Life Sciences in the NYC Metro

Exploring one of the fastest growing innovation sectors inside the nation's largest metropolitan economy.

June 2022
Research Release

Foreword

Our city's recovery depends on building an economy that's strong and inclusive today and will continue to be for the next generation — and the life sciences industry is a perfect example of how New York City is leading the way. Working with our partners across the region, we are making the smart investments to create jobs and opportunity for New Yorkers while encouraging scientific progress that benefits people across the country and the world. But we're not done. We will continue encouraging growth in life sciences and other industries of the future to jumpstart our city's recovery and create economic opportunity for even more New Yorkers going forward.

Eric Adams, New York City Mayor

This report shows New York City is a powerhouse when it comes to growth of the life sciences sector, and our trajectory is even more promising with our partners nearby. Working with New Jersey and Connecticut, we can grow jobs more quickly, attract record public and private funding, and ensure companies of all sizes have the flexible space needed to grow and thrive here.

Maria Torres-Springer, New York City Deputy Mayor for Economic and Workforce Development

New York City serves as the gravitational center for the largest life sciences hub in the country. The incredible expansion of the life sciences industry in the New York City metro area is a testament to our regional focus on walkable centers, attracting and retaining amazing talent, and our unparalleled ability to support emerging industries. As we get stuff done for the city, we recognize there is more to do and we are laser focused on making even more locations across the five boroughs great places to work and live.

Dan Garodnick, Director, New York City Department of City Planning

New York City has the talent, jobs, and funding to be competitive and surpass leading cities in the life sciences sector. NYCEDC is proud to oversee the mayor's $1 billion investment in life sciences, which allows us to continue to spur new research and develop our talent to translate to more companies, jobs, medicines, and advanced technologies. As we look ahead, partnership will be key to elevating our city's life sciences ecosystem.

Andrew Kimball, President and CEO, New York City Economic Development Corporation
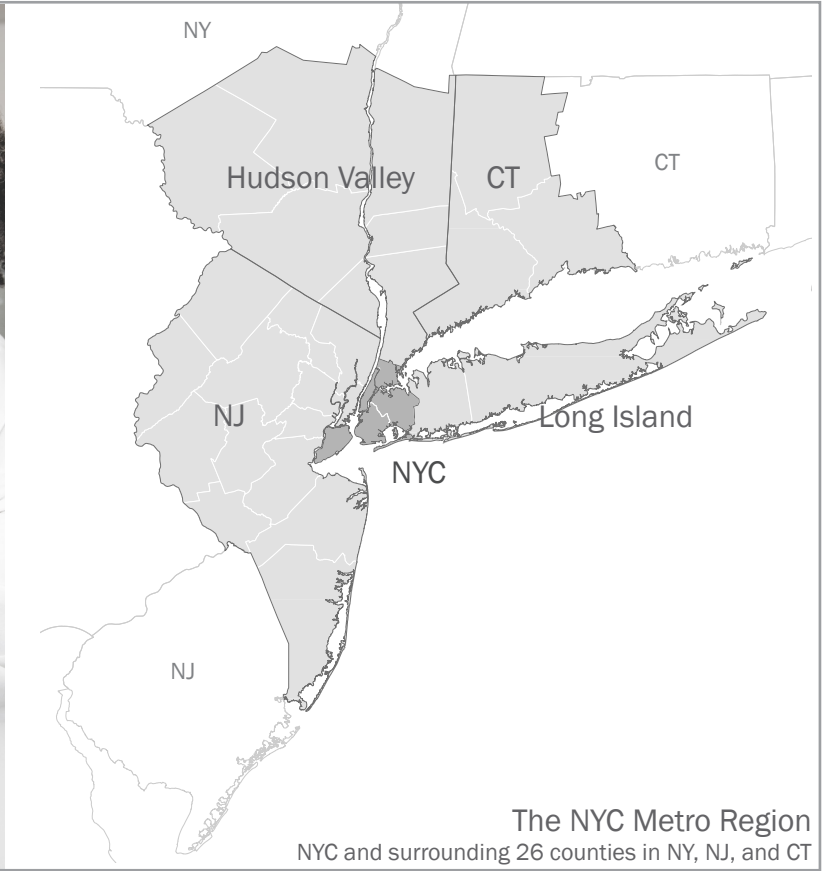
Contents

The NYC Metro Region
NYC and surrounding 26 counties in NY, NJ, and CT

The life sciences sector is leading economic growth and innovation.

This is a critical moment for investing in life sciences research and production.

The NYC Metro region, which includes New York City and the surrounding 26 counties in Long Island, the Hudson Valley, northern New Jersey, and southwest Connecticut,[1] has long been a leader in delivering world class healthcare and bioscience, but the Covid-19 pandemic has thrust our region into the spotlight. As we rise to the challenge of treating the greatest public health crisis in a century, investing in life sciences is critical for the next generation of life saving medical devices, therapeutics, vaccines, and medical advancement. From companies at the Brooklyn Navy Yard producing personal protective equipment to vaccine development at local labs, and a $40 million New York State Biodefense Commericalization Fund, the NYC Metro region has been at the vanguard of the nation's fight against Covid-19, and is poised to drive innovation and combat future challenges to public health.

The life sciences sector depends on interactions between researchers, funders, and entrepreneurs to develop new technologies.

In examining the necessary requirements for a thriving regional life sciences ecosystem, the NYC Metro region has all the required ingredients:

- a phenomenal talent pool, supported by a growing pipeline of graduates from more than two dozen world class academic and healthcare institutions;
- strong public investment and an unparalleled financial pool to draw from in Wall Street and a critical mass of venture capital and angel investors;
- concentrations of small and large companies that is vital to this industry; and
- a large and growing inventory of both wet lab and office space across the region to support a spectrum of business needs.

This report will look at each ingredient of the life sciences economy: businesses, talent, investment, space, and government support, to show the impact and growth potential of the life sciences sector and the NYC Metro's strength relative to other regions.

Workers creating isolation gowns at Open Jar Studios in Midtown Manhattan.

What is life sciences?

Life sciences, at its core, is the combined applications of biology and technology for the advancement of humanity. It includes the study of living organisms. The life sciences industry includes numerous scientific fields such as biology, biotechnology, biopharmaceuticals, medical devices and medical technology, bioprocessing, bioinformatics, bioengineering, and genomics. These fields have been the keys to unlocking modern therapeutics and medicines, vaccines, diagnostics, and devices. Life sciences has also led to advancements in agriculture, energy, data science, manufacturing, consumer products, chemicals, and sustainability.

The NYC Metro has the largest life sciences economy in the U.S.

The NYC Metro is the largest economic engine in the nation, generating 10% of U.S. Gross Domestic Product, an economic output larger than Canada or South Korea.[2]

New York City ("NYC") sits at the center of the most economically productive metropolitan area ("NYC Metro") in the United States, with nearly 10.7 million jobs[3] generating nearly $2 trillion in Gross Domestic Product.[4] Our combined economic activity makes this region the 8th largest economy in the world.[5]

The NYC Metro is at the heart of a corridor of life sciences innovation stretching from Boston to Raleigh-Durham, and has the largest life sciences economy in the U.S., with over 150,000 jobs and nearly 5,100 businesses.[6] In the decade prior to the Covid-19 pandemic, NYC gained over 900,000 jobs and experienced significant growth in industries complementary to life sciences, such as healthcare and information (including "tech sector") jobs. Between 2010 and 2019, NYC's private healthcare sector grew at 38% and information grew at 34%— far exceeding the U.S. information sector growth of 5%.[7]
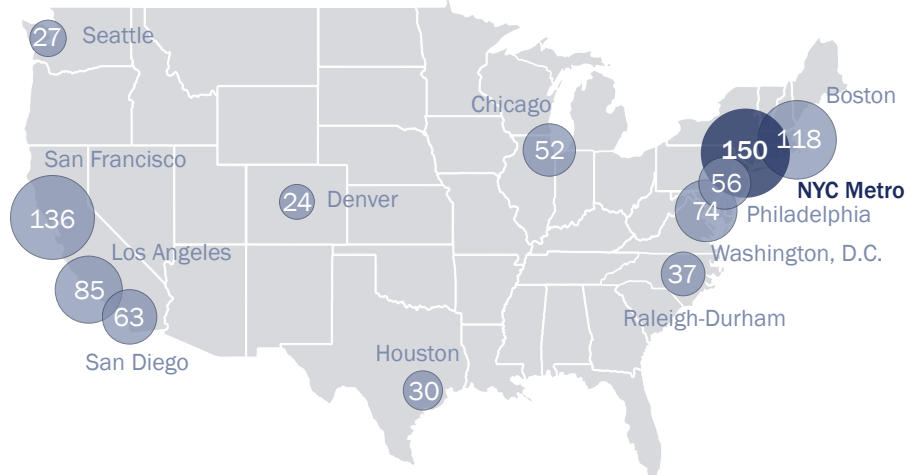
$23.1 billion

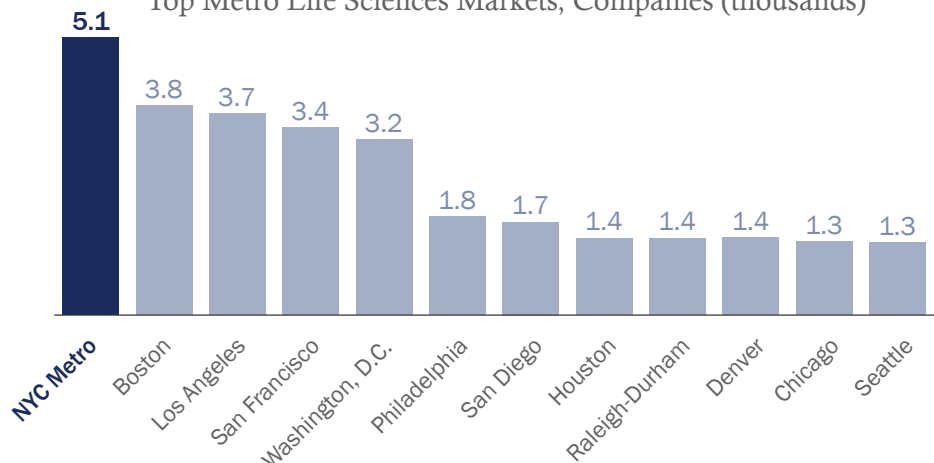NYC Metro life sciences worker wages last year.[8]

Top Metro Life Sciences Markets, Jobs (thousands)

The NYC Metro has nearly **150,000 life sciences jobs**, 14,000 more jobs than the next leading metro, San Francisco.

