

The Institute

Turning Information into Insight

The Institute is a non-profit economic and social innovation research and policy organization dedicated to empowering business and community leaders with research based strategies for informed decision making. We conduct independent, non-biased research to identify the opportunities, issues and challenges unique to the region and to find innovative solutions to help solve the problems facing our communities. The Institute also offers a wide array of research, consulting and support services to help organizations boost productivity, increase profitability and be successful in their missions. The Institute is a partnership of 13 colleges and universities and the business community. The Institute has served clients in a number of states including the federal government.

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Introduction

The global coronavirus pandemic has had a devastating and unprecedented impact on economies and labor forces across the United States, as more than 22 million people lost their jobs or had their work hours reduced. Prior to that impact, Northeast Pennsylvania had already been struggling with economic challenges such as shortages of skilled workers, low wages, and difficulty attracting and retaining talent. As our region emerges from the economic conditions of the pandemic, it is important that community stakeholders begin to develop a strategy to address these challenges while accounting for any long-term economic effects from the pandemic.

Labor Market Summary

In order to address Northeast Pennsylvania's needs in terms of workforce development, it is necessary to understand the composition of the region's labor market, as well as past and projected trends in employment. This information can help stakeholders identify which occupations are growing or shrinking, and where there may be gaps between the occupations in high demand and the availability of workers qualified to fill those positions.

Demographic and Economic Overview

Data from the U.S. Census Bureau's American Community Survey from 2015 to 2019 show that the labor force participation rate in Lackawanna and Luzerne Counties was about 61 percent, slightly lower than the statewide and national participation rate (both approximately 63 percent). Participation among the prime-age labor force (workers between the ages of 25 and 54) was 82 percent in Lackawanna and Luzerne Counties—similar to the national rate and just one percentage point lower than the statewide rate. The region's median household income and per capita income are both noticeably lower than those of Pennsylvania and the United States. It is worth noting that the median age in the two-county region is comparatively high at 42.5 years, and the region's population is gradually declining in size.

Demographic and Economic Overview						
	Percent			Value		
	Lackawanna and Luzerne Counties	Pennsylvania	USA	Lackawanna and Luzerne Counties	Pennsylvania	USA
Population (ACS)	—	—	—	528,315	12,791,530	324,697,795
Median Age	—	—	—	42.5	40.8	38.1
Population Annual Average Growth	-0.1%	0.1%	0.7%	-757	13,513	2,146,799
Labor Force Participation Rate and Size (civilian population 16 years and over)	60.9%	62.7%	63.2%	265,080	6,546,834	163,555,585
Prime-Age Labor Force Participation Rate and Size (civilian population 25-54)	82.2%	83.1%	82.1%	162,505	4,040,409	104,634,905
Veterans Labor Force Participation Rate and Size, Age 18-64	73.8%	77.2%	76.6%	10,291	254,675	7,003,778
Median Household Income	—	—	—	53,210	61,744	62,843
Per Capita Income	—	—	—	\$29,342	\$34,352	\$34,103

Source: American Community Survey, 2015-2019

Educational Attainment

A larger share of adults in Lackawanna and Luzerne Counties have a high school diploma as their highest level of educational attainment than in Pennsylvania or the United States as a whole. While a slightly larger share of adults in the two-county region have earned associate's degrees compared to the state and national rates, the region has a lower rate of attainment of bachelor's and postgraduate degrees. Approximately 39 percent of adults between the ages of 25 and 64 in Lackawanna and Luzerne Counties have earned an associate's degree or higher, compared to 44 percent in Pennsylvania and 43 percent nationally. Credentialing and certificates are not measured, yet these types of higher education completions are very important to many existing and new occupations.

Educational Attainment, Age 25-64			
	Lackawanna and Luzerne Counties	Pennsylvania	USA
No High School Diploma	8.3%	7.9%	10.9%
High School Graduate	34.6%	32.0%	25.7%
Some College, No Degree	18.5%	16.5%	20.7%
Associate's Degree	11.0%	9.5%	9.1%
Bachelor's Degree	17.9%	21.2%	21.2%
Postgraduate Degree	9.6%	12.9%	12.3%

Source: American Community Survey, 2015-2019

Employment Trends

As of the third quarter of 2020, there were about 240,000 employed workers in Lackawanna and Luzerne Counties. More than a third of these workers (87,000, or 36 percent) were employed in the region's three largest major occupation categories. These occupation categories, defined using 2-digit Standard Occupational Classification (SOC) codes, are Office and Administrative Support (approximately 33,000 workers); Transportation and Material Moving (32,000); and Sales and Related Occupations (22,000).

Occupation Snapshot for Lackawanna and Luzerne Counties

Occupation	Current				10-Year History		10-Year Forecast	
	Employment	Mean Annual Wages	LQ	Unemployment Rate	Employment Change	Annual % Change	Employment Growth	Annual % Growth
Office and Administrative Support Occupations	32,968	\$37,200	1.07	8.1%	-5,219	-1.5%	-4,166	-1.3%
Transportation and Material Moving Occupations	31,710	\$35,300	1.57	13.3%	5,817	2.0%	-1,561	-0.5%
Sales and Related Occupations	22,279	\$37,900	0.96	10.8%	-4,473	-1.8%	-2,710	-1.3%
Production Occupations	17,659	\$38,400	1.25	11.6%	-556	-0.3%	-2,751	-1.7%
Food Preparation and Serving Related Occupations	17,202	\$23,600	0.92	19.7%	-2,741	-1.5%	-413	-0.2%
Healthcare Practitioners and Technical Occupations	16,492	\$76,100	1.18	3.4%	422	0.3%	185	0.1%
Healthcare Support Occupations	14,884	\$29,200	1.39	7.4%	2,571	1.9%	2,050	1.3%
Educational Instruction and Library Occupations	12,421	\$56,600	0.91	8.8%	-978	-0.8%	-554	-0.5%
Management Occupations	11,830	\$105,400	0.75	4.5%	857	0.8%	-439	-0.4%
Business and Financial Operations Occupations	10,136	\$64,200	0.75	4.8%	820	0.8%	-514	-0.5%

Source: Chmura JobsEQ, 2020Q3

A large share of workers in Northeast Pennsylvania are employed in jobs directly related to healthcare, reflecting the healthcare industry's status as one of the largest employers in the region. Together, the categories of Healthcare Support Occupations and Health Care Practitioners and Technical Occupations employ more than 31,000 workers. This combined group of healthcare-related occupations would be the region's third largest occupation category.

