

FIGURES | U.S. LIFE SCIENCES | Q4 2021

# 2021 ends with the strongest U.S. Life Sciences market in history as market fundamentals strengthen in Q4



Arrows indicate change from previous quarter.

## Executive Summary

- U.S. life sciences employment climbed in Q4 2021, with biotech R&D increasing 2.0% quarter over quarter. Year-over-year growth in biotech R&D employment grew 10.8%, compared to total non-farm employment's 4.5%.
- Venture capital funding in the life sciences sector hit a record-high \$32.5B in 2021.
- Lab R&D vacancies remained low in most of the top 12 U.S. life sciences markets, with an overall decrease of 10 basis points in the vacancy rate quarter over quarter.
- With little available inventory, national average asking rents continued to push up, rising 7.8% during the quarter to \$67.05.
- Lab R&D construction totaled 31.6 MSF of new developments and conversions across the top 12 markets, as developers sought to keep pace with growing demand. Speculative construction was on par with tenant demand; however, many under-construction projects may not deliver until 2023 or 2024, leaving fewer options for nearer-term requirements.

Figure 1: Employment

# U.S. Employment Growth by Segment

*Indexed to 1.0 in December 2016*

Life sciences employment has grown 20% during the last five years.

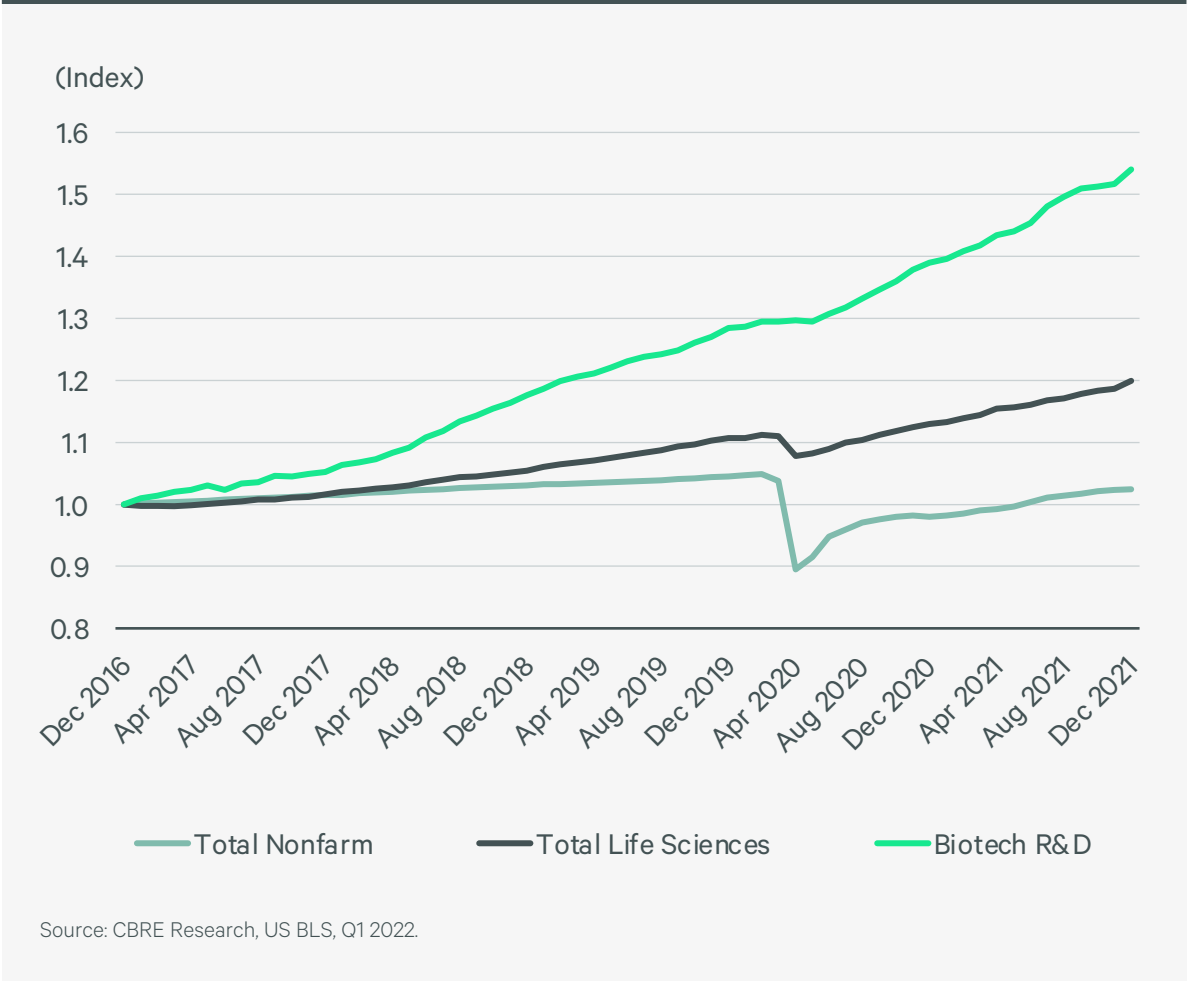


Figure 2: Capital

# U.S. Life Sciences Venture Capital Funding

*4-quarter rolling average*

Venture capital funding in U.S. life sciences has grown 328% during the last five years.

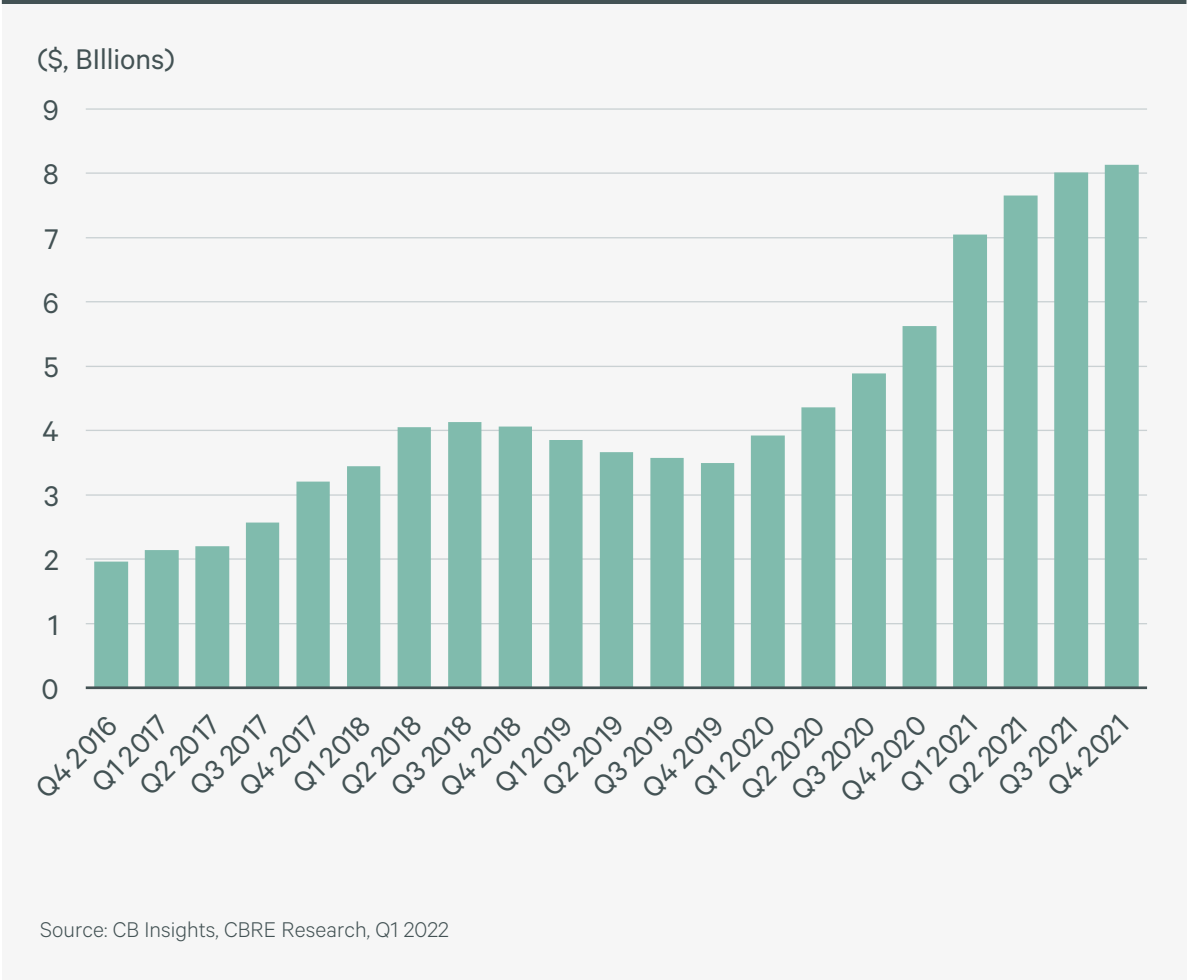


Figure 3: Indicators

# Q4 2021 Vacancy & Asking Lease Rates for Life Sciences Lab/R&D

Lab/R&D vacancy rate decreased by 10 basis points and asking lease rates rose 7.8% quarter over quarter.