- Seattle: 27
- Chicago: 52
- Boston: 118
- NYC Metro: 150
- Philadelphia: 56
- Washington, D.C.: 74
- San Francisco: 136
- Denver: 24
- Los Angeles: 85
- San Diego: 63
- Houston: 30
- Raleigh-Durham: 37

Top Metro Life Sciences Markets, Companies (thousands)

The NYC Metro is home to nearly **5,100 life sciences companies**, 30% more businesses than the next leading metro, Boston.
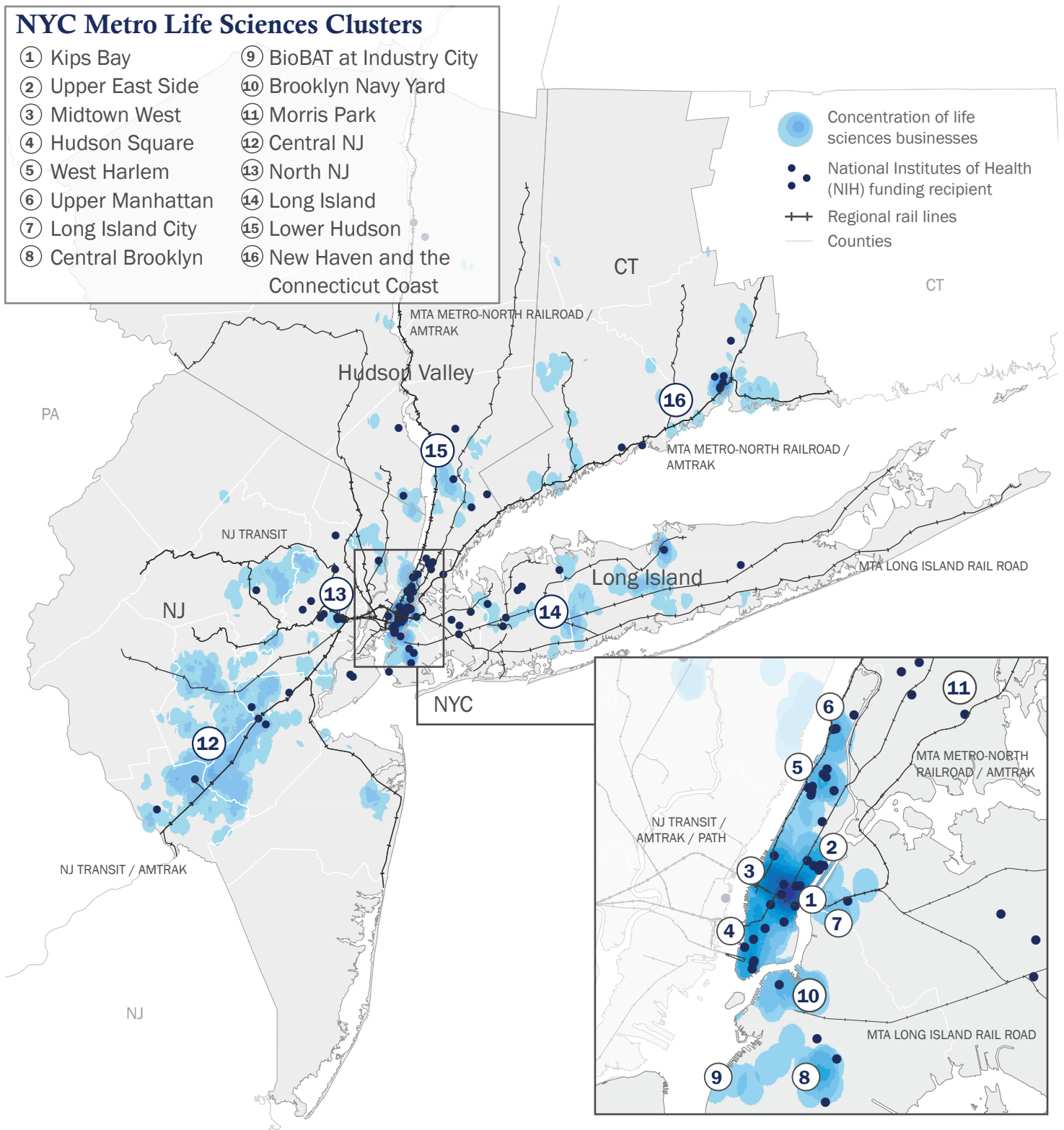
NYC Metro	Boston	Los Angeles	San Francisco	Washington, D.C.	Philadelphia	San Diego	Houston	Raleigh-Durham	Denver	Chicago	Seattle
5.1	3.8	3.7	3.4	3.2	1.8	1.7	1.4	1.4	1.4	1.3	1.3

That economy is supported by a thriving ecosystem of talent, investment, and workspace connected by regional transit.

The NYC Metro, representing the five counties of NYC and surrounding 26 counties in New York, New Jersey, and Connecticut, offers a diversity of life sciences clusters of legacy and emerging businesses. These clusters are anchored by world-class institutions and linked by the country's most extensive mass transit network, including regional rail and bus networks that connect to NYC's own extensive bus and subway systems.

NYC Metro Life Sciences Clusters

① Kips Bay
② Upper East Side
③ Midtown West
④ Hudson Square
⑤ West Harlem
⑥ Upper Manhattan
⑦ Long Island City
⑧ Central Brooklyn
⑨ BioBAT at Industry City
⑩ Brooklyn Navy Yard
⑪ Morris Park
⑫ Central NJ
⑬ North NJ
⑭ Long Island
⑮ Lower Hudson
⑯ New Haven and the Connecticut Coast

Concentration of life sciences businesses

National Institutes of Health (NIH) funding recipient

Regional rail lines

Counties

Across the city and region, we are seeing existing and new life sciences investments enable centers of innovation, with wide access to talent, fueling our economy.

①

Alexandria Center, Kips Bay

Kips Bay is Manhattan's core life sciences hub. With anchor research institutions, including NYU Langone Medical Center and Bellevue Hospital, and lab space at the Alexandria Center for Life Sciences and CURE at 345 Park Avenue South, the area is home to more than 1 million square feet ("M SF") of commercial life sciences space. A third Alexandria tower and 455 1st Avenue, in development, will soon bring this cluster to 1.8M SF.

②

Weill Cornell Medicine, UES

The **Upper East Side** is home to a second large cluster of medical research institutions, including Memorial Sloan Kettering Cancer Center, Rockefeller University, Weill Cornell Medicine, and New York Blood Center, which is building a new facility.

③

Hudson Research Center, Midtown

Midtown West contains the newly opened Hudson Research Center, home to several midsize life sciences companies, the New York Stem Cell Foundation, and the accelerator IndieBio New York, which nurtures 20 companies each year. Two projects under construction will add 900k SF to this growing cluster.
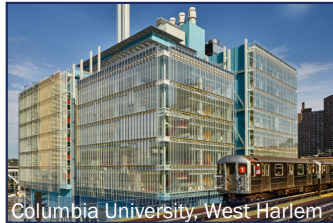
④

NY Genome Center, Hudson Square

Hudson Square is home to JLABS@NYC, which hosts the NY Genome Center, as well as the BioLabs@NYULangone, two of 8 incubator spaces in NYC for growing life sciences companies. Combined, the two incubators currently host more than 50 life sciences start-ups and have more than 150 alumni companies.

⑤

Columbia University, West Harlem

West Harlem—With proximity to Columbia University and the City College of New York's Advanced Science Research Center, West Harlem is a growing cluster in northern Manhattan that includes over 500k SF at three private developments: Taystee Lab, Sweets, and Mink buildings.

⑥

LaunchLabs, Upper Manhattan

Upper Manhattan is home to Alexandria LaunchLabs@Columbia biosciences incubator and Columbia University Irving Medical Center.
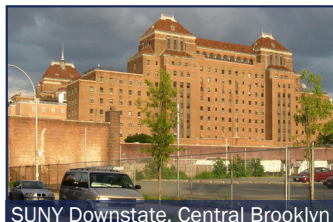
⑦

Innolabs, Long Island City

Long Island City has seen a flurry of recent laboratory spaces come online, including Innolabs and Alexandria Bindery, and an announced pipeline that will bring this cluster to 1.25M SF by 2024.[9]
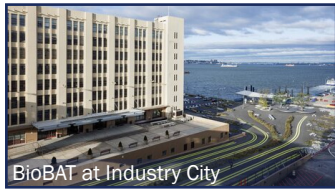
⑧

SUNY Downstate, Central Brooklyn

In **Central Brooklyn,** SUNY Downstate is home to a 50k SF incubator, cultivating research coming out of SUNY Downstate Medical Center and Kings County Hospital.

[cont...]

(9)
BioBAT at Industry City

BioBAT at Brooklyn Army Terminal is home to several biotech companies conducting research and manufacturing on the Brooklyn waterfront.

(10)
Brooklyn Navy Yard

Brooklyn Navy Yard is emerging as a biomanufacturing hub, having played a key role in NYC's initial response to the Covid-19 pandemic by producing ventilators and personal protective equipment for front-line medical workers.

(11)
Albert Einstein College, Morris Park

Morris Park is a burgeoning life sciences cluster, soon to be home to the Montefiore-Einstein Accelerated Biotechnology Research Center (EMBARC), a biomanufacturing operation focused on cell, gene, and antibody therapy production.

(12)
NJ Bioscience Center, Central NJ

Central New Jersey is home to several large legacy pharmaceutical corporations like Johnson & Johnson and Bristol-Myers Squibb and clusters of R&D start-ups near Princeton and Rutgers University. North Brunswick is home to the New Jersey Bioscience Center, a 300k SF research park. The Center of Excellence is a former Sanofi site repurposed into a 62-acre multi-tenant life sciences R&D campus. The Hub, a 550k SF medical R&D facility adjacent to New Brunswick's rail station, broke ground in 2021.

