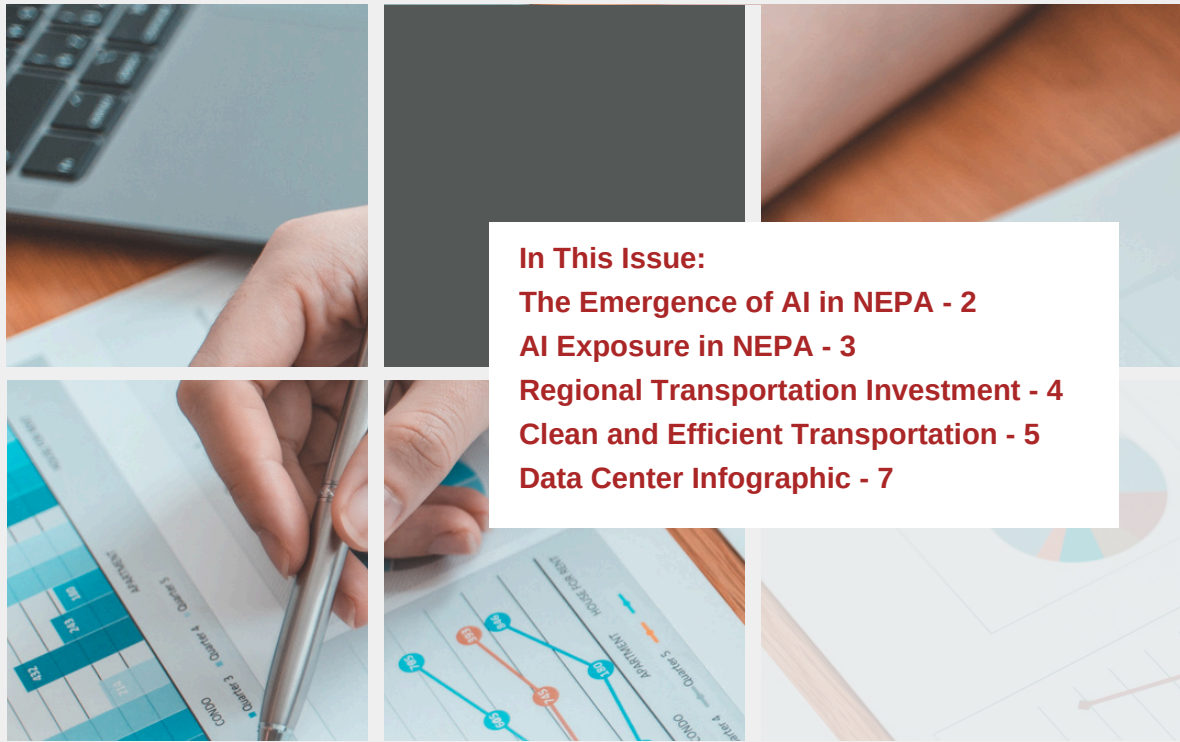


# The Institute

*Turning Information into Insight*

# Economy Tracker



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## About The Quarterly Economy Tracker:

The Economy Tracker explores economic data, trends, and issues related to our region's economy. Subscribe for free at [www.institutepa.org](http://www.institutepa.org). In all its publications, The Institute uses the most current data available at the time of release.

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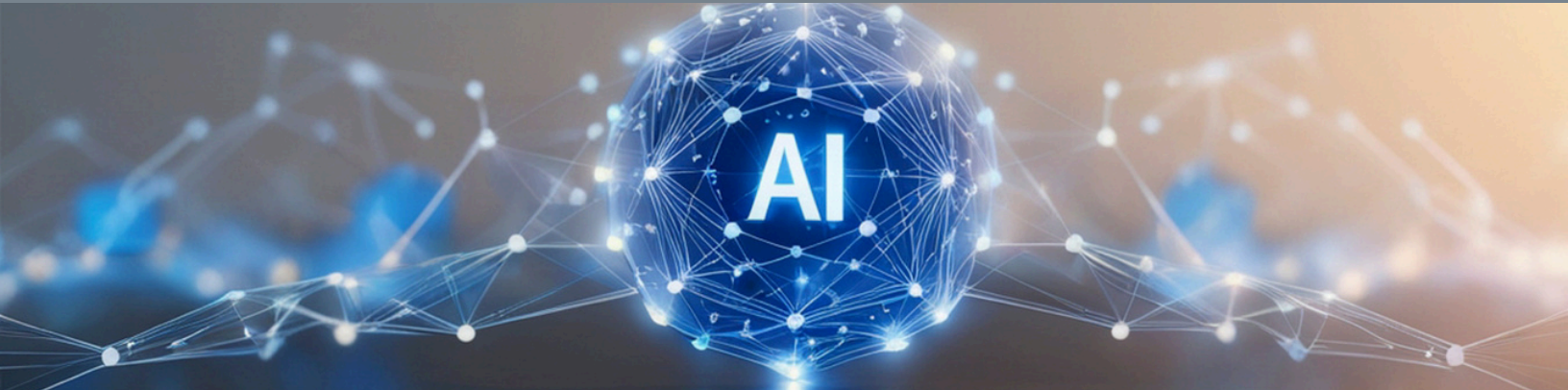
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# The Emergence of AI in Northeastern Pennsylvania: Opportunities and Challenges

