



THE GEOGRAPHY OF JOBS

NYC Metropolitan Region Economic Snapshot
Second Edition



Though we are governed independently, many of the NYC metropolitan region's planning challenges are interconnected, and NYC's future is intertwined with the future of the larger metropolitan region.

New York City ("NYC" or "the city") is the hub of the largest metropolitan economy in the United States. Our tri-state region accounted for approximately 10% of United States (U.S.) Gross Domestic Product (GDP) and generated \$1.9 trillion in 2017, more than Russia or Canada. The combined economic activity of the NYC metropolitan region ("Region") would make this 31-county area spanning three states the 10th largest economy in the world.¹ Half of the Region's GDP is generated within the city and half is generated by the surrounding area.² The city is the center of a complex ecosystem of resources, workers, land, and transit infrastructure that connects activity in the core with the rest of the Region.

Recognizing that the health of NYC's economy is highly interconnected to the performance of the Region, the NYC Department of City Planning's Second Edition of this report examines employment, labor force, and housing patterns from 2000 to today, with a focus on annual change and the differences between pre- and post-Great Recession change.³ This report examines recent economic changes at a "subregional" scale, looking at the relationships among NYC, northern New Jersey ("North NJ"), Long Island, southwest Connecticut ("Connecticut"), and the Hudson Valley.⁴

Combined with the city's regional data portal, **NYC Metro Region Explorer**, this report intends to offer a factual basis for planners, policymakers, and the general public, within the city and across the Region, seeking to understand the effects of our interconnected growth patterns.

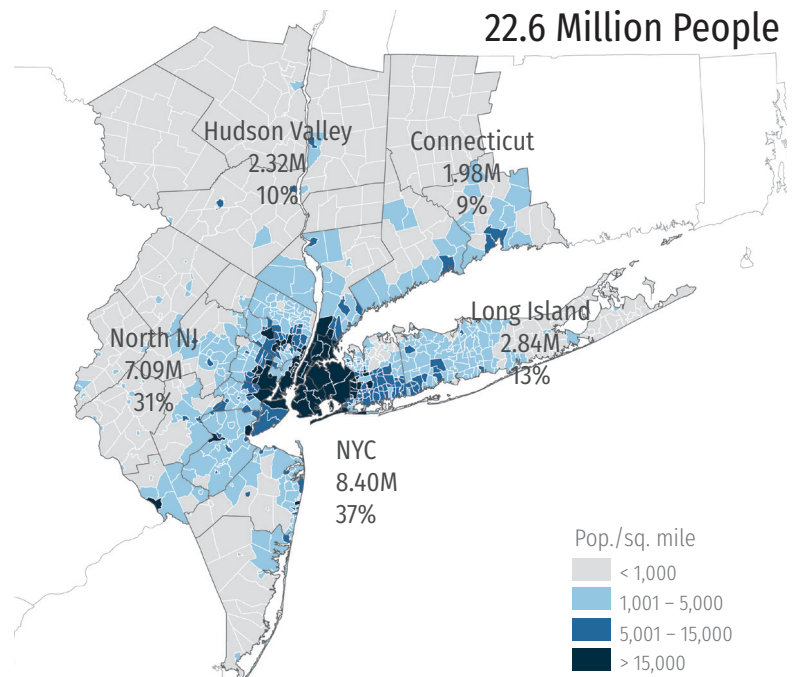
Visit the data at metroexplorer.planning.nyc.gov

The Region Today

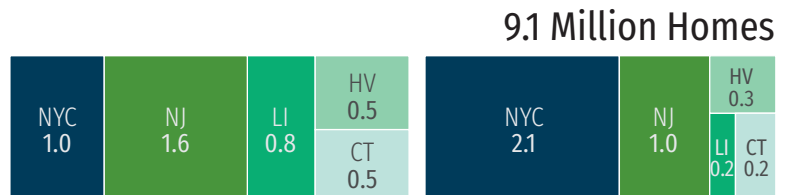
Today, the Region is home to 22.6 million people, 37% of whom live in NYC (8.4 million). Spanning three states, 31 counties, and more than 800 hamlets, villages, towns, and cities, the Region is the largest metropolitan region in the United States. Our labor force of over 12 million is larger than the labor forces of the Boston, San Francisco, and Seattle metropolitan regions combined.⁵ The Region's population is densest at the center, and also is concentrated in historic downtowns and along major transit corridors.

The Region has 9.1 million homes. Of the occupied stock, 47% is renter-occupied and 53% is owner-occupied. 56% of the Region's rental housing is located in NYC, with the balance concentrated in urban areas and in transit-oriented neighborhoods along commuter rail lines. Among U.S. metropolitan areas, the Region's 3.8 million rental units—the most of any U.S. metro and second in share only to Los Angeles (48%)—represent an important feature of the Region's success in accommodating a dynamic population and workforce.⁶

NYC is home to 41% (4.38 million) of the Region's 10.6 million jobs, slightly higher than the city's share of the Region's population. The location of jobs within the Region generally mirrors population distribution, with the densest concentrations of employment in NYC, particularly in Midtown and Lower Manhattan (averaging over 150,000 workers per square mile), as well as significant clusters throughout the Region. North NJ is home to 30% of the Region's jobs (3.15 million), and the remaining third are spread across Long Island (1.29 million), the Hudson Valley (0.93 million), and Connecticut (0.85 million). Collectively, the Region generates \$815 billion in employee wages, representing 10% of the U.S. total. NYC accounts for half of the Region's wages, representing 5% of the nation's \$8.4 trillion wages in 2018.



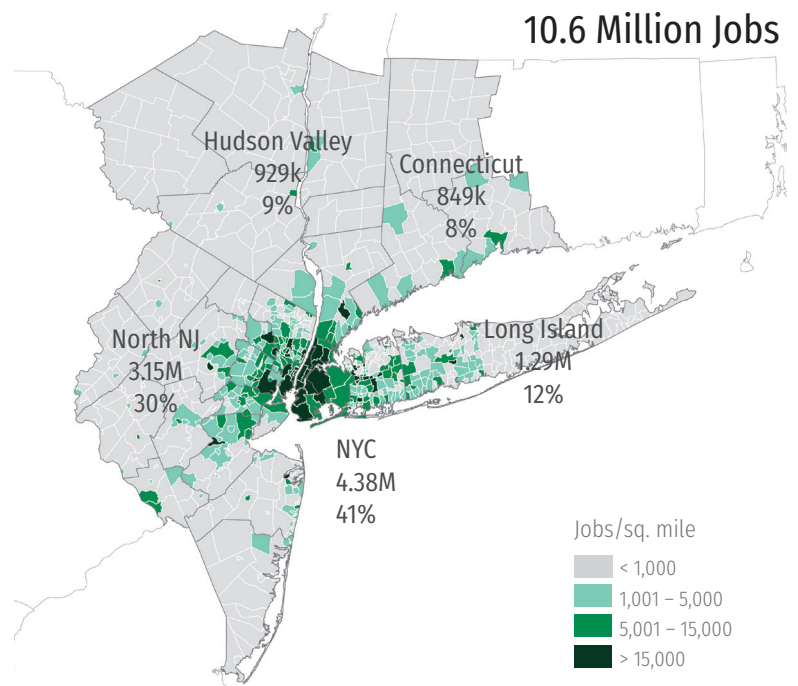
Sources: U.S. Census Bureau Population Estimates Program (PEP) 2018; U.S. Census Bureau American Community Survey (ACS) 5-Year Estimates, 2013-2017; U.S. Census Bureau MAF/TIGER database



4.4 Million Owner-Occupied

3.8 Million Renter-Occupied

Note: does not include 0.9 million vacant housing units. Source: U.S. Census Bureau PEP 2018; ACS 1-Year Estimates 2017



Sources: U.S. Bureau of Labor Services (BLS) Quarterly Census of Employment and Wages (QCEW) NAICS-Based Data Files, 2018 Annual Average Employment; U.S. Census Bureau Longitudinal Employer-Household Dynamics (LEHD) Origin-Destination Employment Statistics (LODES) 2015

Geography of the Region's Economy

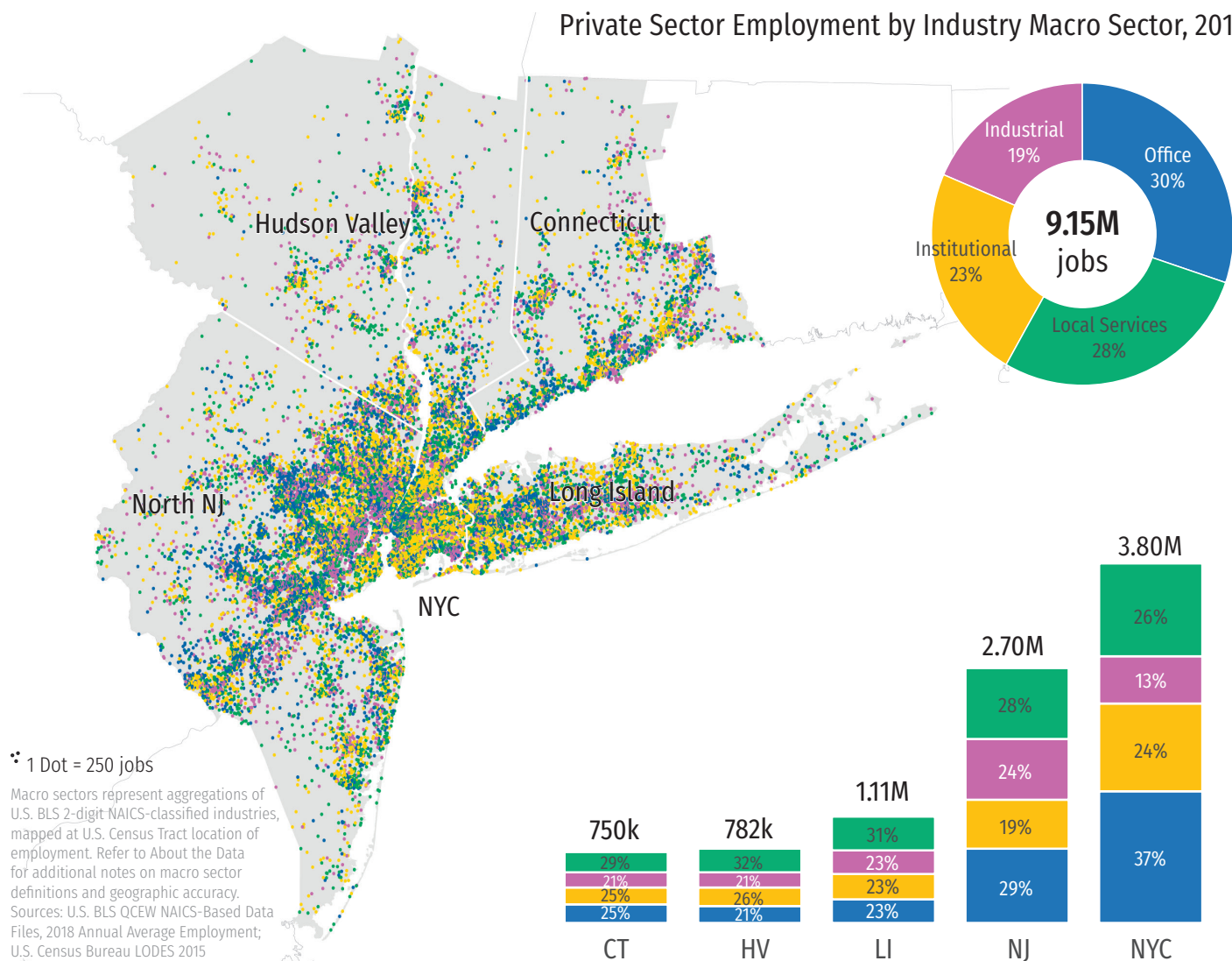
The Region's 9.15 million private sector jobs represent a diverse mix of office, institutional, industrial, and local services employment, and generates \$707 billion in employee wages.

There are 2.78 million office jobs, which represent 30% of the Region's private sector employment and 52% of the Region's private sector employee wages. The office macro sector, including financial activities, information, and professional and technical services jobs (refer to About the Data at the end of this report for detailed macro sector definitions), represents the highest value employment in the Region, averaging \$131,600 per worker. These jobs are concentrated in NYC (50% of Region), mostly in Manhattan (41% of Region), followed by Brooklyn and Queens. Other significant clusters exist in urban downtowns, such as Jersey City, Newark, and Stamford (between 30,000-50,000 office jobs each), or are found in linear spatial concentrations in the Region's

suburban areas along road networks, as in Melville (Long Island) and Parsippany-Troy Hills (North NJ).⁷

2.09 million institutional jobs represent nearly one-quarter of the Region's private sector employment, with 1.73 million jobs in healthcare and 360,000 jobs in education sectors. This macro sector also employs more than 754,000 public sector workers, predominantly in local and state education⁸. Institutional employment is most concentrated in areas housing the Region's largest academic institutions and hospitals, though concentration is also correlated with population distribution. The average wage per private sector institutional worker in the Region is \$55,300.

Private Sector Employment by Industry Macro Sector, 2018



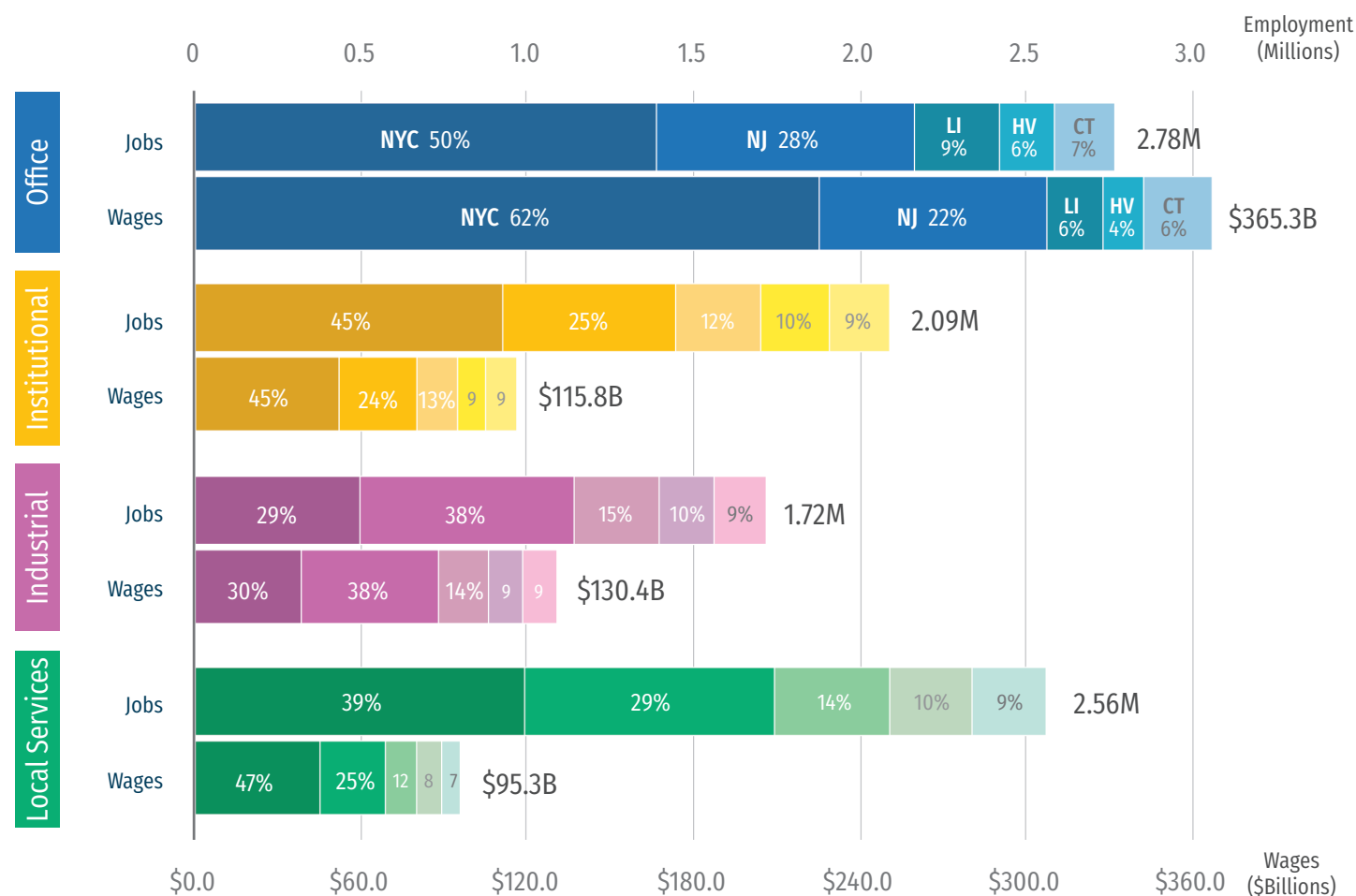


The Region's 1.72 million private sector industrial jobs represent 19% of private sector employment and generate over \$130 billion of employee wages. This sector, which includes the manufacturing, construction, wholesale trade, utilities, and transportation sectors, is concentrated near ports and logistics facilities. Because of its land-intensiveness, this macro sector exists in greater share outside of NYC than within (unlike all other sectors). 29% of the Region's industrial employment (495,500) is based in NYC. However, this category of employment also includes some non-industrial facilities for industrial firms, such for example, a construction company with headquarters office located in Manhattan. The industrial macro sector

generates the second-highest wages, and second-highest value employment in the Region (\$75,850 per worker).

2.56 million local services jobs represent 28% of the Region's private sector employment, and 14% of employee wages. This macro sector, which includes leisure, retail, food services and hospitality sectors, represents the second largest source of employment in the Region. Local services jobs are spread throughout the Region, with the highest concentrations in densely populated areas or at regional malls. This macro sector represents the lowest value employee wages, averaging \$37,200 per worker.

Private Sector Employment and Total Private Sector Wages by Macro Sector and Subregion, 2018



Macro sectors represent aggregations of U.S. BLS 2-digit NAICS-classified industries. Refer to About the Data for additional notes on macro sector definitions.
Source: U.S. BLS QCEW NAICS-Based Data Files, 2018 Annual Average Employment and Total Annual Wages, rounded

NYC and the Region—An Interconnected Economic Ecosystem

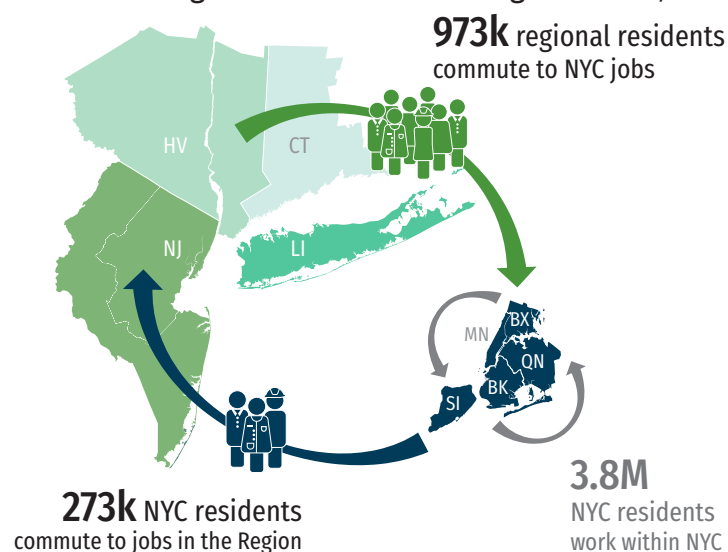
Since the consolidation and growth of commuter rail systems in the early 20th century, followed by the growth of the regional highway network, which spurred growth in the suburbs, NYC's economic growth has been intertwined with the housing development and population growth of the Region. NYC relies on a housing market that extends well beyond its physical boundaries as a city, sharing a dynamic exchange of residents with the suburbs. Thousands of New Yorkers move to and from the Region every year, and our transportation system that allows for one million non-NYC resident workers to access the city daily while residing nearby.

One-fifth of NYC's workforce lives outside the city, representing a dynamic flow of in-commuters traveling to work in all five boroughs.