(13)
95 Greene St, Jersey City, North NJ

North New Jersey contains large corporations such as Novartis and Merck, and burgeoning life sciences activity centers in Newark, near New Jersey Institute of Technology and Rutgers Newark, and in Jersey City, where the JC Cove and Scitech Scity developments provide the potential for another highly transit-accessible cluster. In Nutley, a former Roche site has been rebuilt into ON3, a 1.1M SF multi-tenant life sciences research park.

(14)
Brookhaven National Lab, LI

Long Island has growing clusters of R&D near Stony Brook University and Brookhaven National Laboratories that add dynamism to existing biomanufacturing throughout suburban locations in Suffolk County. Nassau County is home to Northwell Health, New York State's largest employer, and their research hub at the Feinstein institute.

(15)
Regeneron Campus, Westchester

The **Lower Hudson** cluster is home to Regeneron's headquarters in Westchester County and Pfizer's historic Pearl River campus in Rockland County. Efforts are underway to seed additional space in proximity to New York Medical College, which hosts one of several regional life sciences incubator spaces.

(16)
Yale Science Hill, New Haven

New Haven and the Connecticut Coast have seen recent investments in laboratory space within walking distance of the Metro-North Railroad stations, housing numerous life sciences companies spinning out of Yale, one of the NYC Metro's largest recipients of NIH Funding and producer of life sciences Ph.D. graduates.
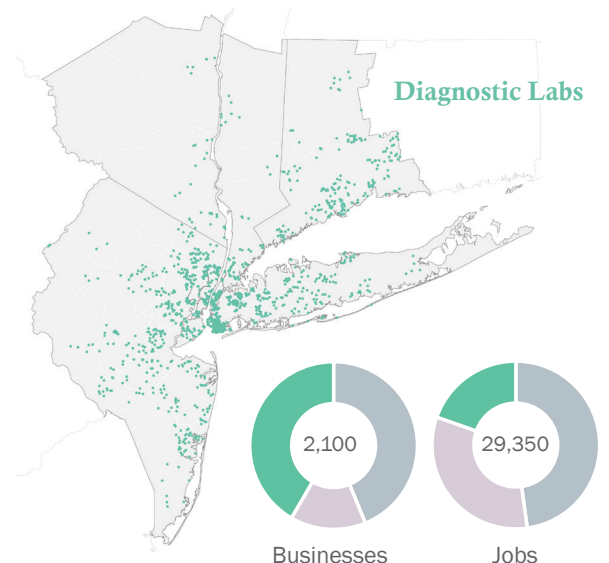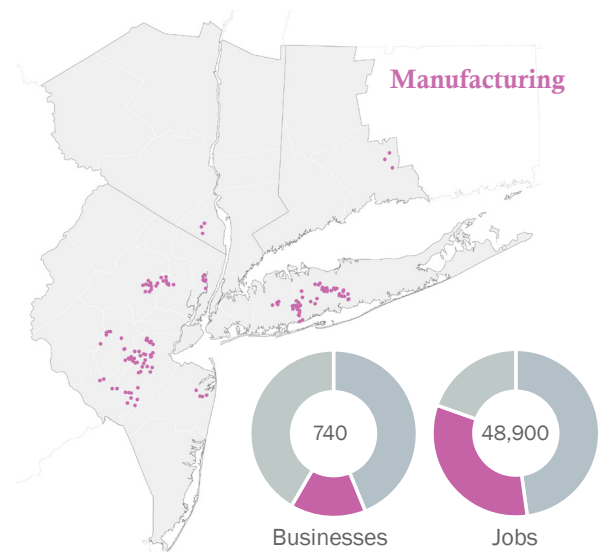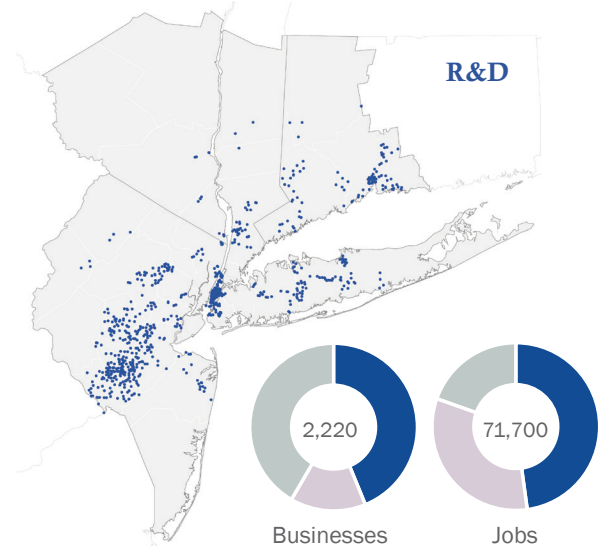
Life sciences consists of three core types of businesses: research and development, manufacturing, and medical and diagnostic laboratories.[9]

Research and development ("R&D") businesses are primarily engaged in exploration and experimentation, and may include biotechnology, nanotechnology, medicine, and other related subjects. Smaller R&D companies tend to concentrate in locations with access to public transportation and urban amenities to attract and retain workers—NYC accounts for 14% of the region's R&D jobs, but 27% of businesses.[10]
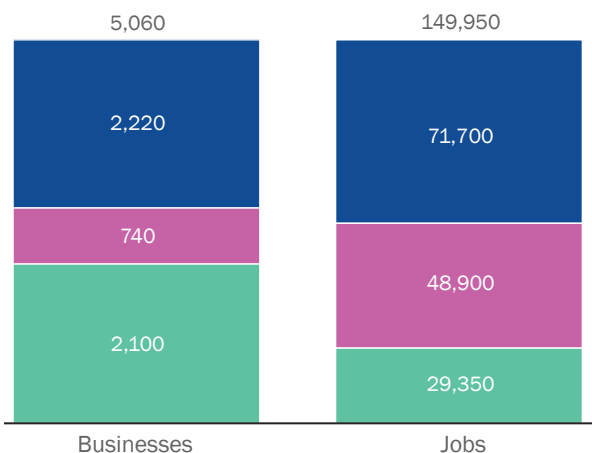
Manufacturing includes production of pharmaceuticals, medicines, and medical equipment (e.g., MRI machines, pacemakers, hearing aids, prosthetics). Manufacturing businesses are larger than those in R&D, both in the number of employees and in the size of their facilities. As a result, this industry is concentrated in suburban areas with access to freight distribution and transportation networks, notably on Long Island and in Central New Jersey, which is seeing growth in cell and gene manufacturing.

Medical and diagnostic testing laboratories ("Diagnostic Labs") are facilities that generally service the healthcare sector but employ workers in many of the same occupations as R&D. Diagnostic Labs are concentrated in and near areas with higher population density, and business locations roughly mirror the geography of the NYC Metro's population.

Life Sciences Businesses by Zip Code
1 Dot = 1 Business

R&D

2,220 Businesses

71,700 Jobs

Manufacturing

740 Businesses

48,900 Jobs

Diagnostic Labs

2,100 Businesses

29,350 Jobs

NYC Metro Life Sciences by Industry

	Businesses	Jobs
Total	5,060	149,950
R&D	2,220	71,700
Manufacturing	740	48,900
Diagnostic Labs	2,100	29,350

R&D is a high-value industry that is growing in transit-accessible locations—especially in NYC.

R&D is the highest value sector within the NYC Metro's life sciences economy. Despite being less than half of life sciences jobs, R&D represents nearly 63% of wages earned by workers in life sciences industries.[11] In the last decade, the NYC Metro has added over 600 R&D companies, nearly half of which are located in NYC.[12] This data shows that CEOs are bringing their firms near transit-oriented innovation centers, especially in NYC and near large regional research institutions, including Rutgers, Stony Brook, and Yale.

In recent years, the NYC Metro has seen accelerated job growth in R&D as companies continue to hire. R&D employment has increased by more than 9,000 since January 2018, a rate of job growth nearly four times that from 2010 to 2018.[13]

Diagnostic Labs are a critical and growing part of the NYC Metro life sciences ecosystem.

The last decade has also seen over 800 new Diagnostic Labs throughout the region,[14] clustering near population centers in NYC and occupying former pharmaceutical manufacturing facilities in North NJ. Much of NYC's growth in Diagnostic Labs has occurred in southern Brooklyn. In part, the growth of Diagnostic Labs in New Jersey reflects reuse of former R&D and manufacturing facilities, such as the former Hoffmann-La Roche campus in Clifton, NJ being converted for use by companies such as Quest Diagnostics.

Diagnostic Labs account for a smaller component of regional economic activity than R&D businesses, but provide a growing source of non-advanced degree employment.

NYC Metro Wages by Industry Type (Q3 2021)

$$$$$$$$$$$$ $5.3B
R&D   Manufacturing   Diagnostic Labs

Growth in NYC Metro Businesses by Industry Type, 2010 to 2021

■ R&D   ■ Manufacturing   ■ Diagnostic Labs

NJ   +703
NYC   +510
CT   +240
LI   +116
Hudson Valley   +42
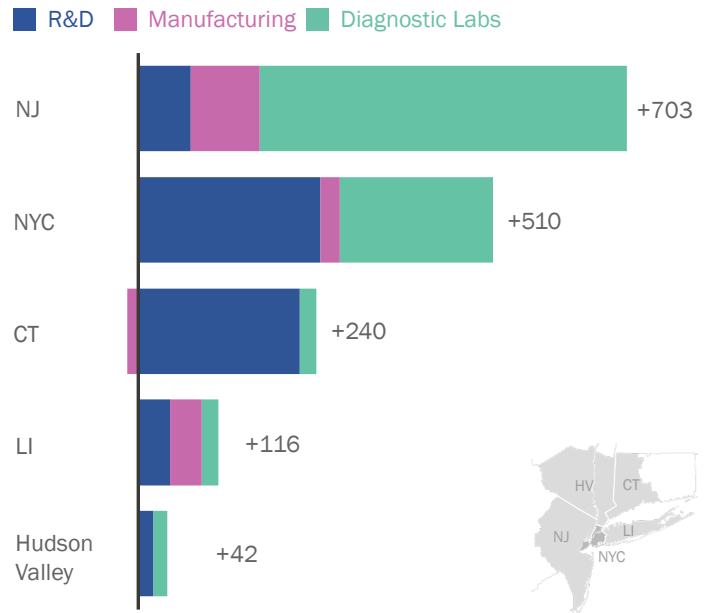
Recent NYC Metro Job Growth (Q1 2018 to Q3 2021)

