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***Turning Information into Insight***

# AN OVERVIEW OF ECONOMIC COMPETITIVENESS IN NORTHEASTERN PENNSYLVANIA

This brief, prepared by The Institute for Public Policy and Economic Development's Joint Committee on Economic Competitiveness, provides key findings and principal conclusions from a larger labor market assessment across eleven counties in Northeastern Pennsylvania for the years 2018 to 2026.

*A Brief Overview  
of Northeastern  
Pennsylvania's  
Economy, Labor  
Market, and  
Target  
Industries*



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## INTRODUCTION

As a region, Northeastern Pennsylvania possesses many natural assets necessary to build a competitive, dynamic, and diversified economy. The region's equidistant geographical positioning between New York City and Philadelphia, coupled with the proximity of major transportation routes such as Interstates 80 and 81 and the Pennsylvania Turnpike, make it an attractive place to start a business or build a life. In 2016-2017, the region's multiple institutes of higher education conferred over 13,000 degrees in over 280 different fields of study. Home to a vast reserve of energy-rich land in the Marcellus Shale, many counties in Northeastern Pennsylvania are cultivating a new economic base to succeed the area's coal mining heritage, driven by the value of clean and affordable natural gas. Finally, the area's relatively low cost of living makes it a financially sensible place not only to live, but also in which to invest: every \$1 spent in Northeastern Pennsylvania is worth \$1.10 across the rest of the commonwealth, and \$1.04 throughout the rest of the country.

However, like many other Rust Belt communities, Northeastern Pennsylvania also stands at an important economic inflection point. The slow and irreversible decline of the region's heavy industrial base in coal mining and manufacturing has resulted in the loss of nearly 39,000 jobs, \$1.5 billion in wages, and \$6.2 billion in economic output in just the last two decades alone, with further contractions still to come. Although the region's manufacturing industry remains its largest employer and contributor to regional GDP, most careers in this industry lack the upward mobility necessary to attract high-quality talent to the region. Moreover, the generally production-oriented base of the region's workforce might become vulnerable to the threat of automation, as nearly half of all workers in Northeastern Pennsylvania currently serve in occupations that face 70 percent or greater risk of automation in some capacity over the coming decades. Finally, with an aging workforce that is disproportionately under-educated compared to statewide and national workforces, the region remains at a competitive disadvantage in attracting new industries that might require formal educational credentials for entry.

In addition to (and perhaps, because of) these economic challenges, Northeastern Pennsylvania also faces a critical convergence of unfavorable demographic developments. Every day, approximately 81,000 workers travel into the region from a variety of locations, while nearly 150,000 leave to work elsewhere – a net loss of 68,000 workers. Approximately 31 percent of Northeastern Pennsylvania residents commute to jobs located outside of the region, and the gap between inbound and outbound commuters has widened by 38 percent between 2005 and 2015. Additionally, the region has seen a net out-migration of residents, as approximately 6,900 more individuals left the region than entered it. Finally, nearly 24 percent of local workers are at or over the age of 55, and most of them will likely retire in the coming decade, spawning a retirement crisis that may incur losses approaching \$4.5 billion in annual wages and \$12.5 billion in economic output. Conversely, just 19 percent of regional workers, those between the ages of 25 and 34, stand ready to replace them – and not all of them are currently working. While the regional population of the 25 to 44 age cohort shrank by nearly 4 percent since 2011, the percentage of 25-44 year olds who are not currently participating in the workforce increased by 3 percent. Combined, these limitations may partially help to explain the region's depressed labor force participation, and portend future declines to come.

In their totality, these transitions risk posing a negative impact on economic opportunities in many industries. Regionally, employment in 64 percent of occupations across 70 percent of industries is projected to shrink between 2018 and 2026, as the overall workforce decreases by 0.2 percent. Given the relatively high number of area workers who have attained only a high school diploma, the regional workforce is disproportionately geared toward low skill careers (at 57 percent of all occupations), compared to the statewide and national labor markets. A mass exodus of workers, either through retirement or out-migration, is projected to create a large drop in workforce representation among low skill occupations, to 46 percent by 2026. What's more, workers in nearly 43 percent of all occupational sectors are experiencing only modest wage growth that fails to keep up with the average annual inflation rate of 1.5 percent. Finally, the perception of these limited economic

opportunities is a pervasive one among the regional population. According to The Institute's recent poll of 1,200 regional undergraduate students, many of the region's prospective workers believe that the area's economic prospects and quality of life are either somewhat or much worse than the rest of the country.

Demographic and economic challenges notwithstanding, many sectors of Northeastern Pennsylvania's economy appear primed for expansion, and may provide accessible employment opportunities with upward mobility and transferable skills. This report identifies five such sectors. First, reflecting the major demographic changes facing the region, a rising number of opportunities exist to serve the elderly and infirm in the area's fastest-growing industry, Healthcare and Social Assistance. Second, the region's proximity to major transportation networks makes a career in Logistics, Transportation, and Warehousing an attractive option, from industrial truck drivers to air transportation. Third, the area's Infrastructure and Construction sector has experienced recent gains in support of utilities expansions in the region, including the construction of lines for telecommunication, water, and sewer, as well as oil and gas pipelines. Fourth, although the region's coal mining industry may be near extinct, the proximity of the Marcellus Shale – as well as rising investment in biomass, wind, and geothermal energy – has opened the door for lucrative and upwardly mobile career opportunities in Utilities and Energy Production. Finally, a myriad of opportunities continue to exist in Advanced Professional Services, from Real Estate Appraisal to Investment to Advice, and Software Publishing to Market Research. Professions in any of these growing sectors offer secure, dynamic, and well-compensated career pathways to individuals with the credentials, training, and willpower to succeed.

In addition to the increased demand for the five industrial sectors above, younger workers in the region may be better equipped to take advantage of this expansion. For instance, younger adults in Northeastern Pennsylvania between the ages of 25 and 34 are more likely to hold a bachelor's degree than workers over the age of 55. Moreover, despite the net export of commuters across the region, the number of inbound commuters is growing at a more rapid pace than outbound ones, and this category of commuters tends to be younger and better educated. Finally, individuals who have recently moved to the region, although small in number, are also more likely than the native-born population to have at least a college education.