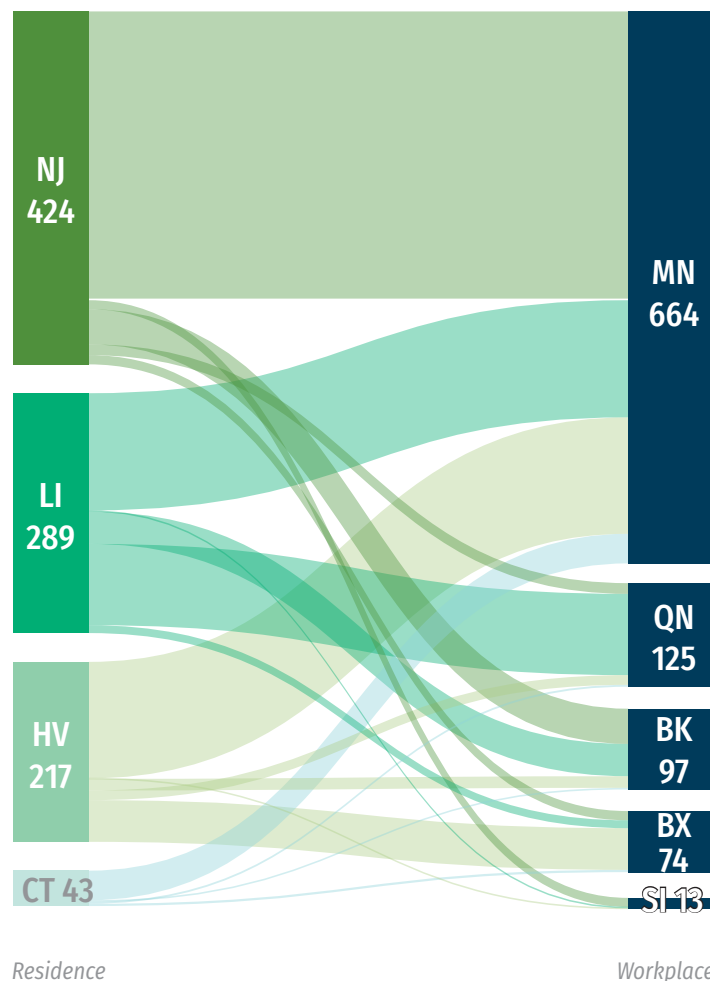
80% of the 4.7 million people employed within NYC live within the five boroughs. The other 20%, representing nearly 1 million workers, are housed outside of the city, elsewhere in the Region ("in-commuters"). Manhattan, the Region's densest employment center, is geographically central to the Region's labor market and supported by a wide range of transportation infrastructure specifically designed for core access. So, it is no surprise that the majority of in-commuters from the Region are traveling to jobs in Manhattan. However, there are also strong commuter relationships between other NYC boroughs and their geographic neighbors. Notably, two-thirds of NYC in-commuters from the Region who work in the Bronx reside in the Hudson Valley, and Long Island residents are as likely to commute to other NYC boroughs (combined) as they are to travel to Manhattan.

There are also nearly 300,000 NYC residents who commute out from the city to jobs located in the Region ("out-commuters"), representing 7% of employed NYC residents. Bronx and Queens residents represent the largest shares of NYC out-commuters. Those boroughs share extensive land boundaries with neighboring parts of the Region and similarly experience a dynamic exchange, with many Bronx residents out-commuting to the Hudson Valley and Queens residents working on Long Island.⁹

In-Commuting to and Out-Commuting from NYC, 2017



Where NYC In-Commuters Live in the Region and their NYC Borough of Workplace (thousands), 2017



Source: IPUMS-USA, University of Minnesota; U.S. Census Bureau ACS 1-Year Estimates 2017

INSIGHT ONE

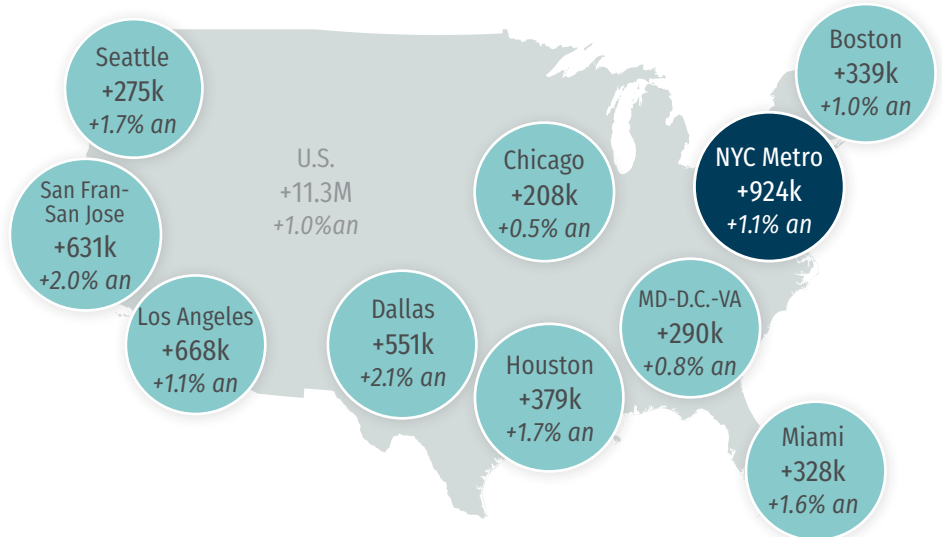
Employment growth continued to concentrate in NYC and job gains in all five boroughs drove the Region's growth after the Great Recession. Though job growth slowed in the last few years, NYC continued to outpace all other parts of the Region.

The Region gained the most jobs among U.S. metropolitan areas since the Great Recession, adding 924,000 private sector jobs. The Region also grew slightly faster than the U.S. post-Great Recession, averaging +1.1% growth per year from 2008 to 2018 versus the U.S. average growth of +1.0% per year.

Despite these dramatic gains, the Region's economy grew more slowly than metropolitan areas in the west and south. Though the Region has a bigger employment base, since 2008 the San Francisco-San Jose metropolitan area grew twice as fast as the Region, adding more than 631,000 jobs. The Houston, Dallas, Miami, and Seattle metropolitan areas also grew faster than the Region since 2008. Though urban centers gained in share of total U.S. GDP after the Great Recession, the Region's share remained constant at 10%.¹⁰

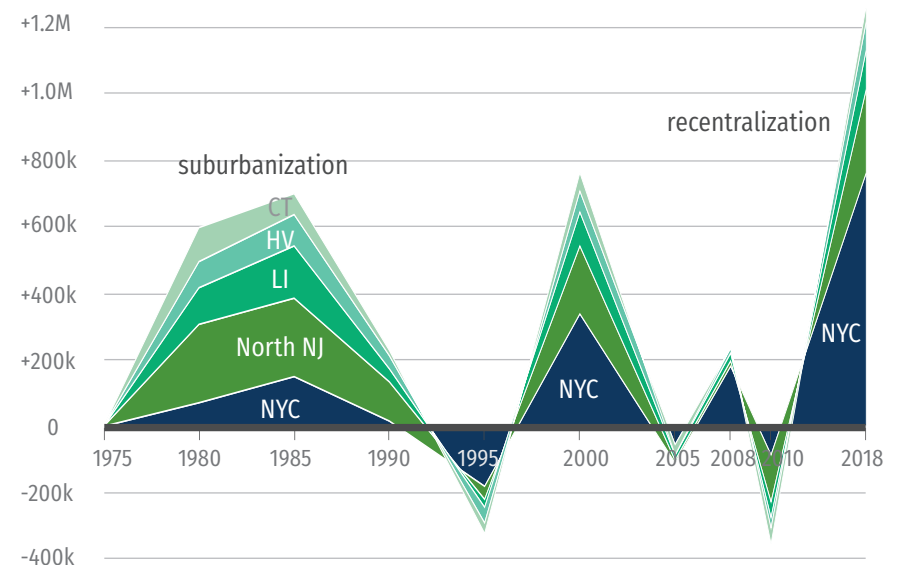
Over the last 40 years, the Region's employment growth increasingly concentrated in the city, a departure from the suburban job growth characteristic of previous decades. Looking at private sector employment change by subregion over five year intervals (indexed to 1975), as well as during the Great Recession, NYC's share of the Region's employment gains is at an all-time high, more than doubling since the employment boom of the 1980s. The geographic shift of growth toward NYC, and the city accounting for a smaller share of the Region's employment losses than in previous economic cycle, marks a new pattern of growth recentralization.

Private Sector Employment Change and Annual Percent Change for Major U.S. Metropolitan Areas, 2008 – 2018



Non-NYC U.S. metropolitan regions are defined as the aggregation of counties within U.S. Bureau of Economic Analysis-defined Combined Statistical Areas (CSAs) as of August 2017; NYC Metro represents the region geography used in this report. Refer to NYC Metro Region at the end of this report for the covered geography. Source: U.S. BLS QCEW NAICS-Based Data Files, Annual Average Employment 2008 & 2018

Private Sector Employment Change Indexed to 1975 by Subregion



Represents the difference in private sector employment generally for 5-year cycles, assuming 1975 as the base reference year (the earliest year for which comprehensive data were available). It also includes 2008 for greater detail regarding the Great Recession, but does not include 2015, which is shown in the following section. Source: U.S. BLS QCEW NAICS-Based Data Files, Annual Average Employment

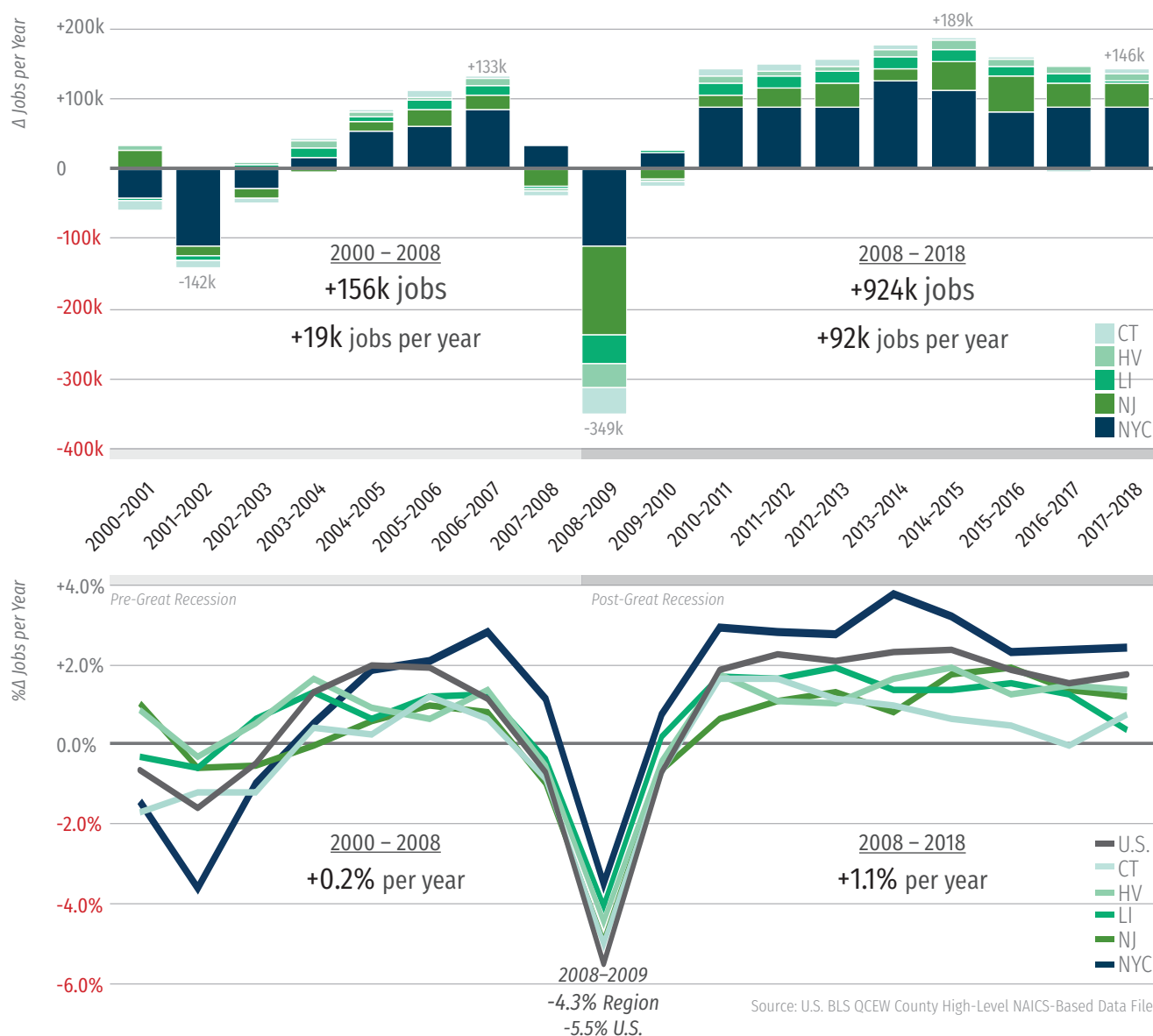
Following the Great Recession, NYC's explosive growth accounted for 73% of the Region's net private sector employment gains and NYC continued to outpace the Region's economic recovery.

The Region recuperated from private sector employment losses during the Great Recession within a few years, largely driven by NYC's economic success. However, the post-Great Recession growth streak is now past its peak. From 2000 to 2003, the Region experienced an economic downturn, losing 208,300 jobs, followed by a brief period of growth leading up to the Great Recession. NYC accounted for a greater share of job losses during the early-2000s downturn (87%), but a lesser share of Great Recession

losses (31%) in 2009. Since 2010, the Region added +138,000 jobs per year on average, with NYC gaining +90,000 jobs per year on average. The Region is now past its peak growth of +188,900 jobs (+2.2%) in 2015, growing by +145,600 jobs (+1.6%) in the last year.

Despite a Region-wide slowdown of employment growth, the city continued to outpace other subregions. Since the end of the Great Recession, NYC's growth, which peaked at +3.8% per year (+124,900 jobs)

Private Sector Employment Annual Net Change and Annual Percent Change by Subregion, 2000 – 2018



in 2014, continued to outpace other parts of the Region in the last few years. North NJ peaked at +1.9% growth (+44,500 jobs) in 2016, slightly below the city's growth in that year (+2.3%). In general, most parts of the Region have grown more slowly in recent years, consistent with national trends.

Though the Region added nearly 156,000 private sector jobs prior to the Great Recession, private employment grew at half the rate of the U.S. average. From 2000 to 2008, the Region's employment gains were modest, with only the Hudson Valley and Long Island gaining jobs faster than the U.S. average annual rate of growth. In NYC, boroughs outside of Manhattan also grew faster than the U.S. average, but employment losses in Manhattan dampened the city's overall economic performance.

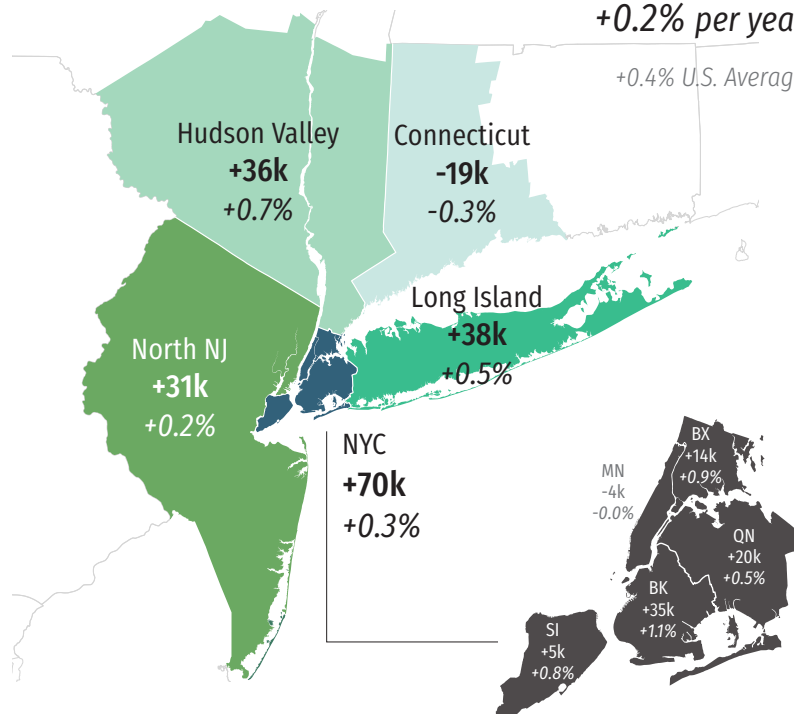
Since the Great Recession, NYC accounted for nearly three-quarters of the Region's net private sector job growth, adding jobs at more than double the rate of the U.S. average. NYC grew employment by an average of +2.2% per year since 2008—more than twice the U.S. average rate of +1.0%—and accounted for 73% (674,800 jobs) of the Region's net private sector employment gain. North NJ, which is home to 30% of the Region's private sector jobs, accounted for just 10% of the Region's net job gains in the last decade, averaging an annual increase of +0.4%.

All five NYC boroughs contributed to the city's considerable post-Great Recession employment growth. Since 2008, NYC experienced city-wide economic growth, with all five boroughs outpacing private sector employment gains in other subregions. This is especially true for Brooklyn, which grew private sector employment quickest in the Region (+4.5% per year) and more than four times the U.S. average annual growth since the Great Recession.

Pre-Great Recession, 2000 – 2008

+155,770 Private Sector Jobs
+0.2% per year

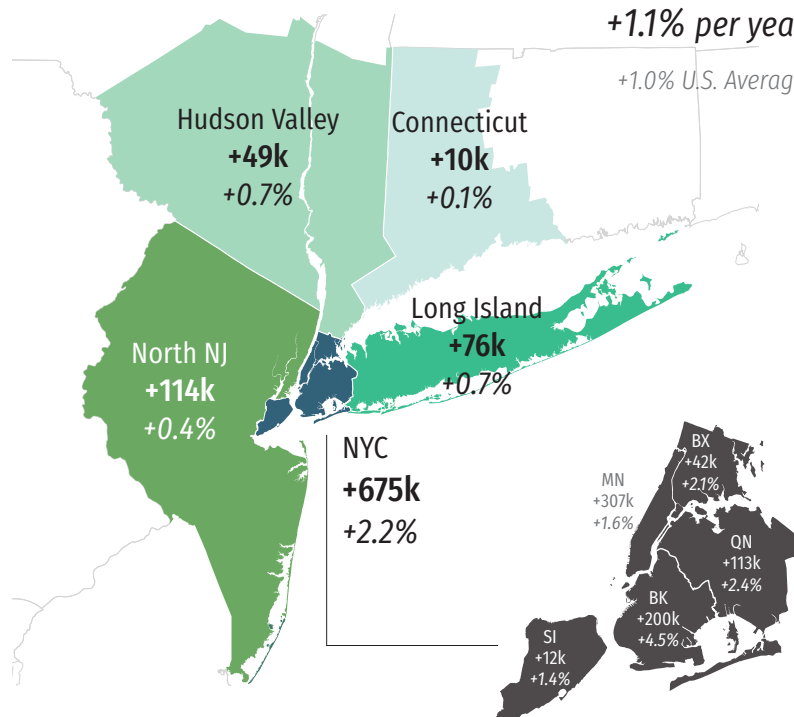
+0.4% U.S. Average



Post-Great Recession, 2008 – 2018

+923,950 Private Sector Jobs
+1.1% per year

+1.0% U.S. Average



Depicts net private sector job change and percent annual change.
Source: U.S. BLS QCEW County High-Level NAICS-Based Data Files

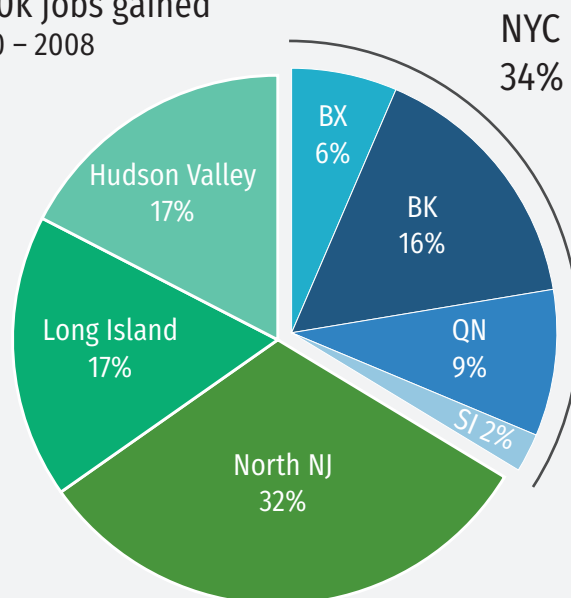
The recentralization of employment growth after the Great Recession builds on a long-term shift in growth patterns within the Region, as non-Manhattan boroughs continued to rise in economic importance. From 1990 to 2000, North NJ played a strong role in driving the Region's economic growth, accounting for 37% of total private sector employment gains* and capturing a greater share of total job growth than NYC. In that decade, non-Manhattan boroughs accounted for 19% of the Region's total private sector employment gains. From 2000 to 2008, North NJ's share of the Region's total private sector job gain declined to approximately one-third, while the non-Manhattan boroughs' share grew to one-third, offsetting employment losses in Manhattan. Those boroughs, which were historically bedroom communities to Manhattan, have experienced a long-term pattern of economic expansion and are strengthening as job destinations.

Since the Great Recession, a resurgent Manhattan and continued growth in other NYC boroughs increased the city's share of the Region's total employment gains from one-third of jobs added from 2000 to 2008 to nearly three-quarters of jobs added from 2008 to 2018. Manhattan, home to 24% of the Region's jobs, accounted for 32% of the Region's private sector employment gains from 2008 to 2018. Continued job growth in non-Manhattan boroughs, notably in Brooklyn and Queens, also supported the Region's strong post-Great Recession economic growth. Though the rest of the Region gained more jobs post-Great Recession (+273,700) than pre-Great Recession (+145,900), the rest of the Region accounted for a smaller share of the Region's total job gains in the last decade.