+18% R&D

+26% Diagnostic Labs

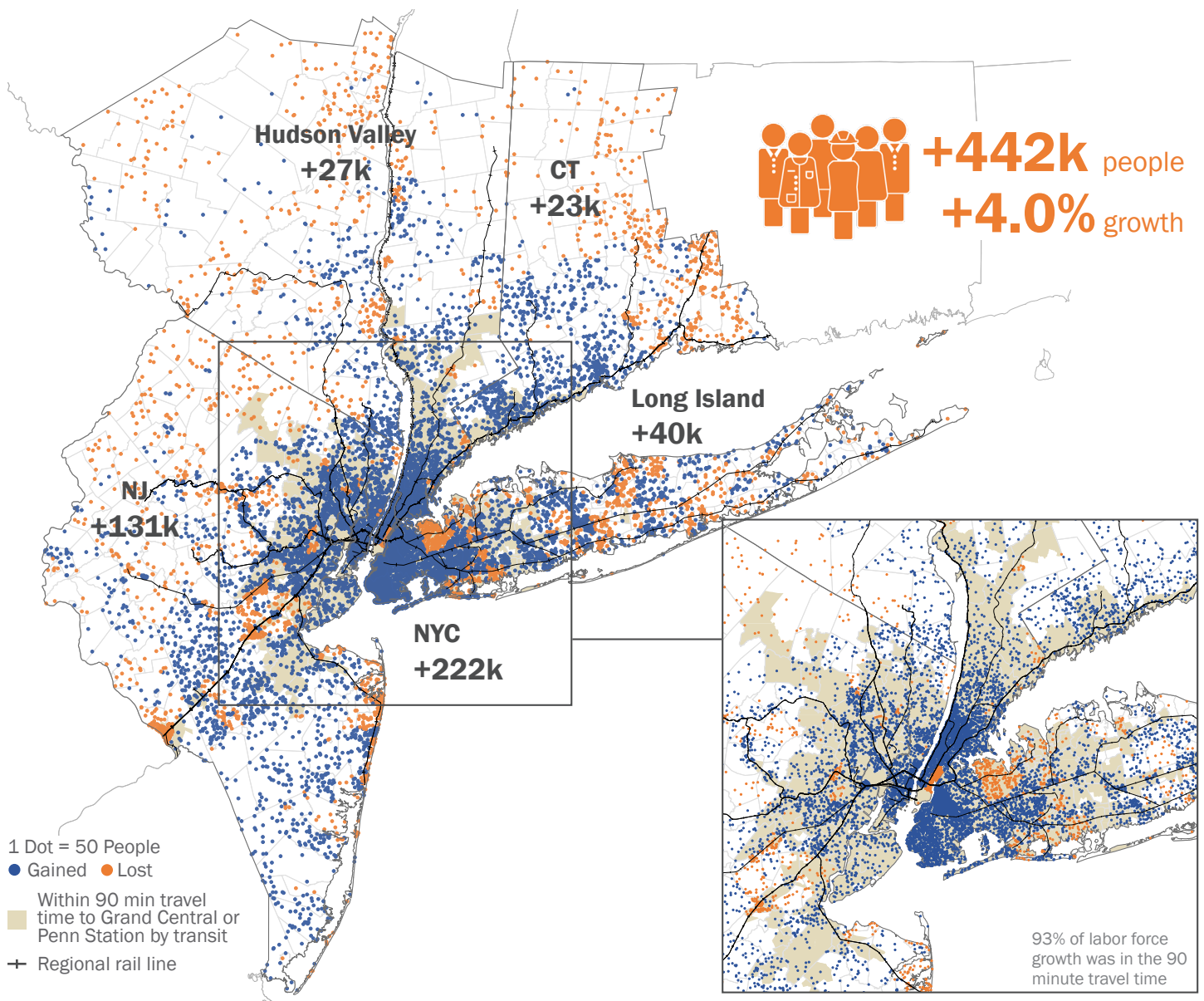ON3C Campus, formerly Hoffmann-La Roche, in Clifton, NJ

Sources: U.S. BLS QCEW NAICS-Based Data Files, Annual and Quarterly

The NYC Metro houses the largest workforce in the country — and it's growing in places with transit access to Midtown Manhattan.

The NYC Metro is home to 11.85 million workers, the largest labor pool in the nation.[15] Over the last decade, the region has gained nearly 442,000 workers, equivalent to adding the population of Miami to our labor pool. Half of that growth is in NYC, and another 43% in towns and cities with rail and bus connection to Midtown Manhattan,[16] the nation's premiere central business district.

Whether in Manhattan, growing neighborhoods in NYC's five boroughs, or suburbs with good access to the region's core, a talented workforce continues to concentrate in areas with strong housing production and walkable, transit-oriented work centers. Transit-oriented labor force growth means that life sciences companies relocating to or growing in the region can recruit on a broader scale, leveraging the NYC Metro's extensive bus and rail networks to find workers with the right skillsets, education, and training to match their needs.

Change in Labor Force Participation by NYC Metro Municipality, 2010 to 2020

Hudson Valley +27k

CT +23k

+442k people
+4.0% growth

Long Island +40k

NJ +131k

NYC +222k

1 Dot = 50 People
● Gained ● Lost
▢ Within 90 min travel time to Grand Central or Penn Station by transit
+ Regional rail line

93% of labor force growth was in the 90 minute travel time

Note: Labor force change is mapped to municipal-approximate boundaries and dots do not represent the true location of population shifts. Please refer to the end notes for more.
Sources: U.S. Census Bureau American Community Survey (ACS) 2006-2010 and 2016-2020 5-Year Estimates; NYC Planning Transportation Division
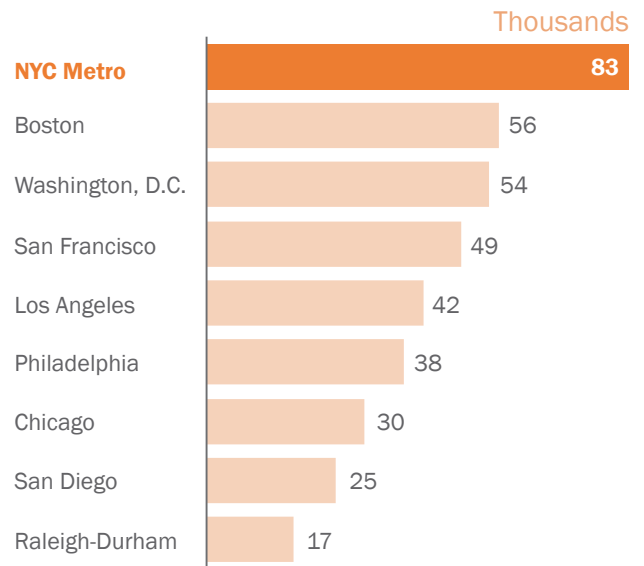
As home to the largest workforce in the country, the NYC Metro has the largest pool of workers employed in life sciences occupations.

The specialized occupations that most closely align with the education, training, and experience needed for R&D, Manufacturing, and Diagnostic Labs are what we consider to be life sciences occupations. More than one-third of these workers are employed directly by life sciences companies, while nearly 30% work in medical and education institutions.[17] The ability of businesses to access a wide range of workforce talent, and for workers to easily access a variety of public and private employers, is made possible by the scale and density of economic activity in the NYC Metro.

The NYC Metro is home to 7% of the U.S. population, but it houses 10% of U.S. biochemists and biophysicists and 12% of U.S. chemists. The NYC Metro employs nearly 21,000 clinical laboratory workers, who represent one quarter of the region's technical life sciences workforce.[18]
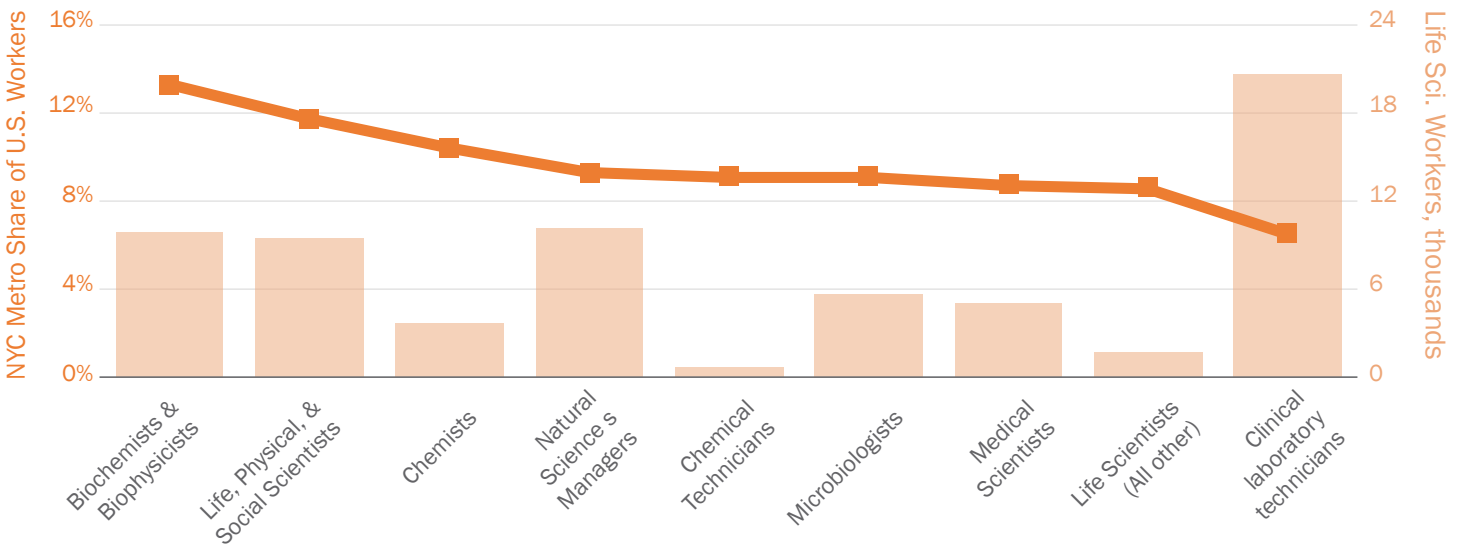

Metro Workers in Specialized Life Sciences Occupations

Thousands

NYC Metro	**83**
Boston	56
Washington, D.C.	54
San Francisco	49
Los Angeles	42
Philadelphia	38
Chicago	30
San Diego	25
Raleigh-Durham	17

The NYC Metro is home to 83,000 life sciences workers—the largest concentration of technical and specialized workers in the nation.[19]

NYC Metro Life Sciences Workers, and NYC Metro as % Share of U.S. Total

NYC Metro Share of U.S. Workers (left axis: 0%–16%) — *Life Sci. Workers, thousands* (right axis: 0–24)

Categories: Biochemists & Biophysicists; Life, Physical, & Social Scientists; Chemists; Natural Sciences Managers; Chemical Technicians; Microbiologists; Medical Scientists; Life Scientists (All other); Clinical laboratory technicians

Life sciences creates economic opportunity at all skill levels.

