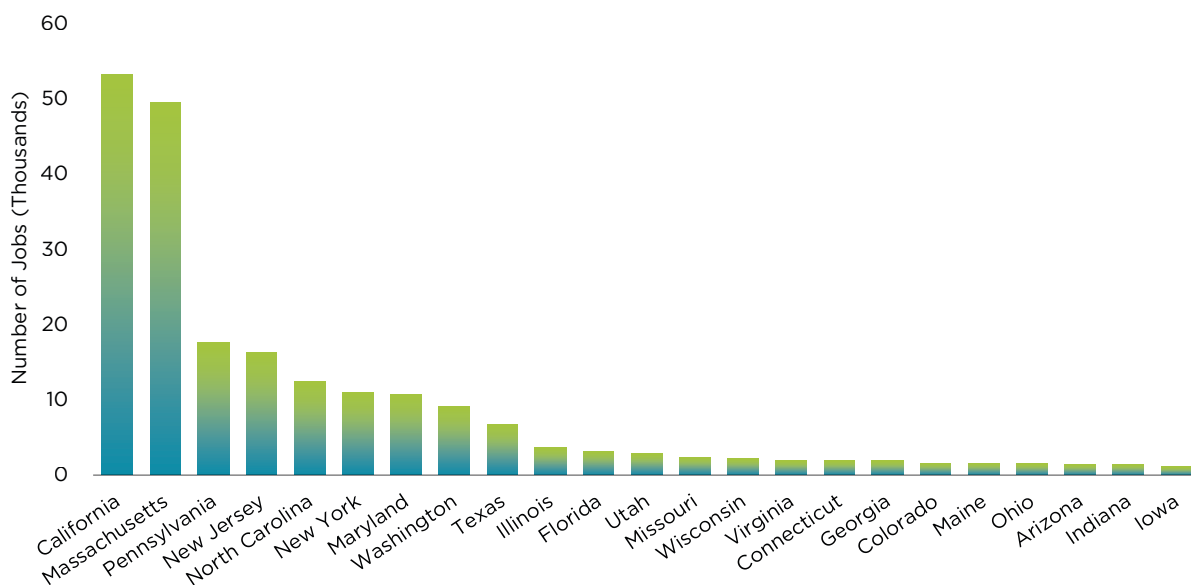


Source: U.S. Bureau of Labor Statistics



Life sciences employment is highly concentrated with two states, California and Massachusetts, dominating the industry. Together, they account for 46% of all life sciences/biotechnology jobs. Add in Pennsylvania, New Jersey and North Carolina and the top five states account for two thirds (66%) of all life sciences jobs.

LIFE SCIENCES EMPLOYMENT BY STATE (2020)



Source: EMSI

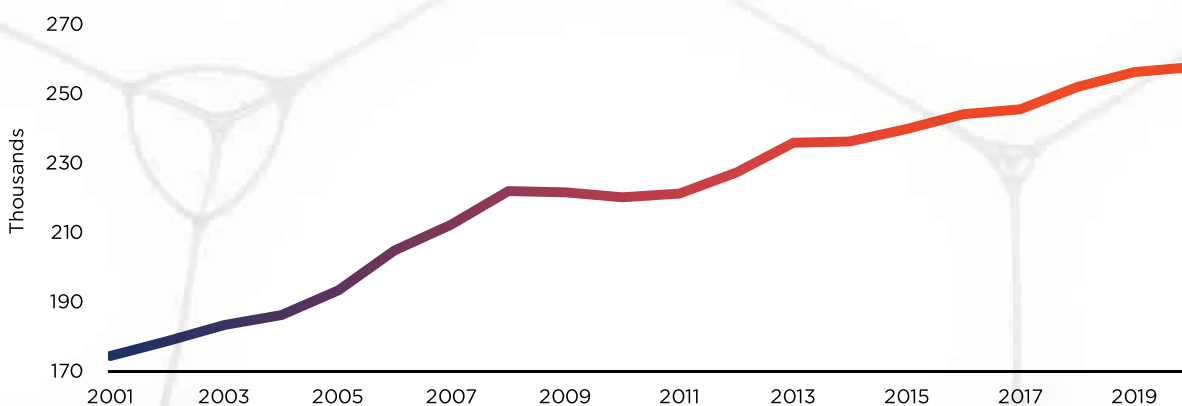
Life Sciences Workforce

While the biotechnology activity and investment mix remains heavily clustered in a few North American markets, growing biotechnology operations within those markets are finding themselves hiring from outside those markets. Growing ventures within the Boston and the San Francisco Bay Area markets for instance, are competing among a heavily employed talent pool mostly engaged with other scientific companies, and are generally recruiting from a global talent pool of bioscience engineers and relevant recent graduates. As this is the case, biotechnology groups that expect to more than double their workforces soon are increasingly shifting location strategies within markets, as access to existing workers and labor pools is less important than offering a total lifestyle package to individuals relocating from other places. The current overall appeal of the cluster to these talented individuals is enhanced by a likelihood of joining a new venture, should the initial venture not achieve desired success.

Cities and metropolitan areas that are attractive to life sciences companies are those that have the talent base that those companies need—a life sciences workforce that they can tap into. These individuals may or may not work at a biotechnology company. In fact, many scientists work at universities or other research-driven institutions such as hospitals.

To understand the available pool of research talent, we identified 17 occupations that have skills that can be used in life sciences. (For a full list, see Appendix). We then summed up the number of people working in these occupations in each of the 14 U.S. life sciences markets in this report. The 14 markets were determined using employment, investment and grant money. As demonstrated, the number of workers in life sciences occupations has increased steadily over the last 20 years in the 14 life sciences markets. In 2001, there were about 175,000 people in life sciences occupations, and by 2020, that number had risen to nearly 258,000, an increase of 47.6%. In comparison, total U.S. employment has increased by only 7.7% over the same time period.

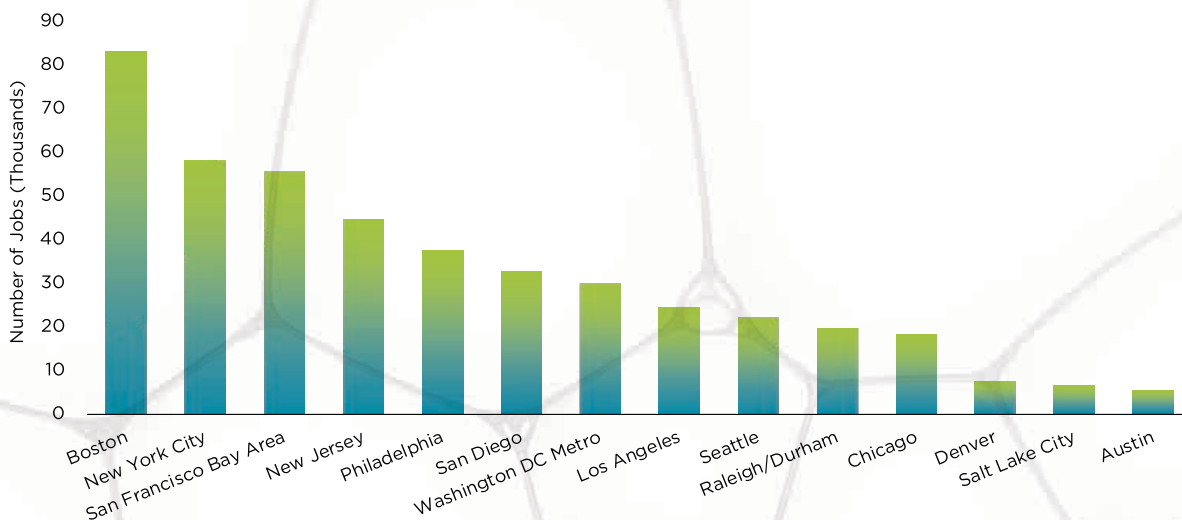
TOTAL NUMBER OF PEOPLE IN THE LIFE SCIENCES OCCUPATIONS IN THE 15 MARKETS



Source: U.S. Bureau of Labor Statistics, EMSI

The markets with the largest combination of number of people in the talent pool and working in life sciences occupations are Boston, New York City, the San Francisco Bay Area, New Jersey and Philadelphia markets. Combined, they account for about 63% of the life sciences talent in the 14 major hubs.

LIFE SCIENCES TOTAL EMPLOYMENT AND LABOR POOL BY MARKET (2020)



Source: EMSI



Consistently rising lease rates, a growing roster of liquidity partners and tight vacancy conditions have led many landlords to consider conversion of under-utilized office assets.

When it comes to growth, these occupations have expanded much more rapidly than the U.S. as a whole. Since 2001, U.S. employment has increased by roughly 7.7% (14% if we exclude 2020 due to the pandemic). Over the same time, the number of people with life sciences occupations has increased by 47%. In Boston, the number of people in these occupations has more than doubled (+137%). Since several of these are emerging markets, we also note that in terms of growth of the total number of people in these occupations, the top markets were led by Boston, which has seen the total number rise by more than 20,000 followed by Los Angeles +8,200, New Jersey +7,900 and the San Francisco Bay Area +7,100.

THE NEED FOR SPACE IS ON THE RISE

As the global biotechnology industry continues to grow and mature, the lab properties necessary to support new product development—in this case drug discovery—are experiencing chronic growth-limiting space shortages and rapidly rising rental rates, except for in a few key growth markets. The lack of space availability has especially been a concern to biotechnology groups, with inherently tight time frames and critical needs to get to market with revenue-generating products. This immediate need for space in the case of many biotechnology companies has prompted both traditional biotechnology developers and local developers alike to proceed on a speculative basis on numerous projects in the largest markets for biotechnology, with most new lab building starts now on a speculative basis in the Boston, San Diego and San Francisco markets. The overwhelming majority of these initial projects have delivered to market fully committed and speculative projects in emerging lab hubs, most notably Chicago. These have been spurred on by public funding in the hopes that successful development will prompt additional market support.

Consistently rising lease rates, a growing roster of liquidity partners and tight vacancy conditions have led many landlords to consider conversion of under-utilized office assets. With a growing number of these projects underway in flagship markets, success remains heavily location-, and not asset-dependent, with the ability to overcome asset-level shortcomings a critical driver.

LAB MARKET PERFORMANCE IS ON THE RISE

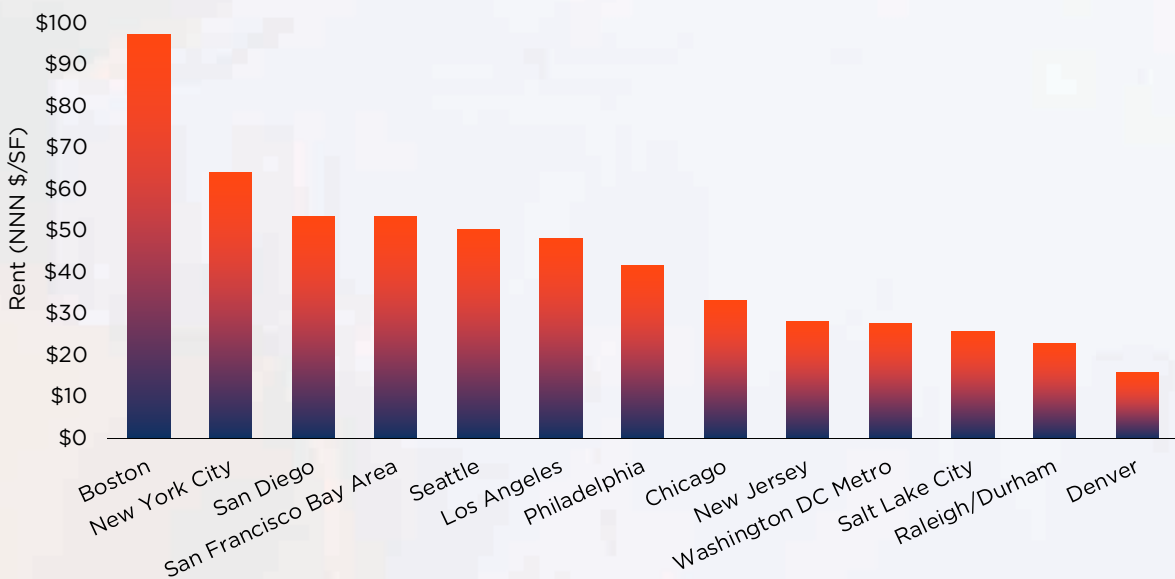
As the COVID-19 pandemic hit office markets across the nation in 2020 and early 2021, life sciences lab space was one sector that was almost unaffected. Lab tenants—from pharmaceutical companies to biotechnology start-ups—continued to sign leases, markets remained tight for the most part, construction continued, and rents continued to rise.

At the end of 2020, the average vacancy rate for the 14 U.S.-based markets stood at 8.7%, well below the national average office vacancy rate of 14.1%. Tighter markets lead to higher rents and nowhere is that more evident than in the life sciences lab sector. Rents for lab space averaged \$43.80 in the markets covered in this report, well above the \$34.45 national office space rent. Since lab rents are quoted triple net (NNN), the full-service asking rent for this space is even higher than that \$43.80 would suggest. Some of the highest rents in the nation are for lab space in Boston, where the current NNN rent is \$97.17. Rents in eight of the 14 major lab markets analyzed in this report have risen by at least 50% since 2015 led by Boston (+54%), the San Francisco Bay Area (+60%) and Seattle (+74%).

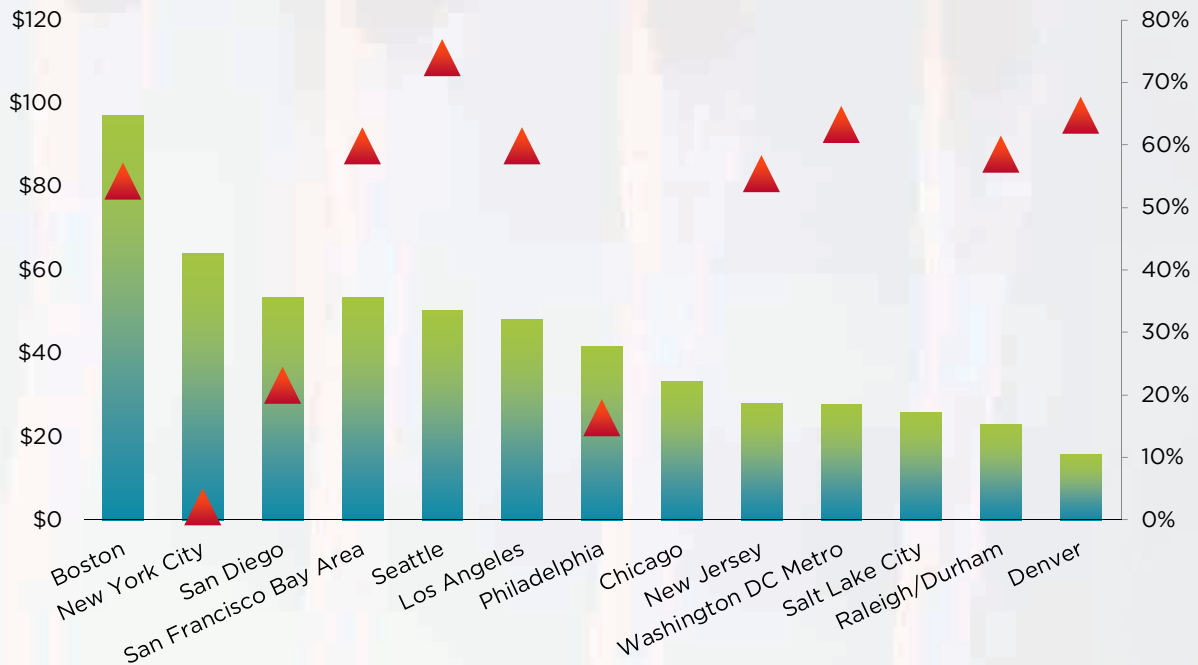
VACANCY RATE BY MARKET (Q4 2020)



RENT BY MARKET (Q4 2020)

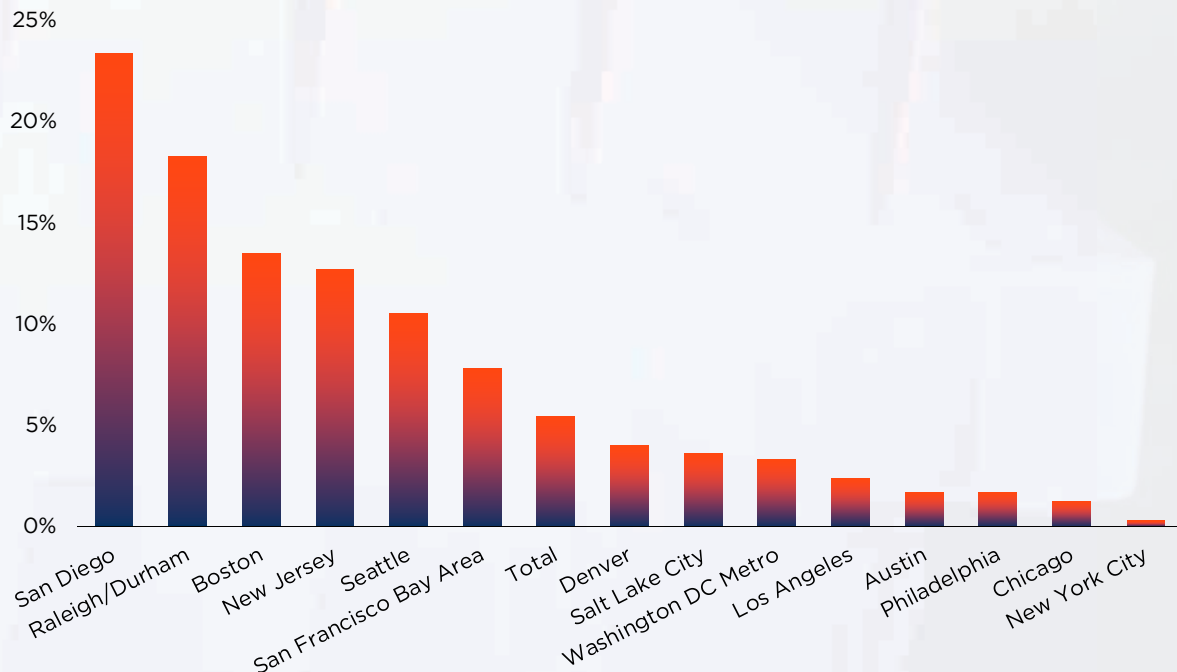


RENT LEVEL AND GROWTH BY MARKET NNN (Q4 2020)



Over the last five years, from 2015 to 2020, lab inventory has been rising rapidly. At the end of 2020, total lab space in these 14 markets totaled 145.4 million square feet (msf), up 13.7% from the 127.9 msf of space they had in 2015. During that same period, the inventory of office space for these markets rose 8.6%. As a result, the share of total inventory taken up by life sciences lab space has increased.

