

STATE OF THE WORKFORCE



A LABOR MARKET SNAPSHOT FOR
NEW YORK STATE, 2017

NYATEP

Voice - Knowledge - Progress
For Workforce Development

The New York Association of Training & Employment Professionals (NYATEP) is a 501(c)(3) membership organization serving the workforce development community throughout New York State. Only NYATEP provides the leadership, vision and advocacy for a thriving workforce in New York State. Our focus is ensuring that every New Yorker and employer in New York State has access to the skills they need to work in, and support a robust statewide economy.

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Our mission is to help philanthropy, education & workforce providers, and policymakers make data-driven decisions based on an accurate understanding of the labor market to better help their customers and constituents achieve success.

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Questions Raised By This Brief

The data presented in this brief raised additional questions for City and State policymakers, and the field of diverse workforce and economic development organizations to understand & pursue.

- What State and City policies can support better linkages between articulated education and postsecondary pathways that lead to careers?
- How can the City and State proactively connect their economic development priorities and investments to train the right workforce for good paying jobs?
- What evidence-based practices should be scaled to increase the availability of skilled workers, primarily from non-traditional educational pathways or underutilized labor pools, to meet the growing employer demand?
- How is the City and State tracking and measuring resources and programs related to workforce development to understand what is working and where to make improvements?

A Special Thanks

This report is a collaborative effort of staff at NYATEP and the NYCLMIS. The primary authors of this report are: Melinda Mack, Madison Hubner, Lesley Hirsch, and Yuemeng Zhang. A special thanks to Jan Hennessy, Pamela Hoberman, and the report's many reviewers.

EXECUTIVE SUMMARY

The *State of the Workforce Brief* is a snapshot to inform communities about the dynamics of their regional economy and the workforce impact. The New York Association of Training & Employment Professionals embarked on this project to use readily available data to understand who is working and who isn't; what sectors and occupations are growing across the State; and the number of potential workers produced by New York's education & training systems.

KEY FINDINGS FOR NEW YORK

New York rebounded from the recession, but it isn't all good news.

- 7 out of the 10 regions across New York State saw significant job growth.
- Since August 2016, New York added 147,400 jobs, with the bulk of the jobs growing in Educational and Health Services, Leisure and Hospitality and Professional and Business Services.
- The *average* entry-level wage for the 10 largest occupations in the State (nearly 2 million jobs) is \$29,200.
- The *median wages* (\$24,000) for the fastest growing occupations are over 50% less than a family sustaining wage (\$62,422) in New York State.

A shortage of workers threatens New York's economic growth.

- All regions, *except for New York City and Long Island*, are seeing sizeable reductions in their available labor force.
- Nearly a quarter of the State's workforce is ages 55 or older, with sectors like healthcare and education being hit the hardest with more than 200,000 workers nearing retirement age.
- Youth ages 16 -24 make up about a sixth of the workforce, however their unemployment rate is more than double the state rate at 10.5%. In New York City, that number grows to over 14%. This means a generation of workers is missing out on valuable work experience and reduced future earning potential.
- 41% (around 4 million) New Yorkers have a high school equivalency or less; with the increase in skills needed as technology advances will likely widen the relative wage gap between high skill and low skill New Yorkers.
- Over 90,000 high-skill, high-pay occupations largely, in tech fields, are utilizing H1B Visas to recruit workers.

Workforce must be priority to support the State's economic development in the next decade.

- 'Middle skill jobs' – *jobs that require more than a high school diploma, but less than a four-year college degree*— are growing in New York and will require training systems to adjust to fill open jobs.
- 1.5 million students are enrolled in the State and City public college systems. About half of students enrolled are in credit bearing courses. These students graduate at a rate of 17.3% and 25.9% at the CUNY and SUNY systems, respectively, for 2-year degrees. The other half of students are enrolled in non-credit coursework, which does include high quality, industry-recognized job training. However, aggregate graduation or credential-rate data for these students is not readily available.
- 14% of New Yorkers have a high school diploma or less, and the federal and state funded system can assist just over 100,000 make progress towards or completing a high school diploma or equivalency degree.
- Around 4% of the state's primary job training resources, the Workforce Innovation and Opportunity Act (WIOA) funding, are spent on training over 12,000 New Yorkers. More than 68% of those served under WIOA are referred to employment.