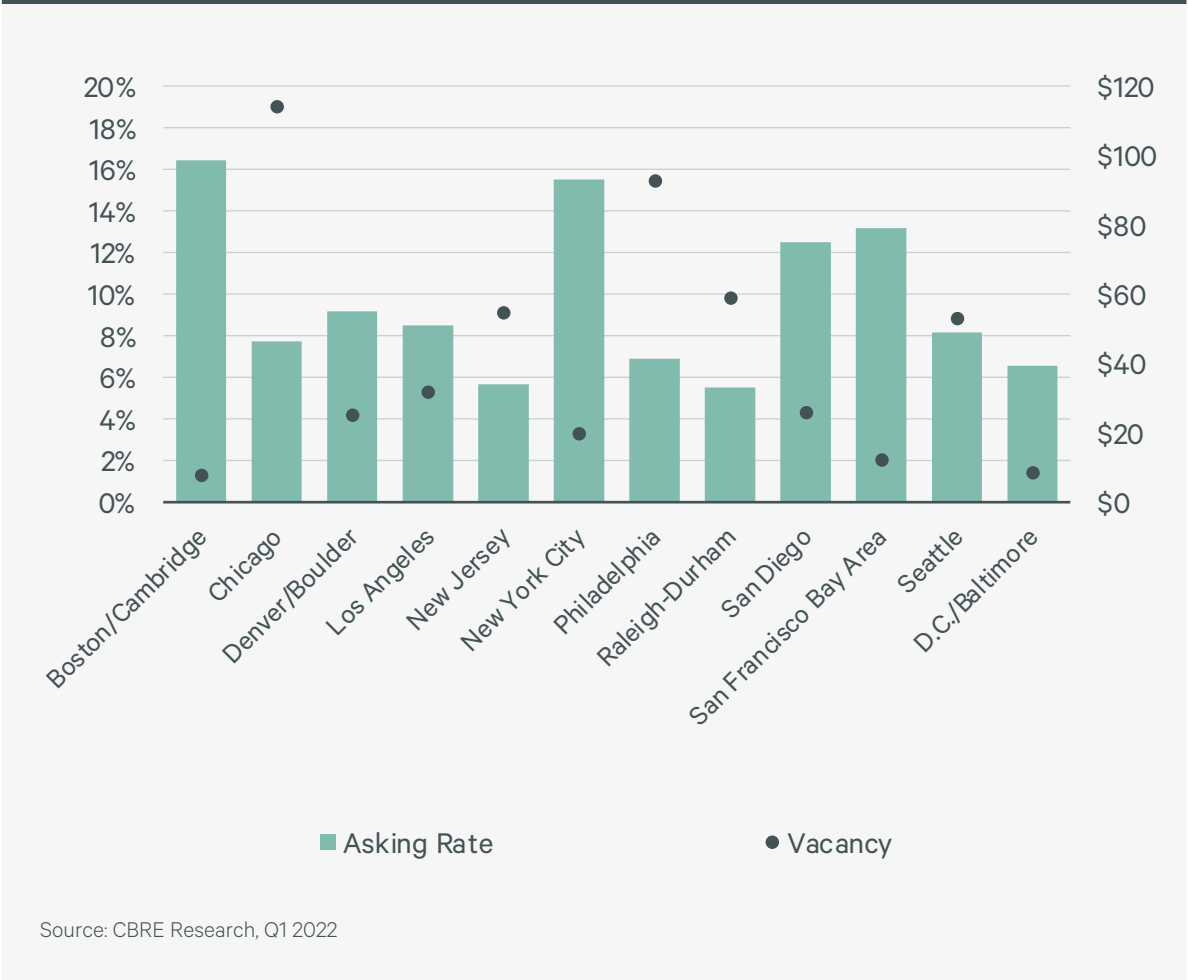


Figure 4: Development

# Construction of Life Sciences Lab/R&D Properties

*New development, conversion, speculative and build-to-suit*

31.6 million sq. ft. of Lab/R&D space was under construction in Q4 2021.