Based on the findings reached in this report, The Institute makes the following recommendations:

1. **Harness the value of Northeastern Pennsylvania's network of higher education institutions in designing a classroom to workplace pipeline through public-private partnership and investment.** By utilizing their professional networks, workforce development stakeholders can be effective facilitators between educators and employers in aligning educational priorities with workforce demands.
2. **Utilize the grant-making process to incentivize greater stakeholder collaboration in future, while providing support for non-traditional educational avenues.** Stakeholders in workforce development can help employers and other actors access public investment for employee training opportunities.
3. **Equalize the range of services offered among regional workforce development organizations through multi-stakeholder and collective impact initiatives.** Only through long-term action from cross-sector stakeholders can initiatives that curb the region's multiple challenges be effectively implemented.
4. **Integrate early childhood education from K-12 into a broader workforce development pipeline to cultivate skills acquisition in the region's future workers.** By doing this, students can better understand the skills and educational requirements needed to succeed in their dream jobs, and can plan accordingly to align their academic interests with those career paths.

Strategies such as these might establish a roadmap for Northeastern Pennsylvania's economic recovery, thereby providing new opportunities for a region struggling to overcome multiple demographic and economic challenges and build a dynamic and accessible labor market for all. Readers interested in more detailed data and background concerning the metrics contained within this brief may consult the brief's corresponding technical report, *The Northeastern Pennsylvania Labor Market Assessment*.

## RESEARCH METHODOLOGY

In drafting *The Northeastern Pennsylvania Labor Market Assessment*, the technical report from which the key findings and principal conclusions in this brief were extracted, The Institute for Public Policy and Economic Development analyzed data from a wide variety of federal and state sources. The primary database used for this report was Chmura JobsEQ, a proprietary online platform that aggregates federal, state, and local employment, wages, and educational data down to the zip code level.

Supplementary data was provided from a range of federal datasets from the United States Census Bureau. Population, housing, and workforce data was extracted from the American Community Survey. Information about business establishments and payroll was provided by the Census Bureau's County Business Patterns dataset. Commuter data was compiled from the Longitudinal Employer-Household Dynamics program at the Bureau's Center for Economic Studies. Educational completion data from regional institutions was extracted from the National Center for Educational Statistics. Qualitative occupational descriptions and skill set information was obtained from O\*NET Online, the U.S. Department of Labor's online resource containing descriptive information about national occupations, industries, and fields of work. Finally, data from an early 2018 survey of regional students, along with projected job losses in the coal mining industries, were provided from internal data compiled and analyzed by the Institute.

Finally, for the purposes of this report, the region defined as Northeastern Pennsylvania consists of eleven counties: Bradford, Carbon, Columbia, Lackawanna, Luzerne, Monroe, Pike, Schuylkill, Susquehanna, Wayne, and Wyoming. This region has a combined population of 1.2 million and is home to approximately 560,000 employed workers and a labor force of 589,000 individuals. Data for Northeastern Pennsylvania that is not specifically presented on a county-by-county level may be assumed to be reported on an aggregate level for all eleven counties comprising the area's geographic scope.

This document is a brief derived from a complete analytical study. The study can be found at <https://institutepea.org>.

## THE NEPA ECONOMY: A SNAPSHOT

Home to nearly 560,000 jobs and 29,000 businesses, the economy of Northeastern Pennsylvania is one of the largest in the Commonwealth, both in size and impact. The area’s geographic location, equidistant from both New York City and Philadelphia, is perfectly positioned along the intersection of multiple major transportation hubs, including Interstates 80 and 81, as well as the Pennsylvania Turnpike. In the 2016-2017 academic year alone, the region’s 31 institutes of higher education – including universities, community colleges, CTCs, and for-profit programs – awarded over 13,000 degrees or certificates in over 280 various fields of study. Moreover, Northeastern Pennsylvania has always been home to large swaths of energy-rich land, whether anthracite coal in the past or cleaner, more affordable natural gas today. Finally, the region’s low cost of living makes it an attractive place to build a life or invest in a business.

In spite of these assets, Northeastern Pennsylvania faces significant and demographic challenges. For example, the rate of regional GDP growth from 2013 to 2018, while encouraging, is dwarfed by such growth on the state and national levels. Similarly, job growth expanded by a meager 1.4 percent, compared to a more robust growth of 5 percent and 9.3 percent on the state and federal level, respectively. Many key economic indicators may also be exacerbated by the disproportionate population of elderly individuals across Northeastern Pennsylvania, relative to Pennsylvania and the rest of the country. For example, while population growth has slowed across the U.S. since 2012, the regional population has started to contract by 1.7 percent during the same period. Moreover, just over 59 percent of the regional population participates in the area’s workforce, compared to 62 percent of Pennsylvanians, and 63 percent of other Americans. Finally, the size of NEPA’s labor force has contracted at a sharper rate (3.1 percent) than either Pennsylvania (1.2 percent) or the rest of the United States (4 percent growth).