According to projections from JobsEQ, Healthcare Practitioners and Technical Occupations are going to see the greatest labor shortages out of any occupation in Lackawanna and Luzerne Counties in the next 10 years. Average annual wages in this category are among the highest in the region, at \$76,000. In other words, these jobs will be in high demand and they pay well on average relative to other jobs in

Northeast Pennsylvania. Although these jobs appear to be available and desirable, there are challenges to addressing labor shortages in this area. First, healthcare practitioner jobs often require specialized postsecondary education or training; for example, registered nurses must complete an approved professional nursing education program. Second, even though these jobs pay well relative to others in Lackawanna and Luzerne Counties, qualified professionals and new graduates may be able to earn higher wages if they leave to work in other parts of the state or country (average annual wages are higher both statewide and nationally). Finally, healthcare practitioner jobs are likely difficult to do remotely, meaning initiatives to attract remote workers may not be effective as a direct method for addressing shortages in this particular category.

Healthcare support occupations—another of the region’s largest categories—have grown significantly in the last 10 years, at an average rate of 1.9 percent per year. Employment in this category is projected to grow more than in any other major occupation category over the next 10 years, with an annual growth rate of 1.3 percent and the creation of more than 2,000 new jobs. However, the average annual wages for this occupation are relatively low, at just over \$29,000. Pay is particularly low for home health and personal care aides, the jobs which will be driving the majority of the growth in this field (these are also among the fastest growing occupations in the region overall). There are projected labor shortages among healthcare support occupations despite the high rate of job growth. This may be due in part to the low wages of home health and personal care aide jobs. Shortages may also be partly due to other challenges reportedly facing the home health industry in Pennsylvania that have been exacerbated during the pandemic. Some of these challenges include transportation issues, high turnover rates, a lack of training for home health professionals, and the high levels of risk and pressure associated with working on the front lines of the pandemic with highly vulnerable populations.ⁱ

Community and social service occupations have the second highest projected annual growth rate at about 1 percent for the next 10 years, creating 460 new jobs. Similar to healthcare support occupations, these jobs are expected to see shortages over the coming decade. Average wages in this occupation category are just over \$45,000, which is higher than the average wages of healthcare support workers, but community and social service jobs—made up largely of counselors and social workers—also tend to have more demanding education requirements (usually a postsecondary degree or higher).

Office and administrative support occupations is the largest occupation category in the region, with 33,000 employees. However, employment in this category has declined significantly over the last 10 years, and it is expected to continue declining over the next decade; JobsEQ predicts an annual growth rate of -1.3 percent and a loss of more than 4,000 jobs. This decline will likely be driven by job losses among office clerks; secretaries and administrative assistants; customer service representatives; and other administrative occupations.

The second largest category is transportation and material moving occupations, with nearly 32,000 employees. This category also has the highest location quotient (LQ) of any occupation category in Lackawanna and Luzerne Counties, meaning it employs a significantly larger share of workers in the region compared to the national average. Employment in this transportation and material moving jobs has grown over the last decade by close to 6,000 new jobs. JobsEQ’s 10-year forecast predicts a slight downward trend in employment under this category, with a loss of 1,500 jobs at an annual growth rate of -0.5 percent. This category currently has a relatively high unemployment rate (13.3 percent). The decline in employment in this category will largely be driven by job losses in the following categories:

laborers and material movers; drivers/sales workers and truck drivers; and industrial truck and tractor operators.

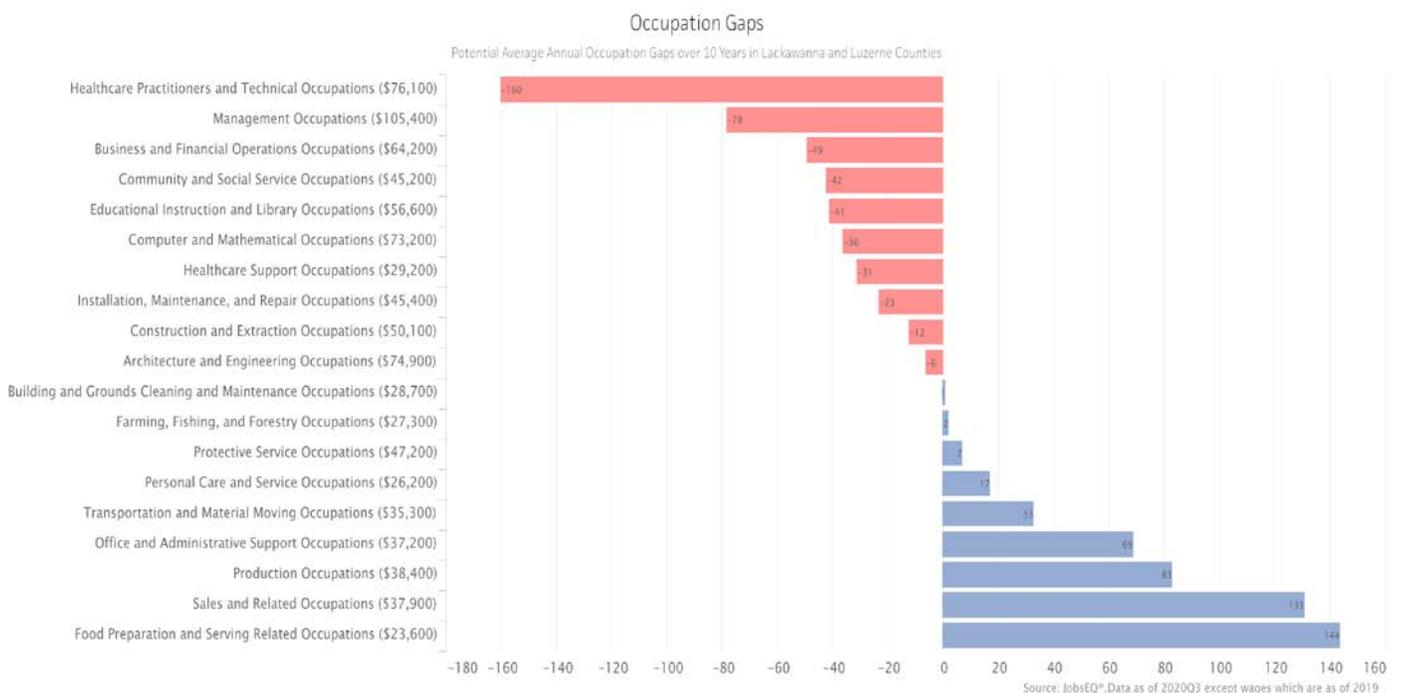
Sales and related occupations is the third largest category in the region, employing more than 22,000 workers. This category is expected to follow a downward trend similar to that of Office and Administrative Support Occupations with annual growth rate of -1.3 percent and a loss of 2,700 jobs. This category has been declining over the last decade. Declines in sales employment will likely be greatest among cashiers and retail salespersons.