LAB INVENTORY AS A % OF TOTAL OFFICE INVENTORY



MARKET-BY-MARKET ANALYSIS

Primary Life Sciences Clusters





MARKET SUMMARY

- As a technology-focused market and a center of innovation, Austin has formed a natural partnership with the growing life sciences industry. The city's creative and entrepreneurial environment is a magnet for collaboration between technology companies, research, talent and funding.
- Austin's life sciences segment is well-rounded with more than 240 companies throughout the region. The workforce comprised of nearly 15,000 focuses on the highest growth areas in the industry, such as biologics, medical devices, diagnostics, pharmaceutical, contract research, and others.
- The region produces one of the most educated populations of any North American market, with more than 20 colleges and universities providing life sciences and healthcare-related education. University of Texas at Austin is a Tier 1 research university and its College of Pharmacy ranks as one of the best in the nation.
- Austin's recently established Innovation District anchored by UT-Austin, Dell Medical School, and the Dell Seton Medical Center will be an epicenter for life sciences research and development for both existing and start-up biotechnology companies. Its strong STEM talent pool and growing center for science and innovation make Austin a very promising lab market.

FAST LAB STATS

967K SF
MARKET SQUARE
FOOTAGE

0%
VACANCY

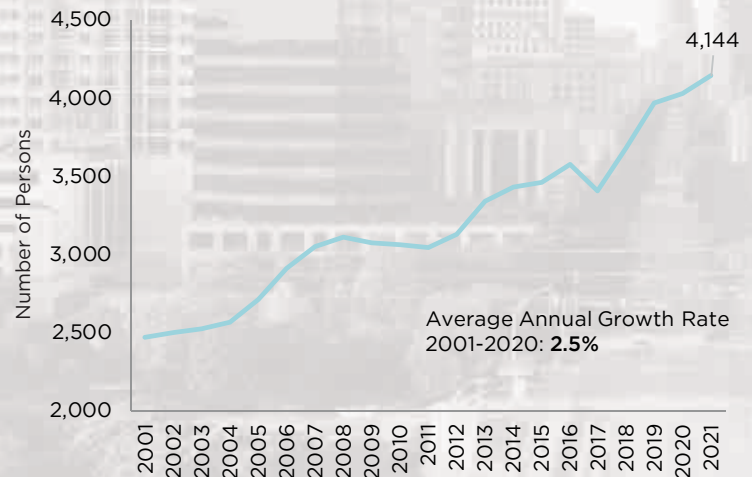
5.7K
TOTAL LIFE SCIENCES
EMPLOYMENT
& TALENT POOL

+75%
LIFE SCIENCES
EMPLOYMENT GROWTH
RATE SINCE 2001

REPRESENTATIVE LIFE SCIENCES COMPANIES

COMPANY	TYPE
ICU Medical	Research Facility
Pharmaceutical Product Development	Other
Clinical Pathology Laboratories	HQ
Luminex Corp	HQ
Hanger	HQ
Agilent Technologies	Other
Smith & Nephew	Other
Allergan	Other
Natera	Research Facility
WuXi	HQ

LIFE SCIENCES TALENT POOL



Talent pool includes life science professionals not currently employed in the life science sector
Source: EMSI

BIO DEGREE-AWARDING INSTITUTIONS, METRO AREA

- University of Texas at Austin

TOP NIH-FUNDED INSTITUTIONS (2016-2020)

\$404M

UNIVERSITY OF TEXAS,
AUSTIN

PUBLIC & PRIVATE FUNDING (2020-2021)

COMPANY	DEAL TYPE	COMPLETED	TYPE	\$ RAISED (MM)
Shattuck Labs	IPO	Oct 2020	Public	\$202.0
Triumvira Immunologics	Early Stage	Aug 2020	VC	\$55.0
Nuclein	Early Stage	Mar 2021	VC	\$14.0

REPRESENTATIVE INVESTMENT SALE TRANSACTIONS (2019-2021)

ADDRESS	TYPE	\$ MM	RBA SF	DATE	BUYER
1700 Royston Ln	Lab	Unknown	38,024	Mar 2021	Undisclosed

REPRESENTATIVE LEASE TRANSACTIONS (2020)

COMPANY	ADDRESS	SIZE (SF)	NEW/RENEWAL	TYPE	QUARTER	LANDLORD
Allergan	12331 A-Riata Trace Pkwy	63,920	New	Office	Q1	Kohlberg Kravis Roberts
Aeglea Bio-Therapeutics	805 Las Cimas Pkwy	30,026	New	Office	Q1	Rockpoint Group
ALK-Abello	1700 Royston	19,327	New	Lab	Q3	
WuXi Clinical	5301 Southwest Pkwy	10,380	New	Office	Q1	Drawbridge Realty

MARKET SUMMARY

- Boston continues to dominate in life sciences activity and associated real estate development in the Eastern United States, attracting approximately a quarter of all North American life sciences venture capital funding.
- Biotechnology startups continue to tap into the Americas' largest annual graduating pool of people with biotechnology-relevant degrees. And people with those skills from other places move with confidence to the Boston area as the numerous potential scientific operations reduces career risk in the case of job turnover.
- Large biopharma firms are attracted to the entrepreneurial attitude common in the Boston market. They also continue to deploy large and growing presences as the market remains a leader in the ability to quickly staff the larger workforces required by these larger companies.
- A record deal flow in 2019 was extended into 2020 and the first quarter of 2021, as three transactions larger than 200,000 sf highlighted those five quarters.
- Capital continues to support the region's biotechnology efforts, with the \$28 billion capital raised in 2020 from public and private sources - a 93% increase over the previous record.

FAST LAB STATS

24.4 MSF

MARKET SQUARE
FOOTAGE

\$97.17

\$ PER SF NNN

3.7%

VACANCY

86.9K

TOTAL LIFE SCIENCES
EMPLOYMENT
& TALENT POOL

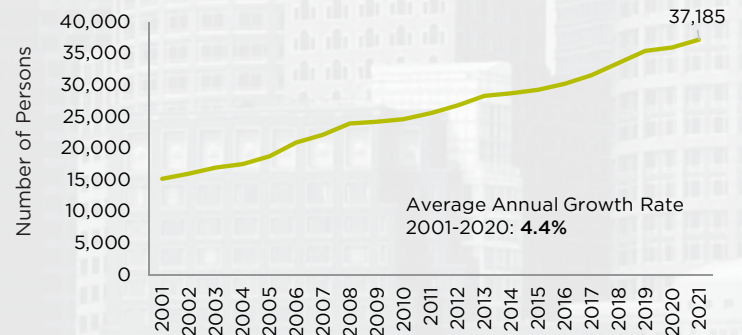
+147%

LIFE SCIENCES
EMPLOYMENT GROWTH
RATE SINCE 2001

REPRESENTATIVE LIFE SCIENCES COMPANIES

COMPANY	TYPE
Biogen	HQ
bluebird bio	HQ
Bristol Myers Squibb	Regional HQ
CRISPR Tx	HQ
Moderna Tx	HQ
Novartis	Regional HQ
Pfizer	Regional HQ
Sanofi	Regional HQ
Takeda Ph	Regional HQ
Vertex Ph	HQ

LIFE SCIENCES TALENT POOL



Talent pool includes life science professionals not currently employed in the life science sector

Source: EMSI

BIO DEGREE-AWARDING INSTITUTIONS, METRO AREA

- Boston University
- Fitchburg State University
- Harvard University
- MIT
- Mount Wachusett Community College
- Salem State University
- Tufts University
- University of Massachusetts Lowell

TOP NIH-FUNDED INSTITUTIONS (2016-2020)

\$2.3B

MASSACHUSETTS
GENERAL HOSPITAL

\$1.8B

BRIGHAM AND WOMEN'S
HOSPITAL

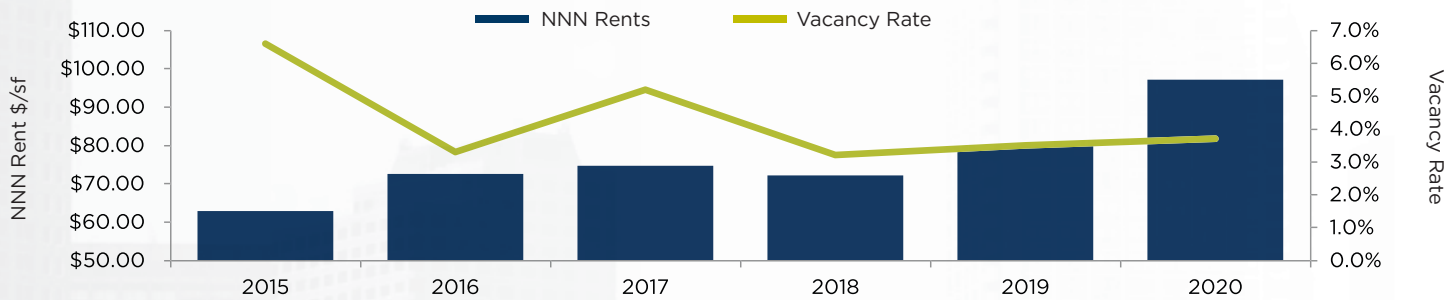
\$992M

HARVARD MEDICAL
SCHOOL

PUBLIC & PRIVATE FUNDING (2020-2021)

COMPANY	DEAL TYPE	COMPLETED	TYPE	\$ RAISED (MM)
Moderna Therapeutics	Public Investment 2nd Offering	May 2020	Public	\$1,337.6
EQRx	Early Stage	Jan 2021	VC	\$570.0
ElevateBio	Later Stage	Mar 2021	VC	\$525.0
Indigo Agriculture	Later Stage	Jun 2020	VC	\$500.0
Insulet	Public Investment 2nd Offering	May 2020	Public	\$499.9
bluebird bio	Public Investment 2nd Offering	May 2020	Public	\$499.8
Relay Therapeutics	IPO	Jul 2020	Public	\$400.0
Adagio Therapeutics	Later Stage	Apr 2021	VC	\$335.5
Blueprint Medicines	Public Investment 2nd Offering	Jan 2020	Public	\$325.0
Forma Therapeutics	IPO	Jun 2020	Public	\$319.3

RENT VS. VACANCY COMPARISON



East Cambridge Class A

Source: CoStar, Cushman & Wakefield Research

REPRESENTATIVE INVESTMENT SALE TRANSACTIONS (2019-2020)

ADDRESS	TYPE	\$ MM	RBA SF	DATE	BUYER
Cambridge Discovery Park (3 bldgs), Cambridge	Lab	\$617.1	611,059	Dec 2020	The Bulfinch Companies
201 Brookline Ave, Boston	Lab	\$539.0	510,116	Jan 2021	Alexandria RE
The Gauge, Waltham	Lab	\$344.0	332,700	Dec 2020	TPG Global
200 Smith St, Waltham	Lab	\$320.0	426,000	Apr 2020	Healthpeak
705 Mount Auburn St, Watertown	Lab (conversion)	\$307.0	480,000	Sep 2020	Spear Street Capital
109 Brookline Ave, Boston	Lab	\$270.0	285,556	Feb 2020	IQHQ
400-600 Summit Dr, Burlington	Lab	\$252.8	350,000	Dec 2020	MilliporeSigma
51 Sleeper St, Boston	Lab (conversion)	\$115.1	152,102	Jan 2020	Nan Fung LS RE
1 Winthrop Sq, Boston	Lab (conversion)	\$75.0	115,667	Mar 2020	Nan Fung LS RE
840 Winter St, Waltham	Lab (conversion)	\$58.1	135,332	Jan 2021	Alexandria RE

REPRESENTATIVE LEASE TRANSACTIONS (2020)

COMPANY	ADDRESS	SIZE (SF)	NEW/RENEWAL	TYPE	QUARTER	LANDLORD
Bristol Myers Squibb	250 Water St, Cambridge	480,000	New	Lab	Q2	Divco West
CRISPR Tx	105 West First St, Boston	263,500	New	Lab	Q2	Breakthrough Properties
Alkermes	850 Winter St, Waltham	180,039	Renew/Exp	Lab	Q1	Davis/Marcus
Translate Bio	200 West St, Waltham	138,000	New	Lab	Q3	Boston Properties
Abcam	152 Grove St, Waltham	98,985	New	Lab	Q1	Hilco Redevelopment Partners
Oncorus	4 Corporate Dr, Andover	88,184	New	Lab	Q3	IQHQ
Constellation Ph	100 Talcott Ave, Watertown	79,155	New	Lab	Q3	Alexandria Real Estate Equities, Inc.
Arrakis Tx	828 Winter St, Waltham	70,000	New	Lab	Q1	King Street Properties
Dyne Tx, Inc	1560 Trapelo Rd, Waltham	68,187	New	Lab	Q3	Phase 3
Arrakis Tx	828 Winter St, Waltham	67,702	New	Lab	Q1	King Street Properties

Chicago

MARKET SUMMARY

- Life sciences companies are increasingly taking note of Chicago's world-class research universities, talent pipeline, robust network of existing companies and its competitive cost of doing business compared to other major life sciences markets.
- Chicago's life sciences ecosystem has seen unprecedented growth, with substantial capital infusion into the market and a rapidly expanding development pipeline to support a robust incubator market.
- Among major U.S. life sciences markets, Chicago experienced the largest percentage increase in life sciences venture capital placements from 2016-2020, increasing 706% and reaching \$553M in 2020.
- Chicago is home to market-leading global pharmaceutical companies including Abbott Laboratories, AbbVie, Baxter, and Pfizer and two national labs in Argonne and Fermilab. The market has historically lacked significant lab infrastructure, with that changing in recent years.
- The current market is primarily suburban and lacks a centralized cluster, but there are promising signs a cluster is forming downtown, with developers racing to add lab space to Fulton Market, Lincoln Park, Lincoln Yards and the South Loop.

FAST LAB STATS

3.0 MSF
MARKET SQUARE
FOOTAGE

\$33.26
\$ PER SF NNN

14.1%
VACANCY

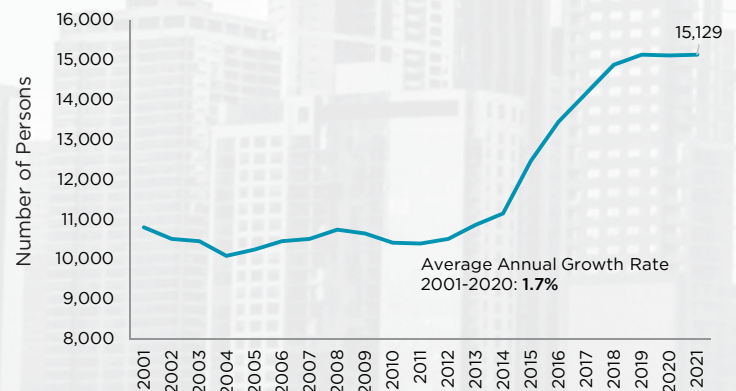
18.3K
TOTAL LIFE SCIENCES
EMPLOYMENT
& TALENT POOL

+26%
LIFE SCIENCES
EMPLOYMENT GROWTH
RATE SINCE 2001

REPRESENTATIVE LIFE SCIENCES COMPANIES

COMPANY	TYPE
AbbVie	U.S. HQ
Abbott Laboratories	HQ
Baxter International	HQ
Fresenius Kabi	North American HQ
Akorn Pharmaceuticals	HQ
Astellas Pharma	U.S. HQ
Sagent Pharmaceuticals	HQ
Pfizer	Regional Office
Lundbeck	U.S. HQ
Assertio Therapeutics	HQ

LIFE SCIENCES TALENT POOL



Talent pool includes life science professionals not currently employed in the life science sector

Source: EMSI

BIO DEGREE-AWARDING INSTITUTIONS, METRO AREA

- Rosalind Franklin University of Medicine & Science
- Rush University
- Northwestern University
- University of Chicago
- University of Illinois (Chicago)

TOP NIH-FUNDED INSTITUTIONS (2016-2020)

\$1.5B

NORTHWESTERN UNIVERSITY
AT CHICAGO

\$985M

UNIVERSITY OF CHICAGO

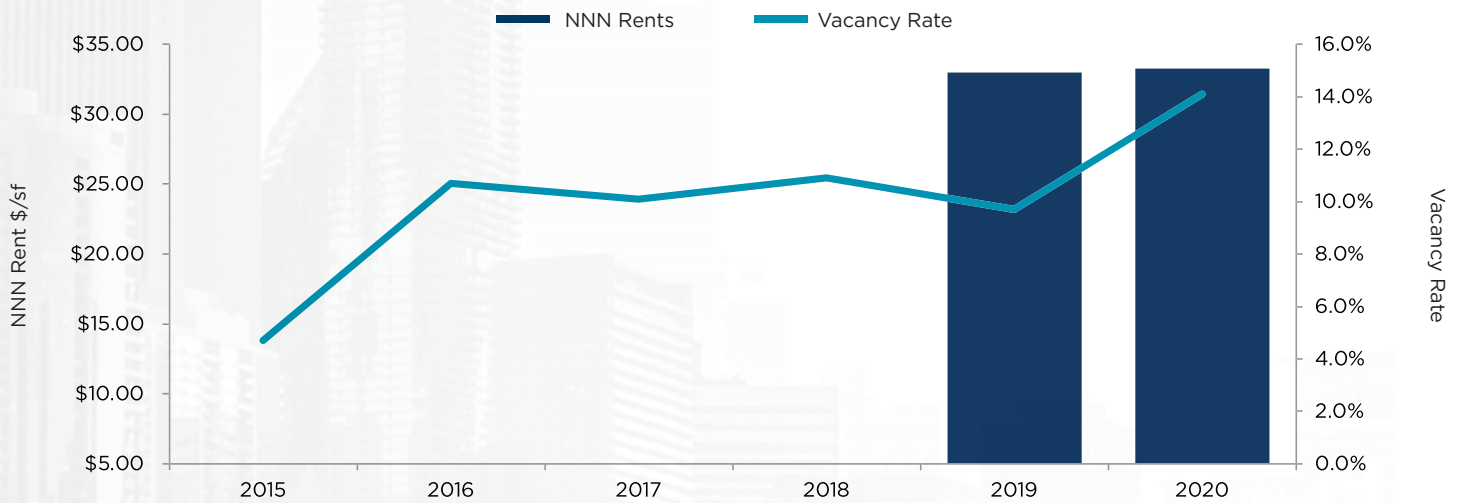
\$643M

UNIVERSITY OF ILLINOIS
AT CHICAGO

PUBLIC & PRIVATE FUNDING (2020-2021)