### FAST FACTS

#### POPULATION

1,204,560

#### UNEMPLOYMENT RATE

5.6%

#### GDP

\$46.1 BILLION

#### LABOR FORCE PARTICIPATION RATE

59.2%

#### WORKFORCE SIZE

589,463

#### NUMBER OF JOBS

556,605

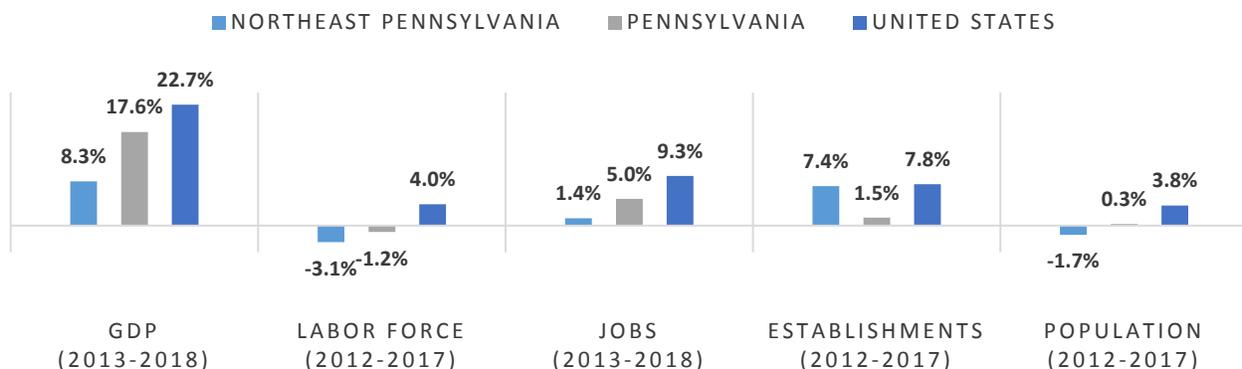
#### ESTABLISHMENTS

28,388

#### EXPORTS

\$5.3 BILLION

### LABOR MARKET INDICATORS, 2012-PRESENT

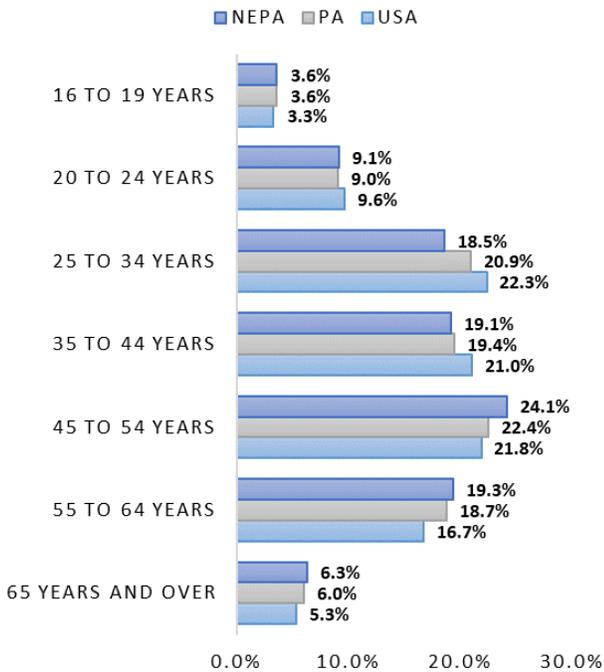


Sources: American Community Survey; County Business Patterns, U.S. Census Bureau

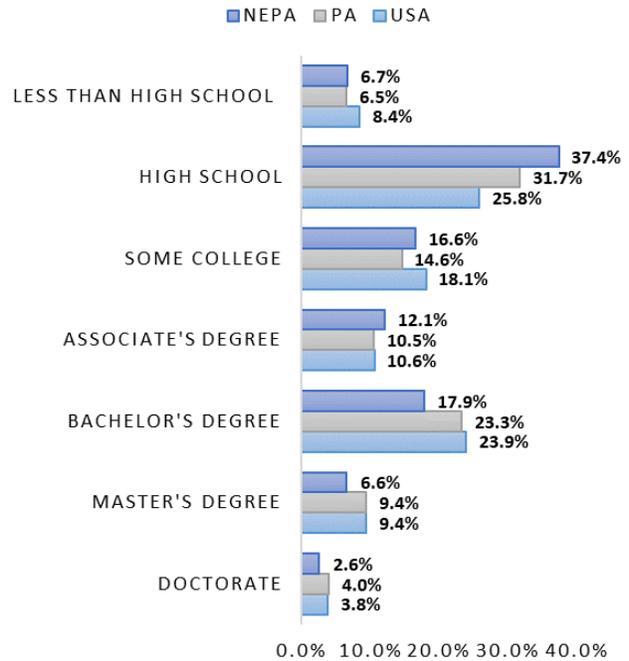
<sup>1</sup> Readers interested in learning more about any of the indicators contained within this snapshot may consult the Institute’s corresponding technical report, *The Northeastern Pennsylvania Labor Market Assessment*.

Due to the area’s stagnant population growth, the region’s workforce is, on balance, both older and less educated than the statewide or national equivalents. Specifically, as demonstrated by the graphs below, Northeastern Pennsylvania is home to a disproportionately large percentage of workers at or above the age of 45, while lagging behind the rest of Pennsylvania and the United States among workers between the ages of 25 and 44. Additionally, the region has the largest percentage of workers with a high school degree or less, at approximately 44 percent, compared to 38 percent of all Pennsylvania workers and 34 percent of all American workers. Just 27 percent of regional workers have attained a bachelor’s degree or higher, compared to 37 percent of workers in both Pennsylvania and the rest of the country.

### WORKFORCE BY AGE



### WORKFORCE BY EDUCATION



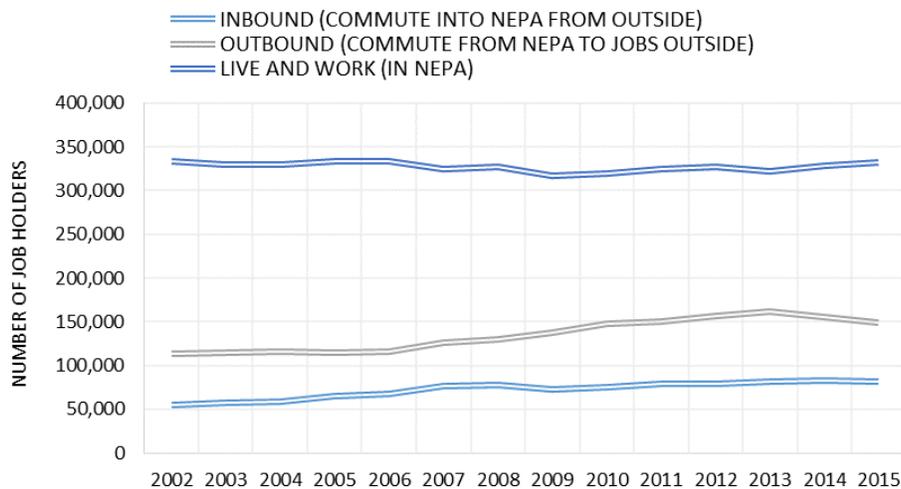
Beyond these demographic troubles, Northeastern Pennsylvania also stands at an important economic inflection point, as evidenced by the region’s loss of 39,000 jobs, \$1.5 billion in wages, and \$6.2 billion in economic output from decades of decline in the area’s heavy industrial base of coal mining and manufacturing. In addition to these historical losses, production-oriented industries like these face further threats in the form of automation, as nearly half of regional workers currently employed in these industries face at least a 70 percent risk of having some portion of their positions automated in the coming decades.

*Economic Impact of Heavy Industry Decline (Net Change) 2001-2018*

County	Employment	Labor Income	Economic Output
Bradford	-3895	(\$113,890,868)	(\$586,314,788)
Carbon	-1544	(\$58,317,293)	(\$238,565,631)
Columbia	-2997	(\$40,457,089)	(\$354,025,765)
Lackawanna	-10293	(\$470,731,969)	(\$1,487,845,862)
Luzerne	-11700	(\$506,010,645)	(\$1,870,192,790)
Monroe	-635	(\$24,548,649)	(\$141,568,452)
Pike	-516	(\$28,410,938)	(\$197,661,960)
Schuylkill	-2244	(\$112,712,866)	(\$304,442,361)
Susquehanna	-844	(\$30,778,861)	(\$136,906,505)
Wayne	-581	(\$23,584,489)	(\$120,559,543)
Wyoming	-2046	(\$45,602,945)	(\$779,797,459)
<b>TOTAL</b>	<b>-39094</b>	<b>(\$1,455,046,612)</b>	<b>(\$6,217,881,116)</b>

With a crumbling industrial base and an aging workforce disproportionately under-educated, the region remains at a competitive disadvantage in attracting new industries that might require formal educational credentials for entry. The convergence of these trends appear to have spawned an exodus of talent and capital from the region as a whole. Every day, nearly 81,000 workers travel into the region from outside, while nearly 150,000 leave the region to work elsewhere – a net loss of 68,000 workers. Moreover, the region has also experienced a net out-migration of residents, as roughly 6,900 more individuals left the region than entered it between 2012 and 2016. Finally, the local workforce is set to take its largest hit in the coming decade, as the nearly 24 percent of workers over the age of 55 are set to retire, generating a retirement crisis that may incur losses approaching \$4.5 billion in annual wages and \$12.5 billion in economic output.

