



Written Testimony

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PA House Republican Policy Committee Hearing - *Built in Pennsylvania: Workforce Development in the Trades*

March 19, 2026

New Castle, PA

Introduction

Chair David H. Rowe, Executive Director Nancy Nilson, Representative Marla Brown, and Members of the House Republican Policy Committee:

Thank you for the invitation to testify at your hearing, 'Built in Pennsylvania: Workforce Development in the Trades,' on March 19, 2026, at the Crane Room in New Castle. I appreciate the Committee's commitment to listening directly to employers, educators, and workforce partners as you examine solutions to strengthen the skilled trades pipeline across the Commonwealth.

I also want to thank Representative Marla Brown for hosting this hearing and for her leadership in elevating the needs and opportunities of Western Pennsylvania's manufacturing community.

I am Anna Barendsfeld, Vice President of Strategic Initiatives and Board Member of Ellwood, and President and co-founder of the Lawrence Mercer Manufacturers Coalition (LMMC). It is an honor to contribute to this conversation, especially given the Committee's mission to develop policy rooted in listening, learning, and leading on behalf of Pennsylvania's people.

About Ellwood

My family has owned and operated Ellwood since 1910. We have grown from one location in Ellwood City, Pennsylvania to 25 across North America. Today, we are a vertically integrated supplier of specialty metals, forgings, and engineered components serving defense, aero, space, energy, transportation, and other vital industries. Our over 2,000 non-union team members deliver metallurgical expertise and advanced manufacturing to meet the needs of mission-critical customers with the world's most demanding specifications.

Success over more than one hundred years demands a stewardship mentality, rather than a focus on quarterly share price. We are fundamentally interested in the *long-term* success of our business, therefore the long-term health and vitality of the communities where we operate. We consistently reinvest in the business to build the state-of-the-art large capital equipment necessary to manufacture our products; but we know that our competent and motivated team is our greatest asset. Our success critically depends on the skills, abilities and engagement of our team today and long into the future.



About Manufacturing

Despite the decline of popular awareness of manufacturing, it remains a critical piece of national security and economic vitality, especially in the Western Pennsylvania region. We still have one of the highest concentrations of metal and advanced manufacturing companies in the US, due to our legacy industrial base in metals-related manufacturing, strong supply chains around metals, robotics and energy, and a higher share of small and mid-sized manufacturers. We are also heavily represented in the defense industrial base.

At Ellwood, manufacturing is more technology-reliant and complex than ever. Walking through one of our manufacturing plants, where the physical hallmarks of heavy industry are still present, the layperson likely would not fully appreciate the layers of technology embedded in our processes. An extremely brief high-level survey would include the following, not nearly an exhaustive list:

- Advanced computer modeling of process and product engineering
- Dynamic process control leveraging machine learning
- Extensive production automation and robotics, especially in material handling
- 3D laser and vision scanning, coordinate measurement, and analysis of equipment condition and product parameters
- Artificial intelligence and vision-based safety monitoring and reporting systems
- Sensor-based analysis of equipment and operating data generating predictive maintenance and production signals
- Intensive “big data” logging and analysis
- High voltage electrical utilization, maintenance, and monitoring
- Complex cybersecurity systems monitoring and protection

Naturally, utilizing such technology means engineering, specifying and designing the processes up front; operations; process control; quality control; and highly extensive maintenance on these complex, capital-intensive machines. The workforce implications, frankly, can be staggering!

To be clear, the degreed component of the workforce to make this possible is very significant. But the skilled tradespeople needed to make this technology *operate and produce, reliably*, are absolutely critical. And we do not have the experienced manufacturing workforce of yesterday to draw from.

