

Adaptive Spaces

# 2023 U.S. Life Sciences Outlook

REPORT

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Rising Uncertainty  
Amid Burgeoning  
Scientific Discovery

CBRE RESEARCH  
APRIL 2023



# Executive Summary

After record years in 2020 and 2021, growth of the U.S. life sciences industry has returned to **a more normal pace in a cautiously optimistic 2023.**

After record years in 2020 and 2021, growth of the U.S. life sciences industry has returned to a more normal pace in 2023, although demand for lab/R&D space remains well above pre-pandemic levels.

Life sciences employment reached a record high at the start of 2023, although the rate of growth slowed. The San Francisco Bay Area, Boston/Cambridge and Seattle were the fastest-growing markets last year.

Recent turmoil in the banking system may cause further reductions in venture capital funding to the industry this year. Nevertheless, Q1 2023 VC funding is on pace to exceed pre-pandemic levels by roughly 20%. Robust industry R&D expenditures and public funding from the National Institutes of Health are still supporting growth.

CBRE forecasts that total life sciences lab/R&D space may increase by more than 20% over the next two years, as a record-high amount of new construction is currently underway. This likely will push the vacancy rate up moderately.

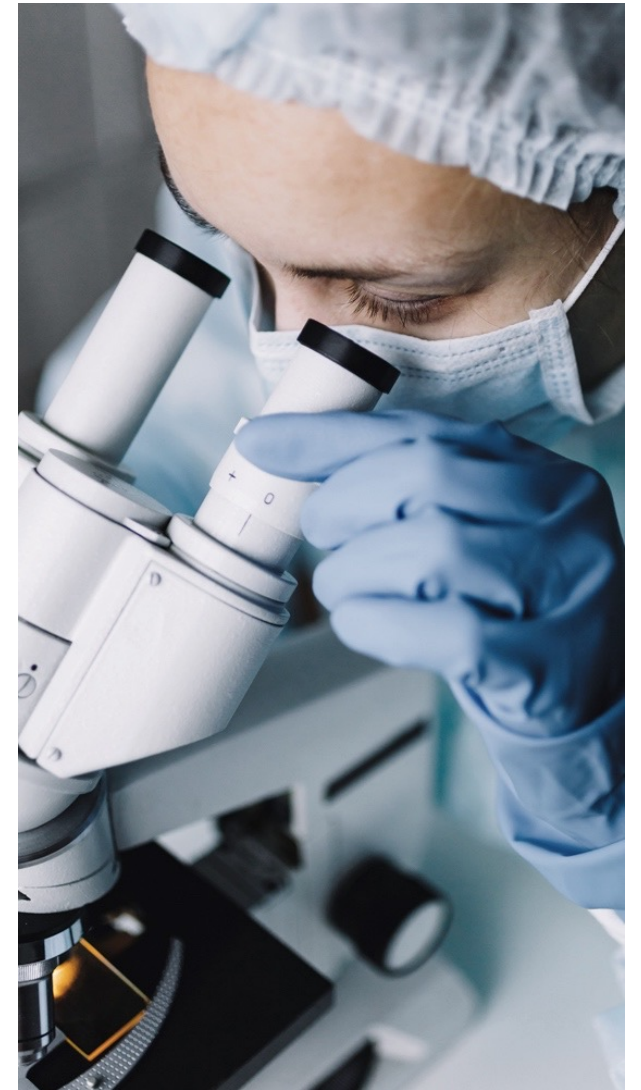
Lab/R&D vacancies are rising but remain well below their long-term average. Rents are still rising in most of the nation's markets, albeit at a slower pace than in the past several years.

Life sciences investment sales volume is down to pre-pandemic levels, but pricing remains high with cap rates at record lows amid robust investor sentiment.

Industry growth this year depends on whether an economic recession occurs, as well as the stability of financial markets, but history shows the life sciences industry is more immune to these challenges than other sectors.

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01

# Employment



Life sciences employment is at a record high, but its growth is slowing. Previous cycles suggest any further slowdown in employment won't be as severe as that of the broader economy.



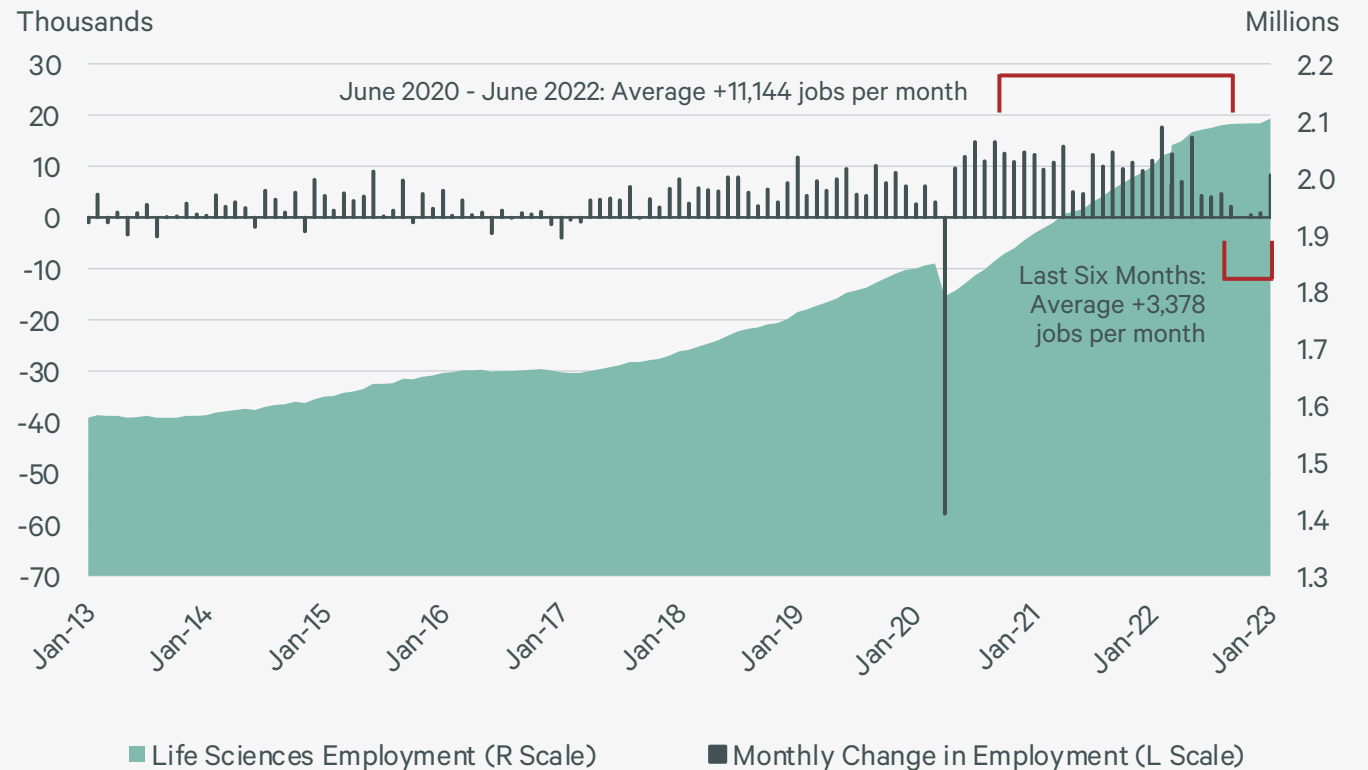
# Life Sciences Employment Reaches Record Levels but Growth Slows

U.S. life sciences employment hit a record 2.1 million jobs at the start of 2023. Although the pace of job growth slowed to 4.1% in January 2023 from 6.3% in January 2022, it was still higher than any annual growth rate before 2019. Should a recession take hold, we expect even slower job growth in 2023.

Life sciences' share of the total U.S. labor force reached a near-record 1.4% last year. Research & development employment—most notably in the biotechnology sector—grew by 8.7% and led the overall industry's annual job growth.

Since June 2022, industry employment growth has decelerated due to higher interest rates and a pullback in public and private funding for the industry. The life sciences industry added an average of 11,144 jobs per month between June 2020 and June 2022, up from 6,259 in the comparable two-year period prior to the COVID pandemic (2018-2019). In the past six months ending January 2023, however, the monthly average fell to 3,378.

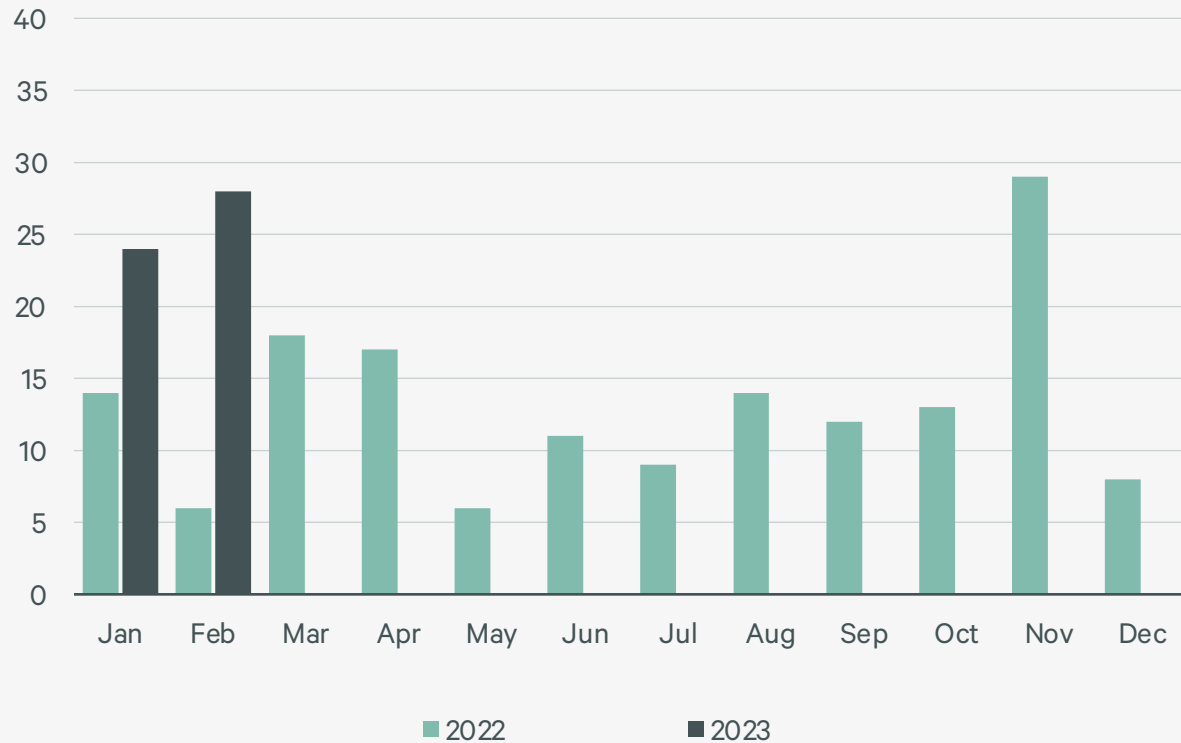
FIGURE 1: U.S. Life Sciences Employment Trends



Source: U.S. Bureau of Labor Statistics, CBRE Research, February 2023.

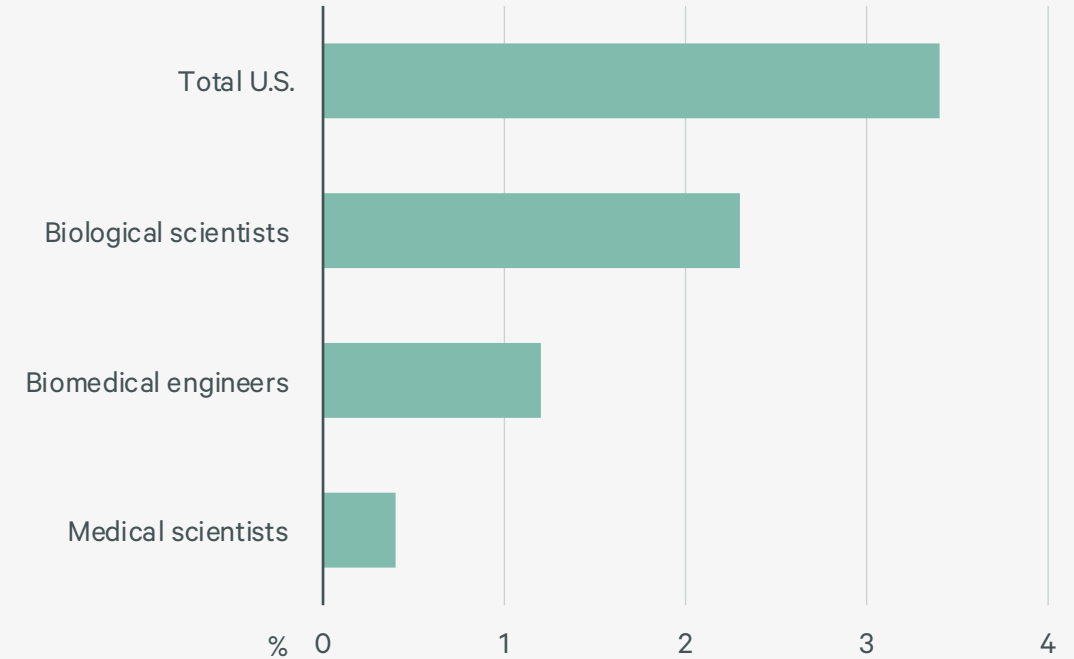
Life sciences companies have announced many more layoffs in the first two months of 2023 than in 2022 (Figure 2). Nevertheless, the unemployment rate for essential scientific occupations in life sciences research & development remain well below the total U.S. unemployment rate (Figure 3), suggesting underlying strength in hiring despite the layoff announcements.

**FIGURE 2: Number of U.S. Life Sciences Companies Announcing Layoffs**



Source: CBRE Research, February 2023.

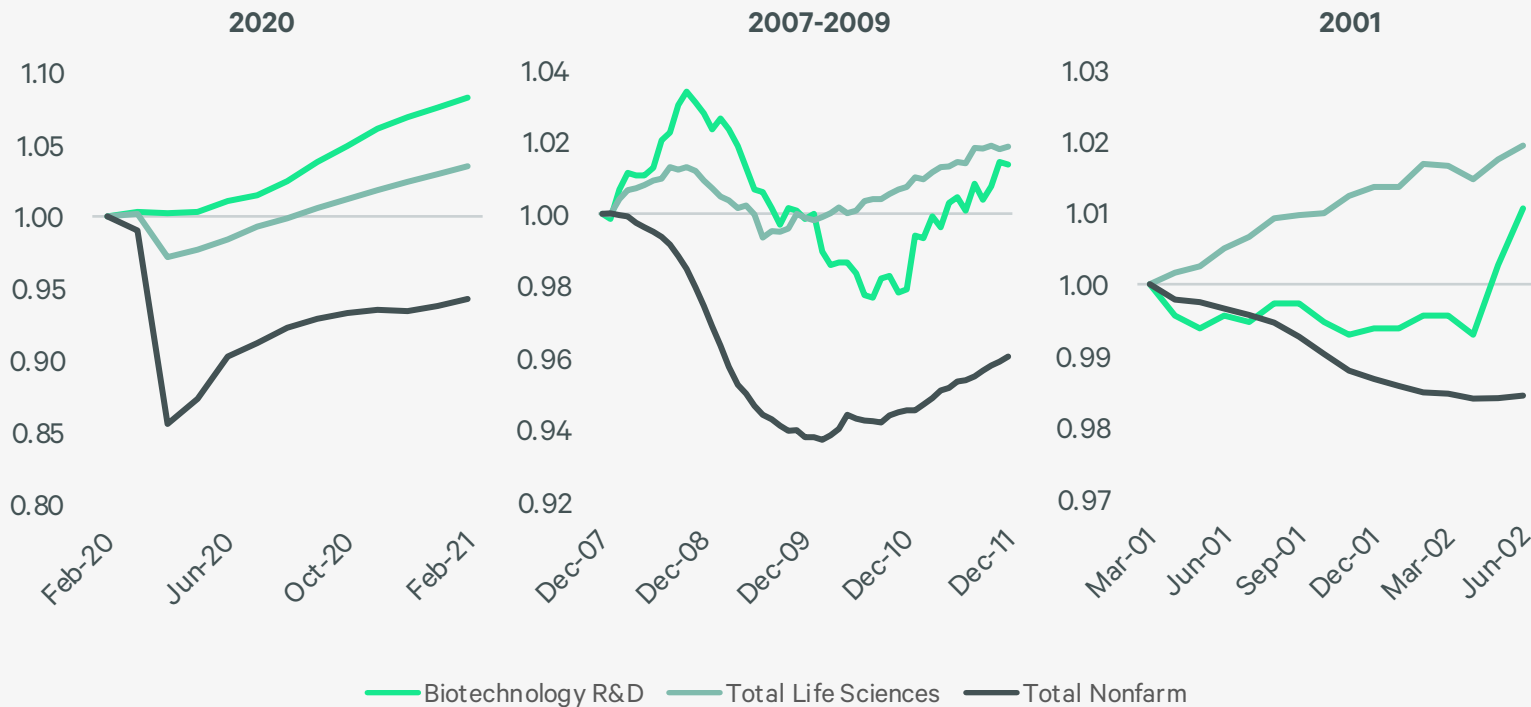
**FIGURE 3: 2022 U.S. Unemployment Rates by Occupation**



Source: U.S. Bureau of Labor Statistics, CBRE Research, February 2023.

Despite the possibility of a moderate U.S. recession this year, the life sciences industry has historically been resilient to economic downturns. In each of the past three recessions, job losses in the life sciences industry were much more limited and of a shorter duration than overall U.S. job losses. We expect this same trend if a recession takes hold this year.

**FIGURE 4: Life Sciences Employment Levels in Past Three Recessions**  
(1.00 = employment level in first month of recession)



Source: U.S. Bureau of Labor Statistics, CBRE Research, February 2023.



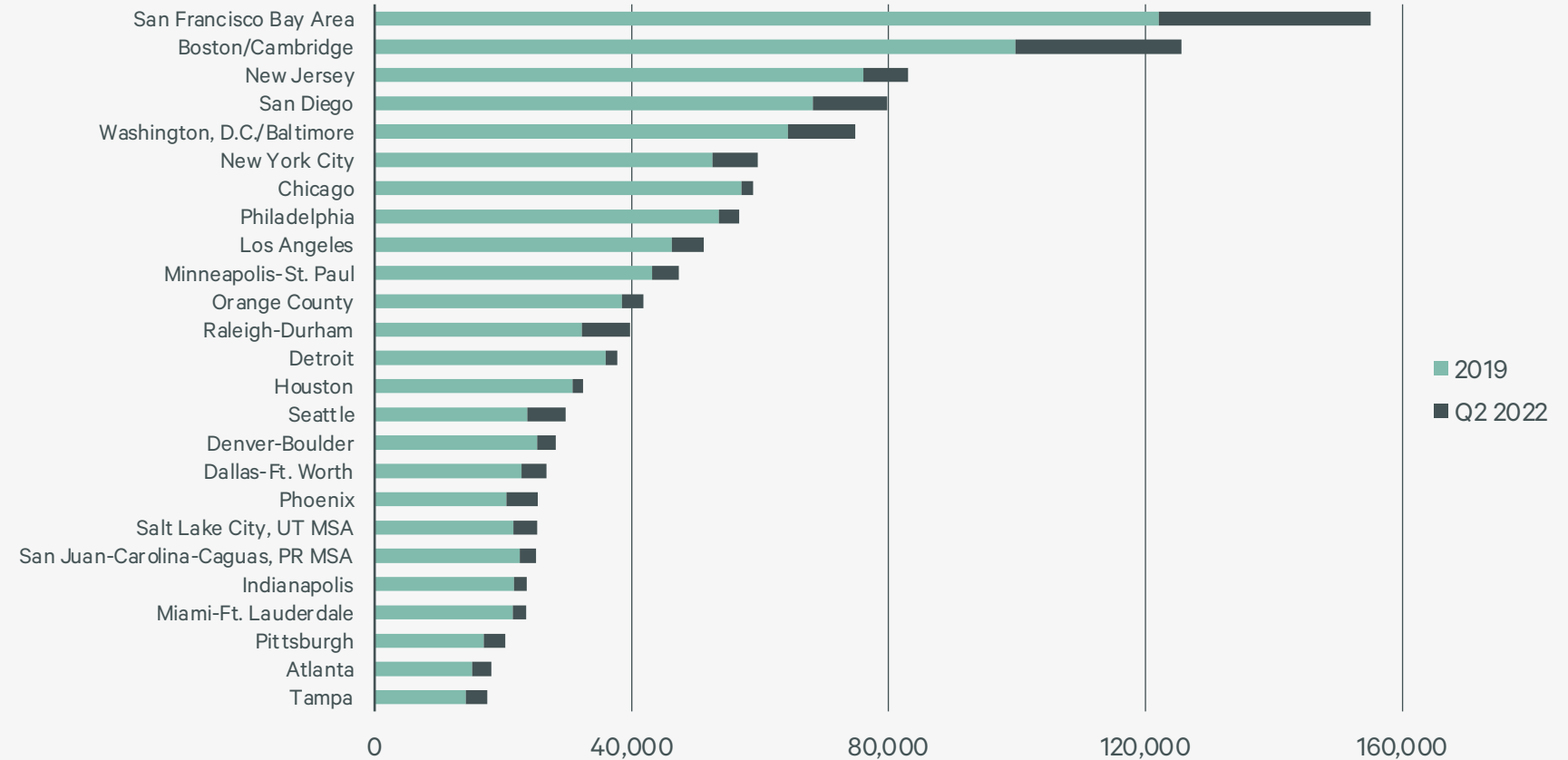
Previous life sciences job losses were much more limited and of a shorter duration than overall U.S. job losses.



The latest life sciences local employment data through June 2022 shows which U.S. markets had the most strength and momentum entering a slower growth phase since then. In terms of total number of persons employed in the life sciences industry, the San Francisco Bay Area was the leading metro for life sciences employment, followed by Boston/Cambridge, New Jersey, San Diego, Washington, D.C./Baltimore and New York City.

The San Francisco Bay Area was the leading metro for life sciences employment.

FIGURE 5: Top 25 Largest Life Sciences Employment Clusters



Source: U.S. Bureau of Labor Statistics, CBRE Research, February 2023.

# Life Sciences Employment Growth

FIGURE 6: Top U.S. Markets for Life Sciences Employment Growth, 2019 to Q2 2022

- Major Markets with Above Average Growth (Total LSci and R&D)
- Emerging Markets (Top 5 with Above Average Growth, (Total LSci and R&D))

**Seattle**

Total: 25.2% | R&D: 39.3%

**Portland**

R&D: 39.9%

**Sacramento**

Total: 27.3%

**San Francisco Bay Area**

Total: 27.0% | R&D: 30.9%

**Phoenix**

Total: 23.6%

**San Diego**

Total: 17.0% | R&D: 23.5%

**Austin**

Total: 30.0%

**Dallas-Ft. Worth**

R&D: 44.5%

## Pharmaceutical/Medicine Manufacturing

|              |     |
|--------------|-----|
| Indianapolis | 65% |
| Chicago      | 35% |
| New Jersey   | 30% |

## Research & Development

|                            |     |
|----------------------------|-----|
| Boston/Cambridge           | 43% |
| Washington, D.C./Baltimore | 49% |
| San Francisco Bay Area     | 40% |

## Top 3 Major Markets within Leading Life Sciences Specialties (% of total life sciences employment)

### Medical Devices

|                      |     |
|----------------------|-----|
| Minneapolis-St. Paul | 68% |
| Orange County        | 48% |
| Cleveland            | 48% |

**Boston/Cambridge**

Total: 25.9% | R&D: 28.6%

**New Haven**

Total: 21.4% | R&D: 94.2%

**Washington, D.C./Baltimore**

Total: 16.2%

**Raleigh-Durham**

Total: 23.2% | R&D: 29.7%

**Atlanta**

R&D: 44.1%

**Nashville**

R&D: 81.0%

**Tampa**

Total: 23.9%

**Houston**

R&D: 29.2%

Source: U.S. Bureau of Labor Statistics, CBRE Research, February 2023.

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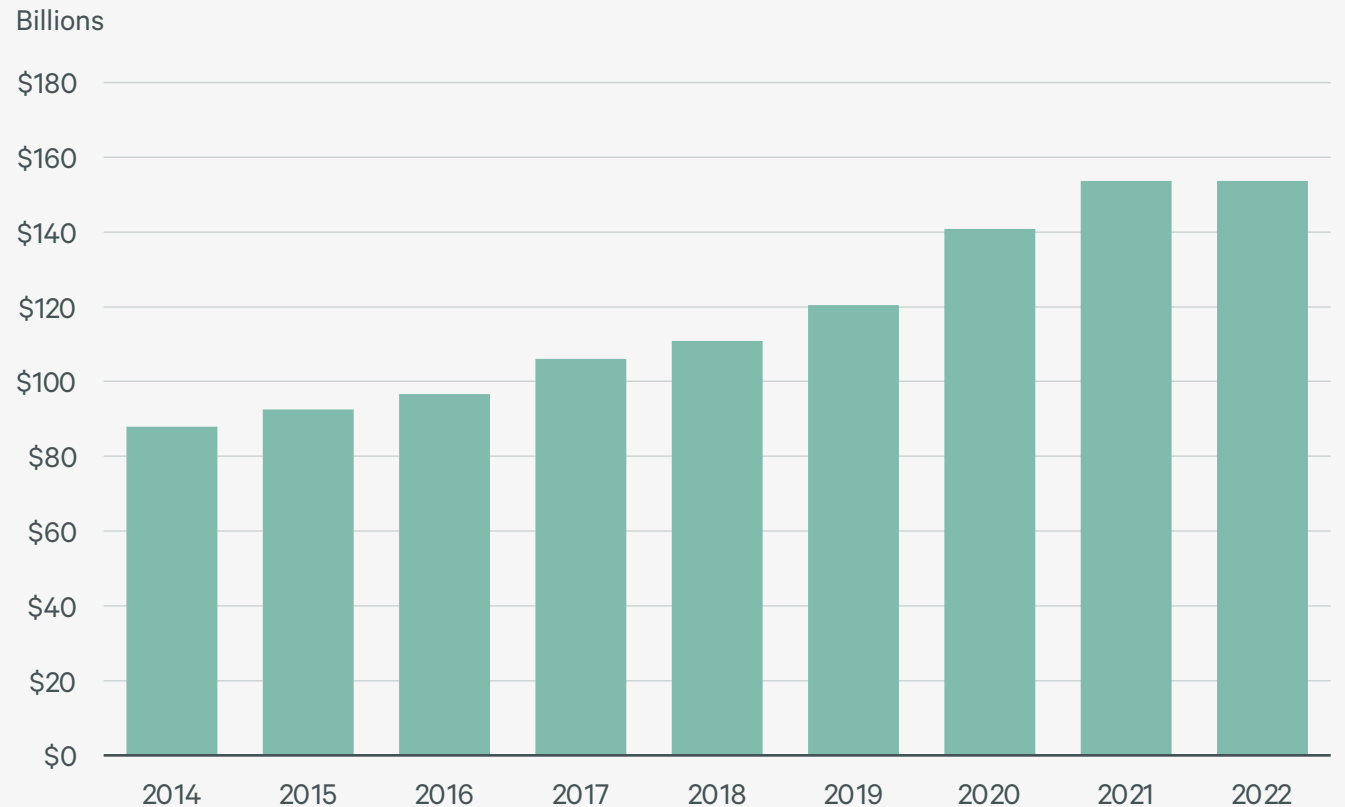
# Funding

## Industry Funding Trends are Mixed

Although there has been a notable pullback in life sciences venture capital investment and initial public stock offerings so far in 2023, high levels of company R&D expenditures and public funding from the National Institutes of Health will persist. Life sciences companies also have roughly \$200 billion in cash and equivalents on their combined balance sheets allocated for business development and mergers & acquisitions.

Life sciences company R&D expenditures have grown by an estimated 40% over the past five years. The nearly \$154 billion in company R&D expenditures last year far exceeded the \$21.7 billion in life sciences venture capital investment.