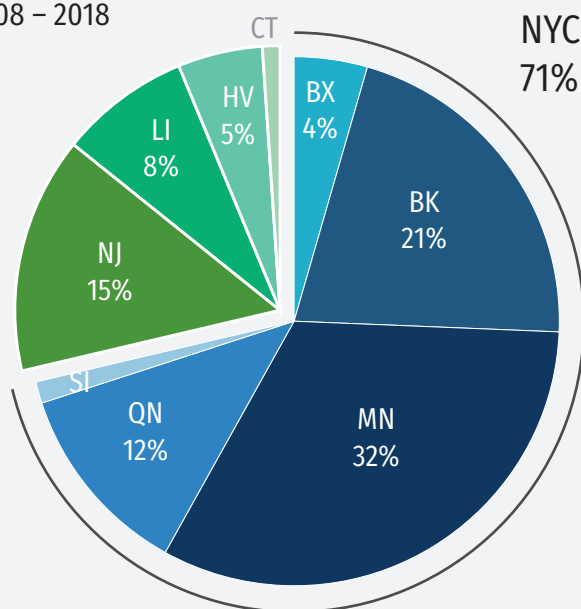
Consistent with its disproportionate share of post-Great Recession employment growth, NYC now accounts for a greater share of the Region's wages than in the prior two decades.¹⁰ In 2000, NYC represented 46% of the Region's \$589 billion in private sector employee wages, generating \$270 billion (in 2018 dollars). In 2018, NYC employee wages represented more than half of the Region's wages, growing by nearly +\$90 billion over two decades to \$360 billion. NYC accounted for 79%

Total Private Sector Employment Gains* by NYC Boroughs and Subregions Pre- vs. Post-Great Recession

+220k jobs gained
2000 – 2008



+945k jobs gained
2008 – 2018

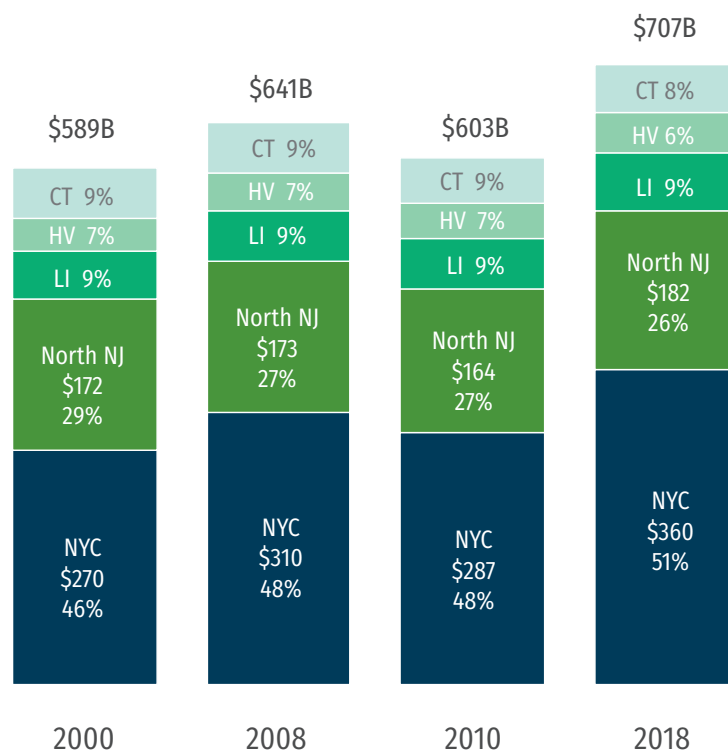


*Shares of gain by subregion represent aggregations of private sector job gains only for counties which added jobs. These shares do not represent net gain, which includes counties registering losses in subregion totals. For example, Manhattan and Connecticut counties (grouped as the CT subregion) lost jobs from 2000 to 2008, and therefore are not represented in the pie for that period (i.e. 0% of pre-Great Recession employment gains).

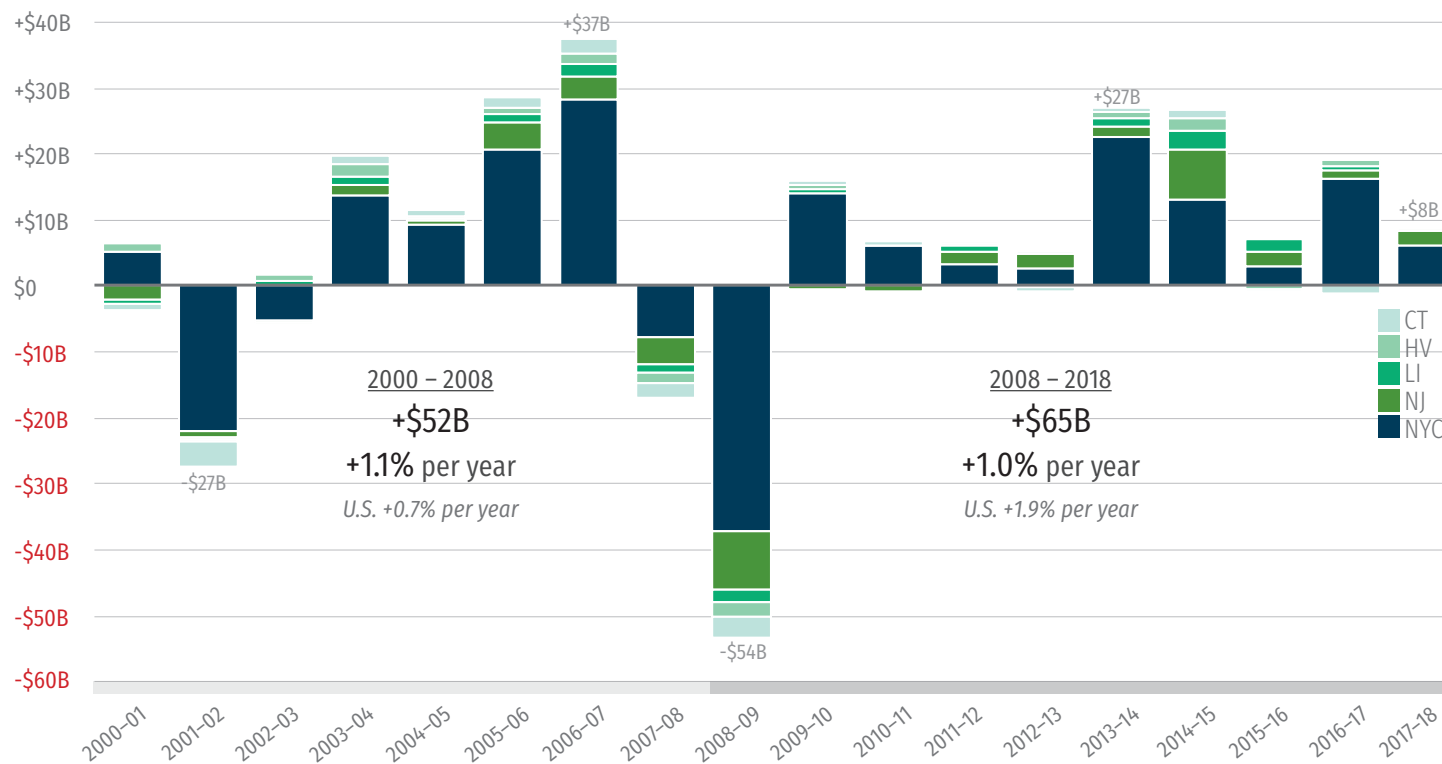
Source: U.S. BLS QCEW County High-Level NAICS-Based Data Files

of the Region's net private sector wage growth between 2000 and 2018, growing at +1.8% per year on average. The rest of the Region grew by +1.1% per year from 2000 to 2018, slower than the national average growth of +1.4%. Connecticut wages declined from 2000 to 2018, while North NJ grew more slowly than Long Island and the Hudson Valley. North NJ grew private sector wages by +0.3% on average per year, from \$172 billion in 2000 (in 2018 dollars) to \$182 billion today.

Employee wage gains and losses in NYC have the greatest impact on the Region's annual wage change. Annual change in employee wages, which includes payroll compensation as well as other forms of compensation such as bonuses and stock options, exhibits a more variable geographic distribution and temporal pattern than that of job change. Much of the Region's wage growth or loss in a given year is due to NYC. As will be discussed in the following section, much of this variability is driven by the finance, insurance, and real estate sectors. The Region, however, grew total private sector wages at less than half the rate of the U.S. average since the Great Recession.

Total Private Sector Wages by Subregion (2018 \$Billions)


Wages represent aggregate annual private sector wages for the indicated years, adjusted for inflation and reported in 2018 billions of dollars. Source: U.S. BLS QCEW County High-Level NAICS-Based Data File

Annual Net Change in Private Sector Wages by Subregion, 2000 – 2018 (2018 \$Billions)


Wages are reported in 2018 dollars. Please refer to About the Data for additional information about employee wages. Source: U.S. BLS QCEW County High-Level NAICS-Based Data Files, 2000–2018

INSIGHT TWO

The Region experienced varied growth across sectors. Office gains—the highest value employment—concentrated in NYC, while institutional sectors served as the largest source of employment and wage growth elsewhere in the Region. Industrial and local services sectors supported economic gains after the Great Recession, but that growth is slowing.

Over the last two decades, the Region experienced varied employment growth trends across the office, institutional, industrial, and local services macro sectors.

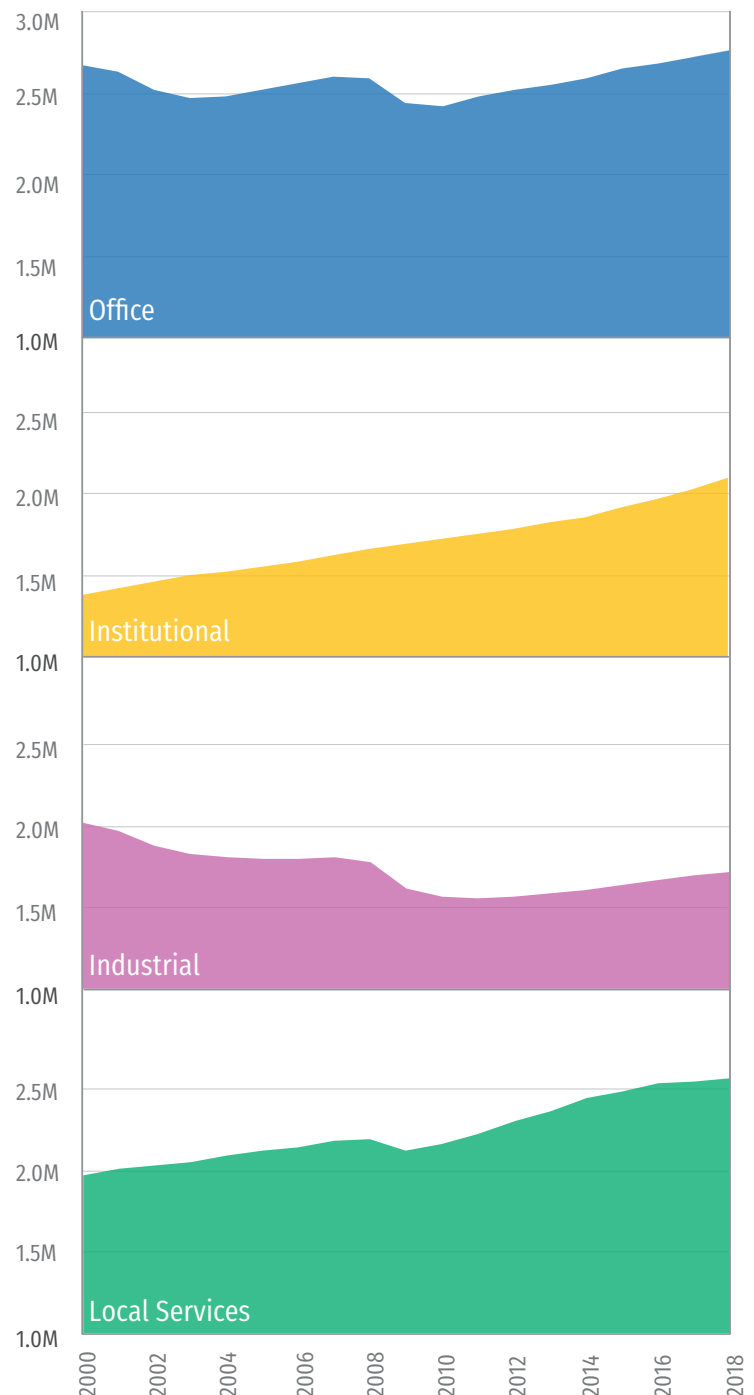
After experiencing losses during the early 2000s economic downturn and the Great Recession, office employment has surpassed 2000 employment. The Region, which had 2.68 million office jobs in 2000, experienced declines during the two recession cycles. Since 2010, the Region added office jobs, surpassing 2000 employment in 2016, and is currently at peak employment—2.78 million jobs. This represents 4% growth over 20 years.

The institutional macro sector was immune to the effects of economic downturns and experienced steady, continual growth. In 2000, the Region employed 1.38 million people in institutional jobs, accounting for 17% of the Region's private sector employment. Today, the Region employs 2.09 million people in the institutional macro sector, representing a growth of 51% over the last 20 years—the most of any macro sector—and accounting for 23% of the Region's private sector employment in 2018.

The industrial macro sector continued to decline, and though it experienced a modest upswing since the Great Recession, the Region has lost industrial jobs since 2000. Following exacerbated losses during the Great Recession, the Region grew industrial jobs since 2010. However, the industrial macro sector, which was 25% of the Region's employment in 2000 (2.02 million) and the second-largest macro sector, represented just 19% of the Region's employment in 2018 (1.72 million). That share remained consistent despite recent growth, as other macro sectors grew faster post-Great Recession.

With the exception of a small dip during the Recession, local services employment grew steadily

Total Private Sector Employment by Industry Macro Sector, 2000 – 2018

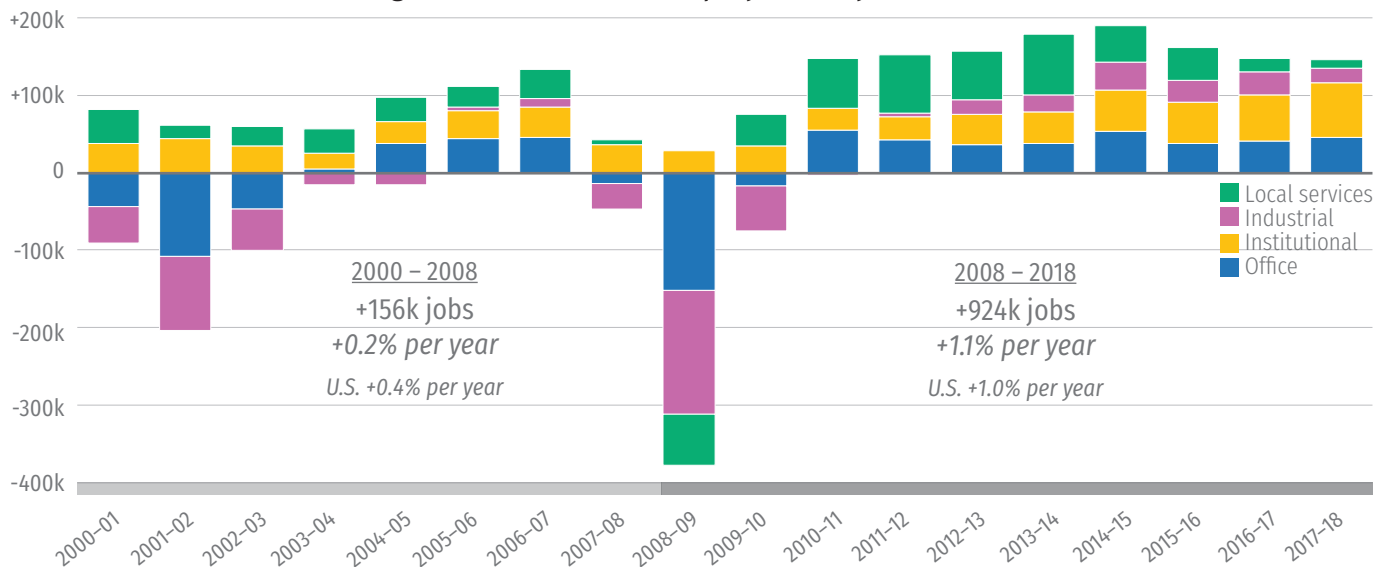


over the last two decades, but recently has slowed. This macro sector grew second-most following institutional, by +30% since 2000. It now represents the second largest macro sector in the Region, employing 2.56 million people.

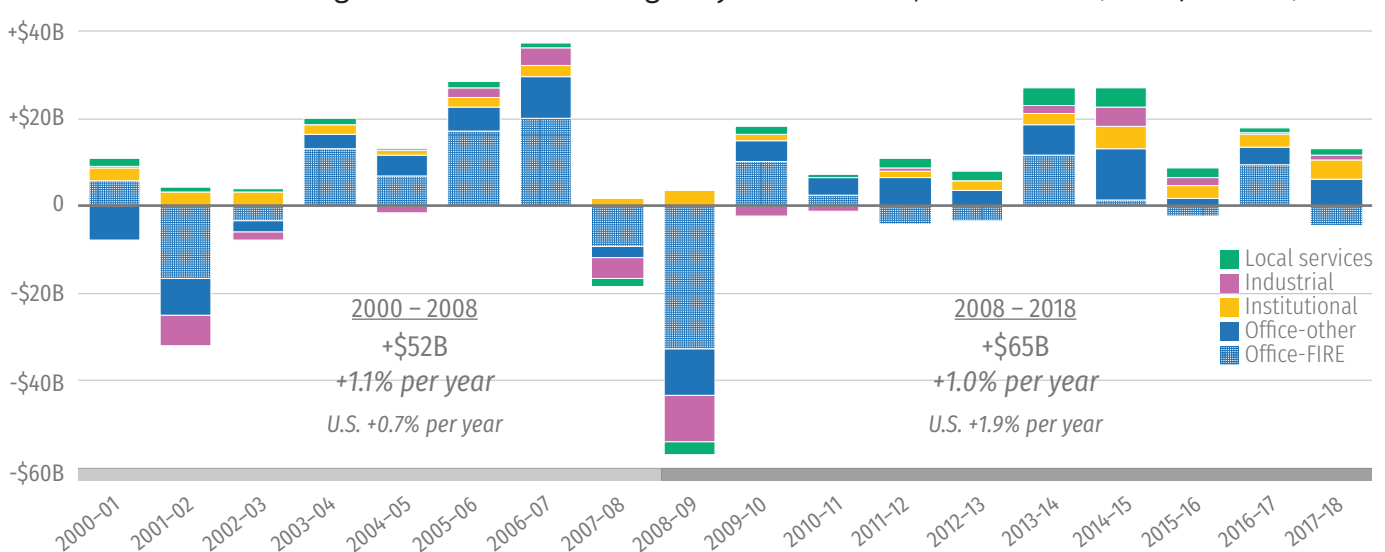
The composition of the Region's annual private sector employment change shows all four macro sectors supported recent job growth. Prior to the Great Recession, institutional and local services job gains offset office and industrial job losses. Since the Recession, all four macro sectors have grown employment.

Office jobs, especially in the finance, insurance, and real estate (FIRE) sectors, heavily influence annual shifts in the Region's employee wages. Wages include various forms of compensation (e.g., salaries, bonuses). Though annual office employment change exhibits growth or loss patterns consistent with other macro sectors, large swings in the office FIRE sectors disproportionately influence the Region's annual wage fluctuations¹¹. Despite smaller magnitudes, other macro sectors display a more consistent pattern between wage change and employment change.

Annual Net Change in Private Sector Employment by Macro Sector, 2000 – 2018



Annual Net Change in Private Sector Wages by Macro Sector, 2000 – 2018 (2018 \$Billions)



Despite relatively even distribution of annual employment growth by sector, office FIRE sector jobs account for a disproportionate share of the annual private sector wage change. Remaining office sector wages perform more consistently with annual employment growth.