**COMMUTING FLOWS, 2002-2015**



Source: U.S. Census Bureau, Local Employment Dynamics (2015)

Workers entering and leaving Northeastern Pennsylvania come from a range of geographically diverse regions. Nearly 17 percent of regional workers hail from one of the region’s major cities – Scranton (5.7 percent), Wilkes-Barre (2.9 percent), or Hazleton (2 percent). However, 59 percent of the region’s workers come from just four out of the 11 counties comprising the geographic scope of this report: Luzerne, Lackawanna, Schuylkill, and Monroe. Examining the locations where many NEPA residents currently work yields an even greater geographical range, as nearly three percent of regional residents work in either New York City or Philadelphia. However, these workers tend to be residents of counties closest to those respective cities, such as Carbon and Pike counties. In the region’s more populated counties, such as Lackawanna and Luzerne, residents are likelier to live and work in Northeastern Pennsylvania.

#### Where NEPA Jobholders Live

<i>Cities</i>	Count	Share	<i>Counties</i>	Count	Share
Scranton city, PA	23,562	5.7%	Luzerne County, PA	107,626	26.0%
Wilkes-Barre city, PA	12,099	2.9%	Lackawanna County, PA	72,129	17.4%
Hazleton city, PA	8,260	2.0%	Schuylkill County, PA	35,071	8.5%
Dunmore borough, PA	4,991	1.2%	Monroe County, PA	29,435	7.1%
Kingston borough, PA	4,461	1.1%	Columbia County, PA	16,556	4.0%
Mountain Top CDP, PA	3,909	0.9%	Bradford County, PA	15,426	3.7%
Philadelphia city, PA	3,597	0.9%	Wayne County, PA	14,070	3.4%
Nanticoke city, PA	3,543	0.9%	Carbon County, PA	12,766	3.1%
Berwick borough, PA	3,458	0.8%	Susquehanna County, PA	10,216	2.5%
Pottsville city, PA	3,395	0.8%	Pike County, PA	9,556	2.3%
<i>All Other Locations</i>	<i>342,224</i>	<i>82.8%</i>	<i>All Other Locations</i>	<i>90,648</i>	<i>21.9%</i>

#### Where NEPA Residents Work

<i>Cities</i>	Count	Share	<i>Counties</i>	Count	Share
Scranton city, PA	30,528	6.3%	Luzerne County, PA	111,306	23.1%
Wilkes-Barre city, PA	19,511	4.0%	Lackawanna County, PA	77,267	16.0%
Dunmore borough, PA	7,924	1.6%	Schuylkill County, PA	34,134	7.1%
Kingston borough, PA	7,433	1.5%	Monroe County, PA	31,793	6.6%
New York city, NY	6,835	1.4%	Lehigh County, PA	16,298	3.4%
Pottsville city, PA	6,681	1.4%	Columbia County, PA	16,233	3.4%
Moosic borough, PA	6,375	1.3%	Bradford County, PA	15,624	3.2%
Philadelphia city, PA	6,308	1.3%	Wayne County, PA	12,000	2.5%
Hazleton city, PA	5,284	1.1%	Carbon County, PA	11,412	2.4%
Dickson City borough, PA	4,545	0.9%	Berks County, PA	10,446	2.2%
<i>All Other Locations</i>	<i>380,334</i>	<i>78.9%</i>	<i>All Other Locations</i>	<i>145,245</i>	<i>30.1%</i>

Source: U.S. Census Bureau, Local Employment Dynamics (2015)

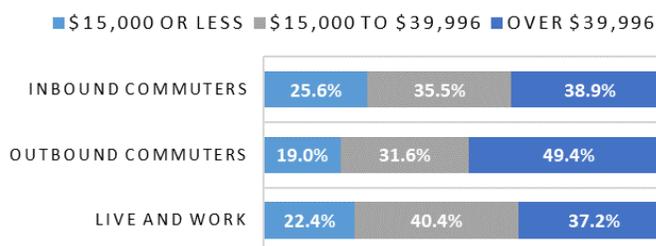
Although workers hoping to remain in the Northeastern Pennsylvania region might pursue working from home, such opportunities are not growing at the same pace as they are both statewide and nationally. Although the number of regional workers who are working from home has jumped by nearly 24 percent between 2010 and 2017, this figure is dwarfed by corresponding growth of 29 and 34 percent, respectively, among individuals working from home across the rest of Pennsylvania and the United States.

**Percentage of Workforce Working From Home, 2010-2017**

Location	2010	2017
Bradford	4.5%	4.4%
Carbon	3.0%	3.9%
Columbia	4.2%	3.4%
Lackawanna	2.7%	3.7%
Luzerne	2.1%	3.3%
Monroe	3.4%	4.8%
Pike	4.4%	5.7%
Schuylkill	2.6%	2.6%
Susquehanna	5.5%	5.4%
Wayne	6.0%	6.2%
Wyoming	4.4%	6.0%
<b>NORTHEAST PA</b>	<b>3.2%</b>	<b>3.9%</b>
<b>PENNSYLVANIA</b>	<b>3.5%</b>	<b>4.4%</b>
<b>UNITED STATES</b>	<b>4.3%</b>	<b>5.2%</b>