By: Jill Avery-Stoss, President and CEO; and Ethan Van Gorden, Research Analyst



Artificial intelligence (AI) is rapidly reshaping the economic and workforce landscape of Northeastern Pennsylvania. The region's top industries are integrating AI at varied levels to improve efficiency, decision-making, and productivity. As AI adoption increases in Northeastern Pennsylvania, AI readiness remains comparatively low. This growing disconnect between how deeply AI is affecting the regional labor market and how prepared the region is to engage with it emerges as a key issue to be addressed.

AI adoption is rising across regional industries but readiness remains low. Nationwide, AI adoption is accelerating with generative AI usage in business functions rising from 55.0 percent in 2023 to 71.0 percent in 2024 and projected annual growth of 37.0 percent between 2023 and 2030. The Scranton–Wilkes-Barre metro area ranks in the lowest tier nationally for AI-readiness, lagging in talent, innovation, and adoption pillars, however. The region is at risk of falling behind economically without deliberate investment in AI capacity.

AI presents substantial opportunities for efficiency and innovation. Across sectors, AI improves productivity through automation, strengthens decision-making, and fosters innovation by freeing workers from repetitive tasks. AI-assisted customer service, predictive maintenance in manufacturing, and tailored education models are examples of applications with strong regional relevance. If businesses and organizations adopt and integrate AI tools strategically, AI can bolster their competitiveness.

Risks include job displacement and cybersecurity vulnerabilities. Nationally, AI-driven automation contributed to more than 10,000 job cuts in the first seven months of 2025, raising concerns about workforce displacement. Additionally, widespread data processing through AI tools raises privacy and cybersecurity vulnerabilities, particularly when employees use non-secure commercial AI platforms. Misinformation and bias pose further challenges, as AI systems can produce inaccurate or distorted outputs due to flaws or bias in their training data. Without safeguards and policy planning, AI adoption could increase vulnerability across the region.

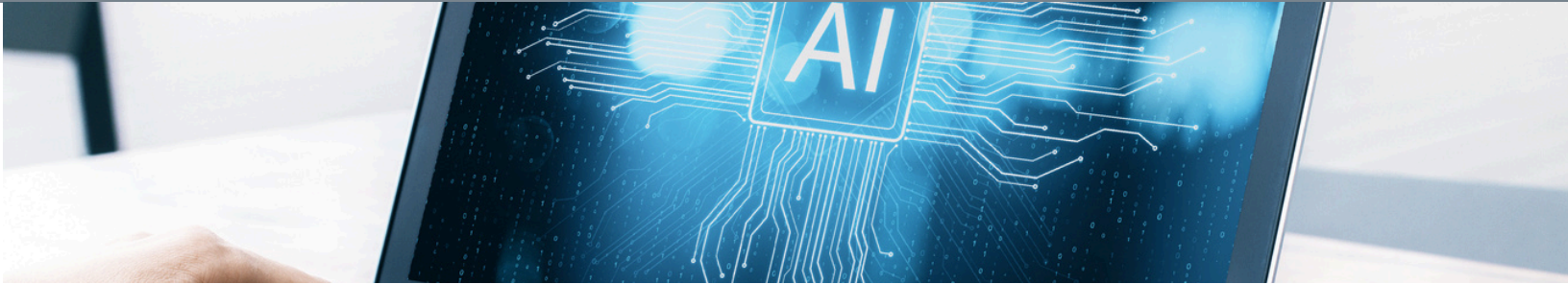
Overall, the findings from The Institute's latest Jobs, Economy, and Economic Development Task Force study point to a region at an inflection point. To fully leverage the benefits of AI while mitigating its risks, Northeastern Pennsylvania must strengthen its workforce training systems, promote organizational experimentation, and develop supportive legislative and policy frameworks. With coordinated action and a focus on building broad AI fluency across all sectors, the region can close the readiness gap, enhance economic resilience, and position itself for success in an increasingly AI-driven economy.