Figure 7: Life Sciences Research & Development Expenditures



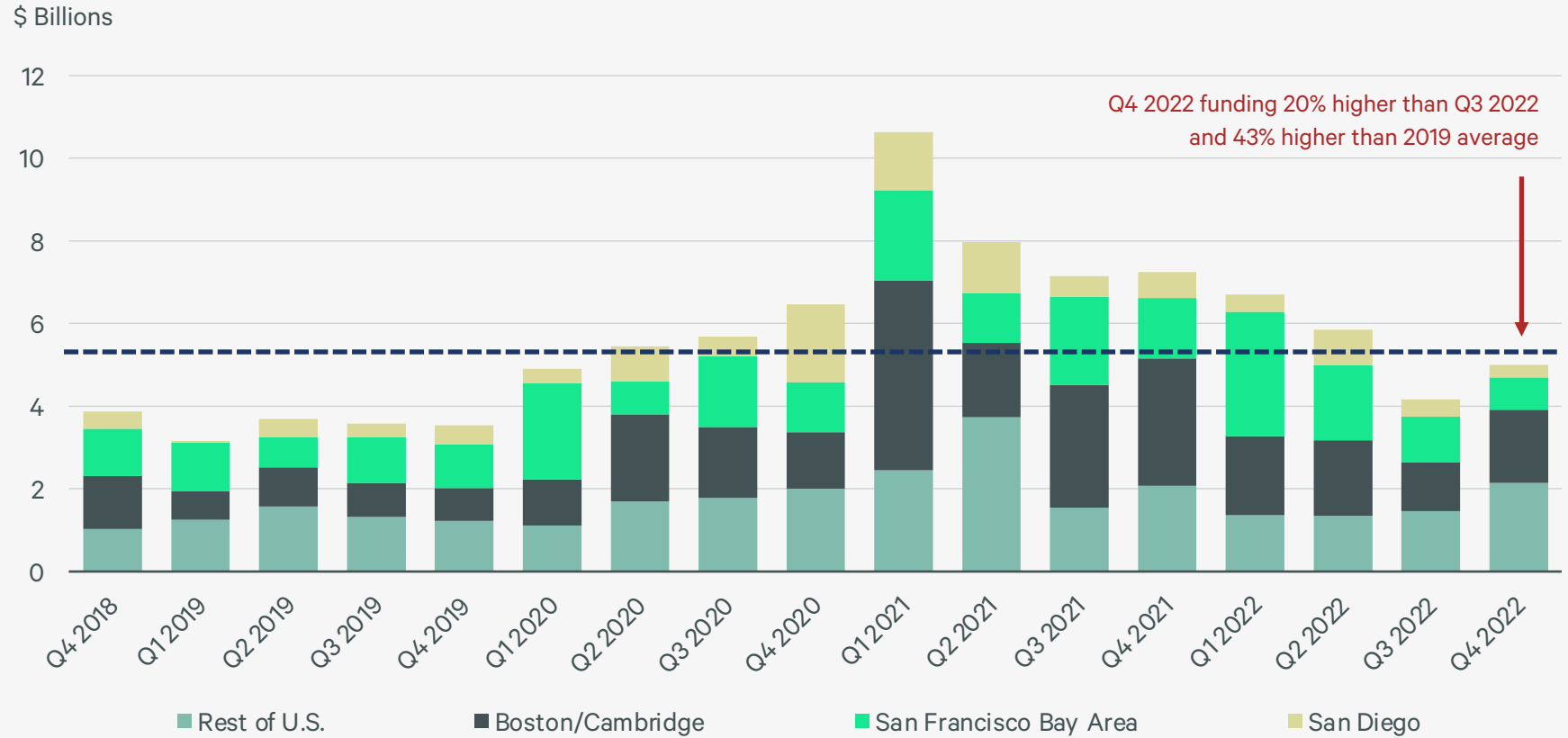
Source: S&P Capital IQ, CBRE Research, February 2023.

Venture capital plays a pivotal role in the creation and expansion of life sciences companies. Despite a 34% year-over-year decline in annual VC funding last year to \$21.7 billion, Q4 2022 recorded the first material quarterly increase in venture capital funding since early 2021 at 20%.

While evidence of abundant available capital among investors provides an element of optimism for more favorable funding in 2023, recent turmoil in the banking system may restrict greater amounts of funding for emerging life sciences company expansions.

The bulk of life sciences venture capital is allocated to companies in the top three premier life sciences markets of Boston/Cambridge, the San Francisco Bay Area and San Diego. Some commercial real estate investors have indicated that they will limit their focus to these three markets in the near-term due to current economic volatility. Nevertheless, funding for these three markets fell by 33.5% year-over-year in 2022, compared with a 31% decline for the rest of the top 10 markets tracked by CBRE Research.

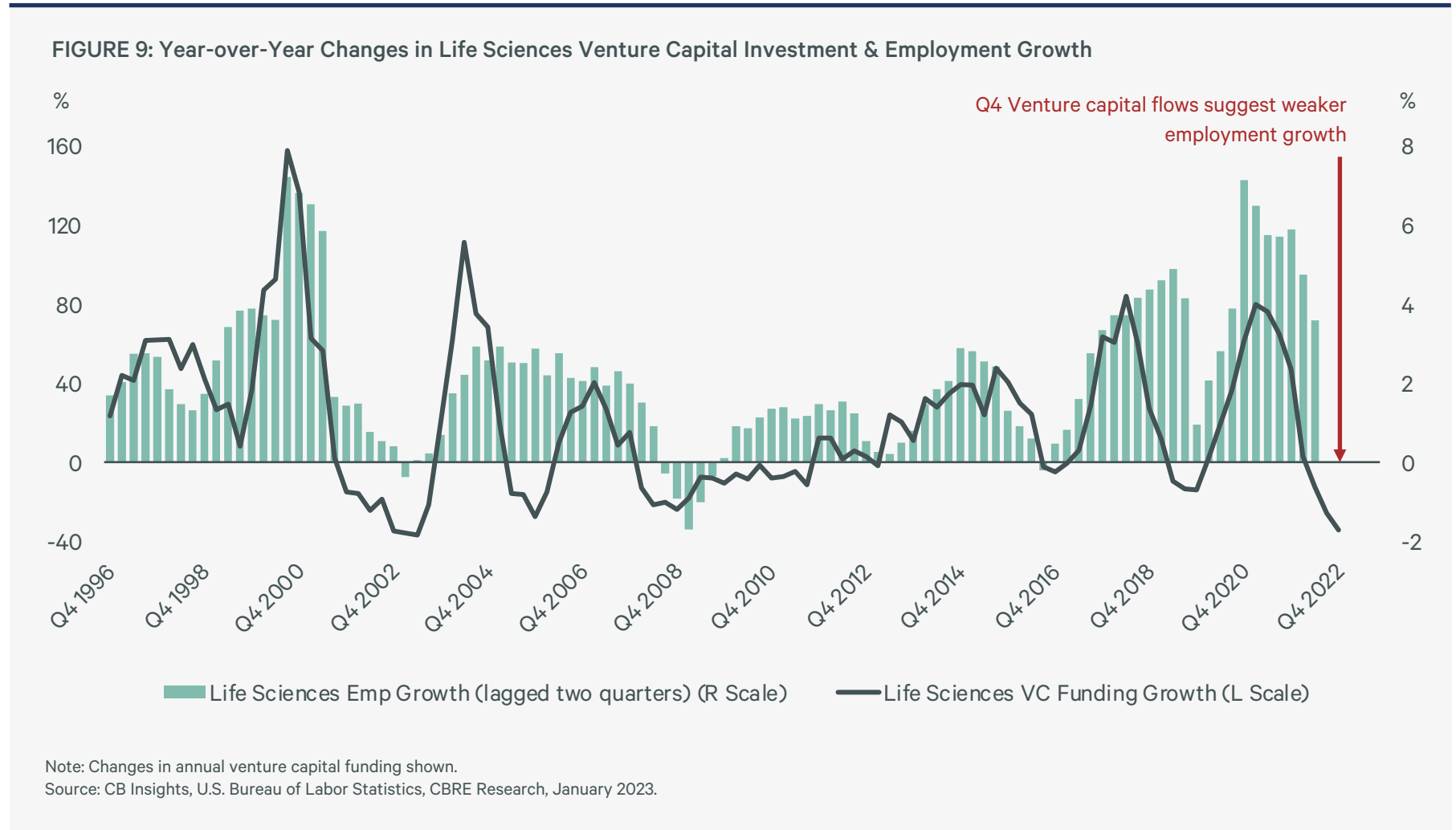
**FIGURE 8: U.S. Life Sciences Venture Capital Funding**



Source: CB Insights, CBRE Research, 2022.

Figure 9 shows how the growth or decline of life sciences venture capital investments closely mirrors the rise or fall of industry employment. Based on the year-over-year change in annual venture capital investment, a slowdown in life sciences hiring should occur this year. However, Q4 2022 saw the first material quarter-over-quarter increase in venture capital funding since early 2021, suggesting a stabilization in hiring trends rather than a decline.

The growth or decline of life sciences venture capital investments closely mirrors the rise or fall of industry employment.

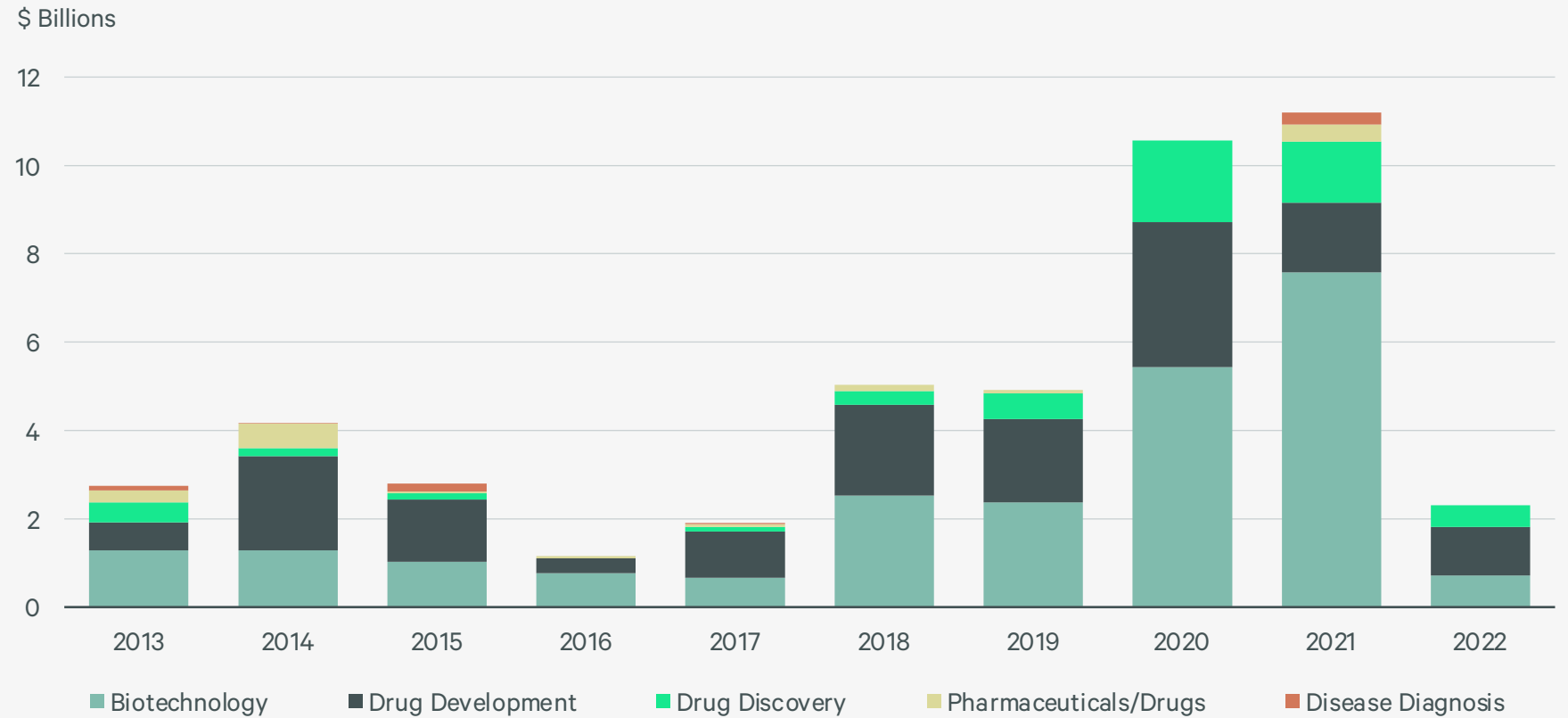




There also has been a drop in initial public offerings (IPOs) of emerging companies. The combined value of life sciences company IPOs last year fell by 79% from 2021 but was only 27% below the pre-pandemic annual average between 2015 and 2019, suggesting that 2020-2021 was an aberration.



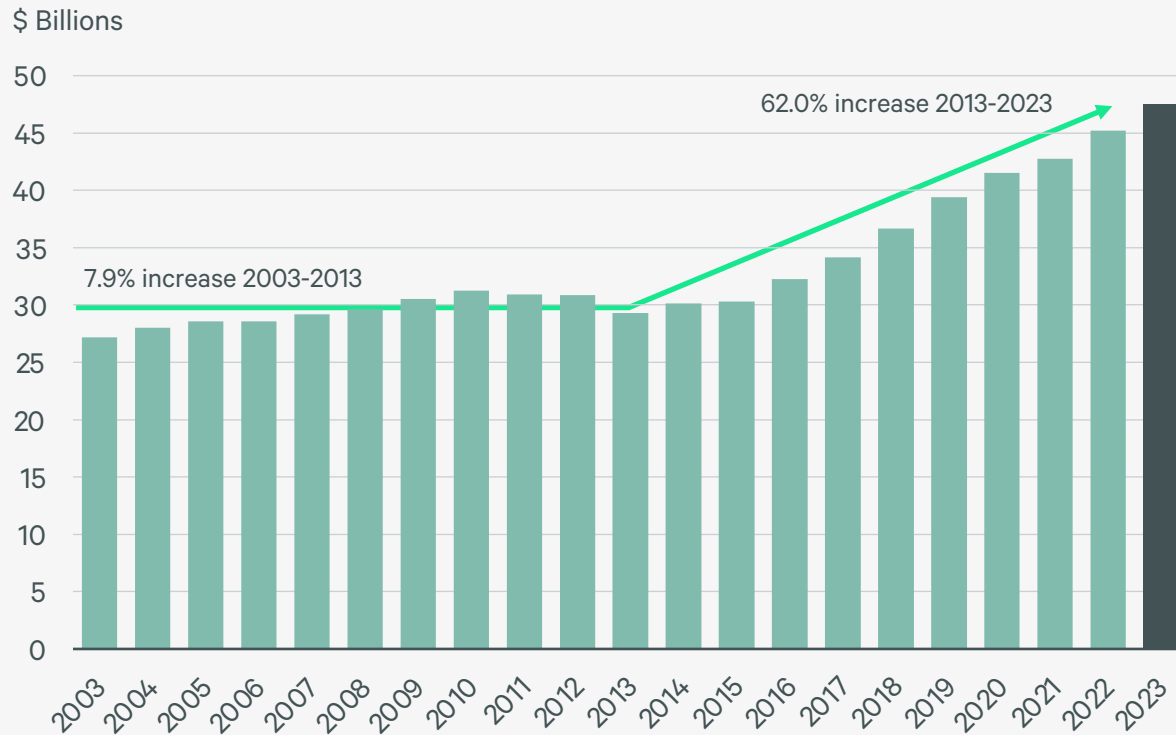
**FIGURE 10: Initial Public Offerings of Life Sciences Companies by Year**



Source: CB Insights, CBRE Research, February 2023.

The National Institutes of Health (NIH) is partly offsetting the recent drop in private funding with a budget of \$47.5 billion for fiscal year 2023, up from \$45.2 billion in 2022. Annual NIH funding has increased by 62% over the past 10 years. The top life sciences lab/R&D markets in the U.S. continue to receive the most NIH funding, led by the Greater New York metropolitan area. Seattle and Raleigh-Durham have been the fastest-growing markets for NIH funding since 2019. Johns Hopkins University in the Washington, D.C./Baltimore market remained the largest single recipient of NIH funding in 2022 with \$839.9 million.

**FIGURE 11: National Institutes of Health Funding**



Source: National Institutes of Health, CBRE Research, February 2023.

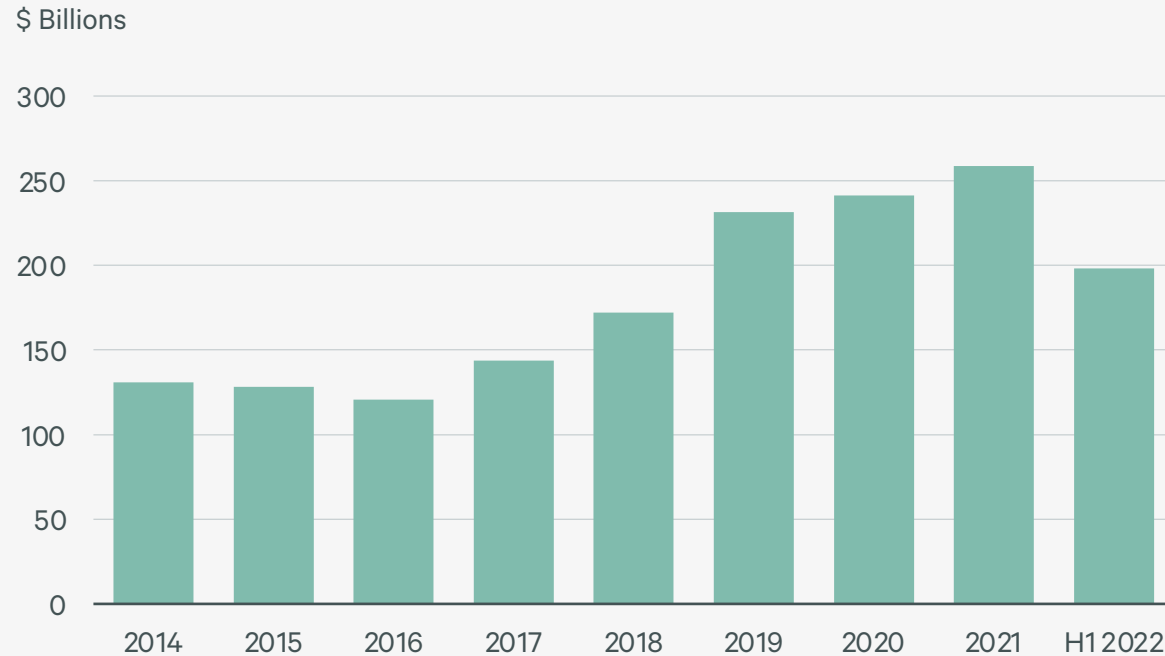
**FIGURE 12: Top 10 U.S. Metros for National Institutes of Health Funding (Fiscal Year 2022)**

|                                   | FY 2022 Funding \$ | 2019-2022 Change % |
|-----------------------------------|--------------------|--------------------|
| <b>New York/New Jersey</b>        | 3,257,868,219      | 23.3               |
| <b>Boston/Cambridge</b>           | 3,036,176,516      | 8.2                |
| <b>Washington, D.C./Baltimore</b> | 2,901,105,616      | 23.8               |
| <b>San Francisco Bay Area</b>     | 2,208,791,251      | 17.6               |
| <b>Raleigh-Durham</b>             | 1,791,303,837      | 28.7               |
| <b>Greater Los Angeles</b>        | 1,612,693,874      | 21.3               |
| <b>Seattle</b>                    | 1,392,535,242      | 29.6               |
| <b>Philadelphia</b>               | 1,340,374,498      | 11.0               |
| <b>San Diego</b>                  | 1,224,153,082      | 21.0               |
| <b>Chicago</b>                    | 1,084,371,746      | 19.7               |

Source: National Institutes of Health, CBRE Research, February 2023.

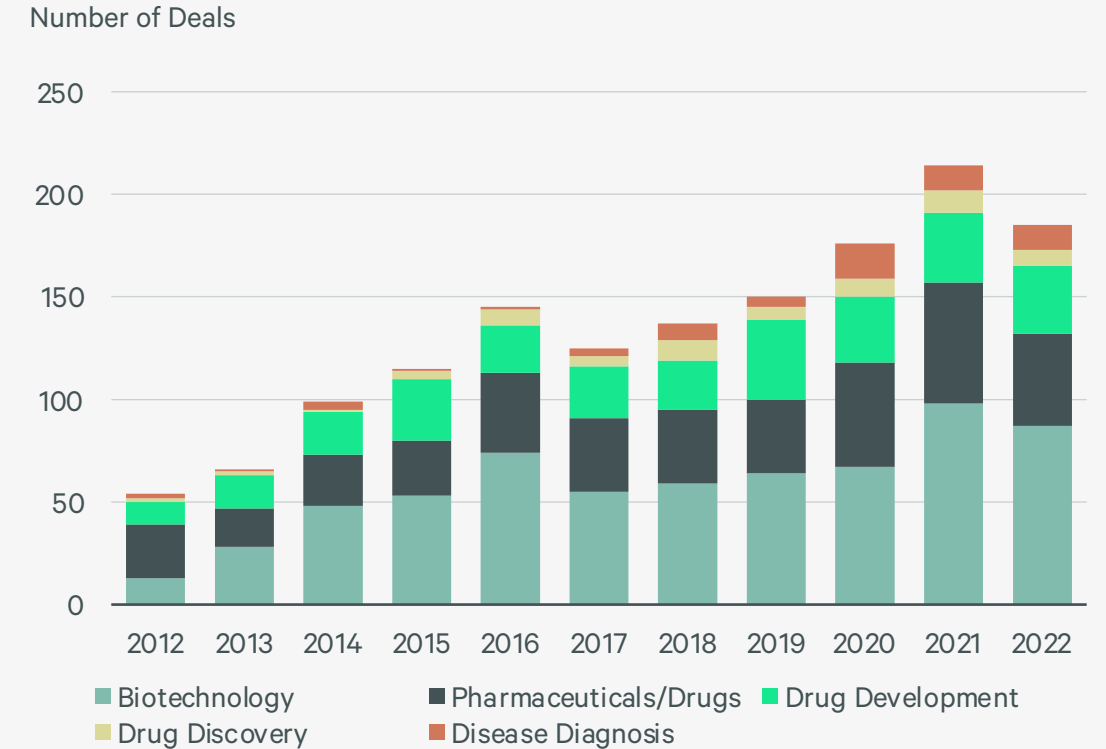
A flurry of mergers & acquisitions, as well as other business development deals, is expected this year as valuations for smaller companies fall and a patent cliff looms over the next several years. The amount of cash and equivalents on life-sciences company balance sheets has swelled since 2017 (Figure 13), providing the funds for more transaction activity in 2023.

**FIGURE 13: Cash Reserves & Equivalents Held by U.S. Life Sciences Companies**



Source: S&P Capital IQ, CBRE Research, February 2023.

**FIGURE 14: Life Sciences Mergers & Acquisition Deals by Subsector**



Source: CB Insights, CBRE Research, February 2023.

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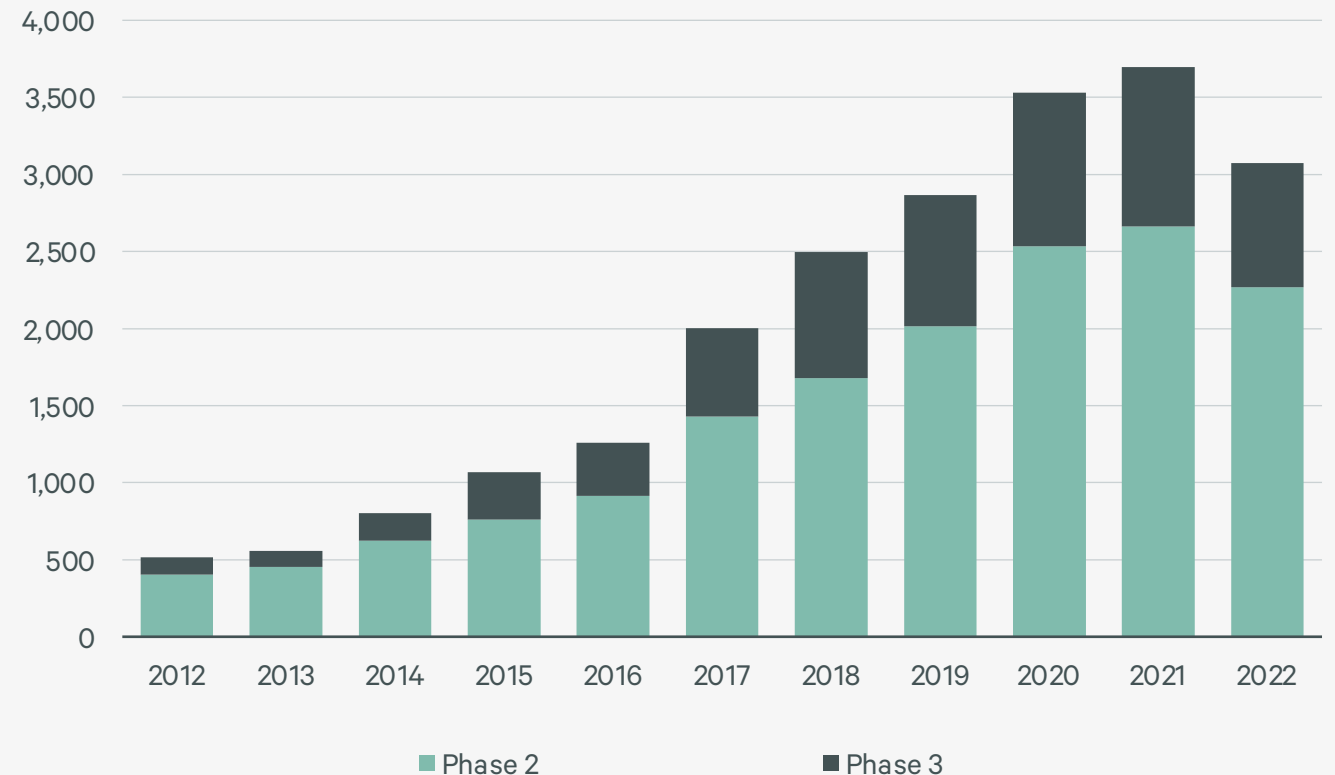
# Industry Innovation

# Innovation & New Products Driving Industry Expansion

Clinical studies are a vital part of the life sciences company life cycle. Phase 2 and 3 trials in particular are a tipping point for companies as they determine the effectiveness of the drug/product being developed. Results from these studies help determine if a company will expand or contract, especially with startups.

As seen in Figure 15, new Phase 2 and 3 clinical trials increased by 618% from 2012 to 2021. While the addition of new trials slowed in 2022, the industry is currently undertaking an all-time high number of clinical trials with over 31,000 active studies in the U.S. and nearly 11,500 in Phases 2 and 3 as of the end of February 2023.