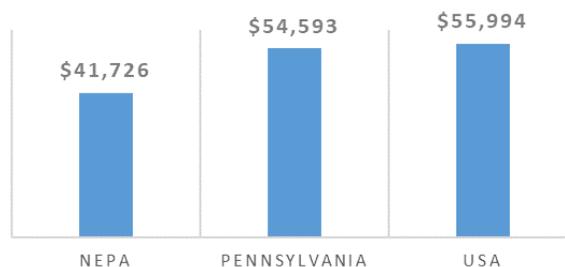
Generally, the largest growth in regional work from home opportunities are seen in counties where, theoretically, workers would have the shortest commute to major urban centers outside of the region. For instance, the percentage of workers in Monroe and Pike counties, both of which are home to a number of workers who commute to various locations in New York and New Jersey, have seen a jump of at least 1.3 percentage points in individuals working from home. Carbon County, which is home to a number of commuters to Allentown and Philadelphia, has also seen a marked rise of nearly 1 percentage point in work-from-home jobs. Additionally, remote work opportunities have also increased in the region’s more populous counties, such as Lackawanna and Luzerne counties. However, such opportunities remain stagnant or on the decline in more rural areas, such as Bradford, Columbia, Susquehanna, and Wayne counties. Still, the region’s relative underperformance in the growth of remote work opportunities suggest that many individuals seeking better job opportunities must leave the region, either through out-migration or long-distance commuting. Regional wage discrepancies may be a strong factor contributing to the increased number of long-distance commuters in the region. Local commuters, either inbound or outbound, have anywhere from a 5 to 32 percent greater chance of earning higher wages, as opposed to those who live and work in the region. Those with the greatest opportunity for higher wages, however, are outbound commuters, as nearly half earn wages at or above approximately \$40,000 annually.

**EARNINGS BY COMMUTER STATUS**



On the other hand, workers who hope to live and work in Northeastern Pennsylvania can face greater challenges. On balance, average regional wages do not compare favorably to wages across the Commonwealth of Pennsylvania, and the rest of the nation, as well. As of 2018, NEPA workers earn an average wage of \$41,726 as of the third quarter of 2018, compared to \$54,593 among other Pennsylvanians and \$55,994 across the rest of the United States. Some of this discrepancy is attributable to divergences in cost of living – for example, \$100 in the 11 counties comprising the geographic scope of this report is worth \$110 across the rest of Pennsylvania, and \$104 throughout the entire United States. However, cost of living differentials only explain part of the gap. For instance, an examination of purchasing power

**AVERAGE ANNUAL WAGES BY REGION**

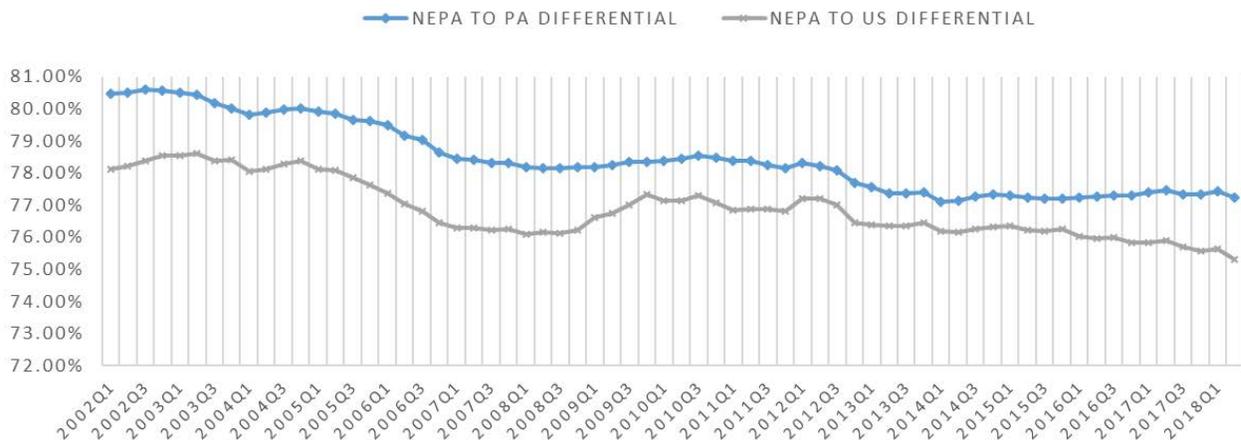


Source: Chmura JobsEQ®

demonstrates that \$41,726 in NEPA wages is equal to \$49,635 across the rest of Pennsylvania, and \$53,912 throughout the entire United States, accounting for 61 percent of the NEPA-Pennsylvania wage gap, and 90 percent of the NEPA-US wage gap.

The regional wage gap is not a new trend, and has generally widened over time. In 2002, average wages in NEPA stood at approximately 80 percent of Pennsylvania wages and 78 percent of American wages. However, as of 2018, average wages in NEPA stand at approximately 76 percent of Pennsylvania averages, and 75 percent of U.S. averages. While a brief reversal of this trend was observed in the NEPA-US wage gap from 2009 to 2013, the trend has since reverted to a modest decline across both sets of wage gaps.

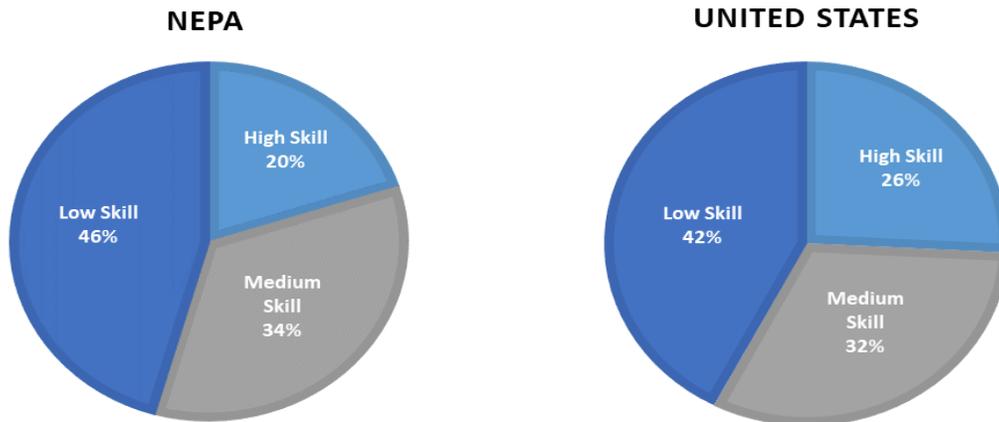
### NEPA WAGE DIFFERENTIAL, 2002-2018



Source: Chmura JobsEQ®

Taken together, all of these trends risk further hampering the expansion of economic opportunity throughout the region. Employment figures in 64 percent of all occupations and 70 percent of all industries are set to decline by 0.2 percent across the region between 2018 and 2026, with workers at the bottom end of the socioeconomic ladder likelier to take the brunt of this downsizing. Because of the relatively large number of regional workers with only a high school degree or less, the area’s workforce is oriented around low skill occupations, those which require just a high school degree. A mass exodus of workers, either through retirement or out-migration, is projected to result in a large drop in workforce representation of these low skill occupations, from 57 percent in 2018 to 46 percent by 2026. Compounding these difficulties, workers in nearly half of all occupational sectors are experiencing only modest wage growth that fails to keep up with the average annual inflation rate of 1.5 percent. Conversely, the proportion of high skill occupations, those which require at least a bachelor’s degree, is projected to climb from 13 percent of the regional workforce to 20 percent during the same period of time. Middle skill occupations, which require either long-term training or an associate’s degree, are also slated to fall by four percentage points during this time.

