



Goodskills Career Builder



Research
Brief

Tech and Buffalo's Rebound

October 2021

This is the first in a series of research briefs produced by Goodwill of Western New York, in partnership with the University at Buffalo Regional Institute (UBRI), intended to bring data-driven decision-making to workforce development that benefits underrepresented, underserved populations in the Buffalo Niagara region. This brief is part of a collaborative effort to expand access to higher-paying career pathways for all individuals, as part of Goodwill of WNY's Goodskills Career Builder program. This brief provides an overview of career opportunities in tech within the demographic and economic context of the Buffalo Niagara region.

A Pressing Workforce Challenge in Our Economic Recovery

As the economy slowly rebounds from COVID-19, some business leaders in the region are optimistic and planning for growth. A quarter of those leaders recently surveyed plan to grow their business in 2021 and increase the size of their workforce this year. Technology innovations, new products, increasing product demand, and expanding markets have contributed to this growth for some companies in the region. While encouraging, feedback from business leaders suggests that future growth could be stymied by pressing regional workforce challenges.

A majority of business leaders in the region say there is not an ample supply of local workers to meet their current and future hiring needs. Semi-skilled workers are the ones most difficult to find. These are workers with some training beyond high school but not specialized training or a college degree. The skills they have are often transferable to many jobs and industries. Nearly two-thirds of CEOs in the region say their company has trouble finding semi-skilled workers for jobs that are available today. This is nearly double or more the percentage of business leaders in the region who report difficulty recruiting unskilled workers or professional employees.

Many trends contribute to the shortage of skills in tech. Businesses increasingly need trained labor to readily adapt and grow with trends such as remote working, telehealth, e-commerce, e-banking, virtual communications, remote learning, and robotics. Tech is also a sector where underemployed, underserved workers need training to access higher-paying jobs with career pathways. Addressing workforce gaps with programs like Goodskills Career Builder will boost Buffalo Niagara's future as a tech hub and foster economic inclusion for the benefit of individuals, businesses, and the entire region.

***Only 25% of
business leaders in
WNY feel the local
workforce has
access to training
for relevant
skills that their
company will need
in five years.***

Source: 2021 Business Leader Survey, Siena College Research Institute, WNY (five-county region)

With Increasing Demand, a Skills Gap for Tech Talent Exists

Demand for tech talent in Buffalo Niagara is strong and growing; unemployment is virtually nonexistent. Only about 1% of workers in computer occupations in Buffalo Niagara are unemployed, compared to 8% for all workers. Altogether, there are over 14,100 computer and related jobs in Buffalo Niagara. These include computer programmers, software developers, website builders, computer user support specialists, information security analysts, network specialists and more. Between 2015 and 2020, jobs in this occupational category increased by 8%, outpacing 5% job growth for these occupations across the nation.

Employers in Buffalo Niagara posted over 1,200 unique job postings for entry-level computer workers needing no more than one year of experience, between March 2020 and March 2021. Nearly 40% (449) required specific skills but less than a four-year college degree. For every job posting requiring an advanced degree (master's degree or higher), there were nearly three postings for computer jobs that did not require a bachelor's degree.

A limited supply of qualified candidates leads to jobs that take longer for employers to fill. On average, it took Buffalo Niagara employers more than a month—39 days—to fill these jobs, about a week longer than the national average. The most common jobs employers filled at this entry level were test administrators, cybersecurity analysts, keyholder specialists, software testers and technical support specialists.

A future proofed workforce is one with tech skills, as demand for tech workers cuts across industries. A computer user support specialist, for instance, could be employed at a school, a hospital, an insurance headquarters or a call center. There are about 39,000 jobs in tech intensive industries in Buffalo Niagara (or industries where tech jobs account for a tenth or more of the total). Banks, computer device manufacturers, libraries, data processing firms, internet publishers, and telecommunications companies are represented in this group.

Nearly three-quarter of all jobs in Buffalo Niagara require at least mid- to high-level digital skills, according to research by the Brookings Institution. The Buffalo Niagara region ranks 43 out of the 100 largest metros in the nation for the share of jobs requiring advanced digital skills. These jobs extend beyond typical tech or computer jobs to include those that require higher levels of computer knowledge, usage and training, as well as skills that give humans an advantage over computers such as communication, critical thinking and creativity. Researchers at Brookings found these jobs associated with higher pay, higher growth and higher access to economic opportunity. But they are also jobs where race and gender-based challenges contribute to skills gaps and talent shortages for hiring employers.

For every tech job opening in Buffalo Niagara requiring an advanced degree, nearly three require less than a four-year college education.

Source: UBRI analysis of data from Emsi

In one survey, nearly 70% of employers said, “every job is essentially a ‘tech job’ because some part of the responsibilities is dependent on their ability to utilize various technologies.”

Source: The Brookings Institution

Tackling an Opportunity Gap Could Narrow the Skills Gap

Access to economic opportunity through tech is still limited for people of color.

Many individuals face long-standing barriers. Disadvantaged communities are challenged by fewer options, poorer services and less resources for internet connectivity and technology usage. Digital deserts led to digital divides. Technology that was once viewed as a luxury is now a necessity for learning and working.

People of color who are Black or Hispanic are often at the greatest disadvantage.

They account for 48% of Buffalo's population and 17% of Buffalo Niagara's population. However, they represent only 11% of workers in computer occupations in Buffalo Niagara. If people of color in Buffalo Niagara were represented in computer occupations as they are across the nation, this region would have over 1,900 workers of color in tech. Cultivating this many new workers would have more than filled every unique entry-level job posting for these occupations between March 2020 and March 2021.