Figure 15: Number of New Phase 2 & Phase 3 U.S. Clinical Trials

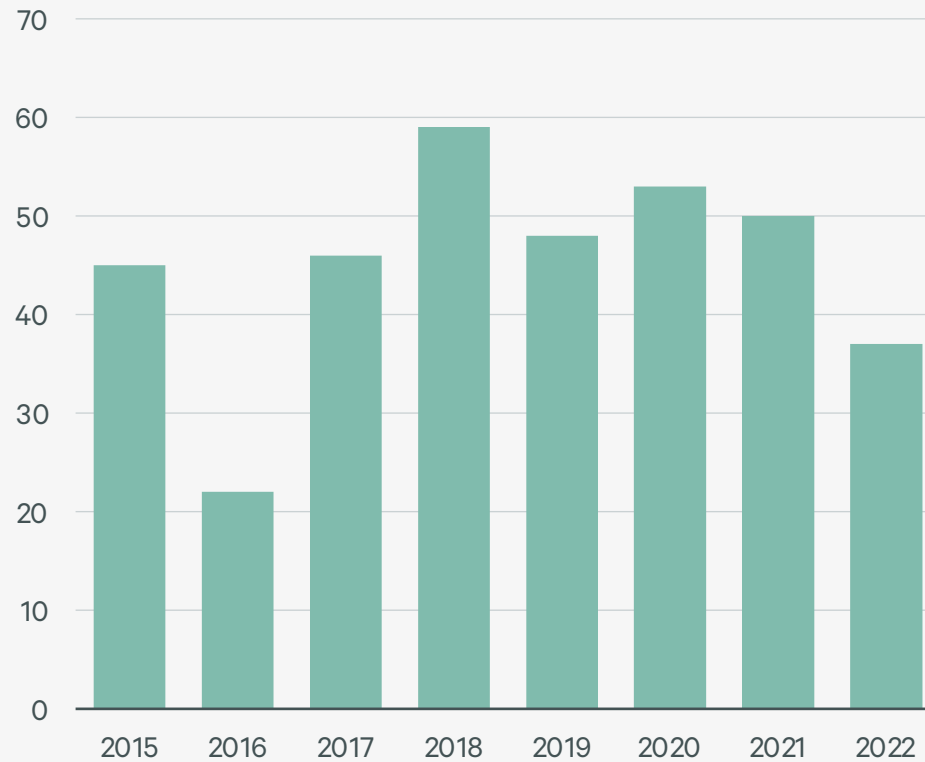


Note: Includes all interventional studies (clinical trials) except those that are withdrawn, suspended or terminated. Includes trials by date first posted to database with a start date on or after 1/1/2012.

Source: ClinicalTrials.gov, CBRE Research.

The Food & Drug Administration (FDA) approved 37 novel drugs in 2022, down from 50 in 2021 and the previous 10-year average of 43. As of the end of February 2023, seven new drugs have been approved, on par with last year's approval rate at this time. Despite increasingly onerous regulations for drug approvals, the majority of the new drugs approved last year used one of the four expedited processes for FDA approval. While approvals are down, new drug applications are up.

**Figure 16: Food & Drug Administration Novel Drug Approvals by Year**



Source: U.S. Food & Drug Administration, 2022.





04

# Laboratory/R&D Trends



U.S. life sciences laboratory/R&D inventory has grown by 47% over the past five years to 181.7 million sq. ft. with a record 40.2 million sq. ft. of new construction currently underway.

## Lab/R&D Space Dynamics

### Normalize to Sustainable Levels

Figure 17: Q4 2022 Life Sciences Lab/R&D Market Indicators

| Market                            | Inventory (SF)     | Vacancy (%) | Average Asking Rents (\$, NNN) | Net Absorption | 2022 Absorption  | Tenants Seeking Space | Total Demand (SF) | Under Construction (SF) | Preleased (% of Under Construction) | Deliveries (SF)  | 2022 Deliveries (SF) |
|-----------------------------------|--------------------|-------------|--------------------------------|----------------|------------------|-----------------------|-------------------|-------------------------|-------------------------------------|------------------|----------------------|
| <b>Boston/Cambridge</b>           | 52,705,067         | 3.0         | 99.02                          | (47,488)       | 2,819,655        | 96                    | 3,019,000         | 15,297,894              | 37.1                                | 944,995          | 2,909,258            |
| <b>Chicago</b>                    | 1,981,818          | 29.6        | 46.29                          | 20,083         | 62,258           | 36                    | 1,180,000         | 456,442                 | 0.0                                 | -                | -                    |
| <b>Denver/Boulder</b>             | 3,040,541          | 5.6         | 60.00                          | -              | 32,533           | 21                    | 960,000           | 834,494                 | 72.3                                | -                | -                    |
| <b>Houston</b>                    | 1,630,810          | 11.7        | 51.24                          | 31,338         | 71,851           | 1                     | 70,000            | 854,867                 | 1.2                                 | 54,500           | 343,500              |
| <b>Los Angeles</b>                | 5,624,236          | 11.2        | 54.00                          | -              | 119,762          | 28                    | 950,500           | 681,710                 | 0.0                                 | -                | 221,198              |
| <b>New Jersey</b>                 | 15,835,871         | 7.4         | 32.00                          | 97,692         | 439,946          | 6                     | 440,000           | -                       | 0.0                                 | -                | 75,500               |
| <b>New York City</b>              | 2,695,667          | 7.7         | 108.47                         | 92,584         | (518,661)        | 42                    | 1,360,000         | 866,013                 | 0.0                                 | -                | -                    |
| <b>Philadelphia</b>               | 9,665,840          | 10.1        | 46.32                          | 73,991         | 694,968          | 43                    | 1,878,000         | 2,767,460               | 35.2                                | 169,840          | 228,427              |
| <b>Raleigh-Durham</b>             | 9,025,516          | 7.6         | 36-41                          | 103,312        | 602,122          | 19                    | 950,000           | 688,628                 | 16.4                                | 79,000           | 245,106              |
| <b>San Diego</b>                  | 23,890,097         | 4.4         | 75.96                          | (247,055)      | 721,480          | 29                    | 980,000           | 5,370,000               | 30.1                                | -                | 575,026              |
| <b>San Francisco Bay Area</b>     | 33,753,018         | 6.3         | 71.64                          | (95,448)       | 404,404          | 102                   | 5,555,000         | 9,255,050               | 14.0                                | 66,500           | 767,447              |
| <b>Seattle</b>                    | 9,257,340          | 8.9         | 44.74                          | 42,064         | 58,533           | 14                    | 325,000           | 1,655,700               | 30.1                                | -                | -                    |
| <b>Washington, D.C./Baltimore</b> | 12,620,167         | 1.7         | 42.35                          | 23,642         | 622,732          | 26                    | 821,500           | 1,453,287               | 51.9                                | 27,000           | 453,376              |
| <b>TOTAL</b>                      | <b>181,725,988</b> | <b>5.7</b>  | <b>62.16</b>                   | <b>94,715</b>  | <b>6,131,583</b> | <b>463</b>            | <b>18,489,000</b> | <b>40,181,545</b>       | <b>28.7</b>                         | <b>1,341,835</b> | <b>5,818,838</b>     |

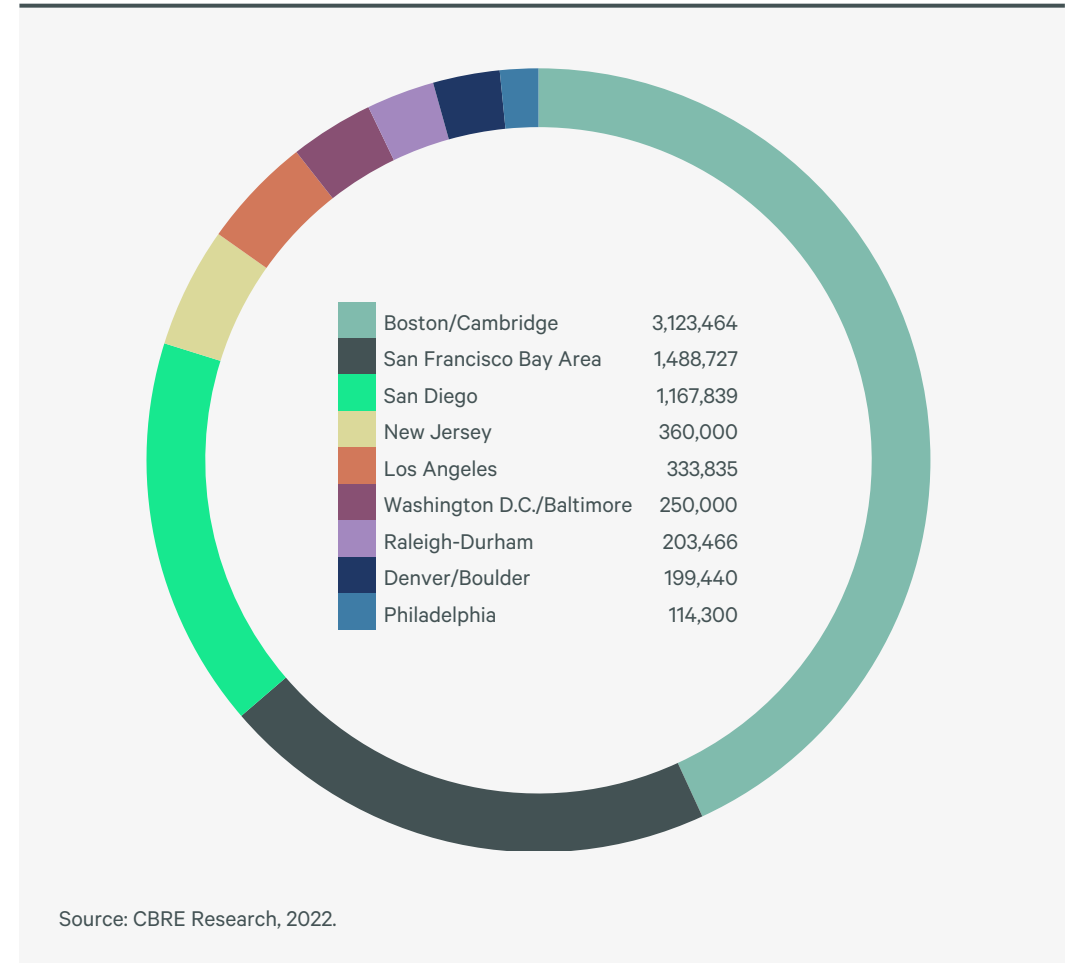
Source: CBRE Research, Q4 2022.

Figure 18: Largest Life Sciences Lab/R&D Leases in 2022

| Quarter | Market                    | Submarket               | Tenant                    | SF      | Type              |
|---------|---------------------------|-------------------------|---------------------------|---------|-------------------|
| Q2      | Boston/Cambridge          | Cambridge – East        | Takeda                    | 600,000 | New               |
| Q2      | Boston/Cambridge          | Cambridge - East        | AstraZeneca               | 570,000 | New               |
| Q1      | San Diego                 | 56-Corridor             | Neurocrine Biosciences    | 535,200 | New               |
| Q1      | San Diego                 | UTC                     | BMS                       | 426,900 | New               |
| Q2      | New Jersey                | Somerset Route 78       | PTC Therapeutics          | 360,000 | New               |
| Q2      | Boston/Cambridge          | Seaport                 | Vertex                    | 344,000 | New               |
| Q1      | Boston/Cambridge          | Seaport                 | Eli Lilly                 | 333,900 | New               |
| Q2      | San Francisco Bay Area    | San Francisco Peninsula | Eikon Therapeutics        | 295,000 | New               |
| Q2      | Boston/Cambridge          | Route 3 North           | Sarepta                   | 288,000 | New               |
| Q3      | Washington D.C./Baltimore | Shady Grove             | MilliporeSigma            | 250,000 | New               |
| Q2      | San Francisco Bay Area    | Silicon Valley          | Becton, Dickinson, and Co | 246,700 | New               |
| Q3      | Boston/Cambridge          | Cambridge - East        | The Broad Institute       | 224,800 | New               |
| Q1      | San Diego                 | Torrey Pines            | Singular Genomics         | 205,600 | New               |
| Q3      | Los Angeles               | San Fernando Valley     | Quest Diagnostics         | 199,500 | Renewal           |
| Q1      | Denver/Boulder            | Northwest               | Somalogic                 | 199,400 | New               |
| Q4      | Boston/Cambridge          | Cambridge - West        | GSK                       | 197,300 | Renewal/Expansion |
| Q3      | San Francisco Bay Area    | San Francisco Peninsula | Astellas Pharma US        | 154,000 | New               |
| Q2      | Boston/Cambridge          | Route 128 North         | The Broad Institute       | 150,000 | New               |
| Q1      | Boston/Cambridge          | Route 128 West          | Repligen                  | 149,700 | Renewal/Expansion |
| Q2      | San Francisco Bay Area    | San Francisco Peninsula | Calico Life Sciences      | 148,000 | Expansion         |

Source: CBRE Research, 2022.

Figure 19: 2022 Total of Lab/R&D Leases Over 100,000 Sq. Ft. by Market



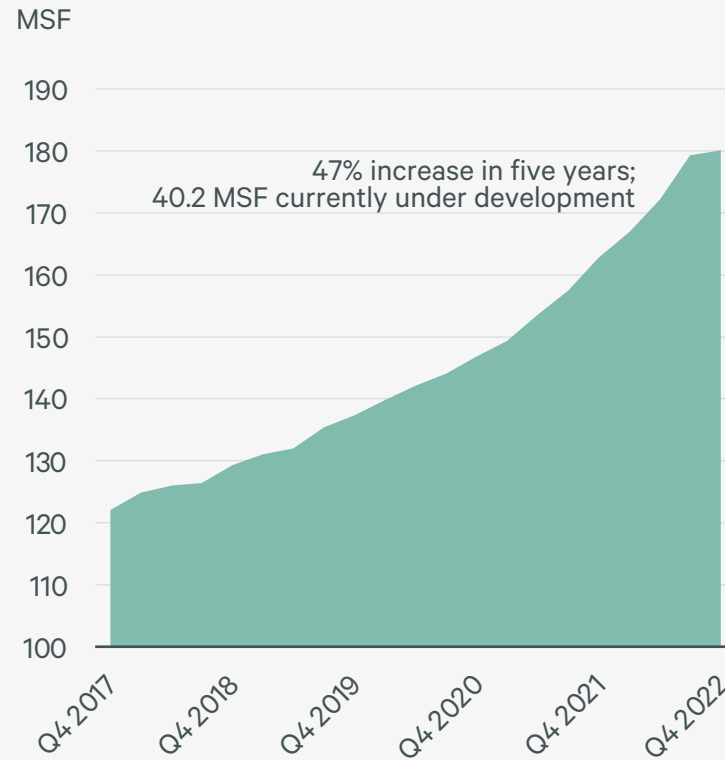
Source: CBRE Research, 2022.

U.S. life sciences laboratory/R&D inventory has grown by 47% over the past five years to 181.7 million sq. ft. With a record 40.2 million sq. ft. of new construction currently underway, the total inventory should grow another 22% to more 220 million sq. ft. in the next two years.

Boston/Cambridge has the most lab/R&D space currently under construction with 15.3 million sq. ft., followed by the San Francisco Bay Area with 9.3 million and San Diego with 5.4 million—each accounting for more than 20% of their existing inventories.

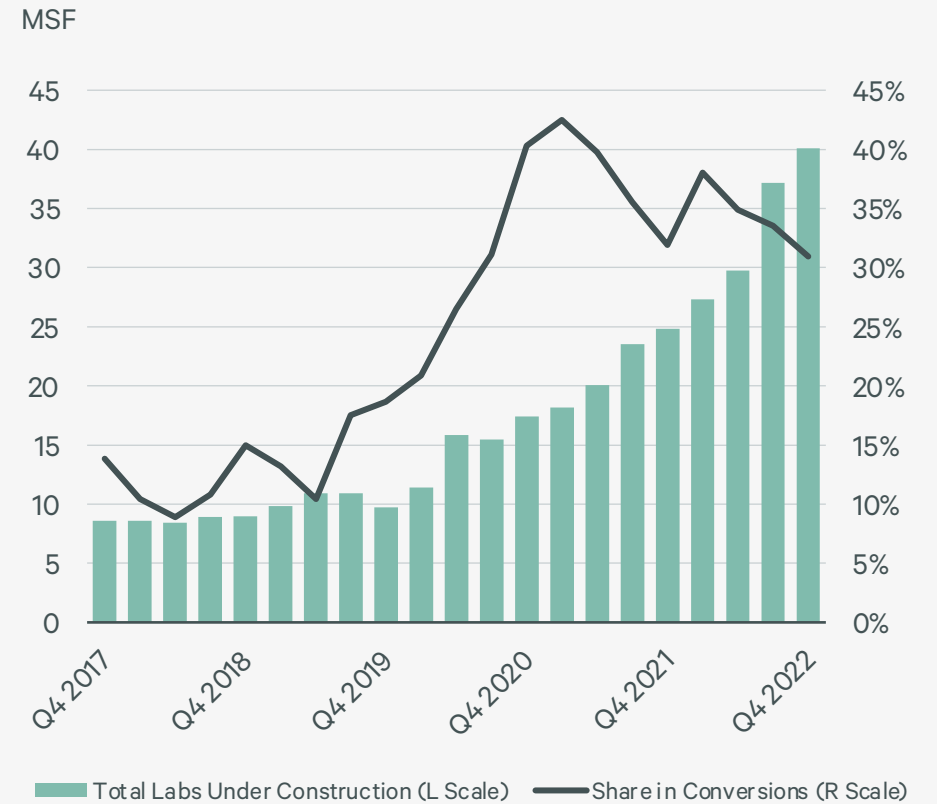
Although there is a record 12.5 million sq. ft. of conversion projects currently under construction, their share of the total construction pipeline fell to 31% in Q4 2022 from a high of 43% in Q1 2021.

**FIGURE 20: Lab/R&D Inventory in Top 13 U.S. Markets**



Source: CBRE Research, Q4 2022.

**FIGURE 21: Lab/R&D Construction Trends in Top 13 U.S. Markets**



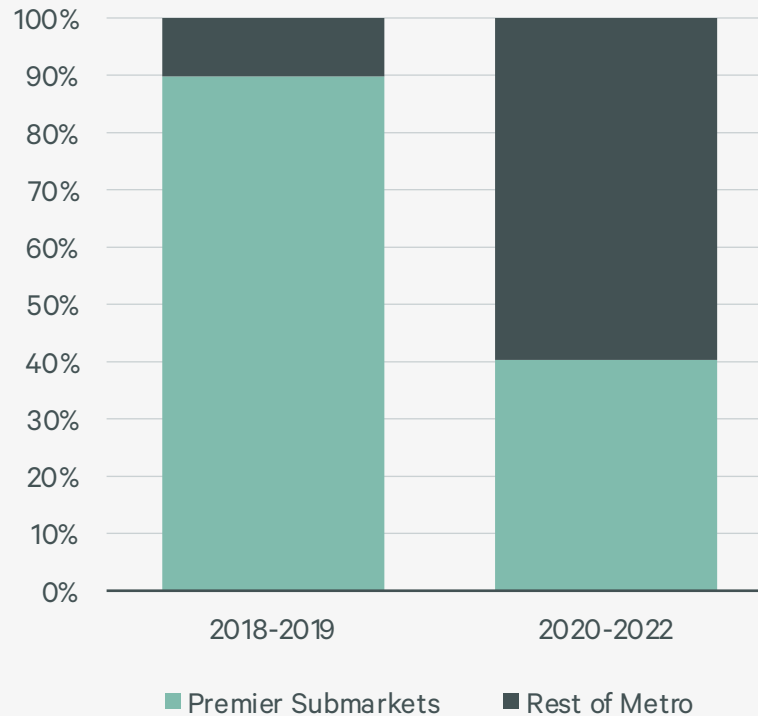
Source: CBRE Research, Q4 2022.

## New construction in core submarkets has fallen to an average of 40% in 2022 from 90% in 2018 and 2019.

New construction has shifted away from primarily core submarkets to peripheral ones. Figure 22 shows the geographic dispersion of new construction over the past several years in the nation’s premier life sciences markets of Boston-Cambridge, San Francisco Bay Area and San Diego, where the share of all new construction in their core submarkets has fallen to an average of 40% in 2022 from 90% in 2018 and 2019.

With lower demand and a record amount of new construction underway, lab/R&D vacancy rates have started to increase in most markets. While vacancy rates in the nation’s 13 leading life sciences markets remain below their long-term averages, the margin between them is tightening.

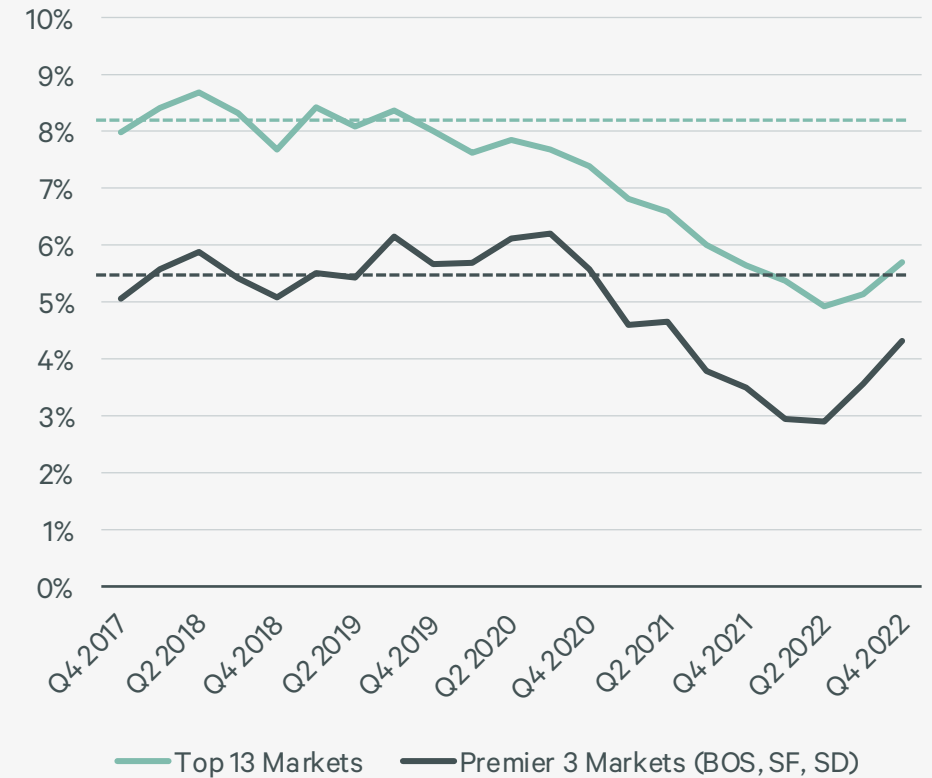
**FIGURE 22: Location of Lab/R&D Construction Patterns in Boston, San Francisco Bay Area and San Diego**



Source: CBRE Research, Q4 2022.

Note: Premier submarkets include Cambridge (Boston), South San Francisco (SF Bay Area) and Torrey Pines, UTC and Sorrento Mesa/Valley (San Diego).

**FIGURE 23: Lab/R&D Vacancy Rates**

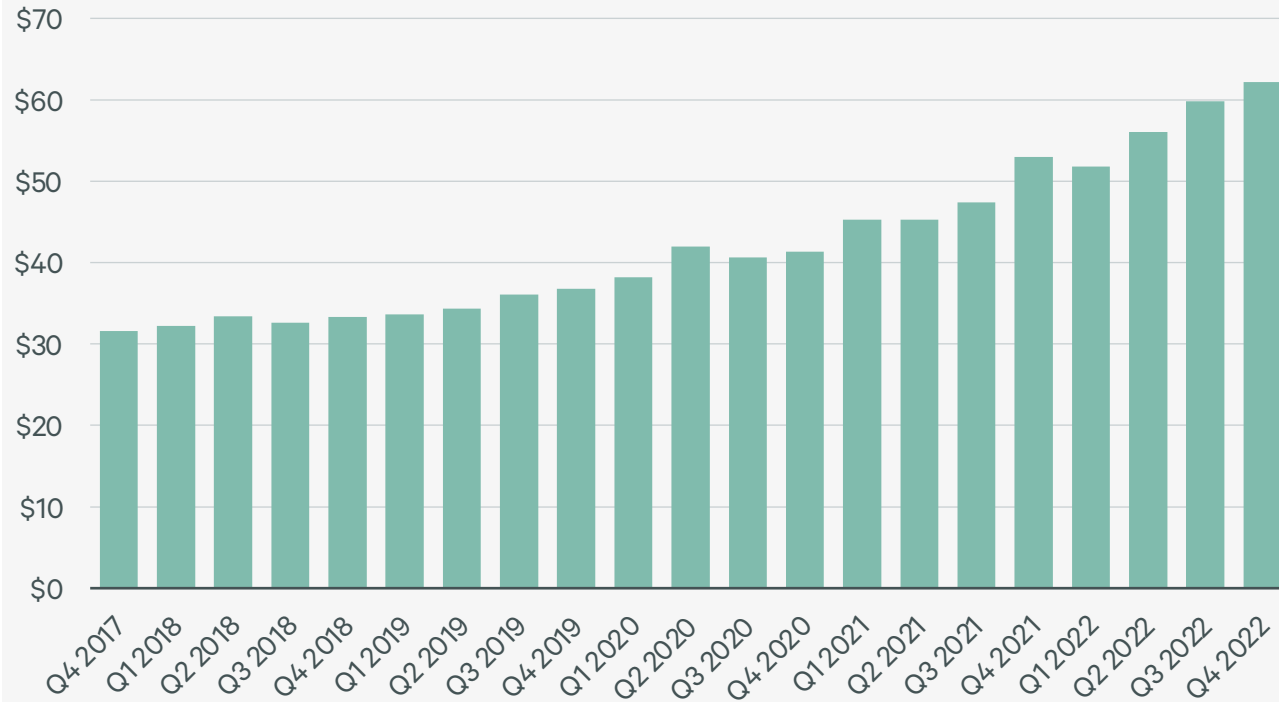


Source: CBRE Research, Q4 2022.



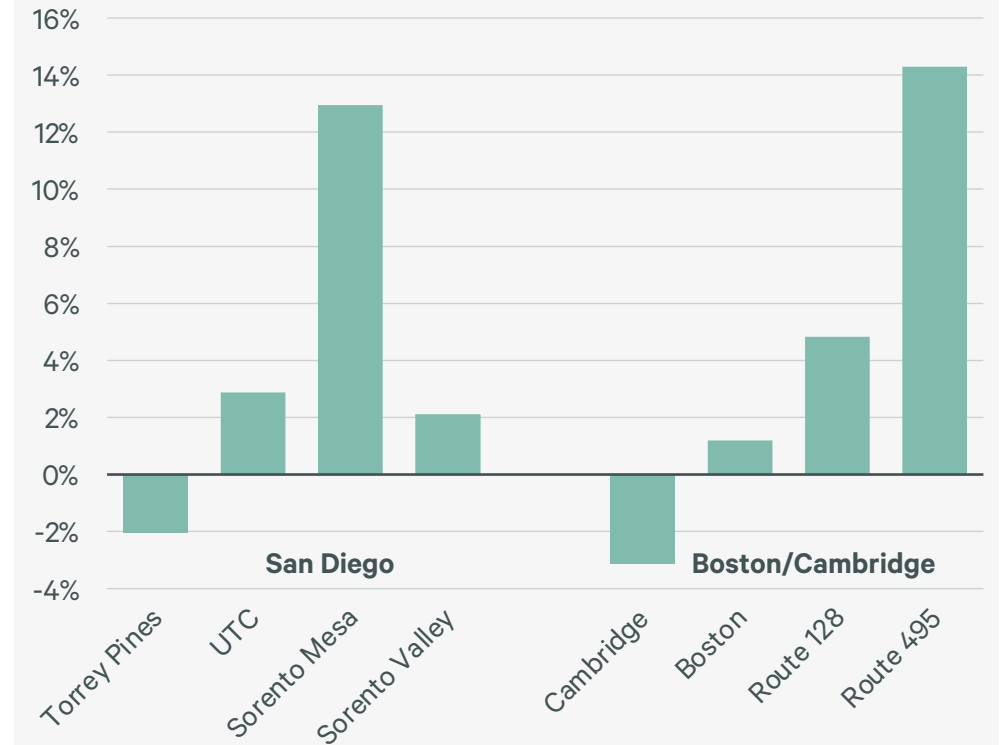
Average asking rents for lab/R&D space increased in the second half of last year. In some markets, more generous tenant improvement allowances supported higher rents. However, average rents in some of the most sought-after submarkets either stabilized or declined (Figure 25). For example, average rents in San Diego’s Torrey Pines and Boston’s Cambridge submarkets fell by 2% and 3%, respectively, last year.

**FIGURE 24: Lab/R&D Average Asking Rent (top 13 markets)**



Source: CBRE Research, Q4 2022.

**FIGURE 25: Year-over-Year Change in Lab/R&D Rents by Submarket (Q4 2022 vs. Q4 2021)**



Source: CBRE Research, Q4 2022.

05

# Biomanufacturing/GMP Trends

## Persistent Demand for New Biomanufacturing/GMP Space

Leasing activity for Biomanufacturing/Good Manufacturing Process (GMP) facilities slowed in 2022 as tenants postponed real estate decisions amid economic uncertainty. Some life sciences companies deferred plans to lease or build their own GMP space due to capital constraints and instead opted to engage third-party drug manufacturers. While demand for space remains significant, there has been a moderate increase in vacancy in most markets as construction ramped up.