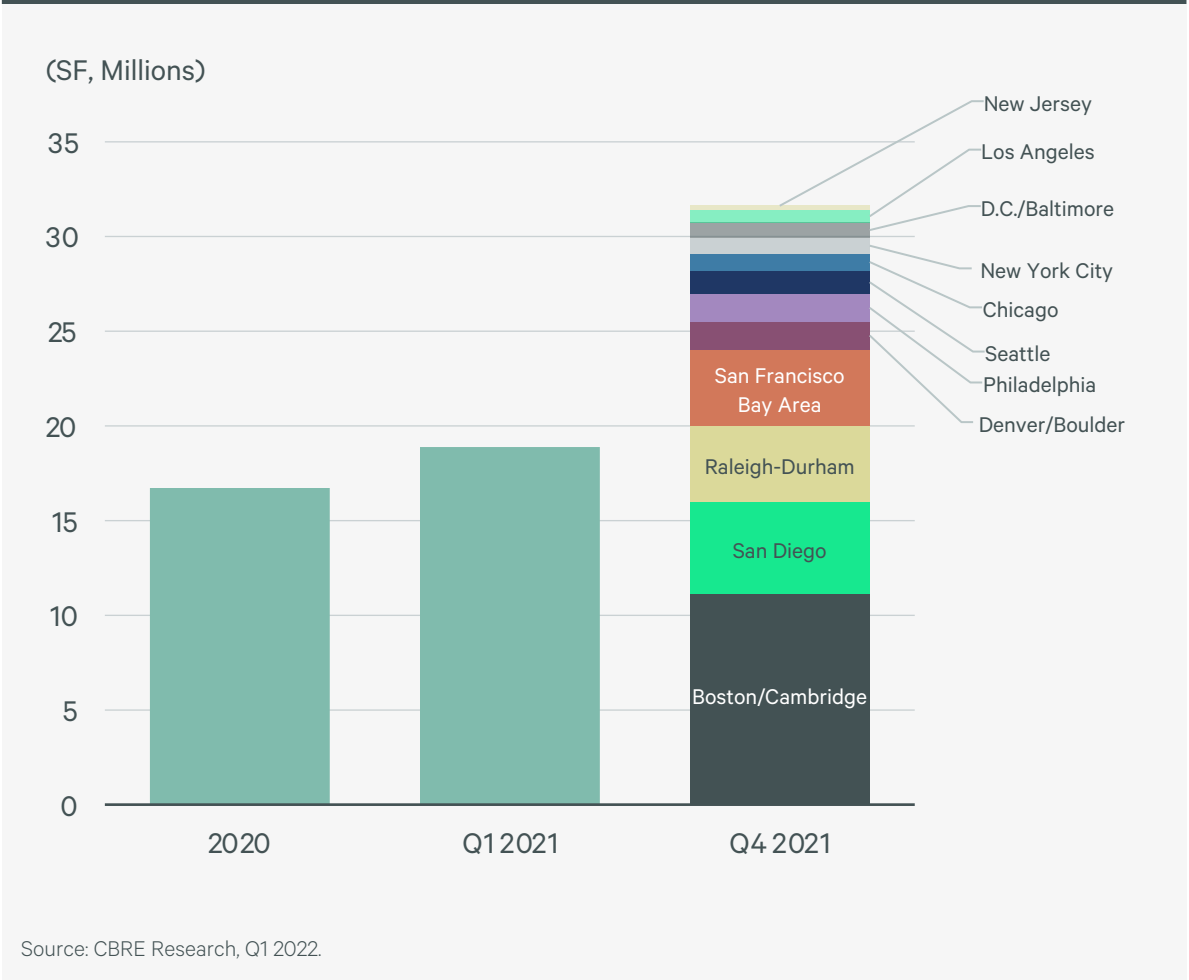


Figure 5: Market Overviews

# Q4 2021

## Market Indicators

Market	Inventory (SF)	Vacancy	Avg. Asking Rents (NNN)	Tenants Seeking Space	Total Demand (SF)	Under Construction (SF of Lab/R&D)	Pre-Leased (% of Under Construction)
Boston/Cambridge	44,677,625	1.3%	\$98.57	143	5,983,000	11,154,906	41.3%
Chicago	1,558,364	19.0%	\$46.29	22	350,000	864,454	0.0%
Denver/Boulder	4,790,896	4.2%	\$45-\$55	32	1,500,000	1,484,134	40.4%
Los Angeles	7,767,117	5.3%	\$51.00	23	936,000 – 1,116,000	667,104	22.2%
New Jersey	20,400,000	9.1%	\$28-\$34	17	1,300,000	222,500	33.9%
New York City	1,900,454	3.3%	\$93.00	66	1,964,500	860,403	0.0%
Philadelphia	9,588,132	15.4%	\$41.44	68	2,700,000	1,434,494	28.5%
Raleigh-Durham	10,162,189	9.8%	\$33.04	18	885,000	4,037,819	0.0%
San Diego	18,653,181	4.3%	\$74.88	45	2,750,000	4,810,583	31.2%
San Francisco Bay Area	33,093,955	2.0%	\$79.06	54	2,612,300	4,030,649	28.6%
Seattle	9,198,215	8.8%	\$48.96	23	940,000	1,268,066	7.8%
Washington, D.C./Baltimore	10,628,588	1.4%	\$39.39	22	1,400,000	789,394	26.2%
OVERALL TOTAL	172,418,716	4.8%	\$67.05	533	23,500,800	31,624,506	27.8%

Source: CBRE Research, Q1 2022.