Life sciences companies rely on a range of occupations.

Life sciences companies employ people with specialized skillsets —biochemists, engineers, and laboratory technicians—as well as a variety of supporting roles, including business managers, lawyers, administrative assistants, and custodial staff. For every person employed at a life sciences company in a technical occupation, there are on average three workers employed in other occupations,[20] leading to a growing diversity of jobs at all levels.

Life sciences offers pathways to professional growth through formal education, certificate programs, and on-the-job training.

The LifeSci NYC Internship Program, backed by a City investment of $5 million, has resulted in more than 400 student placements in the first four years, a majority of whom have been women or people of color. The internship program originally focused on supporting summer internship placements. But in 2021, the program saw its greatest success with nearly 2,400 student applicants, after it started to include placements into academic-year opportunities.

To expand entrepreneurial leadership talent, New York State has invested $2.85 million to develop life sciences entrepreneurship curricula at business schools.

For every **one**

in a specialized occupation
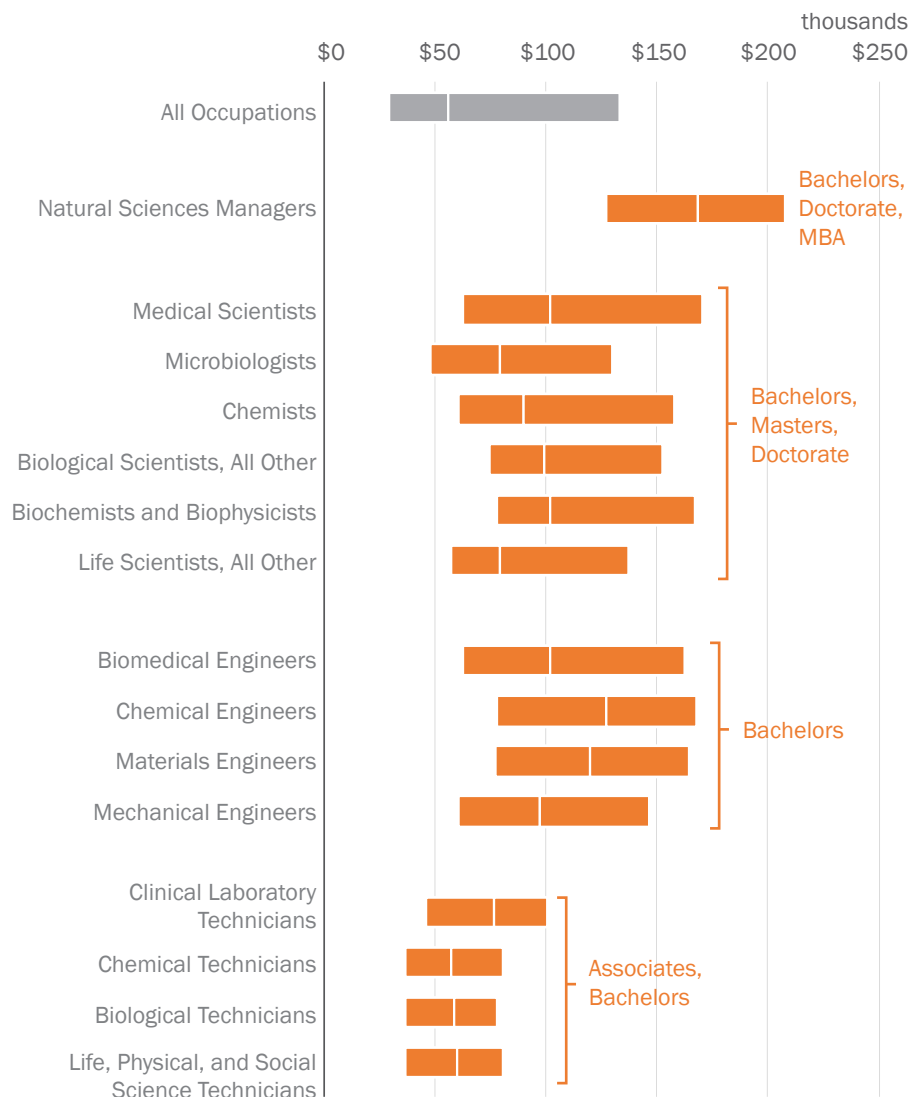
There are **three**

in supporting occupations

NYC Metro Specialized Life Sciences Occupations by Salary and Entry-level Education

thousands

$0 — $50 — $100 — $150 — $200 — $250

- All Occupations
- Natural Sciences Managers — Bachelors, Doctorate, MBA
- Medical Scientists
- Microbiologists
- Chemists
- Biological Scientists, All Other
- Biochemists and Biophysicists
- Life Scientists, All Other — Bachelors, Masters, Doctorate
- Biomedical Engineers
- Chemical Engineers
- Materials Engineers
- Mechanical Engineers — Bachelors
- Clinical Laboratory Technicians
- Chemical Technicians
- Biological Technicians
- Life, Physical, and Social Science Technicians — Associates, Bachelors

Notes: Groupings based on Standard Occupational Classification (SOC) Code. Medical Scientists excludes Epidemiologists; Clinical laboratory technicians also includes technologists.
Sources: U.S. BLS Metropolitan Area Occupational Employment and Wage Estimates, May 2021.
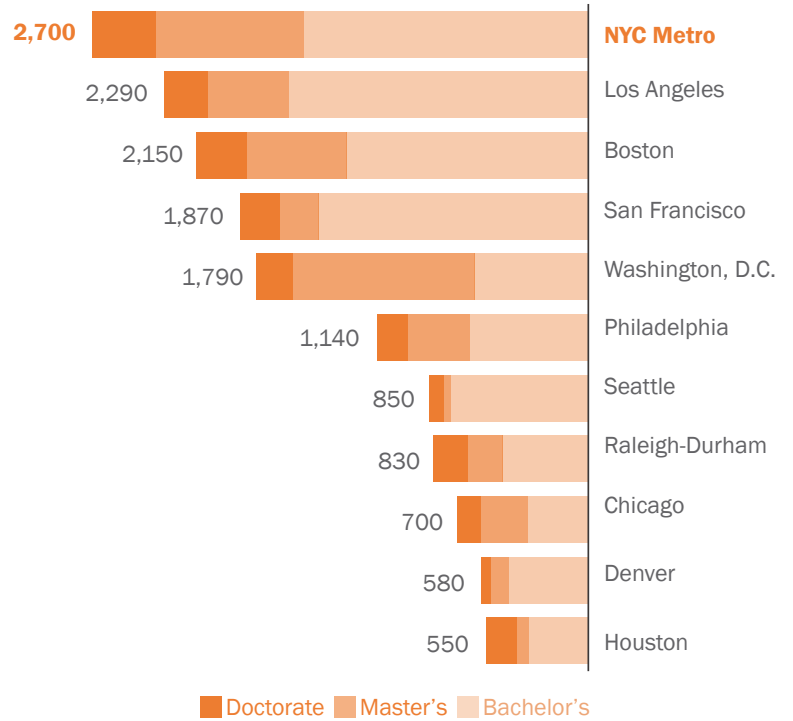
The NYC Metro provides training from dozens of world-class institutions to fill tomorrow's life sciences jobs.

The NYC Metro produces more life sciences graduates than any other leading metro—nearly 2,700 graduates each year.[21] Across the NYC Metro, 65 institutions offer programs in the life sciences, including 48 bachelor's degree programs, 29 master's degree programs, and 16 Ph.D. programs. Rutgers University is the largest producer of life sciences undergraduates—averaging over 430 graduates each year. Columbia University is the region's top producer of life sciences master's degrees, with just over 200 graduates each year. With an unmatched pipeline of future talent, growing life sciences companies in the NYC Metro will have no shortage of applicants with the right mix of skills and experience.

NYC accounts for nearly half of the NYC Metro's life sciences Ph.D. graduates.