The bulk of large-capacity Biomanufacturing/GMP facilities (owner occupied and leased) are in California and the Northeast Corridor (Figure 26).

FIGURE 26: Top 10 Metros by Biomanufacturing Capacity

| Market                            | BioMfg Employees | Facilities | BioMfg Capacity (Total Liters) |
|-----------------------------------|------------------|------------|--------------------------------|
| <b>Boston/Cambridge</b>           | 5,838            | 51         | 414,070                        |
| <b>Raleigh-Durham</b>             | 5,866            | 24         | 391,100                        |
| <b>Vallejo-Fairfield</b>          | 1,550            | 2          | 344,220                        |
| <b>Washington, D.C./Baltimore</b> | 3,838            | 46         | 255,050                        |
| <b>Providence</b>                 | 899              | 4          | 252,030                        |
| <b>Worcester</b>                  | 1,305            | 9          | 216,500                        |
| <b>San Francisco Bay Area</b>     | 5,902            | 42         | 205,160                        |
| <b>Philadelphia</b>               | 4,860            | 20         | 180,470                        |
| <b>San Diego</b>                  | 2,830            | 32         | 157,273                        |
| <b>Indianapolis</b>               | 1,465            | 6          | 145,010                        |

Source: BioPlan CBRE Research, 2022.



## Market Indicators

Figure 27 shows select Biomanufacturing/GMP markets for leasable space and their current supply and demand fundamentals. Year-over-year rent growth remains robust in the face of persistent demand.

FIGURE 27: Select Biomanufacturing/GMP Market Indicators

| Boston/Cambridge           |           | Philadelphia               |           | Washington, D.C./Baltimore |           |
|----------------------------|-----------|----------------------------|-----------|----------------------------|-----------|
| <b>Inventory (Sq. Ft.)</b> | 5,962,713 | <b>Inventory (Sq. Ft.)</b> | 1,699,461 | <b>Inventory (Sq. Ft.)</b> | 3,314,107 |
| <b>Vacancy Rate</b>        | 7.6%      | <b>Vacancy Rate</b>        | 6.7%      | <b>Vacancy Rate</b>        | 12.2%     |
| <b>Average Asking Rent</b> | \$63.21   | <b>Average Asking Rent</b> | \$35.45   | <b>Average Asking Rent</b> | \$35.00   |
| <b>YoY Change</b>          | 33.1%     | <b>YoY Change</b>          | 12.2%     | <b>YoY Change</b>          | 11.1%     |
| <b>Construction</b>        | 922,012   | <b>Construction</b>        | 641,632   | <b>Construction</b>        | 722,678   |

Source: CBRE Research, 2022.

Note: Rent assumes \$100 to \$200 in tenant improvement allowance.



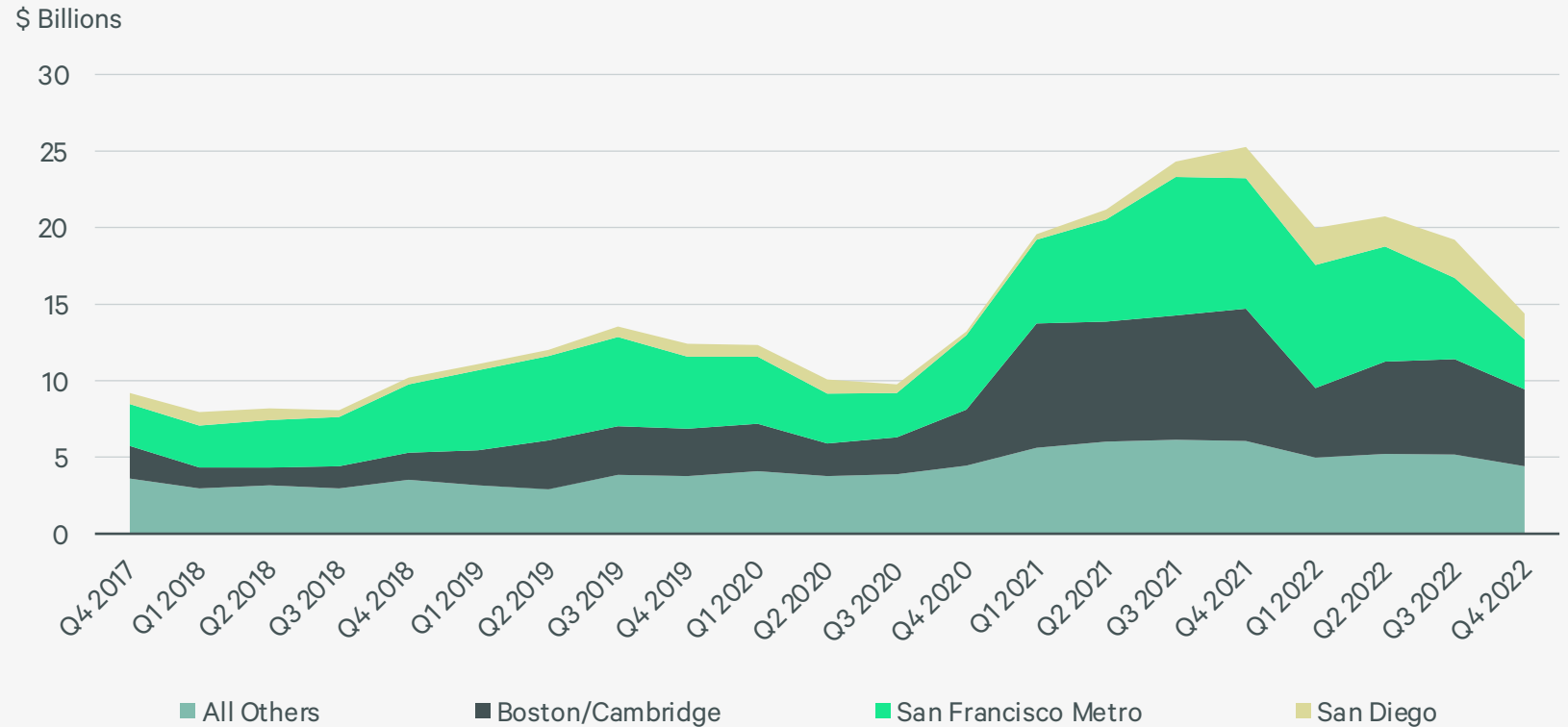
06

# Investment Trends

# Lab/R&D Investment Volume Declines but Pricing Remains Tight

Lab/R&D real estate investment sales fell back to relatively healthy historical levels in 2022. Total volume fell by 43% year-over-year to \$14.4 billion. The biggest declines were in the San Francisco Bay Area (-62%) and Boston/Cambridge (-42%). Lesser declines occurred in San Diego (-17%) and the rest of the country (-27%).

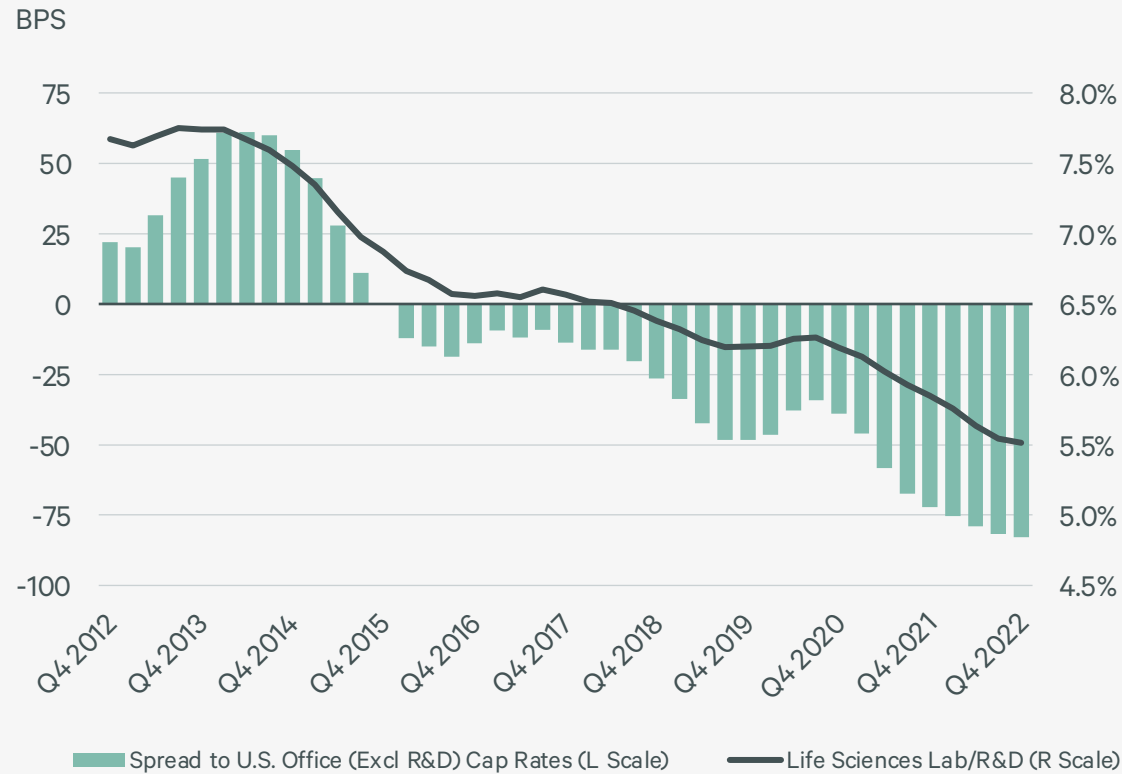
Figure 28: U.S. Life Sciences Lab/R&D Property Sales (rolling four-quarter sum)



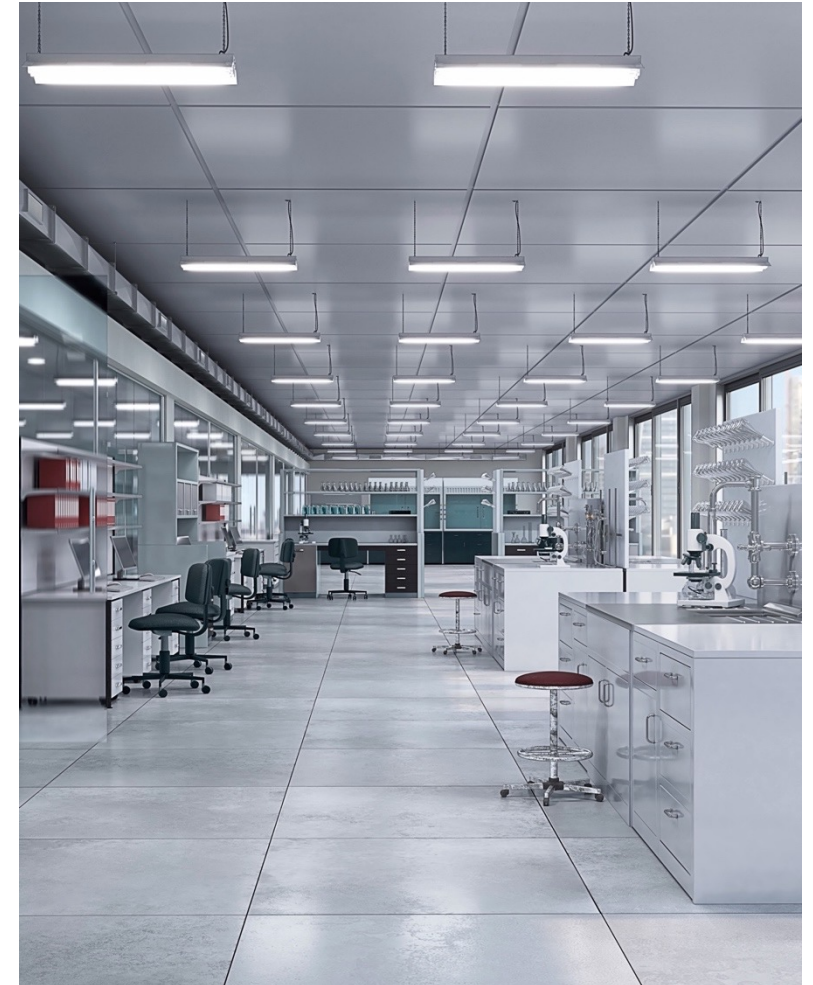
Source: MSCI, CBRE Research, February 2023.

While costlier debt markets affected life sciences asset pricing in 2022, the four-quarter moving average of lab/R&D cap rates stabilized in Q4 2022, mirroring a similar pattern in other sought-after property types such as industrial and multifamily. The spread between the average lab/R&D cap rate and that of all other office property types moved to a steep premium of nearly 83 basis points in Q4 2022 from a discount of more than 60 basis points in 2014.

Figure 29: U.S. Life Sciences Lab/R&D Cap Rates (rolling four-quarter average)



Source: MSCI, CBRE Research, February 2023.



07

# Emerging Markets



## Three Rising Life Sciences Centers



Life sciences companies are entering new markets nationwide to accommodate future growth. Three of these emerging life sciences hubs particularly stand out in terms of their size, institutions, talent and rapid growth.

## Atlanta

Atlanta boasts one of the nation's fastest-growing life sciences labor pools, producing some 2,000 college graduates (2020 data) per year in biological and biomedical sciences.

Atlanta secured \$708 million in NIH funding last year. Emory University received nearly \$560 million of that total, followed by Georgia Tech with \$50.4 million and Georgia State with \$44.9 million.

This institutional funding, coupled with growing venture capital activity, has produced some of the fastest life sciences industry employment growth of any U.S. metro area. Atlanta ranks 10th overall for total life sciences job growth at 20% from 2019 to mid-2022. In the R&D sector, Atlanta ranked fourth nationally with a 44% job growth rate over the same period.





## Dallas/Fort Worth

Dallas/Fort Worth's total life sciences labor pool has grown by 17% since 2019 (Figure 30) to more than 26,000 workers, surpassing the national average growth of 13.7%. In the R&D sector, Dallas/Fort Worth ranked third nationally with a 44.5% growth rate over the same period.

Supporting Dallas/Fort Worth's growing life sciences ecosystem are the University of Texas Southwestern Medical Center in Dallas and the University of North Texas Health Sciences Center in Fort Worth, which combined received \$406 million in NIH funding and helped produce the nation's 10th greatest number of biological and biomedical sciences graduates in 2022.

The market attracted \$1.6 billion of life sciences venture capital funding between 2018 and 2022—the eighth largest amount of any U.S. market.





## Nashville

Nashville's life sciences labor pool has grown by 19% since 2019 to nearly 7,700 workers. In the R&D sector, Nashville ranked second nationally with an 81% growth rate over the same period.

The market secured \$521 million in NIH funding last year, one of the nation's highest per-capita amounts. Almost all this funding was allocated to Vanderbilt University and its medical center, putting it among the top 20 largest single recipients of NIH funding in the nation and more than many other larger metros, such as Dallas/Fort Worth, Minneapolis/St. Paul, Denver/Boulder and Miami/Fort Lauderdale.



**FIGURE 30: Total Life Sciences Employment Growth (%)**

| Market                     | 2019 - Q2 2022 |
|----------------------------|----------------|
| Austin                     | 30.0           |
| Sacramento                 | 27.3           |
| San Francisco Bay Area     | 27.0           |
| Boston/Cambridge           | 25.9           |
| Seattle                    | 25.2           |
| Tampa                      | 23.9           |
| Phoenix                    | 23.6           |
| Raleigh-Durham             | 23.2           |
| New Haven,                 | 21.4           |
| <b>Atlanta</b>             | <b>20.0</b>    |
| Pittsburgh                 | 19.7           |
| <b>Nashville</b>           | <b>19.3</b>    |
| Portland                   | 18.5           |
| Cincinnati                 | 18.2           |
| Salt Lake City             | 17.3           |
| <b>Dallas-Ft. Worth</b>    | <b>17.1</b>    |
| San Diego                  | 17.0           |
| Washington, D.C./Baltimore | 16.2           |
| Charlotte                  | 14.7           |
| Orlando                    | 14.6           |
| <b>U.S.</b>                | <b>13.7</b>    |

**FIGURE 31: Life Sciences R&D Employment Growth (%)**

| Market                  | 2019 - Q2 2022 |
|-------------------------|----------------|
| New Haven               | 94.2           |
| <b>Nashville</b>        | <b>81.0</b>    |
| <b>Dallas-Ft. Worth</b> | <b>44.5</b>    |
| <b>Atlanta</b>          | <b>44.1</b>    |
| Portland                | 39.9           |
| St. Louis               | 39.3           |
| Seattle                 | 39.3           |
| Ann Arbor               | 39.2           |
| Austin                  | 39.0           |
| Salt Lake City          | 37.7           |
| Phoenix                 | 36.5           |
| Charlotte               | 31.3           |
| San Francisco Bay Area  | 30.9           |
| Raleigh-Durham          | 29.7           |
| Houston                 | 29.2           |
| Boston/Cambridge        | 28.6           |
| Miami-Ft. Lauderdale    | 26.7           |
| Sacramento              | 26.0           |
| Tampa                   | 24.9           |
| Cincinnati              | 24.5           |
| San Diego               | 23.5           |
| <b>U.S.</b>             | <b>23.1</b>    |

**FIGURE 32: 2022 NIH Funding By MSA/CSA**

| Market                      | 2019 - Q2 2022 (Millions) |
|-----------------------------|---------------------------|
| New York-Newark-Jersey City | \$3,257.9                 |
| Boston/Cambridge            | \$3,036.2                 |
| Washington D.C./Baltimore   | \$2,901.1                 |
| San Francisco Bay Area      | \$2,483.6                 |
| Sacramento                  | \$274.8                   |
| Raleigh-Durham              | \$1,791.3                 |
| Los Angeles-Ventura-Anaheim | \$1,612.7                 |
| Seattle-Tacoma              | \$1,392.5                 |
| Philadelphia                | \$1,340.4                 |
| San Diego                   | \$1,224.2                 |
| Chicago                     | \$1,084.4                 |
| Houston                     | \$962.6                   |
| Pittsburgh                  | \$760.9                   |
| <b>Atlanta</b>              | <b>\$708.1</b>            |
| St. Louis                   | \$686.6                   |
| Ann Arbor, MI               | \$673.7                   |
| New Haven                   | \$602.4                   |
| <b>Nashville</b>            | <b>\$520.9</b>            |
| Minneapolis                 | \$505.0                   |
| Denver-Boulder              | \$477.4                   |
| <b>Dallas-Fort Worth</b>    | <b>\$406.4</b>            |
| Madison                     | \$381.9                   |
| Cleveland                   | \$340.6                   |
| Birmingham                  | \$335.6                   |

Source: U.S. Bureau of Labor Statistics, National Institutes of Health, CBRE Research, February 2023.0



08

# Government Incentives

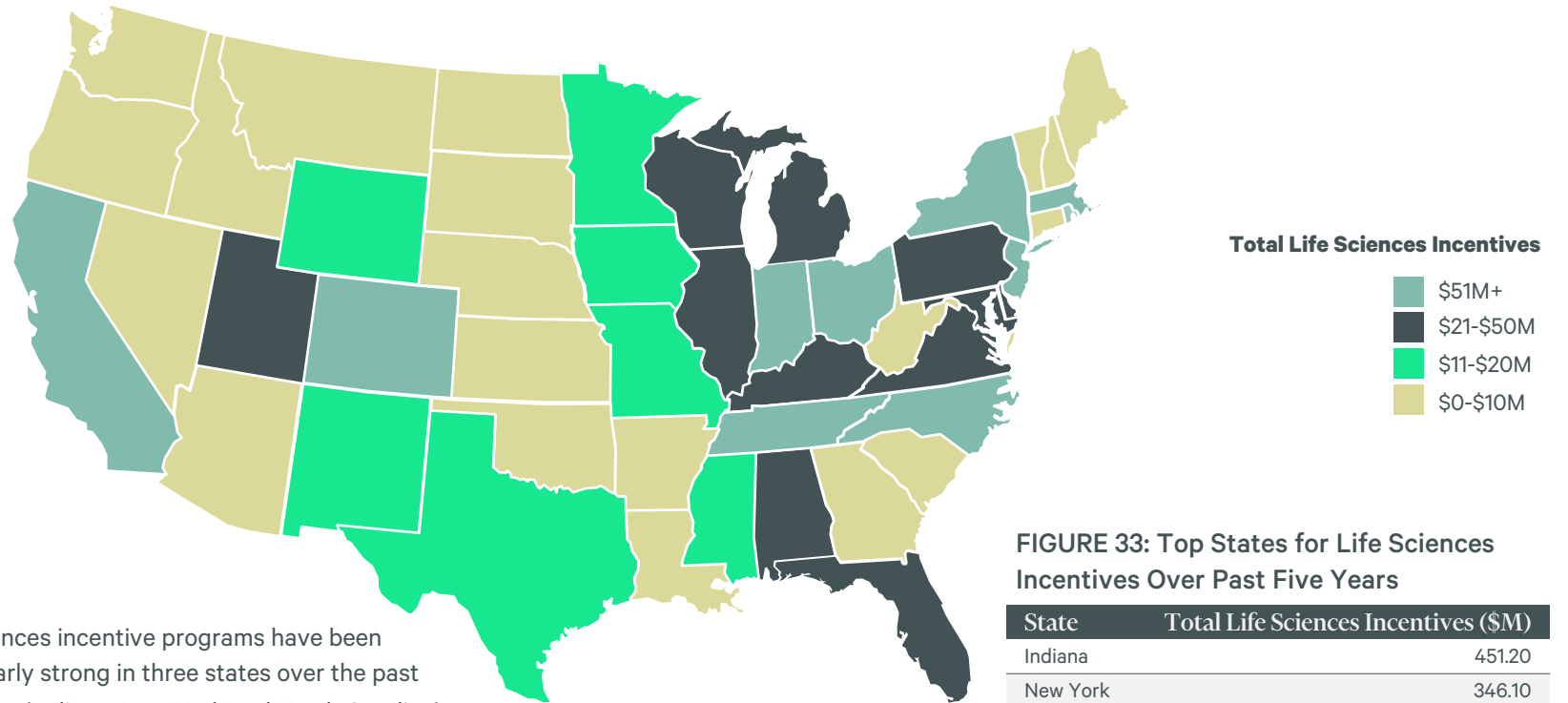
## Government Incentives Fueling Growth

According to CBRE’s Location Incentives Group, as life sciences companies increase spending on R&D facilities, many are seeking ways to offset ongoing operating expenses and one-time capital investments. Economic-incentive programs are one avenue companies can pursue to alleviate these costs, especially during a period of rising inflation and borrowing costs.

Despite economic turbulence, the life sciences sector is poised for expansion across the country. Recent economic growth is partially attributable to the 2022 federal CHIPS and Science Act, which includes \$200 billion in funding for science, technology, engineering and R&D development.

At a state and local level, many jurisdictions are attracting life sciences companies by offering several types of incentives to improve economic vitality and create high-paying jobs.

These incentive programs include state income tax offsets, discretionary grants, property tax abatements, utility cost offsets, fast-track permitting, low-cost loans, sales tax refunds, infrastructure grants, training grants and free/discounted land.



Life sciences incentive programs have been particularly strong in three states over the past five years (Indiana, New York and North Carolina), which combined totaled \$1.1 billion or almost 45% of total U.S. life sciences incentive programs. Since 2018, there have been 1,113 public life sciences incentive deals in the U.S. totaling nearly \$2.5 billion for an average of \$19,146 per new job or 6% of a recipient company’s total capital investment. Companies are leveraging these incentive savings to underwrite costs for real estate portfolio growth.

**FIGURE 33: Top States for Life Sciences Incentives Over Past Five Years**

| State               | Total Life Sciences Incentives (\$M) |
|---------------------|--------------------------------------|
| Indiana             | 451.20                               |
| New York            | 346.10                               |
| North Carolina      | 288.90                               |
| California          | 189.30                               |
| Massachusetts       | 178.10                               |
| Ohio                | 118.00                               |
| Tennessee           | 108.40                               |
| Colorado            | 105.60                               |
| New Jersey          | 104.40                               |
| Michigan            | 48.10                                |
| <b>Top 10 Total</b> | <b>1,938.10</b>                      |
| <b>Total U.S.</b>   | <b>2,452.60</b>                      |

09

# Outlook





History suggests that the life sciences industry is better positioned than many others to weather an economic recession this year.

# Outlook for 2023

Previous cycles show that any slowdown in life sciences employment likely won't be as severe as that of the broader economy. An uptick in venture funding in Q4 2022 was a hopeful sign for employment stabilization later this year since employment changes generally mirror funding changes after a two quarter lag. However, recent turmoil in the banking sector could cause reductions in funding this year.

The capital markets outlook is mixed. While venture capital funding and initial public stock offerings for life sciences companies decreased in 2022 and challenges remain, record levels of NIH funding and R&D expenditures by the industry will fuel continued growth.

With ample cash and equivalents on the balance sheets of U.S. life sciences companies, another strong year of M&A activity and other business development transactions is expected in 2023.

After a surge in life sciences lab/R&D investment sales in 2021, cap rates for these assets are beginning to stabilize and should remain favorable compared with other property types.

While lab/R&D vacancy rates in the top U.S. life sciences markets have begun to rise, above-average and steady demand will underpin the sector's resilience in the year ahead.