Q4 2021

# Market Overviews

Market Overviews

# Boston/ Cambridge

Inventory Lab/R&D

	Inventory (SF)	Avg. Asking Rents (NNN)	Vacancy Rate
Cambridge	17,141,549	\$119.70	0.5%
Boston	12,147,707	\$103.24	0.1%
Route 128 – Core	13,252,086	\$86.51	3.0%
Route 495 – Core	2,136,283	\$33.25	3.5%
METRO (TOTAL)	44,677,625	\$98.57	1.3%

Top Lease Transactions

Tenant	Size (SF)	Submarket	Type
ElevateBio	155,000	128 West	New
Prime Medicine	140,000	East Cambridge	New
Seqirus	135,000	128 West	New
TScan Therapeutics	113,487	128 West	New
Wyss Institute	110,000	Fenway	New

Demand

	Q4 2021	Q-o-Q Change		
# of TIMs	143	6.7%	Class A Asking Rents (NNN) - Urban	\$105-\$130
SF of Demand	5.98M	(0.3)%	Class A Asking Rents (NNN) - Suburban	\$75-\$100

Future Supply Lab/R&D

Under Construction	Number of Projects	Total Size (SF)	Total Spec Size (SF)	Delivering in 2022 (SF)	% Pre-leased
New	27	7,899,162	6,968,162	2,333,140	41.9%
Conversion	18	3,255,744	3,255,744	2,097,647	39.7%
TOTAL	45	11,154,906	10,223,906	4,430,787	41.3%



Market Overviews

# Chicago

Inventory Lab/R&D

	Inventory (SF)	Avg. Asking Rents (NNN)	Vacancy Rate
Suburbs	988,426	\$37.00	8.1%
City	569,938	\$55.25	39.0%
METRO (TOTAL)	1,558,364	\$46.29	19.0%

Top Lease Transactions

Tenant	Size (SF)	Submarket	Type
Vanqua Bio	22,385	City	New

Demand

	Q4 2021	Q-o-Q Change		
# of TIMs	22	0.0%	Class A Asking Rents (NNN)	\$60.00
SF of Demand	350,000	0.0%		

Future Supply Lab/R&D

Under Construction	Number of Projects	Total Size (SF)	Total Spec Size (SF)	Delivering in 2022 (SF)	% Pre-leased
New	3	864,454	864,454	423,454	0.0%
Conversion	0	0	0	0	0.0%
TOTAL	3	864,454	864,454	0	0.0%

Market Overviews

# Denver/ Boulder

Inventory Lab/R&D

	Inventory (SF)	Avg. Asking Rents (NNN)	Vacancy Rate
Boulder	1,994,256	N/A	0.0%
Northwest	1,182,714	\$45.00-\$55.00	12.4%
Longmont	770,023	N/A	0.0%
Northeast	326,000	\$45.00-\$55.00	12.7%
Southeast	242,319	\$45.00-\$55.00	6.2%
North Central	177,033	N/A	0.0%
Southwest	42,420	N/A	0.0%
West	42,457	N/A	0.0%
South Central	13,674	N/A	0.0%
METRO (TOTAL)	4,790,896	\$45.00-\$55.00	4.2%

Top Lease Transactions

Tenant	Size (SF)	Submarket	Type
McKesson Medical-Surgical	135,000	Northeast	New
Molecular Products	115,000	Northwest	Renewal
Enveda Biosciences	58,000	Boulder	New
GenapSys, Inc.	50,000	Northwest	New
Jogan Health Solutions	48,000	Southeast	New
Medpace	47,000	Downtown	New
McKesson High Volume Solutions	20,000	Longmont	New

Demand

	Q4 2021	Q-o-Q Change		
# of TIMs	32	28.0%	Class A Asking Rents (NNN)	\$45.00-\$55.00
SF of Demand	1.5M	25.0%		

Future Supply Lab/R&D

Under Construction	Number of Projects	Total Size (SF)	Total Spec Size (SF)	Delivering in 2022 (SF)	% Pre-leased
New	8	942,649	342,649	897,834	63.7%
Conversion	4	541,485	541,485	0	0%
TOTAL	12	1,484,134	884,134	897,834	40.4%