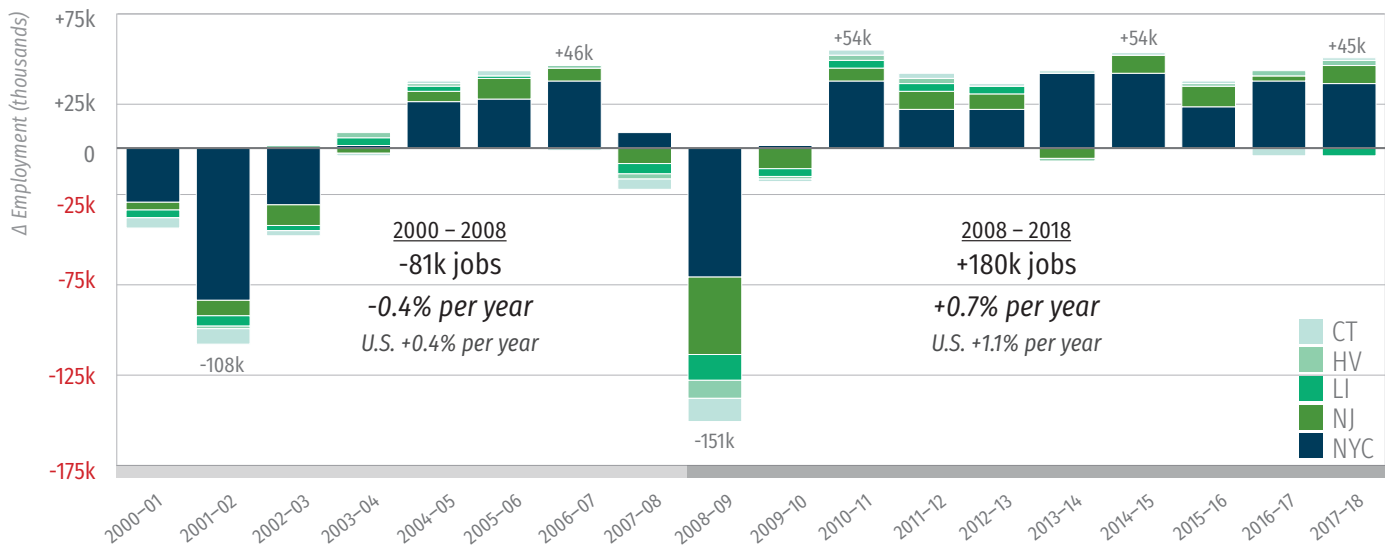
Wages represent aggregate annual private sector wages for the indicated years, adjusted for inflation and reported in 2018 dollars. See About the Data for additional details on wage change. Source: U.S. BLS QCEW County High-Level NAICS-Based Data Files, Annual Average Employment and Total Wages, 2000-2018.

INSIGHT TWO: OFFICE EMPLOYMENT

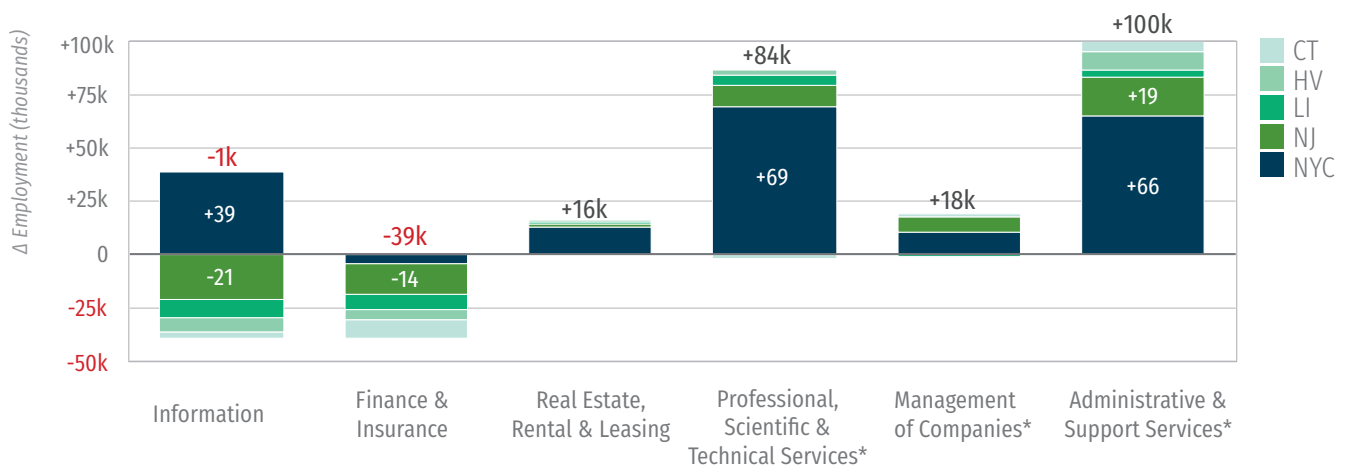
Since 2011, the Region averaged gains of more than 40,000 office jobs per year, most of which were added in NYC. Over the last 20 years, the Region's economic cycles mirrored employment change in the office macro sector. Manhattan experienced the majority (72%) of the Region's net office job losses during the early 2000s downturn, particularly in the wake of the dot-com burst and the 9/11 attacks. NYC accounted for half of the Region's employment losses in 2009, but represented three-quarters of net office jobs gained since 2011. The Region's growth peaked in 2011 and 2015, adding more than +54,000 jobs in those years, but has experienced slower job growth since 2015.

Post-Great Recession office employment growth is characterized by a shift away from finance and insurance sectors, and toward other office sectors. NYC experienced diversified job growth, losing the fewest finance and insurance jobs among the subregions, while growing employment in all other office sectors. This is especially true in the information sector, where NYC job gains were not enough to offset job losses in the rest of the Region. The rest of the Region's office job growth was experienced predominantly in professional, scientific and technical services, and in administrative and support services¹².

Annual Net Change in Office Employment by Subregion, 2000 – 2018

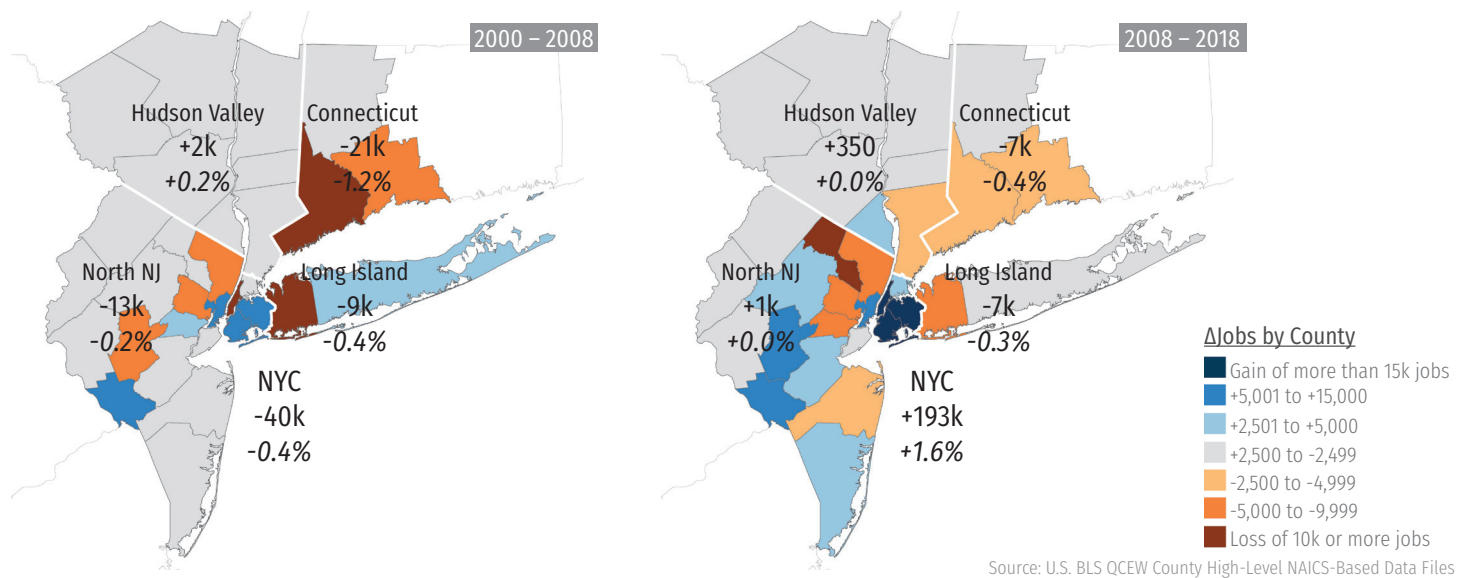


Net Change in Office Employment by Sector and Subregion, 2008 – 2018



*Indicates an industry in which one or more counties within the subregion did not disclose employment data in 2008 and/or in 2018; therefore, reported change may not reflect actual change. Please refer to About the Data for more information. This chart reports NAICS 2-digit industry sectors, with the exception of Administrative & Support Services (NAICS 561). Sources: U.S. BLS QCEW NAICS-Based Data Files County High-Level and by Industry, Annual Average.

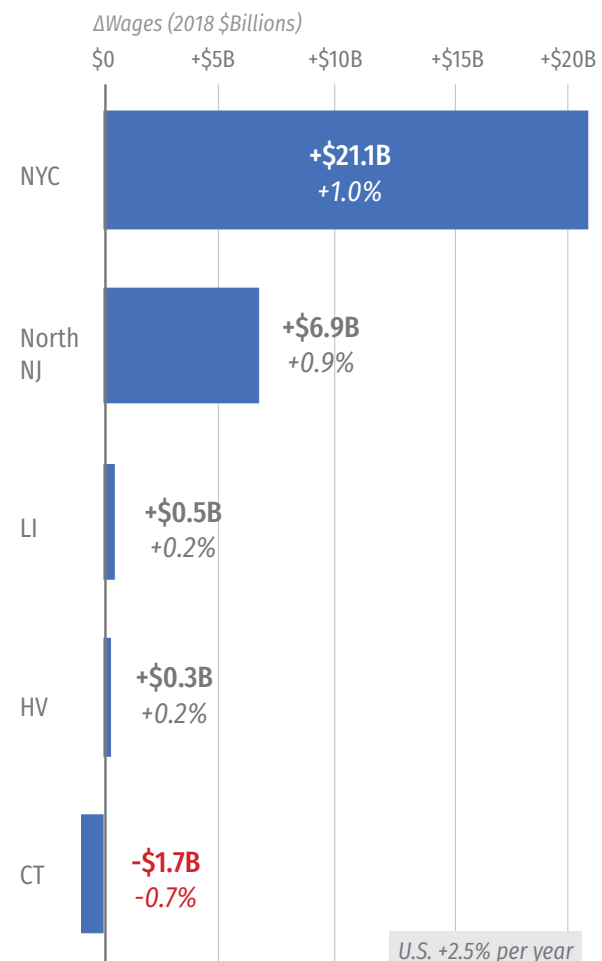
Office Employment Net Change and Percent Annual Change by Subregion, Pre- vs. Post-Great Recession



Though the Region's rate of office growth since the Great Recession was slower than the U.S. average, geographic variation in job gains suggests a realignment, with office employment concentrating in NYC and other select locations. NYC added +192,900 office jobs over the last decade, including losses sustained during the Great Recession. Manhattan alone added +142,600 office jobs, followed by Brooklyn (+31,200), Queens (+15,800), Hudson, NJ (+10,800), and Somerset, NJ (+7,300). Brooklyn grew office jobs most quickly in the Region, +4.3% per year, approximately four times the U.S. average. Queens, Manhattan, Hudson, NJ, and Ocean, NJ counties also outpaced the U.S. average. Meanwhile, select areas in North NJ and Connecticut that are home to sizable shares of the Region's office employment (i.e., Bergen and Essex in NJ, and Fairfield, CT with 294,600 office jobs combined) sustained continued job losses pre- and post-Great Recession.

NYC and North NJ accounted for the majority of the Region's growth in employee wages over the last decade, with both areas growing by approximately +1% per year. Nationally, total wages generated by office employment grew more than twice the rate of job growth. Though the Region grew office wages more slowly than the U.S., it added +\$271 billion since 2008, of which NYC accounted for nearly 80%.

Office Wages Net Change and Percent Annual Change by Subregion, 2008 – 2018



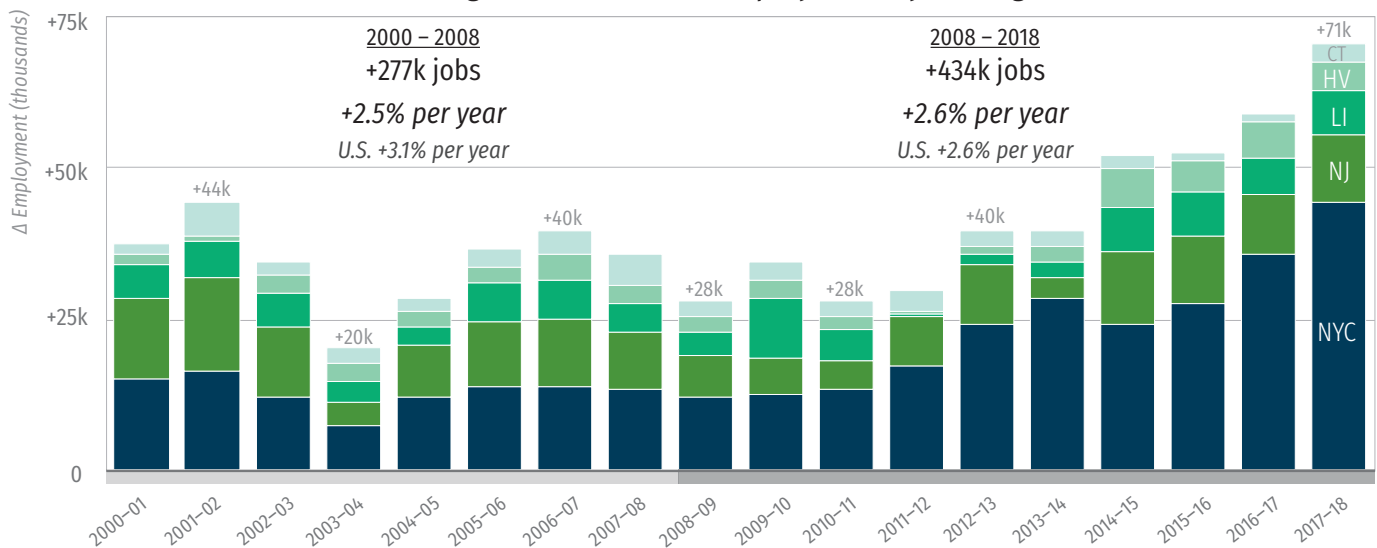
Wages represent county-reported total private sector wages aggregated by subregion. To calculate change, 2008 reported wages were adjusted for inflation to 2018-dollars. Source: U.S. BLS QCEW County High-Level NAICS-Based Data Files, Total Wages

INSIGHT TWO: INSTITUTIONAL EMPLOYMENT

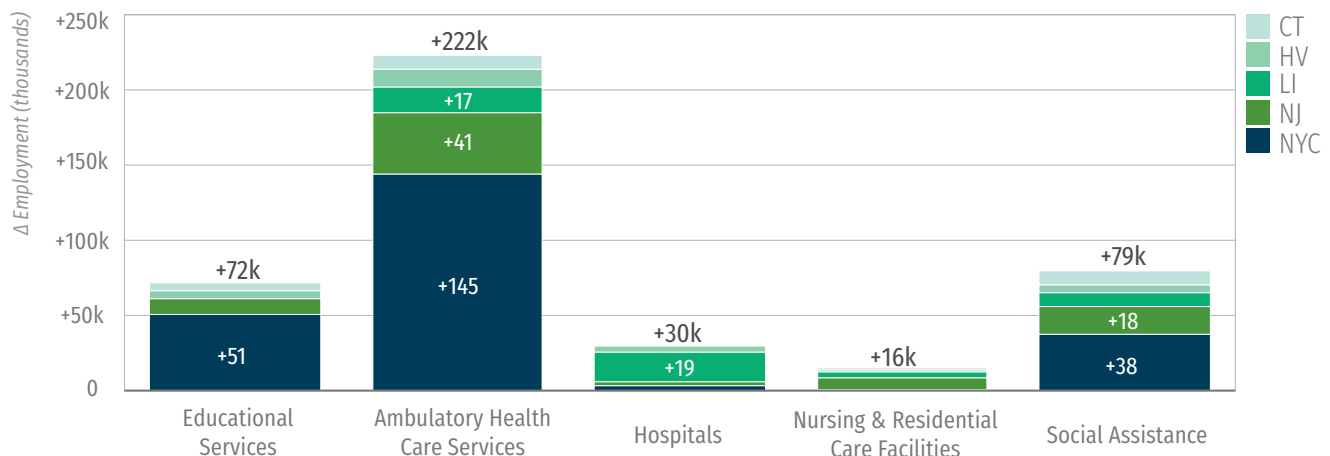
The institutional macro sector grew continually over the last two decades and increasingly since the Great Recession. The institutional macro sector, immune to economic downturns in the early 2000s and during the Great Recession, consistently expanded over the last 20 years, averaging +2.5% and +2.6% annual growth pre- and post-Great Recession, respectively. Since 2008, the Region added +433,550 private sector education and healthcare jobs. NYC gained the most jobs and grew most quickly in the Region, with accelerating annual growth following the Great Recession at its highest in the last year (+5.0%). The Region's annual institutional employment growth over the last two decades was also highest in 2018, when the Region added +70,500 institutional jobs (+3.5%).

Ambulatory health care services, which include locally-serving jobs such as doctors' offices and home health aides, accounted for more than half of the institutional job growth since the Great Recession. Public policy and programs that have expanded access to health insurance coverage affected the healthcare sector's tremendous growth, with the Region notably gaining +85,550 social assistance jobs and +222,200 ambulatory health care services jobs in the last decade. NYC added +144,750 ambulatory health care jobs (+9.0% per year), nearly half of which were in Brooklyn (+71,500). North NJ also substantially grew employment in this sector, adding +41,050 jobs (+2.8% per year). Other notable institutional job gains were in hospital employment on Long Island (mostly Nassau County)

Annual Net Change in Institutional Employment by Subregion, 2000 – 2018



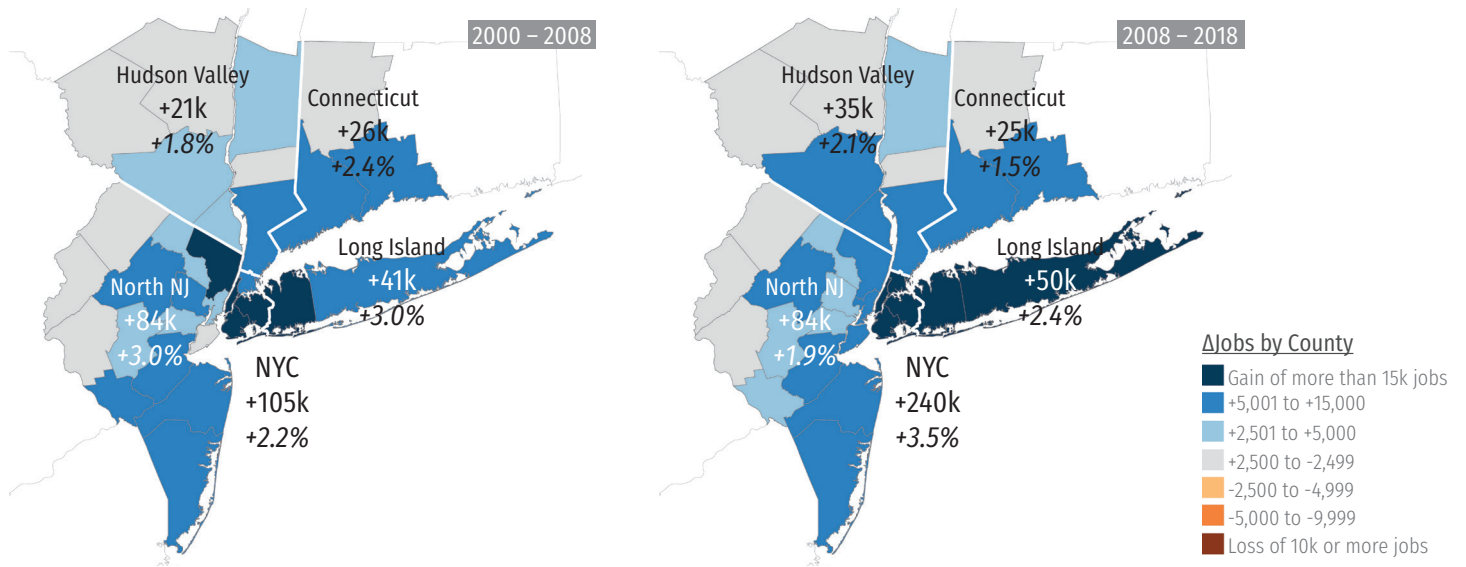
Net Change in Institutional Employment by Sector and Subregion, 2008 – 2018



Healthcare subsectors' change contains one or more counties within the subregion that did not disclose employment data in 2008 and/or in 2018; therefore, reported change may not reflect actual change. Please refer to About the Data for more information. This chart reports NAICS 2-digit (Educational Services) and 3-digit industry sectors (all others). U.S. BLS QCEW NAICS-Based Data Files County High-Level and by Industry, Annual Average.