THE GROWING ECONOMY

+147,400

CHANGE IN JOBS IN NYS

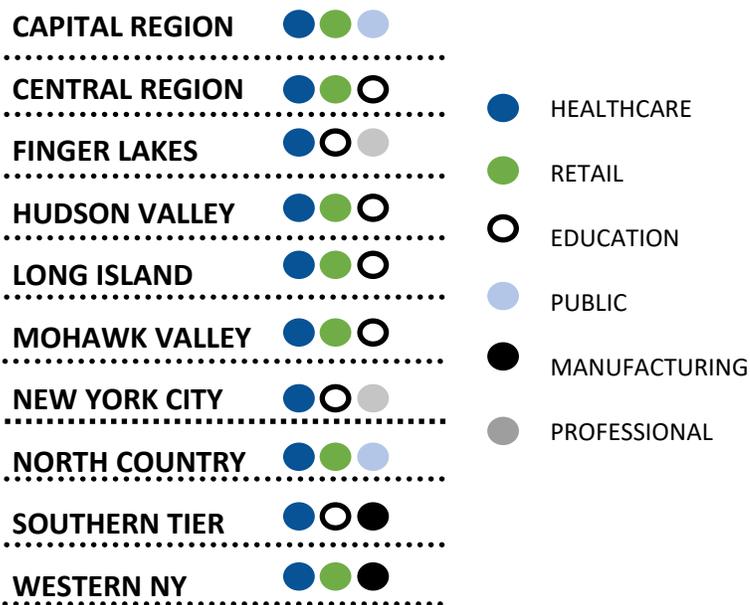
7 out of 10

NEW YORK REGIONS GREW JOBS

\$24,000

MEDIAN SALARY FOR POSITIONS PROJECTED TO ADD MOST JOBS

TOP 3 SECTORS BY REGION¹



Six sectors make up the bulk of employment (54% of overall employment) in New York: healthcare, retail, education, public administration, manufacturing and professional services. Healthcare is a top sector in all regions and takes the largest share of overall employment in New York State at 17%. Retail and education follow at 10% each of the overall share³.

According to the 2016 Regional Economic Development Council (REDC) Progress Reports, many of the REDC regions target the aforementioned sectors. Outside of these six sectors, multiple REDC regions identify technology, tourism and research & development as 'key industries' in their regional economy⁴.

Of the top sectors in the state, retail and professional services have the highest employee turnover at 11% and 8.7%, respectively. In July of 2017, the U.S. Bureau of Labor Statistics reported average turnover rates, or separations, for all sectors at 3.6%⁵.

New York State's economy has largely recovered from the recession, as evidenced by the widespread job growth statewide. From August 2016 - August 2017, there has been a positive change in jobs in New York State, with +147,400 jobs overall. The sectors adding the most jobs in this time frame were education & health services, leisure & hospitality, and professional & business services. The manufacturing sector experienced the greatest job loss. From 2010-2015, 7 out of the 10 regions saw significant job growth. The three areas that saw a decline include: Southern Tier (-4,486), North Country (-1,531) and Mohawk Valley (-5,040)⁶. It is important to note that although regions may have seen an overall decline, certain sectors or industry clusters within the region may be seeing real growth as economic development efforts come to fruition or as an aging workforce requires hiring to replace workers leaving the workforce.

CHANGE IN JOBS BY SECTOR ²	
<i>August 2016—August 2017</i>	
Educational & Health Services*	+66,600
Leisure & Hospitality	+44,300
Professional & Business Services	+43,000
Other Services	+8,100
Government*	+5,900
Construction	+3,900
Trade, Transportation & Utilities	+400
Natural Resources & Mining	+100
Manufacturing	-18,500
Financial Activities	-4,000
Information	-2,400

*Educational and health services is in the private sector. Government includes public education and public health services

‘Middle skill jobs’ refers to jobs that require education or training beyond high school, but not a four-year college degree. Per the National Skills Coalition, middle skill jobs represent a significant share of the New York labor market as more than 45% of jobs are projected to be middle skill between 2014—2024. While middle skill jobs account for half of the labor market, only 38% of the state’s workforce is trained at the middle skill level⁹. This mismatch between the needs of employers and the skills possessed by the available workforce is called the “skills gap.”

Middle skill jobs are reported to be high paying with good job security, in contrast with the largest occupations statewide that offer low pay and limited job growth¹⁰. Healthcare is the sector adding the most jobs statewide; adding approximately 155,000 home health aides from 2014—2022, personal care aides and registered nurses. This is also considered a sector growing “middle-skill jobs” across the state.

Wages can be an indicator of the skill-level necessary for a certain occupation. They also directly correlate to New Yorkers’ ability to live, own a home, raise a family, etc. in the State. In New York State the median annual wage for full time employment is \$51,000. All regions, except for Long Island (\$61,000) and the Hudson Valley (\$60,000), are below \$51,000. The region with the lowest median annual wage is the North Country (\$40,000)¹¹.

In addition to technical skills, such as proficiency in Microsoft products or on specific occupational related tasks, employers also report a need for ‘soft skills’ or interpersonal skills. The top six “employability” traits in demand are: communication skills, writing, organizational skills, teamwork/collaboration, detail oriented and planning¹².