COMPANY	DEAL TYPE	COMPLETED	TYPE	\$ RAISED (MM)
Jaguar Gene Therapy	Early Stage	Apr 2021	VC	\$139.0
Nature's FYND	Later Stage	Mar 2020	VC	\$80.0
PharmaCann	Later Stage	Mar 2021	VC	\$68.0
Emalex Biosciences	Later Stage	Mar 2021	VC	\$35.0
Aptinyx	Public Investment 2nd Offering	Jan 2020	Public	\$30.5
CIIRC Biosciences	Angel (individual)	Dec 2020	VC	\$16.8

RENT VS. VACANCY COMPARISON



Rents not tracked prior to 2019

Source: CoStar, Cushman & Wakefield Research

REPRESENTATIVE INVESTMENT SALE TRANSACTIONS (2019-2021)

ADDRESS	TYPE	\$ MM	RBA SF	DATE	BUYER
1 Takeda Parkway, Deerfield, IL	Office	\$115.0	660,000	Feb 2020	Horizon Therapeutics

REPRESENTATIVE LEASE TRANSACTIONS (2020)

COMPANY	ADDRESS	SUBMARKET	SIZE (SF)	NEW/RENEWAL	TYPE	QUARTER	LANDLORD
Abbott	605 Tri-State Pky	Lake County	255,272	New	Industrial	Q2	CBRE Global Investors
Abbott Molecular	1015 W Devon Ave	O'Hare	245,624	New	Industrial	Q4	Bridge Development Partners
Portal Innovations	400 N Aberdeen St	Fulton Market	35,000	New	Lab	Q4	Trammell Crow
Evozyne	2430 N Halsted St	Lincoln Park	30,087	New	Lab	Q3	Sterling Bay
Excure	2430 N Halsted St	Lincoln Park	30,085	New	Lab	Q1	Sterling Bay
Abbott Molecular	1350 E Touhy Ave	O'Hare	23,543	New	Office	Q4	Marc Realty
Xeris Pharmaceuticals	1375 W Fulton Ave	Fulton Market	11,782	New	Lab	Q3	Trammell Crow
Portal Innovations	1375 W Fulton Ave	Fulton Market	11,000	New	Lab	Q4	Trammell Crow

Denver

MARKET SUMMARY

- The Denver market has solidified itself as an emerging life sciences hub by promoting growth and innovation due to the leading research institutions, federal labs and nearly 900 life sciences companies calling Denver home.
- Industry growth has been fueled by a strong STEM labor pool, favorable taxes and incentives, and an abundance of capital and funding from both the private and public sectors.
- Denver's life sciences industry is highly comprised of medical device and diagnostics companies, which account for 64% of life sciences employment.
- The Denver market, which includes the flagship university of the University of Colorado system in Boulder, is home to a vibrant start-up community due to the strong incubator and innovation centers that reside in the region.
- Lack of available supply has been a limiting factor in the expansion of the life sciences and drug discovery activities in the Denver market with the Novartis campus in Longmont viewed by many as a potential lab cluster opportunity.
- The life sciences market continues to expand, with growth primarily concentrated in the Boulder and Northwest suburban submarkets.

FAST LAB STATS

4.7 MSF
MARKET SQUARE
FOOTAGE

\$15.70
\$ PER SF NNN

18.1%
VACANCY

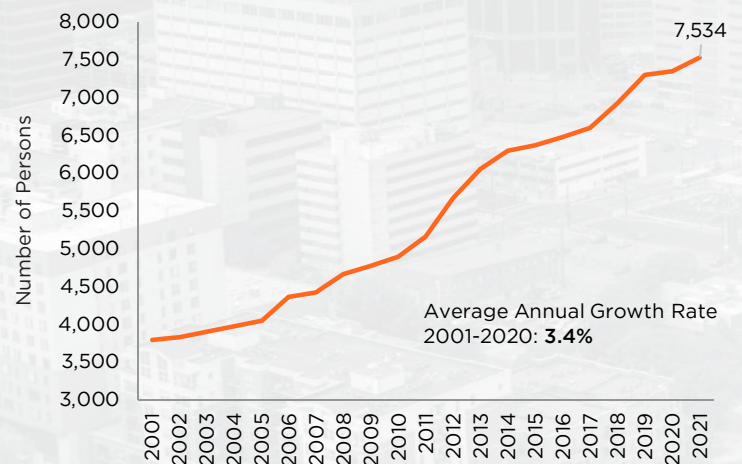
7.8K
TOTAL LIFE SCIENCES
EMPLOYMENT
& TALENT POOL

+80%
LIFE SCIENCES
EMPLOYMENT GROWTH
RATE SINCE 2001

REPRESENTATIVE LIFE SCIENCES COMPANIES

COMPANY	TYPE
Medtronic	Regional Office
Pfizer	Research Facility
Eli Lilly	Research Facility
Agilent Technologies	Research Facility
Terumo BCT	HQ
AGC Biologics	Research Facility
SomaLogic	HQ
Front Range Biosciences	HQ
KBI Biopharma	Research Facility
LivaNova	Research Facility

LIFE SCIENCES TALENT POOL



Talent pool includes life science professionals not currently employed in the life science sector

Source: EMSI

BIO DEGREE-AWARDING INSTITUTIONS, METRO AREA

- University of Colorado (Denver)

TOP NIH-FUNDED INSTITUTIONS (2016-2020)

\$195M

NATIONAL
JEWISH HEALTH

\$30M

UNIVERSITY OF DENVER
(COLORADO SEMINARY)

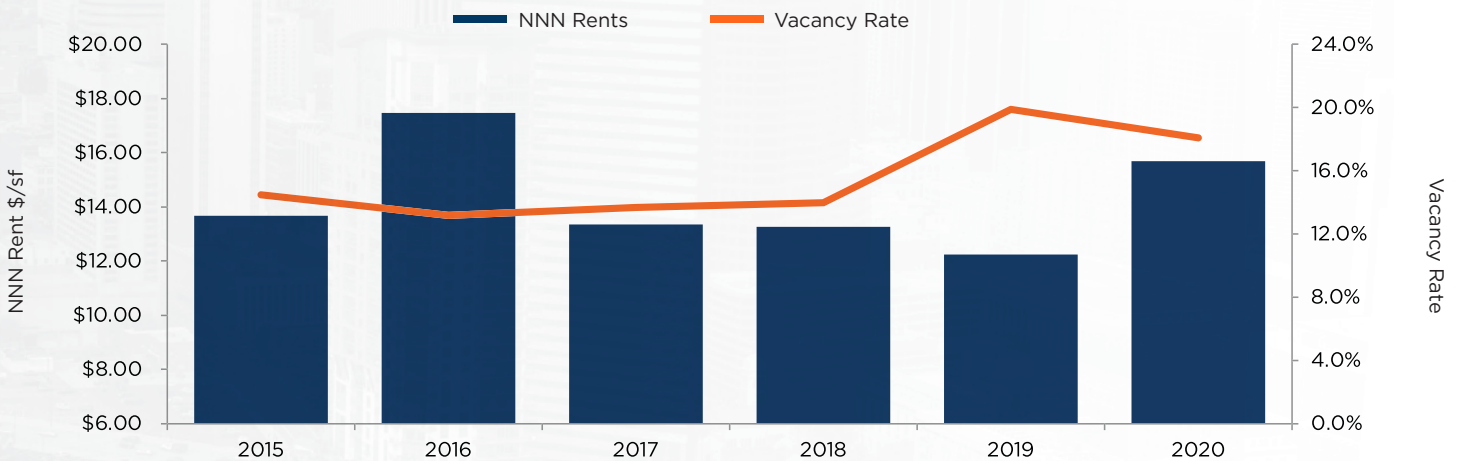
\$13M

DENVER HEALTH AND
HOSPITAL AUTHORITY

PUBLIC & PRIVATE FUNDING (2020-2021)

COMPANY	DEAL TYPE	COMPLETED	TYPE	\$ RAISED (MM)
Edgewise Therapeutics	IPO	Mar 2021	Public	\$176.0
Inscripta	Later Stage	Apr 2021	VC	\$150.0
Strive Health	Early Stage	Mar 2021	VC	\$140.0
Biodesix	IPO	Oct 2020	Public	\$72.0
Urban-gro	Public Investment 2nd Offering	Feb 2021	Public	\$62.1
OnKure Therapeutics	Later Stage	Mar 2021	VC	\$55.0
Enliven Therapeutics	Early Stage	Dec 2020	VC	\$45.0
Cerebral Therapeutics	Later Stage	Jan 2020	VC	\$35.0
Ablacon	Later Stage	Dec 2020	VC	\$30.0
Front Range Biosciences	Later Stage	Dec 2020	VC	\$22.5

RENT VS. VACANCY COMPARISON



Source: CoStar, Cushman & Wakefield Research

REPRESENTATIVE INVESTMENT SALE TRANSACTIONS (2019-2021)

ADDRESS	TYPE	\$ MM	RBA SF	DATE	BUYER
5550 Airport Blvd, Boulder	Lab	\$39.7	178,700	May 2020	AGC Biologics
4000 Nelson Rd, Longmont	cGMP	\$30.0	692,000	Apr 2019	Novartis AG
800 Hoyt St, Broomfield	cGMP	\$24.1	139,900	Dec 2020	Stockbridge Capital / Lincoln Property Co.
2555 W Midway Blvd, Broomfield	cGMP	\$18.8	440,000	Jun 2019	Mile High Labs

REPRESENTATIVE LEASE TRANSACTIONS (2020)

COMPANY	ADDRESS	SIZE (SF)	NEW/RENEWAL	TYPE	QUARTER	LANDLORD
Pfizer	3200 Walnut St, Boulder	151,400	Renewal	Lab	Q3	Invesco Real Estate
Eli Lilly	600 Tech Ct, Louisville	113,800	New	cGMP	Q4	Etkin Johnson Real Estate Partners
Inscripta	5500 Central Ave, Boulder	40,800	New	Lab	Q4	Crescent Real Estate
Front Range Biosciences	6400 Lookout Rd, Boulder	39,800	New	Lab	Q1	Tebo Properties
Mosaic Biosciences	2830 Wilderness Pl, Boulder	12,400	Sublease	Lab	Q3	Eurofins

Los Angeles

MARKET SUMMARY

- The Los Angeles market is well positioned for future life sciences growth with significant population, attractive quality of life, and numerous supporting institutions.
- A significant and growing life sciences market is clustered in numerous areas of concentration such as South Bay, LA North (Thousand Oaks), San Gabriel Valley (Pasadena), the Westside and Orange County.
- The region can draw from a deep global talent pool, and the life sciences industry maintains strong ties to leading regional universities and research centers.
- One of the big drivers for life sciences in Los Angeles is the advantage of its proximity to world-class learning and research institutions. Two of the five University of California campuses with medical schools are located in the Los Angeles/Orange County market: University of California, Los Angeles (UCLA) and UC Irvine.
- There are more than 25 research institutes, universities and colleges that conduct research and train future generations of entrepreneurs and scientists.

FAST LAB STATS

7.6 MSF
MARKET SQUARE
FOOTAGE

\$48.01
\$ PER SF NNN

1.5%
VACANCY

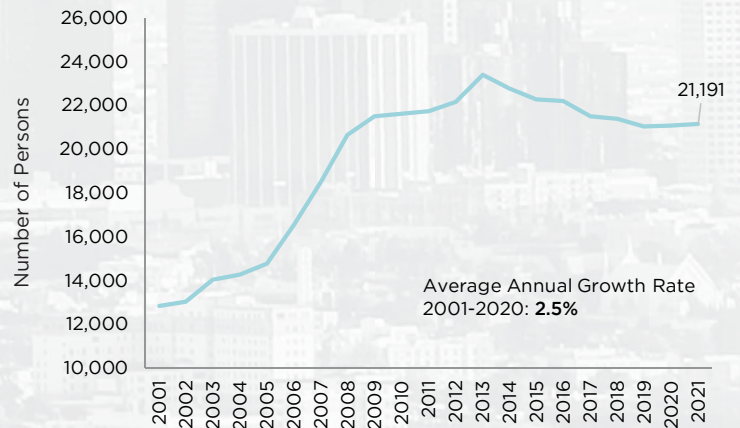
24.8K
TOTAL LIFE SCIENCES
EMPLOYMENT
& TALENT POOL

+77%
LIFE SCIENCES
EMPLOYMENT GROWTH
RATE SINCE 2001

REPRESENTATIVE LIFE SCIENCES COMPANIES

COMPANY	TYPE
Kite Pharma	R&D
Amgen	Pharmaceutical
Edwards Life Sciences	Medical Devices
Masimo	Medical Devices
Sanofi/Genzyme	Pharmaceutical
Celgene	R&D
Xencor	R&D
Baxter	Pharmaceutical
Seigfreid	Pharmaceutical
Grifols	R&D

LIFE SCIENCES TALENT POOL



Talent pool includes life science professionals not currently employed in the life science sector
Source: EMSI

BIO DEGREE-AWARDING INSTITUTIONS, METRO AREA

California State Polytechnic University (Pomona)

TOP NIH-FUNDED INSTITUTIONS (2016-2020)

\$2.5B

UNIVERSITY OF CALIFORNIA
LOS ANGELES

\$1.4B

UNIVERSITY OF SOUTHERN
CALIFORNIA

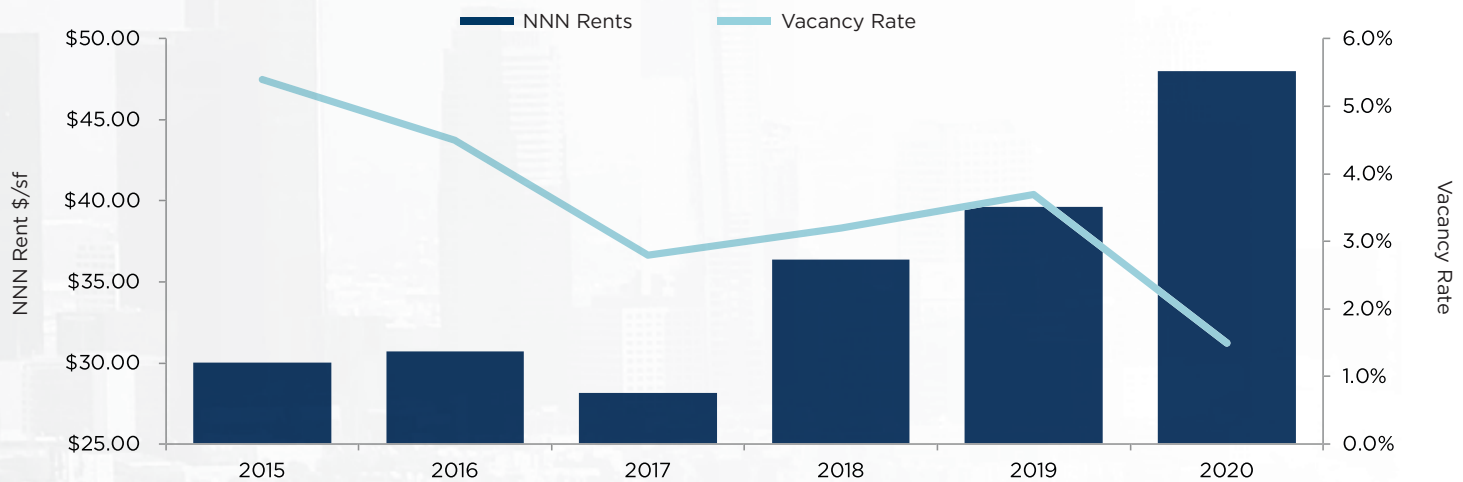
\$732M

UNIVERSITY OF
CALIFORNIA-IRVINE

PUBLIC & PRIVATE FUNDING (2020-2021)

COMPANY	DEAL TYPE	COMPLETED	TYPE	\$ RAISED (MM)
Glass House Group	Early Stage	Apr 2020	VC	\$311.5
Inari Medical	IPO	May 2020	Public	\$155.9
Tarsus Pharmaceuticals	IPO	Oct 2020	Public	\$88.0
A2 Biotherapeutics	Early Stage	Sep 2020	VC	\$71.5
SetPoint Medical	Later Stage	Nov 2020	VC	\$64.0
Provivi	Later Stage	Mar 2021	VC	\$55.5
Kernel	Later Stage	Jun 2020	VC	\$53.0
CG Oncology	Later Stage	Dec 2020	VC	\$47.0
Adagio Medical	Later Stage	Nov 2020	VC	\$42.5
Seed Health	Later Stage	Apr 2021	VC	\$40.0

RENT VS. VACANCY COMPARISON



Source: CoStar, Cushman & Wakefield Research

REPRESENTATIVE INVESTMENT SALE TRANSACTIONS (2019-2021)

ADDRESS	TYPE	\$ MM	RBA SF	DATE	BUYER
18362-18424 Oxnard St	Office, Lab	\$37.5	78,349	Oct 20	Instil Bio
4399 & 4401 Santa Anita Ave	Lab	\$15.4	64,480	Oct 20	Flugent Genetics
1280 & 1290 Rancho Conejo Blvd	Lab	\$11.2	59,750	Sept 19	Alexandria

REPRESENTATIVE LEASE TRANSACTIONS (2020)

COMPANY	ADDRESS	SIZE (SF)	NEW/RENEWAL	TYPE	QUARTER	LANDLORD
Atara Bio	1280 Rancho Conejo Blvd	34,000	New Deal	Lab	Q1 2021	Alexandria
Kite Pharma	2355 & 2383 Utah Avenue	25,000	Expansion	Office, Lab	Q1	NSB Associates
Calimmune, Inc	129 Hill Ave	19,867	Expansion	Lab	Q4	Alexandria
Instil Bio	1535 Rancho Conejo Blvd	18,000	New Deal	Lab	Q2	Hatch Labs
Terray Therapies	129 Hill Ave	7,500	Expansion	Lab	Q4	Alexandria

Contributor: Eric Kenas, eric.kenas@cushwake.com

MARKET SUMMARY

- Montreal is the leading life sciences research and development hub in Canada in patents and R&D expenditures, with over 800 companies and 170 research centers¹.
- The region's life sciences industry is highly diversified with organizations including traditional pharmaceuticals, medical device research and manufacturing, artificial intelligence research, and an active venture capital investor pool.
- Montreal features some of the lowest research and operational costs in North America, due in part to substantial provincial tax credits².
- The area's support infrastructure facilitates companies through all phases of development, from basic research to commercialization.