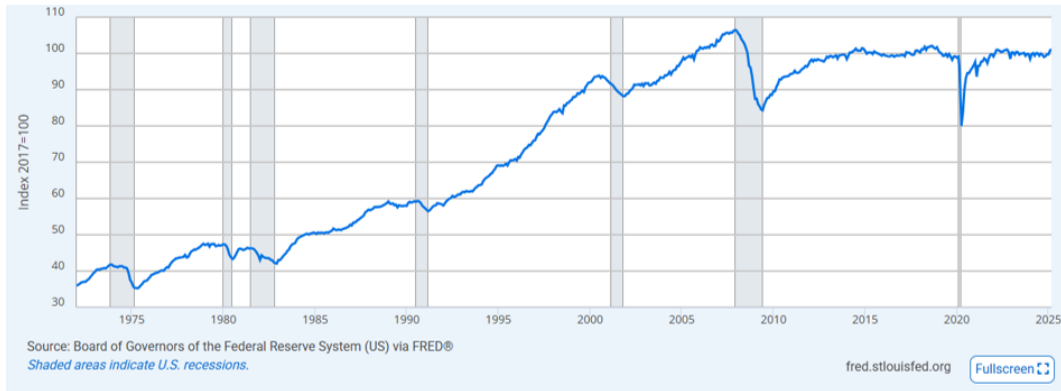
Regional Workforce Reality

Against that context, the workforce challenges Ellwood shares with our fellow regional manufacturers are significant. I will provide some data for context.

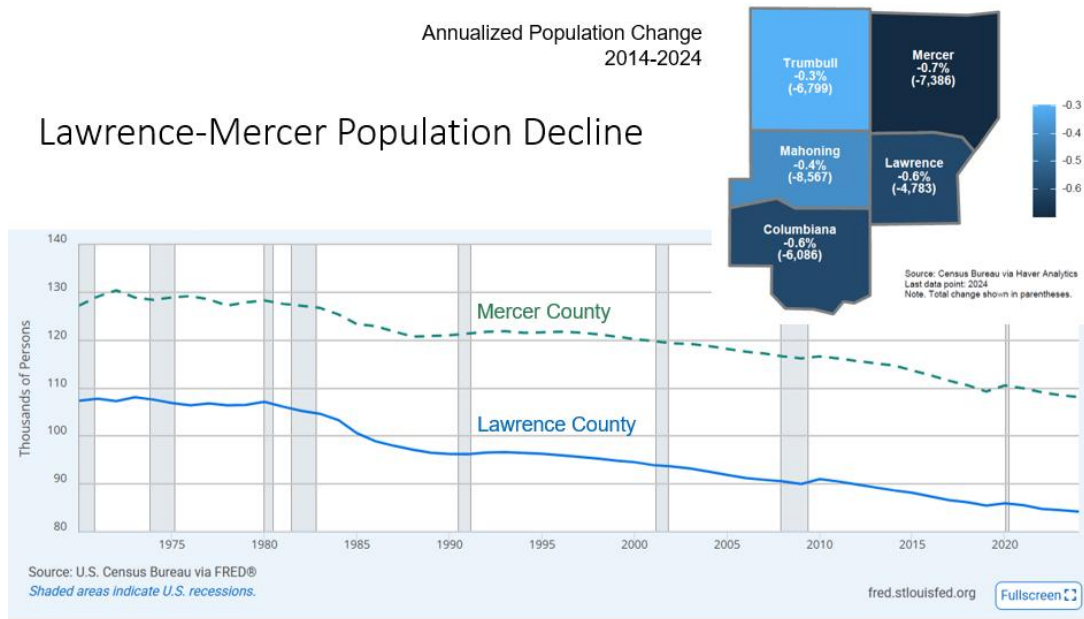
While the Trump administration’s trade policy has shifted the discourse to some degree, many in the US don’t understand the continued significance of the US manufacturing industry. Industrial production is near all-time highs; the below chart shows industrial production as an index going back over 50 years. Production has essentially flatlined since the 2000s when globalization truly took hold, but the US is still a manufacturing powerhouse.