Market Overviews

# Los Angeles

Inventory Lab/R&D

	Inventory (SF)	Avg. Asking Rents (NNN)	Vacancy Rate
San Fernando Valley	2,640,277	\$51.00	4.9%
San Gabriel Valley	1,715,245	\$34.20	3.4%
South Bay	1,226,948	\$54.00	14.2%
Conejo Valley	1,063,328	\$51.00	4.1%
West LA	686,021	\$63.00	0.0%
Other	435,298	N/A	0.0%
METRO (TOTAL)	7,767,117	\$51.00	5.3%

Top Lease Transactions

Tenant	Size (SF)	Submarket	Type
Instil Bio	19,300	Conjeo Valley	New
Charles River Laboratories	12,000	Conjeo Valley	New
Parallel	4,500	Tri / Cities / Glendale	New

Demand

	Q4 2021	Q-o-Q Change		
# of TIMs	23	109.1%	Class A Asking Rents (NNN)	\$66.00
SF of Demand	936,000 - 1.1M	150.2%		

Future Supply Lab/R&D

Under Construction	Number of Projects	Total Size (SF)	Total Spec Size (SF)	Delivering in 2022 (SF)	% Pre-leased
New	0	0	0	0	0.0%
Conversion	4	667,104	667,104	667,104	22.2%
TOTAL	4	667,104	667,104	667,104	22.2%

Market Overviews

# New Jersey

Inventory Lab/R&D

	Inventory (SF)	Avg. Asking Rents (NNN)	Vacancy Rate
METRO (TOTAL)	20,400,000	\$28.00-\$34.00	9.1%

Top Lease Transactions

Tenant	Size (SF)	Submarket	Type
GenScript Biotech	75,500	Eastern Morris	New
Orcasa, Inc.	69,000	Princeton	New
Ascendia Pharmaceuticals	32,300	Rte. 287 / Piscataway / Brunswick	New

Demand

	Q4 2021	Q-o-Q Change		
# of TIMs	17	0.0%	Class A Asking Rents (NNN)	\$66.00
SF of Demand	1.3M	0.0%		

Future Supply Lab/R&D

Under Construction	Number of Projects	Total Size (SF)	Total Spec Size (SF)	Delivering in 2022 (SF)	% Pre-leased
New	2	222,500	222,500	222,500	33.9%
Conversion	0	0	0	0	0.0%
TOTAL	2	222,500	222,500	222,500	33.9%

Market Overviews

# New York City

Inventory Lab/R&D

	Inventory (SF)	Avg. Asking Rents (NNN)	Vacancy Rate	Pre-Built Vacancy Rate
Manhattan	1,368,663	\$114.02	7.7%	3.0%
METRO (TOTAL)	1,900,454	\$93.00	21.2%	3.3%

\*Stats are reflective of lab-exclusive space that is currently within 12 months of tenant fit out only

Top Lease Transactions

Tenant	Size (SF)	Submarket	Type
IndieBio	25,000	Manhattan	New
RegenLab USA	15,000	Brooklyn	New

Demand

	Q4 2021	Q-o-Q Change		
# of TIMs	66	34.7%	Class A Asking Rents (NNN)	\$93.00
SF of Demand	2.0M	25.3%		

Future Supply Lab/R&D

Under Construction	Number of Projects	Total Size (SF)	Total Spec Size (SF)	Delivering in 2022 (SF)	% Pre-leased
New	1	200,000	200,000	0	0.0%
Conversion	3	660,403	660,403	0	0.0%
TOTAL	4	860,403	860,403	0	0.0%

## Market Overviews

## Philadelphia

## Inventory Lab/R&amp;D

	Inventory (SF)	Avg. Asking Rents (NNN)	Vacancy Rate
King of Prussia/ Valley Forge	2,531,586	\$41.00	32.7%
University City	1,846,171	\$60.07	1.9%
Malvern	1,290,920	\$21.59	2.2%
Navy Yard	851,417	-	0.0%
Horsham/Spring House	819,710	\$35.00	32.2%
Exton/West Chester	754,607	\$30.07	28.3%
Greater Northeast	538,828	\$30.00	0.0%
Lower Bucks County	473,132	\$19.00	1.1%
Center City	292,000	\$49.33	36.0%
New Castle County	189,761	-	0.0%
<b>METRO (TOTAL)</b>	<b>9,588,132</b>	<b>\$41.44</b>	<b>15.4%</b>