1 Montreal International

2 BioTalent Canada

FAST OFFICE STATS

102.4 MSF
MARKET SQUARE
FOOTAGE

\$16.13
\$ PER SF NNN

11.4%
VACANCY

56K
TOTAL LIFE SCIENCES
EMPLOYMENT
& TALENT POOL

REPRESENTATIVE LIFE SCIENCES COMPANIES

COMPANY	TYPE
Bausch Health Companies	International HQ
Novartis Pharma Canada	Canadian HQ
Pharmascience Inc	International HQ
Abbott Laboratories	Canadian HQ
Merck Canada Inc	Canadian HQ
Pfizer Canada SRI	Canadian HQ
PF Consumer Healthcare Canada ULC	International HQ
Sandoz Canada Inc	Canadian HQ
Confab Laboratories Inc	International HQ
AbbVie	Research Facility

TOP NIH-FUNDED INSTITUTIONS (2016-2020)

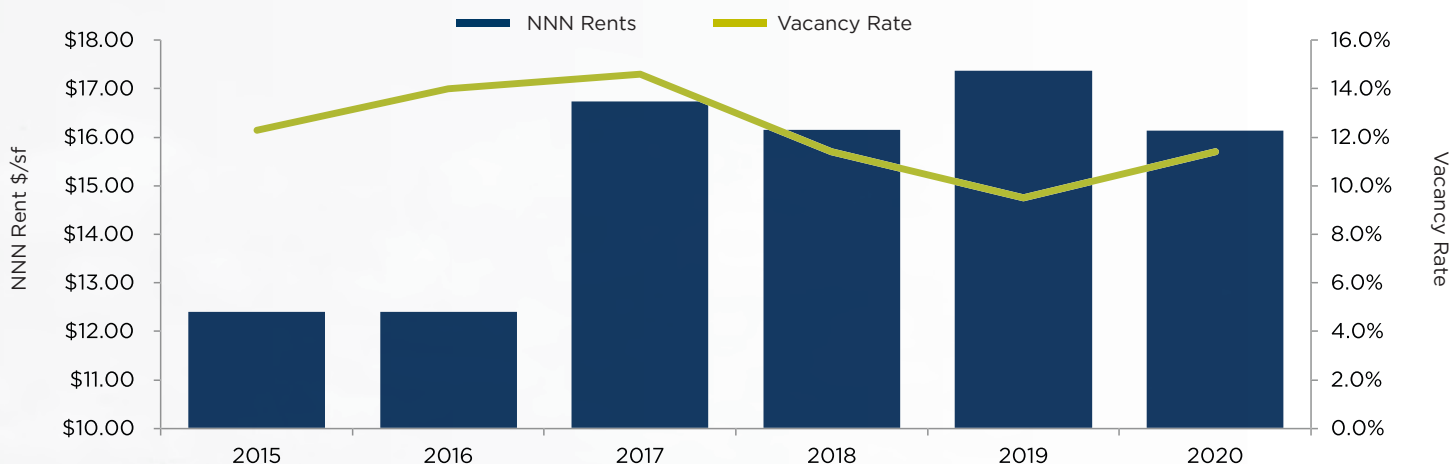
- The National Institute of Health (U.S.) provided \$8.4M \$USD in funding to Montreal universities and health centers in 2020.
- The Quebec Life Sciences Strategy's main objective is to attract \$4B in private investment to Quebec by 2022 and to make the province of Quebec one of the five largest North American life sciences hubs. In its 2020-2021 budget, the government allocated \$118M to support the life sciences industry.

Source: Ministry of Economy, Innovation and Exports

PUBLIC & PRIVATE FUNDING (2020-2021)

COMPANY	DEAL TYPE	COMPLETED	TYPE	\$ RAISED (MM)
Repare Therapeutics	IPO	Jun 2020	Public	\$253.0
Ventus Therapeutics	Early Stage	Apr 2021	VC	\$100.0
Theratechnologies	Public Investment 2nd Offering	Jan 2021	Public	\$46.0
Bellus Health	Public Investment 2nd Offering	Oct 2020	Public	\$40.3
Inversago	Later Stage	Sep 2020	VC	\$35.0

RENT VS. VACANCY COMPARISON



Data Represents the Overall Office Market
Source: Cushman & Wakefield Research

REPRESENTATIVE INVESTMENT SALE TRANSACTIONS (2019-2021)

ADDRESS	TYPE	\$ MM	RBA SF	DATE	BUYER
597-635 Sir Wilfrid-Laurier Boulevard, Mont-Saint-Hilaire	Lab	\$24.1	123,228	Dec 2020	Corum XL
7300 Transcanada Highway, Pointe-Claire	Lab	\$14.6	98,296	Sept 2019	Capcium Inc (Between Partners)
7500 Trans-Canada Highway, Pointe-Claire	Lab	\$9.8	98,295	Jan 2021	9431-0091 Québec Inc (Non-arms)
325 Stillview Avenue, Pointe-Claire	Lab	\$3.8	42,210	Jan 2019	Odan Laboratories LTD (Tenant right to purchase)
16771-16781 Sainte-Marie Boulevard, Kirkland	Lab	\$4.4	34,593	Aug 2020	Greystone Real Estate Fund Inc
1460 Graham-Bell Street, Boucherville	Lab	\$2.6	24,545	Apr 2019	Holding TMJ Inc (Non-arms)
1460 Joliot-Curie Street	Lab	\$1.5	17,100	Nov 2020	Laboratoire Newpharma GNTIK Inc (Non-arms)
3014 Anderson Street, Terrebonne	Lab	\$1.3	8,000	Feb 2019	Emco-Inortech ULC
1131 Marie-Victorin Street, Saint-Bruno-de-Montarville	Lab	\$1.2	6,921	Feb 2020	9410-5020 Québec Inc

REPRESENTATIVE LEASE TRANSACTIONS (2020)

COMPANY	ADDRESS	SIZE (SF)	NEW/RENEWAL	TYPE	QUARTER	LANDLORD
Medline Canada Corporation	3055 Anderson St	137,950	New Tenant	Industrial	Q2	Dream Industrial REIT
Liebel-Flarsheim Canada Inc	18101 Transcanada Hwy	102,157	New Tenant	Industrial	Q2	Pure Industrial (PIRET)
Medicom	380-440 Stinson St	64,360	New Tenant	Industrial	Q3	Cité Industrielle Lasalle
Bristol Myers Squibb Canada	2344 Alfred Nobel Blvd	60,845	Renewal	Lab	Q1	Broccolini Construction Inc
Dermadry	2200 Bennett Ave	45,589	New Tenant	Industrial	Q3	9595988 Canada Inc
Beiersdorf	2344 Alfred Nobel Blvd	11,945	Renewal	Lab	Q1	Broccolini Construction Inc

New Jersey

MARKET SUMMARY

- New Jersey has one of the most established traditional pharmaceutical industry bases in the world, a base that continues to support a growing number of biotechnology-style pharmaceutical activities.
- The market has access to one of the most highly educated talent pools with the highest concentration of scientists and engineers per square mile in the nation and a continuously growing STEM talent pool.
- New Jersey is home to many major traditional pharmaceutical companies such as Johnson & Johnson, Merck, Pfizer, and Bristol Myers Squibb, which are pursuing growing efforts in biotechnology.
- The market remains tight in general, but for move-in ready, turnkey lab space, the market is even tighter due to the speed of occupancy and lower occupancy cost barriers.
- While big-pharma companies boast the capital to own lab and R&D assets, small and mid-sized life sciences firms typically don't lack the budget to build out space from shell and pay the high asking rents for newer construction.
- One key hurdle has been the long approval process to build new construction in the state as most companies cannot wait this long. As a result, they turn to adaptive re-use of both office and flex assets if the infrastructure is there to support.

FAST LAB STATS

14.0 MSF
MARKET SQUARE
FOOTAGE

\$28.05
\$ PER SF NNN

10.7%
VACANCY

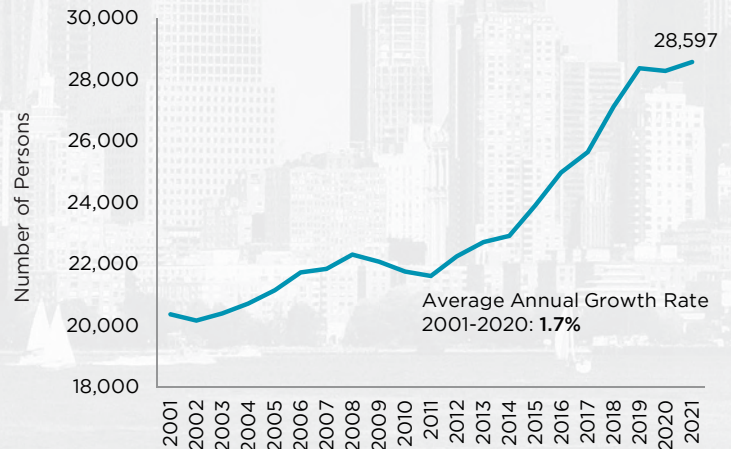
45.5K
TOTAL LIFE SCIENCES
EMPLOYMENT
& TALENT POOL

+47%
LIFE SCIENCES
EMPLOYMENT GROWTH
RATE SINCE 2001

REPRESENTATIVE LIFE SCIENCES COMPANIES

COMPANY	TYPE
Bristol Myers Squibb	HQ, Research Facility, other
Johnson & Johnson	HQ, Research Facility, other
Merck	HQ, Research Facility, other
Bayer	HQ, Research Facility, other
Pfizer	Regional Office, Research Facility
Sanofi	Regional Office, Research Facility
Novartis	Regional Office, Research Facility
Novo Nordisk	Regional Office
Teva Pharmaceuticals	Regional Office, Research Facility
Ferring Pharmaceuticals	HQ, Research Facility

LIFE SCIENCES TALENT POOL



Talent pool includes life science professionals not currently employed in the life science sector

Source: EMSI

BIO DEGREE-AWARDING INSTITUTIONS, METRO AREA

- Rutgers University (New Brunswick)
- Saint Peter's University
- William Paterson University

TOP NIH-FUNDED INSTITUTIONS (2016-2020)

\$312M

RUTGERS, THE STATE
UNIVERSITY OF N.J.

\$246M

PRINCETON
UNIVERSITY

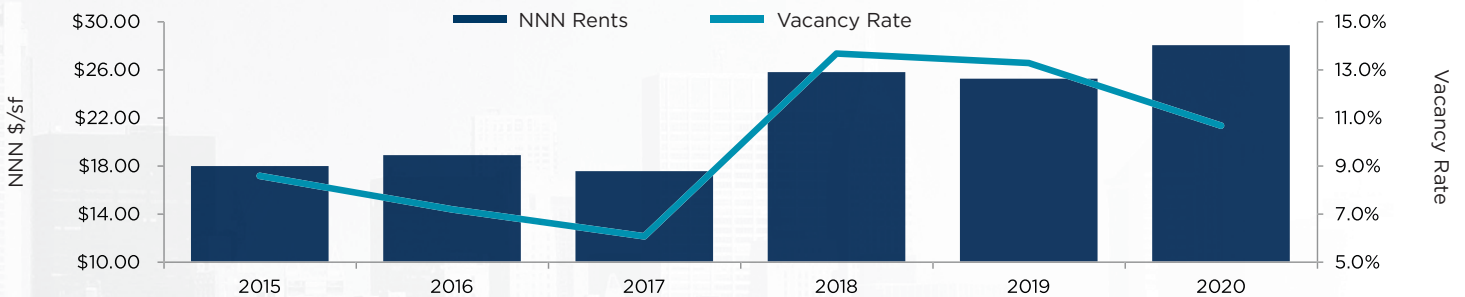
\$230M

RBHS-NEW JERSEY
MEDICAL SCHOOL

PUBLIC & PRIVATE FUNDING (2020-2021)

COMPANY	DEAL TYPE	COMPLETED	TYPE	\$ RAISED (MM)
Catalent	Public Investment 2nd Offering	Jun 2020	Public	\$548.1
Legend Biotech	IPO	Jun 2020	Public	\$423.8
Immunomedics	Public Investment 2nd Offering	Apr 2020	Public	\$420.0
PMV Pharma	IPO	Sep 2020	Public	\$211.8
Edda Technology	Later Stage	Apr 2021	VC	\$150.0
Elucida Oncology	Later Stage	Jan 2021	VC	\$43.7
Flowonix	Later Stage	Jan 2021	VC	\$36.5
Hepion Pharmaceuticals	Public Investment 2nd Offering	Nov 2020	Public	\$34.5
Osmotica Pharmaceutical	Public Investment 2nd Offering	Jan 2020	Public	\$30.0
Health Recovery Solutions	Later Stage	Mar 2021	VC	\$25.4

RENT VS. VACANCY COMPARISON



Source: CoStar, Cushman & Wakefield Research

REPRESENTATIVE INVESTMENT SALE TRANSACTIONS (2019-2021)

ADDRESS	TYPE	\$ MM	RBA SF	DATE	BUYER
1041 Route 202/206, Bridgewater	Lab, cGMP	\$152.0	784,000	Sep 2019	Thor Equities
95 Greene St, Jersey City	Office, Lab	\$94.5	337,888	Feb 2020	Thor Equities
111 Ideation Way, Nutley	Lab	\$36.8	163,990	Dec 2020	Harrison Street
311 Pennington-Rocky Hill Rd, Hopewell	Lab, Office, cGMP	\$32.5	1,150,000	Jun 2020	Lincoln Equities Group
7 Powder Horn Rd	Lab	\$27.1	181,200	Sep 2020	Thor Equities

REPRESENTATIVE LEASE TRANSACTIONS (2020)

COMPANY	ADDRESS	SIZE (SF)	NEW/RENEWAL	TYPE	QUARTER	LANDLORD
Eisai Inc	340 Kingsland St, Nutley	332,818	New Lease	Office	Q3	Prism Capital Partners
Bristol Myers Squibb	9 Roszel Rd, West Windsor	117,828	New Lease, Sublease	Office	Q4	John Hancock
Actavis	47 Brunswick Ave, Edison	113,161	Renewal	Distribution	Q3	Cabot Industrial Properties
WeWork (Organon)	30 Hudson St, Jersey City	111,416	New Lease	Office	Q2	Goldman Sachs
PTC Therapeutics	1041 Route 202/206, Bridgewater	101,632	Expansion, Renewal	Lab	Q2	Thor Equities
Wuxi Biologics	7 Clarke Dr, Cranbury	65,758	New Lease	Lab	Q2	Cedarbrook East Corporate Center
Passage Bio	311 Pennington-Rocky Hill Rd, Hopewell	62,000	New Lease	Lab	Q4	Lincoln Equities Group
TCG Greenchem	701 Princeton South Corporate, Ewing	54,000	Sublease	Office	Q4	Ladder Capital
Century Therapeutics	260 Evans Way, Branchburg	52,380	New Lease	Manufacturing	Q3	The KRE Group
Genmab	777 Scudders Mill Rd, Plainsboro	45,066	Expansion	Office, Lab	Q4	Eaton Vance

New York City

MARKET SUMMARY

- A rapid rise in the prominence of New York City (NYC) as a dominant leader in biotechnology research has largely been anticipated by industry leaders and investors in biotechnology real estate.
- NYC is by far the world's largest 'exporter' of biotechnology-intended venture capital investment, with placed investments outweighing received investments by an 8:1 margin—a characteristic that is expected to lead to an increase in 'staying' capital in future periods.
- Investors and developers worldwide continue to grow their presence in NYC as it has one of the most educated and diverse talent pools in the nation along with first class academic and medical institutions and premier venture capital ecosystems.
- The life sciences industry has steadily expanded its footprint in NYC over the past several years with state and city incentives continuing to encourage developers to build labs for medical research. A \$500 million commitment to enhancing the future of the sector was recently announced (\$200 million: new laboratory and incubator construction, \$300 million: non-profit facilities and \$5 million each: internship programs and start-up ventures).
- Big pharma and biotechnology companies dominate the current NYC landscape, accounting for 60% and 40% of the top ten life sciences occupants.
- NYC is continuing to expand its life sciences presence with 1.2 msf of space built to-date, and another 2.3 msf expected to be delivered within the next five years including Alexandria Center's North Tower, Deerfield's 325,000 sf redevelopment of 345 Park Avenue South and Janus Property's 350,000 sf Taystee complex in Harlem .
- In addition to the recent completion of Alexandria Center's LIC 186,000 sf 30-02 48th Avenue in Long Island City, King Street Properties and GFP Real Estate are developing a 263,000 sf of state-of-the-art life sciences space at 45-18 Court Square called "Innolabs" that is slated for completion in 2021.