Between 2016 and 2020, the NYC Metro's institutions have produced more than 1,700 life sciences Ph.D. graduates—more than any other metro. NYC-based institutions account for 763—or 44%—of these Ph.D.s. Across the region, Columbia, Rutgers, Stony Brook, Weill Medical College, Princeton, and Yeshiva University have each produced more than 100 life sciences Ph.D.s over the last five years. Outside of NYC, Yale University has produced the greatest number of life sciences Ph.D. graduates—more than 350 doctorates over the last five years.[22]

Metro Life Sciences Graduates Per Year by Degree Type
2016-2020 Average

	Graduates	Metro
	2,700	NYC Metro
	2,290	Los Angeles
	2,150	Boston
	1,870	San Francisco
	1,790	Washington, D.C.
	1,140	Philadelphia
	850	Seattle
	830	Raleigh-Durham
	700	Chicago
	580	Denver
	550	Houston

■ Doctorate ■ Master's ■ Bachelor's

65 life sciences higher education programs in the NYC Metro

NYC Metro Life Sciences PhD Graduates per Year
2016-2020 Average
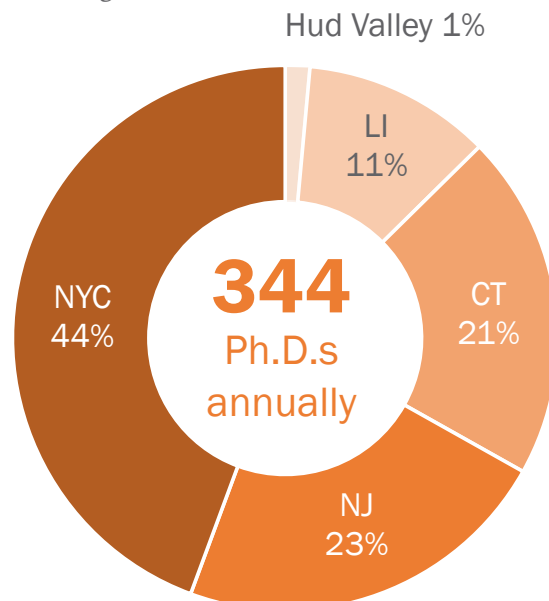
Hud Valley 1%
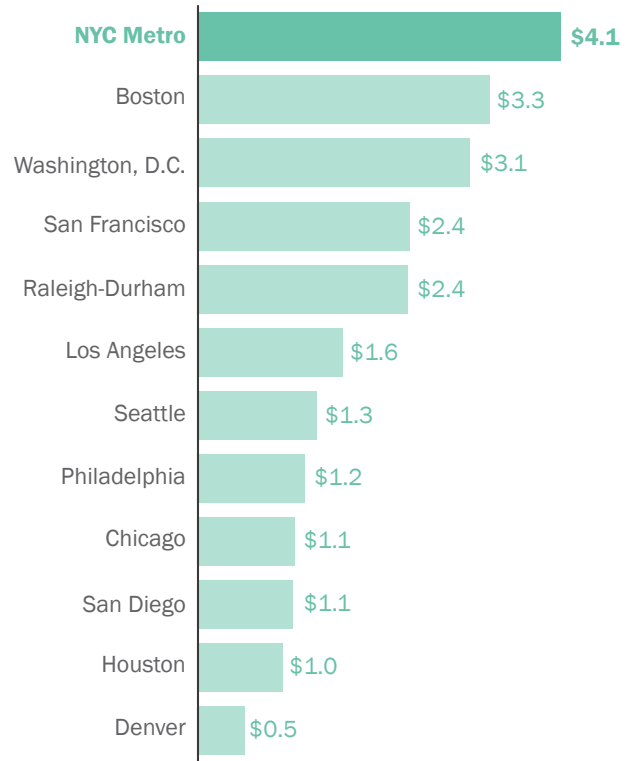LI 11%
CT 21%
NYC 44%
NJ 23%

344 Ph.D.s annually

The NYC Metro is a leader in life sciences investment.

Life sciences innovation starts with research, and public funding is critical in developing the next generation of devices, therapeutics, vaccines, and health-based interventions.
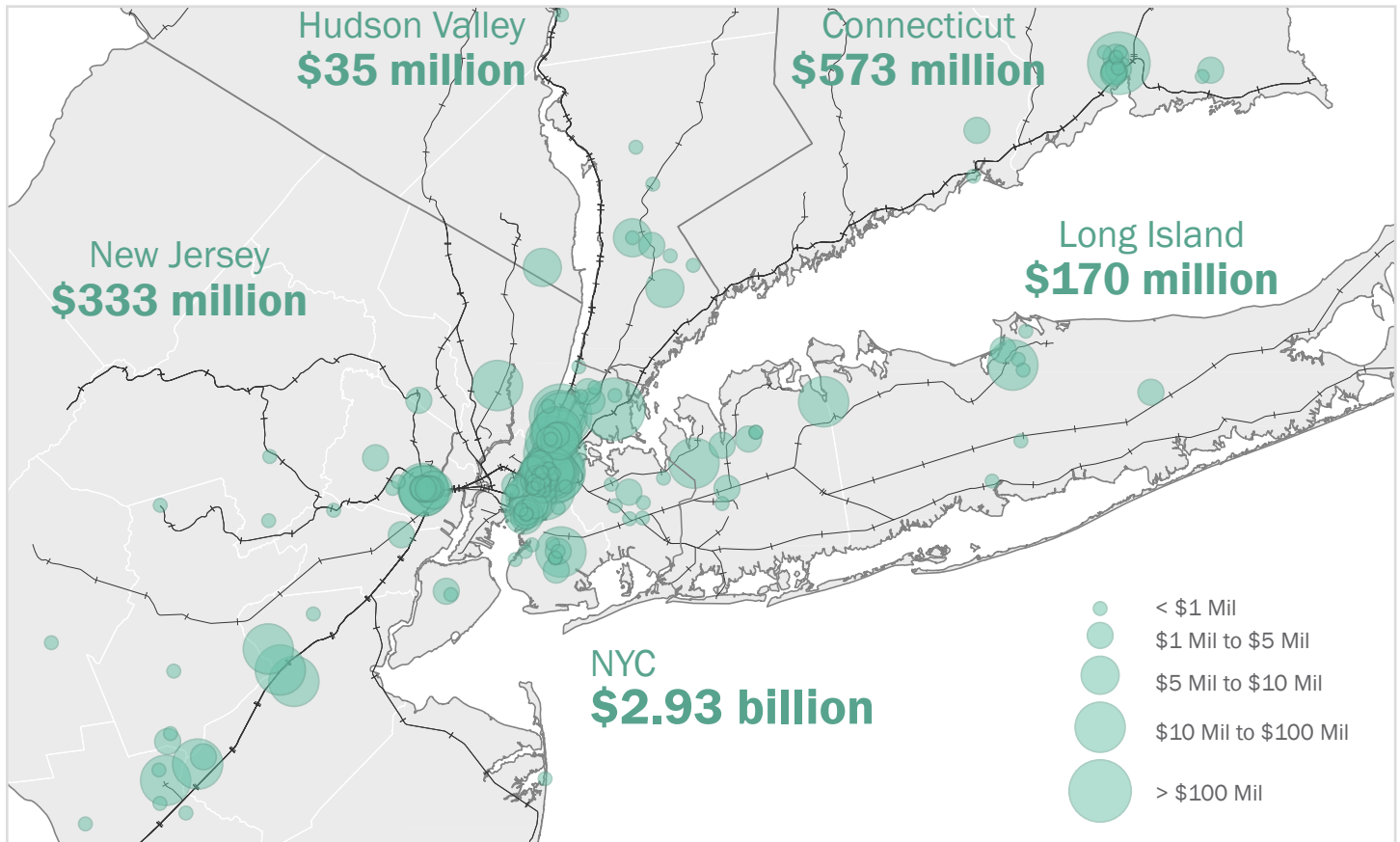
In 2021, over 70% of the NYC Metro's $4.1 billion in National Institute of Health (NIH) funding was directed to institutions and businesses in NYC. Columbia University, Mount Sinai, NYU School of Medicine, and Weill Cornell Medical College collectively accounted for more than $2 billion in NIH grants in 2021 and are NYC's largest recipients.[23]

However, over 2,100 grants went to 96 different organizations outside of NYC as well, with an average award size of $500,000. Yale University received $550 million in grants in 2021, while Stony Brook University received more than $75 million. More than 200 NYC Metro businesses and start-ups have been repeat NIH grant recipients, often clustering near higher education and medical institutions.

Metro NIH Funding ($ Billions)

Location	Funding
NYC Metro	$4.1
Boston	$3.3
Washington, D.C.	$3.1
San Francisco	$2.4
Raleigh-Durham	$2.4
Los Angeles	$1.6
Seattle	$1.3
Philadelphia	$1.2
Chicago	$1.1
San Diego	$1.1
Houston	$1.0
Denver	$0.5

NYC Metro NIH Funding by Recipient/Organization

Hudson Valley
$35 million

Connecticut
$573 million

New Jersey
$333 million

Long Island
$170 million

NYC
$2.93 billion

Legend:
- ● < $1 Mil
- ● $1 Mil to $5 Mil
- ● $5 Mil to $10 Mil
- ● $10 Mil to $100 Mil
- ● > $100 Mil

Life sciences VC funding in the NYC Metro has tripled since 2015.

Annual Healthcare/Biotech VC Funding by U.S. Metro
2010 to 2020
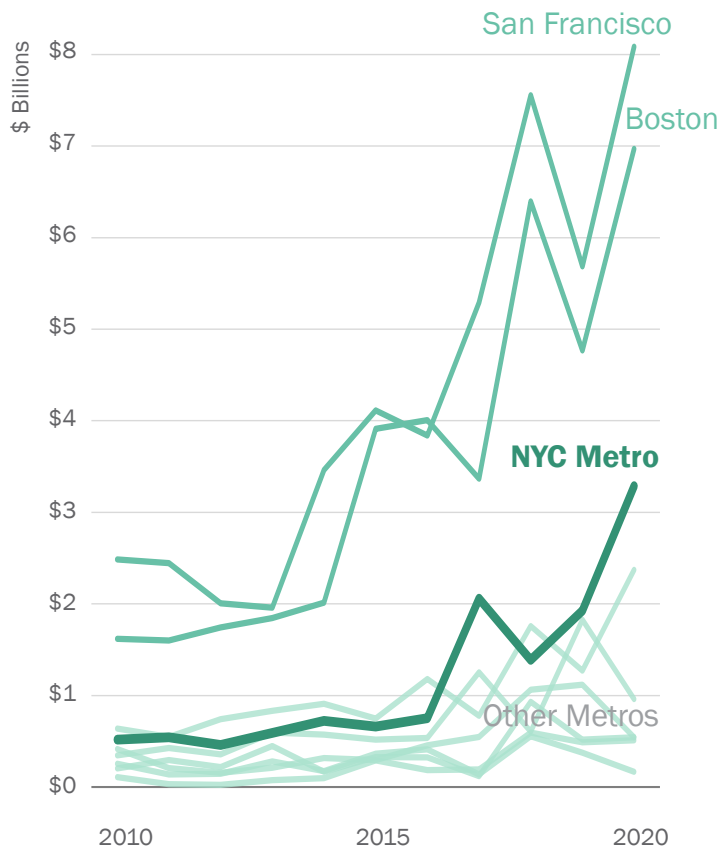
Venture capital ("VC") funding is an important ingredient for incubating new life sciences businesses. VC funding in the tri-state area has nearly tripled since 2015, with start-ups receiving more than $3.3 billion in 2020—placing the NYC Metro third in comparison with other metros.[24]

NYC has 8 active incubator spaces for life sciences start-ups, combining step-out space, connections with funders, and accelerator programs to help entrepreneurs get the support they need to scale their operations. These spaces include Biolabs@NYULangone, located in Hudson Square, and Alexandria LaunchLabs, located in Kips Bay and in Upper Manhattan.[25]

Outside of NYC, throughout the NYC Metro there are at least eight additional existing or planned incubator spaces dedicated to growing the region's life sciences ecosystem. Many of the organizations feature opportunities for start-ups to meet founders from other parts of the NYC Metro, deepening our region's innovation ecosystem.