INSIGHT TWO: INSTITUTIONAL EMPLOYMENT

Institutional Employment Net Change and *Percent Annual Change* by Subregion, Pre- vs. Post-Great Recession



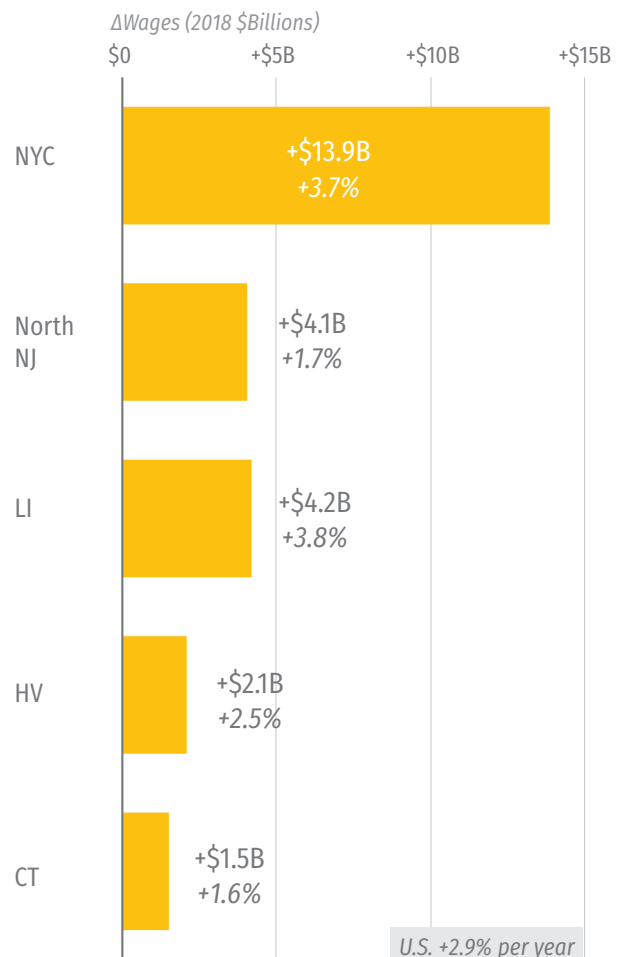
Source: U.S. BLS QCEW County High-Level NAICS-Based Data Files

and educational services in NYC. Two-thirds of the Region's private educational services jobs were gained in Manhattan (+34,400).

Gains in NYC—especially in non-Manhattan boroughs—are driving the Region's institutional sector growth. Brooklyn has added more than 100,000 institutional jobs since 2008 (+5.0% per year), accounting for 24% of the Region's gain despite housing only 13% of the Region's private sector institutional employment. Brooklyn's growth accelerated in recent years, averaging +8.6% annual growth since 2016, representing +20,000 jobs per year. Institutional job growth in Queens also outpaced the Region and the U.S., adding +47,300 jobs since 2008 (+4.0% per year). Manhattan (+62,700), the Bronx (+21,450), and Staten Island (+5,550) also grew considerably. Outside of NYC, growth was mostly on Long Island (Nassau +33,800, Suffolk +16,300), and spread throughout North NJ.

Institutional employment wage growth of +\$27 billion represented more than one-third of the Region's wage gains since 2008. NYC represented more than half of the Region's net institutional wage gains, and outpaced the average annual rate of U.S. institutional wage growth. NYC's institutional wage growth also slightly outpaced the rate of the city's job growth. Long Island institutional wages grew quickest in the Region, and at 1.6 times the rate of Long Island's institutional job growth.

Institutional Wages Net Change and *Percent Annual Change* by Subregion, 2008 – 2018



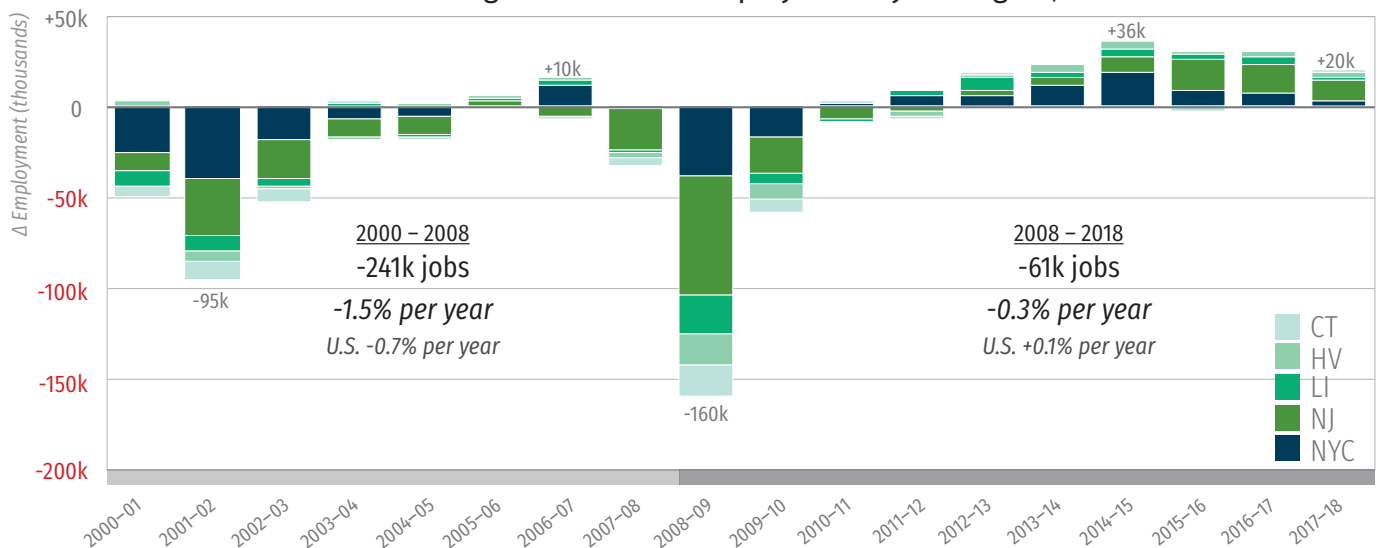
Wages represent county-reported total private sector wages aggregated by subregion. To calculate change, 2008 reported wages were adjusted for inflation to 2018-dollars. Source: U.S. BLS QCEW County High-Level NAICS-Based Data Files, Total Wages

INSIGHT TWO: INDUSTRIAL EMPLOYMENT

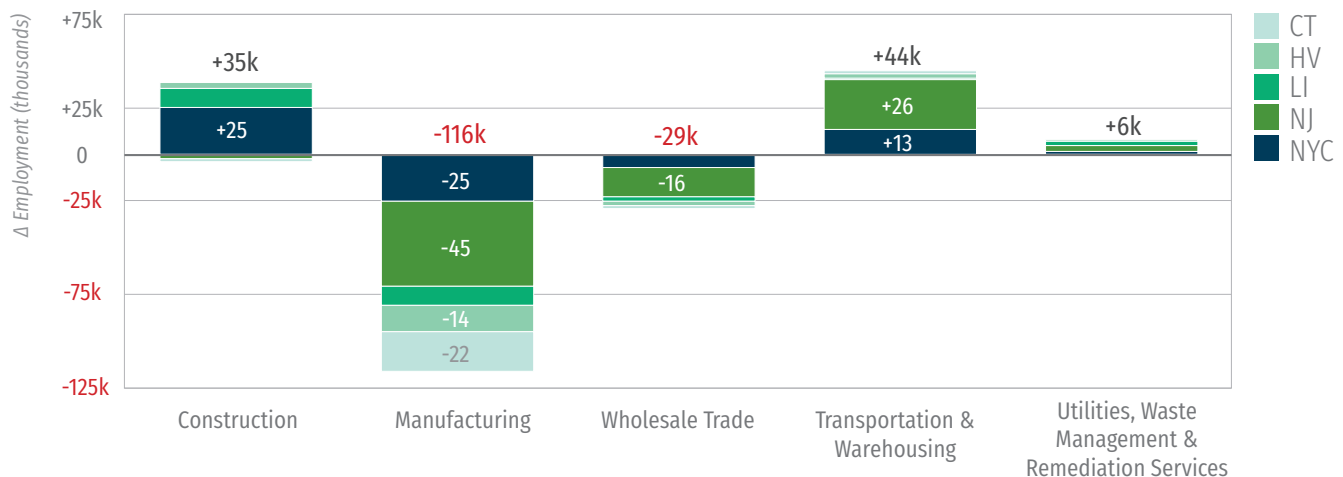
Though the Region's industrial employment declined over the last two decades, there has been modest—albeit slowing—job growth since 2012. Prior to the Great Recession, the Region generally sustained year-on-year losses of industrial employment, with losses peaking in 2002. Following a slight gain in 2007, the Region continued to lose industrial jobs through 2011. Since 2011, industrial jobs have grown in most parts of the Region, peaking at +2.2% annual growth in 2015 (+36,000 jobs), but slowing to +1.1% growth in the last year (+19,500 jobs). Despite a -0.3% average annual decline since the Great Recession, the Region grew industrial jobs slightly below the U.S. average from 2013 to 2018, +1.6% versus +1.9% per year, respectively.

Growth in the transportation and warehousing and construction sectors did not offset losses in the manufacturing sector since the Great Recession. Logistics employment growth, the main driver of industrial job gains since the Great Recession, was concentrated in North NJ and NYC, especially in counties with the Region's major airports (Queens, Essex) and those located along the Interstate 95 corridor (Middlesex, Mercer, Union, Bergen, New Haven). Construction employment grew most notably in NYC, followed by Long Island. Gains in these sectors did not counterbalance manufacturing and wholesale trade declines, which were experienced throughout the Region. The significant loss of manufacturing jobs post-Great Recession

Annual Net Change in Industrial Employment by Subregion, 2000 – 2018



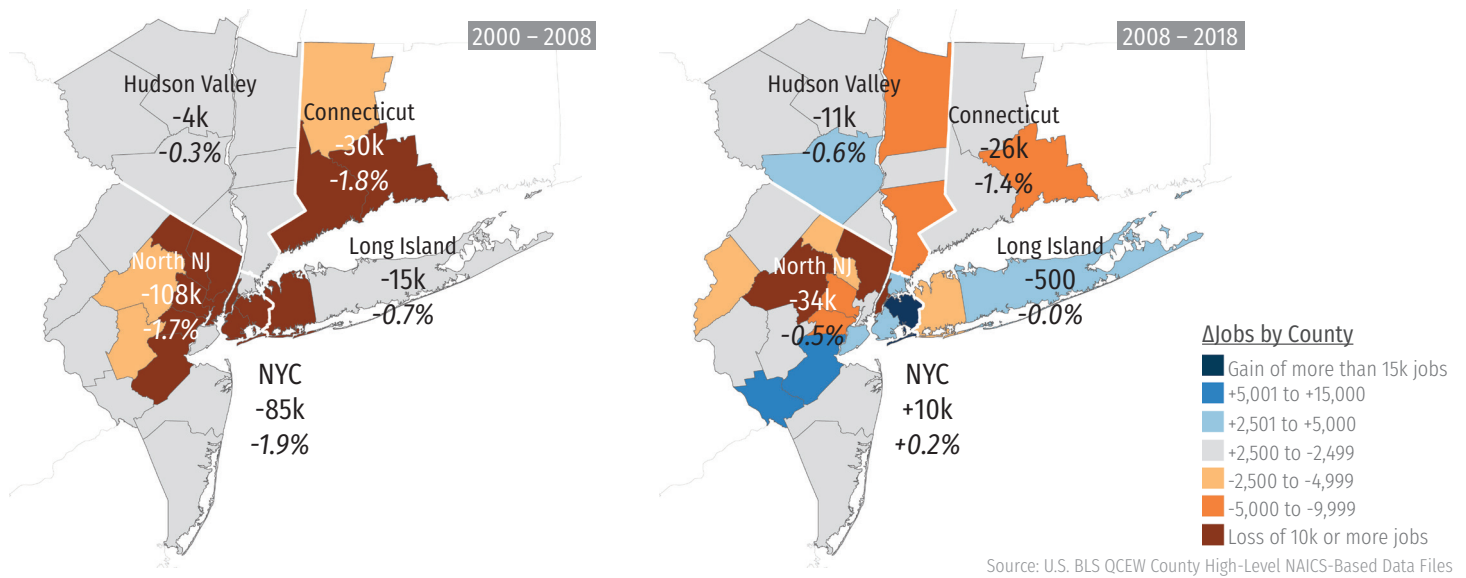
Net Change in Industrial Employment by Sector and Subregion, 2008 – 2018



All industrial subsectors contain one or more counties within the subregion that did not disclose employment data in 2008 and/or in 2018; therefore, reported change may not reflect actual change. Please refer to About the Data for more information. This chart reports NAICS 2-digit industry sectors, and groups Waste Management & Remediation Services (562) with Utilities (22). This chart does not include changes in the Natural Resources and Mining super sector (1011), for which total change was less than 1,000 jobs for the region. Sources: U.S. BLS QCEW NAICS-Based Data Files County High-Level and by Industry, Annual Average

INSIGHT TWO: INDUSTRIAL EMPLOYMENT

Industrial Employment Net Change and *Percent Annual Change* by Subregion, Pre- vs. Post-Great Recession



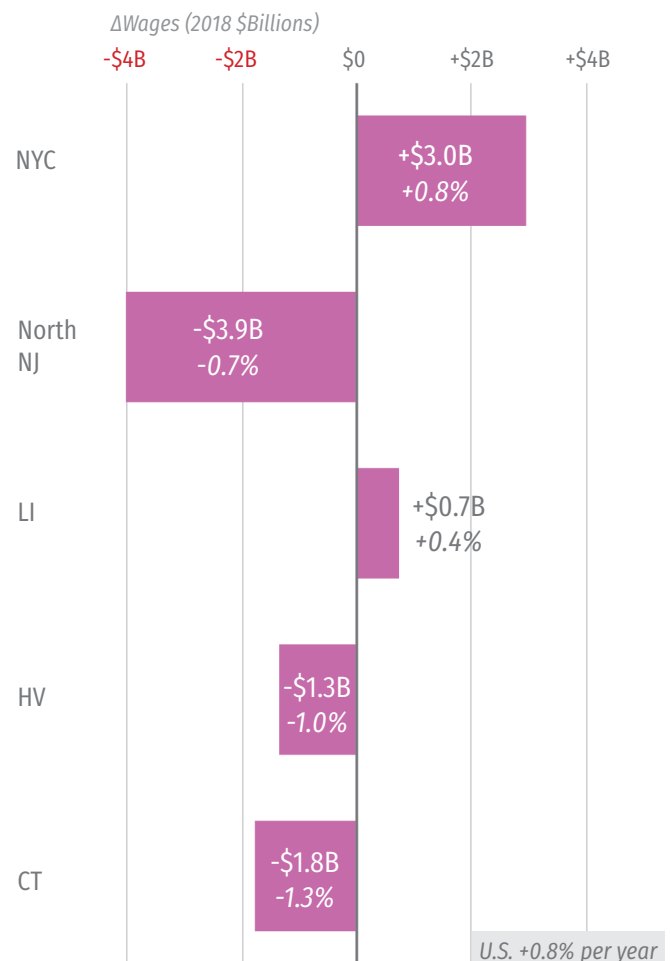
reflects a continuation of the previous decade, with the Region losing -191,900 manufacturing jobs from 2000 to 2008 and declining by -3.2% per year.

Non-Manhattan NYC boroughs and select counties around the Region gained industrial employment in the post-Great Recession, a departure from Region-wide decline pre-Great Recession.

Queens grew the greatest number of industrial jobs (+12,200), driven by logistics sector growth, followed by Mercer (+6,600) and Middlesex (+6,300) in North NJ. Meanwhile, other counties within North NJ experienced industrial sector declines, especially Morris, Bergen, and Essex, areas that particularly suffered from manufacturing and wholesale trade declines. Industrial employment gains in Suffolk and Orange counties did not offset job losses elsewhere in Long Island and the Hudson Valley, respectively.

The Region lost -\$3.2 billion in industrial employment wages since 2008, representing a decline of -0.2% per year. NYC and Long Island were the only areas in the Region that grew industrial employment wages since 2008. NYC grew wages at pace with the U.S. average and added +\$3.0 billion, while Long Island added nearly +\$1.0 billion. Though the other subregions lost industrial wages in total after the Great Recession, the Hudson Valley and North NJ experienced industrial wage growth since 2013, but not enough to offset earlier losses.

Industrial Wages Net Change and *Percent Annual Change* by Subregion, 2008 – 2018



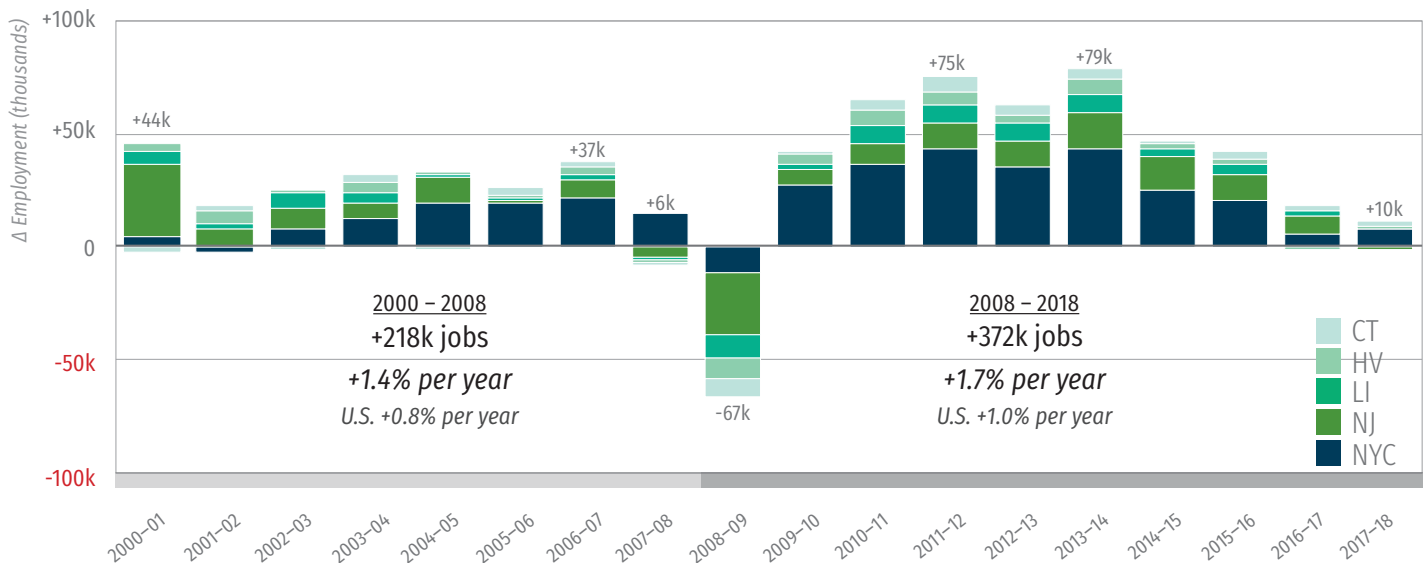
Wages represent county-reported total private sector wages aggregated by subregion. To calculate change, 2008 reported wages were adjusted for inflation to 2018-dollars. Source: U.S. BLS QCEW County High-Level NAICS-Based Data Files, Total Wages

INSIGHT TWO: LOCAL SERVICES EMPLOYMENT

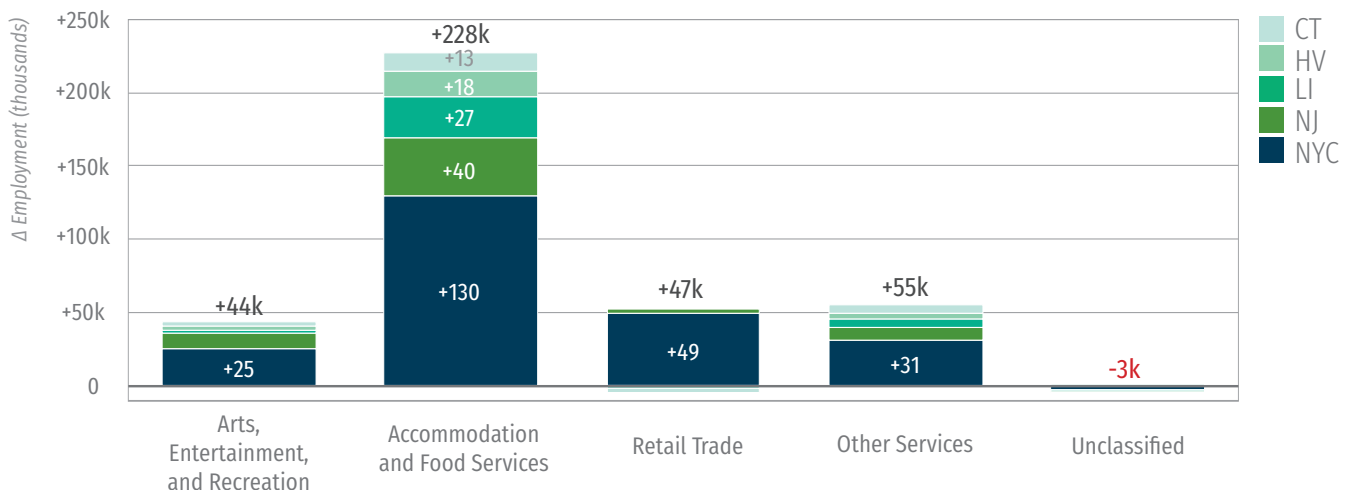
Local services employment grew nearly every year since 2000, but recently has slowed. With the exception of a -3% decline in jobs during the Great Recession, local services employment grew Region-wide throughout the last two decades. Post-Great Recession growth peaked in both 2012 and 2014, when the Region grew local services jobs by +3.4% (+74,900) and +3.3% (+78,500), respectively. Though the Region gained +371,900 local services jobs over the last decade, annual growth in the last year slowed to just +0.4% (+10,200). Though the slowdown is consistent with U.S. trends, the Region's growth from 2017 to 2018 was just one-third of the U.S. average rate of growth (+1.4%).