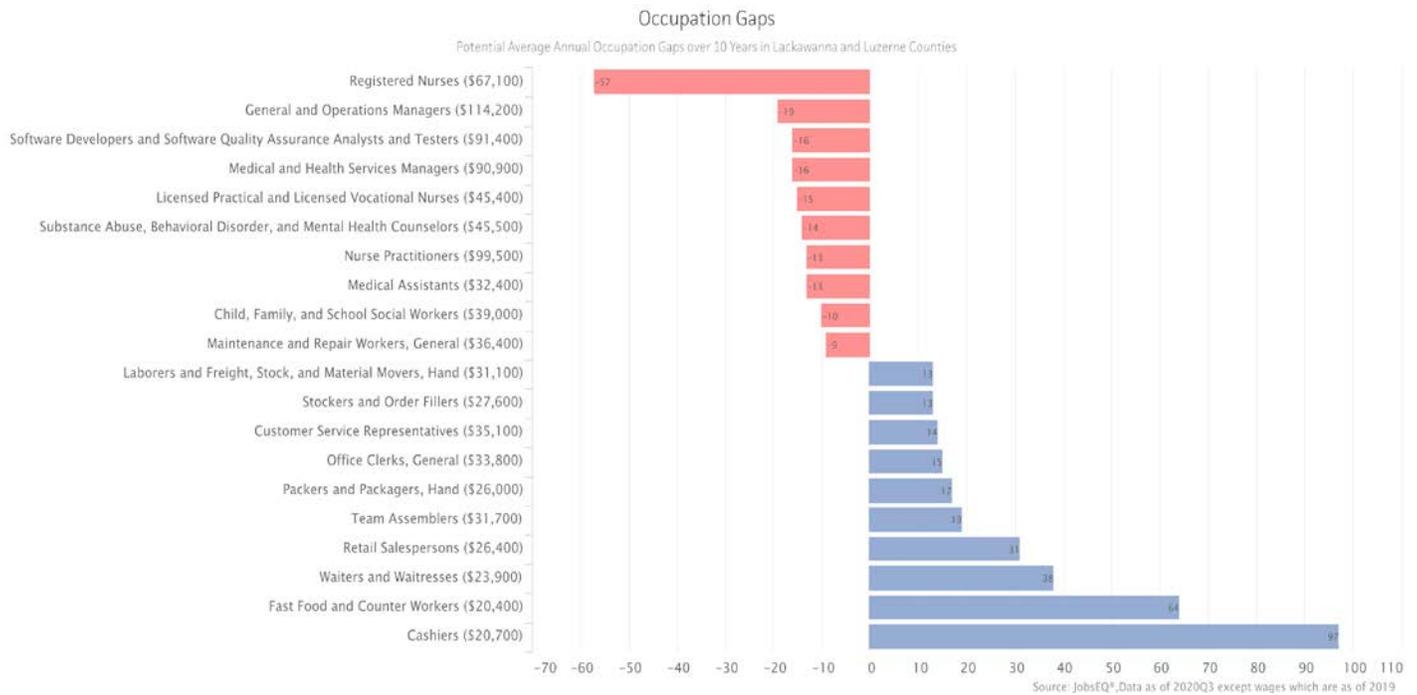
These regional employment trends seem somewhat similar to the national trends projected by a recent analysis from the Bureau of Labor Statistics. The BLS analysis predicts that the pandemic will contribute to major declines in employment among occupations that do not require high levels of education. Such as hospitality, food service, retail, transportation. Meanwhile, occupations in medical, health science, and technology are expected to grow.ⁱⁱ

Occupation Gaps

As mentioned above, the major occupation category with the largest projected occupation gap is healthcare practitioners and technical occupations, with an expected average annual deficit of 160 workers. The next largest labor shortages are expected to be in management occupations (78 workers per year) and business and financial operations (49 workers per year). Shortages are also expected among healthcare support occupations, community and social service occupations, educational instruction and library occupations, computer and mathematical occupations, and other types of jobs.

Large surpluses are expected among food preparation and serving occupations and sales and related occupations, even though both categories are expected to decline in size over the next 10 years (especially sales), and both have been significantly impacted by business closures during the pandemic. Both categories saw larger declines in employment in the last year than any other occupation category.





Workforce Disruption

In 2018, The Institute completed a brief on workplace automation. Workplace automation is fundamentally changing the nature of work, bringing with it both the threat of displacement from job losses, as well as the promise of opportunity through increased productivity and job creation. In order to harness automation’s opportunities, community stakeholders must better understand the potential for workforce disruption that accompanies these developments. In our report, we look at workforce disruption not only regionally, but also across Pennsylvania and fifteen other states. Following previous studies from researchers in Tennessee and North Carolina, our report is built off the foundational study from 2013, which found 320 occupations that have a 70 percent or higher risk of having some job responsibilities automated in the next decade or two. These 320 automation-sensitive occupations employ nearly 242,000 workers in Northeastern Pennsylvania – nearly 49 percent of the region’s total workforce.

It is extremely important to note that our report does not quantify the number of jobs that will actually be automated. We are not suggesting that this region will someday have a 49 percent unemployment rate. Jobs involve a combination of varying tasks, and the 49 percent of regional workers in this category may end up staying in their current position, but given other responsibilities.