**Source:**

<https://www.institutepa.org/wp-content/uploads/2026/04/Impact-of-AI-on-NEPA-Top-Sectors.pdf>

# AI Exposed Jobs in Northeast Pennsylvania

By: Jill Avery-Stoss, President and CEO; and Ethan Van Gorden, Research Analyst



AI is used in a variety of ways across industries, including those among the top ten largest employers in Lackawanna, Luzerne, and Wayne counties. Though none of these industries encompass computer services – which are classified under the Professional, Scientific, and Technical Services sector – studies show that the shares of jobs requiring AI skills have grown across every major job function between 2016 and 2024. To better understand the demand for AI-related skills in Lackawanna, Luzerne, and Wayne counties, The Institute examined the number of job postings classified by the Lightcast labor market data system as being part of the AI Sector. These job postings are directly related to AI and provide insight into the region’s need for professionals with AI-related skills. Lightcast Sectors compiles relevant skills across occupations and industries to describe distinct parts of the labor market.

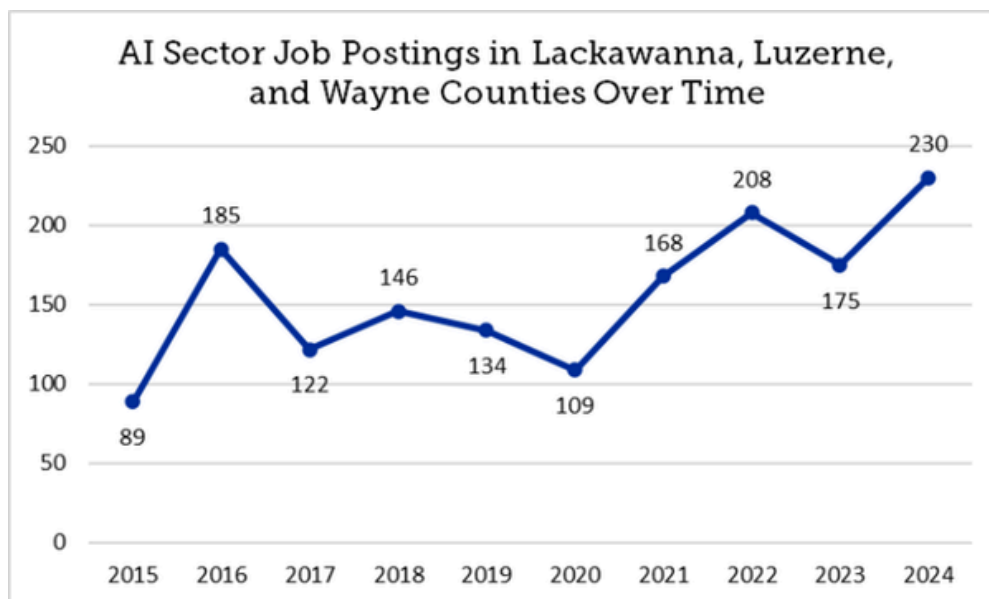
In Lackawanna, Luzerne, and Wayne counties specifically, a total of 1,566 unique job postings belonging to the Lightcast AI Sector were created between 2015 and 2024. During this period, the region has experienced a fluctuation in the number of relevant unique job postings. Between 2015 and 2024, the share of regional jobs requiring AI skills has more than doubled, growing by 158.4 percent. On average, the AI sector saw about an 18.0 percent increase year-over-

year. Since the pandemic, AI-related job postings have not only rebounded but exceeded pre-pandemic totals. Although the actual percentages of job postings that are classified under the AI Sector remain small in most of the industries in the region, overall totals indicate general growth.

A study published by the Federal Reserve Bank of Philadelphia in October 2025 determined that the Scranton—Wilkes-Barre Metropolitan Statistical Area (MSA) has a total of 44,741 AI-exposed jobs. Using the methodology developed by Eloundou et al., the report defines AI-exposed jobs as those in which a significant portion of tasks could be enhanced, expedited, or partially automated by generative AI tools, even if full job displacement is unlikely. Across all third district MSAs analyzed in the study, exposure is primarily associated with clerical, customer service, and white-collar support roles. Although ranked tenth by percent of AI-exposed jobs (18.4 percent), the Scranton—Wilkes-Barre ranks sixth in the number of AI-exposed jobs across Third District Metro Areas.