VC funding in the NYC Metro topped $3.3 billion in 2020, with more than $2.5 billion in the New York State portions of the region.

Annual Healthcare/Biotech VC Funding by NYC Metro State, 2010 to 2020
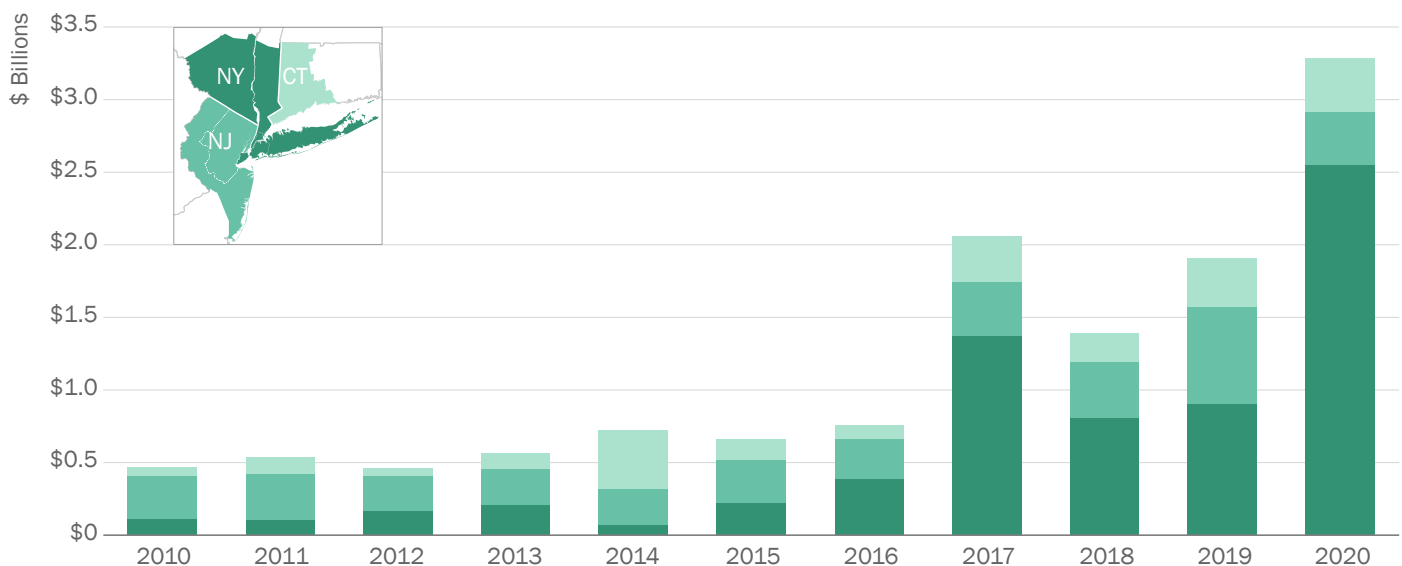
Sources: PwC/CB Insights Healthcare MoneyTree Report Q4 2009–Q3 2020 (inflation-adjusted).

The NYC Metro has a large inventory of life sciences laboratory space, growing in at least 10 distinct clusters.

The NYC Metro has over 26M SF of laboratory space.

Life sciences companies need flexible and specialized lab space to grow. R&D labs are generally clustered near major research institutions and near transit hubs. The NYC Metro has more than 26.3M SF of laboratory space,[26] placing our metro just behind the San Francisco Bay Area, which has 32.7M SF and Boston-Cambridge, which as 42.2M SF, according to a recent report by real estate brokerage CBRE.[27] The largest proportion of lab space exists in New Jersey and is owner-occupied by companies like Johnson & Johnson, Pfizer, and Celgene. Of the NYC Metro's 13.6M SF of rentable lab space, the majority (57%) is also located in New Jersey, while 18% is in NYC.[28]

The NYC Metro is adding over 5M SF of laboratory space across a range of locations and space needs.

Of the more than 5.6M SF under construction in the NYC Metro, more than half is located within NYC,[29] indicative of the strong market for new lab space in the region's core markets. This pipeline includes multiple buildings in Long Island City, Midtown West, and Kips Bay. Outside of NYC, lab space is being developed in multiple transit-adjacent clusters in Jersey City, New Brunswick, and New Haven, adding to the millions of square feet of existing space available at a range of prices and configurations.
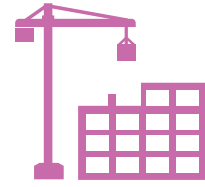
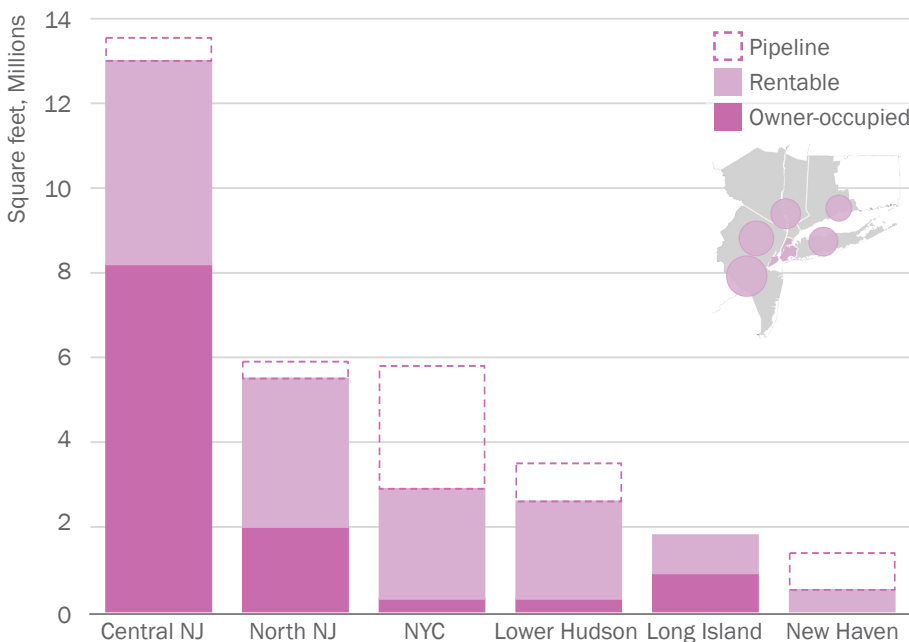Laboratory Space Pipeline by NYC Metro Submarket

+2.1M SF
Manhattan

+800k SF
Long Island City

+950k SF
New Jersey

+1.8M SF
Lower Hudson, Connecticut

Life Sciences Laboratory Space by NYC Metro Submarket

Legend:
- Pipeline
- Rentable
- Owner-occupied

Y-axis: Square feet, Millions (0 to 14)

X-axis: Central NJ, North NJ, NYC, Lower Hudson, Long Island, New Haven

New York Genome Center, an institutional anchor of NYC's Hudson Square life sciences cluster.

Sources: For NYC: CBRE Research, U.S. Life Sciences Trends, 2021; for NJ, Lower Hudson, and Long Island existing inventory: Jones Lang LaSalle Life Sciences Outlook 2020; for New Haven: DCP Research as of May 2022.

The NYC Metro offers lab space at a range of prices, giving companies the room they need to grow.

A spectrum of space means that companies can find the right match for their needs.

The NYC Metro provides a broad range of laboratory space at prices comparable to other leading metros. While start-ups looking for space in Manhattan may find asking rents on the higher end of this range, NYC also has a growing inventory of different types of space at multiple price points. This includes step-out spaces, specialized labs for clinical trials and manufacturing, and larger floorplates for life sciences companies in the next stages of life cycle development. Rentable lab facilities in more suburban locations throughout the NYC Metro have asking rents averaging on the lower end of the price range, offering more mature companies the ability to grow their operations within a connected ecosystem.

The City of New York offers a suite of programs to support life sciences companies seeking to locate or grow in NYC. For more information on these programs, please contact LifeSci NYC or visit lifesci.nyc/industry.

Range in Laboratory Rent Pricing by Metro Market

$26 - $112
NYC Metro

$33 - $125
Boston Metro

$54 - $125
San Francisco Metro

Source: CBRE U.S. Life Sciences Trends, Nov. 2021

The Downstate Biotechnology Incubator, in NYC's Central Brooklyn life sciences cluster, is home to more than two dozen biotech start-ups.

NYC is committed to unlocking additional space life sciences companies need to grow.

In recent years, NYC has clarified zoning and building regulations to allow life sciences laboratories in a wider variety of spaces, including in commercial office districts close to medical institutions. The city government will continue to explore regulatory changes to accommodate and encourage modern laboratories, including modifying building envelopes to allow for floor-to-floor heights and floorplates that are sufficiently large and allowing companies to grow within university- or hospital-affiliated incubators without a need to relocate.

NYC and other governments across the region are committed to growing the life sciences economy.

In 2016, the City of New York ("the City") launched LifeSciNYC, a 10-year commitment to growing NYC's life sciences economy. In 2021, the City doubled this commitment to $1 billion. When combined with New York State's $620 million state-wide life sciences initiative, the City and State have committed more than $1.5 billion to the growth of life sciences ecosystem.

LifeSciNYC has three main goals:

- Create commercial lab space and incubators so start-ups have room to grow;
- Support nonprofit facilities to catalyze new research that can translate into companies, jobs, and new medicines;
- Build a diverse pipeline of life sciences talent and support early-stage life sciences companies.

LIFE SCI NYC

Since the start of LifeSciNYC, the City has opened or announced 1.7M SF of space and anticipates bringing 10M SF of wet lab space online over the next 10 to 15 years.