Though jobs were added across all local services sectors, the majority of gains were attributable to leisure and hospitality sectors. More than 60% of post-Great Recession employment growth is attributable to the accommodations and food services sector, which was experienced Region-wide. NYC accounted for nearly all retail sector growth since 2008, whereas growth was more distributed in arts, entertainment, and recreation and other services sectors. NYC captured 56% of the job gains in the arts, entertainment, and recreation sector, mostly in Manhattan and Brooklyn, as changing consumer habits and increased tourism fueled growth. The other services sector growth, which includes

Annual Net Change in Local Services Employment by Subregion, 2000 – 2018



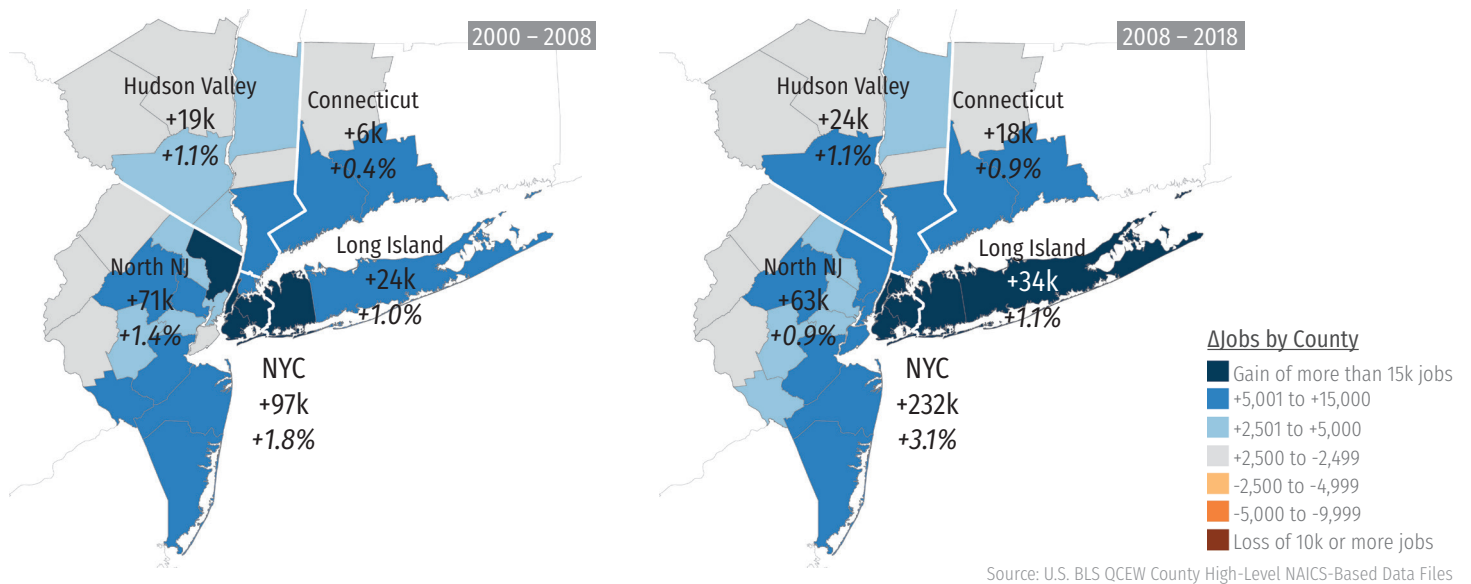
Net Change in Local Services Employment by Sector and Subregion, 2008 – 2018



Sources: U.S. BLS QCEW NAICS-Based Data Files County High-Level and by Industry, Annual Average

INSIGHT TWO: LOCAL SERVICES EMPLOYMENT

Local Services Employment Net Change and *Percent Annual Change* by Subregion, Pre- vs. Post-Great Recession

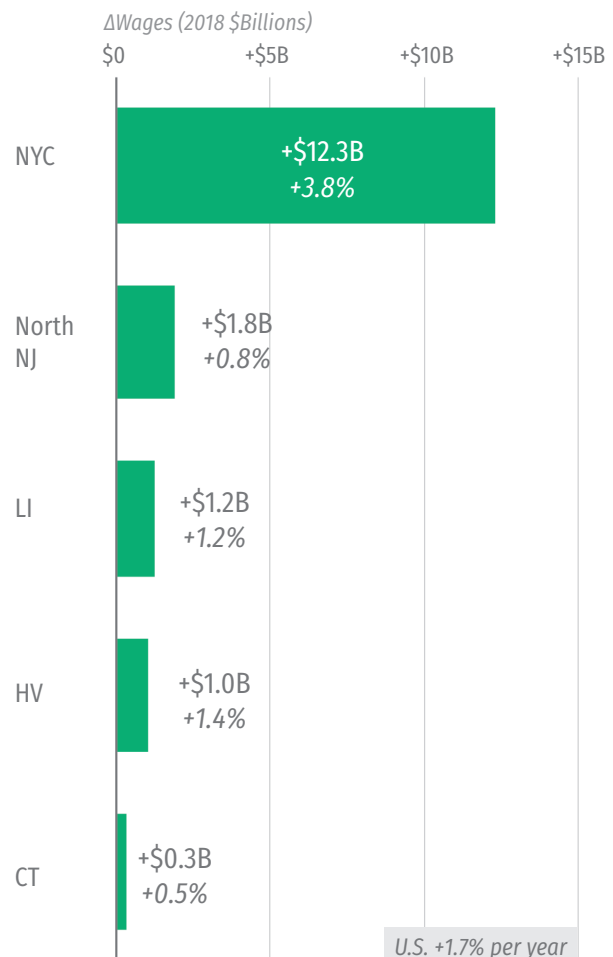


businesses such as laundromats and home appliance repairs, also grew throughout the Region.

Both prior to and after the Great Recession, every county in the Region added local services jobs, with NYC gaining the most. Though NYC accounts for 39% of the Region's local services jobs, the city experienced nearly two-thirds of employment gains since 2008. Growth occurred in all five boroughs, with Manhattan adding the most (+115,800) and Brooklyn growing most quickly (+5.5% per year) in the city and Region. The Bronx (+3.1%), Brooklyn, Manhattan (+2.5%), and Queens (+3.3%) all outpaced the U.S. average annual rate of local services employment growth post-Great Recession. Suffolk (+18,200) and Nassau (+15,300) counties on Long Island added jobs as well, though they grew more slowly than NYC, while Hudson County, NJ grew quicker than any county outside the city, adding +13,000 jobs and growing by +3.0% per year since 2008.

Since the Great Recession, the Region gained +\$16.7 billion in local services wages, three-quarters of which were earned in NYC. The city's local services wages grew more than twice the rate of U.S. average growth from 2008 to 2018, as NYC added +\$12.3 billion in employee wages. NYC also grew local services wages more quickly than jobs. The rest of the Region also grew local services wages, at average rates near or below the U.S. average, suggesting a concentration of higher-wage job growth in NYC.

Local Services Wages Net Change and *Percent Annual Change* by Subregion, 2008 – 2018



Wages represent county-reported total private sector wages aggregated by subregion. To calculate change, 2008 reported wages were adjusted for inflation to 2018-dollars. Source: U.S. BLS QCEW County High-Level NAICS-Based Data Files, Total Wages

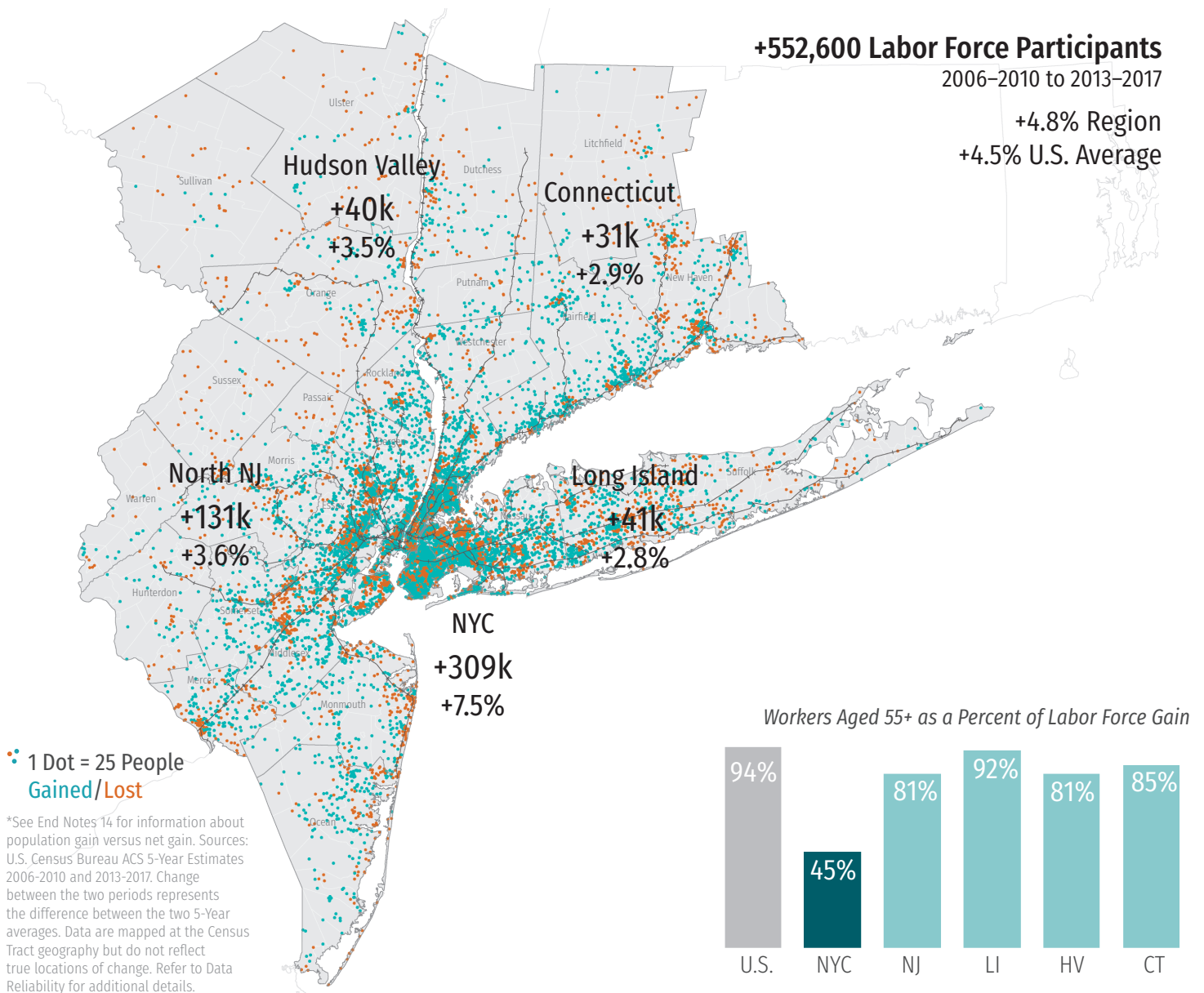
INSIGHT THREE

NYC gained young workers, while the rest of the Region's labor force is aging. NYC and North NJ account for most of the Region's new housing development, particularly post-Great Recession. Areas gaining labor force correlate with areas adding housing.

The Region gained more than half a million people in the labor force since the Great Recession, growing slightly faster than the U.S. average. Since 2010¹³, the Region grew labor force participants by +552,600, representing a total increase of +4.8%—slightly faster than average U.S. growth (+4.5%). NYC accounted for slightly more than half of the Region's labor force growth (+309,000), representing an increase of +7.5%, more than twice the growth rate in North NJ and the Hudson Valley. Most counties gained labor force

participants, with the rest of the Region averaging a +3.3% increase in the size of the resident labor force.

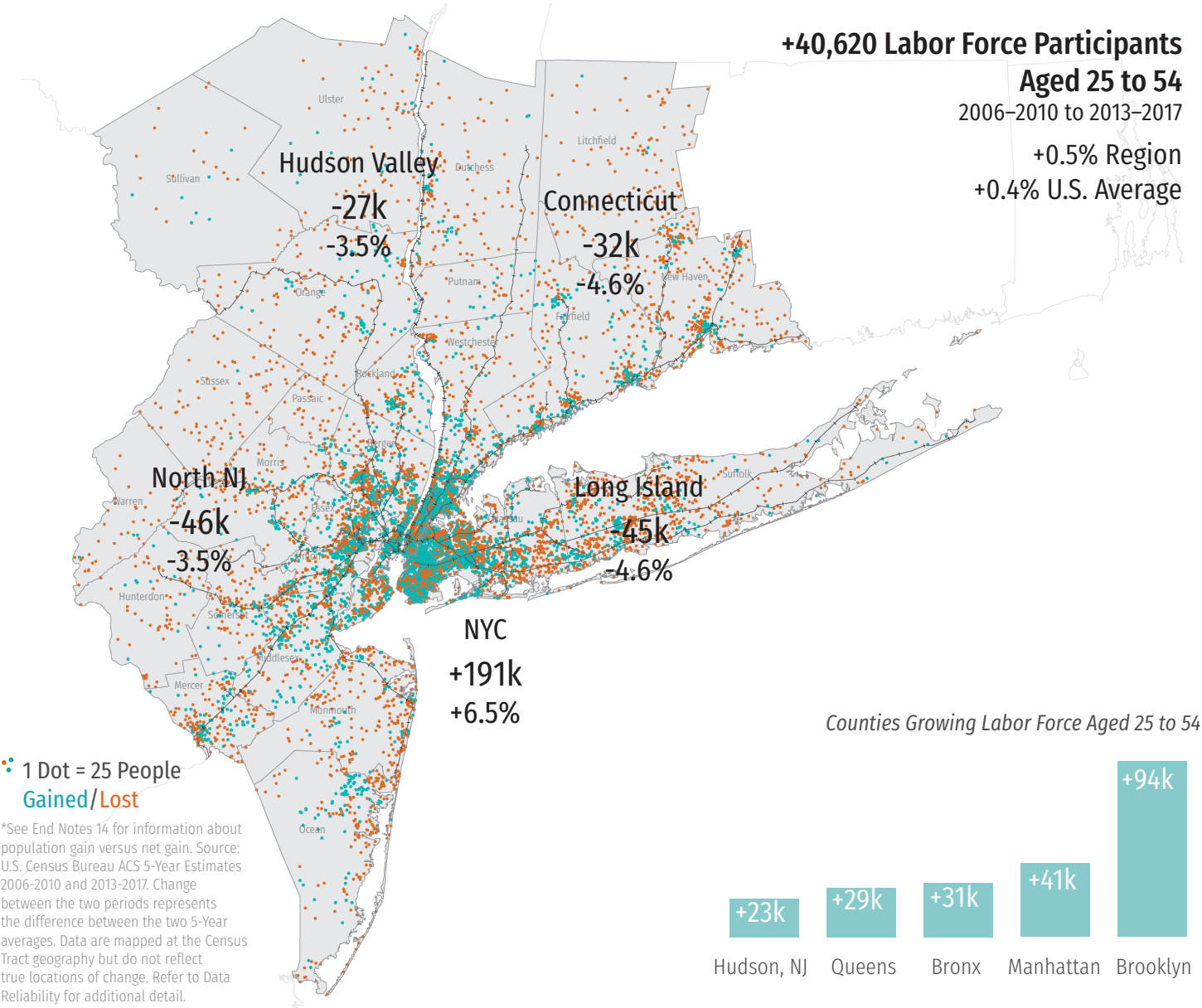
Outside of NYC, the Region's growth of resident workforce was attributable to an increasing number of older workers. In NYC, less than one half of the city's labor force gain¹⁴ since 2010 was attributable to an increase in workers aged 55 and older. Other parts of the Region, especially Long Island, saw labor force growth driven by an aging workforce, consistent with U.S. trends.



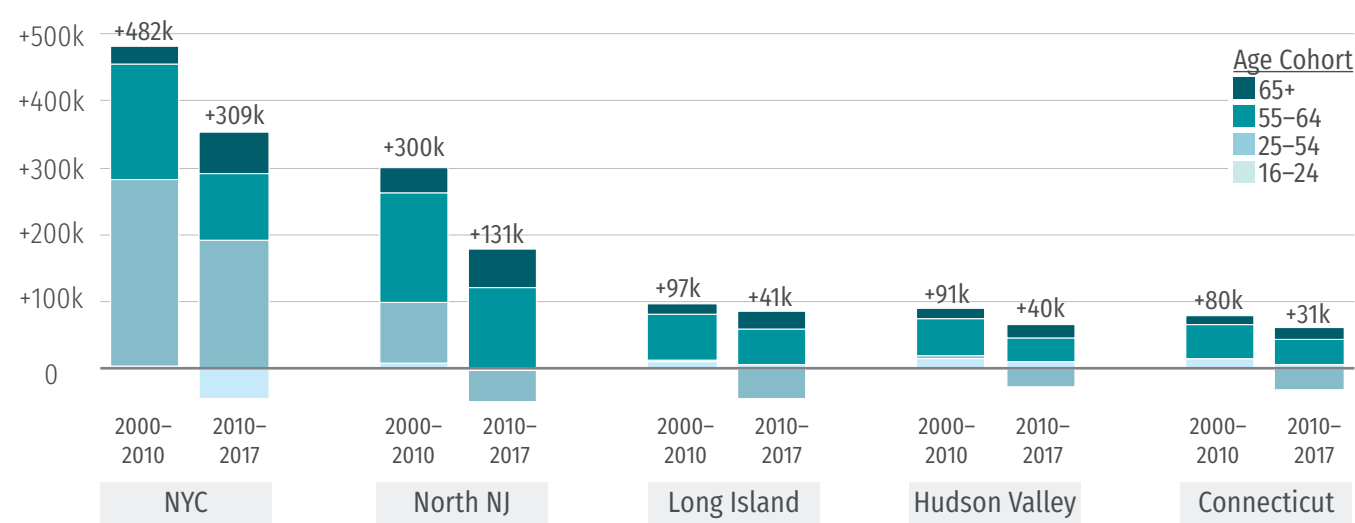
INSIGHT THREE

NYC is the only area in the Region that gained resident labor force participants aged 25 to 54. Limited clusters of growth in other subregions were not substantial enough to offset broader suburban losses. Since 2010, NYC gained +190,800 resident labor force participants aged 25 to 54 (+6.5%), 15 times the U.S. average growth since 2010. In total, all other subregions experienced a modest decline of residents aged 25 to 54 in the labor force, between -3% to -5%. Certain areas proximate to the city or located along commuter rail corridors did register gains of workers aged 25 to 54, but not enough to compensate for widespread suburban losses. Nearly two-thirds of the city's resident labor force growth is attributable to this age cohort (62%), versus just 6% of the U.S.'s labor force growth on average.

Only five counties in the Region gained a resident labor force aged 25 to 54, four of which were in NYC. Growth of younger workers in urban counties like Brooklyn, which gained the most (+94,400) and grew quickest (+11%), Manhattan, Bronx, Queens, and Hudson, NJ, offset losses of younger workers in elsewhere in the Region. Rural counties like Litchfield, CT and Sussex, NJ declined more quickly than other areas in the Region (-14% and -15%, respectively). Meanwhile, suburban counties lost more significant magnitudes of younger workers, such as Suffolk, LI and Monmouth, NJ, (-31,800 and -17,800, respectively). In general, the total population aged 25 to 54 (not just those in the labor force) declined in the Region, with the exception of those five counties.