**Source:**

<https://www.institutepa.org/wp-content/uploads/2026/04/Impact-of-AI-on-NEPA-Top-Sectors.pdf>



# The Impact of Regional Transportation Investment

By: Brigitte Guariglia, Research Analyst



Reliable and accessible public transportation is vital to communities. Across the United States, however, transit systems often fall short of the levels seen in peer nations. Gaps in transportation systems limit people’s access to jobs, housing, healthcare, and other essential destinations without dependence on a personal vehicle. Transportation ranks as one of the largest household expenses, second only to housing.

In Northeastern Pennsylvania, families rely heavily on personal vehicles to access employment, healthcare, and education. Understanding the cost burden of driving helps demonstrate why investment in transportation infrastructure and regional transit can drive economic growth in the region.

The following table highlights the transportation cost burden in Lackawanna, Luzerne, Wayne, and Wyoming Counties. Across the region, households spend between 23 percent and 29 percent of their incomes on transportation. Wayne and Wyoming Counties experience the highest financial burdens, as average households own more vehicles and travel more miles annually compared with households in Lackawanna and Luzerne Counties.

Transportation costs are considered affordable when they account for 15 percent or less of household income. In all four counties, typical driving costs exceed this threshold. In Lackawanna County, the average affordable transportation budget is \$9,348 per household, while estimated driving costs total \$13,794 annually – 148 percent of the affordable benchmark. In Luzerne County, households face a similar gap, with average driving costs of \$14,162 compared to the

same \$9,348 affordability standard, or 151 percent of the benchmark. Wayne County households experience an even greater burden; an average affordable budget of \$8,886 versus estimated driving costs of \$16,426, equal to 185 percent of the benchmark. In Wyoming County, driving costs average \$16,814 per year, representing 180 percent of the \$9,348 affordable limit. Overall, the data show that more rural counties, such as Wayne and Wyoming, face significantly higher transportation cost burdens than Luzerne and Lackawanna Counties

Investing in transportation can yield wide-ranging benefits for a region. Improved infrastructure supports job growth by making it easier for workers to reach employment centers and for businesses to access customers and suppliers. Stronger transportation networks can also attract new businesses, generating additional local employment, while construction and system development create supply-chain jobs.

Investments in public transit further reduce greenhouse gas emissions by decreasing reliance on personal vehicles. Expanding transportation options can also lower household living costs by reducing the need to own and maintain multiple vehicles, significantly decreasing the share of income devoted to transportation.

## Sources:

Center for Neighborhood Technology. (n.d.). Total driving costs. <https://htaindex.cnt.org/total-driving-costs/>  
 Center for Neighborhood Technology. (n.d.). Housing + transportation affordability index (HTA Index). <https://htaindex.cnt.org/map/>  
 Transportation for America. (n.d.). What is world-class transit? <https://t4america.org/resource/world-class-transit/?eType=EmailBlastContent&eld=6ed7bfb6-7ddd-48e6-84c7-94d26619344c>

Regional Transportation Cost Burden by County				
	Annual Transportation Cost	Autos per Household	Average Annual Miles Traveled	% of Income Spent on Transportation
Lackawanna	\$14,168	1.75	17,065	23%
Luzerne	\$14,548	1.79	17,933	23%
Wayne	\$16,900	2.01	23,092	29%
Wyoming	\$17,301	2.05	23,738	28%

Source: Housing + Transportation (H+T) affordability index

Regional Driving Costs by County					
	Annual Auto Ownership Cost	Annual Gas Cost (\$3.50 per gallon)	Total Driving Costs	Total Driving Costs Budget in the Region	% of Budget Used
Lackawanna	\$11,532	\$2,262	\$13,794	\$9,348	148%
Luzerne	\$11,784	\$2,377	\$14,162	\$9,348	151%
Wayne	\$13,364	\$3,061	\$16,426	\$8,886	185%
Wyoming	\$13,667	\$3,147	\$16,814	\$9,348	180%