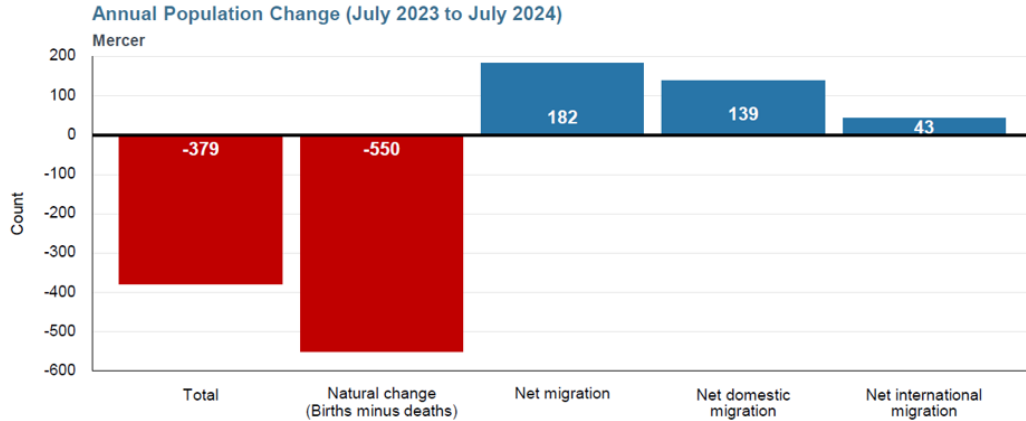
Industrial Production: Manufacturing Industry



At the same time, communities like ours in Lawrence and Mercer Counties have many fewer folks entering the manufacturing workforce. Our populations are in decline. Over the past 10 years, Lawrence and Mercer have lost nearly $\frac{3}{4}$ of a percent of our population each year. The trend is negative.



As the below chart shows, our population is aging—deaths are outpacing births to a significant degree.



Source: Census Bureau Estimates of the Components of Resident Population Change for Counties
Note: Total population change includes a residual that represents change not attributable to any demographic component.

There are fewer young people in our community, and unfortunately, they rarely think of manufacturing as a career path. The jobs visible to young people who are not on the college track are service, retail, driving, health and other similar, low-earning occupations.

Visible Jobs for Youth



Higher earnings potential, rewarding, appealing careers in manufacturing, requiring no degree and no college debt, are much less visible. This is especially true for young women.

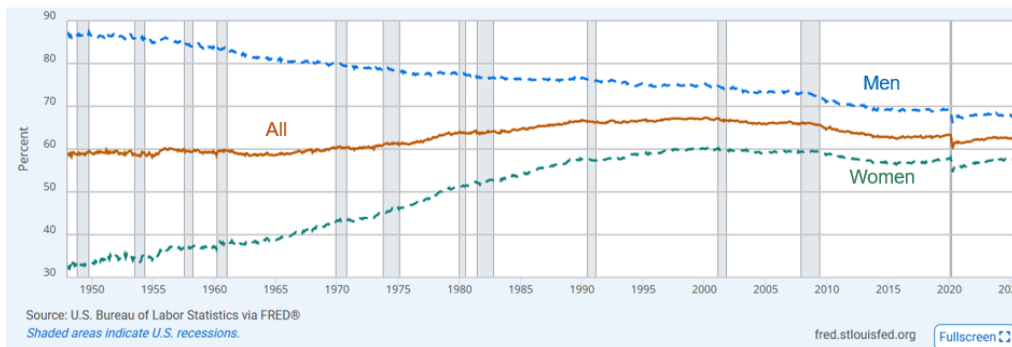


Rewarding, Appealing Careers for Youth



Labor force participation rates tell an interesting story. Men's has been falling since the early years after World War II. Their rate of withdrawal from the workforce has accelerated since the Great Recession and hasn't recovered since the drastic drop off during COVID. Meanwhile, women have picked up the slack and kept the overall labor force participation rate relatively stable. However, their participation in manufacturing roles—especially in today's modern, advanced manufacturing environment—is not widely visible to the public.