Racial and ethnic gaps in the tech pipeline have trickle-down effects to tech-intensive industries. Recent data shows that people of color are underrepresented in the seven most tech-intensive industries and overrepresented in industries that are least dependent on tech and more often than not lower paying. Several industries in the latter category are among those hardest hit by COVID-19 job losses, especially accommodation and food services, arts, entertainment and recreation, and administrative and support services.

Work readiness skills combined with technical training give underrepresented job applicants a competitive edge, while addressing employer needs. Filling job openings often takes longer because many applicants lack a combination of technical and work readiness skills that hiring employers need. Across industries and occupations, business leaders seek candidates who can write, verbally communicate, take initiative, show work ethic, and demonstrate professionalism, in addition to having the right technical skills for the job.

Less than a third of business leaders across the five counties of WNY give job applicants a good grade in these areas, according to a survey completed last year. Training that cultivates these skills is important to job seekers and businesses, especially in sectors such as tech where hiring will remain strong.

People of color are **underrepresented** in 6 of 7 most tech-intensive industries. Most are higher paying.

Most tech-intensive industries	% People of Color, Buffalo Niagara 2019-20	Higher Earnings (More than Regional Avg of \$50,917), 2019
Finance and Insurance	16%	✓
Professional, Scientific, and Technical Services	15%	✓
Management of Companies	18%	✓
Health Care and Social Assistance	25%	
Real Estate and Rental and Leasing	18%	
Information	18%	✓
Utilities	13%	✓

Source: US Census, QWI, 2019-20; Brookings Institution (for most and least digital/tech-intensive industries); NYSDOL, QCEW, 2019

People of color are **overrepresented** in 5 of 7 least tech-intensive industries. Most are lower paying.

Least tech-intensive industries	% People of Color, Buffalo Niagara 2019-20	Higher Earnings (More than Regional Avg of \$50,917), 2019
Agriculture, Forestry, Fishing and Hunting	23%	
Accommodation and Food Services	26%	
Administrative and Support and Waste Management and Remediation Services	30%	
Transportation and Warehousing	25%	
Manufacturing	16%	✓
Construction	11%	✓
Arts, Entertainment, and Recreation	21%	✓

Source: US Census, QWI, 2019-20; Brookings Institution (for most and least digital industries); NYSDOL, QCEW, 2019

WNY business leader assessment of job applicants based on those seen over the last couple of years.

Skill	Excellent/Good	Fair/Poor
Technical	30%	63%
Professionalism	30%	66%
Verbal	27%	70%
Work Ethic	26%	70%
Initiative	22%	72%
Writing	15%	79%

Source: Siena College Research Institute, Oct 2019 - Jan 2020

Training That Strengthens the Talent Pipeline Offers a Solution

Goodskills Career Builder offers training that links underserved populations to career pathways in tech. It's a new training program housed within Goodwill of Western New York that will launch in fall 2021. The program offers a research-grounded, industry-driven curriculum with work readiness skills, foundational training for careers in one of three target sectors including tech, career coaching and support services. It is built on partnerships with local employers to ensure training meets their current and future workforce needs. The program focuses on underserved, underrepresented populations, and Goodwill is geographically well situated for this. Over 90% of people of color in the City of Buffalo impacted by COVID-19 job losses live within five miles of the program's William Street location in Buffalo.

Goodwill's new training program is ideally located for partnership building. It is two miles from M&T which plans to hire over 1,000 tech workers in coming years. It is three miles from the region's growing tech hub in Seneca One tower in downtown Buffalo. It's also situated near many hiring employers. Over the past 12 months, about three-quarters of postings for entry-level computer jobs have been in the City of Buffalo and the Amherst area. These are communities where Goodwill has strong partnerships and can work with employers to identify the best candidates for job openings, while also providing career coaching services to individuals for up to three years.

Goodskills Career Builder offers a sustainable training program with transformative impacts. Another feature that sets it apart from other job training programs is the way it's funded through earnings from Goodwill's retail stores. Stewardship of donated items, sales profits and workforce training comes together at Goodwill of Western New York to meet hiring needs of businesses, create economic opportunity for individuals, and benefit the region and the environment.

Why Goodskills Career Builder?



Data Sources and Notes

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Siena College Research Institute, 14th Annual Upstate Business Leader Survey, Crosstabs, 2021. Findings in this report are for the five counties of Western New York.

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Emsi. Job Posting Analytics, Computer Occupations in Buffalo Niagara, March 2020-March 2021.

Emsi. Inverse Staffing Patterns. Computer Occupations in Buffalo Niagara.

NYS DOL, Quarterly Workforce Indicators, Buffalo Niagara, 2019.

Brookings Institution. Digitalization of the American Workforce, Mean digital scores and share of jobs in high digital skill occupations, 100 largest metros, 2016.

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Emsi. Unemployment by Occupation, All Occupations in Buffalo Niagara, January 2021.

US Census, Quarterly Workforce Indicators, Buffalo Niagara, 2019-20 (4-quarter average).

Brookings Institution. Digitalization of the American Workforce. "Tech using industries" are those with the highest and lower digital scores, based on Brookings analysis of O-NET scores for individual occupations. Only industry sectors with at least 200 employees are shown.

US Census, American Community Survey, 2019 (5-year estimates)

Siena College Research Institute, Annual Upstate Business Leader Survey, Crosstabs, Oct. 2019 - Jan. 2020. Findings in this report are for the five counties of Western New York.

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Goodwill of Western New York and University at Buffalo Regional Institute, Goodskills Career Builder, Connecting People with Careers (PowerPoint), February 2021.

Learn More About Goodskills Career Builder

Contact:

Thomas R. Ulbrich

President and CEO

Goodwill of Western New York

1119 William St.

Buffalo, NY 14206

Tel: 716-854-3494

Email:

tulbrich@goodwillwny.org

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