Source: Housing + Transportation (H+T) affordability index

# Safety and Economic Benefits of Clean and Efficient Transportation

By: Michael Shuba, GIS Analyst and Research Assistant



States can now gauge the benefits of environmentally friendly transportation options using the Smarter Mobility Options for Decarbonization, Equity, and Safety (Smarter MODES) Calculator by the Rocky Mountain Institute. This tool calculates the benefits of expanded transportation options from 2024 to 2050, assuming a 20 percent reduction in per capita vehicle miles of travel with mid-growth in electric vehicle adoption. The average American household stands to save \$750 in fuel and vehicle maintenance costs and \$1,300 in vehicle depreciation costs annually. Nationally, a projected 20 percent reduction in Daily Vehicle Miles of Travel (DVMT) has the potential to save \$408 billion in healthcare costs from improved air quality and \$3.5 trillion from reduced car crashes.

By 2050, 29 million metric tons of CO2E emissions could be saved in the Commonwealth as well as 21 TWh of total energy savings. Auto crash fatalities would be reduced by 56 per year. Improved air quality and physical activity would result in 412 fewer deaths per year, and on average households could increase savings by \$479 annually.<sup>1</sup>

Potential Savings From Expanded Transportation Choices in Pennsylvania	
Measure	Savings
Total Emissions Savings 2024 - 2050 (Million Metric Tons CO2E)	29
Total Energy Savings 2024 - 2050 (Fewer TWh Consumed)	21
Auto Crash Fatalities Avoided (Fewer Deaths Per Year)	56
Improved Air Quality & Physical Activity (Fewer Deaths Per Year)	412
Average Household Savings (Fuel, Maintenance & Depreciation) (\$ Per Year)	\$479

Source: Rocky Mountain Institute. NOTE: Results assume 20% per capita VMT reduction, mid-growth EV adoption, and use state-provided VMT forecasts, where available. Scenario runs 2024-2050.

Pennsylvania crashes and fatalities decreased from 2010 to 2024 (8.9 percent and 14.9 percent respectively). In 2024, Luzerne County reported a 50 percent decline in fatalities despite an increase of 0.6 percent in total crashes for the year.<sup>2</sup>

	2010		2020		2023		2024	
	Crashes	Fatalities	Crashes	Fatalities	Crashes	Fatalities	Crashes	Fatalities
Lackawanna	2,576	19	2,121	22	2,308	18	2,260	20
Luzerne	3,419	30	2,959	35	3,204	36	3,224	18
Wayne	592	8	384	9	449	9	467	9
Wyoming	347	8	239	4	244	4	243	4
PA	121,608	1,324	104,472	1,129	110,382	1,209	110,764	1,127

Source: Pennsylvania Department of Transportation

Luzerne County recorded the highest DVMT among the four counties at 4,103,511, followed by Lackawanna County (2,939,843), Wayne County (296,705), and Wyoming County (234,540).<sup>3</sup>

Daily Vehicle Miles of Travel: 2022 - 2024				
	2022	2023	2024	% Change 2023 - 2024
Lackawanna County	2,801,659	2,947,289	2,939,843	-0.3%
Luzerne County	4,172,842	4,128,134	4,103,511	-0.6%
Wayne County	94,692	308,824	296,705	-12.8%
Wyoming County	274,898	254,698	234,540	-7.3%
Pennsylvania	152,698,190	154,040,028	149,604,069	-2.9%

Source: Pennsylvania Department of Transportation

Total DVMT for the Commonwealth decreased 5.1 percent from 2023 to 2024, with an 8.4 percent increase in rural highway systems and an 11.5 percent reduction in urban systems. By 2050, total DVMT could be reduced to 208,074,269 if efforts toward clean and efficient transportation options are made.<sup>3</sup>

Pennsylvania 2023 - 2024 DVMT (Daily Vehicle Miles of Travel)					
	2024 Linear Miles	DVMT 2023	DVMT 2024	DVMT %Change 2023 - 2024	20% Reduction of 2024 DVMT
Total Systems	*121,435	*274,170,422	*260,092,836	-5.1%	208,074,269
Rural	76,472	88,005,435	95,354,296	8.4%	76,283,437
Urban	*44,963	*186,164,987	*164,738,540	-11.5%	131,790,832
Federal Aid System	*28,822	*239,337,999	*228,270,632	-4.6%	182,616,506
National Highway	*7,192	*154,040,028	*149,604,069	-2.9%	119,683,255
Interstate	*1,871	*66,033,904	*67,700,188	2.5%	54,160,150
Non-Federal Aid System	92,635	34,832,423	31,822,204	-8.6%	25,457,763
Total State Owned	*42,430	*231,448,633	*221,462,521	-4.3%	177,170,017
Total Non-State Owned	79,005	42,721,788	38,630,315	-9.6%	30,904,252