Labor Force Change by Age Cohort, Pre-Great Recession vs. Post-Great Recession

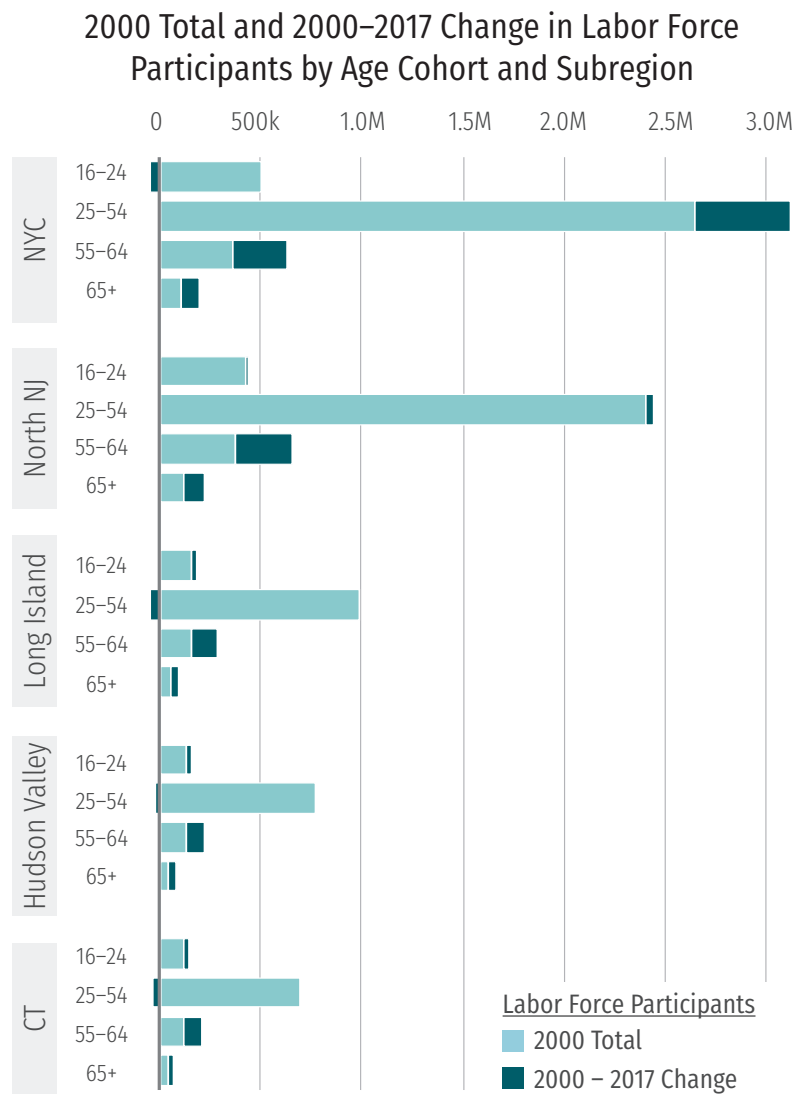


To improve the statistical reliability of calculated change, 2010 (the pre- versus post-Great Recession break point) and 2017 are representative of five-year averages from 2006-2010 and 2013-2017. Please refer to End Notes 14 for more information. Sources: U.S. Census Bureau Decennial Census 2000; U.S. Census Bureau ACS 5-Year Estimates 2006-2010 and 2013-2017

NYC was the only subregion to gain workers aged 25 to 54 pre-Great Recession and post-Great Recession.

Comparing labor force growth by age cohort pre- and post-Great Recession, growth patterns remained relatively consistent across both periods. NYC was the only area that gained workers aged 25 to 54 in both periods, whereas North NJ gained younger workers pre-Great Recession, followed by losses after the Great Recession.

The decline of resident labor force aged 25 to 54 was modest overall, but has broader long-term implications. Modest declines did not significantly detract from the core of the Region’s resident labor force. As shown at the right, with light blue representing the total labor force by age cohort in 2000 and dark blue representing the change in that cohort from 2000 to today, 25-to-54 year-olds remain the largest source of the Region’s working resident population. However, a continued pattern of labor force growth outside of NYC that does not include younger workers could have long-term implications for businesses seeking to sustain their workforce.



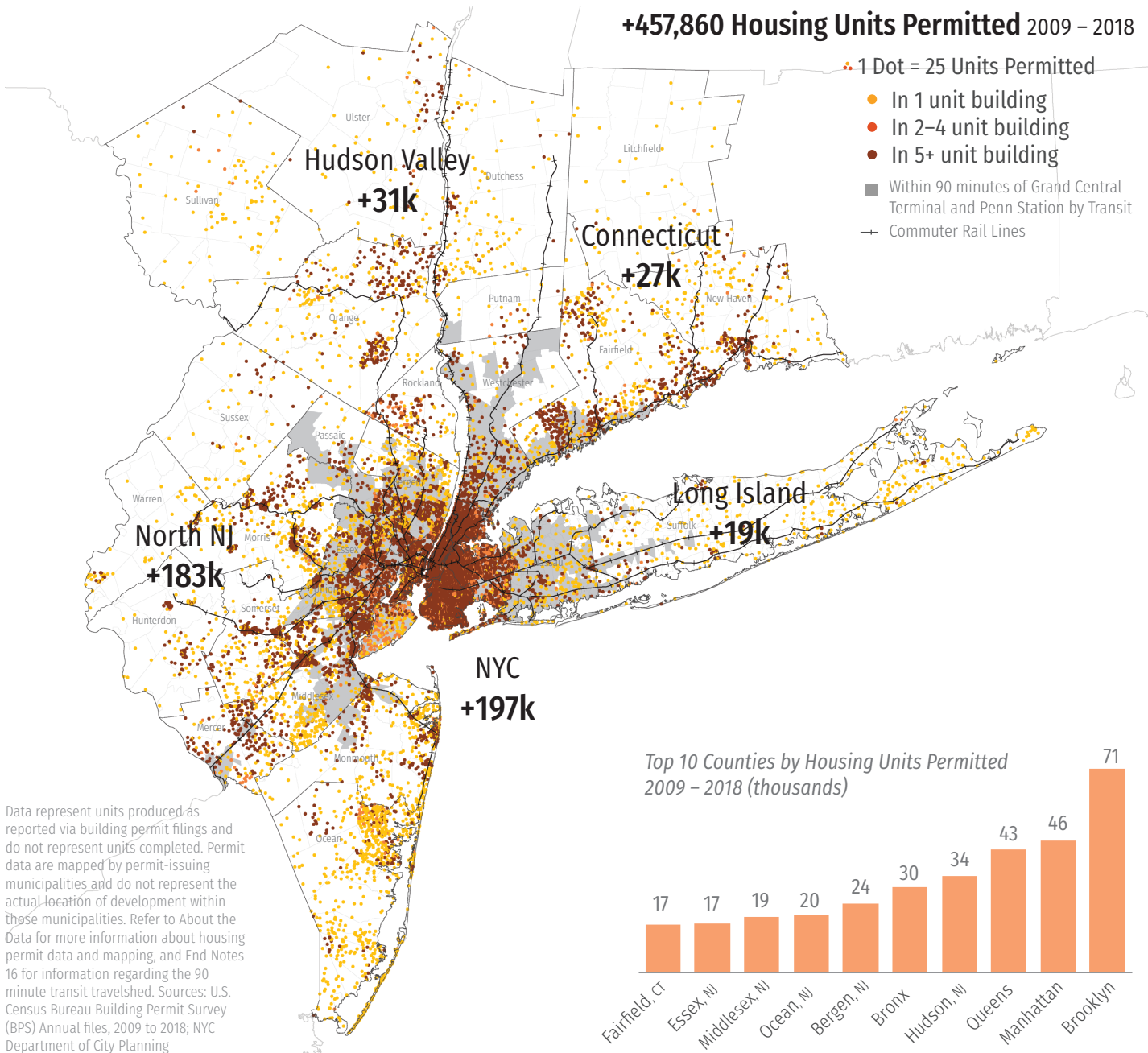
Sources: U.S. Census Bureau Decennial Census 2000; U.S. Census Bureau ACS 5-Year Estimates 2013-2017

INSIGHT THREE

The Region’s housing production is concentrated in geographies gaining labor force participants, suggesting that creating new housing may be both an attractor of population and workforce and a consequence of demand in those areas. Nearly 458,000 new housing units were issued building permits in the Region from 2009 to 2018. By comparison, the city of San Francisco has 398,000 total units.¹⁵ While in absolute terms a large number, the gross additions to the housing stock represent only 5% of the Region’s existing 9.1 million units. Across the Region, housing production was concentrated in NYC, which accounted for 43% of units permitted (+197,000), and in North NJ, which accounted for 40% of units permitted

(+183,000). The Long Island, Connecticut, and Hudson Valley subregions, which account for 30% of existing housing and 32% of population, accounted for just 17% of units permitted.

More than two-thirds (69%) of the total housing units permitted since 2009 were in buildings with five or more units (+317,555), and the remainder were mostly single-family homes. NYC accounted for 56% of units permitted (+178,980) in buildings with five or more units, and North NJ accounted for 34% (+106,880). Notably, the areas in North NJ that created the most housing are located along transit corridors or are otherwise proximate to NYC.



INSIGHT THREE

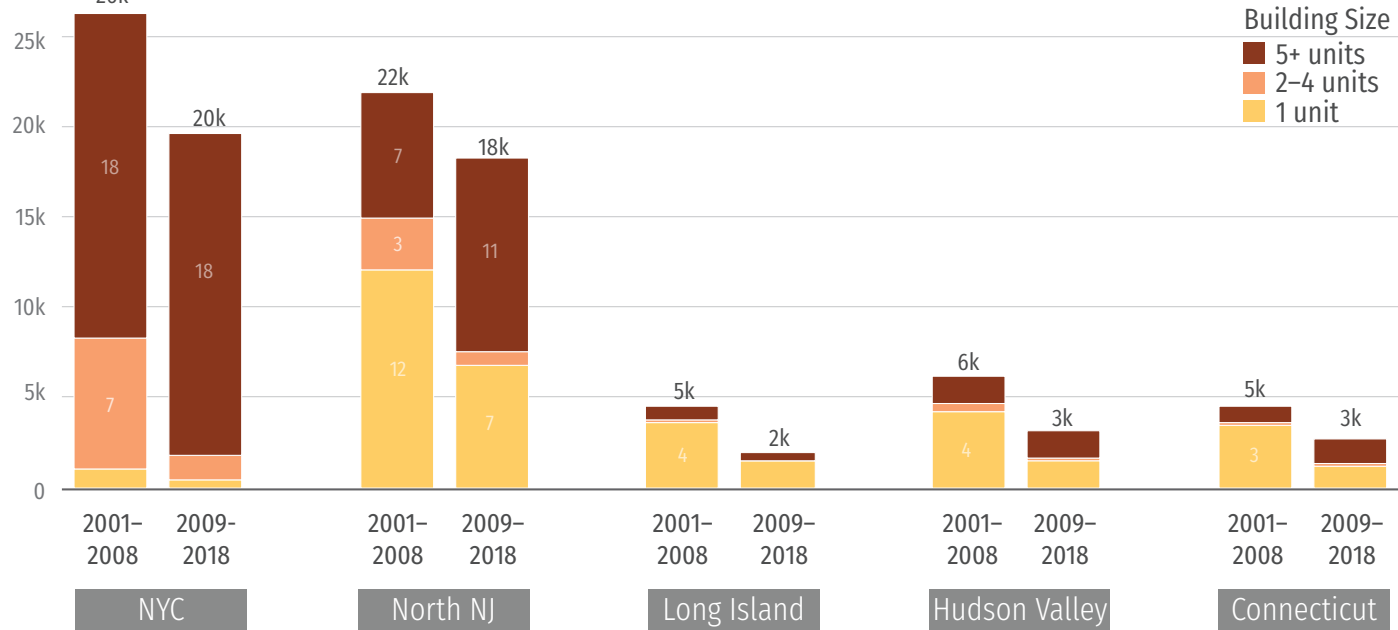
The Region produced 30% fewer housing units per year after the Great Recession than in the prior decade.

From 2001 to 2008, the Region collectively issued permits for 508,800 new housing units, averaging 63,600 units per year, but only 457,860 housing units from 2009 to 2018, averaging 45,800 units per year. North NJ produced more housing units in total from 2009 to 2018 than 2001 to 2008, but production per year declined by 17% on average from the pre- to post-Great Recession. NYC's housing production declined on average by 25% from pre- to post-Great Recession. Other parts of the Region experienced more substantial declines from pre- to post-Great Recession—Long Island by -58%, Hudson Valley by -50%, and Connecticut by -40%. Those subregions contributed smaller numbers of new units prior to the Great Recession, but declines in production, combined with job growth, increase pressure on the Region's housing market.

After the Great Recession, more housing was built in buildings with five or more units, but that growth did not make up for decreased production of single family homes or two- to four-unit buildings. With the exception of Long Island, all areas in the Region saw sustained or increased production of buildings with five or more housing units. In North NJ, though the average number of units permitted per year declined, permitted units in five-plus unit buildings increased by 53% from pre- to post-Great Recession. Five-plus unit buildings represented a greater share of housing production after the Great Recession, but did not offset the Region-wide decline of housing production in smaller residential buildings. This suggests a post-Great Recession trend toward housing production in locations where land is more expensive, and in building types that are more costly to construct, with less housing production overall.



Average Number of Housing Units Permitted Per Year by Building Size
Pre-Great Recession vs. Post-Great Recession



The pre-Great Recession period begins in 2001 for permit data, which is akin to change, for reporting consistency with employment change. Average annual production normalizes for the difference in time coverage for pre- and post-Great Recession periods. Units are rounded to the nearest thousand. Please refer to About the Data for more information.
Sources: U.S. Census Bureau Building Permit Survey (BPS) Annual Files 2001 to 2018; NYC Department of City Planning permit data for 2010 to 2018

INSIGHT FOUR

Shifts in the geography of job growth, housing production, and resident labor force change are tipping the balance of employment and housing within the Region, with implications for affordability, commuting patterns, and transportation infrastructure.

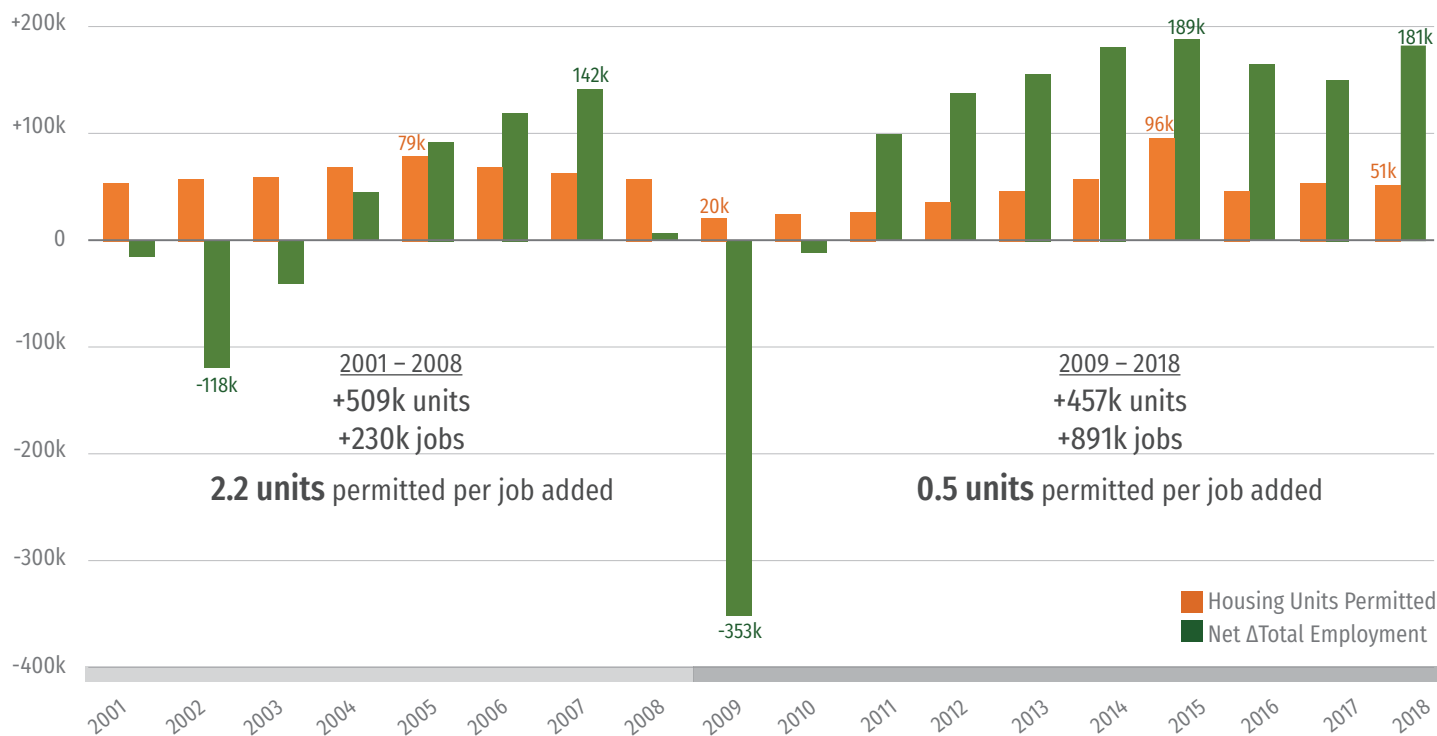
Patterns of housing construction and employment growth have resulted in a geographic imbalance between NYC and the rest of the Region. This imbalance is the result of different trends prior to and after the Great Recession. While defining the “right” balance of housing to jobs is challenging, comparing housing production to job creation over time allows us to evaluate shifting trends and assess how these patterns affect the ability of the Region's labor force to access employment.

Today the Region averages 0.86 housing units per job, a ratio that has remained relatively stable over time. In other words, on average slightly more than one worker lives in each household in the Region. Over the past two decades, the Region issued building permits for 966,700 new housing units and added 1.12 million net new jobs, a ratio of 0.86, which is reflective of the Region's current

average. While comparing gross housing production to net employment change has its limitations, these levels represent roughly balanced housing construction and job growth. That 20-year average is buoyed by much stronger housing production pre-Great Recession, averaging 2.2 units permitted per net new job added from 2001 to 2008, with sustained production during the early 2000s economic downturn. Post-Great Recession, housing production continued at a modest and slowing pace while the Region's job growth skyrocketed, averaging 0.5 units permitted per net new job.

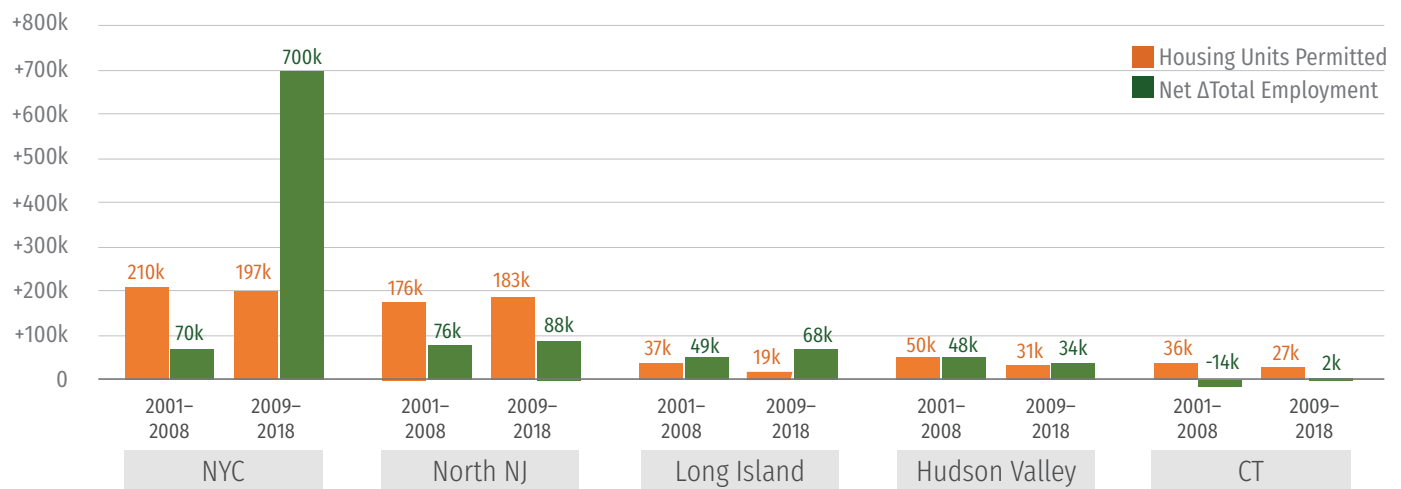
This departure from past trends indicates that the Region's housing supply has not been keeping up with job growth in recent years. This pattern would be expected to heighten affordability challenges and create headwinds to further business growth.