FAST LAB STATS

1.8 MSF
MARKET SQUARE
FOOTAGE

\$63.97
\$ PER SF NNN

24.5%
VACANCY

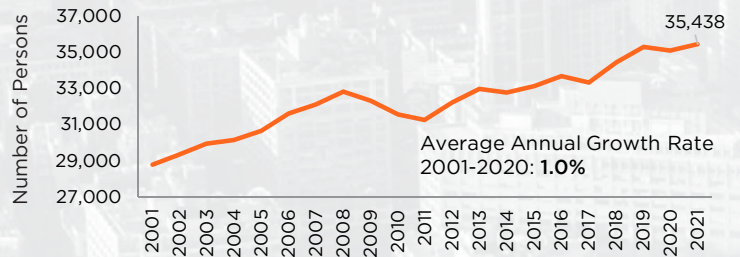
58.3K
TOTAL LIFE SCIENCES
EMPLOYMENT
& TALENT POOL

+47%
LIFE SCIENCES
EMPLOYMENT GROWTH
RATE SINCE 2001

REPRESENTATIVE LIFE SCIENCES COMPANIES

COMPANY	TYPE
Bristol Myers Squibb	HQ
Pfizer	HQ
Royalty Pharma	HQ
Progyny	HQ
Intercept	HQ
Schrödinger	HQ
Enzo Biochem	HQ
Stemline Therapeutics	HQ
Fortress Biotech	HQ
Progenics Pharmaceuticals	HQ

LIFE SCIENCES TALENT POOL



Talent pool includes life science professionals not currently employed in the life science sector
Source: EMSI

BIO DEGREE-AWARDING INSTITUTIONS, METRO AREA

- Columbia University
- New York University
- Fordham University
- City College of New York
- New York Institute of Technology

TOP NIH-FUNDED INSTITUTIONS (2016-2020)

\$2.29B

COLUMBIA UNIVERSITY
HEALTH SCIENCES

\$1.76B

ICAHN SCHOOL OF MEDICINE
AT MOUNT SINAI

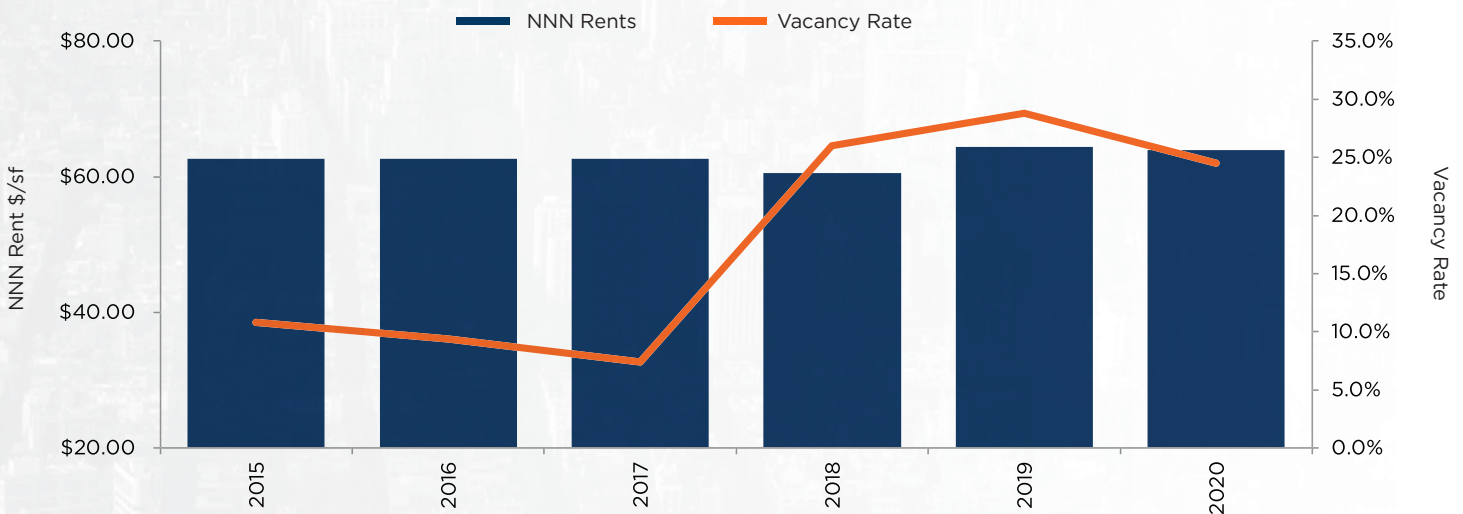
\$1.33B

NEW YORK UNIVERSITY
SCHOOL OF MEDICINE

PUBLIC & PRIVATE FUNDING (2020-2021)

COMPANY	DEAL TYPE	COMPLETED	TYPE	\$ RAISED (MM)
Royalty Pharma	IPO	Jun 2020	Public	\$2,180.0
Everest Medicines	IPO	Oct 2020	Public	\$451.0
Schrödinger	Public Investment 2nd Offering	Aug 2020	Public	\$330.0
Nuvation Bio	Early Stage	Oct 2020	VC	\$275.0
Immunovant	Public Investment 2nd Offering	Sep 2020	Public	\$173.9
AffaMed Therapeutics	Later Stage	Mar 2021	VC	\$170.0
Zentalis Pharmaceuticals	IPO	Apr 2020	Public	\$165.2
Unite Us	Later Stage	Mar 2021	VC	\$150.0
Paige	Later Stage	Mar 2021	VC	\$125.0
Neurogene	Early Stage	Dec 2020	VC	\$115.0

RENT VS. VACANCY COMPARISON



Source: CoStar, Cushman & Wakefield Research

REPRESENTATIVE INVESTMENT SALE TRANSACTIONS (2019-2021)

ADDRESS	TYPE	\$ MM	RBA SF	DATE	BUYER
345 Park Ave South	Office	\$344.5	305,348	Sept 2019	Deerfield
320 West 66th St	Office	\$230.0	513,437	Oct 2019	Taconic Investment Partners Nuveen

REPRESENTATIVE LEASE TRANSACTIONS (2020)

COMPANY	ADDRESS	SIZE (SF)	NEW/RENEWAL	TYPE	QUARTER	LANDLORD
Spring Fertility	114 West 41st St	31,862	New	Office	Q3	Blackstone RE Advisors
Memorial Sloan Kettering Cancer Center (Research)	641 Lexington Ave (The Chatcom Building)	30,485	Renewal	Office	Q3	Rudin Management Co.
Opentrons	430 East 29th St (Alexandria Center)	30,408	Sublease	Lab	Q3	Alexandria Real Estate Equities, Inc
Collectis	430 East 29th St (Alexandria Center)	24,375	Renewal/Expansion	Lab	Q3	Alexandria Real Estate Equities, Inc
Tempus Labs	230 Park Ave (Helmsley Building)	22,736	New	Office	Q2	RXR Realty

Philadelphia

MARKET SUMMARY

- The Greater Philadelphia region is one of the largest and most dynamic life sciences hubs in the United States, with a total talent pool of roughly 40,000, many of whom work in one of the several hundred life sciences companies in the region.
- The Philadelphia region is home to a large share of the world's large pharmaceutical organizations as well as an emerging biotechnology and gene and cell therapy ecosystem.
- Over the past seven years the region has emerged as a center of excellence in emerging cell and gene therapies. Companies such as Roche's Spark Therapeutics, Carisma Therapeutics, and Century Therapeutics have been driving innovation and developing novel therapies based on discoveries made and developed in the labs of the University of Pennsylvania and The Children's Hospital of Philadelphia.
- Amicus Therapeutics opened its Global Research and Gene Therapy Center of Excellence in uCity Square in 2020 to be proximate to other emerging cell and gene therapy companies.
- Four lab/office projects are under construction in University City. Delivering in 2022 are two buildings in Wexford Science+Technology's uCity Square totaling 1 million square feet. Recent groundbreakings include University 3.0 and a mixed use tower in Brandywine Realty Trust's Schuylkill Yards project.
- Additional supply of lab spaces is being provided via conversions of former office buildings and repurposing of suburban large pharma campuses such as the former GSK facility in King of Prussia and the Spring House Innovation Park in Lower Gwynedd.

FAST LAB STATS

9.9 MSF
MARKET SQUARE
FOOTAGE

\$41.52
\$ PER SF NNN

2.9%
VACANCY

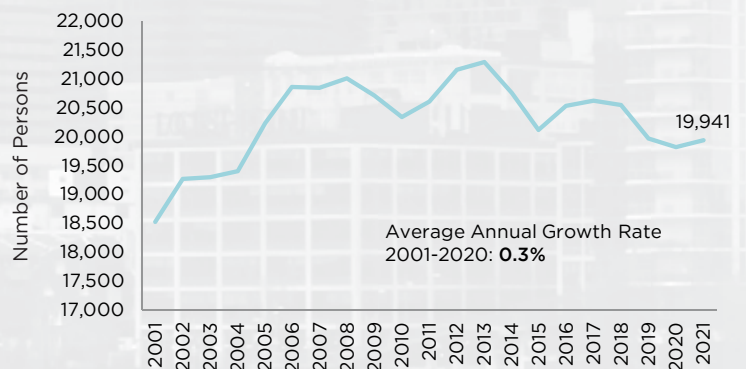
38.2K
TOTAL LIFE SCIENCES
EMPLOYMENT
& TALENT POOL

+16%
LIFE SCIENCES
EMPLOYMENT GROWTH
RATE SINCE 2001

REPRESENTATIVE LIFE SCIENCES COMPANIES

COMPANY	TYPE
Pfizer	Regional HQ
Merck	Regional HQ
GSK	HQ
AstraZeneca	HQ
Endo	HQ
Spark Tx(Roche)	HQ
Amicus Tx	Regional HQ
Teva	HQ
Century Tx	HQ
J&J/Janssen	Regional HQ

LIFE SCIENCES TALENT POOL



Talent pool includes life science professionals not currently employed in the life science sector

Source: EMSI

BIO DEGREE-AWARDING INSTITUTIONS, METRO AREA

- University of Pennsylvania
- University of Delaware
- Drexel University
- Thomas Jefferson University
- Temple University
- Rowan University
- University of the Sciences
- Montgomery County Community College

TOP NIH-FUNDED INSTITUTIONS (2016-2020)

\$2.7B

UNIVERSITY OF PENNSYLVANIA

\$724M

CHILDREN'S HOSPITAL OF PHILADELPHIA

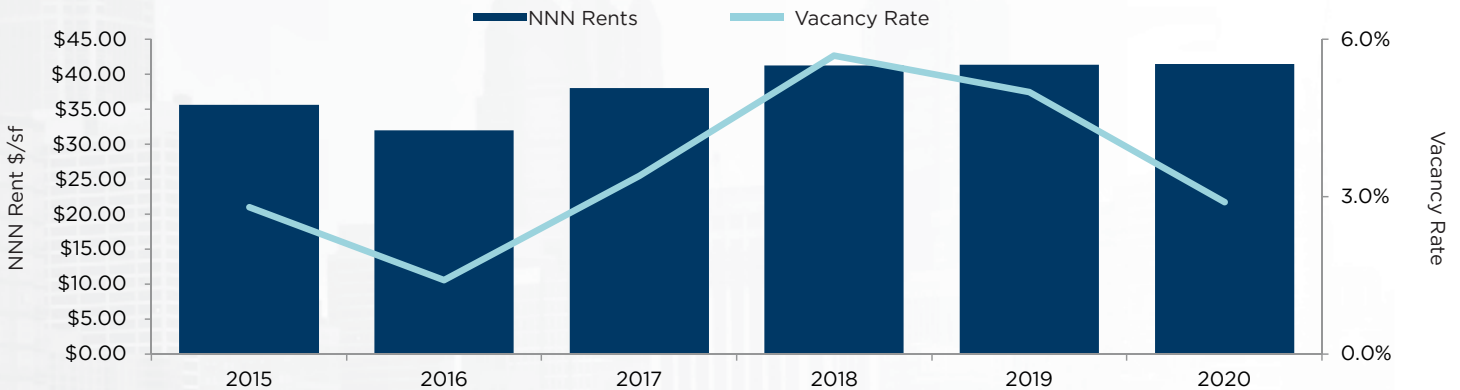
\$397M

TEMPLE UNIVERSITY OF THE COMMONWEALTH

PUBLIC & PRIVATE FUNDING (2020-2021)

COMPANY	DEAL TYPE	COMPLETED	TYPE	\$ RAISED (MM)
Passage Bio	IPO	Feb 2020	Public	\$216.0
Century Therapeutics	Later Stage	Mar 2021	VC	\$160.0
Prelude Therapeutics	IPO	Sep 2020	Public	\$158.2
Harmony Biosciences	IPO	Aug 2020	Public	\$147.6
Imvax	Later Stage	Jul 2020	VC	\$112.0
Aro Biotherapeutics	Early Stage	Dec 2020	VC	\$88.0
SwanBio Therapeutics	Early Stage	Apr 2020	VC	\$77.0
Castle Creek Biosciences	Early Stage	Mar 2020	VC	\$75.0
Ayala Pharmaceuticals	IPO	May 2020	Public	\$59.1
Carisma Therapeutics	Early Stage	Jul 2020	VC	\$59.0

RENT VS. VACANCY COMPARISON



Source: CoStar, Cushman & Wakefield Research

REPRESENTATIVE INVESTMENT SALE TRANSACTIONS (2019-2021)

ADDRESS	TYPE	\$ MM	RBA SF	DATE	BUYER
4701 League Island Blvd	Lab	\$83.0	246,806	Aug 2020	Ensemble Investments
3701 Market St	Lab	\$79.0	142,000	Jun 2021	GI Partners
125 S 31st St	Lab	\$77.0	122,000	Mar 2021	Blackstone Group

REPRESENTATIVE LEASE TRANSACTIONS (2020)

COMPANY	ADDRESS	SIZE (SF)	NEW/RENEWAL	TYPE	QUARTER	LANDLORD
Iovance Biotherapeutics	300 Rouse Blvd	136,000	New	Lab/cGMP	Q2	Gattuso Development Partners
Amicus Therapeutics	3675 Market St	76,069	New	Lab, Office	Q1	Wexford Science & Technology
Spark Therapeutics	3000 Market S	55,000	New	Lab	Q2	Brandywine Realty Trust
Catalent Pharma Solutions	333 Phoenixville Pike	84,000	New	Lab	Q4	Workspace Property Trust
Jefferson Bioprocessing Center	727 Norristown Rd, Ambler	41,000	New	Lab	Q2	MRA Group
Century Therapeutics	One uCity	32,000	New	Lab	Q2	Wexford Science & Technology
Exponent Inc	One uCity	32,000	New	Lab, Office	Q3	Wexford Science & Technology
Integral Molecular	One uCity	32,000	New	Lab, Office	Q1	Wexford Science & Technology
Biomeme	401 N Broad	41,000	New	Flex, Lab	Q1 2021	Netrality
Penn Gene Therapy	411 Swedeland Rd, King of Prussia	170,000	New	Lab, cGMP	Q2 2021	MLP Ventures

Raleigh / Durham

MARKET SUMMARY

- Raleigh/Durham comprises one of the world's largest life sciences clusters, consisting of over 600 companies employing over 38,000 skilled workers. The Research Triangle Park is home to many of those companies including life sciences giants Pfizer, Novo Nordisk, Fuji Diosynth, IQVIA, PPD and Biogen.
- Life sciences companies are drawn to the market because of the robust talent pool available from the market's three Tier 1 research universities. In addition to education, low cost of living and geographic advantages makes RDU a global leader in life sciences and biotechnology.
- The market has traditionally been suburban focused for life sciences occupiers. A new trend is emerging, drawing lab users to downtown. In recent years, downtown Durham has developed pockets of urban lab options largely fueled by the demand of Duke University. That anchor demand has allowed other non-affiliated anchored lab spaces to succeed in the Central Business District.
- Users of life sciences space continued to grow despite the tempered demand for office space over the last year. With low supply, there is a rush for developers/owners to step into the life sciences space to provide more options. It is too soon to tell if developers who have not worked in this sector previously can break into this highly-specialized industry.

FAST LAB STATS

10.4 MSF
MARKET SQUARE
FOOTAGE

\$25-\$35
\$ PER SF NNN

15.4%*
VACANCY

20.1K
TOTAL LIFE SCIENCES
EMPLOYMENT
& TALENT POOL

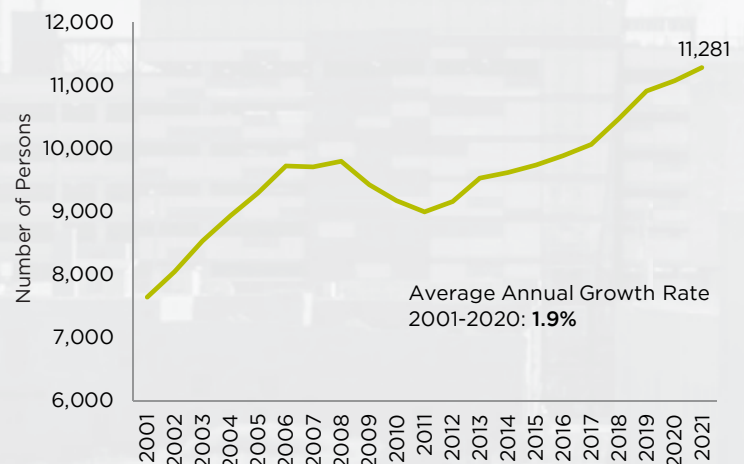
+80%
LIFE SCIENCES
EMPLOYMENT GROWTH
RATE SINCE 2001

* Including active lab conversion projects

REPRESENTATIVE LIFE SCIENCES COMPANIES

COMPANY	TYPE
Novartis (Avexis)	Other - cGMP
Q2 Solutions (IQVIA)	HQ
Seqirus	Other - cGMP
ThermoFisher	Regional Office & cGMP
LabCorp	HQ
Fujifilm Diosynth Biotechnologies	HQ
Novo Nordisk Pharmaceutical Industries	Other - cGMP
Pfizer	Other - cGMP
GSK	Regional Office/R&D Lab
United Therapeutics	Co-HQ

LIFE SCIENCES TALENT POOL



Talent pool includes life science professionals not currently employed in the life science sector
Source: EMSI

BIO DEGREE-AWARDING INSTITUTIONS, METRO AREA

- North Carolina State University
- Duke University
- University of North Carolina Chapel Hill

TOP NIH-FUNDED INSTITUTIONS (2016-2020)

\$2.5B

DUKE UNIVERSITY

\$2.3B

UNIVERSITY OF NORTH
CAROLINA CHAPEL HILL

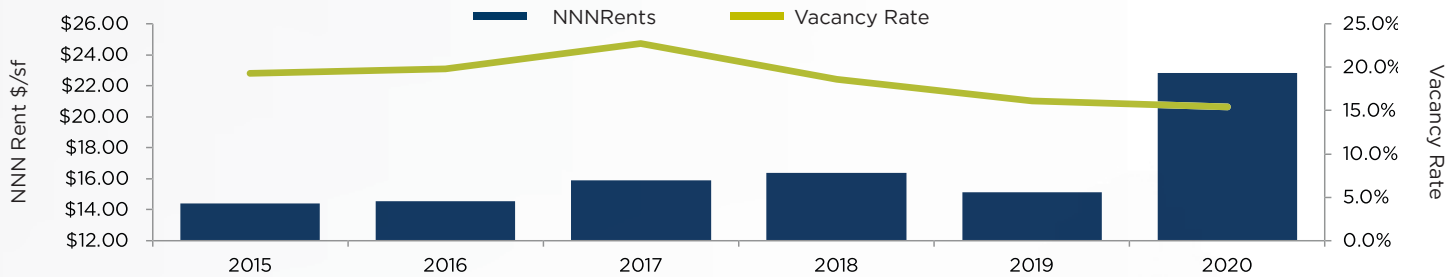
\$678M

RESEARCH TRIANGLE
INSTITUTE

PUBLIC & PRIVATE FUNDING (2020-2021)

COMPANY	DEAL TYPE	COMPLETED	TYPE	\$ RAISED (MM)
Atsena Therapeutics	Early Stage	Dec 2020	VC	\$55.0
Colmune	Later Stage	Nov 2020	VC	\$45.0
Metabolon	Later Stage	Sep 2020	VC	\$29.5
Vestaron	Later Stage	Feb 2021	VC	\$21.0
Locus Biosciences	Early Stage	Nov 2020	VC	\$20.0
Achelios Therapeutics	Later Stage	Oct 2020	VC	\$16.3
Istari Oncology	Early Stage	Jul 2020	VC	\$15.0

RENT VS. VACANCY COMPARISON



Source: CoStar, Cushman & Wakefield Research

REPRESENTATIVE INVESTMENT SALE TRANSACTIONS (2019-2021)

