Research Brief #1

2025 Update

Tech and Buffalo's Rebound
July 2025
Update from October 2021 Brief

A Pressing Workforce Challenge in Our Economic Recovery

As the regional economy continues to rebound from COVID-19, some business leaders in WNY are expressing increased optimism and planning for growth. Approximately a quarter of leaders surveyed between November 2024 and January 2025 plan to moderately increase their workforce this year.[1] Technology innovations, new product launches, rising product demand, and market expansion are driving growth for companies like J.M. Smucker, Rosina Foods and semi-conductor supply-chain businesses. Despite these positive signs, business leaders also indicate that future hiring may be hindered by workforce challenges and uncertainties in international trade policies.

A notable majority of regional business leaders report an ongoing shortage of locally trained workers to meet their employment needs. Although WNY leaders are more likely than those in other NYS regions to rate workforce development efforts positively, approximately 70% still struggle with recruiting for open positions and retaining current employees.[2]

Finding workers with adequate technical and work-readiness skills remains a challenge. Fewer than 30% of leaders rate the technical skills of recent job applicants over the past couple of years as good or excellent, and even fewer gave high marks to verbal, writing, initiative and the work ethic of applicants.[3]

Demand for tech skills is fueled by several trends. Over half of WNY business leaders believe technology will positively impact the region's economic vitality over the next five years, and a third of companies identified technology innovation as a major focus for 2025.[4] Initiatives like the Upstate NY Tech Corridor and the Upstate Empire AI Consortium are poised to drive technology advancement and demand for tech talent. However, the job market for tech has hindered national trends, which could hinder economic growth.

Only 20% of business leaders in WNY say there is an ample supply of appropriately trained workers to meet their employment needs, a 15-percentage point decline since 2021.

Source: 2021 and 2025 Business Leader Survey, Siena College Research Institute, WNY.

Evolving Demand for Tech Talent

The region's traditional tech sector has seen growth over the past five years but at a slower pace than both national trends and the region's overall economy. The number of computer and related jobs in WNY inched up to 15,296 in 2025, up 8% (1,074 jobs) since 2020.[5] While growth was positive, it lagged the 11% increase in all jobs across WNY over the same period.[6] It also lagged behind the 16% increase in traditional tech jobs across the nation between 2020 and 2025.[7] Across WNY, there was an overall decline in jobs for user support, systems analysis and network administration and an increase in jobs for roles such as computer and information system managers and software developers.

The demand for traditional entry-level tech roles, requiring less than one year of experience, decreased over the past five years. Between February 2020 and February 2021, there were 582 job postings for roles such as software developers, computer user support specialists, and computer systems analysts.[7] In contrast, from February 2024 to February 2025, the number of such job postings for roles requiring less than one year of experience fell to 319.[8] Although this reduction in available positions suggests a contraction in the entry-level tech job market, it tracks with a similar percentage reduction in all tech job postings across WNY over this five-year period, even as the total number of jobs increased.

Job postings for traditional tech roles between February 2024 and February 2025 reveal a mixed landscape for degree requirements. Over half (54%) of tech job postings did not specify requiring a bachelor's degree or more.[9] Notably, only 236 job postings (4% of the total) were for truly entry-level roles, requiring less than one year of experience and not requiring a bachelor's degree or more. The most common job title in this category was computer user support specialist.

Demand for entry-level tech-enabled roles is significantly higher than for traditional tech roles. Between February 2024 and February 2025, employers posted 2,386 such positions, including customer service representatives, sales representatives, and administrative assistants.[10] This figure is over seven times larger than the number of postings for entry-level tech roles. These roles require technical and computer skills involving customer relationship management (CRM), spreadsheets, Salesforce, PowerPoint, SAP Applications and more.

With the expanded availability of tech-enabled roles in WNY, roles like customer service representative can be a stepping stone to more traditional tech roles, such as computer user support specialist. These roles share common skills in customer service, communication, problem-solving, and operations.[11] They also require some overlapping software expertise, technical knowledge, and the ability to manage customer inquiries. Many companies in the region, such as M&T Bank, TEKsystems, and Thermo Fisher Scientific, are entry points for both roles.