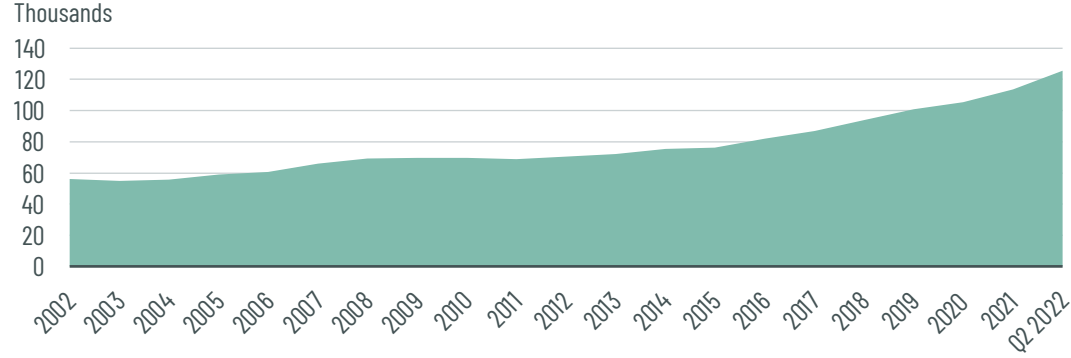


10

# Market Profiles

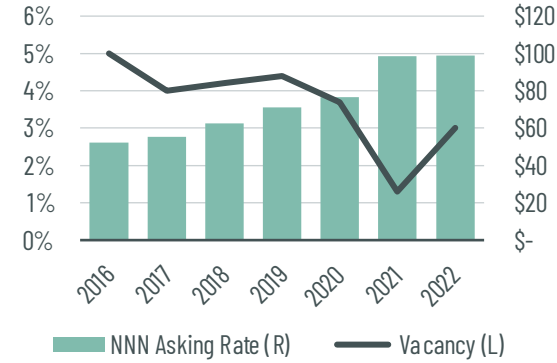
# Boston/Cambridge

## Life Sciences Employment

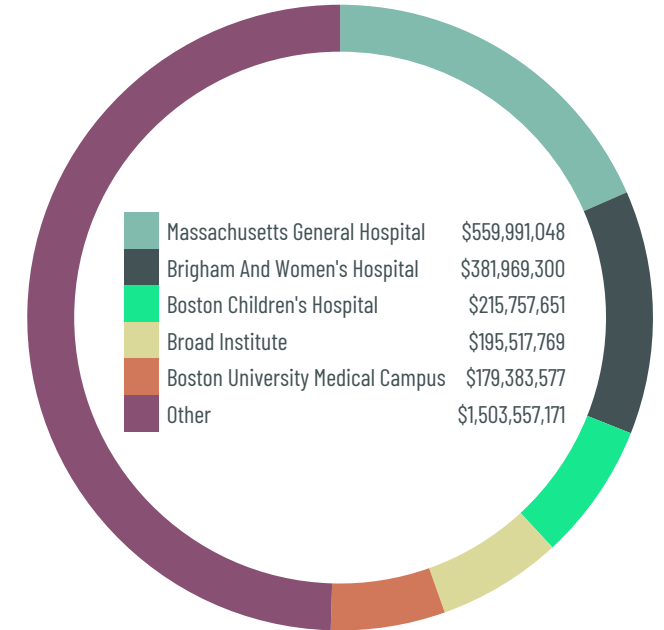


Source: U.S. Bureau of Labor Statistics, CBRE Research

## Historical Vacancy & Asking Rate



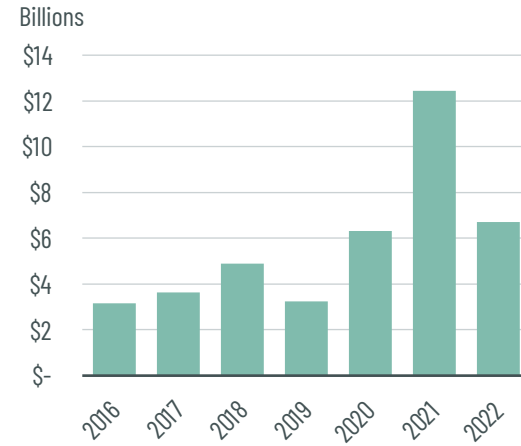
## FY 2022 NIH Funding



Source: National Institutes of Health

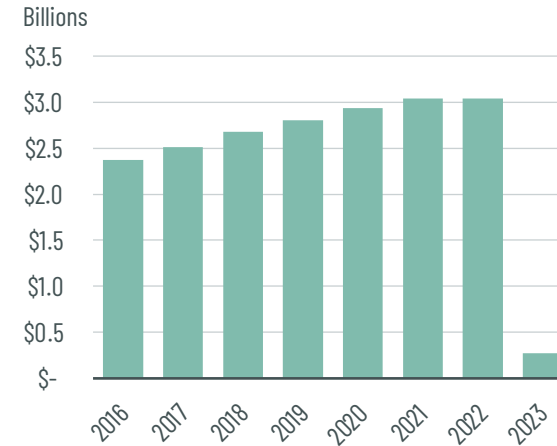


## VC Funding



Source: CB Insights

## NIH Funding



Source: National Institutes of Health (fiscal year starting October 1)

# Boston/Cambridge

## 2022 Lab/R&D Market Statistics

| Inventory (SF) | Average Asking Rents (NNN) | Vacancy Rate | 2022 Absorption | Demand (SF) | 1st Generation, New Lease TIA | 2nd+ Generation, New Lease TIA |
|----------------|----------------------------|--------------|-----------------|-------------|-------------------------------|--------------------------------|
| 52,705,067     | \$99.02                    | 3.0%         | 2,819,655       | 3,019,000   | \$200-\$260                   | \$20-\$50                      |

## Lab R&D Future Supply (Q4 2022)

| Under Construction | Number of Projects | Total Size (SF)   | Total Spec Size (SF) | Delivering in 2023 | % Pre-leased | Delivered in 2022 |
|--------------------|--------------------|-------------------|----------------------|--------------------|--------------|-------------------|
| New                | 35                 | 10,036,492        | 9,236,492            | 2,504,918          | 38.9         |                   |
| Conversion         | 30                 | 5,261,402         | 5,261,402            | 4,886,402          | 34.0         |                   |
| <b>Total</b>       | <b>65</b>          | <b>15,297,894</b> | <b>14,497,894</b>    | <b>7,391,320</b>   | <b>37.0</b>  | <b>2,909,258</b>  |

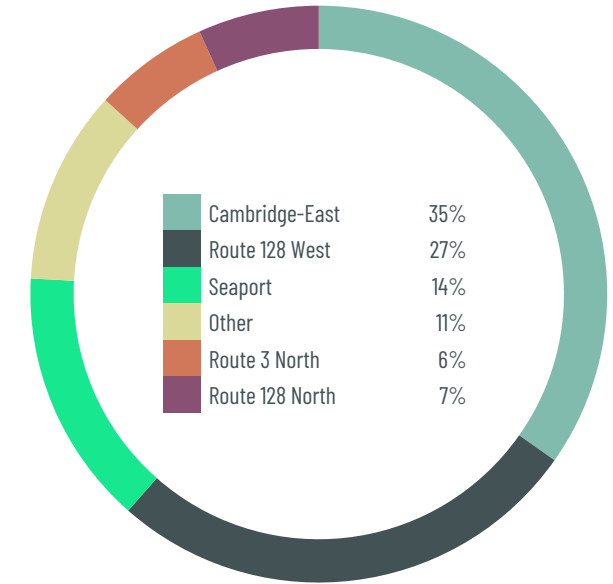
## Top 5 Lab/R&D Lease Transactions of 2022

| Date | Tenant      | Submarket      | Size    | Type |
|------|-------------|----------------|---------|------|
| Q2   | Takeda      | East Cambridge | 600,000 | New  |
| Q2   | AstraZenica | East Cambridge | 570,000 | New  |
| Q2   | Vertex      | Seaport        | 344,000 | New  |
| Q1   | Eli Lilly   | Seaport        | 324,000 | New  |
| Q2   | Sarepta     | Route 3 North  | 288,000 | New  |

## Top 5 Lab/R&D Sale Transactions of 2022

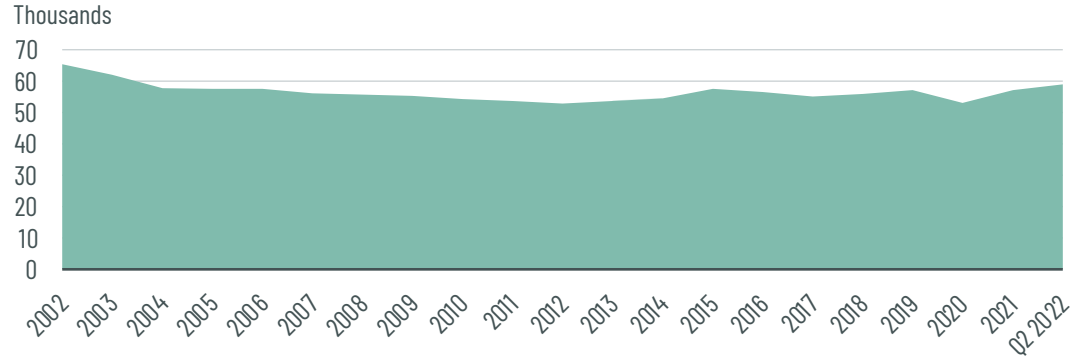
| Date      | Address/Property Name                                     | Submarket      | Size    | Price           | Price/SF   | Buyer                            |
|-----------|---|----------------|---------|-----------------|------------|----------------------------------|
| December  | 35 Gatehouse Drive  | 128 West       | 297,576 | \$272,500,000   | \$915.73   | ARE                              |
| September | 125 Broadway  | East Cambridge | 271,000 | \$602,840,000   | \$2,224.50 | Boston Properties                |
| June      | Greater Boston Life Science Portfolio (ARE's 128W Assets) | 128 West       | 370,152 | \$292,000,000   | \$788.87   | TPG Global                       |
| March     | 100 Binney Street   | East Cambridge | 432,931 | \$1,020,000,000 | \$2,356.03 | ARE / CBRE Investment Management |
| February  | 451 D Street  | Seaport        | 477,000 | \$700,000,000   | \$1,467.51 | GI Partners                      |

## 2022 R&D/Lab Leases Over 10,000 Sq. Ft. by Submarket



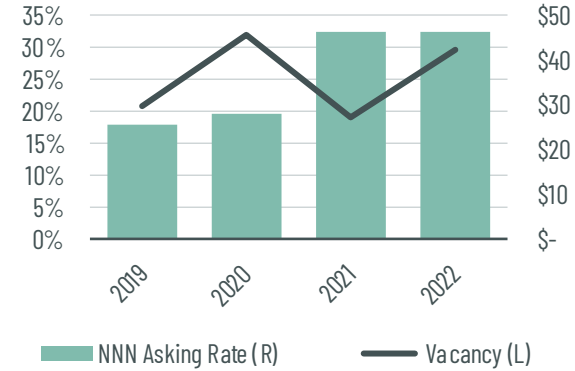
# Chicago

## Life Sciences Employment

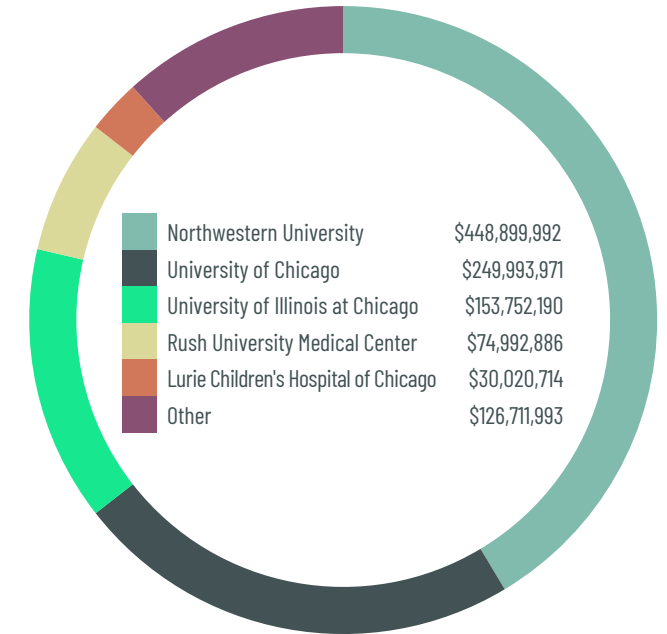


Source: U.S. Bureau of Labor Statistics, CBRE Research

## Historical Vacancy & Asking Rate



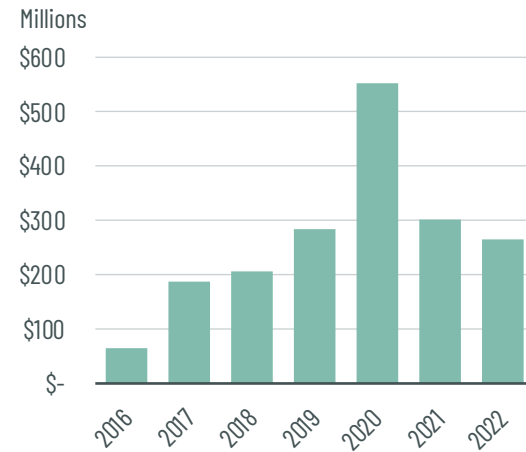
## FY 2022 NIH Funding



Source: National Institutes of Health

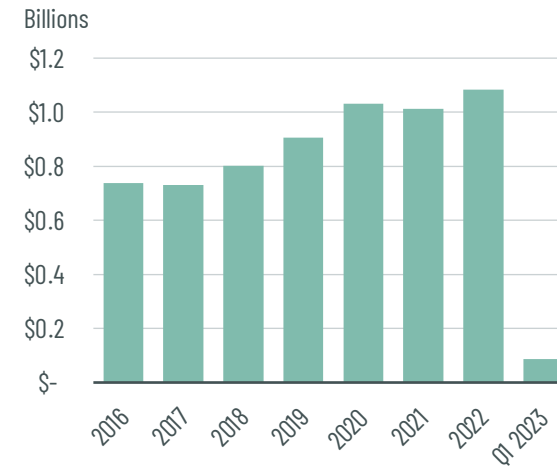


## VC Funding



Source: CB Insights

## NIH Funding



Source: National Institutes of Health (fiscal year starting October 1)



# Chicago

## 2022 Lab/R&D Market Statistics

| Inventory (SF) | Average Asking Rents (NNN) | Vacancy Rate | 2022 Absorption | Demand (SF) | 1st Generation, New Lease TIA | 2nd+ Generation, New Lease TIA |
|----------------|----------------------------|--------------|-----------------|-------------|-------------------------------|--------------------------------|
| 1,981,818      | \$46.29                    | 29.6%        | 2,258           | 1,180,000   | \$200                         | \$100                          |

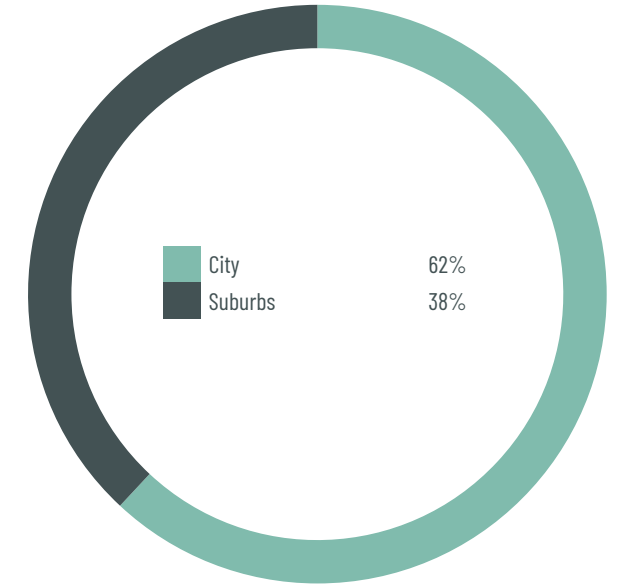
## Lab R&D Future Supply (Q4 2022)

| Under Construction | Number of Projects | Total Size (SF) | Total Spec Size (SF) | Delivering in 2023 | % Pre-leased | Delivered in 2022 |
|--------------------|--------------------|-----------------|----------------------|--------------------|--------------|-------------------|
| New                | 2                  | 456,442         | 456,442              | 281,000            | 0.0%         |                   |
| Conversion         | -                  | -               | -                    | -                  | -            |                   |
| <b>Total</b>       | <b>2</b>           | <b>456,442</b>  | <b>456,442</b>       | <b>281,000</b>     | <b>0%</b>    | <b>2,909,258</b>  |

## Top 5 Lab/R&D Lease Transactions of 2022

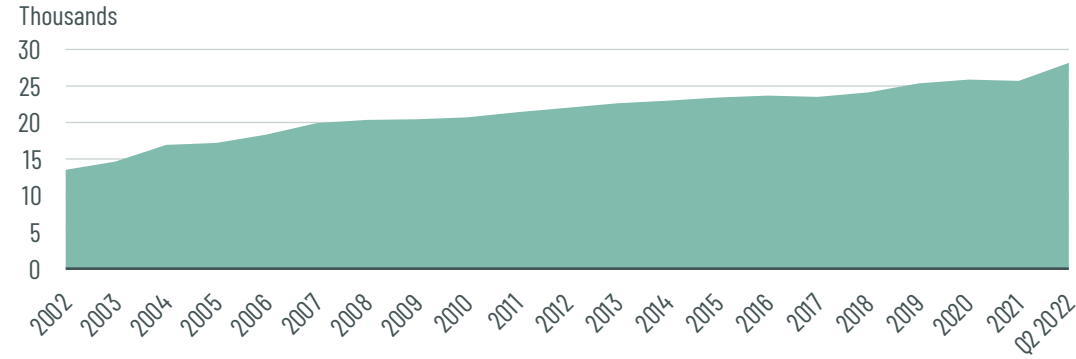
| Date | Tenant                | Submarket | Size     | Type |
|------|-----------------------|-----------|----------|------|
| Q3   | Xeris Pharmaceuticals | City      | \$87,000 | New  |
| Q2   | Endotronix            | Suburbs   | \$82,900 | New  |
| Q2   | BioLabs               | City      | \$31,600 | New  |
| Q4   | NuMat Technologies    | City      | \$62,000 | New  |
| Q4   | Lanzatech             | Suburbs   | \$20,100 | New  |

## 2022 R&D/Lab Leases Over 10,000 Sq. Ft. by Submarket



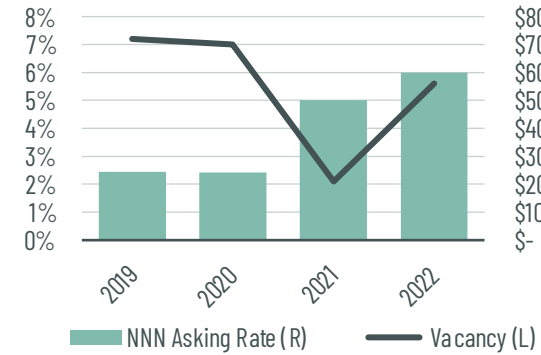
# Denver/Boulder

## Life Sciences Employment

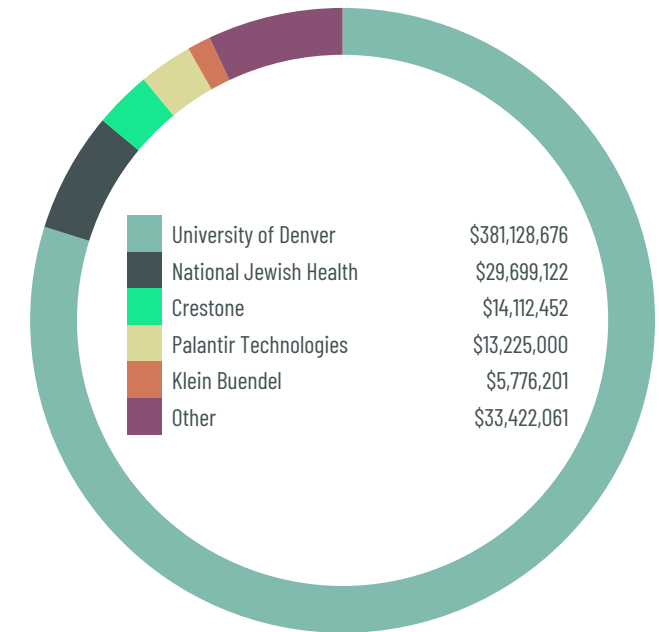


Source: U.S. Bureau of Labor Statistics, CBRE Research

## Historical Vacancy & Asking Rate



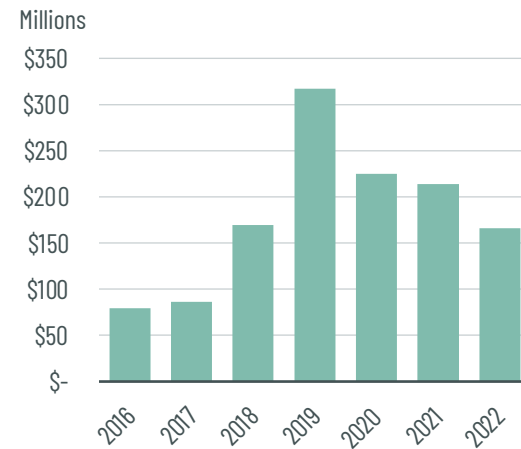
## FY 2022 NIH Funding



Source: National Institutes of Health

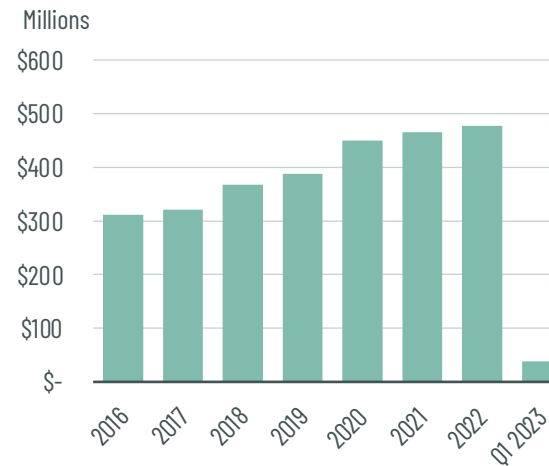


## VC Funding



Source: CB Insights

## NIH Funding



Source: National Institutes of Health (fiscal year starting October 1)



# Denver/Boulder

## 2022 Lab/R&D Market Statistics

| Inventory (SF) | Average Asking Rents (NNN) | Vacancy Rate | 2022 Absorption | Demand (SF) | 1st Generation, New Lease TIA | 2nd+ Generation, New Lease TIA |
|----------------|----------------------------|--------------|-----------------|-------------|-------------------------------|--------------------------------|
| 3,041,541      | \$60.00                    | 5.6%         | 32,533          | 960,000     | \$180-\$200                   | N/A                            |

## Lab R&D Future Supply (Q4 2022)

| Under Construction | Number of Projects | Total Size (SF) | Total Spec Size (SF) | Delivering in 2023 | % Pre-leased | Delivered in 2022 |
|--------------------|--------------------|-----------------|----------------------|--------------------|--------------|-------------------|
| New                | 2                  | 469,000         | 56,000               | 469,000            | 88.1%        |                   |
| Conversion         | 7                  | 365,494         | 285,514              | 365,494            | 52.1%        |                   |
| <b>Total</b>       | <b>9</b>           | <b>834,494</b>  | <b>341,514</b>       | <b>834,494</b>     | <b>72.3%</b> | -                 |

## Top 5 Lab/R&D Lease Transactions of 2022

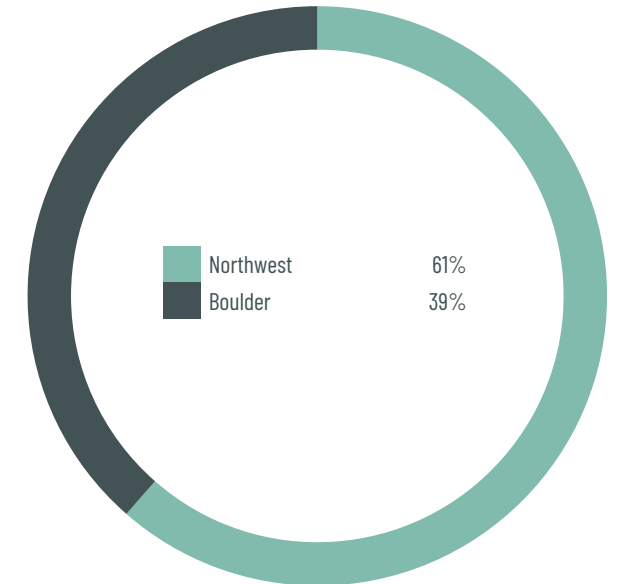
| Date | Tenant                | Submarket | Size   | Type              |
|------|-----------------------|-----------|--------|-------------------|
| Q1   | Biodesix              | Northwest | 79,980 | New               |
| Q4   | KBI Biopharma         | Northwest | 32,500 | Renewal/Expansion |
| Q4   | Mosaic Biosciences    | Boulder   | 18,700 | New               |
| Q1   | Edgewise Therapeutics | Boulder   | 18,600 | New               |
| Q3   | NovoNordisk           | Boulder   | 12,700 | New               |

## Top 5 Lab/R&D Sale Transactions of 2022

| Date  | Address/Property Name    | Submarket | Size      | Price         | Price/SF | Buyer                   |
|-------|--------------------------|-----------|-----------|---------------|----------|-------------------------|
| March | Flatiron Park            | Boulder   | 1,000,000 | \$625,000,000 | \$625    | BioMed Realty           |
| July  | 1685-1775 38th Street    | Boulder   | 164,000   | \$85,250,000  | \$520    | Breakthrough Properties |
| June  | 2950-2990 Wilderness Pl* | Boulder   | 76,476    | \$39,481,551  | \$516    | Steelwave               |

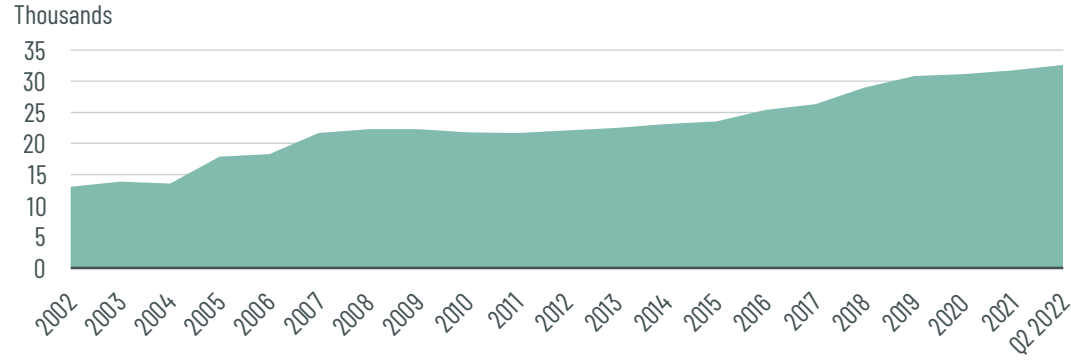
\*Lab & GMP

## 2022 R&D/Lab Leases Over 10,000 Sq. Ft. by Submarket



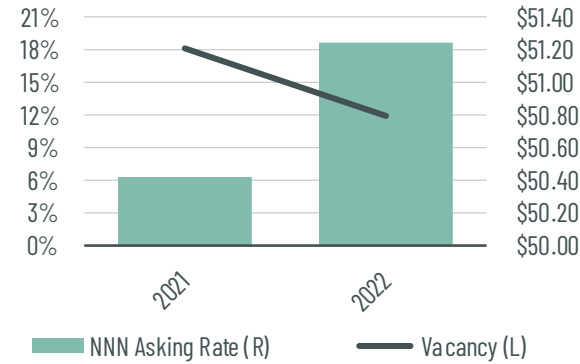
# Houston

## Life Sciences Employment

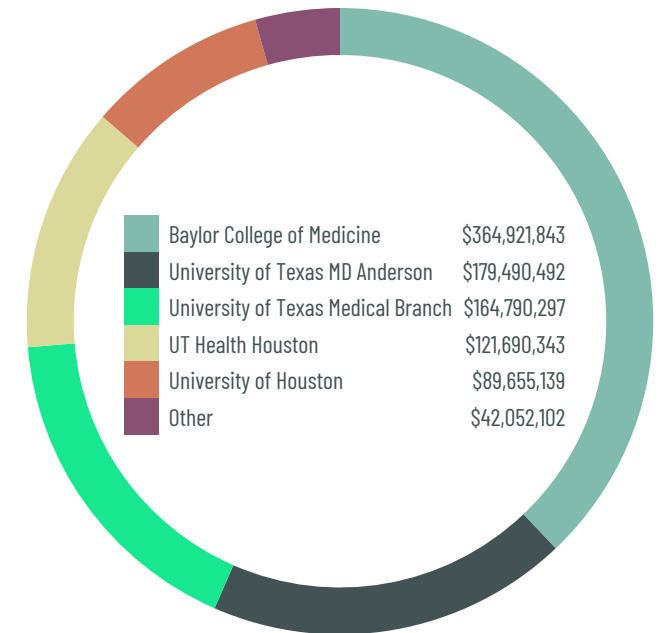


Source: U.S. Bureau of Labor Statistics, CBRE Research

## Historical Vacancy & Asking Rate



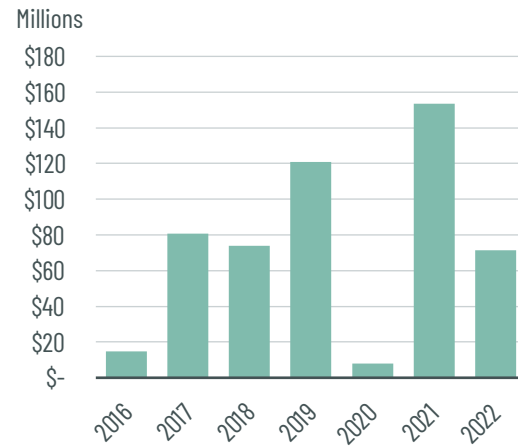
## FY 2022 NIH Funding



Source: National Institutes of Health

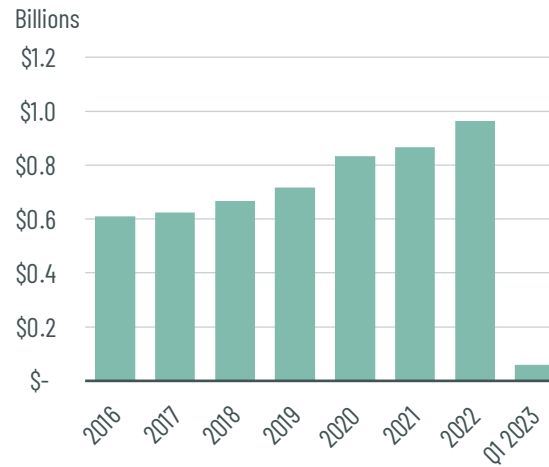


## VC Funding



Source: CB Insights

## NIH Funding



Source: National Institutes of Health (fiscal year starting October 1)