ADDRESS	TYPE	\$ MM	RBA SF	DATE	BUYER
5 & 41 Moore Dr, 21 & 31 Parmer Way, 14 TW Alexander Dr, 1818 & 2424 Ellis Rd, Durham, NC	Office, Lab, R&D	\$590.4	2,459,466	Aug 2020	Alexandria Real Estate Equities
100-215 Southcenter Dr, 800-1015 Aviation Pkwy & 160 N&S Pharma Dr, Morrisville, NC	Office, Lab	\$208.6	911,702	Nov 2020	Trinity Capital Advisors
200 & 300 Morris St, Durham, NC	Office	\$138.0	330,369	Jul 2020	Longfellow Real Estate Partners
4820 Emperor Blvd, Durham, NC	Office	\$89.7	259,531	Dec 2020	Drawbridge Realty
100-1000 Perimeter Park Dr, Morrisville, NC	Flex	\$75.7	476,625	Sep 2020	King Street Properties
507 Airport Blvd, 5151 McCrimmon Pky, 2400, 2450 & 2600 Perimeter Park Dr	Office, Flex	\$64.7	397,876	Jan 2020	Longfellow Real Estate Partners
4001 NC Hwy 54, Morrisville, NC	Office, Lab	\$37.0	731,071	Jul 2019	Trinity Capital Advisors
4021/4025 Stirrup Creek Dr, Durham, NC	Lab	\$24.1	177,743	Apr 2020	TPG Real Estate
104 TW Alexander Dr, Durham, NC	Office, R&D	\$20.50	69,059	Dec 2020	Thor Equities
1035 Swabia Ct, Durham, NC	Lab	\$12.18	120,426	Nov 2019	Longfellow Real Estate Partners

REPRESENTATIVE LEASE TRANSACTIONS (2020)

COMPANY	ADDRESS	SIZE (SF)	NEW/RENEWAL	TYPE	QUARTER	LANDLORD
Q2 Solutions	2400 Ellis Rd	322,384	New	Lab	Q3	Alexandria Real Estate
Grail	4001 NC 54	200,340	New	Lab	Q3	Trinity Capital Advisors
Taysha Gene Therapies	5 National Way	187,500	New	Lab	Q4	Strategic Capital Partners
KBI BioPharma Inc	47 National Way	187,312	Renewal	Lab	Q2	Strategic Capital Partners
Biogen	831 Slater Rd	102,972	New	Office	Q2	Scannell Properties
Beam Therapeutics	12 Davis Dr	100,000	New	Lab	Q3	Alexandria Real Estate
Charles River Laboratories	4001 NC 54	70,369	New	Lab	Q4	Trinity Capital Advisors
Premier Research Worldwide	3800 Paramount Pkwy	61,772	New	Office	Q2	MapleTree
Novartis Gene Therapies	2511 Old Cornwallis Rd	58,598	New	Office	Q2	Clarion Partners
Kriya Therapeutics	4105 Hopson Rd	51,350	New	Lab	Q3	Longfellow Real Estate Partners

Salt Lake City

MARKET SUMMARY

- The Salt Lake City area is a rapidly expanding life sciences hub, with over 70 leading biotechnology and medical device companies residing in Utah, including: Edwards Life Sciences, Myriad Genetics, Merrit Medical Systems, and BD Medical.
- Utah has among the country's deepest life sciences labor forces with more than 40,000 people currently employed.
- Utah has 11 institutions offering programs, specializing in life sciences. Two major research institutions, University of Utah and BYU, are ranked #1 and #4 respectively in the country for Technology Transfer.
- Utah consistently outperforms the national economy, ranked as the #1 economy by state by U.S. News & World Report in 2021. Utah's 2020 job growth figure of 2.5% outpaced the national average of 1.4%, while maintaining an unemployment rate of 3.2%—nearly half of the national average of 6.0% during the first quarter of 2021.

FAST LAB STATS

2.0 MSF
MARKET SQUARE
FOOTAGE

\$25.73
\$ PER SF NNN

5.5%
VACANCY

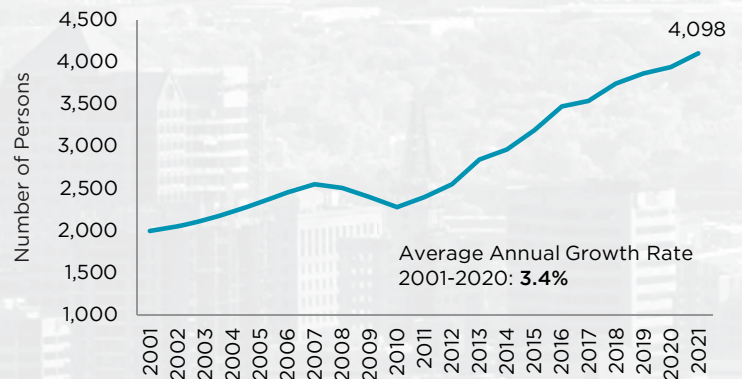
6.8K
TOTAL LIFE SCIENCES
EMPLOYMENT
& TALENT POOL

+107%
LIFE SCIENCES
EMPLOYMENT GROWTH
RATE SINCE 2001

REPRESENTATIVE LIFE SCIENCES COMPANIES

COMPANY	TYPE
Edwards Life Sciences	Regional Office
Myriad Genetics	HQ
University of Utah	HQ
Recursion Pharmaceuticals	HQ
Spillman Technologies	HQ
Advanced MD	HQ
Merrit Medical Systems	HQ
BD Medical	HQ
GSK	HQ
United Therapeutics	Other - cGMP

LIFE SCIENCES TALENT POOL



Talent pool includes life science professionals not currently employed in the life science sector
Source: EMSI

BIO DEGREE-AWARDING INSTITUTIONS, METRO AREA

- Brigham Young University
- Utah Valley University
- Weber State University

TOP NIH-FUNDED INSTITUTIONS (2016-2020)

\$955M

UNIVERSITY OF UTAH

\$29M

BRIGHAM YOUNG UNIVERSITY

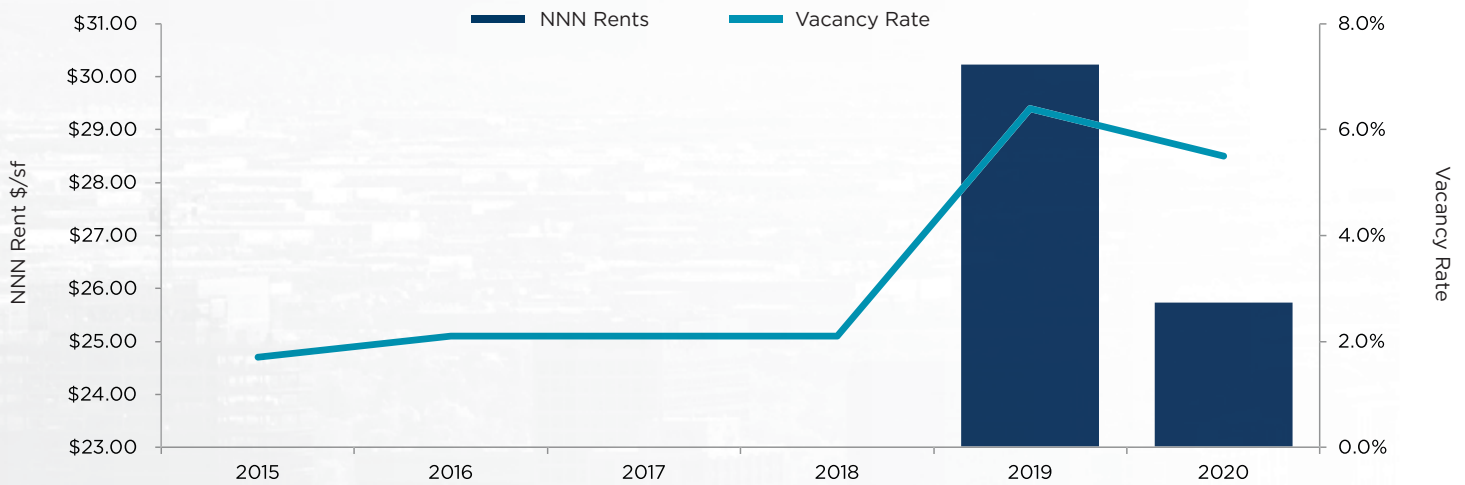
\$15M

NAVIGEN, INC

PUBLIC & PRIVATE FUNDING (2020-2021)

COMPANY	DEAL TYPE	COMPLETED	TYPE	\$ RAISED (MM)
Recursion	IPO	Apr 2021	Public	\$436.4
Sera Prognostics	Later Stage	Feb 2020	VC	\$65.7
DiscGenics	Later Stage	Aug 2020	VC	\$50.0
Clene Nanomedicine	Later Stage	Aug 2020	VC	\$42.5
Alucent Biomedical	Later Stage	Sep 2020	VC	\$35.0

RENT VS. VACANCY COMPARISON



Source: CoStar, Cushman & Wakefield Research

REPRESENTATIVE INVESTMENT SALE TRANSACTIONS (2019-2021)

ADDRESS	TYPE	\$ MM	RBA SF	DATE	BUYER
2480 S 3850 W	Office, Lab	N/A	51,000	Oct 2020	Waterton Place North LLC
12537 S Crossing Dr	Office, Lab	N/A	13,891	Dec 2019	MDT Inc

REPRESENTATIVE LEASE TRANSACTIONS (2020)

COMPANY	ADDRESS	SIZE (SF)	NEW/RENEWAL	TYPE	QUARTER	LANDLORD
Myriad Genetics	330 Wakara Way	124,841	New	Lab, Office	Q2	HCPI

San Diego

MARKET SUMMARY

- San Diego continues to strengthen its position as North America's third largest center of biotechnology-type research activity, relative to the Greater Boston and San Francisco Bay markets.
- The core of San Diego's life sciences industry is anchored in the coastal suburb of Torrey Pines, home to UC San Diego and private research institutions including Scripps Research, the Salk Institute, and the Sanford Burnham Prebys Medical Discovery Institute.
- Public, private and academic collaboration, talented workforce, high quality of life of Southern California and strong anchors such as Illumina, Pfizer, Bristol Myers, Lilly and Takeda have fueled the continued growth of the industry.
- The life sciences cluster generates over \$39.4B in economic output, providing over 65,500 jobs with average annual earnings exceeding \$115,000.
- The region is home to more than 1,500 life sciences companies and more than 80 independent and university-affiliated research institutes.
- Limited supply has encouraged developers to search for opportunities beyond traditional life sciences submarkets to convert older buildings to lab or build new speculative projects to meet rising demand.

FAST LAB STATS

19.3 MSF
MARKET SQUARE
FOOTAGE

\$53.52
\$ PER SF NNN

8.6%
VACANCY

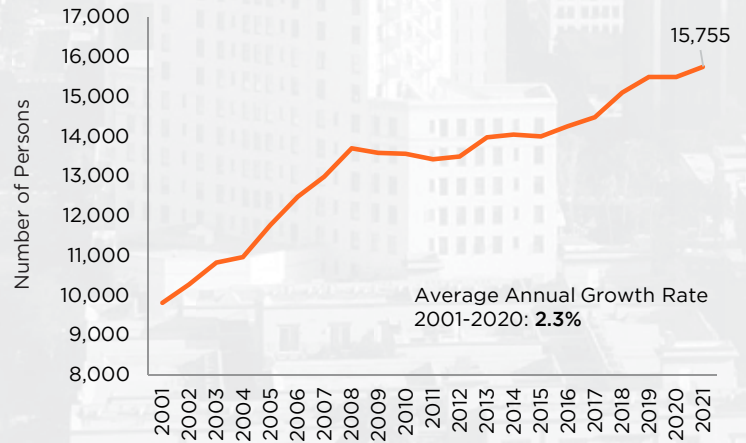
33.7K
TOTAL LIFE SCIENCES
EMPLOYMENT
& TALENT POOL

+92%
LIFE SCIENCES
EMPLOYMENT GROWTH
RATE SINCE 2001

REPRESENTATIVE LIFE SCIENCES COMPANIES

COMPANY	TYPE
Illumina	HQ
Scripps Research	HQ
Pfizer	Regional R&D Center
BMS/Celgene	Regional R&D Center
Lilly	Regional R&D Center
Dexcom	HQ
Vertex	Regional R&D Center
Takeda	Regional R&D Center
Quidel	HQ
Hologic	Regional R&D Center

LIFE SCIENCES TALENT POOL



*Talent pool includes life science professionals not currently employed in the life science sector
Source: EMSI*

BIO DEGREE-AWARDING INSTITUTIONS, METRO AREA

- University of California San Diego
- California State University San Marcos
- National University (California)

TOP NIH-FUNDED INSTITUTIONS (2016-2020)

\$2.3B

UNIVERSITY OF CALIFORNIA,
SAN DIEGO

\$942M

SCRIPPS RESEARCH
INSTITUTE

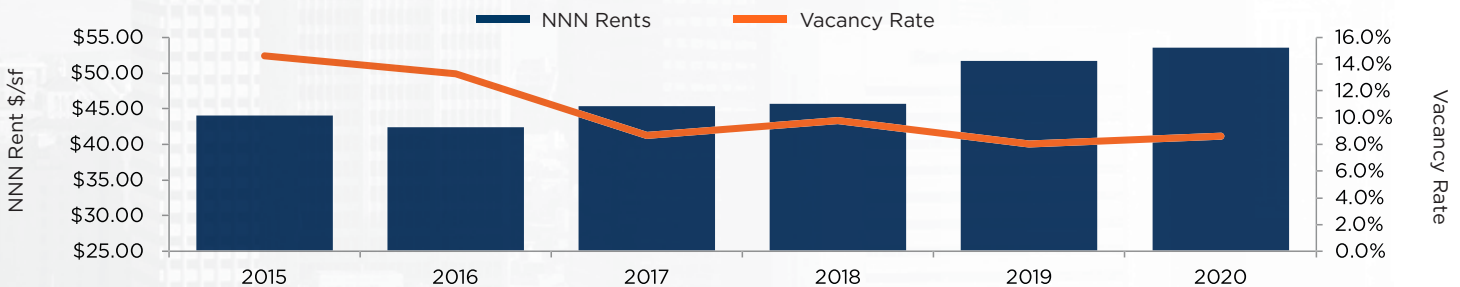
\$279M

SALK INSTITUTE FOR
BIOLOGICAL STUDIES

PUBLIC & PRIVATE FUNDING (2020-2021)

COMPANY	DEAL TYPE	COMPLETED	TYPE	\$ RAISED (MM)
Maravai Life Sciences	IPO	Nov 2020	Public	\$1,620.0
Resilience	Early Stage	Oct 2020	VC	\$755.0
Turning Point Therapeutics	Post-IPO Equity	May 2020	IPO	\$373.8
Mirati Therapeutics	Public Investment 2nd Offering	Jan 2020	Public	\$300.0
Avidity Biosciences	IPO	Jun 2020	Public	\$259.2
Design Therapeutics	IPO	Mar 2021	Public	\$240.0
Kinnate Biopharma	IPO	Dec 2020	Public	\$240.0
Erasca	Early Stage	Aug 2020	VC	\$236.0
Progenity	Later Stage	Apr 2020	VC	\$228.7
Poseida Therapeutics	IPO	Jul 2020	Public	\$224.0

RENT VS. VACANCY COMPARISON



Source: CoStar, Cushman & Wakefield Research

REPRESENTATIVE INVESTMENT SALE TRANSACTIONS (2019-2021)

ADDRESS	TYPE	\$ MM	RBA SF	DATE	BUYER
Illumina HQ (49% Stake)	Lab	\$266.7	792,687	Sep 2019	LaSalle Investment Management
Campus Point	Lab	\$255.0	314,103	Jul 2019	Alexandria
SD Tech Center	Office, Lab	\$229.9	683,836	Oct 2019	Alexandria
Verge	Office	\$185.0	321,471	Nov 2020	Alexandria
6325 Lusk Blvd & 10770 Wateridge Cir	Lab	\$158.5	233,570	Apr 2020	Harrison Street Capital
The Foundry	Office	\$130.0	280,631	Oct 2020	Longfellow
Enclave Sorrento	Office	\$102.3	219,628	Jan 2020	Alexandria
The Pointe at Torrey Pines	Office	\$97.5	139,135	Jul 2020	Alexandria
1155 Island Ave	Office	\$43.5	203,439	Nov 2020	Phase 3 / Bain Capital
Creekside	Office	\$42.8	131,123	Sep 2020	Longfellow

REPRESENTATIVE LEASE TRANSACTIONS (2020)

COMPANY	ADDRESS	SIZE (SF)	NEW/RENEWAL	TYPE	QUARTER	LANDLORD
Fate Therapeutics	12278 Scripps Summit Dr	198,880	New	Lab	Q1	Third Palm Capital
Tanvex	10394-10421 Pacific Center Ct	136,807	Renewal	Lab	Q3	City Office REIT
Mirati Therapeutics	3545 Cray Ct	118,225	New	Lab	Q2	Alexandria
Zentalis Pharmaceuticals	10275 Science Center Dr	117,929	New	Lab	Q3	Healthpeak
Element Biosciences	10055 Barnes Canyon Rd	104,179	New	Lab	Q2	Alexandria
Vividion	5810-5820 Nancy Ridge Dr	85,354	Renewal/Expansion	Lab	Q3	Alexandria
Singular Genomics	3010 Science Park Rd	76,778	New	Lab	Q2	Alexandria
Quidel	10165 McKellar Ct	72,863	Renewal	Lab	Q3	Biomed Realty
Cue Health	9877 Waples St	63,774	New	Lab	Q2	Alexandria
Foundation Medicine	11010 Torreyana Rd	63,365	New	Lab	Q3	Biomed Realty

San Francisco Bay Area

MARKET SUMMARY

- At over 38 msf of lab inventory, San Francisco Bay, a founding region of the biotechnology industry, continues to experience aggressive industry expansion by its occupancy base.
- The San Francisco Bay Area's highly educated workforce, coupled with proximity to elite research institutions such as UCSF, Stanford and UC Berkeley has made the Bay Area one of the most elite and active Life Sciences clusters in the world.
- The world's largest life sciences venture capital and private equity concentration has been key in funding growth companies across the Bay Area.
- Biotechnology and pharmaceuticals represent most of the life sciences leasing activity in the market, though the medical device and health tech sectors are extremely active as well.
- Demand has been driven by companies from early-stage startups through the largest life sciences companies and there is no sign of a slowdown in sight.
- Market demand has created a continually landlord-favorable market with developers responding with 5.2 msf of deliveries over the last six years, 3.0 msf presently under construction and more than 16 msf at various stages of planning, with both the current and planned construction dominated by speculative projects—both ground-up and conversions from office.
- The majority of life sciences product in the Bay Area is located across three major markets: San Francisco proper, the San Francisco Peninsula, and the East Bay.