Region's Housing Units Permitted Per Year vs. Annual Net Change in Total Employment



To compare housing production and job change, jobs reported in the indicated year represent the difference between the reported year and the year prior, consistent with the periods used in the previous sections of this report. Total employment includes unemployment-insurance covered public sector jobs in Federal, State, and Local government.
Sources: U.S. BLS QCEW NAICS-Based Data Files, Annual Average, rounded; U.S. Census Bureau BPS Annual files, 2001 to 2018; NYC Department of City Planning for NYC, 2010 to 2018

Housing Units Permitted vs. Net Change in Total Employment, Pre-Great Recession vs. Post-Great Recession

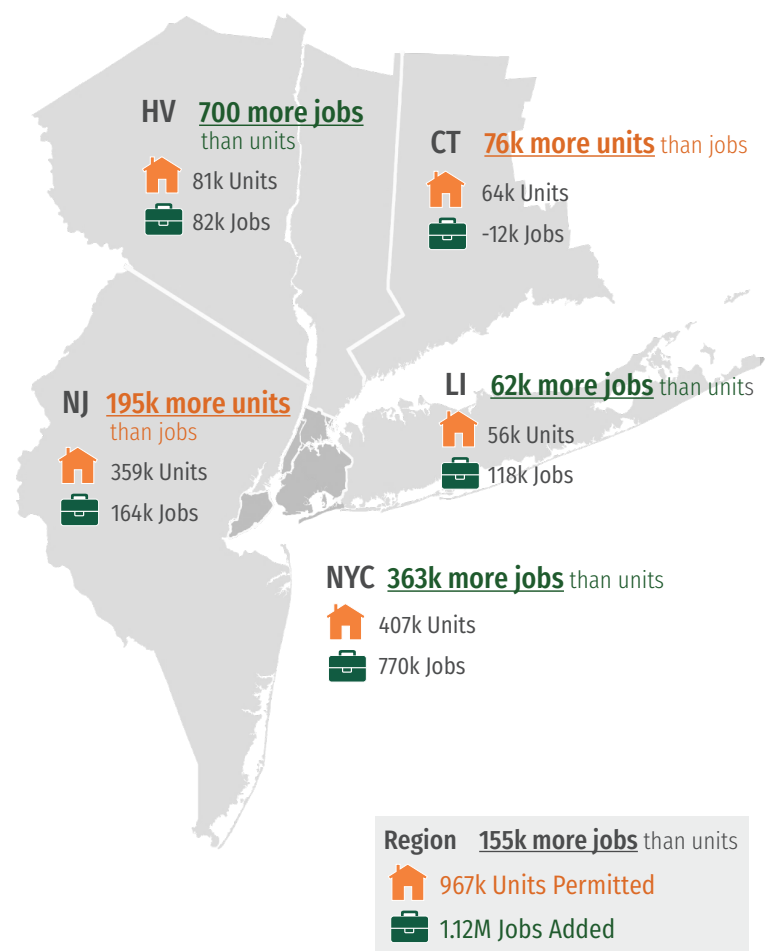


Within the Region, the balance of housing and job production varied greatly over the last two decades, most notably in NYC and North NJ. Though NYC produced relatively consistent numbers of new housing units pre- and post-Great Recession, job growth significantly outpaced housing production in the last decade—by a rate of 3.6 net new jobs for every unit permitted. Pre-Great Recession, the city permitted 3 housing units for every job gained, the inverse of the post-Great Recession trend. This has resulted in the city adding 362,900 more net new jobs than new housing units produced over two decades.

North NJ also sustained consistent, significant housing production over the last 20 years, but in contrast to NYC, experienced limited employment growth. As a result, North NJ permitted production of 2.3 housing units per net new job added to the subregion pre-Great Recession, and 2.1 units per job post-Great Recession. The effect is a combined 194,900 more housing units produced than net new jobs created, an imbalance especially observed in counties across the Hudson River neighboring NYC. Housing growth substantially outstripping job growth suggests that residents of these counties are increasingly working in other areas—primarily in NYC—which has implications for trans-Hudson commuting.

Long Island was the only area outside of NYC where employment gains exceeded housing production, at a rate of 3.6 jobs per unit post-Great Recession, an intensified shift in the pre-Great Recession rate of 1.3 jobs per unit. In the Hudson Valley, modest housing

Balance of Housing Units Permitted vs. Net Change in Total Employment, 2001 – 2018



Sources: U.S. BLS QCEW NAICS-Based Data Files, Annual Average 2000 to 2018, rounded; U.S. Census Bureau BPS County-Level Annual files, 2001 to 2018; NYC Department of City Planning for NYC 2010 to 2018

INSIGHT FOUR

production and modest job growth were roughly in balance, with 700 more jobs added than units permitted. Connecticut, particularly Fairfield County, continued housing production while employment declined, resulting in 75,600 more housing units produced than jobs added.

The shifting balance between housing production and employment growth is already affecting commuting flows between the city and the Region.

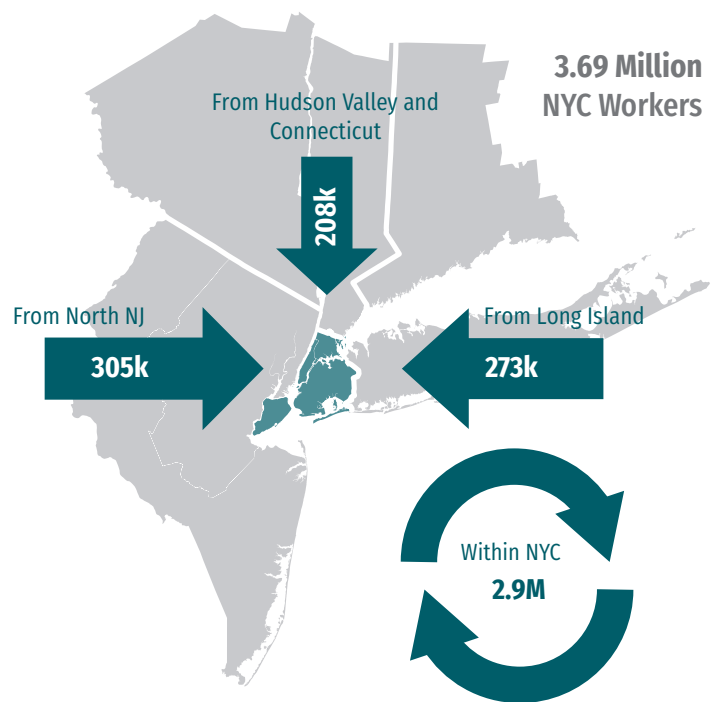
From 2000 to 2017, the city's workforce grew by one million workers, registering a +28% increase from 3.69 million workers in 2000 to 4.74 million in 2017. The NYC resident workforce, or NYC residents who are employed within the city, grew by +29% (+841,400). Meanwhile, the NYC in-commuter workforce (i.e., residents of the Region who travel to work in NYC) grew by +24% (+186,200). As a result, NYC in-commuters represent 20.5% of the city's workforce, a slightly smaller component than the 21.2% of the workforce that in-commuters represented in 2000.

The largest increases in the NYC in-commuter workforce have come from workers who live in North NJ. Since 2000, there has been an increase of +118,700 (+39%) North NJ residents traveling to NYC for work, accounting for approximately two-thirds of total NYC in-commuter growth. Bergen, Essex and Hudson counties, the city's neighbors directly to the west, accounted for nearly half of the total NYC in-commuter increase (combined). In-commuting from the Hudson Valley and Connecticut increased by +25% (+51,800), while in-commuting from Long Island grew the least (+15,700), and at the slowest rate (+6%*¹⁷).

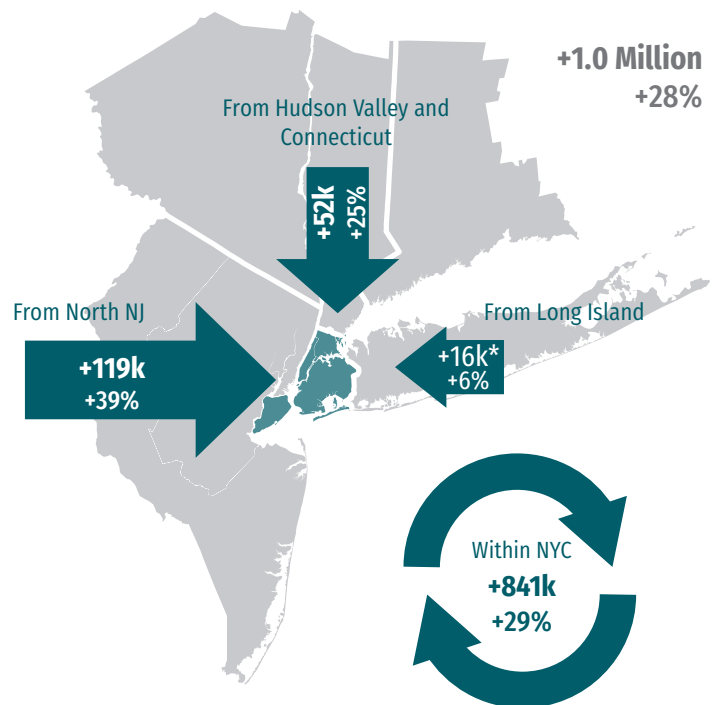
While this symbiotic relationship enables the city and Region to grow, and meet the needs of its residents and businesses, recent changes in the housing/jobs balance and commuting patterns increase the strain on transportation networks.

The characteristics and geographic patterns of recent growth highlight the importance of the Region's transit infrastructure and have significant implications for prospective long-term investments. The addition of jobs as well as housing in highly accessible, transit-oriented locations outside the city (and the Manhattan core) offers an opportunity to relieve pressure on transit networks while improving access to job opportunities for the rest of the Region.

Where NYC Workers Commuted From, 2000



Change in Where NYC Workers Commuted From 2000 – 2017



*Change estimate deemed not statistically reliable at the 90% confidence level, however, a modest increase was deemed statistically significant at the 90% confidence level.
Source: IPUMS-USA, University of Minnesota; U.S. Census Bureau Decennial Census 2000 5% Sample; U.S. Census Bureau ACS 1-Year Estimates 2017

End Notes

1. The World Bank, GDP in Current US\$, <https://data.worldbank.org>.
2. U.S. Bureau of Economic Analysis (BEA) Gross Domestic Product (GDP) by State and Metropolitan Region 2017.
3. This report uses data with years 2008 to 2010 as a midpoint, as available per dataset, to analyze pre- and post-Great Recession trends.
4. Subregions represent aggregations of U.S. Counties (see next page).
5. Metropolitan areas are defined as U.S. Census Bureau Combined Statistical Areas, and represent size of labor force reported in U.S. Census Bureau American Community Survey (ACS) 1-Year Estimates 2017.
6. Housing tenure represents owner-occupied and renter-occupied housing units reported for Combined Statistical Areas, from U.S. Census Bureau ACS 5-Year Estimates 2013-2017.
7. NYCDP calculated; U.S. Census Bureau LEHD LODES 2015 data.
8. Data are not disclosed for many county-level public sector education and healthcare sectors using U.S. BLS QCEW NAICS-based files, therefore employment totals may be larger than reported.
9. Please refer to [The Ins and Outs of NYC Commuting](#), a NYCDP report, for additional information on regional commuting trends.
10. U.S. BEA GDP by State and Metropolitan Region 2017.
11. Finance, Insurance, and Real Estate sectors exhibit the highest variability for reporting wages annually. These sectors often report Q4 bonuses and other forms of compensation in the following year (Q1).
12. For the detailed sector change, this just refers to Administration jobs (NAICS 561) and Waste Management and Remediation Services (NAICS 562) jobs are removed and included with Utilities in the Industrial sector change. However, it is included in all other aggregations of office.
13. Population gain refers to aggregations of counties that registered gains and does not include counties that registered losses. The sum of all counties refers to net gain (inclusive of losses).
14. 2017 refers to the average of 2013-2017 and 2010 refers to the average of 2006-2010; U.S. ACS 5-Year Estimates 2006-2010 and 2013-2017.
15. U.S. Census Bureau ACS 1-Year Estimates 2017.
16. Travelsheds are calculated by NYCDP using OpenStreetMap and General Transit Feed Specification Data for the 31-county region, and represents walk-to-public-transit trips to Penn Station and Grand Central Station. It does not include vehicular travel. Travel time is shown at the U.S. Census Block level with centroids of the blocks used as the origins of the trips.
17. The Ins and Outs of NYC Commuting.

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About the Data

Employment and Wages

Employment and wage data are calculated and reported using U.S. Bureau of Labor Statistics (U.S. BLS) Quarterly Census of Employment and Wages (QCEW) North American Industry Classification System (NAICS)-based data files. This dataset is drawn from State unemployment insurance (UI) covered employment records, and represents a "count of employment and wages reported by employers covering more than 95 percent of U.S. jobs." It does not include self-reported employment, jobs not covered by UI, or capture other off-record forms of employment.

Employment data represent the number of average annual jobs, and not total jobs, in the given year. Much of this report focuses on private sector data, which provide greater consistency over time than public sector employment data (particularly with respect to geographic accuracy) and have fewer privacy/disclosure challenges.

Wages represent total (and not average) employee wages for a reported year. All wages represented for historic years have been adjusted for inflation to 2018-dollars using the Consumer Price Index Research Series Using Current Methods (CPI-U-RS) U.S. City average annual adjustment factor, and are reported in 2018-dollars. This factor is non-seasonally adjusted, and is indexed to December 1977. Wages include payroll compensation, as well as other forms of compensation such as bonuses and stock options. Please refer to the U.S. BLS for more information.

Macro Sector Definitions

Industry macro sectors represent aggregations of U.S. BLS NAICS 2-digit industry sector employment data that generally reflect land use patterns associated with certain kinds of professions, but are non-mutually exclusive. Industries are grouped as follows:

- **Office:** Office jobs include NAICS 51 Information; 52 Finance and Insurance; 53 Real Estate and Rental and Leasing; 54 Professional, Scientific, and Technical Services; 55 Management of Companies, and 56 Administrative and Support and Waste Management and Remediation Services jobs. These jobs are generally located in commercial office buildings, but may also include employment in other locations.
- **Institutional:** Institutional jobs include NAICS 61 Educational Services and 62 Health Care and Social Assistance. These jobs are typically located in campus-style facilities, or in smaller commercial office buildings – as is the case for local clinics and community-based services. Though there are a considerable number of public sector institutional jobs, this release reports solely on private sector employment due to data disclosure challenges, most notably in public sector education.
- **Industrial:** Includes NAICS 11 Agriculture, Forestry, Fishing and Hunting; 21 Mining, Quarrying, and Oil and Gas Extraction; 22 Utilities; 23 Construction; 31-33 Manufacturing; 42 Wholesale Trade; and 48-49 Transportation and Warehousing. These jobs are generally land-intensive, found along freight corridors or in concentrated areas/specialized zones, such as ports. However, the categories might include some office-based employment, particularly for headquarters jobs within the sector.

- **Local services:** Includes NAICS 44-45 Retail Trade; 71 Arts, Entertainment and Recreation; and 72 Accommodation and Food Service; NAICS 81 Other Services (except Public Administration), which includes local miscellaneous services such as dry cleaners and mechanics; NAICS 99 Unclassified. These jobs tend to be locally serving, and are found throughout the region.

These groupings differ slightly from the NAICS-defined super sectors, most notably in the DCP grouping of Retail Trade with local services, rather than Trade, Transportation and Utilities super sector. Macro sector employment and wage change reflect full data disclosure. For sector level industry change (within macro sectors), where data disclosure issues were encountered within the 31-county region for the 2008 or 2018 year, change was presumed zero. Therefore, subregion totals might not accurately reflect industry-level shifts at the county level.

Labor Force Change

Using U.S. Census Bureau American Community Survey (ACS) 5-Year Estimates for 2006-2010 and 2013-2017, labor force change is calculated by aggregating county data to subregion totals. "2010" refers to the 5-year average of 2006-2010 and "2017" refers to the 5-year average of 2013-2017. Therefore, in actuality 2017 data are more reflective of earlier years. 5-year data are used to ensure statistical reliability of calculated change over time. Census tract-level mapped change may not be statistically reliable and are intended to provide impressionistic change patterns. In examining longitudinal change, DCP calculated margins of error for 2000 Decennial Census SF3 data consistent with U.S. Census Bureau guidelines, or used ACS-reported margins of error. Change is reported solely for subregions with statistically reliable change at the 90% confidence level (a coefficient of variation below 20). Please refer to the Census Bureau for additional notes.

Housing Production

Housing production trends are calculated using the U.S. Census Bureau Building Permit Survey annual data for counties and places. Housing permits do not represent completions, but are recorded in the year a building permit is filed. The building size categories are provided by the U.S. Census Bureau, please refer to their website for more information. Data are used from 2001 onward for comparability with employment change. Building permits are mapped by U.S. Census Bureau Minor County Divisions (MCD) in North NJ, Hudson Valley, and Connecticut subregions; NYC PUMAs; and for those Long Island incorporated villages reporting housing permits. For unincorporated villages, the remaining housing permits have been allocated to MCD (town) geographies.

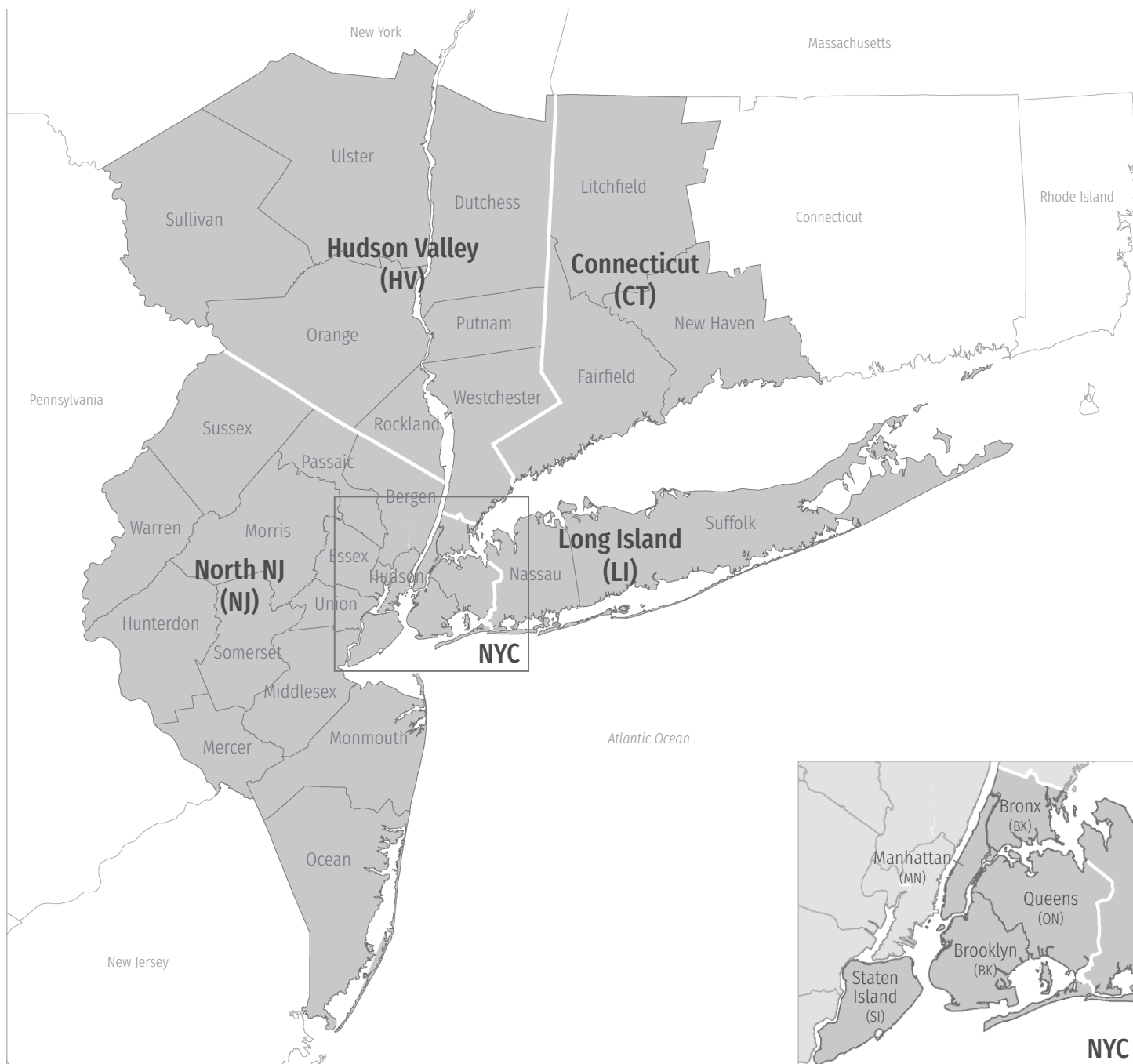
Geographic Precision of Map Data Visualizations

Dot density visualizations represent data mapped within specific boundaries (e.g., Census Tract) do not represent the actual location of people, housing units, or jobs. Dots are illustrative only. In areas where no data are represented, values may fall below the selected threshold and do not necessarily indicate a value of zero.

NYC Metro Region

This report covers the tri-state NYC metro region (“the Region”), representing New York City and 26 surrounding counties in portions of New York, northern New Jersey, and southwest Connecticut. This definition of the region is a generally accepted modification of the U.S. Census Bureau combined statistical area (CSA) for New York-Newark-Bridgeport, which also includes select counties in western Pennsylvania. The Region roughly represents the NYC commuter shed, and does not represent a regulatory or other jurisdictional boundary. The “subregion” geography defined in this report represents aggregations of U.S. counties, and, with the exception of NYC, similarly do not represent jurisdictional boundaries. Counties and subregions discussed in this report are defined and referred to as follows, seen on the map below.

- **New York City (“NYC” or “city”)**: Five NYC boroughs/counties, including Bronx (County), Brooklyn (Kings County), Manhattan, (New York County), Queens (County), and Staten Island (Richmond County). The boroughs are occasionally abbreviated in this report as BX, BK, MN, QN, and SI (in the same order as the previous list).
- **North New Jersey (“North NJ” or “NJ”)**: Bergen, Essex, Hudson, Hunterdon, Mercer, Middlesex, Monmouth, Morris, Ocean, Passaic, Somerset, Sussex, Union, and Warren Counties
- **Long Island (“LI”)**: Nassau and Suffolk Counties
- **Hudson Valley (“HV”)**: Dutchess, Orange, Putnam, Rockland, Sullivan, Ulster, and Westchester Counties
- **Connecticut (“CT”)**: Fairfield, Litchfield, and New Haven Counties



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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>

To view and download the data in this report please visit <http://metroexplorer.planning.nyc.gov>