# Houston

## 2022 Lab/R&D Market Statistics

| Leasable Inventory (SF) | Owner-User Inventory (SF) | Total Inventory (SF) | Average Asking Rents (NNN) | Vacancy Rate | 2022 Absorption | Demand (SF) | 1st Generation, New Lease TIA | 2nd+ Generation, New Lease TIA |
|-------------------------|---------------------------|----------------------|----------------------------|--------------|-----------------|-------------|-------------------------------|--------------------------------|
| 1,630,810               | 170,765                   | 1,801,575            | \$51.24                    | 11.7%        | 71,851          | 70,000      | \$70                          | N/A                            |

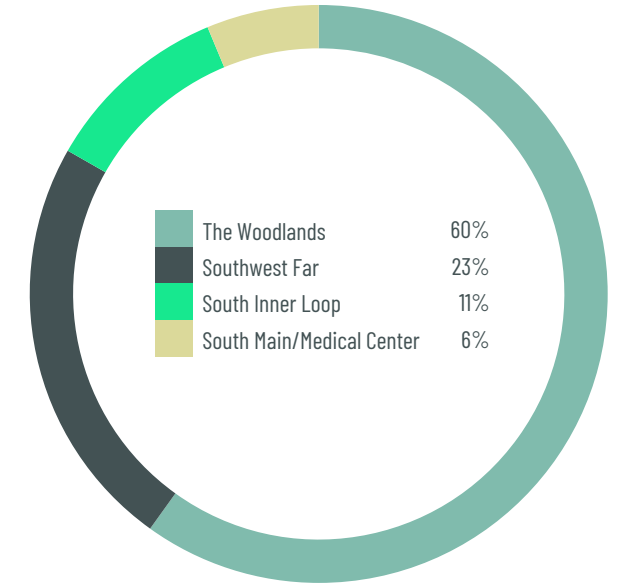
## Lab R&D Future Supply (Q4 2022)

| Under Construction | Number of Projects | Total Size (SF) | Total Spec Size (SF) | Delivering in 2023 | % Pre-leased | Delivered in 2022 |
|--------------------|--------------------|-----------------|----------------------|--------------------|--------------|-------------------|
| New                | 2                  | 456,442         | 456,442              | 281,000            | 0.0%         |                   |
| Conversion         | -                  | -               | -                    | -                  | -            |                   |
| <b>Total</b>       | <b>2</b>           | <b>456,442</b>  | <b>456,442</b>       | <b>281,000</b>     | <b>0.0%</b>  | <b>-</b>          |

## Top 5 Lab/R&D Lease Transactions of 2022

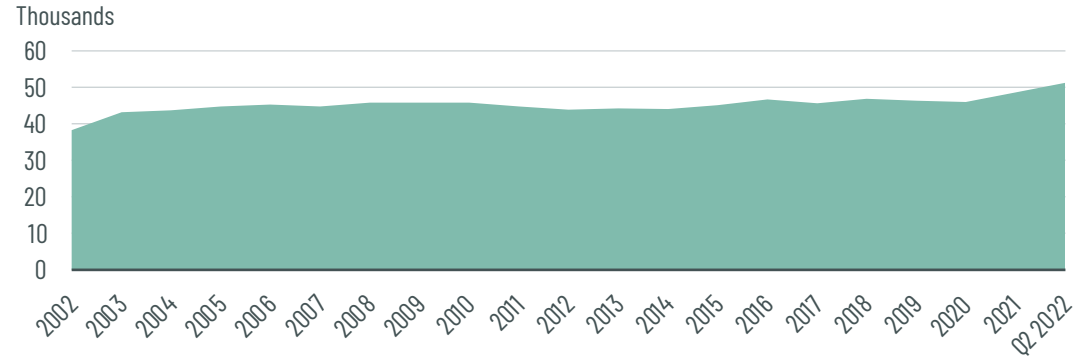
| Date | Tenant                     | Submarket                 | Size    | Type |
|------|----------------------------|---------------------------|---------|------|
| Q4   | Baylor College of Medicine | South Main/Medical Center | 114,300 | New  |
| Q2   | Cellipont Bioservices      | The Woodlands             | 75,200  | New  |
| Q1   | Immatic                    | Hwy 59/Hwy 90             | 25,000  | New  |
| Q4   | Nurix Therapeutics         | The Woodlands             | 20,100  | New  |
| Q1   | Vyripharm Enterprises, Inc | South Inner Loop          | 16,600  | New  |

## 2022 R&D/Lab Leases Over 10,000 Sq. Ft. by Submarket



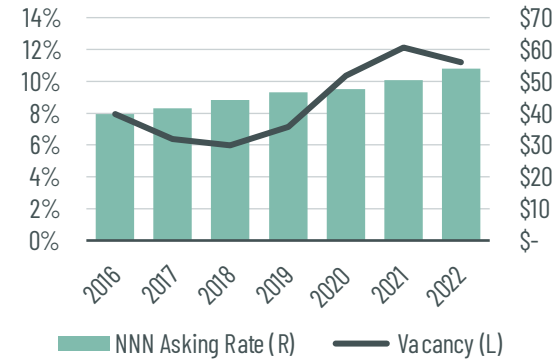
# Los Angeles

## Life Sciences Employment

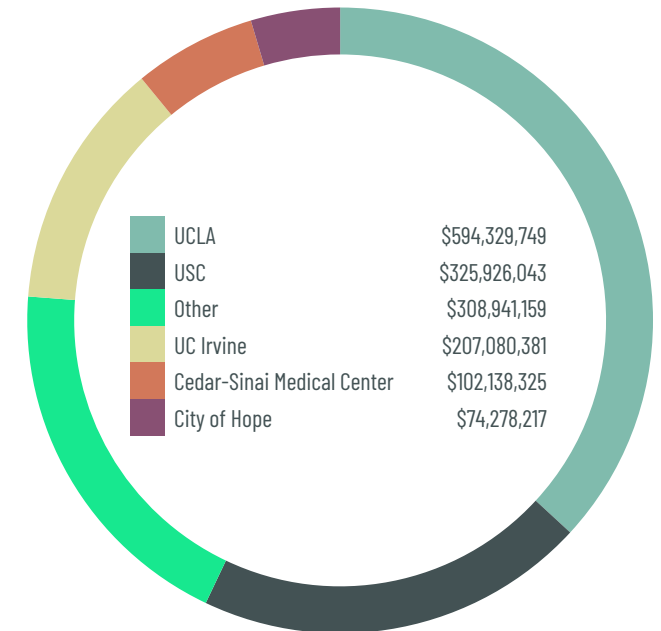


Source: U.S. Bureau of Labor Statistics, CBRE Research

## Historical Vacancy & Asking Rate



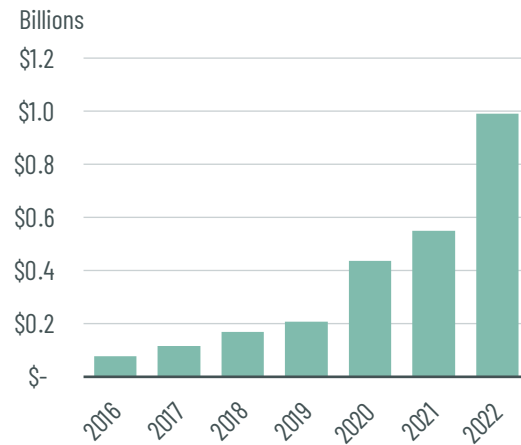
## FY 2022 NIH Funding



Source: National Institutes of Health

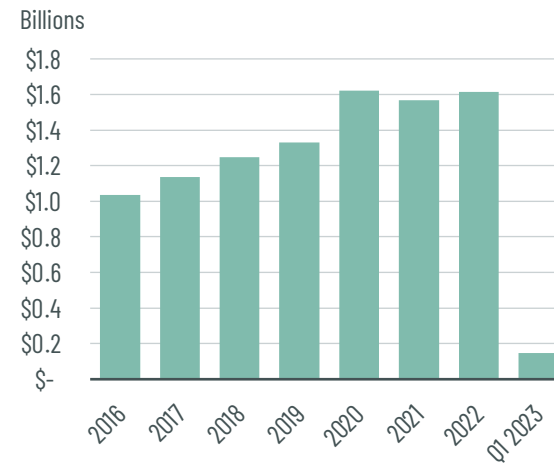


## VC Funding



Source: CB Insights

## NIH Funding



Source: National Institutes of Health (fiscal year starting October 1)

# Los Angeles

## 2022 Lab/R&D Market Statistics

| Leasable Inventory (SF) | Owner-User Inventory (SF) | Total Inventory (SF) | Average Asking Rents (NNN) | Vacancy Rate | 2022 Absorption | Demand (SF) | 1st Generation, New Lease TIA | 2nd+ Generation, New Lease TIA |
|-------------------------|---------------------------|----------------------|----------------------------|--------------|-----------------|-------------|-------------------------------|--------------------------------|
| 5,624,236               | 5,154,422                 | 10,778,658           | \$54.00                    | 11.2%        | 119,762         | 950,500     | \$185                         | \$150                          |

## Lab R&D Future Supply (Q4 2022)

| Under Construction | Number of Projects | Total Size (SF) | Total Spec Size (SF) | Delivering in 2023 | % Pre-leased | Delivered in 2022 |
|--------------------|--------------------|-----------------|----------------------|--------------------|--------------|-------------------|
| New                | 4                  | 291,000         | -                    | -                  | 0.0%         |                   |
| Conversion         | 3                  | 390,710         | 340,511              | 390,710            | 0.0%         |                   |
| <b>Total</b>       | <b>7</b>           | <b>681,710</b>  | <b>340,511</b>       | <b>390,710</b>     | <b>0.0%</b>  | <b>221,198</b>    |

## Top 5 Lab/R&D Lease Transactions of 2022

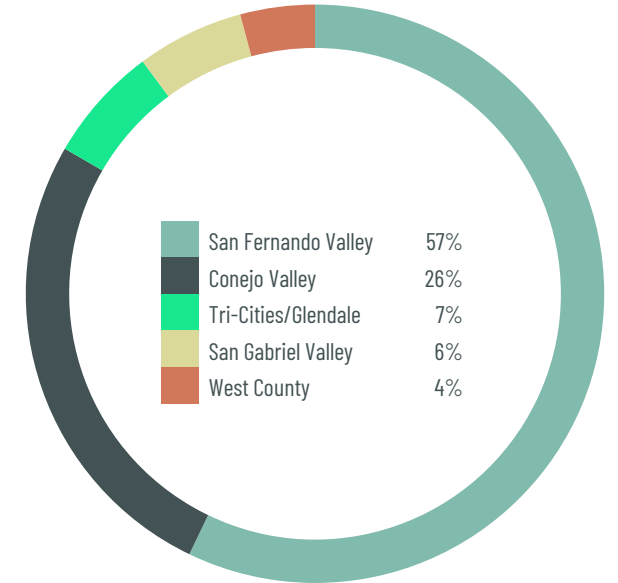
| Date | Tenant              | Submarket            | Size    | Type    |
|------|---------------------|----------------------|---------|---------|
| Q3   | Quest Diagnostics   | San Fernando Valley  | 199,500 | Renewal |
| Q4   | Confidential        | San Fernando Valley  | 134,300 | New     |
| Q3   | A2 Biotherapeutics  | Conejo Valley        | 76,000  | New     |
| Q3   | Omeat               | Conejo Valley        | 44,800  | New     |
| Q2   | Terray Therapeutics | Tri-Cities/ Glendale | 37,800  | New     |

## Top 5 Lab/R&D Sale Transactions of 2022

| Date      | Address/Property Name   | Submarket        | Size    | Price        | Price/SF | Buyer                                |
|-----------|-------------------------|------------------|---------|--------------|----------|--------------------------------------|
| September | 11061 W Pico Boulevard* | West Los Angeles | 0.11 Ac | \$5,000,000  | N/A      | NexCore/HATCHspaces                  |
| July      | 30601 Agoura Road       | Agoura Hills     | 118,906 | \$19,280,000 | \$162    | Harbor Associates, Platform Ventures |
| March     | 5005 McConnell Ave      | Marina Del Rey   | 56,306  | \$58,700,000 | \$1,043  | HATCHspaces                          |

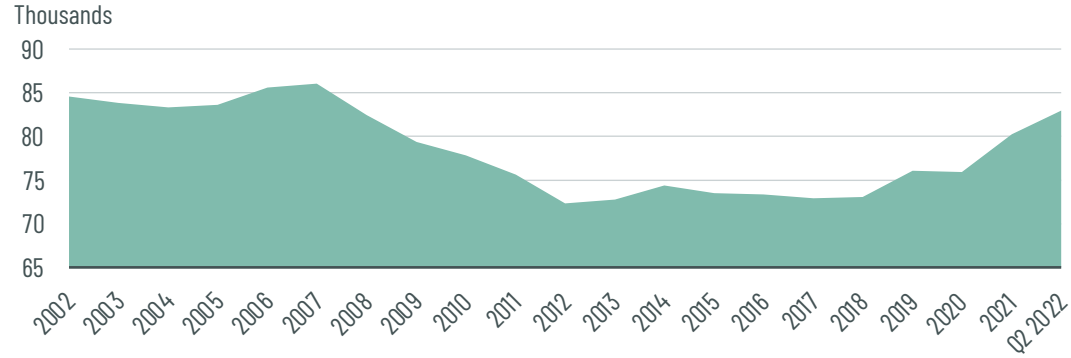
\*Proposed Lab/R&D

## 2022 R&D/Lab Leases Over 10,000 Sq. Ft. by Submarket



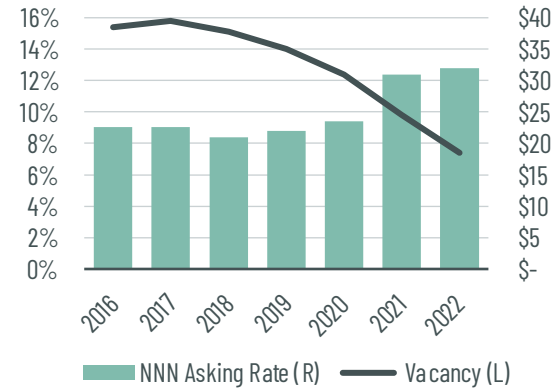
# New Jersey

## Life Sciences Employment

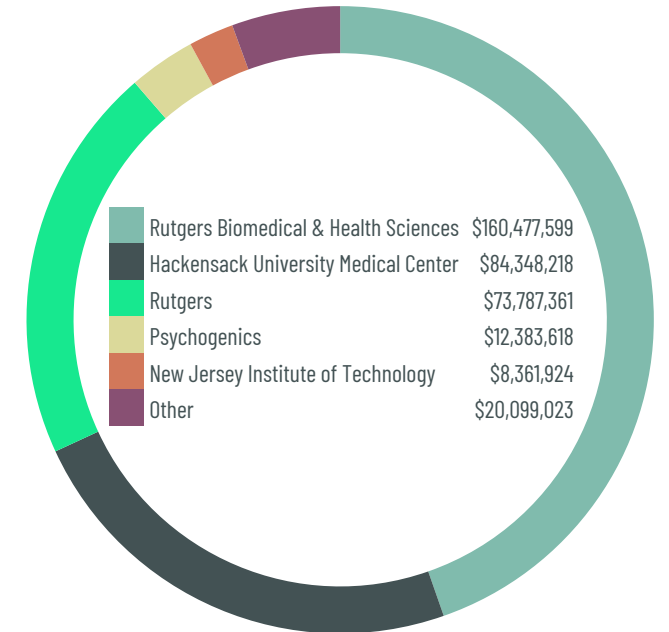


Source: U.S. Bureau of Labor Statistics, CBRE Research

## Historical Vacancy & Asking Rate



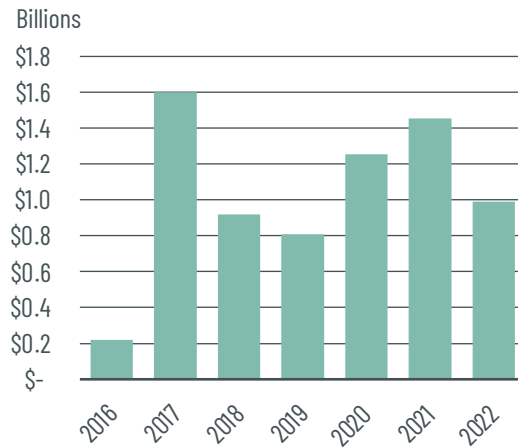
## FY 2022 NIH Funding



Source: National Institutes of Health

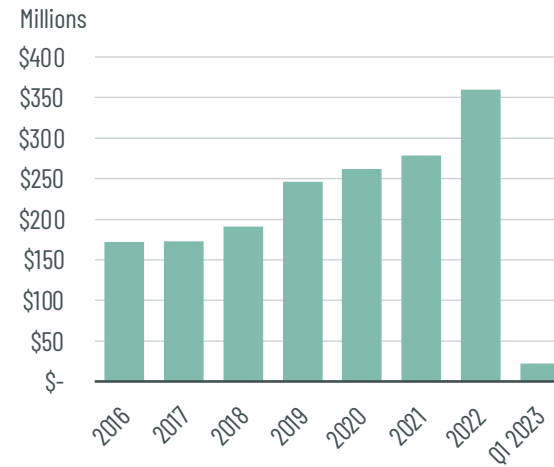


## VC Funding



Source: CB Insights

## NIH Funding



Source: National Institutes of Health (fiscal year starting October 1)

# New Jersey

## 2022 Lab/R&D Market Statistics

| Inventory (SF) | Average Asking Rents (NNN) | Vacancy Rate | 2022 Absorption | Demand (SF) | 1st Generation, New Lease TIA | 2nd+ Generation, New Lease TIA |
|----------------|----------------------------|--------------|-----------------|-------------|-------------------------------|--------------------------------|
| 15,835,871     | \$32.00                    | 7.4%         | 439,946         | 440,000     | \$50                          | \$30                           |

## Lab R&D Future Supply (Q4 2022)

| Under Construction | Number of Projects | Total Size (SF) | Total Spec Size (SF) | Delivering in 2023 | % Pre-leased | Delivered in 2022 |
|--------------------|--------------------|-----------------|----------------------|--------------------|--------------|-------------------|
| New                | -                  | -               | -                    | -                  | -            | -                 |
| Conversion         | -                  | -               | -                    | -                  | -            | -                 |
| <b>Total</b>       | <b>0</b>           | <b>N/A</b>      | <b>N/A</b>           | <b>N/A</b>         | <b>N/A</b>   | <b>75,500</b>     |

## Top 5 Lab/R&D Lease Transactions of 2022

| Date | Tenant           | Submarket         | Size     | Type    |
|------|------------------|-------------------|----------|---------|
| Q2   | PTC Therapeutics | Somerset Route 78 | 360,000  | New     |
| Q1   | Cellares Inc.    | Bridgewater       | 118,000* | New     |
| Q4   | Ascendia         | North Brunswick   | 60,000   | New     |
| Q4   | Porton USA       | Cranbury          | 15,500   | Renewal |
| Q4   | Doehler          | North Brunswick   | 11,600   | New     |

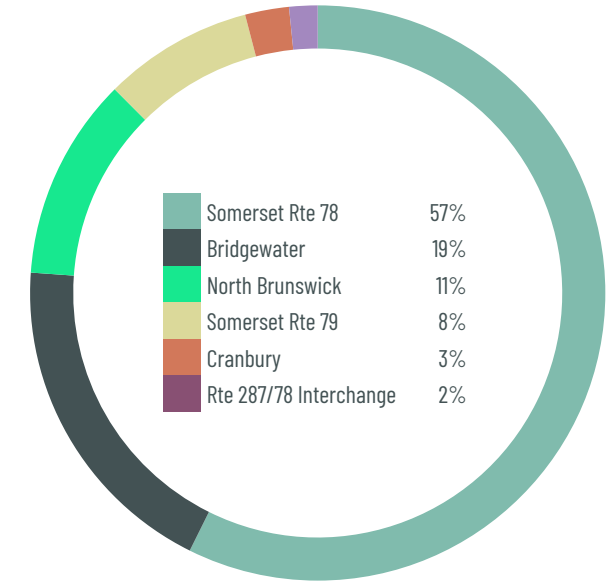
\*Includes lab and biomanufacturing

## Top 5 Lab/R&D Sale Transactions of 2022

| Date    | Address/Property Name                                    | Submarket  | Size    | Price        | Price/SF | Buyer                                  |
|---------|--|------------|---------|--------------|----------|--|
| July    | 8 King Road  | Rockleigh  | 204,495 | \$55,000,000 | \$269    | Big Sky Medical                        |
| March   | 701 & 801 Charles Ewing Blvd. - Princeton S. Corp. Cntr. | Ewing      | 110,765 | \$41,500,000 | \$375    | Barings                                |
| May     | 350 Carter Road  | Princeton  | 78,992  | \$34,000,000 | \$430    | Ares Management, Warren Ave. Investors |
| October | 107 Morgan Lane*   | Plainsboro | 44,400  | \$12,000,000 | \$270    | Ares Management, Warren Ave. Investors |

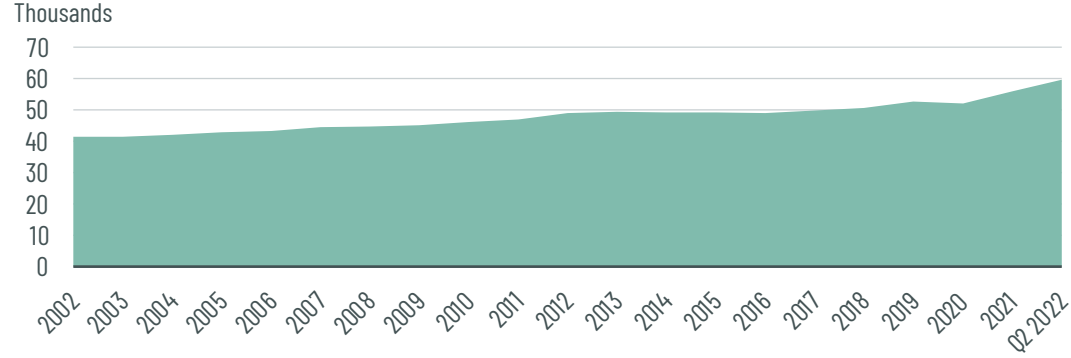
\*Sale-Leaseback

## 2022 R&D/Lab Leases Over 10,000 Sq. Ft. by Submarket



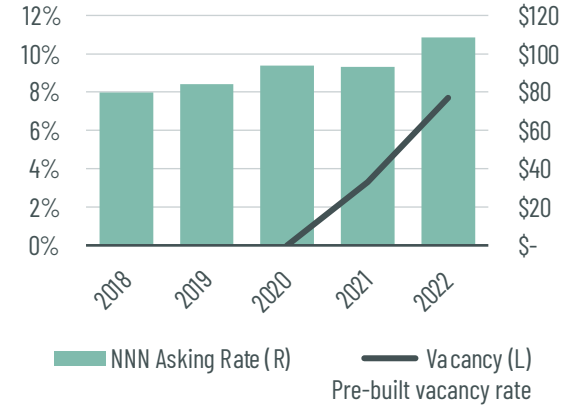
# New York City

## Life Sciences Employment

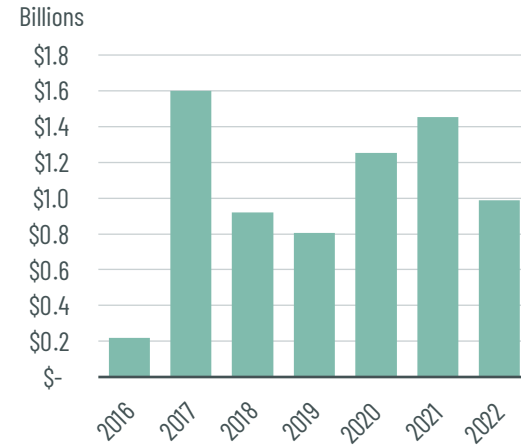


Source: U.S. Bureau of Labor Statistics, CBRE Research

## Historical Vacancy & Asking Rate

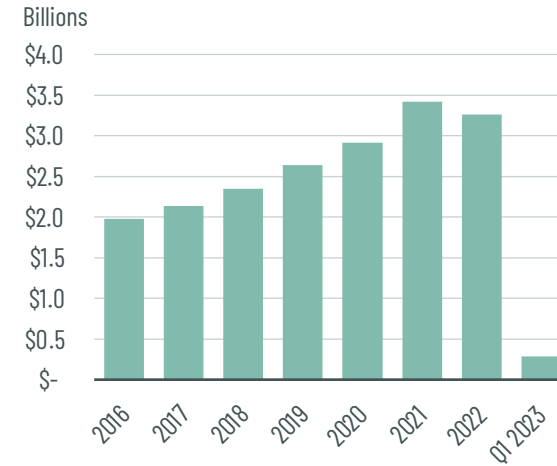


## VC Funding



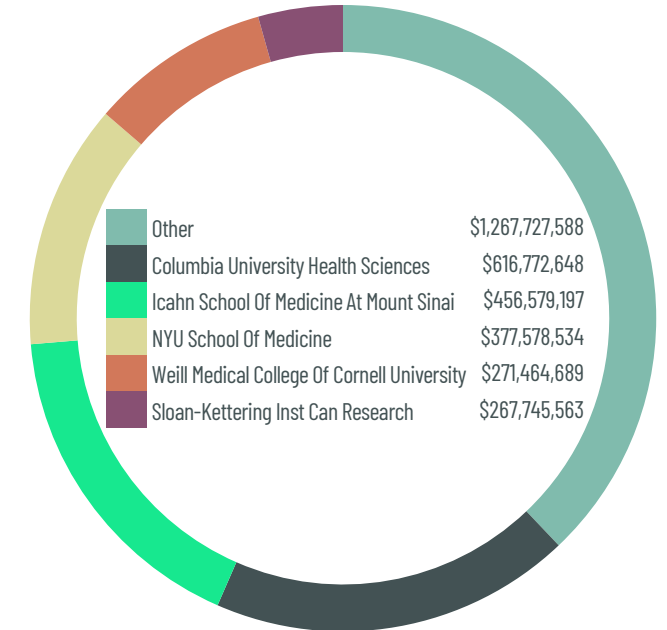
Source: CB Insights

## NIH Funding



Source: National Institutes of Health (fiscal year starting October 1)

## FY 2022 NIH Funding



Source: National Institutes of Health



# New York City

## 2022 Lab/R&D Market Statistics

| Inventory (SF) | Average Asking Rents (NNN) | Vacancy Rate | Pre-built Vacancy Rate | 2022 Absorption | Demand (SF) | 1st Generation, New Lease TIA | 2nd+ Generation, New Lease TIA |
|----------------|----------------------------|--------------|------------------------|-----------------|-------------|-------------------------------|--------------------------------|
| 2,695,667      | \$108.47                   | 34.2%        | 7.7%                   | (518,661)       | 1,360,000   | \$175                         | \$20                           |

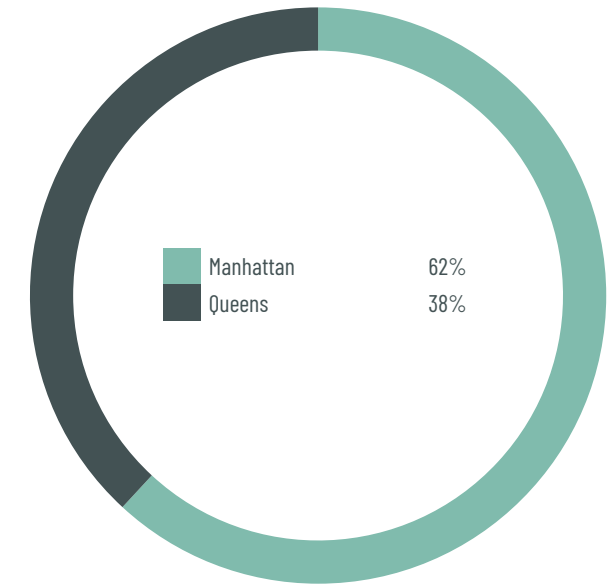
## Lab R&D Future Supply (Q4 2022)

| Under Construction | Number of Projects | Total Size (SF) | Total Spec Size (SF) | Delivering in 2023 | % Pre-leased | Delivered in 2022 |
|--------------------|--------------------|-----------------|----------------------|--------------------|--------------|-------------------|
| New                | 1                  | 200,000         | 200,000              | -                  | 0.0%         |                   |
| Conversion         | 3                  | 666,013         | 666,013              | 666,013            | 0.0%         |                   |
| <b>Total</b>       | <b>4</b>           | <b>866,013</b>  | <b>866,013</b>       | <b>666,013</b>     | <b>0.0%</b>  | <b>-</b>          |