FAST LAB STATS

38.5 MSF
MARKET SQUARE
FOOTAGE

\$53.52
\$ PER SF NNN

10.87%
VACANCY

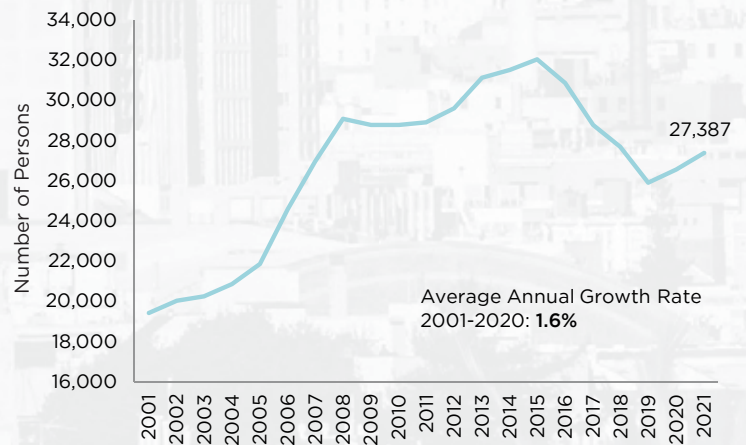
58.5K
TOTAL LIFE SCIENCES
EMPLOYMENT
& TALENT POOL

+107%
LIFE SCIENCES
EMPLOYMENT GROWTH
RATE SINCE 2001

REPRESENTATIVE LIFE SCIENCES COMPANIES

COMPANY	TYPE
Gilead Sciences	HQ (Foster City)
BioMarin Pharmaceutical	HQ (San Rafael)
Amgen	HQ (Thousand Oaks)
Genentech	Regional Office (S. San Francisco)
Bayer	Regional Office (Berkeley)
Exelixis	HQ (Alameda)
Zymergen	HQ (Emeryville)
AbbVie	Regional Office (S. San Francisco)
Illumina	Regional Office (Foster City)
Bristol Myers Squibb	Regional Office (Redwood City)

LIFE SCIENCES TALENT POOL



Talent pool includes life science professionals not currently employed in the life science sector
Source: EMSI

BIO DEGREE-AWARDING INSTITUTIONS, METRO AREA

- Stanford University
- University of California (Berkeley)
- University of San Francisco

TOP NIH-FUNDED INSTITUTIONS (2016-2020)

\$3.2B

UNIVERSITY OF CALIFORNIA,
SAN FRANCISCO

\$2.5B

STANFORD UNIVERSITY

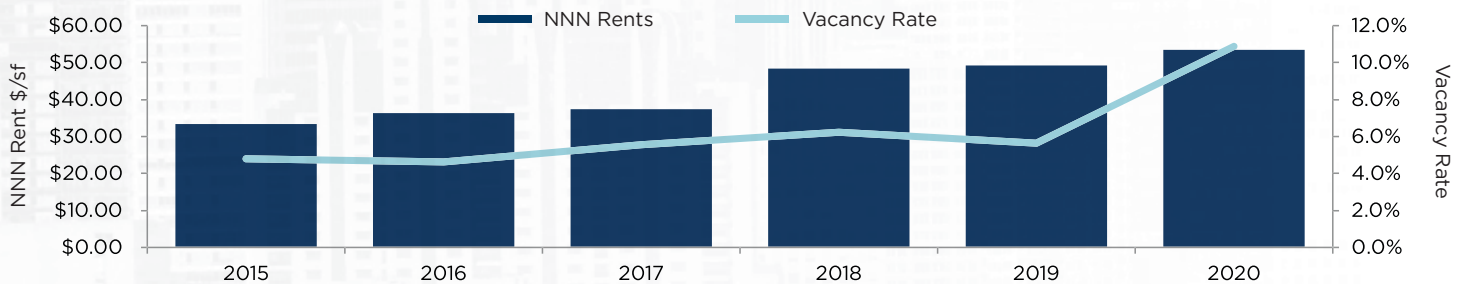
\$672M

UNIVERSITY OF
CALIFORNIA BERKELEY

PUBLIC & PRIVATE FUNDING (2020-2021)

COMPANY	DEAL TYPE	COMPLETED	TYPE	\$ RAISED (MM)
MyoKardia	Public Investment 2nd Offering	May 2020	Public	\$551.3
Iovance Biotherapeutics	Public Investment 2nd Offering	May 2020	Public	\$525.0
10x Genomics	Public Investment 2nd Offering	Sep 2020	Public	\$506.0
Lyell	Later Stage	Mar 2020	VC	\$493.0
GRAIL	Later Stage	May 2020	VC	\$390.0
Zymergen	Later Stage	Jul 2020	VC	\$350.0
RBNC Therapeutics	Early Stage	Sep 2020	VC	\$340.0
Twist Bioscience	Public Investment 2nd Offering	Dec 2020	Public	\$308.3
Vir	Public Investment 2nd Offering	Jul 2020	Public	\$300.2
Freenome	Later Stage	Jul 2020	VC	\$270.0

RENT VS. VACANCY COMPARISON



Source: CoStar, Cushman & Wakefield Research

REPRESENTATIVE INVESTMENT SALE TRANSACTIONS (2019-2021)

ADDRESS	TYPE	\$ MM	RBA SF	DATE	BUYER
Genesis, S San Francisco	Office, Lab	\$1.0B	786,433	Oct 2020	Ventas Life Science and Healthcare Real Estate Fund, LP
Redwood LIFE, Redwood Shores	Office, Lab	\$661.0	997,292	Feb 2019	Longfellow Real Estate Partners
Palo Alto Labs, Palo Alto	Office, Lab	\$205.0	259,586	Jul 2019	Longfellow Real Estate Partners
3380-3420 Central Expy, Santa Clara	Office, Lab	\$172.3	368,707	May 2019	Gemini Rosemont Commercial Real Estate
500 Forbes Blvd, S San Francisco	Office, Lab	\$139.5	155,685	Oct 2019	Clarion Partners
5300 Chiron Way, Emeryville	Office, Lab	\$135.0	203,308	Mar 2019	Biomed Realty LP
150 Industrial Rd, San Carlos	cGMP	\$99.0	229,640	Dec 2019	Graymark Capital Inc

REPRESENTATIVE LEASE TRANSACTIONS (2020)

COMPANY	ADDRESS	SIZE (SF)	NEW/RENEWAL	TYPE	QUARTER	LANDLORD
Guardant Health	3000 Hanover St, Palo Alto	249,549	New	Lab	Q3	Sand Hill Property Company
Kodiak Sciences	1050 Page Mill Rd, Palo Alto	155,474	New	Lab	Q2	Sand Hill Property Company
Janssen	1600 Sierra Point Pkwy, Brisbane	135,202	New	Lab	Q1	Healthpeak (Formerly HCP)
Vir Biotechnology	1800 Owens St, S San Francisco	133,896	New	Lab	Q4	Kilroy Realty
Sutro Biopharma	111 Oyster Point Blvd, S San Francisco	115,466	New	Lab	Q3	HCP Life Science Estates
Perfect Day	740 Heinz Ave, Berkeley	112,000	New	Lab	Q3	Wareham Development
Arcus Biosciences	1800 Sierra Point Pkwy, Brisbane	105,562	New	Lab	Q4	Healthpeak (Formerly HCP)
Allakos	825 Industrial Rd, San Carlos	99,000	New	Lab	Q1	Alexandria Real Estate Equities
Ascend Clinical LLC	435 Oakmead Pkwy, Sunnyvale	92,820	New	Lab	Q4	The Irvine Company
Verseon	47071 Bayside Pkwy, Fremont	87,544	New	Lab	Q1	47071 Bayside LLC
Agenus	6455 Christie Ave, Emeryville	83,620	New	Lab	Q1	Harvest Properties

MARKET SUMMARY

- There are approximately 150 companies in the life sciences industry headquartered in the Seattle region – primarily in the biotechnology and drug discovery fields – with numerous others having outposts in this significant and growing market.
- Biotechnology companies throughout the region are both public companies or have entered later stage VC funding rounds.
- Three 2020 and 2021 IPOs by Seattle-based companies – Athira Pharma, Silverback Therapeutics and Sana Biotechnology – raised more than a combined \$1.0 billion.
- Operations from several large institutions have driven the market to be sure including University of Washington, Fred Hutchinson Cancer Research and the Allen Institute.
- Most companies in the life sciences sector have gravitated toward the South Lake Union submarket just north of the Seattle central business district. With vacancy extremely low and pricing on the rise there, the suburban submarkets of Bothell and Redmond have begun to expand further as well.
- One recent delivery was 1930 Boren Avenue in the central business district just blocks from the South Lake Union submarket; upon completion it was purchased by Oxford Properties Group which intends to build out the 136,000-sf 10-story property as a life science facility.
- In addition, there is another 1.0 msf under construction that could pivot more towards life sciences and approximately 500,000 sf proposed – all of this within the South Lake Union submarket.

FAST LAB STATS

7.0 MSF
MARKET SQUARE
FOOTAGE

\$50.35
\$ PER SF NNN

3.4%
VACANCY

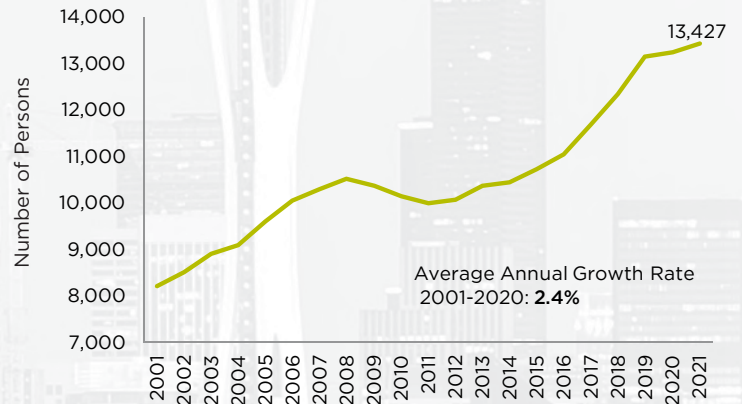
22.9K
TOTAL LIFE SCIENCES
EMPLOYMENT
& TALENT POOL

+119%
LIFE SCIENCES
EMPLOYMENT GROWTH
RATE SINCE 2001

REPRESENTATIVE LIFE SCIENCES COMPANIES

COMPANY	TYPE
Fred Hutchinson Cancer Research Center	Research Facility
Allen Institute	Research Facility
Juno Therapeutics	HQ
Benaroya Research Institute	Research Facility
Sana Biotechnology	HQ
AGC Biologics	Manufacturing
Seagen	HQ
Gilead Sciences	Regional Office
Adaptive Biotechnologies	HQ
Institute for Systems Biology	Research Facility

LIFE SCIENCES TALENT POOL



Talent pool includes life science professionals not currently employed in the life science sector
Source: EMSI

BIO DEGREE-AWARDING INSTITUTIONS, METRO AREA

- North Seattle College

TOP NIH-FUNDED INSTITUTIONS (2016-2020)

\$2.4B

UNIVERSITY OF WASHINGTON

\$1.9B

FRED HUTCHINSON CANCER
RESEARCH CENTER

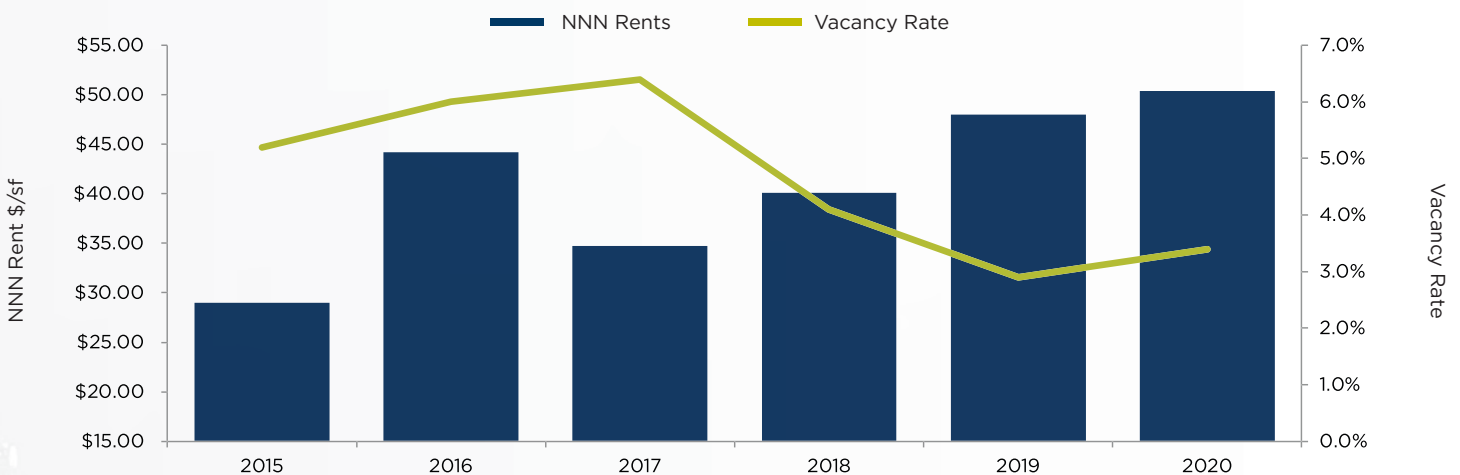
\$328M

SEATTLE CHILDREN'S
HOSPITAL

PUBLIC & PRIVATE FUNDING (2020-2021)

COMPANY	DEAL TYPE	COMPLETED	TYPE	\$ RAISED (MM)
Sana Biotechnology	IPO	Feb 2021	Public	\$587.5
Silverback Therapeutics	IPO	Dec 2020	Public	\$277.7
Athira Pharma	IPO	Sep 2020	Public	\$204.0
Icosavax	Later Stage	Mar 2021	VC	\$99.7
Biolife Solutions	Public Investment 2nd Offering	Jul 2020	Public	\$86.0
Nautilus Biotechnology	Early Stage	May 2020	VC	\$76.1
Cajal Neuroscience	Early Stage	Jun 2020	VC	\$65.7
Umoja Biopharma	Early Stage	Nov 2020	VC	\$53.0
OncoResponse	Later Stage	Mar 2021	VC	\$40.6
Mozart Therapeutics	Early Stage	Dec 2020	VC	\$40.0

RENT VS. VACANCY COMPARISON



Source: CoStar, Cushman & Wakefield Research

REPRESENTATIVE INVESTMENT SALE TRANSACTIONS (2019-2021)

ADDRESS	TYPE	\$ MM	RBA SF	DATE	BUYER
1201-1208 Eastlake Ave East	Office, Lab	\$348.7 Alloc	240,000	Dec 2020	Clarion Partners
199 East Blaine St	Office, Lab	\$100.8 Alloc	115,000	Dec 2020	Clarion Partners
21501-21516 23rd Dr SE	cGMP	\$22.5	149,100	May 2019	AGC Biologics

REPRESENTATIVE LEASE TRANSACTIONS (2020)

COMPANY	ADDRESS	SIZE (SF)	NEW/RENEWAL	TYPE	QUARTER	LANDLORD
Gilead Sciences	199 E Blaine St	109,969	Renewal	Lab	Q3	Clarion
Sonoma Biotherapeutics	410 W Harrison St	11,678	New	Lab	Q1	Alexandria
Lyell Immunopharma	2525 223rd St SE	27,800	Renewal	cGMP	Q1	Alco Investment
Athira	18706 North Creek Pky	19,326	New	Lab	Q3	TPG
Lundbeck	11804 North Creek Pky	55,508	New	Lab	Q1	TPG
Sonic Concepts	11804 North Creek Pky	9,323	New	Lab	Q4	TPG

MARKET SUMMARY

- Toronto is the epicenter of the Ontario Life Sciences Corridor, anchored by the downtown MaRS Discovery District, the life sciences Cluster in Mississauga and McMaster Innovation Park in Hamilton.
- Four of Canada's top-ten research universities are in Ontario: the University of Toronto, McMaster University, University of Ottawa, and University of Western Ontario.
- Toronto is one of the top centers in North America for life sciences, combining research, clinical and business expertise with more than 40,000 people in the Greater Toronto Area.
- Life sciences growth is being driven by many factors, including demographics, but also because of the pandemic, which has shone light on Canada's limited capacity to manufacture vaccines, despite our world-renowned R&D capabilities. All levels of government have stepped in with considerable funding commitments—and the wider investment community is lining up.
- Canada's open immigration policies and world-class research education institutions deliver a steady flow of top-rate talent. Ontario produces almost 50,000 STEM graduates annually, making it among the top five centers for STEM grads in North America.
- A multiyear spending plan announced by the federal government in its April budget includes CA\$2.2B in new funding for life sciences, with much of the money targeted at boosting biomedical applications and vaccine development.
- Growth in life sciences facilities is expected to occur in phases, with the first phase targeting urban centers close to existing hubs—University of Toronto, MaRS Discovery District and McMaster Innovation Park. Suburban markets like Mississauga are quickly moving into the picture with focused strategies aimed at becoming a leading life sciences center.

REPRESENTATIVE LIFE SCIENCES COMPANIES

COMPANY	TYPE
Pfizer Canada	Regional Office
Merck	Regional Office
Novartis	Regional Office
GlaxoSmithKline	Canadian HQ/Research Facility
Abbott	Multiple Locations - Canadian HQ/Other
Bayer Inc	Regional Office
Amgen Canada Inc	Regional Office (R&D in BC)
Eli Lilly Canada Inc	Canadian HQ
Baxter	Canadian HQ/Other
United Therapeutics	Other - cGMP

TOP NIH-FUNDED INSTITUTIONS (2016-2020)

The National Institute of Health (U.S.) provided \$24.3M USD in funding to Toronto universities and health centers in 2020.