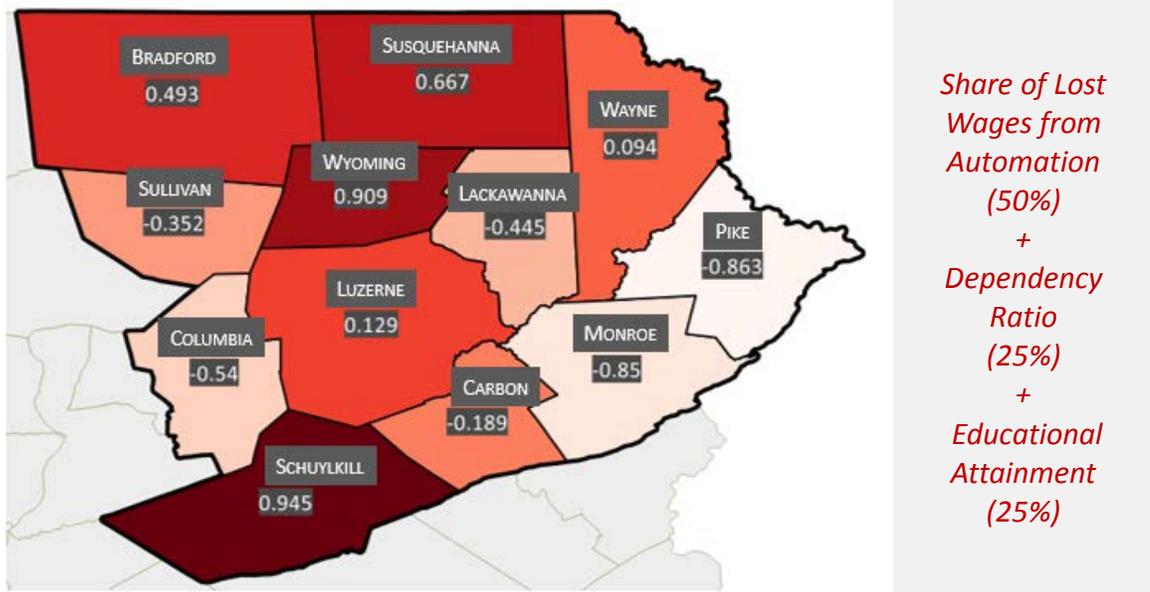
The centerpiece of our report is a regional index of forecasted vulnerability to workforce disruption, comprised of three indicators. The primary indicator is the potential maximum share of lost wages resulting from workforce automation, at 50 percent of the score. Next, we weighed dependency ratios, which helps us identify regions with a lack of sufficient working age labor, as regions without it may

AUTOMATION-SENSITIVE JOBS AS A PERCENTAGE OF ENTIRE WORKFORCE

SCHUYLKILL COUNTY, PA	50.65%
INDIANA	50.45%
WISCONSIN	49.94%
LUZERNE COUNTY, PA	49.93%
COLUMBIA COUNTY, PA	49.74%
WYOMING COUNTY, PA	49.34%
NORTHEASTERN PENNSYLVANIA	49.24%
SUSQUEHANNA COUNTY, PA	48.97%
LACKAWANNA COUNTY, PA	48.86%
MONROE COUNTY, PA	48.61%
BRADFORD COUNTY, PA	48.52%
CARBON COUNTY, PA	48.24%
OHIO	47.56%
MICHIGAN	47.42%
WAYNE COUNTY, PA	47.29%
PENNSYLVANIA	46.22%
PIKE COUNTY, PA	46.16%
DELAWARE	45.70%
NEW JERSEY	43.92%
NEW YORK	42.30%
MARYLAND	41.08%

experience automation at a faster pace. The final 25 percent is attributed to educational attainment, which can help mitigate disruptive changes from automation.

Creating this index helped us understand more about the jobs likely to be affected by automation. Occupations vulnerable to automation tend to pay anywhere from 18 to 27 percent less than average wages, and are considered repetitive or routine in nature, such as Food Services, Production, and Transportation. Less vulnerable occupations tend to reward critical thinking, advanced skills, and substantial personal interaction, like Computers, Education, Social Services, and Management. Automation is another factor that supports increased education and skills are critical for the workforce of the future. Some form of post secondary education – whether degrees, credentials, or certificates are imperative to elevate entry level workers.



****Counties with a lower score (and lighter color) are deemed less at-risk of workforce disruption from automation, while counties with a higher score (and darker color) are considered more vulnerable.***

More importantly, this index identifies potential vulnerabilities and strengths geographically. Among the least vulnerable counties are Monroe and Pike, which are strong commuter counties to various metro areas in New York and New Jersey. Counties where universities are major employers, like Bloomsburg in Columbia County, also tend to be less vulnerable, as these counties have younger and more educated workers. That’s why, in our state-level analysis, Pennsylvania’s least vulnerable area was actually State College. Also, urban areas, like Philadelphia and Harrisburg, are less vulnerable due to a higher proportion of younger, educated workers.

Darker-colored counties on this map are more vulnerable to workforce disruption. These counties tend to be more rural in nature, face major demographic challenges, and have lower proportions of younger and better-educated individuals. But urban counties that still have a large proportion of workers employed in heavy industry can also be very vulnerable to disruption, like Schuylkill County, which is actually considered the most vulnerable county in Northeastern Pennsylvania in this report.

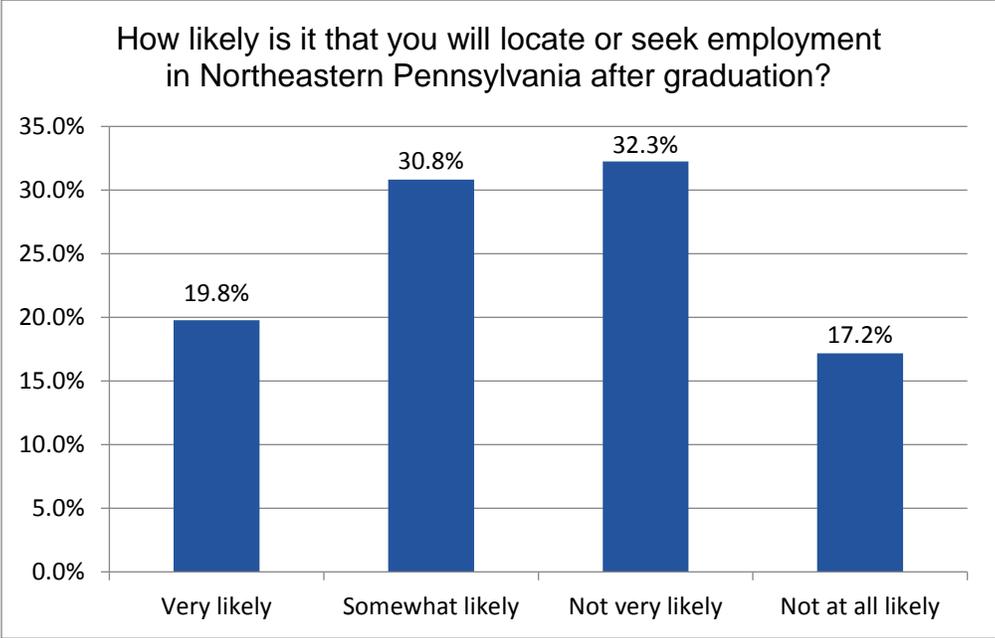
Finally, applying this index to sixteen different states helped us observe Pennsylvania’s challenges in context. Geographically, Pennsylvania is situated at the intersection of two regions: the post-industrial

Mid-Atlantic Region, with New York and New Jersey, and the deindustrialized Rust Belt, with Ohio, Indiana, and West Virginia. But Pennsylvania’s unique position isn’t just geographic – it’s economic. Among Mid-Atlantic states, Pennsylvania is most vulnerable to workforce disruption, but among Rust Belt states, it’s least vulnerable. This highlights the economic diversity within the Commonwealth, and requires that stakeholders fully understand these workforce forecasts in order to harness the opportunities of automation, while preparing for any disruption.