While nearly half of traditional tech job postings require a bachelor's degree, less than 20% of tech-enabled jobs do, opening more opportunities for nontraditional students.

Source: UBRI analysis of job posting data from Lightcast, Feb. 2024-Feb. 2025.

Comparison of Tech and Tech-Enabled Roles in WNY

	Tech Roles	Tech-Enabled Roles
Definition	16 occupational codes that comprise core tech roles such as programmers, cybersecurity analysts, and IT support specialists.	12 occupational codes across various industries that increasingly require tech in roles involving managing customer inquiries and sales, maintaining information and managing office operations.
Jobs in WNY, 2024-25	15,296	67,720
WNY Specialization, 2025 *(more common in WNY than across the US)*	No	Yes
Job Postings Feb. 2024-2025 *Roles requiring <1 yr of experience*	319	2,386
Advertised Salary Feb. 2024-2025 *Roles requiring <1 yr of experience*	$54,900	$41,600
Most Common Job Titles Feb. 2024-2025 *Roles requiring <1 yr of experience*	Computer User Support Specialist Computer Occupations, All Other Software Developers	Customer Service Representatives Secretaries/Admin. Assistants Sales Representatives, Wholesale and Manufacturing

Source: UBRI analysis of Job Postings and Occupations from Lightcast, 2024-25.

Tackling an Opportunity Gap Could Narrow the Skills Gap

Access to economic opportunity through tech is still limited for people of color who are underrepresented in 6 of the 7 most tech-intensive industries. Contributing factors include equal access to school resources especially in STEM fields, limited role models and mentors, biases in hiring, and the emphasis on degrees over skills.

People of color who are Black or Hispanic are often at the greatest disadvantage. People of color account for 15% of WNY's population and 45% of Buffalo's population, where most tech jobs are concentrated.[12] However, they represent only 13% of workers in computer occupations in WNY.[13] If people of color in WNY were represented in computer occupations as they are across the nation, this region would have an additional 2,088 workers of color in tech.[14]

Work readiness skills combined with technical training give underrepresented job applicants a competitive edge, while addressing employer needs. Job applicants often lack a combination of in-demand technical and work readiness skills, which makes it more difficult for hiring employers to fill jobs. Across industries and occupations, business leaders seek candidates who can communicate effectively, take initiative, show work ethic, and demonstrate professionalism, in addition to having the right technical skills for the job.

Less than 30% of business leaders across the five counties of WNY rate job applicants favorably in key skills areas. Compared to 2020, ratings for technical skills improved slightly, while professionalism declined.[15] Developing these skills is crucial for both job seekers and businesses seeking to fill tech and tech-enabled roles, where they impact job performance and career advancement within a company or industry.

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

Most tech-intensive industries	% People of Color, WNY, 2023-24	Higher Earnings (More than Regional Avg of $61,473), 2023
Professional, Scientific, and Technical Svcs.	17%	✓
Finance and Insurance	17%	✓
Manufacturing	19%	✓
Management of Companies and Enterprises	19%	✓
Information	24%	✓
Administrative and Support and Waste Management and Remediation Svcs.	32%	
Wholesale Trade	15%	✓

Source: Lightcast, Inverse Staffing Patterns and Industries in WNY, 2023-24; NYSDOL QCEW, 2023. People of color account for 26% of workers across all industries in WNY.

People of color are overrepresented in 2 of the 7 least tech-intensive industries. Most are lower paying.

Least tech-intensive industries	% People of Color, WNY, 2023-24	Higher Earnings (More than Regional Avg of $61,473), 2023
Agriculture, Forestry, Fishing and Hunting	22%	
Accommodation and Food Services	28%	
Construction	11%	✓
Arts, Entertainment, and Recreation	15%	✓
Utilities	13%	✓
Unclassified Industry	33%	
Real Estate and Rental and Leasing	20%	

Source: Lightcast, Inverse Staffing Patterns and Industries in WNY, 2023-24; NYSDOL QCEW, 2023. People of color account for 26% of workers across all industries in WNY.