NEW YORK MIDDLE SKILL JOB GROWTH⁷

Region	Projected Job Growth by 2022
CAPITAL REGION	11,950
CENTRAL NEW YORK	3,820
FINGER LAKES	7,120
HUDSON VALLEY	19,690
LONG ISLAND	27,510
MOHAWK VALLEY	1,630
NEW YORK CITY	57,500
NORTH COUNTRY	1,540
SOUTHERN TIER	2,750
WESTERN NEW YORK	8,810

*Job growth does not include replacement jobs

EMPLOYABILITY SKILLS IN DEMAND

BASED ON ONLINE JOB POSTING REQUIREMENTS⁸

Communication Skills (402k)

Writing (236k)

Organization (186k)

Team Work/Collaboration (161K)

Detail-Oriented (156k)

Planning (141k)

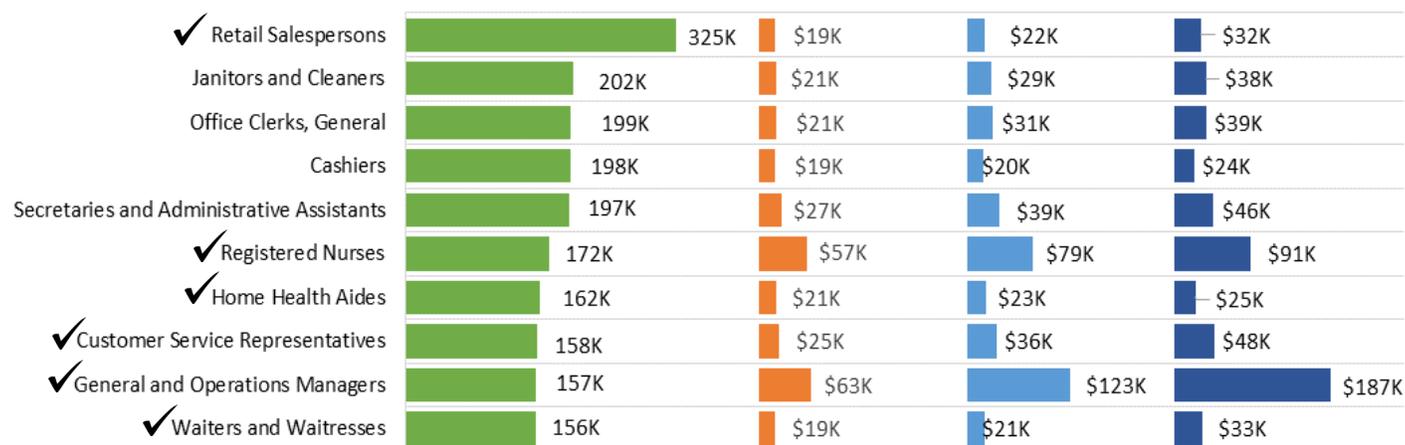
Problem Solving (137k)

Research (134k)

Computer Skills (98k)

Building Relationships (97k)

10 LARGEST OCCUPATIONS STATEWIDE, 2016¹³



■ # Jobs ■ Entry Wage ■ Median Wage ■ Exp. Wage

✓ Top 10 Occupation Expected to add the most jobs from 2014 to 2024

WORKING IN NEW YORK

22%

OF WORKERS IN NEW YORK 55 YEARS OLD OR OLDER

44%

OF WORKFORCE EARN LESS THAN FAMILY SUSTAINING WAGES



OVER 1 in 10 YOUTH ARE UNEMPLOYED

WHO IS WORKING IN NEW YORK¹⁴

9,690,838 New Yorkers Over the Age of 16 Are in the Workforce



* As of 2016

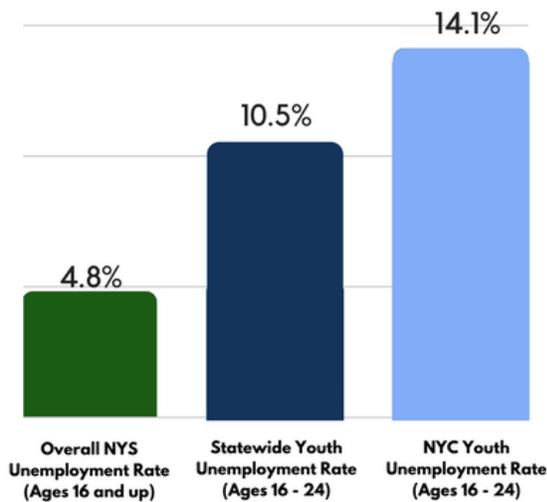
New York's economy is reaching its lowest unemployment rates in nearly a decade. With more than nine million New Yorkers over the age of 16 working, the focus of workforce programs is shifting from re-employment services to assisting employers as they confront significant labor shortages in demand occupations and sectors.

To understand the dynamics of the labor force, and the potential untapped pool of available labor, this brief includes "underutilized labor" in its calculations for unemployment. Unlike publicly reported unemployment calculations, this includes those who are classified as "discouraged or marginally attached" to the workforce. The State reports 4.8% as the unemployment rate, but inclusive of New Yorkers who are discouraged or marginally attached workers, the rate is 5.8%.

New Yorkers in the labor force that are already working, but struggling to make ends meet are known as the 'working poor'. The federal government considers more than 5% of New York's workforce as "working poor" with incomes that fall below poverty for at least 27 weeks— annual wage of \$12,083 for a single adult or \$24,036 for a family of 4¹⁵. In 2014 the United Way of New York determined 44% of New Yorkers were "working poor" and lacked a family sustaining wage taking into account conservative estimates of basic monthly costs like housing, childcare, food, transportation, health care and taxes. Using their Asset Limited Income Constrained Employed (ALICE) calculation a single adult needs \$21,540 per year and \$62,472 for a family of four¹⁶.