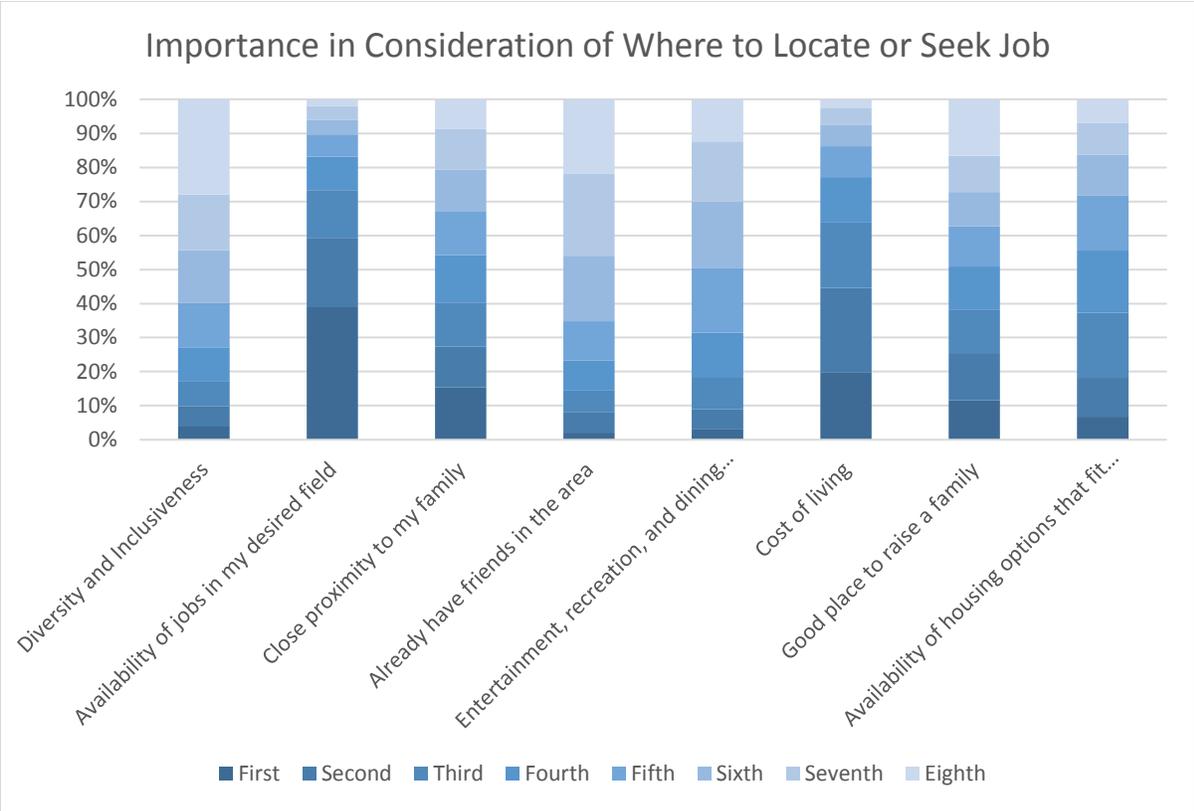
College Student Retention

In 2021, The Institute surveyed students at its partnering higher education institutions. With 1,980 participants, this survey focused on the students’ thoughts and opinions on Northeast Pennsylvania, and on their plans for after they graduate. Some of the findings from the survey are relevant to the topic of talent attraction and retention, as the students’ responses offered insight regarding how they make choices about where to live and work.

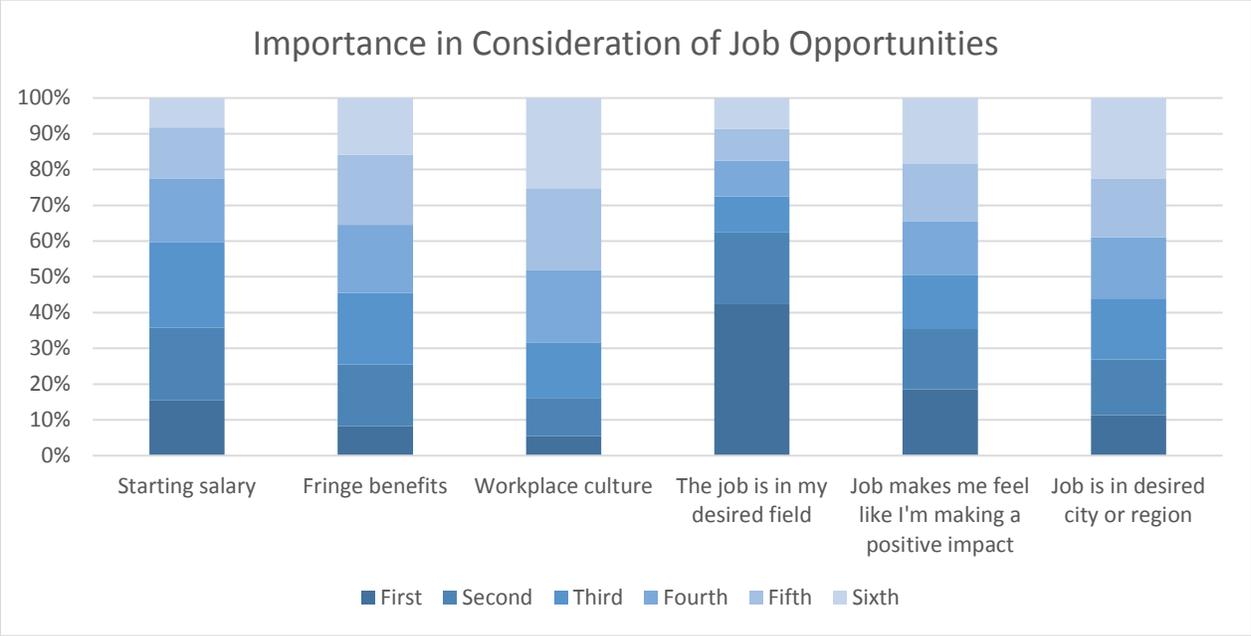
Over half the responding students said that they were either very likely or somewhat likely to remain in Northeast Pennsylvania after graduating from their programs, while the remaining 49.5 percent said that they were more likely to leave the region and seek employment elsewhere. The majority of the students (79.8 percent) said they had given either some thought or a great deal of thought to where they hope to locate or seek employment after graduation.