Governments and industry groups across the NYC Metro have also launched initiatives to promote life sciences in their jurisdictions. New Jersey Economic Development Authority manages a number of programs and initiatives for life sciences, along with the New Jersey Bioscience Center in North Brunswick. AdvanceCT leads life sciences business attraction and retention efforts on behalf of the State of Connecticut. Together, these initiatives represent concerted government support for growing the NYC Metro's life sciences economy.

Alexandria Center for Life Sciences, Kips Bay

Brooklyn Army Terminal

NYC and the metropolitan region have shared interests in fostering a connected life sciences ecosystem.

Together, the sum of our public and private investments and our core strengths as a region make the NYC Metro the nation's leading center of life sciences innovation. For too long, political boundaries have contributed to a myopic view of the true strength of our tri-state power. But as Covid-19 has reshaped our landscape, new partnership and a spirit of collaboration are helping to awaken stakeholders across our region to our connectivity and interdependence. Together, the NYC Metro is a global leader for life sciences innovation, ready to combat future public health challenges and drive innovation.

End Notes

1. The NYC Metro Region is a geography used by the NYC Department of City Planning. More information about the the area included in the NYC Metro Region can be viewed on NYC DCP's tool the NYC Metro Region Explorer: http://metroexplorer.planning.nyc.gov/about
2. U.S. Bureau of Economic Analysis (BEA) Local Area Gross Domestic Product, 2019 (reported in 2020-dollars); GDP (Current $US), The World Bank https://data.worldbank.org/.
3. U.S. Bureau of Labor Statistics (BLS) Current Employment Statistics (CES) March 2022.
4. U.S. BEA Local Area Gross Domestic Product, 2019 (reported in 2020-dollars).
5. The World Bank https://data.worldbank.org/.
6. U.S. BLS Quarterly Census of Employment and Wages (QCEW) NAICS-Based Data Files, Third Quarter (Q3) 2021.
7. U.S. BLS QCEW NAICS-Based Data Files, Annual Average 2010 and 2019.
8. U.S. BLS QCEW NAICS-Based Data Files Q4 2020–Q3 2021. Wages represent county-reported private sector wages aggregated for the NYC Metro 31-county definition.
9. Ciara Long, Bisnow New York City, "Long Island City is the Land of Opportunity for NYC's Upstart Life Sciences Industry," March 23, 2022.
10. U.S. BLS QCEW NAICS-Based Data Files Q3 2021.
11. U.S. BLS QCEW NAICS-Based Data Files Q3 2021.
12. U.S. BLS QCEW NAICS-Based Data Files Annual Average 2010 and Q3 2021.
13. U.S. BLS QCEW NAICS-Based Data Files Q1 2018 and Q3 2021.
14. U.S. BLS QCEW NAICS-Based Data Files Annual Average 2010 and Q3 2021.
15. U.S. Census Bureau American Community Survey (ACS) 5-Year Estimates 2016-2020.
16. U.S. Census Bureau ACS 2006-2010 and 2016-2020 5-Year Estimates; Travelshed modeled by the NYC DCP Transportation Division.
17. U.S. BLS National Industry-Specific Occupational Employment and Wage Estimates, May 2021.
18. U.S. BLS Metropolitan Area Occupational Employment and Wage Estimates, May 2021.
19. U.S. BLS Metropolitan Area Occupational Employment and Wage Estimates, May 2021.
20. U.S. BLS National Industry-Specific Occupational Employment and Wage Estimates, May 2021.
21. U.S. Department of Education (DOE), National Center for Education Statistics (NCES), Integrated Postsecondary Education Data System (IPEDS), 2016–2020 average.
22. U.S. DOE, NCES, IPEDS, 2016–2020 total.
23. National Institutes of Health (NIH), "NIH Awards by Location & Organization," FY 2021.
24. PwC/CB Insights Healthcare MoneyTree Report Q4 2009–Q3 2020 (inflation-adjusted).
25. CBRE Research, "New York City Life Sciences Market, Year-End 2021"
26. NYC: CBRE Research, "New York City Life Sciences Market, Year-End 2021"; Long Island, New Jersey, and Lower Hudson estimate: Jones Lang Lasalle, "2020 Life Sciences Real Estate Outlook." New Haven: NYC DCP Research.
27. CBRE Research, "U.S. Life Sciences Trends, 2021."
28. Jones Lang Lasalle, "2020 U.S. Life Sciences Real Estate Outlook."
29. NYC: CBRE Research, "New York City Life Sciences Market, Year-End 2021"; Long Island, New Jersey, and Lower Hudson estimate: Jones Lang Lasalle, "2020 Life Sciences Real Estate Outlook." New Haven: NYC DCP Research.

Sources and Definitions

NYC Metro and U.S. Metro Geographies

Unless otherwise noted, the NYC Metro definition used in this report reflects the five boroughs of NYC and surrounding 26 counties in New York, New Jersey, and Connecticut. This area is a generally accepted modification of the U.S. Office of Management and Budget-defined Metropolitan Statistical Area (MSA) or Combined Statistical Area (CSA) definition of the NYC metropolitan area.

For all other U.S. metros represented in this report, the 2020 CSA boundary definition is used, excluding San Diego, which is represented by its MSA.

Life Sciences Jobs, Businesses, and Wages

The "life sciences" industry represents an aggregation of specific industry sectors as defined by the North American Industry Classification System (NAICS), the standard used by Federal statistical agencies to measure and analyze the U.S. business economy. Data in this report are sourced from the U.S. Bureau of Labor Statistics (BLS) Quarterly Census of Employment and Wages (QCEW) NAICS-based data files. Employment and wage data are subject to privacy non-disclosure at all geographic levels (e.g., county, MSA, state) and may not be reported for select industries or geographies if it does not meet the BLS privacy threshold. The number of businesses, however, is always disclosed. Therefore, to measure jobs in the NYC and other U.S. metros and avoid issues with privacy non-disclosure, DCP used the highest value (i.e., the greatest number of jobs reported) resulting from either 1) the sum of MSA-reported data within a CSA or 2) the sum of county-reported data within a CSA. However, it can be assumed that due to widespread issues of non-disclosure in the data the total number of jobs reported for the NYC Metro and other metros is likely lower than the true number of life sciences jobs in each area.

Life sciences industries are grouped into three sub-sectors by NAICS industry ID number:
- Manufacturing: Pharmaceutical Manufacturing (NAICS 3254); Electromedical Apparatus Manufacturing (NAICS 33451); and Surgical Appliance and Supplies Manufacturing (NAICS 339113).
- Research & Development (R&D): Physical, Engineering, and Biological Research (NAICS 54171) and Testing Laboratories (NAICS 54138).
- Diagnostic Labs: Medical and Diagnostic Laboratories (NAICS 6215).

The industries constituting "life sciences" in this report are consistent with those included in CBRE Research's "New York City Life Sciences Market, Year-End 2021" report, with the exclusion of "Surgical and Medical Instrument Manufacturing (NAICS 339112)" due to issues with non-disclosure of employment for many geographies.

Specialized Life Sciences Occupations

Workers in "specialized life sciences occupations" represent an aggregation of occupations as defined by the 2018 Standard Occupational Classification (SOC) system, a federal statistical standard for classifying and measuring information about workers. The following occupations are included: Natural Sciences Managers (SOC 11-9121), Biochemists and Biophysicists (SOC 19-1021), Microbiologists (SOC 19-1022), Biological Scientists, All Other (SOC 19-1029), Medical Scientists, Except Epidemiologists (SOC 19-1042), Life Scientists, All Other (SOC 19-1099), Chemists (SOC 19-2031), Biological Technicians (SOC 19-4021), Chemical Technicians (SOC 19-4031), Life, Physical, and Social Science Technicians, All Other (SOC 19-4099), Materials Engineers (SOC 17-2131), Mechanical Engineers (SOC 17-2141), Biomedical Engineers (SOC 17-2031), Chemical Engineers (SOC 17-2041), and Clinical laboratory technologists and technicians (29-2010). The entry-level education requisite for employment in each specialzed life sciences occupation is reported in the U.S. BLS Occupational Outlook Handbook.

Life Sciences Graduates

"Life sciences graduates" are measured by students that have graduated from select programs categorized and defined by the U.S. Department of Education's National Center for Education Statistics (NCES) Classification of Instructional Programs (CIP) taxonomic scheme. Programs included in this report were adapted from CBRE Research's "U.S. Life Sciences Trends, 2021" report. The CIP codes are considered to be life sciences degree programs: Cell/Cellular Biology and Anatomical Sciences (CIP 26.04), Microbiological Sciences and Immunology (CIP 26.05), Genetics (CIP 26.08), Biomathematics Bioinformatics and Computational Biology (CIP 26.11), Biotechnology (CIP 26.12), Biochemistry Biophysics and Molecular Biology (CIP 26.02), Biomedical/Medical Engineering (CIP 14.05), Biochemical Engineering (CIP 14.43), Biological/Biosystems Engineering (CIP 14.45).

Funding

National Institutes of Health (NIH) 2021 funding represents dollars provided during the federal fiscal year, which runs October 1, 2020 through September 30, 2021. NYC Metro funding is aggregated by institution. For all other Metros, NIH funding represents the sum of funds allocated by Congressional Districts contained within or extending beyond the Metro CSA boundary. Therefore, it is possible some of the reported funding could be allocated to institutions that fall outside, but proximate to non-NYC Metros' borders.

Venture Capital (VC) funding reported for the NYC Metro represents the New York-Newark, NY-NJ-CT-PA CSA, a geography that slightly differs from the 31-county area previously described in the Geographies section.

Laboratory Space

Pipeline data by NYC Metro subregion represents an aggregation of reported development and known projects drawn from a range of publicly available press sources as of May 2022. NYC-reported inventory and pipeline figures were taken from CBRE Research's "New York City Life Sciences Market, Year-End 2021" report.

Photo Credits

Credits

NYC Thinking Regionally

The New York City tri-state metropolitan region is complex, marked by layers of governance and divided management of our shared natural resources and infrastructure. By dedicating resources to a regional planning office, NYC is reaching out across our borders, and investing in a more connected, strong, and equitable regional future.

For more information, please contact us at regional@planning.nyc.gov or visit our website http://www.nyc.gov/region.