## Top 5 Lab/R&D Lease Transactions of 2022

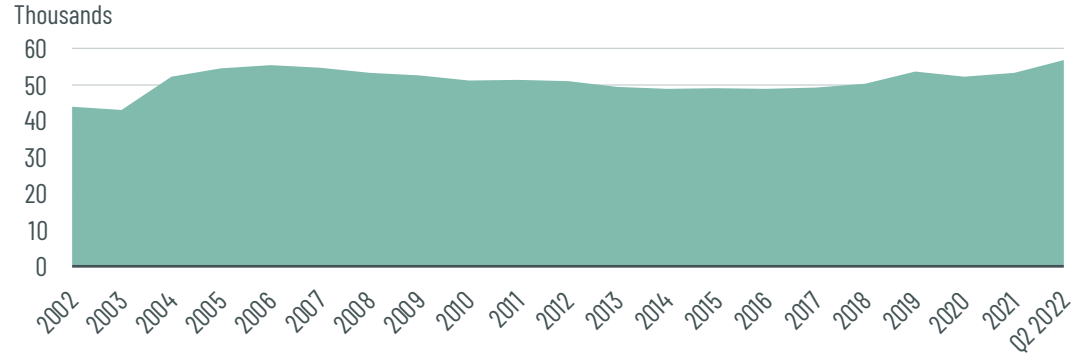
| Date | Tenant                                 | Submarket | Size   | Type      |
|------|--|-----------|--------|-----------|
| Q4   | New York University                    | Queens    | 92,400 | New       |
| Q3   | New York University School of Medicine | Manhattan | 55,600 | New       |
| Q3   | Mount Sinai Hospital                   | Manhattan | 50,500 | New       |
| Q1   | OpenTrons                              | Queens    | 47,800 | Expansion |
| Q1   | Cure Innovation Labs                   | Manhattan | 27,000 | New       |

## 2022 R&D/Lab Leases Over 10,000 Sq. Ft. by Submarket



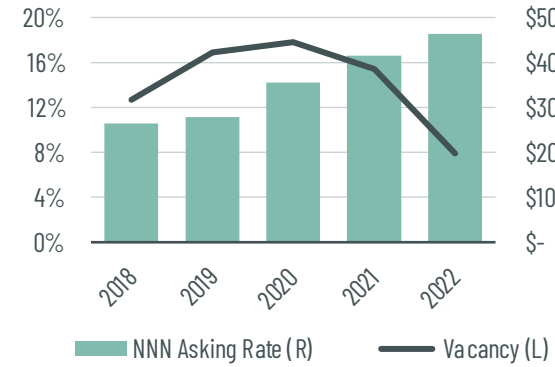
# Philadelphia

## Life Sciences Employment

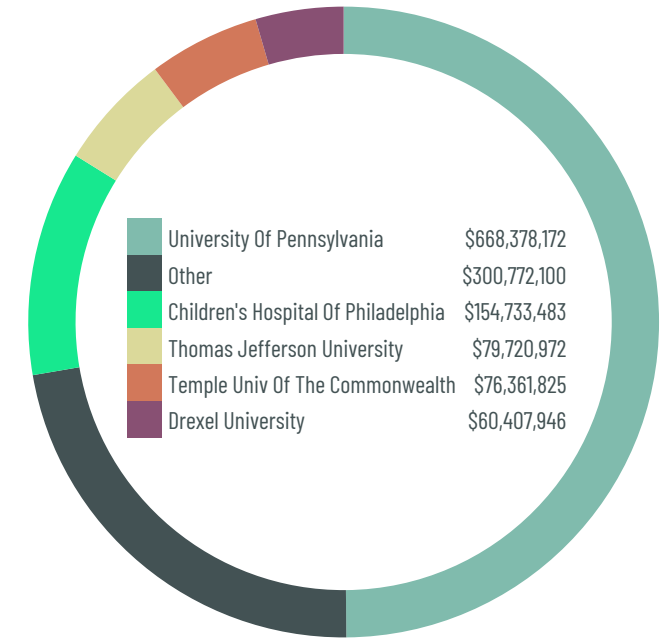


Source: U.S. Bureau of Labor Statistics, CBRE Research

## Historical Vacancy & Asking Rate



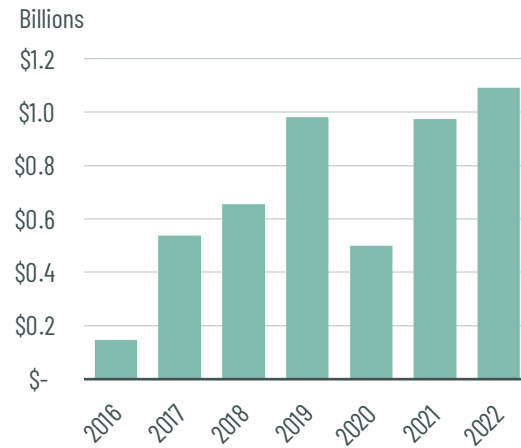
## FY 2022 NIH Funding



Source: National Institutes of Health

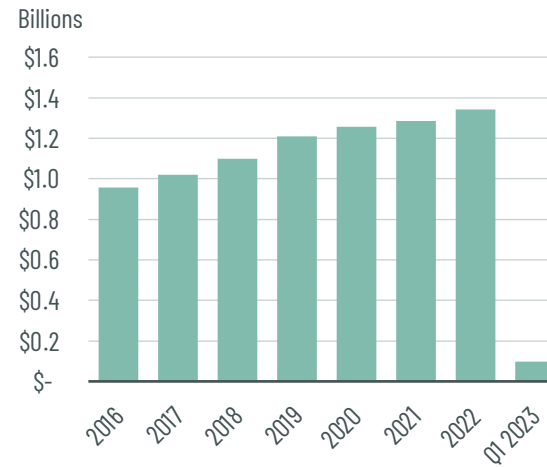


## VC Funding



Source: CB Insights

## NIH Funding



Source: National Institutes of Health (fiscal year starting October 1)

# Philadelphia

## 2022 Lab/R&D Market Statistics

| Inventory (SF) | Average Asking Rents (NNN) | Vacancy Rate | 2022 Absorption | Demand (SF) | 1st Generation, New Lease TIA | 2nd+ Generation, New Lease TIA |
|----------------|----------------------------|--------------|-----------------|-------------|-------------------------------|--------------------------------|
| 9,665,840      | \$46.32                    | 10.1%        | 694,968         | 1,878,000   | \$105                         | \$65                           |

## Lab R&D Future Supply (Q4 2022)

| Under Construction | Number of Projects | Total Size (SF)  | Total Spec Size (SF) | Delivering in 2023 | % Pre-leased | Delivered in 2022 |
|--------------------|--------------------|------------------|----------------------|--------------------|--------------|-------------------|
| New                | 6                  | 1,872,699        | 1,872,699            | 936,052            | 29.5%        |                   |
| Conversion         | 10                 | 894,761          | 894,761              | 517,416            | 47.0%        |                   |
| <b>Total</b>       | <b>16</b>          | <b>2,767,460</b> | <b>2,767,460</b>     | <b>1,453,468</b>   | <b>35.2%</b> | <b>228,427</b>    |

## Top 5 Lab/R&D Lease Transactions of 2022

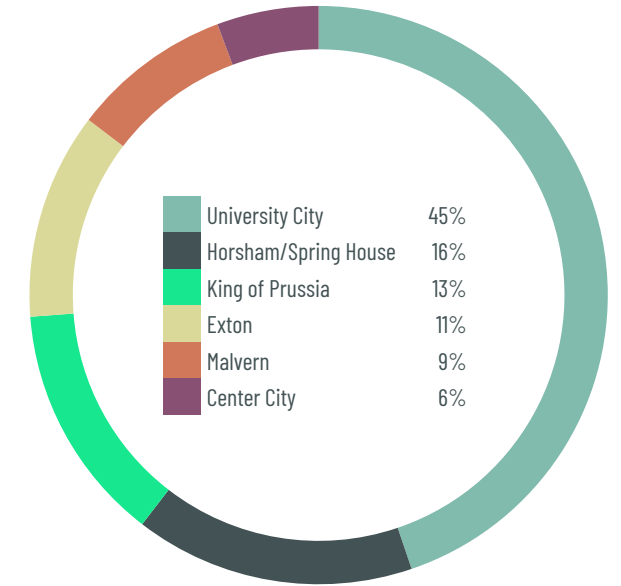
| Date  | Tenant                     | Submarket             | Size    | Type |
|-------|----------------------------|-----------------------|---------|------|
| Q3    | SmartLabs                  | University City       | 117,000 | New  |
| Q2    | Merck                      | Horsham/ Spring House | 77,800  | New  |
| Q2    | Dispatch BioTherapeutics   | University City       | 64,000  | New  |
| Q2-Q4 | University of Penn         | University City       | 96,000  | New  |
| Q4    | Früh Verpackungstechnik AG | Exton                 | 63,500  | New  |

## Top 5 Lab/R&D Sale Transactions of 2022

| Date     | Address/Property Name  | Submarket       | Size    | Price         | Price/SF | Buyer   |
|----------|--|-----------------|---------|---------------|----------|---|
| February | 300, 351, 400 Rouse, 4751 League Island & 4701 League Island - Navy Yard Portfolio | Navy Yard       | 549,840 | \$244,000,000 | \$444    | Oxford Properties                                 |
| July     | 466 Devon Park Dr - Charles Rivers Labs  | King of Prussia | 153,470 | \$57,000,000  | \$371    | Hines   |
| April    | 3440 Market St*  | University City | 117,848 | \$46,100,000  | \$391    | Ventas  |
| February | 3801 Chestnut Street**   | University City | 0.77 Ac | \$23,250,000  | N/A      | Harrison Street, Sterling Bay, Botanic Properties |

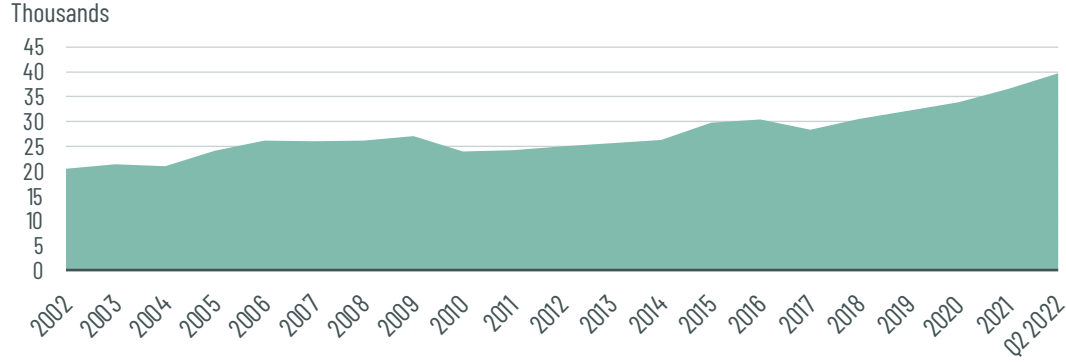
\*Conversion \*\*Proposed Lab

## 2022 R&D/Lab Leases Over 10,000 Sq. Ft. by Submarket



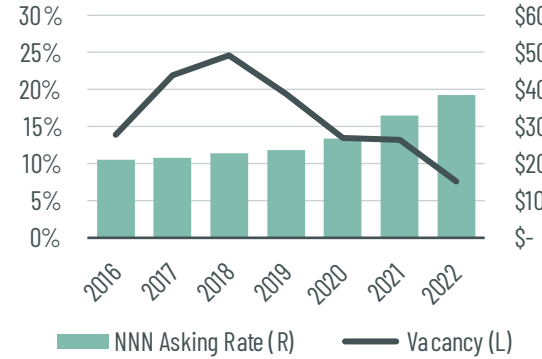
# Raleigh-Durham

## Life Sciences Employment

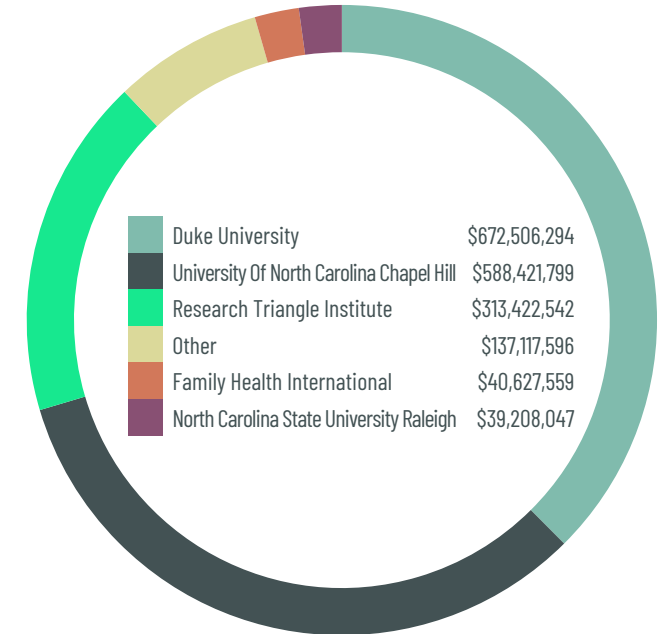


Source: U.S. Bureau of Labor Statistics, CBRE Research

## Historical Vacancy & Asking Rate



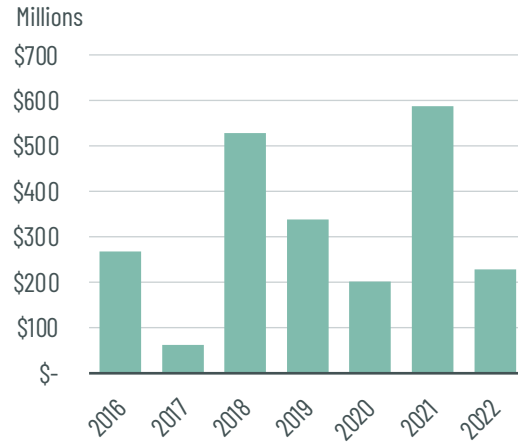
## FY 2022 NIH Funding



Source: National Institutes of Health

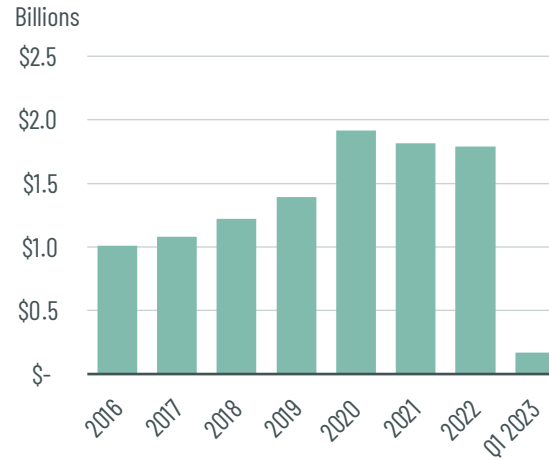


## VC Funding



Source: CB Insights

## NIH Funding



Source: National Institutes of Health (fiscal year starting October 1)

# Raleigh-Durham

## 2022 Lab/R&D Market Statistics

| Leasable Inventory (SF) | Owner-User Inventory (SF) | Total Inventory (SF) | Average Asking Rents (NNN) | Vacancy Rate | 2022 Absorption | Demand (SF) | 1st Generation, New Lease TIA | 2nd+ Generation, New Lease TIA |
|-------------------------|---------------------------|----------------------|----------------------------|--------------|-----------------|-------------|-------------------------------|--------------------------------|
| 9,025,516               | 1,620,322                 | 10,645,838           | \$36-\$41                  | 7.6%         | 602,122         | 950,000     | \$175                         | \$150                          |

## Lab R&D Future Supply (Q4 2022)

| Under Construction | Number of Projects | Total Size (SF) | Total Spec Size (SF) | Delivering in 2023 | % Pre-leased | Delivered in 2022 |
|--------------------|--------------------|-----------------|----------------------|--------------------|--------------|-------------------|
| New                | 4                  | 474,000         | 461,000              | 474,000            | 2.7%         |                   |
| Conversion         | 3                  | 214,628         | 214,628              | 214,628            | 46.6%        |                   |
| <b>Total</b>       | <b>7</b>           | <b>688,628</b>  | <b>675,628</b>       | <b>688,628</b>     | <b>16.4%</b> | <b>245,106</b>    |

## Top 5 Lab/R&D Lease Transactions of 2022

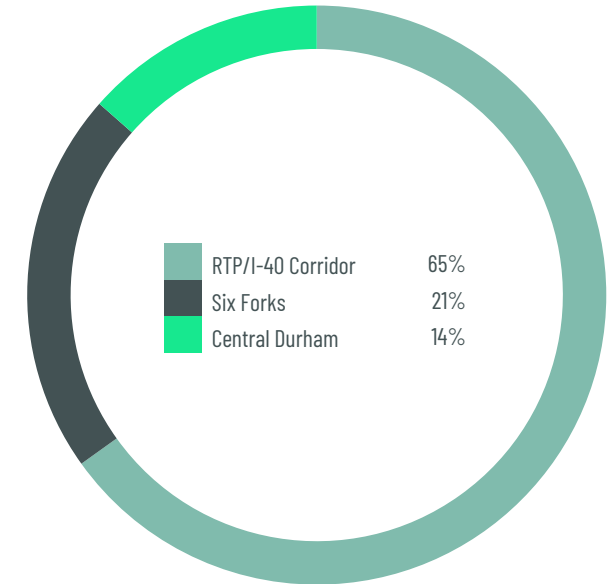
| Date | Tenant       | Submarket         | Size    | Type |
|------|--------------|-------------------|---------|------|
| Q2   | Confidential | RTP/I-40 Corridor | 103,000 | New  |
| Q3   | Targan       | Six Forks         | 100,500 | New  |
| Q4   | Catalent     | RTP/I-40 Corridor | 82,000  | New  |
| Q2   | Elevate      | Central Durham    | 63,500  | New  |
| Q2   | Enzyvant     | RTP/I-40 Corridor | 26,000  | New  |

## Top 5 Lab/R&D Sale Transactions of 2022

| Date      | Address/Property Name                                    | Submarket         | Size    | Price         | Price/SF | Buyer                          |
|-----------|--|-------------------|---------|---------------|----------|--------------------------------|
| September | Park Point   | RTP/I-40 Corridor | 662,607 | \$380,000,000 | \$573    | CBRE IM                        |
| November  | 9 Davis Drive - Syngenta Biotechnology Campus*           | RTP/I-40 Corridor | 348,927 | \$213,328,000 | \$611    | Oak Street Real Estate Capital |
| November  | 4016-4025 Stirrup Creek Drive - Triangle Business Center | RTP/I-40 Corridor | 447,310 | \$141,000,500 | \$315    | Goldman Sachs Asset Management |
| November  | 78 TW Alexander Drive**                                  | RTP/I-40 Corridor | 100,000 | \$21,405,500  | \$214    | Oxford Properties              |
| January   | Labs at Research Triangle                                | Durham            | 69,059  | \$80,000,000  | \$1,158  | ARE                            |

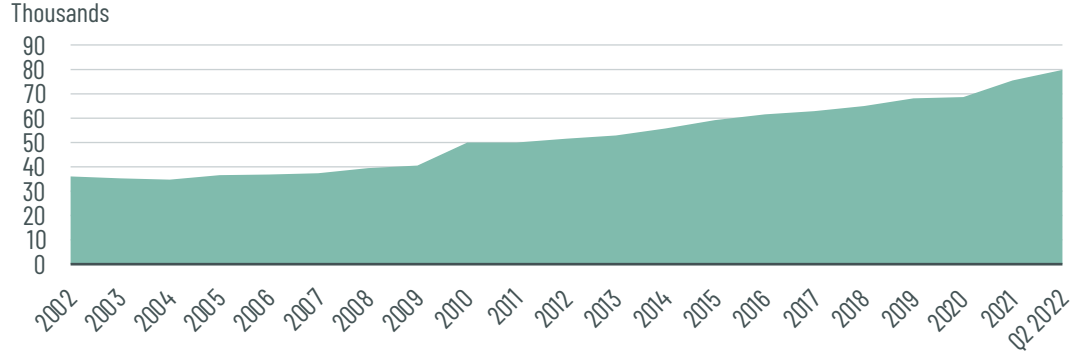
\*Sale-Leaseback \*\*Conversion

## 2022 R&D/Lab Leases Over 10,000 Sq. Ft. by Submarket



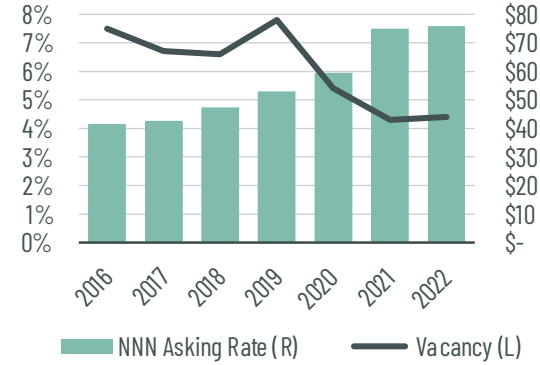
# San Diego

## Life Sciences Employment

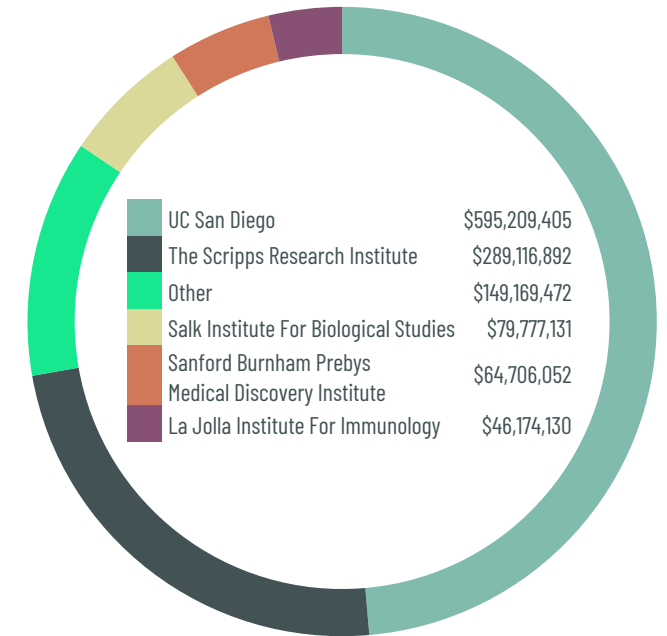


Source: U.S. Bureau of Labor Statistics, CBRE Research

## Historical Vacancy & Asking Rate

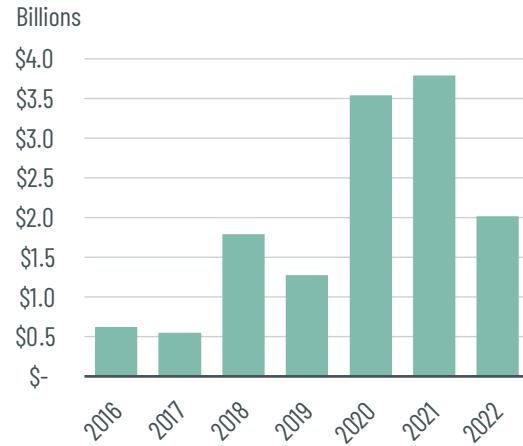


## FY 2022 NIH Funding



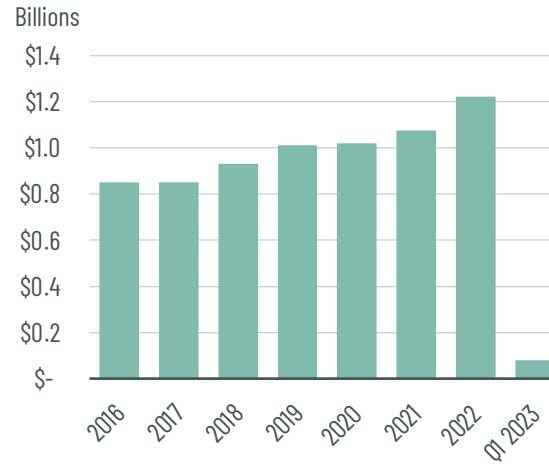
Source: National Institutes of Health

## VC Funding



Source: CB Insights

## NIH Funding



Source: National Institutes of Health (fiscal year starting October 1)





# San Diego

## 2022 Lab/R&D Market Statistics

| Inventory (SF) | Average Asking Rents (NNN) | Vacancy Rate | 2022 Absorption | Demand (SF) | 1st Generation, New Lease TIA | 2nd+ Generation, New Lease TIA |
|----------------|----------------------------|--------------|-----------------|-------------|-------------------------------|--------------------------------|
| 23,890,097     | \$75.96                    | 4.4%         | 721,480         | 980,000     | \$200-\$265                   | N/A                            |

## Lab R&D Future Supply (Q4 2022)

| Under Construction | Number of Projects | Total Size (SF)  | Total Spec Size (SF) | Delivering in 2023 | % Pre-leased | Delivered in 2022 |
|--------------------|--------------------|------------------|----------------------|--------------------|--------------|-------------------|
| New                | 11                 | 4,210,000        | 3,607,000            | 2,784,000          | 31.0%        |                   |
| Conversion         | 23                 | 1,160,000        | -                    | -                  | 27.0%        |                   |
| <b>Total</b>       | <b>34</b>          | <b>5,370,000</b> | <b>3,607,000</b>     | <b>2,784,000</b>   | <b>30.1%</b> | <b>575,026</b>    |

## Top 5 Lab/R&D Lease Transactions of 2022

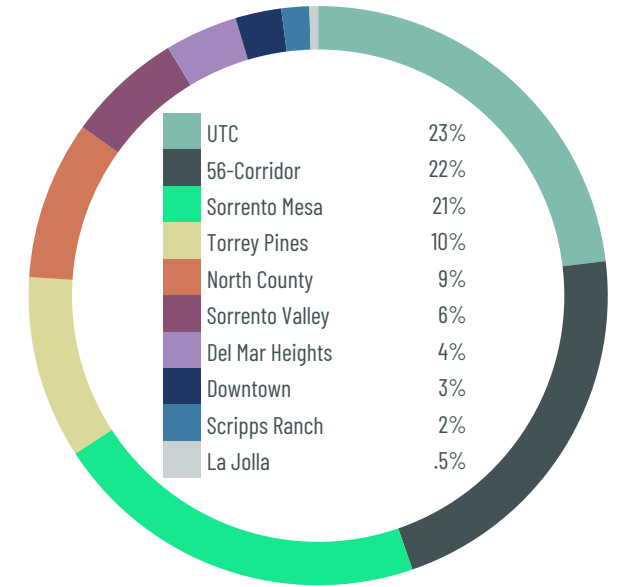
| Date | Tenant                    | Submarket       | Size    | Type |
|------|---------------------------|-----------------|---------|------|
| Q1   | Neurocrine Biosciences    | 56-Corridor     | 535,200 | New  |
| Q1   | BMS                       | UTC             | 426,900 | New  |
| Q1   | Singular Genomics         | Torrey Pines    | 205,700 | New  |
| Q3   | Crinetics Pharmaceuticals | Sorrento Mesa   | 94,200  | New  |
| Q1   | Halozyne Therapeutics     | Del Mar Heights | 72,900  | New  |