Almost 40.0 percent of the responding students most prioritized availability of jobs in desired fields when considering where they would locate or seek employment after graduation. This consideration was ranked highest of eight factors, which also included, diversity, proximity to family, friends in the area, entertainment and recreation opportunities, cost of living, suitability for raising a family, and desirable housing options.



Nearly two thirds of the students reiterated that finding work in their desired fields was one of their highest priorities when evaluating job opportunities (ranked either first or second out of a list of six considerations). Of the six factors – the others being starting salary, workplace culture, fringe benefits, positive impact, and location – work in the student’s desired field was by far the factor most frequently ranked as the highest priority (42.6 percent of students ranked this first on their lists).



Approximately three quarters of respondents either had completed or planned to complete an internship before graduation. The survey offers some evidence that completing internships in Northeast Pennsylvania may encourage students to stay in the region after they graduate; nearly 88 percent of students who plan to stay in NEPA had completed regional internships, compared to about 54 percent of students planning to leave the region. It is important to note that this is not necessarily a causal relationship – some students may have completed internships in Northeast Pennsylvania because they had already planned on staying in the region after graduating.

Students were asked what might make them more likely to stay in Northeast Pennsylvania after they graduate. Responses frequently mentioned high paying jobs, job openings in the students' desired fields, access to affordable housing, improvements to public transportation and infrastructure, and changes to the area's culture, among other factors. Several students expressed concern that the region is not sufficiently welcoming to women, minorities, and LGBTQ individuals. Many said that they intend to relocate to where their families or spouses are living.

More than half of the students said they plan on attending (or are already attending) graduate school. This could potentially have an impact on students' decisions to stay in NEPA or leave, depending on the availability of graduate programs within the area that match the interests of prospective students. Almost 34 percent of students said that the economy in NEPA was worse than the national economy, and approximately 31 percent said that they felt quality of life was worse in NEPA than in the United States as a whole. These negative perceptions of the region may cause students to seek work elsewhere.

Education & the Workforce Pipeline

One approach to addressing the region's labor needs is to develop a more effective pipeline from K-12 education into the workforce. By ensuring that students graduate high school with marketable job skills, access to work and training opportunities, and relationships with local employers and organizations, it may be possible to improve outcomes for those students while giving them reasons to continue living and working in Northeast Pennsylvania.

There is evidence to support work-based learning for K-12 students as an effective method of improving employment and educational outcomes. The path from K-12 education to a stable career is often "an obstacle course," and it can be confusing for students to navigate job markets and options for postsecondary education.ⁱⁱⁱ

Career and Technical Education (CTE) is a common system for teaching students career skills. Nationwide, nearly all school districts offered some sort of CTE to students in 2016-17, teaching career-specific skills in fields like healthcare, business, and IT. CTE sometimes involves a WBL component (internship or apprenticeship). Four Career Technology Center (CTC) high schools are located in Lackawanna & Luzerne Counties, and districts within the two counties have averaged around 2,700 students per year enrolled in CTE over the past five years.

While CTE is available regionally, the specific types of opportunities vary. There is also uneven levels of employer involvement in programs. There is evidence that WBL programs that involve internships, apprenticeships, or cooperative learning tend to boost employment after high school. People from disadvantaged backgrounds who participate in these programs often have higher quality jobs at age 30.

Work-based learning in high school can also improve educational outcomes by helping students prepare for college. Well-implemented summer youth employment programs and internship programs can boost graduation rates and postsecondary enrollment rates. WBL can also help create career pathways for out-of-school youth (OSY).

The Federal Reserve Bank of Philadelphia held a listening session discussing the relationship between K-12 education and skills gaps - lack of career counseling, too much "teaching to the test," basic skills (in math, literacy, etc.) are lacking. Participants reported limited awareness of training programs. There are non-skills barriers to employment as well - lack of childcare, lack of transportation, unstable housing, health (and behavioral health) issues, and more.

Economic mobility can be limited by the quality of jobs available. New jobs tend to either require a higher level of skill or offer stagnant wages. Food service and home health jobs may continue to grow, but they do not offer much in wages, benefits, or flexibility (which is needed to take care of other responsibilities). Income stagnation exacerbates non-skills barriers noted above.

Participants suggested moving beyond partnerships between single education/training providers and single employers, instead adopting "sector strategies" to benefit broader groups of employers and job seekers. Apprenticeships and other work-based learning models could help trainees support themselves and their families while learning new skills, and can help employers provide customized training based on their workforce needs (employers may need to fill more positions as workers retire).

Participants also suggested offering training to incumbent employees, allowing those employees to advance in their careers while creating openings for new workers, improving coordination between training providers and their funders, and investing in community infrastructure, affordable housing, early childhood education, support services, etc. could help reduce barriers to workforce participation and career advancement.^{iv}

Role of Higher Education

Higher education institutions play a significant role in meeting workforce needs. Community colleges, four-year colleges and universities, technical and trade schools, and professional schools all play an important role in training students in the skills that are needed in the regional economy.

Continuing education programs are particularly important in providing job skills and training for students wishing to advance their careers. Continuing education programs, technical and trade schools, and community colleges may be particularly likely to see students facing barriers to participating in the workforce or education, including those with child care difficulties, transportation challenges, physical or mental health challenges or disabilities, or other non-skill barriers to the workforce.

Higher education institutions can also form a bridge between students and employers, and work with government agencies, employers, other colleges/universities, and other stakeholders to ensure that students have equitable (and affordable) access to higher education.