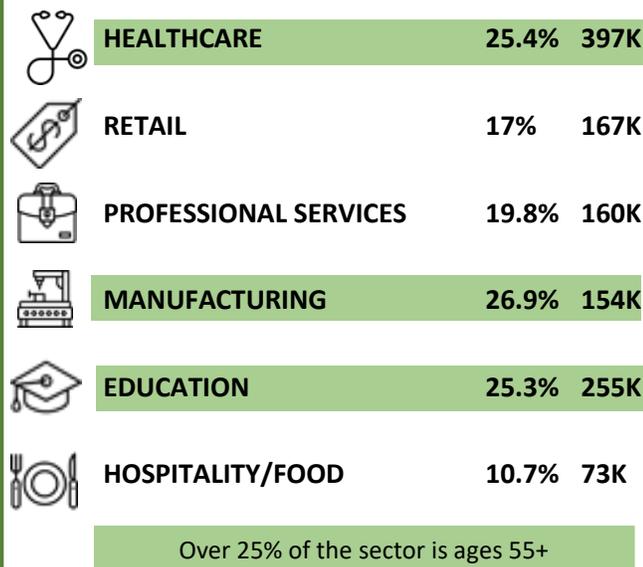
A trend to watch is the youth unemployment rate . The State estimates around 4.8% of New Yorkers are unemployed, however 16.7% of out-of-school youth ages 16 -19 and 8.5% of youth ages 20 - 24 are unemployed. Statewide over 121,000 youth ages 16—24 are unemployed¹⁷. In New York City, youth unemployment is highest at 14.1% for youth ages 16—24.

UNEMPLOYMENT TRENDS¹⁸



The majority (79%) of New Yorkers are engaged in full-time employment and 16% or 1.5 million work part-time. Overall, inclusive of part-time and full-time workers, 10% of workers are contract employees. Contract workers, also known as the “gig economy” includes flexible or short-term “gigs” and contract employment. Traditionally, these jobs have been found in art, design and technology-related occupations, but with advent of ride sharing services like Uber and Lyft this portion of the labor force may grow. Due to advancements in technology, the capacity and efficiency of independent work is increasing. Many apps create onramps to employment in the gig economy with key benefits of flexibility and a low barrier to entry²⁰. The challenges include the absence of fringe benefits and inconsistent income.

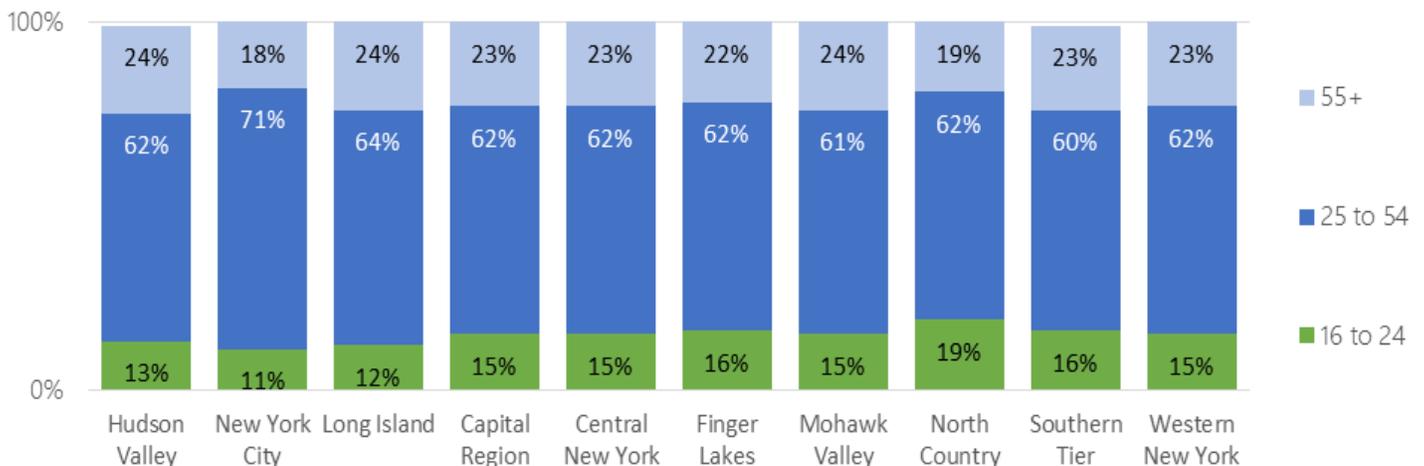
AGING WORKFORCE IN TOP SECTORS¹⁹



Another important trend to track is New York’s aging workforce. In New York, 22% or nearly 2 million workers, are ages 55 and up. Employees in the Healthcare, Manufacturing and Education sectors are the oldest with more than 25% of their workforce nearing retirement.