BIO DEGREE-AWARDING INSTITUTIONS, METRO AREA

- McMaster University
- Queen's University
- University of Toronto
- University of Waterloo
- University of Windsor
- Western University
- York University

FAST OFFICE STATS

181.5 MSF
MARKET SQUARE
FOOTAGE

\$47.91
\$ PER SF NNN

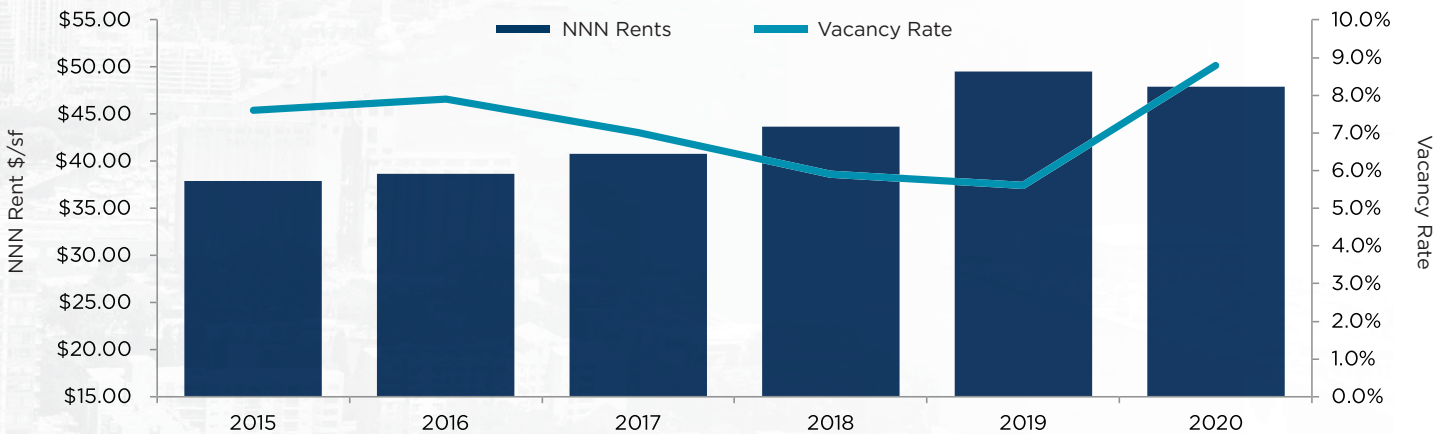
8.8%
VACANCY

40K
TOTAL LIFE SCIENCES
EMPLOYMENT
& TALENT POOL

PUBLIC & PRIVATE FUNDING (2020-2021)

COMPANY	DEAL TYPE	COMPLETED	TYPE	\$ RAISED (MM)
Fusion Pharmaceuticals	IPO	Jun 2020	Public	\$212.5
Trillium Therapeutics	Public Investment 2nd Offering	Sep 2020	Public	\$98.7
Notch Therapeutics	Early Stage	Feb 2021	VC	\$85.0
CorVista Health	Later Stage	Mar 2021	VC	\$65.0
Dnamx	Early Stage	Mar 2021	VC	\$60.0
Green Relief	Later Stage	May 2020	VC	\$55.0
Deep Genomics	Later Stage	Jan 2020	VC	\$40.0
Profound Medical	Public Investment 2nd Offering	Jul 2020	Public	\$33.8
Mednow.ca	IPO	Mar 2021	Public	\$29.3
Medicenna Therapeutics	Public Investment 2nd Offering	Apr 2020	Public	\$28.4

RENT VS. VACANCY COMPARISON



Data Represents the Overall Office Market
Source: Cushman & Wakefield Research

REPRESENTATIVE INVESTMENT SALE TRANSACTIONS (2019-2021)

ADDRESS	TYPE	\$ MM	RBA SF	DATE	BUYER
5825 Explorer Dr	Office	\$33.8	103,888	June 2020	Baylis Medical

REPRESENTATIVE LEASE TRANSACTIONS (2020)

COMPANY	ADDRESS	SIZE (SF)	NEW/RENEWAL	TYPE	QUARTER	LANDLORD
Boston Scientific Corporation	2 Paget Rd, Brampton, ON	52,213	New	Manufacturing Facility Medical Devices	Q2	Canada Life Insurance Co.
Biogen Canada	3250 Bloor St West	27,458	New	Office	Q3	PSP Investments/Starlight Investments
Ipsen Biopharmaceuticals Canada	5050 Satellite Dr	12,233	New	Office	Q4	HOOPP Realty Inc
AstraZeneca	40 King St West	6,178	New	Office	Q4	KingSett Capital

MARKET SUMMARY

- British Columbia is home to more than 300 life sciences companies including biopharmaceutical and medical device companies.
- Vancouver's life sciences industry is underpinned by a highly skilled workforce, prime location, and high quality of life.
- The new St. Paul's Hospital development in the core market of Mt. Pleasant has spurred significant interest in the surrounding neighborhood from some of the most notable life sciences companies in the country including AbCellera, Zymeworks, Aurina Pharmaceutical and STEMCELL Technologies.
- Vancouver is home to some of the country's top medical facilities. Vancouver General Hospital (VGH) is the country's third largest hospital and Western Canada's most specialized hospital with over 40% of patients coming from outside of Vancouver. Additionally, VGH is one of Canada's most renowned teaching hospitals through its affiliation with University of British Columbia (UBC).
- The Vancouver life sciences industry is further strengthened by government incentives and infrastructure inclusive of grants & tax incentives along with the BC Cancer Agency, BC Centre for Excellence in HIV/AIDS, AdMare, TRIUMF Vancouver Coastal Research Institute, Michael Smith Laboratories, Genome BC, and the BC Knowledge Development Fund.

FAST OFFICE STATS

60.0 MSF
MARKET SQUARE
FOOTAGE

\$30.95
\$ PER SF NNN

6.1%
VACANCY

20K
TOTAL LIFE SCIENCES
EMPLOYMENT
& TALENT POOL

REPRESENTATIVE LIFE SCIENCES COMPANIES

COMPANY	TYPE
Stemcell Technologies (approx. 110,000 sf; multiple locations)	HQ, Lab
AbCellera Biologics Inc (48,000)	HQ, Lab
Zymeworks (57,000)	HQ
Xenon Pharmaceuticals Inc (approx. 25,000)	HQ
Medipure Pharmaceuticals Inc (26,000)	HQ, Lab
Symvivo Inc (18,000)	HQ
Chinook Therapeutics (approx 25,000)	
Anandia Laboratories Inc (26,000)	HQ
Amgen (67,000)	Research Facility
Hologic	Regional R&D Center

TOP NIH-FUNDED INSTITUTIONS (2016-2020)

- The National Institute of Health (U.S.) provided \$7.8M \$USD in funding to universities and health centers located in the province of British Columbia in 2020.
- The BC Tech Fund is a \$101M venture capital fund that was launched by the B.C. government in 2016. The BC Tech Fund has been established to invest in emerging technology companies in BC across multiple sectors, including Information and Communications Technology (ICT), Digital Media, Clean Tech and Life Science/Healthcare.

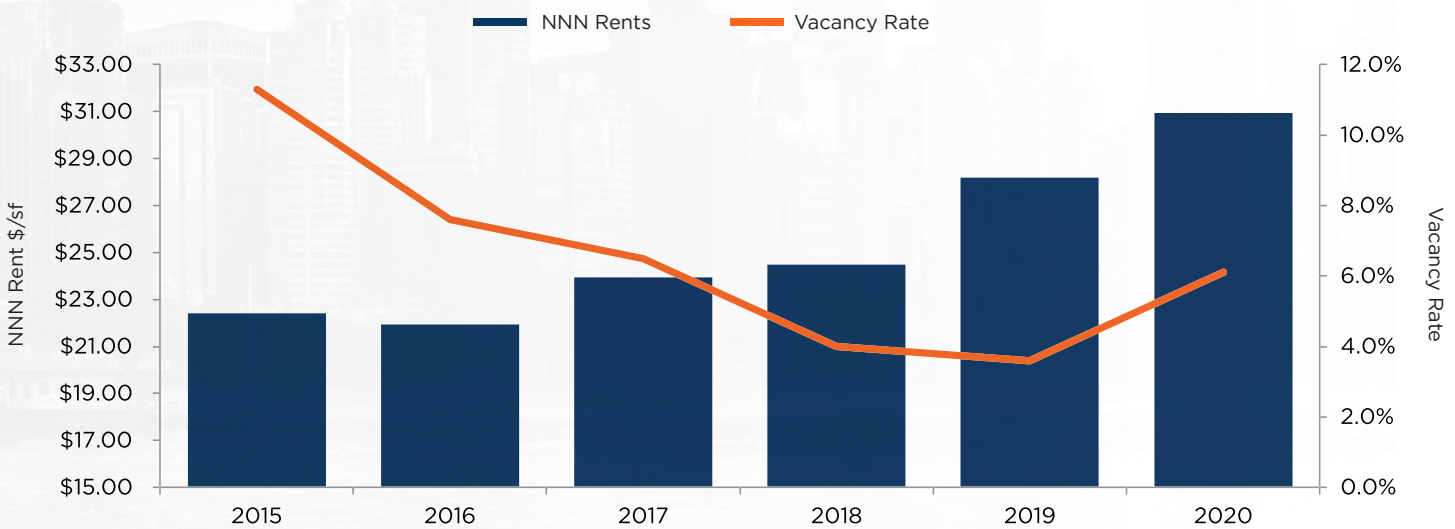
BIO DEGREE-AWARDING INSTITUTIONS, METRO AREA

- British Columbia Institute of Technology
- Camosum College
- Langara College
- Simon Fraser U
- U of British Columbia
- U of Victoria

PUBLIC & PRIVATE FUNDING (2020-2021)

COMPANY	DEAL TYPE	COMPLETED	TYPE	\$ RAISED (MM)
AbCellera	IPO	Dec 2020	Public	\$483.0
Trulieve Cannabis	Public Investment 2nd Offering	Apr 2021	Public	\$157.8
Virogin Biotech	Later Stage	Sep 2020	VC	\$62.0
Xenon Pharmaceuticals	Public Investment 2nd Offering	Feb 2020	Public	\$52.3
Eupraxia Pharmaceuticals	IPO	Mar 2021	Public	\$32.4
ImmunoPrecise Antibodies	Public Investment 2nd Offering	Feb 2021	Public	\$25.0
BriaCell Therapeutics	Public Investment 2nd Offering	Feb 2021	Public	\$25.0
PocketPills	Early Stage	Mar 2021	VC	\$23.6
Aspect Biosystems	Later Stage	Jun 2020	VC	\$20.0
Precision Nanosystems	Later Stage	Feb 2021	VC	\$19.7

RENT VS. VACANCY COMPARISON



Data Represents the Overall Office Market
Source: Cushman & Wakefield Research

REPRESENTATIVE LEASE TRANSACTIONS (2020)

COMPANY	ADDRESS	SIZE (SF)	NEW/RENEWAL	TYPE	QUARTER	LANDLORD
AbCellera Biologics Inc	2131 Manitoba St	48,000	New	Research/Development	Q4 2019	Wesgroup Properties
Medipure Pharmaceuticals Inc	8900 Glenlyon Pkwy	26,000	New	Research	Q4	Canadian Urban Limited
Anandia Laboratories Inc	887 Great Northern Way	26,000	Expansion	Testing	Q4 2019	Dundee REIT
Symvivo Inc	8900 Glenlyon Pkwy	18,000	New	Vaccine Research	Q3	Canadian Urban Limited
Clarius Mobile Health Corp	2985 Virtual Way	11,000	New (Sublease)	Research / Manufacture	Q3	QuadReal

MARKET SUMMARY

- Washington, DC has among the nation's largest concentrations of life sciences workers in both government-related as well as venture capital and publicly-funded institutions.
- The industry is heavily concentrated in Montgomery County, Maryland, where innovation is centered around around the National Institutes of Health, the National Institute of Standards and Technology, and the Food and Drug Administration.
- The life sciences companies that proliferate in the county and in neighboring Frederick and Prince George's, MD. include those that concentrate in medical and clinical research and development, medical devices, biologics, and pharmaceutical manufacturing.
- Due to impressive private sector demand that was accelerating even prior to 2020 coupled with very limited real estate supply, the biotechnology/lab market has tightened considerably to compete with other high-yield, "niche" commercial real estate asset classes including data center, last-mile industrial, cold storage and student housing.
- Increasing scarce supply in the life sciences market will lead to increasing investment with a focus on the conversion of existing underperforming assets to accommodate bio and wet lab users as well as ground-up development.

FAST LAB STATS

10.2 MSF
MARKET SQUARE
FOOTAGE

\$27.68
\$ PER SF NNN

6.7%
VACANCY

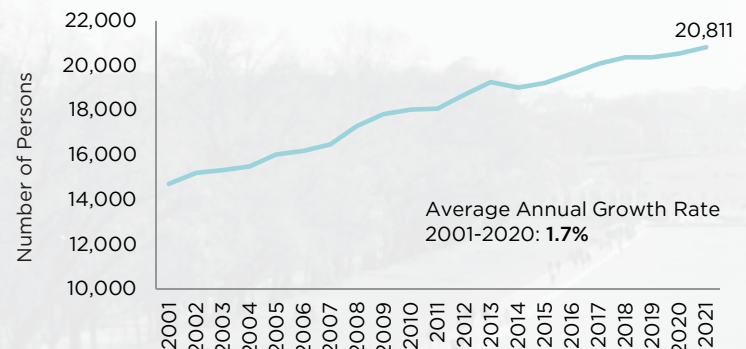
30.3K
TOTAL LIFE SCIENCES
EMPLOYMENT
& TALENT POOL

+32%
LIFE SCIENCES
EMPLOYMENT GROWTH
RATE SINCE 2001

REPRESENTATIVE LIFE SCIENCES COMPANIES

COMPANY	TYPE
AstraZeneca	Research Facility
GlaxoSmithKline	Research Facility
Otsuka	Research Facility
Emmes	Headquarters
ThermoFisher Scientific	Regional Office
Supernus	Headquarters
Qiagen	US Headquarters
BioReliance	Headquarters
National Institutes of Health	Headquarters
Food & Drug Administration	Headquarters

LIFE SCIENCES TALENT POOL



Talent pool includes life science professionals not currently employed in the life science sector

Source: EMSI

BIO DEGREE-AWARDING INSTITUTIONS, METRO AREA

- Georgetown University
- George Washington University
- American University
- University of District of Columbia
- University of Maryland
- George Mason University
- University of Virginia
- Virginia Polytechnic Institute and State University

TOP NIH-FUNDED INSTITUTIONS (2016-2020)

\$1.6B

LEIDOS BIOMEDICAL
RESEARCH, INC

\$504M

GEORGE WASHINGTON
UNIVERSITY

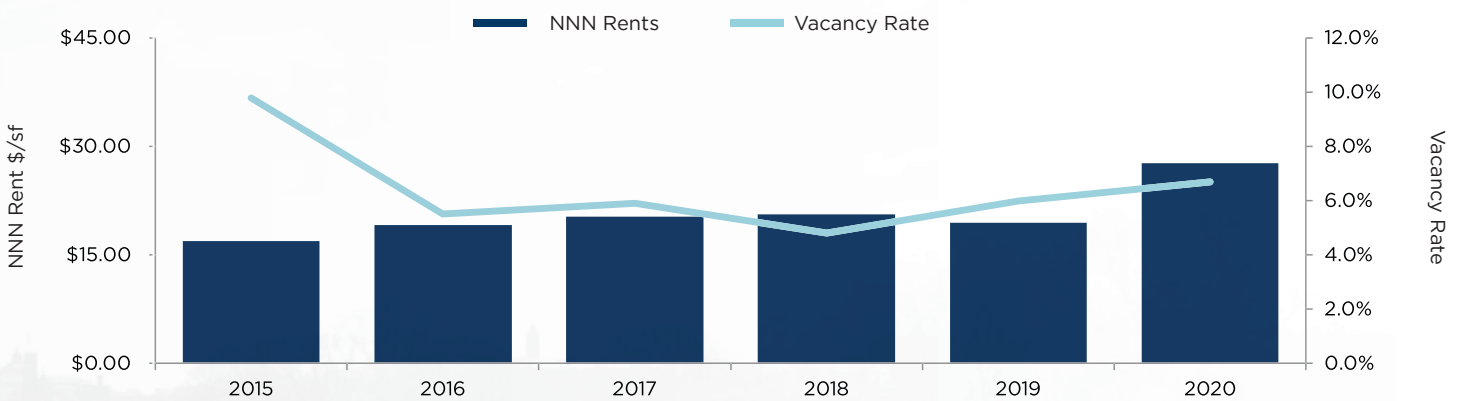
\$245M

GEORGETOWN
UNIVERSITY

PUBLIC & PRIVATE FUNDING (2020-2021)

COMPANY	DEAL TYPE	COMPLETED	TYPE	\$ RAISED (MM)
Viela Bio	Public Investment 2nd Offering	May 2020	Public	\$169.2
Sensei Biotherapeutics	IPO		Public	\$133.0
Arcellx	Later Stage		VC	\$115.0
Sirnaomics	Later Stage		VC	\$113.0
NexImmune	IPO		Public	\$110.1
NeoImmuneTech	IPO		Public	\$104.7
Delfi Diagnostics	Early Stage		VC	\$100.0
Intergalactic Therapeutics	Early Stage		VC	\$90.0
ValenzaBio	Early Stage		VC	\$79.4
Immunomic Therapeutics	Later Stage		VC	\$77.7

RENT VS. VACANCY COMPARISON



Source: CoStar, Cushman & Wakefield Research

REPRESENTATIVE INVESTMENT SALE TRANSACTIONS (2019-2021)

ADDRESS	TYPE	\$ MM	RBA SF	DATE	BUYER
9713-9717 Key West Ave	Lab	\$90.0	280,000	Aug 2020	Beckham Gumbin Ventures
25-45 W Watkins Mill Rd	Lab	\$53.3	140,000	Aug 2019	Alexandria Real Estate Equities
700 Quince Orchard	Lab	\$43.0	122,000	Oct 2020	Alexandria Real Estate Equities
9605 Medical Center Dr	Lab	\$29.0	116,000	Feb 2020	Alexandria Real Estate Equities
11333 Woodglen Dr	Lab	\$16.8	63,000	Jun 2020	American College of Gastroenterology

REPRESENTATIVE LEASE TRANSACTIONS (2020)

COMPANY	ADDRESS	SIZE (SF)	NEW/RENEWAL	TYPE	QUARTER	LANDLORD
Food & Drug Administration	Various - Montgomery and Prince George's	180,000	New and Renewals	Lab	Various	NGP, The Duffie Companies, True North
Novavax	700 Quince Orchard Rd	170,000	New	Lab	Q3	Alexandria Real Estate Equities
Supernus	9715 Key West Ave	135,000	New	Lab	Q1	Beckham Gumbin Ventures
National Institutes of Health	6710 Rockledge Dr	33,000	Expansion	Lab	Q1	Nuveen Real Estate
Aurinia Pharmaceuticals	77 Upper Rock	30,000	New	Lab	Q2	Bridge Investment Group
Otsuka	2440 Research Blvd	26,000	Renewal	Lab	Q1	ASB Capital Management
ICON Clinical Research	820 West Diamond Ave	19,000	Renewal	Lab	Q3	Farrallon Capital Management

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About Cushman & Wakefield

Cushman & Wakefield (NYSE: CWK) is a leading global real estate services firm that delivers exceptional value for real estate occupiers and owners. Cushman & Wakefield is among the largest real estate services firms with approximately 50,000 employees in over 400 offices and 60 countries. In 2020, the firm had revenue of \$7.8 billion across core services of property, facilities and project management, leasing, capital markets, valuation and other services. To learn more, visit www.cushmanwakefield.com or follow @CushWake on Twitter.

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