Other Relevant Literature

- Urban Institute. Employer Roles in Building Pipelines for Middle-Skill Jobs in Health Care. <https://www.urban.org/research/publication/employer-roles-building-pipelines-middle-skill-jobs-health-care>

- Healthcare is the country's fastest growing industry (as of April 2017) and it produces the highest demand for middle-skill jobs, which require some postsecondary training but not necessarily a 4-year degree.
- Middle skill jobs can offer higher wages, job satisfaction, and opportunities for career advancement. Note: these are also some of the occupations in highest demand in NEPA. Getting people into these jobs could help employers and employees (in addition to strengthening public health systems).
- The healthcare industry is ideal for developing a pipeline to move lower-skilled workers into middle skill jobs. Employers should have an active role in developing pipeline initiatives. Employers can:
 - Invest in entry-level skill training through internships, partnering with community organizations.
 - Develop incumbent worker training to prepare current employees for advancement. Support employees who are pursuing education - offer classes and web-based training, pay community colleges to teach employees on site. Train employees for supervisory roles. Help employees map out career pathways.
 - Use retention specialists and coaches to provide career advice and help employees overcome job challenges. Specialists can also help employees access supports like tuition assistance.
 - Develop new opportunities for workers to take on different roles and build new skills. E.g., train medical assistants to become healthcare coaches or care coordinators.
 - Create industry partnerships (collaborations of various employers in the sector and other organizations). These can be helpful for addressing workforce challenges.
 - The Healthcare Workforce Collaborative in Chicago works with community organizations and community colleges to connect the city's poorest residents with entry-level nursing assistance and patient care technician training (in order to address a shortage of skilled workers).
- U.S. Chamber of Commerce Foundation. Workforce of Today, Workforce of Tomorrow: The Business Case for High-Quality Childcare. 2017. https://www.uschamberfoundation.org/sites/default/files/Workforce%20of%20Today%20Workforce%20of%20Tomorrow%20Report_0.pdf
 - America is facing a large and growing shortage of skilled workers
 - K-12 system is falling short of preparing students for the demands of the workplace
 - One cause of this problem is a lack of high-quality childcare. Childcare supports working parents and has a critical impact on child development.
 - Improving access to childcare is a "powerful two-generation approach" to building human capital. It could increase secondary education completion rates, labor force participation, and productivity and help businesses attract and retain talent. At the same time, it can help prepare their children to thrive in the future.
 - Note: the evidence of a relationship between childcare and talent retention/attraction is a little weak, but it does make sense intuitively. There is good amount of evidence to suggest that people make

decisions about where to work based on the availability of childcare. The potential impacts on labor force participation and educational attainment are also valuable.

- Another note: consider the impact of the pandemic on childcare, and how this has affected working parents.

Attracting a Remote Workforce

Remote work has grown increasingly common for workers and employers in recent years, even before the coronavirus pandemic. The arrival of COVID-19 at the beginning of 2020 led to a further spike in the popularity of remote work, as workplaces closed and an unprecedented number of employers encouraged or required employees to work from outside the office.

Several cities and regions throughout the United States have begun to implement incentive programs designed to attract remote workers to live in their communities while working for employers elsewhere. Some of these talent incentive programs were based on earlier economic development initiatives. For example, Savannah, Georgia recently launched the Savannah Technology Workforce Incentive, which offers \$2,000 grants for remote tech workers who move to the city—a modified version of a program that was initially designed to attract companies rather than individuals.

A common component of the programs implemented by state and local governments is a direct cash incentive—often \$10,000—offered to full-time workers who are willing to move to the city or region and work remotely from there. Some programs offer other benefits as well, such as access to co-working spaces and other amenities, and memberships with local cultural institutions. Each program has a set of eligibility requirements. Depending on the program, applicants may need to meet requirements such as full-time employment, a certain number of years of work experience, and full-time residence in the region within a certain amount of time, among others.

One program that has received a large amount of media attention during the pandemic is Tulsa Remote, launched in 2018. Tulsa Remote offers \$10,000 grants and access to co-working space to remote workers if they move to Tulsa, Oklahoma and stay there for at least a year. Vermont has a statewide Remote Worker Program for remote workers who become full-time residents of the state, as well as a New Worker Relocation Grant Program to attract on-site workers.^v In Northwest Arkansas, the Life Works Here initiative offers applicants a \$10,000 cash incentive along with either a bicycle or a membership with a cultural institution. Some of these programs receive funding from philanthropic foundations; for example, Tulsa Remote is funded in part by the George Kaiser Family Foundation, and Northwest Arkansas' initiative is supported by the Walton Family Foundation.

There is not much evidence currently regarding the effectiveness of these types of talent attraction programs, because they have only recently been implemented. According to some experts, cash incentives may not be sufficient on their own to attract remote workers to regions they would not live in otherwise, and regions must be attractive in other ways as well.^{vi} Northwest Arkansas' program advertises the region's low cost of living, higher-than-average per capita income, and access to culture and outdoor activities.^{vii} Savannah, Georgia's program also emphasizes the city's low cost of living, as well as its growing technology industry.^{viii} Tulsa Remote emphasizes Tulsa's cultural strengths and its nonprofit sector.^{ix}

Northeast Pennsylvania may be able to take advantage of certain regional strengths and characteristics in order to attract skilled remote workers. Similar to some of the regions currently offering talent incentives for remote workers, the cost of living is relatively low in Lackawanna and Luzerne Counties. More specifically, housing costs in the two-county region tend to be lower than in other parts of Pennsylvania and the United States. The median rent in both counties is close to \$800, compared to approximately \$950 in Pennsylvania and \$1,100 nationally. The median value of owner-occupied homes is also significantly lower in Northeast Pennsylvania than at the state or national levels. The region also has a number of other strengths, including close proximity to major metropolitan areas like New York and Philadelphia, access to outdoor recreational activities, a large healthcare industry, and several institutions for higher education.

However, the availability and the quality of affordable housing needs to be addressed in the region. There is very limited new housing stock. The majority of housing was built before 1939. New housing, both owner and rental, is limited, and subsidized or affordable housing construction has been scarce in the region.

Housing Costs

	United States	Pennsylvania	Lackawanna County	Luzerne County
Median rent	\$1,097	\$951	\$792	\$810
Median monthly housing costs of owner-occupied unit with mortgage	\$1,609	\$1,477	\$1,381	\$1,138
Median monthly housing costs of owner-occupied unit without mortgage	\$505	\$534	\$558	\$498
Median value of owner-occupied units	\$240,500	\$192,600	\$158,000	\$125,700

Source: U.S. Census Bureau, American Community Survey, 2019

There would likely be challenges associated with using an incentive to attract remote workers to Northeast Pennsylvania. One potential barrier to attracting talent is lower wages offered by jobs in the region; median earnings for full-time, year-round workers are lower in Lackawanna and Luzerne Counties than in Pennsylvania or the United States as a whole. According to The Institute’s student survey (discussed in the previous section), the availability of jobs that pay well in a job seeker’s desired field is an important factor for deciding where to live and work. It may be difficult to attract skilled workers to NEPA if those workers believe they could earn significantly more elsewhere.