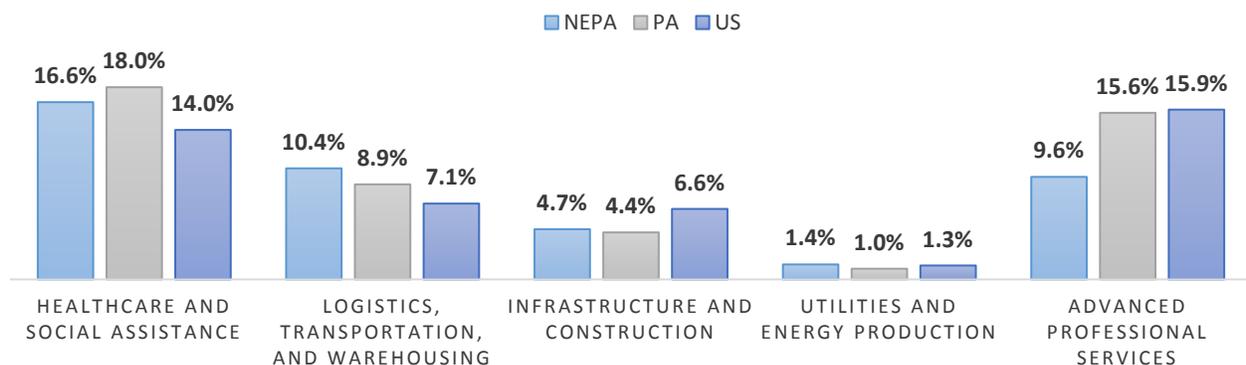
## OCCUPATIONAL PROJECTIONS BY SKILL, NEPA AND UNITED STATES 2018-2026



Source: Chmura JobsEQ®

Despite the aforementioned challenges, this report identifies five sectors of Northeastern Pennsylvania’s economy that have experienced robust growth in the last five years, and are primed for continued expansion in the coming years. First, reflecting the major demographic changes facing the region, a rising number of opportunities exist to serve the elderly and infirm in the area’s fastest-growing industry, Healthcare and Social Assistance. Second, the region’s proximity to major transportation networks make a career in Logistics, Transportation, and Warehousing an attractive option, from industrial truck drivers to air transportation. Third, the area’s Infrastructure and Construction sector has experienced recent gains in support of utilities expansions in the region, including the construction of lines for telecommunication, water, and sewer, as well as oil and gas pipelines. Fourth, although the region’s coal mining industry may be near extinct, the proximity of the Marcellus Shale – as well as rising investment in biomass, wind, and geothermal energy – has opened the door for lucrative and upwardly mobile career opportunities in Utilities and Energy Production. Finally, a myriad of opportunities continue to exist in Advanced Professional Services, from Real Estate Appraisal to Investment to Advice, and Software Publishing to Market Research. Professions in any of these growing sectors offer secure, dynamic, and well-compensated career pathways to individuals with the credentials, training, and willpower to succeed.

### EMPLOYMENT AS A SHARE OF TOTAL ECONOMY, 2018



Source: Chmura JobsEQ®

In addition to the increased demand for the five industrial sectors above, younger workers in the region may be better equipped to take advantage of this expansion. For instance, younger adults in Northeastern Pennsylvania between the ages of 25 and 34 are more likely to hold a bachelor's degree than workers over the age of 55. Moreover, despite the net export of commuters across the region, the number of inbound commuters is growing at a more rapid pace than outbound ones, and this category of commuters tends to be younger and better educated. Finally, individuals who have recently moved to the region, although small in number, are also more likely than the native-born population to have at least a college education.

## RECOMMENDATIONS

*Harness the value of Northeastern Pennsylvania's network of higher education institutions in designing a classroom to workplace pipeline through public-private partnerships.*

For other industries more dependent on a formally educated workforce, the pipeline of emerging younger workers in the region may partially mitigate labor force shrinkage through retirement and other exits. Across the eleven counties comprising the geographical scope of this report, approximately 13,100 degrees were awarded from post-secondary institutions in 2017 alone. Thus, the roughly 10,400 vacancies generated by retirements in the industries of Healthcare and Social Assistance, Professional and Business Services, and Education may potentially be filled by another 7,200 recent degree earners, as these industries may offer easier access to entry-level career opportunities, as opposed to Construction, Manufacturing, or Retail Trade. However, reliance on these emerging workers alone would prove an impractical strategy – many students of regional colleges and universities originally hail from outside of the local area, and may take their skills and educational credentials back home, or even to a new destination entirely. Thus, building a regional pipeline of educated workers requires cultivating interest in further education among local students, as well. Approximately 1,206 students across Northeastern Pennsylvania dropped out of high school in 2016, and only 11 percent of the 77,000 recent high school completers in 2016 were enrolled in post-graduate educational programs at the time of graduation.

Regional workforce development organizations, by harnessing the value of their network of local employers and other community stakeholders, can act as critical facilitators in connecting employers and educators alike. When that connection occurs, rewarding and enduring partnerships can form. For instance, some local institutions, such as Lackawanna College, are utilizing growing demand in the energy and utilities sector, and collaborating with many employers in the exploration and development of the Marcellus Shale. In 2014, Cabot Oil and Gas Corporation announced a \$2.5 million donation to Lackawanna College's School of Petroleum and Natural Gas in New Milford, in order to support program scholarships, equipment updates, faculty retention, and student internships.<sup>1</sup> Additional investments from Williams Talisman Energy, Exterran Holdings, and Team Oil Tools helped students obtain equipment necessary to develop the skills critical to enter a career in the field.<sup>2</sup> In turn, Lackawanna College's School of Petroleum and Natural Gas can boast a 90 percent employment rate for graduating students.