Source: Pennsylvania Department of Transportation. \*Data includes High Occupancy Vehicle (HOV) routes excluded from the HPMS annual submittal, per FHWA

## Sources:

- [1] Miguel Moravec, Drew Veysey, Bryn Grunwald, Ryan Warsing, Jackie Lombardi, "States Can Quantify the Benefits of Climate-Friendly Transportation Options With RMI's Smarter MODES Calculator," Rocky Mountain Institute, February 15, 2024, <https://rmi.org/states-can-quantify-the-benefits-of-climate-friendly-transportation-options-with-rmi-smarter-modes-calculator/#:~:text=Exhibit%201%3A%20Average%20US%20household%20savings%20from%20a%2020%20percent%20per%20Dcapita%20VMT%20reduction.>
- [2] Pennsylvania Department of Transportation, "Pennsylvania Crash Information Tool," Pennsylvania Department of Transportation, accessed March, 3, 2026, <https://crashinfo.penndot.pa.gov/PCIT/welcome.html?TYPE=33554433&REALMOID=06-6e7f3fd5-ee48-4b22-8067-774762688650&GUID=&SMAUTHREASON=0&METHOD=GET&SMAGENTNAME=gfdllxJMxfJ9uPJ2rznv9yavuYmFzqJ43YH2ERRPvbiJL6F2MEFaMBpNPUJnN4&TARGET=-SM-https%3a%2f%2fcrashinfo%2epenndot%2epa%2egov%2f>
- [3] Pennsylvania Department of Transportation, "Traffic Information," Pennsylvania Department of Transportation, accessed March, 3, 2026, <https://www.pa.gov/agencies/penndot/about-penndot/results-data/traffic-information>

# Exploring the Dynamics Surrounding Data Centers in Northeastern Pennsylvania: 2026

## Key Takeaways

Data centers are resource-intensive, but their impact is not predetermined. With strong standards, transparent governance, and community-aligned planning, NEPA can capture economic benefits while protecting environmental quality and local well-being.

Data centers vary widely in their community impact, which depends on choices around energy sourcing, cooling systems, land-use, regulatory oversight, and community benefit agreements. With strong planning and standards, they can function as regional assets rather than local burdens.

## NEPA's Strategic Advantages

- Abundant land, resources, and strong infrastructure potential
- Temperate climate that supports energy-efficient cooling
- Expanding fiber networks and proximity to major East Coast markets
- Supportive legislation and local government interest
- Robust higher-education and workforce-development pipelines



Scan to read  
the full study!

## Challenges and Concerns

**Energy Use:** Data centers run continuously, creating high electricity demand; efficiency improves with free cooling, renewable power, and high-performance design.

**Water Use:** Cooling systems can consume large volumes of water, with about 80% lost to evaporation; closed-loop systems can cut freshwater use by up to 70 percent through recycling and rainwater capture.

**Local Impacts:** Noise and light pollution, air and water quality concerns, and strain on utilities and natural resources are central to community discussions.

## Economic & Workforce Impact

**Construction Phase:** Generates substantial short-term employment and produces strong multiplier effects for local businesses.

**Operational Phase:** Supports a smaller but highly skilled, high-wage workforce in IT infrastructure, cybersecurity, electrical and mechanical systems, facilities engineering, and network operations.

**Regional Growth:** Provides stable tax revenue and attracts related industries and additional investment.

## Recommendations

Data centers are complex and resource-intensive, yet their ultimate impact on Northeastern Pennsylvania is not predetermined. Outcomes depend on planning, standards, governance, and alignment with regional institutions. By implementing these recommendations, Northeastern Pennsylvania can capitalize on the economic benefits of data centers while addressing community concerns and safeguarding long-term sustainability:

- Require **public reporting** of emissions performance and electricity and water usage, with daily and annual water usage thresholds.
- Supplement reliance on resources with **renewable energy options and energy-efficient cooling technologies**.
- Mitigate safety risks and address community concerns by adopting and following **safe-distance guidelines** for data center development.
- **Engage local communities** early in the planning process.
- **Strengthen oversight** through legislation and regulatory measures.
- Require **local hiring targets** for construction and operations, and prepare the local workforce through regional colleges and training programs.
- Ensure that development contributes to **long-term regional resilience**.

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