For many administrative positions, care givers, retail, hospitality, and entry level warehouse workers, with average wages of \$12- \$19 per hour, the cost of daily day care may make employment less attractive.

Median earnings for full-time, year-round workers	
United States	\$49,898
Pennsylvania	\$50,626
Lackawanna County	\$45,791
Luzerne County	\$42,435

Source: U.S. Census Bureau, American Community Survey, 2019

Another issue is that there may be a mismatch between the types of jobs that are in high demand in the region and the types of jobs that can be performed remotely. Some of the occupation categories that are experiencing the largest labor shortages in Northeast Pennsylvania—such as healthcare practitioners, social service occupations, and healthcare support occupations—include jobs that often require on-site workers. Because of this, incentives to attract remote workers may not be sufficient as a solution to addressing all of the region’s workforce shortages. However, this approach could be more effective for addressing shortages in other occupation categories, such as management occupations, business and financial operations occupations, and computer and mathematical occupations.

As hiring continues at a brisk pace and the economy recovers from pandemic-related disruption, the structural aspect of unemployment becomes a more critical element in planning for workforce and the talent pipeline.

Summary, Conclusions & Recommendations

Prior to the pandemic, the region faced a tight labor market, with many employers reporting difficulty filling open positions. As the regional economy emerges from the pandemic, it is important to have a multifaceted approach to meeting regional training and workforce needs. This includes talent attraction and retention.

Regional college students cite job prospects as one reason they choose to leave Northeastern Pennsylvania after graduation. However, students who have completed local internships during their studies, and those who are originally from the region, have indicated they are more likely to consider staying in the region.

The region is well positioned with a low cost of living and other regional characteristics to attract a newly remote workforce – the region’s relatively low housing costs could be especially helpful, in addition to the close proximity to major metropolitan areas. The region could consider implementing talent incentives for remote workers, modeled after programs like Tulsa Remote, the Savannah Technology Workforce Incentive, and Life Works Here (Arkansas). The region, however, must work together on the messaging and strategies – a fragmented approach will not be successful.

In order to attract remote workforce and retain skilled workers in the region, there must be a strong regional marketing campaign that bridges the needs of all stakeholders. Housing, diversity and inclusion, and strong quality of life factors need to be emphasized. Social media is an important avenue for this campaign.

Some states are offering financial incentives to attract remote workers. Any similar effort in Northeastern Pennsylvania would need to consider the competitive landscape with other large and small metropolitan areas around the United States.

Higher education can play a bigger role in workforce development while improving their own outcomes by linking current students with organizations like Discover NEPA to learn more about regional quality of life, connecting students with local job opportunities by linking them to CareerLink and regional opportunities via Indeed and other job boards. Higher Education and businesses need to work together more proactively to ensure higher education meets the workplace needs of employers, but a stronger relationship with more proactive engagement through Career Services and faculty to connect students to local businesses is needed. Even in the midst of COVID, virtual networking with students and

employers can occur. Platforms like Zoom allow for small break out rooms for more personal interaction. Events could be tailored to disciplines – a finance gathering, medical careers, marketing, etc. Higher education institutions can also use alumni connections to promote the region and the workforce needs of local employers.

Regionally, there are opportunities to expand teacher-in-the-workplace programs to better connect K-12 education with employers. Career counseling services in high schools could also be expanded. Such investments could be funded through ARP funds. These programs are vital in the face of the workforce shortage and thereby need to be prioritized for funding and implementation.

Teachers and parents need information about occupation opportunities in the region along with the required education and hard and soft skills needed. The Institute will be providing these informational pieces to school districts in summer 2021.

An important strategy for retaining local graduates is increasing local internship opportunities. Even noncredit internships help build a student's local networks and engage them in the community. There are also opportunities to increase parent and teacher knowledge about regional occupation opportunities and education and skills needed to obtain these jobs. Since many internships are unpaid, there is a minimal burden to employers, though paid opportunities, where feasible, may be helpful in maximizing recruiting and retention of talented students.

Expand work-based learning for students in high school and college (and possibly for out-of-school youth). Help train new, skilled workers and improve labor force participation among young adults. This could also advance equity by making better opportunities available for people from low-income households. Five strategies for policymakers and elected leaders to increase work-based learning include: ^x

- Leverage existing funding and mechanisms – hire interns, incentivize partners and other employers to do the same
- Build WBL infrastructure – facilitate partnerships between schools and employers
- Include WBL in accountability systems (e.g. requirements for state and local funding allocations)
- Expand and align quality summer youth employment programs that match students with local businesses
- Create local funding initiatives

The work based learning strategies are a good public private partnership that supports workforce development. Since employers need to adjust their recruiting methods, creating alliances with secondary and post-secondary institutions, will help them develop their workforce, the pipeline, and appropriate education, training, and skills.

Employers can also offer training and advancement opportunities to incumbent employees. This can help retain talent, build a skilled workforce, and open opportunities for new workers as incumbent workers advance to new roles.

Improve access to support services and helpful resources in order to address non-skills barriers to employment. Childcare is particularly important – there is evidence that access to childcare improves labor force participation, productivity, and educational attainment. There is also evidence that access to childcare is an important factor for parents when deciding where to work.

Policymakers could also consider offering loan repayment or forgiveness programs to attract and retain graduates in high-demand occupations. Pennsylvania has programs like this for a couple of specific occupations (e.g. primary care practitioners) but could consider expanding them to include other skilled professionals.

Finally, it will continue to be important to account for the pandemic's disproportionate impact on minorities and women. In light of systemic barriers to jobs and training programs in the past, it is important to prioritize equitable solutions.

The Institute uses the word "regional" throughout this study. It is imperative that workforce development be a regional effort. There are a number of fragmented approaches throughout the region spearheaded by a number of organizations, but without a regional implementation effort that integrates the work being undertaken by various stakeholders in primary, secondary, and higher education, job training, job placement, and social services, Northeastern Pennsylvania will not maximize the opportunity to meet employment demands.

Endnotes

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