The regions with the greatest share of workers ages 55 years and older are Mohawk Valley, Long Island, and Hudson Valley (24%). The Capital Region, Central NY, Southern Tier, and Western NY are close behind at 23%. North Country’s workforce is the youngest with 19% between 16—24. New York City’s workforce has 71% of workers age 25—54.

REGIONAL LABOR FORCE PARTICIPATION BY AGE GROUP²¹



WORKING IN NEW YORK

5,339

REGISTERED APPRENTICES
ACROSS NYS

8 out of 10

REGIONS DECLINED IN
OVERALL LABOR FORCE

93,560

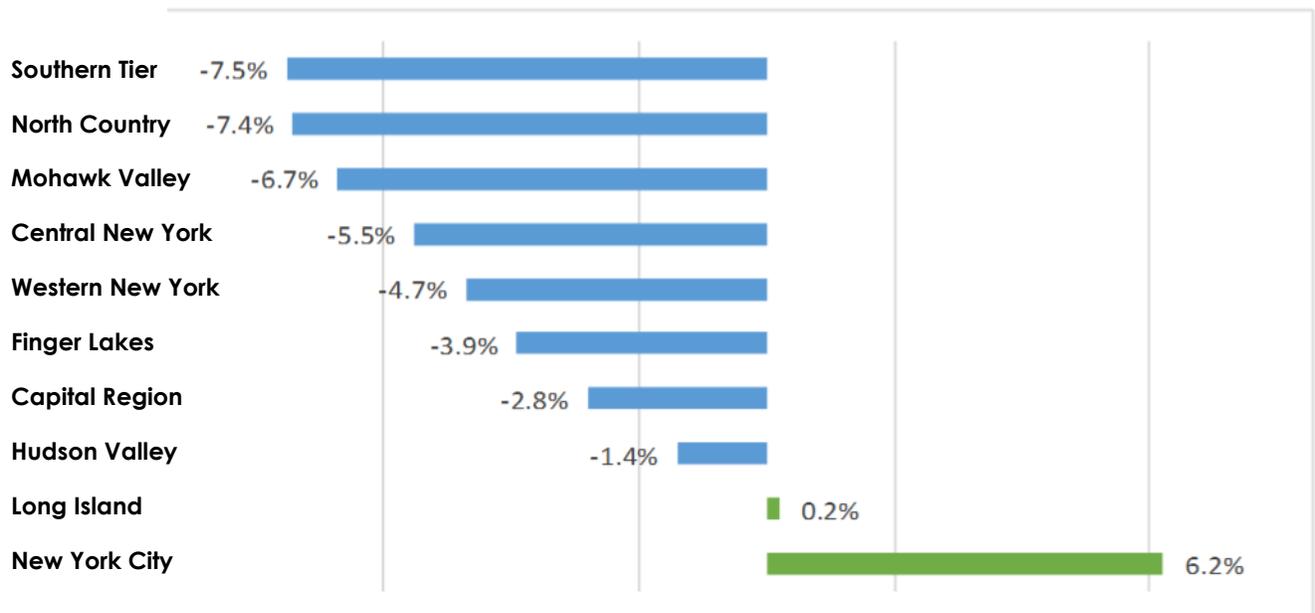
NUMBER OF H1-B VISA
POSITIONS

The share of people available for work in a region influences the dynamics of the labor force. All regions in New York State, except for New York City and Long Island, have seen sizeable reductions in the percentage of working aged adults. The regions hardest hit are the Southern Tier (-7.5% or -24,725) and the North Country (-7.4% or -12,087)⁷. This is important considering the relative sizes of the labor forces in these regions; the North Country had an estimate of 162,000 workers in 2017 and the Southern Tier had an estimate of 269,000 workers²².

As Brookings Institute reported, it is difficult to attribute the decline in the labor force to any specific cause, but rather to changes on the demand for workers and supply of labor. They report a growing gap between the skills demanded by employers and those supplied by the labor force²³. While some dislocated workers may relocate to communities with stronger job markets, pursue training programs to learn new skills, or accept lower-paying positions, many leave the labor force altogether²⁴.

Similarly, in New York there is no clear data to explain changes in the labor force, however within the 2016 Regional Economic Development Council (REDC) Progress Reports, some areas explained their decreasing workforce. In the Western New York region, there will be 20,000 jobs unfilled in the next 10 years in advanced manufacturing attributed to a steep retirement cliff, in addition to growth in the sector. In the Hudson Valley region, more than 25% of residents live/work in different regions. This proportion has increased since 2013²⁵.

REGIONAL CHANGES IN THE LABOR FORCE, 2010—2015²⁶



H1—B VISAS IN NEW YORK STATE²⁷

Top Certified Positions	Jobs	Avg. Pay
Computer Systems Analysts	18K	\$76K
Software Applications Developers	9K	\$101K
Computer Programmers	8K	\$67K
All Other Computer Occupations	7K	\$72K
Financial Analysts	6K	\$100K
Top Certified Cities		
New York	64K	\$87K
Brooklyn	5K	\$74K
Melville	2K	\$71K

New York State’s workforce speaks over 30 languages across the state. The top three languages spoken are Spanish, Chinese and Hindi²⁹. In New York City, Hudson Valley, and Long Island, 20% of the population is bilingual, or speaks English well or very well and speaks a language other than English at home. Additionally, about 1% of Upstate New Yorkers do not speak English, while there is greater variation among downstate New Yorkers, from 5 -12%, dependent on location. Employers identify “communication skills” and “writing skills” as the top two employability skills, meaning New Yorkers with low English proficiency may struggle to find employment³⁰.