## Top Lease Transactions

Tenant	Size (SF)	Submarket	Type
Prelude Therapeutics	80,000	Wilmington	New
Avid Radiopharmaceuticals	38,347	University City	New
Ocugen, Inc.	28,375	Malvern	New
NeuExcell Therapeutics	20,400	King of Prussia / Valley Forge	New
Seed Therapeutics	10,086	King of Prussia / Valley Forge	New

## Demand

	Q4 2021	Q-o-Q Change		
# of TIMs	68	11.5%	Class A Asking Rents (NNN) - Urban	\$55.00-\$65.00
SF of Demand	2.7M	33.8%	Class A Asking Rents (NNN) - Suburban	\$40.00-\$45.00

## Future Supply Lab/R&amp;D

Under Construction	Number of Projects	Total Size (SF)	Total Spec Size (SF)	Delivering in 2022 (SF)	% Pre-leased
New	5	946,000	872,000	709,000	34.5%
Conversion	5	488,494	429,907	419,067	16.9%
<b>TOTAL</b>	<b>10</b>	<b>1,434,494</b>	<b>1,301,907</b>	<b>1,128,067</b>	<b>28.5%</b>

Market Overviews

# Raleigh-Durham

Inventory Lab/R&D

	Inventory (SF)	Avg. Asking Rents (NNN)	Vacancy Rate
RTP/I-40 Corridor	7,988,293	\$33.00	6.5%
Central Durham	1,228,331	\$33.50	30.0%
Suburban Durham	530,379	\$30.00	21.6%
West Raleigh	221,823	\$38.66	0.0%
Cary	193,363	\$21.09	0.0%
METRO (TOTAL)	10,162,189	\$33.04	9.8%

Demand

	Q4 2021	Q-o-Q Change		
# of TIMs	18	12.5%	Class A Asking Rents (NNN)	\$38.50
SF of Demand	885,000	(1.3)%		

Top Lease Transactions

Tenant	Size (SF)	Submarket	Type
Xilis	68,159	RTP/I-40 Corridor	New
SunTech Medical	50,000	RTP/I-40 Corridor	New
Alginet	15,000	RTP/I-40 Corridor	New
Kyra Life Sciences	14,000	RTP/I-40 Corridor	New
Glympse Bio	10,000	RTP/I-40 Corridor	New
Inhalon Biopharma	7,000	RTP/I-40 Corridor	New - Incubator
Isalari	5,700	RTP/I-40 Corridor	New

Future Supply Lab/R&D

Under Construction	Number of Projects	Total Size (SF)	Total Spec Size (SF)	Delivering in 2022 (SF)	% Pre-leased
New	0	0	0	0	0
Conversion	14	4,037,819	4,037,819	225,000	0.0%
TOTAL	14	4,037,819	4,037,819	225,000	0.0%

Market Overviews

# San Diego

Inventory Lab/R&D

	Inventory (SF)	Avg. Asking Rents (NNN)	Vacancy Rate
Torrey Pines	5,786,070	\$88.80	0.0%
Sorrento Mesa	6,217,381	\$69.48	5.8%
UTC	3,877,387	\$82.80	1.0%
Sorrento Valley	1,528,061	\$68.40	3.9%
Del Mar Heights	479,708	\$84.60	8.9%
I-15 Corridor	358,596	\$58.08	17.3%
56-Corridor	229,042	\$81.00	100%
La Jolla/Pacific Beach	176,936	\$42.00	2.6%
METRO (TOTAL)	18,653,181	\$74.88	4.3%

Top Lease Transactions

Tenant	Size (SF)	Submarket	Type
Undisclosed	309,000	Torrey Pines	New/BTS
BD Biosciences	220,300	Del Mar Heights	New/BTS
Undisclosed	144,000	I-15 Corridor	New/BTS
Boundless Bio	80,200	Torrey Pines	New/BTS
Encodia	66,000	Sorrento Mesa	New
Inscripta	48,000	Sorrento Mesa	New
Prometheus Biosciences	27,300	Torrey Pines	New
Molecular Assemblies	26,000	Sorrento Mesa	New

Demand

	Q4 2021	Q-o-Q Change		
# of TIMs	45	0.0%	Class A Asking Rents (NNN)	\$84.00
SF of Demand	2.8M	(26.7)%		

Future Supply Lab/R&D

Under Construction	Number of Projects	Total Size (SF)	Total Spec Size (SF)	Delivering in 2022 (SF)	% Pre-leased
New	8	3,202,570	2,439,300	835,000	27.2%
Conversion*	19	1,608,013	0	735,000	25.0%
TOTAL	27	4,810,583	2,439,300	1,570,000	31.2%