Partnerships like the one above give employers a voice in helping schools equip students with the skills and tools necessary to succeed in today's workforce, and by extension, the ability to enjoy easier post-graduate career placement. According to recent surveys of state CTE directors, nearly 80 percent have noted an increased level of employer engagement over the last decade, and even more predict that such engagement will continue over the coming decade, as well. However, many employers and educators lack the information necessary to take the first steps toward building these sorts of critical partnerships. In order to build other successful employer-educator partnerships in the future, intermediaries with the requisite knowledge, connections, and efficacy are needed to help accelerate the process of employer engagement in public-private partnerships. By facilitating the formation of employer-educator consortia on an industry-by-industry basis,

community stakeholders can help endow students with the ability to build rewarding careers, thereby strengthening the region’s workforce and diversifying our economy.

*Utilize the grant-making process to incentivize greater stakeholder collaboration in future, while providing support for non-traditional educational avenues.*

Addressing the skills gap outlined in this report is, from a statewide and national perspective, one of the most pressing public policy issues of our time, which is why many agencies on the federal and state level are attempting to jumpstart advancement through regional innovations. For instance, in February 2019, Pennsylvania Governor Tom Wolf enacted an executive order creating the Keystone Economic Development and Workforce Command center, a public-private partnership designed to align state investment with private sector needs and modernize the commonwealth’s workforce and business competitiveness.<sup>3</sup>

Consistent with the growing consensus that regional stakeholders are best equipped to divert financial resources to the appropriate recipients, a growing amount of public investment in workforce development is being distributed through grant funding. For instance, in January 2019, the Commonwealth of Pennsylvania distributed over \$2.6 million in Business-Education Partnership (BEP) grants to 22 workforce development boards across the state, with local information reported in the table below.<sup>4</sup> This policy follows a spate of recent initiatives targeting growing industries, such as PAsmart, which invested \$30 million in job training and apprenticeships in expanding STEM fields, and the Office of Apprenticeship and Training, which approves and provides grant funding for apprenticeship programs developed by schools, community organizations, and other involved stakeholders.<sup>5</sup> Federally, the Department of Labor’s Education and Training Administration provides funding for a number of policy objectives, including sector-based apprenticeship strategies, occupational licensing reform, and workforce reentry opportunities for dislocated workers.<sup>6</sup>

Business Education Partnership Grant Recipients, 2019	
Workforce Development Board	Award
Lackawanna	\$151,497.00
Luzerne-Schuylkill	\$100,000.00
Northern Tier (Bradford, Sullivan, Susquehanna, Tioga, Wyoming)	\$131,595.00
Pocono (Carbon, Monroe, Pike, Wayne)	\$90,900.00

*Source: Pennsylvania Governor’s Office (2019)*

One feasible way for regional stakeholders in workforce development to bring new opportunities to the region is through the Pennsylvania Department of Community and Economic Development’s Pre-Apprenticeship and Apprenticeship Grant Program, a statewide initiative offering financial support for registered apprenticeship programs – specifically, to increase talent recruitment and development. Applications are welcomed from a wide range of applicants, including single employers, economic and workforce development organizations, CTCs, community colleges, and non-profit organizations, with a special emphasis on collaborative partnerships.<sup>7</sup> In addition to recent high school graduates and the nearly 10,400 degree earners graduating from regional colleges and universities, this report has also identified 45,000 individuals across the region who are unemployed and still looking for work, as well as 43,000 underemployed workers pursuing opportunities to fully utilize their experiences and credentials. A successful pipeline connecting just half of this combined population could potentially fill every vacancy created by retirement across Northeastern Pennsylvania over the next decade, and for students wary of making a long-term commitment or upfront investment into a formal education program, expanded access to apprenticeship opportunities makes a meaningful difference.

In addition to formal programs like apprenticeships, other ad-hoc opportunities exist for employers to provide in-house career advancement with public investment. With the proliferation of Massive Open Online Courses (MOOCs) from a number of sources like Coursera, EdX, or Udemy, it has never been easier for tech-savvy

individuals to learn the skills necessary to compete in a more technologically-oriented workforce. For many workers, however, the process of getting started with such a process remains challenging. To help bring these opportunities directly to workers, the Pennsylvania Department of Community and Economic Development also provides support for employers interested in supplying their current employees with advanced technology training through the Workforce and Economic Development Network of Pennsylvania (WEDnetPA).<sup>8</sup> Advanced technology training is especially useful to workers due to the transferability of these skills across multiple sectors of the economy. For instance, workers with skills and experience in database management, query software, computer aided design software, and business intelligence and data analysis platforms are valuable in a host of occupations.

Just as there is an information deficit among students and educators about the potential of non-traditional educational avenues, employers are often unaware or reluctant to embrace the opportunity to invest in such training. Like expenses on facilities and equipment, such initiatives often require an immediate investment by employers in exchange for long-term returns. But workforce development stakeholders can provide enlightenment and support in combatting this information gap. By partnering with other stakeholders – not just other workforce development boards, but interested employers and other community partners, these agents can collaborate to deliver support that transcends county borders and delivers investment to local communities in most need of it. Even when employers are the targeted applicants for career development grants, workforce development stakeholders with more experience seeking public investments through grant applications may become especially vital resources – not only for disseminating information about opportunities like these to local employers, but also for dispensing advice about the application process for employers seeking their first grants. By drawing on the rising number of grants that emphasize multi-stakeholder proposals, entities from across the community can contribute their own assets toward a strategy that enables economic opportunity across the entire region of Northeastern Pennsylvania.

*Equalize the range of services offered among regional workforce development organizations through multi-stakeholder and collective impact initiatives.*

The overarching theme to many of the recommendations contained in this report involve an enhancement of existing collaborative governance mechanisms in the region. In the study of public administration, collective governance is defined as the assembly of stakeholders to resolve pressing issues of public policy that are too overwhelming for any one entity to solve alone. Collaborative governance can broadly be categorized into five approaches: (1) Funders who assemble over a mutual interest; (2) Public-Private Partnerships, which join private and public entities to solve a narrowly-focused social problem; (3) Multi-Stakeholder Initiatives, which bring together interested organizations of all sizes and backgrounds on a short to medium-term basis; (4) Social Sector Networks, which establish a forum for information sharing on a short-term basis, and (5) Collective Impact Initiatives, which convene deeply committed stakeholders from multiple sectors for long-term action to effect social change.<sup>9</sup>