According to the 2016 NYS Comptroller report, *A Portrait of Immigrants*: “Immigrants make up more than half of all New Yorkers serving as nursing, psychiatric and home health aides; maids and housekeeping cleaners; and taxi drivers and chauffeurs. They are also more than 30 percent of the State’s accountants and auditors; construction laborers; childcare workers; cooks; waiters and waitresses; and janitors and building cleaners. “

TOP 10 ACTIVE APPRENTICESHIP PROGRAMS IN NEW YORK²⁸

ELECTRICIAN 88	SKILLED CONSTRUCTION CRAFT LABORER 52
SHEET METAL WORKER 25	PLUMBER 21
PLANT MAINTENANCE ELECTRICIAN 19	MACHINIST (CNC) 18
PLUMBER & STEAMLIFTER 14	ROOFER 11
TOOL & DIE MAKER 11	TOOLMAKER 11

In contrast, some high-skill jobs in New York are filled using H1-B visas. The H1-B visa program is an employment-based, non-immigrant visa category for temporary workers administrated by the U.S. Immigration Department. A H1-B visa is issued for a specialty occupation, requires theoretical and practical application of a body of specialized knowledge, and requires the visa holder to have at least a bachelor’s degree or its equivalent. As of 2015, there are over 93,560 H1-B visa certified positions in New York, with the majority in New York City and Long Island. The average annual salary of an H1-B Visa position is \$82,000³¹.

Apprenticeships are another tool used to increase the available labor supply and to create a pipeline of skilled workers, and in New York are largely focused in the trades. Over the last several years, policymakers at the federal and state level are working to expand the apprenticeship model into new sectors and occupations to grow the use of this evidence-based practice.

In New York State, the Registered Apprenticeship Program has seen recent growth, increasing from 3,419 newly-enrolled apprentices in 2010, to 5,399 in 2016 – an increase of nearly 58 percent³².

PATHWAYS TO WORK

41%

OF NEW YORKERS HAVE A HIGH SCHOOL EDUCATION OR LESS

4%

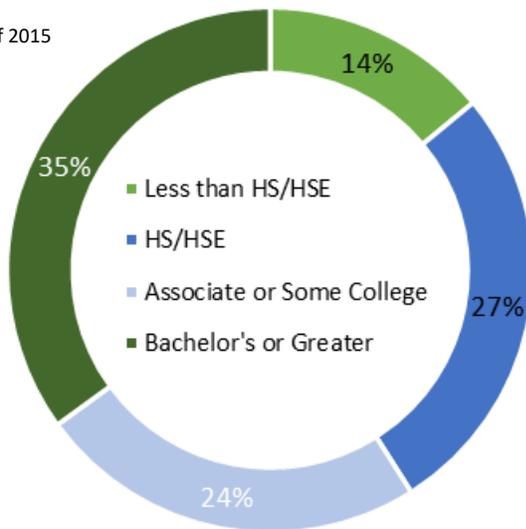
OF FEDERAL WIOA RESOURCES ARE SPENT ON JOB TRAINING

103,805

ADULT EDUCATION STUDENTS IN NEW YORK IN FY2016

STATEWIDE EDUCATIONAL ATTAINMENT³³

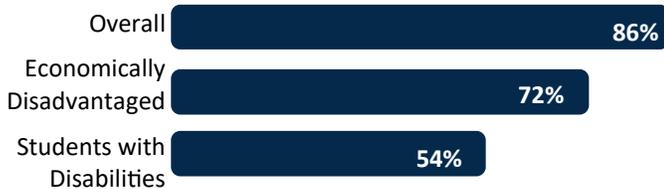
* As of 2015



In order to understand the State's "skills gap," you must look across the many systems that prepare New Yorkers for the labor force. Educational and skill attainment directly correlate to wages, therefore if New York can increase the number of skilled New Yorkers, the overall income of New Yorkers will increase³⁵.