\*under conversion supply included in inventory numbers



Market Overviews

# San Francisco Bay Area

Inventory Lab/R&D

	Inventory (SF)	Avg. Asking Rents (NNN)	Vacancy Rate
North Peninsula	14,670,451	\$90.00	0.8%
South Peninsula	8,943,571	\$82.80	3.3%
Emeryville/Berkeley	4,300,000	\$75.00	0.0%
Hayward/Fremont/Newark	3,800,000	\$54.00	9.9%
Mission Bay (SF)	1,379,933	\$90.00	0.0%
METRO (TOTAL)	33,093,955	\$79.06	2.0%

Demand

	Q4 2021	Q-o-Q Change		
# of TIMs	54	(22.9)%	Class A Asking Rents (NNN)	\$87.00
SF of Demand	2.6M	(11.7)%		

Top Lease Transactions

Tenant	Size (SF)	Submarket	Type
Genentech, Inc.	229,000	North Peninsula	New
Graphite Bio	85,165	North Peninsula	New
Allogene Therapeutics	68,072	North Peninsula	Renewal
Myriad Genetics	63,246	North Peninsula	New
Nobell Foods (Alpine Roads)	56,000	North Peninsula	New
Allogene Therapeutics	47,566	North Peninsula	Expansion
Revolution Medicine	41,916	South Peninsula	Renewal
Revolution Medicine	41,445	South Peninsula	New

Future Supply Lab/R&D

Under Construction	Number of Projects	Total Size (SF)	Total Spec Size (SF)	Delivering in 2022 (SF)	% Pre-leased
New	12	3,390,302	3,390,302	1,262,669	23.9%
Conversion	4	640,347	640,347	342,845	51.0%
TOTAL	16	4,030,649	4,030,649	1,605,514	28.6%

Market Overviews

Seattle

Inventory Lab/R&D

	Inventory (SF)	Avg. Asking Rents (NNN)	Vacancy Rate
Seattle	5,784,195	\$84.03	6.6%
Bothell	2,762,371	\$32.47	15.5%
METRO (TOTAL)	9,198,215	\$48.96	8.8%

Top Lease Transactions

Tenant	Size (SF)	Submarket	Type
Shape Therapeutics	116,000	Seattle	New
Icosavax	25,253	Seattle	New
Nortis Bio	17,700	Eastside	New
GentiBio	15,100	Downtown	New
Tune Therapeutics	15,000	Downtown	New
Aurion Biotech (CorneaGen)	15,000	Downtown	New
Affini-T Therapeutics	12,400	Downtown	New

Demand

	Q4 2021	Q-o-Q Change		
# of TIMs	23	0.0%	Class A Asking Rents (NNN)	\$84.00
SF of Demand	940,000	(21.0)%		

Future Supply Lab/R&D

Under Construction	Number of Projects	Total Size (SF)	Total Spec Size (SF)	Delivering in 2022 (SF)	% Pre-leased
New	4	972,000	972,000	0	10.2%
Conversion	2	296,066	296,066	296,066	0.0%
TOTAL	6	1,268,066	1,268,066	296,066	7.8%

Market Overviews

# Washington, D.C./ Baltimore

Inventory Lab/R&D

	Inventory (SF)	Avg. Asking Rents (NNN)	Vacancy Rate
Shady Grove	3,376,858	\$43.00	0.5%
Gaithersburg	2,887,458	\$40.00	0.1%
Baltimore	1,585,256	\$37.00	4.4%
Frederick	1,171,812	\$34.00	0.0%
Twinbrook	1,115,079	\$37.00	5.3%
Germantown	492,125	\$37.00	0.0%
METRO (TOTAL)	10,628,588	\$39.39	1.4%

Top Lease Transactions

Tenant	Size (SF)	Submarket	Type
Horizon	192,000	Shady Grove	New
Inotiv	41,000	Shady Grove	New
Sirnaomics	40,000	Germantown	New
National Institutes of Health (NIH)	30,000	Shady Grove	New
TexCell	27,000	Frederick	New
Caring Cross	25,000	Gaithersburg	New

Demand

	Q4 2021	Q-o-Q Change		
# of TIMs	22	10.0%	Class A Asking Rents (NNN)	\$42.00-\$45.00
SF of Demand	1.4M	7.7%		

Future Supply Lab/R&D

Under Construction	Number of Projects	Total Size (SF)	Total Spec Size (SF)	Delivering in 2022 (SF)	% Pre-leased
New	2	124,000	97,000	124,000	24.2%
Conversion	8	665,394	665,394	665,394	22.5%
TOTAL	10	789,394	762,394	789,394	26.2%

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