Fortunately, for Northeastern Pennsylvania, there is no shortage of deeply committed actors in the field of regional workforce development. There are four regional workforce development boards (Lackawanna, Luzerne-Schuylkill, Northern Tier, and Pocono Counties). NEPA is also home to an array of stakeholders, from public agencies like CareerLink and a number of other non-profits. With the large number of committed regional actors in the sphere of workforce development, the opportunities to harness their collective effort into a comprehensive impact initiative are plentiful. Systemic changes at the state level are needed in order for workforce development boards to be more proactive and entrepreneurial in their approach. Thankfully, case studies from similarly situated communities illustrate a number of pathways forward. For instance, stakeholders in Northeastern Ohio established Early College Early Career (ECEC), a program that enables students to take tuition-free courses toward an advanced manufacturing or technology degree through area community colleges, and participate in paid internships at local companies.<sup>10</sup> This initiative was established by

the Manufacturing Advocacy and Growth Network (MAGNET), a consortium of industry experts, economic development organizations, university partners, government agencies, and other service providers who partnered with The Cleveland Foundation, a regional philanthropic agency.<sup>11</sup>

By pooling resources and partnering with the widest range of committed peer groups in the region, local stakeholders can establish uniquely-positioned alternative education tracks for students that allow them not only to survive in today's workforce, but thrive. With Northeastern Pennsylvania's regional assets, there are no limits to the number of similar partnerships that can be formed. In the eleven county region comprising the geographic scope of this report, there are approximately seven institutions who award two-year degrees in health technologies, transportation, energy extraction, and construction, as well as four career and technology centers offering programs in similar fields, including advanced manufacturing. Furthermore, current demographic changes will necessitate such rapid increases in labor demand that some industries may actively seek out new in-house training programs or workforce development partnerships, especially in areas like healthcare, energy, and utilities. For such efforts to come to fruition, however, it is incumbent on more experienced stakeholders to develop and disseminate a business-friendly argument for workforce development investment, and illustrate the potential of deep, multi-stakeholder cross-sector initiatives. Given the desperate need for skilled local talent, initiatives that involve a mix of policymakers, educators, and employers can create forums that leverage talent, experience, and insight into policies that generate greater value for employers and maximize opportunities for employees' career advancement.

*Connect early childhood education from K-12 into a broader workforce development pipeline to cultivate skills acquisition in the region's future workers.*

The early cultivation of critical workforce skills remains one of the most daunting, but crucial, priorities in order to best equip employers with a constant pipeline of talented, trained workers. By incorporating students at the K-12 level into workforce development networks, students can better understand the skills and education requirements needed to succeed in a job, and can plan accordingly to align their academic interests with their dream jobs. Additionally, schools can foster a better understanding of post-secondary education opportunities and requirements, and be able to develop job skills among their students at a younger age.

Career counselors in middle school and high school would be poised to be the primary driver of workforce education and provide the link to both students and subject matter teachers. This workforce education would include regional and local data on job opportunities and prospects, education and skill requirements including admission requirements, internship and apprenticeship opportunities, and business needs. By informing local educators and career counselors about the benefits of postgraduate education, whether through a degree, certificate, award, or apprenticeship, local students without plans to obtain a bachelor's degree after high school might become more aware of career opportunities that exist outside of that paradigm. For instance, many educators lack the substantive knowledge of vocational and technical training programs, as most colleges of education lack certificates on vocational teacher training. Moreover, guidance counselors across the country must contend with a 482:1 student-to-counselor ratio across public high schools as of 2017, and lack both the resources and the time to discover and disseminate all the available options for high school students uninterested in pursuing a bachelor's degree after graduation.<sup>12</sup> Additionally, parents and students must overcome a perceived social bias against vocational programs, which are typically linked with "blue collar" professions with little prospect of meaningful upward mobility.

To build a K-12 workforce development pipeline, the relevant actors within the state government must address regional disparities when developing comprehensive strategies. For instance, the Pennsylvania Department of Education's latest initiative, the Future Ready PA Index, measures and reports a variety of education indicators on a school district level. However, this initiative needs a consistent and equitable foundation in order to be effective in all school districts across the Commonwealth. Without a baseline

regarding program development, genuine advancements in previously underperforming school districts may not be captured, and the full extent of this initiative's success cannot be adequately measured. Moreover, introducing an evaluation system that takes into consideration regional disparities in educational outcomes can highlight communities who continue to struggle, and ensure that all students across Pennsylvania can enjoy equal access and opportunity to the benefits of a workforce-oriented education experience.

## CONCLUSION

Northeastern Pennsylvania sits at a convergence point of significant challenge and profound opportunity. The region has long struggled to diversify beyond its heavy industrial base, but new opportunities abound in growing industries like healthcare, transportation, utilities and energy extraction, infrastructure and construction, and other advanced professional services. The area's workforce has grappled with a wave of retirements, the net export of commuters, and a steady number of out-migrants, yet attracts growing numbers of inbound commuters and newcomers. Much of the impending fallout from these demographic trends can be mitigated with the full economic participation of the region's younger workforce, which is more educated than any of its predecessors – but increasingly, more of them are opting not to work at all.

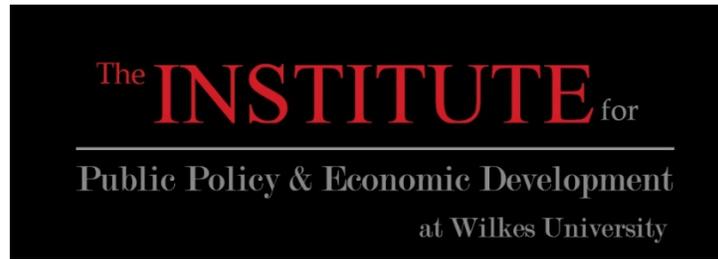
All of the aforementioned challenges and opportunities are deeply intertwined, and cannot be fixed by one employer, organization, or public agency alone. Addressing these multi-faceted concerns requires the involvement of every committed stakeholder in the region, including employers, universities, community colleges, career and technology centers, workforce development boards, economic development organizations, and policymakers. The successful resolution of these challenges, however, can help every participant involved, as well. Regional workers can build a lucrative, rewarding, challenging career with upward mobility in an area with a low cost of living. Employers can select from a wide range of talented prospective employees equipped with the skills to start work on day one. Community partners benefit from the economic enrichment of a community with fewer out-of-region commuters and out-migrants.

When all relevant stakeholders collaborate toward this aim, the result is an environment that enables every participant to succeed. In many respects, the greatest challenge for involved actors is not a lack of demonstrated interest among the multitude of organizations who ostensibly exist to enact positive change. Rather, it is a systemic lack of coordination between these stakeholders to deliver a full range of services and support that would address the wide-ranging demographic and economic trends converging upon Northeastern Pennsylvania. Agencies that work in tandem are much more productive than those who work in parallel. Interested stakeholders must begin the process of facilitating a conversation amongst themselves that identify gaps in each sector of our regional economy and set out to establish policy areas of potential long-term cooperation. This report, a product of The Institute for Public Policy and Economic Development's Joint Committee on Economic Competitiveness, aims to start that very conversation.

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