## Top 5 Lab/R&D Sale Transactions of 2022

| Date      | Address/Property Name         | Submarket                                   | Size    | Price           | Price/SF | Buyer             |
|-----------|-------------------------------|---|---------|-----------------|----------|-------------------|
| January   | Discovery Portfolio           | Sorrento Mesa, Sorrento Valley, Mission Bay | 642,886 | \$464,299,999   | \$722    | Oxford Properties |
| October   | Ionis Pharmaceuticals Campus* | North County                                | 246,699 | \$263,400,000   | \$1,068  | Oxford Properties |
| September | 7330 & 7360 Carroll Road      | Sorrento Mesa                               | 84,442  | \$60,000,000.00 | \$711    | GI Partners       |

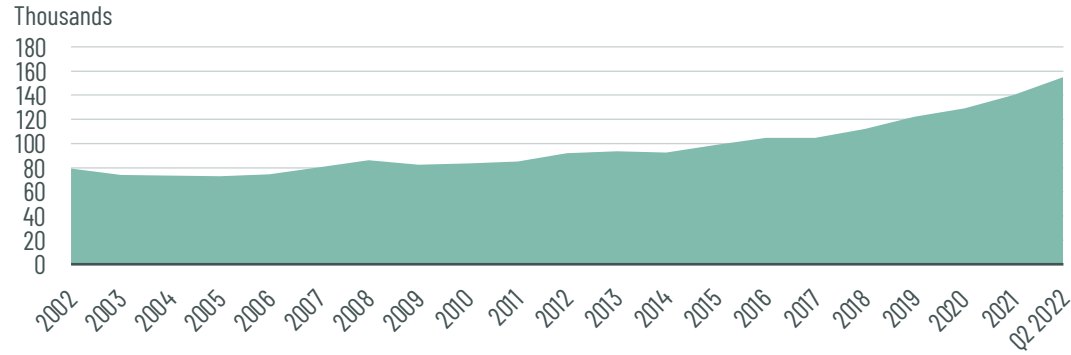
\*Sale-Leaseback

## 2022 R&D/Lab Leases Over 10,000 Sq. Ft. by Submarket



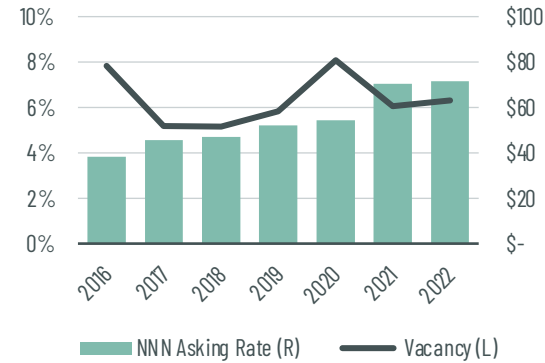
# San Francisco Bay Area

## Life Sciences Employment

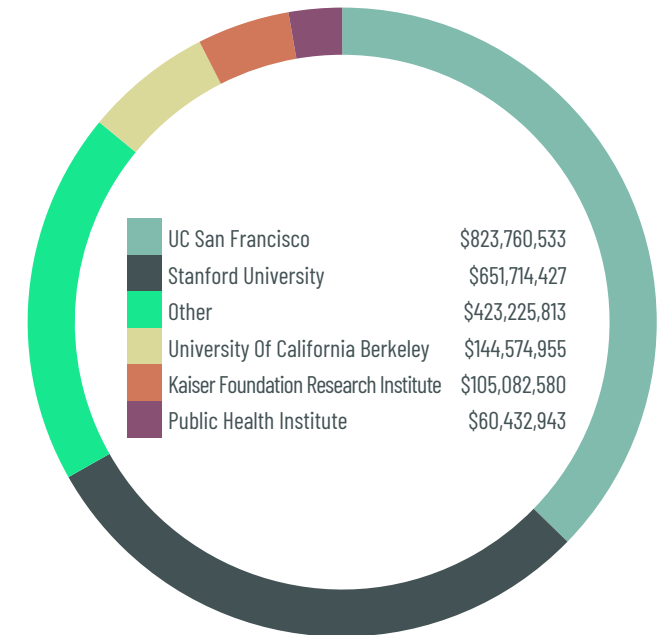


Source: U.S. Bureau of Labor Statistics, CBRE Research

## Historical Vacancy & Asking Rate



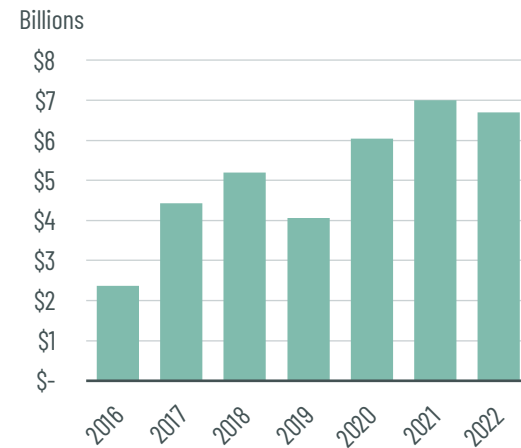
## FY 2022 NIH Funding



Source: National Institutes of Health

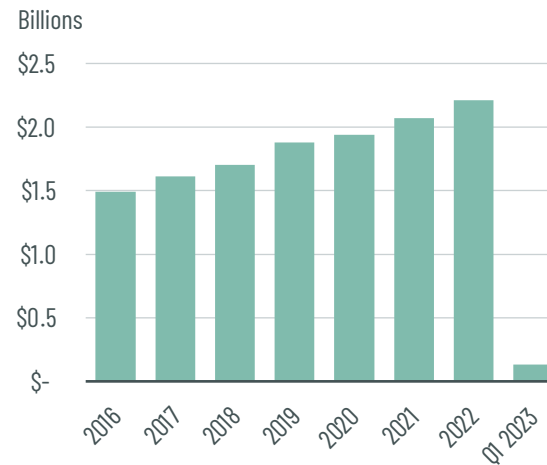


## VC Funding



Source: CB Insights

## NIH Funding



Source: National Institutes of Health (fiscal year starting October 1)

## San Francisco Bay Area

### 2022 Lab/R&D Market Statistics

| Inventory (SF) | Average Asking Rents (NNN) | Vacancy Rate | 2022 Absorption | Demand (SF) | 1st Generation, New Lease TIA | 2nd+ Generation, New Lease TIA |
|----------------|----------------------------|--------------|-----------------|-------------|-------------------------------|--------------------------------|
| 33,753,018     | \$71.64                    | 6.3%         | 404,404         | 5,555,000   | \$250                         | \$175                          |

### Lab R&D Future Supply (Q4 2022)

| Under Construction | Number of Projects | Total Size (SF)  | Total Spec Size (SF) | Delivering in 2023 | % Pre-leased | Delivered in 2022 |
|--------------------|--------------------|------------------|----------------------|--------------------|--------------|-------------------|
| New                | 20                 | 6,735,538        | 5,924,168            | 1,977,412          | 15.6%        |                   |
| Conversion         | 19                 | 2,519,512        | 1,769,502            | 1,924,512          | 9.7%         |                   |
| <b>Total</b>       | <b>39</b>          | <b>9,255,050</b> | <b>7,693,670</b>     | <b>3,901,924</b>   | <b>14.0%</b> | <b>767,447</b>    |

### Top 5 Lab/R&D Lease Transactions of 2022

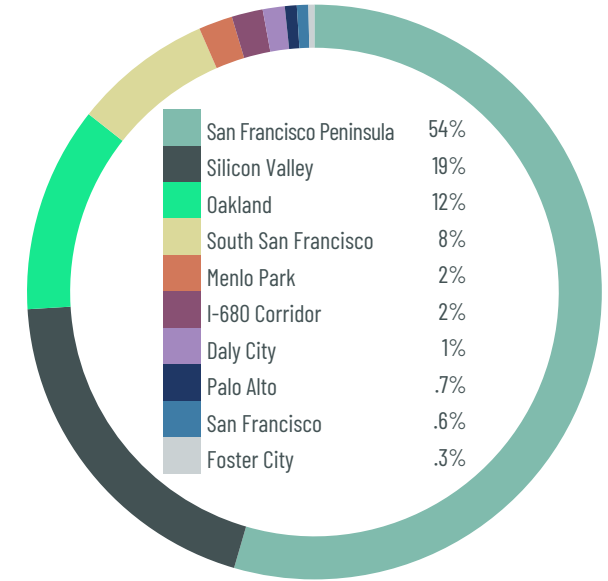
| Date | Tenant                    | Submarket               | Size    | Type               |
|------|---------------------------|-------------------------|---------|--------------------|
| Q2   | EIKON THERAPEUTICS, INC   | San Francisco Peninsula | 295,000 | New Lease          |
| Q2   | Becton, Dickinson and Co. | Silicon Valley          | 246,700 | New Lease          |
| Q3   | Astellas Pharma US, Inc.  | San Francisco Peninsula | 154,000 | New Lease          |
| Q2   | Calico Life Sciences LLC  | San Francisco Peninsula | 148,000 | Expansion          |
| Q4   | Insitro                   | San Francisco Peninsula | 143,200 | Renewal/ Expansion |

### Top 5 Lab/R&D Sale Transactions of 2022

| Date      | Address/Property Name   | Submarket                      | Size      | Price         | Price/SF | Buyer                  |
|-----------|---|--------------------------------|-----------|---------------|----------|------------------------|
| September | Peninsula Lab Collection - 7000 Shoreline Ct., 341 Oyster Blvd, 75 Shoreway Rd. | San Carlos/South San Francisco | 330,379   | \$388,000,000 | \$1,174  | GI Partners            |
| April     | Terry Francois Campus - 550 Terry Francois                                      | Mission Bay                    | 301,134   | \$356,000,000 | \$1,182  | DivcoWest              |
| January   | 3301, 3303, 3305 & 3307 Hillview Ave*   | Palo Alto                      | 292,013   | \$267,600,000 | \$916    | Alexandria Real Estate |
| January   | 150 Industrial Road*  | San Carlos                     | 229,640   | \$190,000,000 | \$827    | BentallGreenOak        |
| January   | 5000 Shoreline*   | South San Francisco            | \$143,383 | \$164,500,000 | \$1,147  | DivcoWest              |

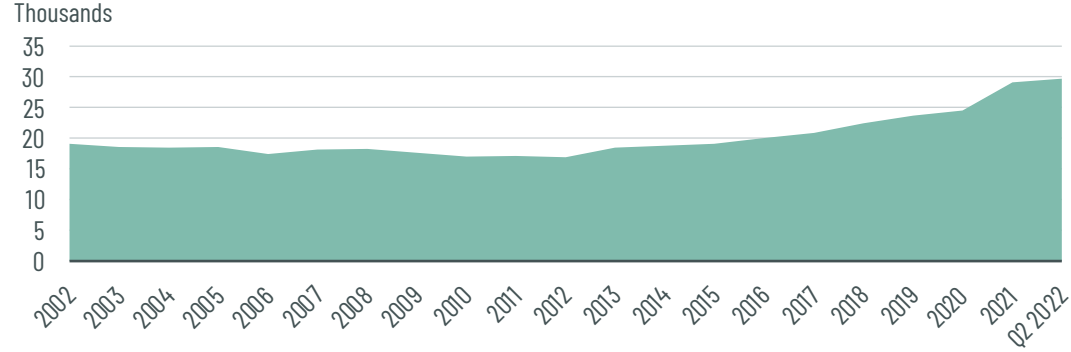
\*Conversion

### 2022 R&D/Lab Leases Over 10,000 Sq. Ft. by Submarket



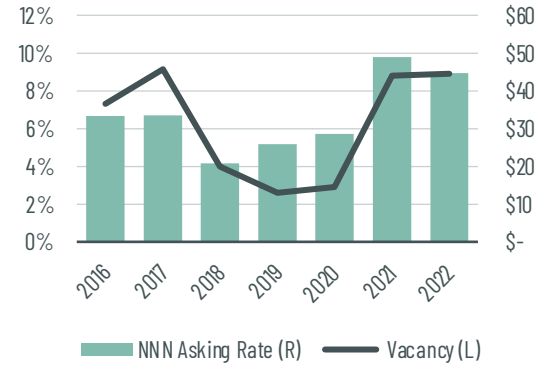
# Seattle

## Life Sciences Employment

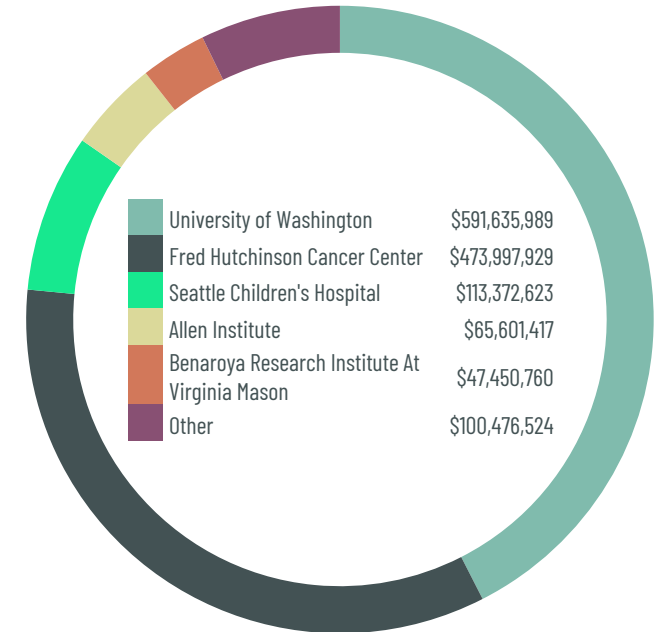


Source: U.S. Bureau of Labor Statistics, CBRE Research

## Historical Vacancy & Asking Rate



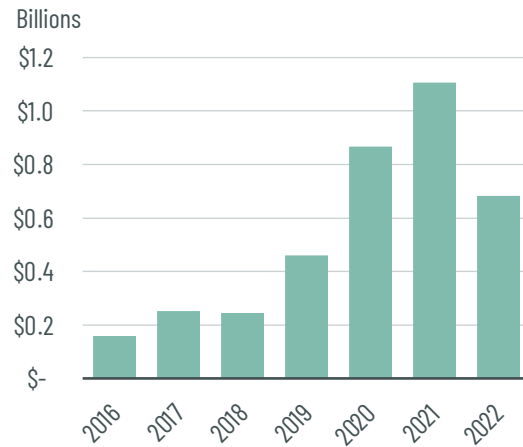
## FY 2022 NIH Funding



Source: National Institutes of Health

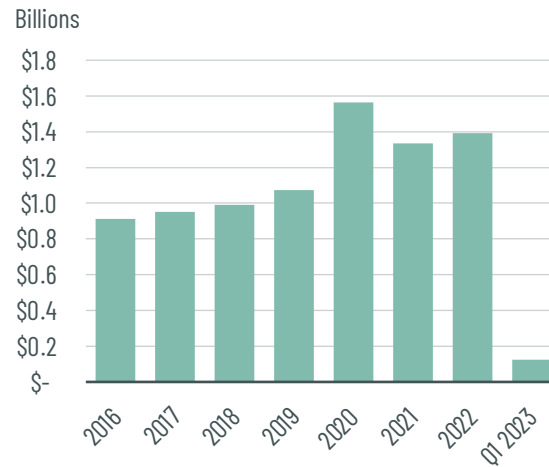


## VC Funding



Source: CB Insights

## NIH Funding



Source: National Institutes of Health (fiscal year starting October 1)

# Seattle

## 2022 Lab/R&D Market Statistics

| Inventory (SF) | Average Asking Rents (NNN)              | Vacancy Rate | 2022 Absorption | Demand (SF) | 1st Generation, New Lease TIA | 2nd+ Generation, New Lease TIA |
|----------------|---|--------------|-----------------|-------------|-------------------------------|--------------------------------|
| 9,257,340      | \$79.14 (Downtown)<br>\$36.16 (Bothell) | 8.9%         | 58,533          | 325,000     | \$200-\$250                   | \$50-\$75                      |

## Lab R&D Future Supply (Q4 2022)

| Under Construction | Number of Projects | Total Size (SF)  | Total Spec Size (SF) | Delivering in 2023 | % Pre-leased | Delivered in 2022 |
|--------------------|--------------------|------------------|----------------------|--------------------|--------------|-------------------|
| New                | 5                  | 1,250,700        | 1,012,000            | 585,000            | 31.1%        |                   |
| Conversion         | 2                  | 405,000          | 405,000              | 405,000            | 27.0%        |                   |
| <b>Total</b>       | <b>6</b>           | <b>1,655,700</b> | <b>1,417,000</b>     | <b>990,000</b>     | <b>30.1%</b> | <b>-</b>          |

## Top 5 Lab/R&D Lease Transactions of 2022

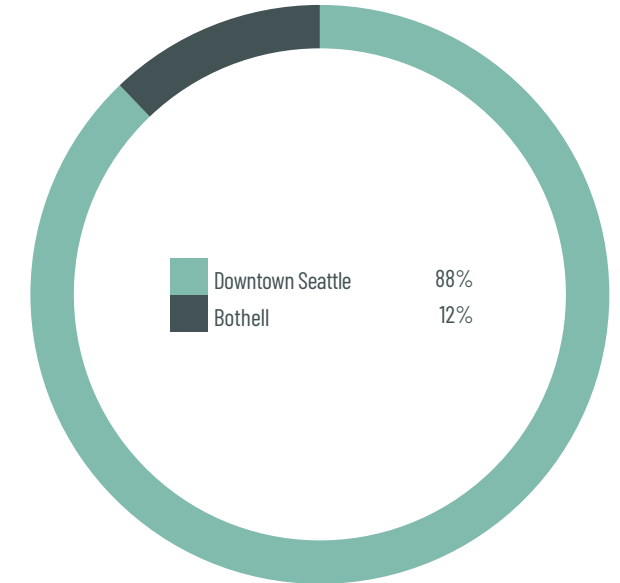
| Date | Tenant                     | Submarket        | Size    | Type      |
|------|----------------------------|------------------|---------|-----------|
| Q2   | Confidential               | Downtown Seattle | 123,500 | New       |
| Q3   | Sonoma Biotherapeutics Inc | Downtown Seattle | 83,500  | New       |
| Q2   | Sana Biotechnology         | Bothell          | 79,600  | New       |
| Q2   | Confidential               | Downtown Seattle | 51,100  | New       |
| Q4   | Lumen Bioscience, Inc.     | Downtown Seattle | 49,400  | Expansion |

## Top 5 Lab/R&D Sale Transactions of 2022

| Date      | Address/Property Name       | Submarket        | Size    | Price         | Price/SF | Buyer                    |
|-----------|-----------------------------|------------------|---------|---------------|----------|--------------------------|
| April     | 2300 7th Ave, 2801 8th Ave* | Seattle Close-In | 1.62 Ac | \$126,750,000 | N/A      | BioMed Realty            |
| September | 112, 118, 130 5th Avenue N* | Seattle Close-In | 0.63 Ac | \$42,000,000  | N/A      | Lincoln Property Company |
| February  | 750-816 Mercer St*          | Seattle Close-In | 2.35 Ac | \$138,499,000 | N/A      | Alexandria Real Estate   |

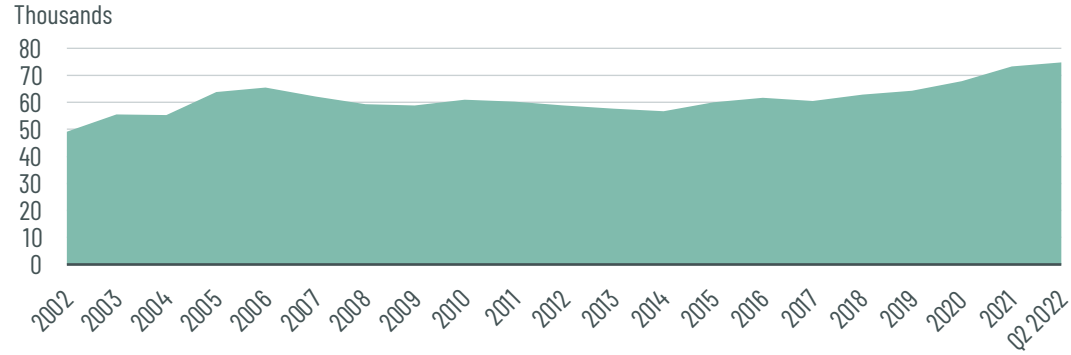
\*Proposed Lab/R&D

## 2022 R&D/Lab Leases Over 10,000 Sq. Ft. by Submarket



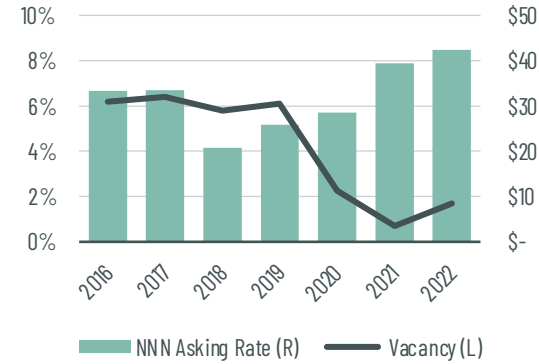
# Washington, D.C./Baltimore

## Life Sciences Employment

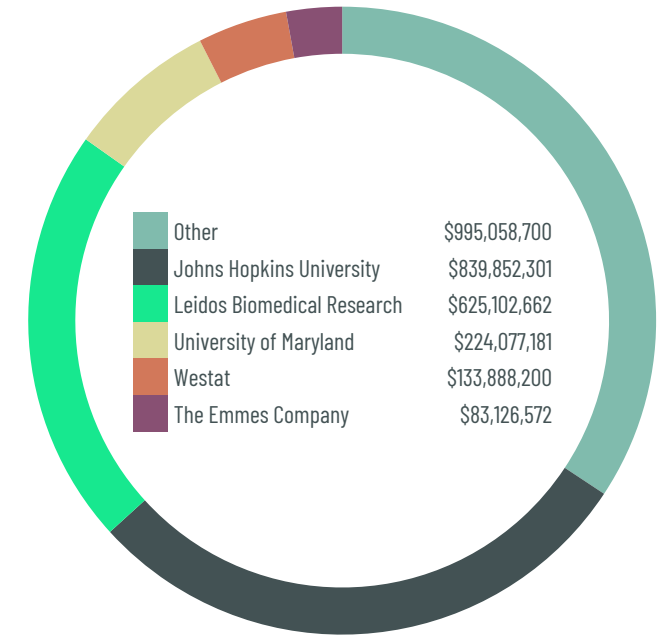


Source: U.S. Bureau of Labor Statistics, CBRE Research

## Historical Vacancy & Asking Rate



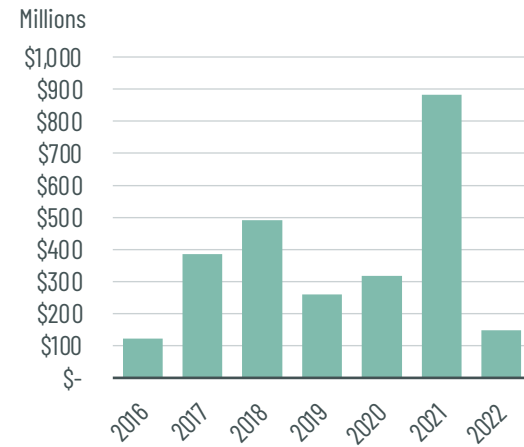
## FY 2022 NIH Funding



Source: National Institutes of Health

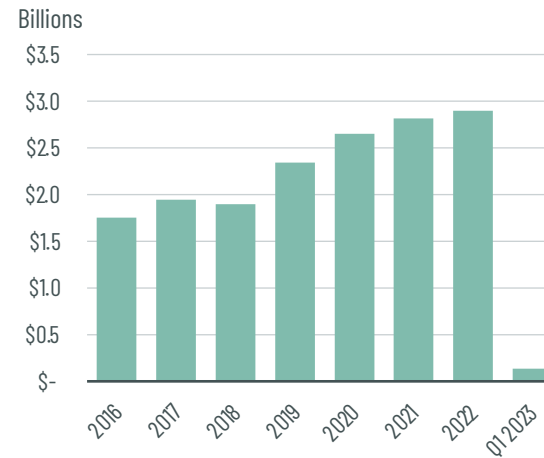


## VC Funding



Source: CB Insights

## NIH Funding



Source: National Institutes of Health (fiscal year starting October 1)



# Washington, D.C./Baltimore

## 2022 Lab/R&D Market Statistics

| Inventory (SF) | Average Asking Rents (NNN) | Vacancy Rate | 2022 Absorption | Demand (SF) | 1st Generation, New Lease TIA | 2nd+ Generation, New Lease TIA |
|----------------|----------------------------|--------------|-----------------|-------------|-------------------------------|--------------------------------|
| 12,620,167     | \$42.35                    | 1.7%         | 622,732         | 821,500     | \$175                         | \$20                           |

## Lab R&D Future Supply (Q4 2022)

| Under Construction | Number of Projects | Total Size (SF)  | Total Spec Size (SF) | Delivering in 2023 | % Pre-leased | Delivered in 2022 |
|--------------------|--------------------|------------------|----------------------|--------------------|--------------|-------------------|
| New                | 6                  | 747,166          | 305,166              | 497,166            | 63.2%        |                   |
| Conversion         | 9                  | 706,121          | 706,121              | 653,662            | 40.0%        |                   |
| <b>Total</b>       | <b>15</b>          | <b>1,453,287</b> | <b>1,011,287</b>     | <b>1,150,828</b>   | <b>51.9%</b> | <b>453,376</b>    |

## Top 5 Lab/R&D Lease Transactions of 2022

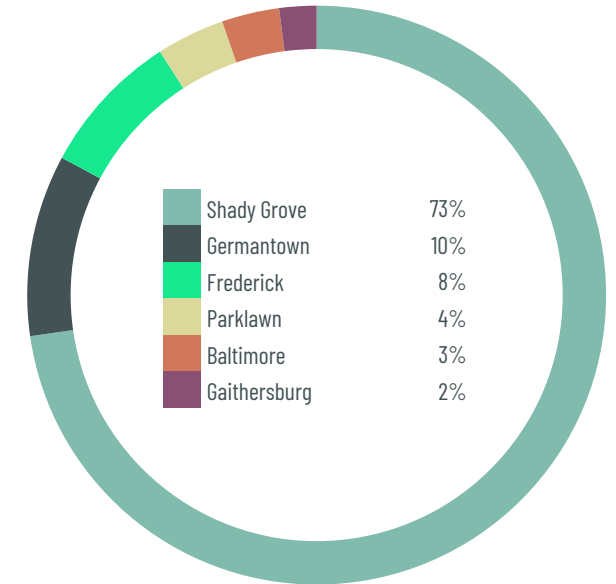
| Date | Tenant             | Submarket | Size    | Type        |
|------|--------------------|-----------|---------|-------------|
| Q3   | Millapore Sigma    | New       | 250,000 | Shady Grove |
| Q1   | Tetracore          | New       | 96,000  | Shady Grove |
| Q3   | Arcellx            | New       | 60,000  | Shady Grove |
| Q1   | Charles River Labs | New       | 43,300  | Shady Grove |
| Q3   | UndiBio            | New       | 23,700  | Parklawn    |

## Top 5 Lab/R&D Sale Transactions of 2022

| Date    | Address/Property Name                        | Submarket   | Size      | Price         | Price/SF | Buyer                                  |
|---------|--|-------------|-----------|---------------|----------|--|
| June    | Key West Life Science Center                 | Shady Grove | \$282,410 | \$148,000,000 | \$524    | Metlife                                |
| April   | 20301 Century Blvd - Thermofisher            | Germantown  | \$49,501  | \$16,600,000  | \$335    | Sheridan Road Properties / Oze Capital |
| July    | Research Square - 1500 & 1550 Research Blvd* | Shady Grove | \$90,000  | \$25,500,000  | \$283    | Altus Realty/Velocis                   |
| June    | 1 Preserve Parkway*                          | Parklawn    | \$183,667 | \$42,000,000  | \$229    | Longfellow RE Partners                 |
| October | 9920 Medical Center Drive**                  | Shady Grove | \$58,925  | \$13,000,000  | \$221    | Emergent Biosolutions                  |

\*Conversion \*\*Owner-User

## 2022 R&D/Lab Leases Over 10,000 Sq. Ft. by Submarket



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