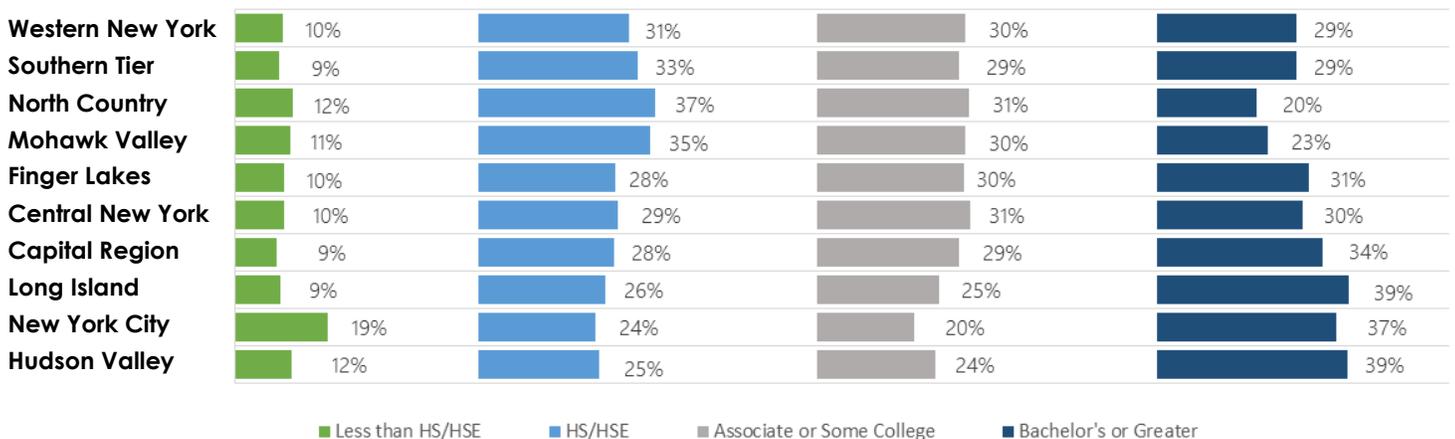
About 86% of public high school students graduate in NYS³⁶. Graduation from high school is a critical credential in today's economy, and finishing high school prepared for college is an indicator of college success. In New York, more than half of students enrolled in public schools are considered 'economically disadvantaged'.¹⁶ This is concerning because students from low-income families graduate at a rate 14% less than their counterparts.

NYS PUBLIC HIGH SCHOOL GRADUATION RATE³⁴



In comparison, just over a quarter of students who are English Language Learners will graduate on-time from high school. Students with disabilities graduate at a rate of 32% less compared to general education students. The county with the highest drop out rate is the Bronx, which also has the highest percentage of neighborhoods identified by the United Way of New York under their "Asset, Limited, Income Constrained, Employed" threshold - as high as 87% of the Bronx workforce.

EDUCATIONAL ATTAINMENT BY REGION³⁷



*Educational attainment estimates concern New Yorkers 25 years of age or older.

WIOA-FUNDED TRAINING³⁸

April 2015—March 2016 (Most Common Nationally)

Heavy and Tractor-Trailer Truck Drivers

Nursing Assistants

Registered Nurses

Licensed Practical and Vocational Nurses

Medical Assistants

Welders, Cutters, Solderers, and Brazers

Security Guards

Customer Service Representatives

Medical Records & Health Information Technicians

Computer User Support Specialists

Another pathway to access education, training, and employment is the federally funded Workforce Innovation and Opportunity Act (WIOA) programs. WIOA programs provide services ranging from prevocational services, like resume writing, job coaching through employment, to occupational training services. According to New York State's WIOA Plan submitted for Program Year 2015, the 'workforce system' served over 660,000 adults, dislocated workers and youth. The bulk of services are provided to adults over age 18, a vast majority of whom are unemployed at enrollment. Around 4% of WIOA resources are spent on training, serving 7,292 adults and 4,733 dislocated workers. Overall, more than 68% of those served under WIOA are referred to employment. The federal government has cut WIOA resources by more than 50% in the last 10 years.

Considering the need for a skilled workforce, it is concerning that 41% of New Yorkers have a high school diploma/ equivalency or less. Education directly correlates with wages, and those with a high school diploma or less struggle more in the labor market and earn far less wages over one's lifetime⁴². Long Island, Hudson Valley, and New York City have the largest proportion of college-educated residents over the age of 25, and North Country and Mohawk Valley have the largest proportion of residents with a high school equivalency or less.

With over 150 adult literacy programs statewide, adult education provides an opportunity to upskill New York's available workforce. Of the 103,805 adult education students in 2016, over 64% of students demonstrate an education gain. Adult education populations vary statewide. Downstate programs serve predominately non-white students and those who are currently in part-time or full-time work, while Upstate programs have significantly higher proportion of white students that are largely unemployed at the time of entry⁴³.

ADULT EDUCATION ENROLLMENT³⁹

REGION*	ABE/ASE	ESL
Capital /North Country	76.65%	23.34%
Central/So.Tier	60.9%	39.1%
Finger Lakes	57.1%	42.9%
Hudson Valley	34.67%	65.34%
Long Island	17.32%	82.68%
New York City	36.57%	63.43%
Western NY	63.6%	36.4%

ABE = Adult Basic Education ASE = Adult Secondary Education
ESL = English as a Second Language

Regions for Adult Education are defined by the State Education Dept.