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

Skill	Excellent/Good	Fair/Poor
Technical	29%	58%
Verbal	27%	65%
Work Ethic	26%	66%
Professionalism	24%	67%
Initiative	20%	71%
Writing	14%	75%

Source: Siena College Research Institute, Nov. 2024 – January 2025

Training That Strengthens the Talent Pipeline Offers a Solution

Why Goodskills Career Builder?

Reaches underemployed workers in WNY.

Provides workers **workforce readiness skills** and **support services.**

Fosters sector-focused **partnerships that connect workers.**

| WORKFORCE TRAINERS | EMPLOYERS |

Leads workers to **higher-paying, in-demand jobs** with **career pathways** in Tech and Manufacturing.

Goodskills Career Builder offers training that links individuals who seek training to career pathways in tech and tech-enabled roles. Housed within Goodwill of Western New York, the program launched in the fall of 2021 and has expanded across the region. Tech training is offered at the Buffalo location. The program's research-grounded, industry-driven curriculum includes work readiness and Cybersafe training, hands-on manufacturing training, career coaching and support services. Built on employer partnerships, the program focuses on training for individuals from distressed communities in WNY. Over 55% of Erie County's working-age population living in poverty resides within 5 miles of Goodwill's tech training site in Buffalo.[16]

By focusing on nontraditional students who might not otherwise have access to job training for tech, Goodskills Career Builder helps bridge the opportunity gap and promotes economic inclusion across the region's tech sector and within tech-intensive industries. While 72% of tech job postings for entry-level computer jobs were in the city of Buffalo and Amherst area between February 2024 and February 2025, job postings for tech and tech-enabled roles can be found in all five counties of the region.[17] With a dedicated business relationship manager in each of these communities, Goodwill continues to cultivate strong employer partnerships to identify the best candidates for job openings, while also providing career coaching services 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 is 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.

Data Sources and Notes

Page 1: [1]Siena College Research Institute, 18th Annual Upstate New York Business Leader Survey, Crosstabs, 2025, Question 12. See also Glynn, Matt, "Western New York businesses worried about tariffs as deadlines looms," The Buffalo News, April 1, 2025. [2]Siena College Research Institute, 18th Annual Upstate New York Business Leader Survey, Crosstabs, 2025, Question 27. [3]Siena College Research Institute, 18th Annual Upstate New York Business Leader Survey, Crosstabs, 2025, Question 29. [4]Siena College Research Institute, 18th Annual Upstate New York Business Leader Survey, Crosstabs, 2025, Question 20.

Page 2: [5]UBRI analysis of data from Lightcast, All Industry Tables, WNY Job Posting Analytics, WNY, 2020-2025. Computer and related jobs include occupation in SOC 15-1200 in addition to Computer and Information System Managers. [6]Lightcast, All Industry Tables, WNY Job Posting Analytics, WNY, 2020-2025. [7]Lightcast, All Industry Tables, WNY Job Posting Analytics, US, 2020-2025. [8]UBRI analysis of data from Lightcast, Job Posting Analytics, February 2024-February 2025. [9]Lightcast, Job Posting Analytics, February 2024-February 2025, reflecting only jobs requiring less than 1 year of experience. [10]Lightcast, Job Posting Analytics, February 2024-February 2025. [10]Lightcast, Job Posting Analytics, February 2024-February 2025. Tech-enabled roles include 14 standard occupational codes that leverage technology to perform other tasks. Entry-level roles are defined as those requiring less than one year of experience. [11]UBRI analysis of data from Lightcast, Job Posting Analytics, January 2024-March 2025 for SOC 43-4051 Customer Service Representatives and SOC 15-1232 Computer User Support Specialist.

Page 3: [12]UBRI analysis of data from the 2023 American Community Survey (5-yr estimates). [13]UBRI analysis of data from Lightcast, All Industry Tables, 2020-23. [14]UBRI estimate of additional workers of color in WNY if their workforce representation matched the US (42%) instead of the current 28% in WNY (Lightcast Industry data). [15]Siena College Research Institute, 18th Annual Upstate New York Business Leader Survey, Crosstabs, 2025, Question 29.

Page 4: [16]UBRI GIS analysis of data from the 2023 American Community Survey (5-yr estimates). [17]Lightcast, Job Posting Analytics, February 2024-February 2025, for tech and tech-enabled roles.