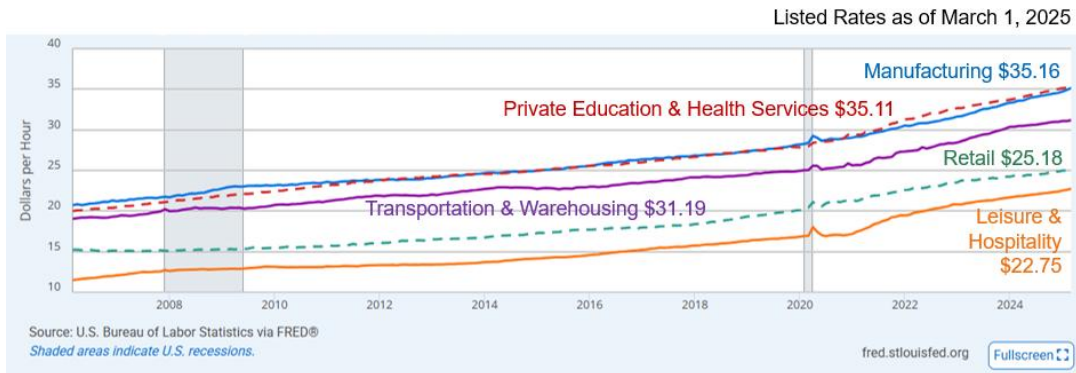
Labor Force Participation Rate



Certainly manufacturing pays. Investigating the highly visible jobs discussed above, these range from \$22.75/hr in Leisure & Hospitality to \$25.18 in retail, \$31.19 in transportation and warehousing, and \$35.11 in private education and health services. Not one pays as highly as manufacturing, which across the US in March 2025 averaged \$35.16 an hour. How many young people would make different career decisions if they understood this data?



Average Hourly Earnings of All Employees



Private Education & Health Services: privately-owned establishments providing instruction and training (e.g. schools, colleges, training centers) / medical care and social assistance.

Against this backdrop, manufacturing employers in our region—including my LMMC colleagues—consistently report challenges in sourcing skilled workers needed for growth, competitiveness, and family-sustaining employment. The gap between training supply and employer demand is especially acute in industrial maintenance and other high-demand manufacturing occupations.

My perceptions:

- Pennsylvania's manufacturing and other trade sectors are facing constant workforce shortages, and skilled trades roles are among the hardest to fill for employers.
- Entry-level positions are very often, with little friction, transitioned into *careers* offering strong wages, comprehensive benefits, clear advancement pathways, and long-term stability. This is advantageous for both employees and employers.
- The demands of today's trades are much more sophisticated and technology-based than ever before, making it more attractive to a modern workforce—but also more challenging.
- Higher education will always have a role in preparing a manufacturing workforce; however, non-degreed skilled trades offer an alternative and attractive pathway for the significant portion of young people who prefer or are better suited to a non-collegiate track.
- Trades programs require far less educational debt—and can often be employer-paid; provide hands-on learning; and graduate students with immediately hireable skillsets.
- Programs like co-ops and apprenticeships allow students to 'earn while they learn', making the trades an attractive way to gain education and experience with little or no cost.
- Career and Technical high school education (CTE) consistently better-prepares students for productive workforce participation or further technical education than standard high school tracks.



Despite these attractive attributes, these technical education paths suffer from outdated perceptions as lower-value, no-future “dumping grounds”, and many young people continue to associate manufacturing career paths with the traditional industrial era, rather than the advanced manufacturing, technology-based, and completely vital work of today. Paradoxically, students graduating with this preparation for a manufacturing or trade career are coveted by employers and are very likely to find gainful employment, whereas college graduates, by all reports, struggle in today’s labor market.

I must recognize that we do see some momentum towards improved popular perception of technical/trade education. A recent trend in non-CTE high schools adding manufacturing-related curriculum, and in rising subscription rates into CTE manufacturing-related paths, indicates improvement. But, we need the trend to accelerate because the challenges are acute.