CUNY College Graduation Rates⁴⁰

2-Year Degree (2012 cohort)	5% (in 2 years)	17.3% (in 3 years)
4-Year Degree (2009 cohort)	21% (in 4 years)	48.4% (in 6 years)



SUNY College Graduation Rates⁴¹

2-Year Degree (2012 cohort)	13% (in 2 years)	25.9% (in 3 years)
4-Year Degree (2009 Cohort)	50% (in 4 years)	66.2% (in 6 years)

More than half of New Yorkers have some college or a college degree: 35% have a bachelor's degree or greater and 24% have an associate degree or some college. About 1.5 million students enroll in the state and city public college systems, however only half are in credit bearing courses. Those enrolled in credit bearing course work graduate at 17.3% and 25.9% at the CUNY and SUNY systems, respectively, for 2 year degrees; and 25.9% and 66.2% at the CUNY and SUNY systems, respectively, for 4 year degrees. The most common degrees conferred in the CUNY and SUNY systems are in business & public management, liberal arts, social sciences and health⁴⁴. The other half of students are enrolled in non-credit coursework, which does include high quality, industry-recognized job training. However, aggregate graduation data for these students is not readily available.

*NOTE: Graduation is reported at 150% of time to complete.

SOURCES

1. New York State Department of Labor, Quarterly Census of Employment and Wages, 2016.
2. New York State Department of Labor, Division of Research and Statistics, Middle Skill Jobs in New York State: A Regional Analysis, June 2016.
3. New York State Department of Labor, Quarterly Census of Employment and Wages, 2016.
4. NYATEP analysis of 2016 REDC Progress Reports.
5. United States Department of Labor, Job Openings and Labor Turnover, July 2017.
6. NYSDOL QCEW, annual employment data, 2010 and 2015.
7. New York State Department of Labor, Division of Research and Statistics, Middle Skill Jobs in New York State: A Regional Analysis, June 2016.
8. Labor Insight, Burning Glass Technologies©
9. National Skills Coalition, Middle-Skill Jobs by State, New York, 2017.
10. New York State Department of Labor, Division of Research and Statistics, Middle Skill Jobs in New York State: A Regional Analysis, June 2016.
11. NYCLMIS analysis of American Community Survey microdata 1-year sample, 2015.
12. Labor Insight, Burning Glass Technologies©
13. Occupational Employment Statistics, New York state Department of Labor, 2016; Long-Term Occupational Employment Projections, New York State Department of Labor; Labor Insight, Burning Glass Technologies.
14. NYCLMIS analysis of American Community Survey microdata 1-year sample, 2015; U.S. Department of Labor, Alternative Measures of Labor Underutilization Q2'16-Q1'17 <https://www.bls.gov/lau/stalt.htm>
15. NYCLMIS analysis of U.S. Census Bureau, 2015.
16. Asset Limited Income Constrained Employed (ALICE), United Way of New York, November 2016.
17. NYCLMIS analysis of BLS Local Area Unemployment Statistics (LAUS) and Current Population Survey microdata sample, July 2015 to December 2016.
18. NYCLMIS analysis of American Community Survey microdata 1-year sample, 2015.
19. NYCLMIS analysis of American Community Survey microdata 1-year sample, 2015.
20. "Independent work: Choice, necessity and the gig economy," McKinsey Global Institute, October 2016.
21. NYCLMIS analysis of American Community Survey microdata 1-year sample, 2015.
22. NYCLMIS Analysis of BLS LAUS 2010 and 2015 annual data.
23. Ross, Martha, "The labor market: Who is in and who is out?," Brookings Institute, August 2017.
24. Ibid.
25. NYATEP analysis of 2016 REDC Progress Reports.
26. New York State Department of Labor, Local Area Unemployment Statistics, 2010 –2015.
27. U.S. Department of Labor Office of Foreign Labor Certification, 2015.
28. NYCLMIS analysis of New York State Department of Labor Apprenticeship Sponsor List.
29. NYCLMIS analysis of American Community Survey microdata 1-year sample, 2015.
30. Labor Insight, Burning Glass Technologies©
31. U.S. Department of Labor Office of Foreign Labor Certification, 2015.
32. Office of Governor Andrew M. Cuomo, "Governor Cuomo Announces \$4.2 Million in Federal Funding Secured to Expand New York's Apprenticeship Program," May 2017.
33. NYCLMIS analysis of American Community Survey microdata 1-year sample, 2015.
34. New York State Education Department, Office of Information and Reporting Services (IRS), 2016
35. U.S. Department of Labor Bureau of Labor Statistics, Unemployment rates and earnings by educational attainment, 2016.
36. New York State Education Department, Office of Information and Reporting Services (IRS), 2015-16.
37. NYCLMIS analysis of American Community Survey microdata 1-year sample, 2015.
38. U.S. Department of Labor Employment and Training Administration, Office of Performance and Technology, PY2015 WIASRD Data Book.
39. Literacy Assistance Center Analysis of ASISTS Adult Education Data for Fiscal Year 16—17.
40. New York State Education Department, Office of Information and Reporting Services (IRS).
41. City University of New York, Office of Institutional Research and Assessment.
42. U.S. Department of Labor Bureau of Labor Statistics, Unemployment rates and earnings by educational attainment, 2016.
43. Literacy Assistance Center Analysis of ASISTS Adult Education Data for Fiscal Year 16—17.
44. City University of New York, Office of Institutional Research and Assessment.; New York State Education Department, Office of Information and Reporting Services (IRS).