High Priority Occupations

Data shows persistent shortfalls in annual training completions for electrical, mechanical, and industrial maintenance roles. At Ellwood, retirements, turnover, and expansion projects create a need for dozens of new industrial maintenance hires in the next five years.

Demand is greater than supply based on the Commonwealth of Pennsylvania’s High Priority Occupation (HPO) list (<https://www.pa.gov/agencies/dli/resources/statistic-materials/products/high-priority-occupations>) and New Castle School of Trades (NCST) Graduation & Employment report (<https://www.ncstrades.edu/wp-content/uploads/2025/07/NCST-Graduation-and-Employment-Rates-Per-ACCSC-2024-Annual-Report.pdf>). For example, eighty Electricians and Industrial Mechanics are needed annually in the West Central region (Lawrence and Mercer counties), while only 62 are graduating from these tracks at NCST. Other manufacturing-related HPO occupations in West Central include Welders, Engineers, Inspectors, Machinists, CNC Tool Operators, Machine Tenders, Production and Planning Clerks, and Mobile Equipment Mechanics.

To put this into perspective with Ellwood data, *we expect, conservatively, a need to hire more than 800 direct employees in the Western PA/Eastern OH region over the next five-year period.* (I include Eastern OH due to its geographic proximity and the fluidity of labor across the state line.) This accounts for current turnover trends, which are significantly higher than our traditional single-digit turnover—since the “Great Retirement” and COVID—and a modest ten percent growth trajectory. Note that direct labor signifies those roles that have hands-on impact on production, i.e., operations and maintenance, and excluding office/overhead roles.

Ellwood Needs	<i>Total employee count</i>	<i>Direct employee count</i>	<i>Average turnover</i>	<i>Direct employee turnover over 5 years</i>	<i>+ Modest 10% Growth</i>
Lawrence County	675	309	25%	386	425
Mercer County	247	145	25%	181	199
Eastern Ohio	221	128	25%	160	176
	1143	582		728	800
					Total direct hiring needs over 5 years

*Direct labor = employees engaged in "hands-on" work



Solutions that are Working

I want to recognize that an enormous amount of work has been and continues to be undertaken by our schools and educators, policymakers, community organizations, trade organizations, and manufacturers to address these challenges.

You will read testimony from Julie Michael Smith, Coalition Manager of LMMC, detailing some of the effective actions that industry, education and community partners have undertaken together. The most compelling programs tend to address either work/learn opportunities or raising career awareness, such as:

- The Forward Lawrence and Penn College of Technology *Advanced Manufacturing Pre-Apprenticeship* (AMP) high school program in Lawrence County; LMMC is spearheading expansion of AMP to Mercer County this year.
- LMMC's *Manufacturing Readiness Pre-Apprenticeship (MRPA)* with Butler County Community College and Goodwill, seeking to fill a gap in basic manufacturing-ready skills.
- *What's So Cool About Manufacturing (WSCM)* video competition for middle schoolers

Manufacturers understand that a critical step forward is raising career opportunity awareness, but we struggle to tell a compelling story to a wide audience, especially in a crowded and divided public message sphere. WSCM and our other collaborative efforts through LMMC are a start.

Critically, the state's implementation in 2025-2026 of updated K-12 standards integrating STEM disciplines with real-world engineering and career-ready skills, requiring more hands-on, project-based learning aligned with industry needs, has already made a positive impact. Ellwood and our fellow manufacturers support this direction and are participating with our local schools to assist in the hands-on elements.

Policy Recommendations

To close the gap between Pennsylvania's workforce needs and the number of individuals pursuing skilled, hands-on industrial careers, the most meaningful action the Commonwealth could take would be to help shift the public perception of modern manufacturing through increased public outreach and continued attention to educational improvements. Manufacturing continues to be a viable, essential, and stable industry, and today's manufacturing careers are modern, appealing, rewarding, and accessible—but that message is not widely understood by students, families, educators, or community influencers. Outdated narratives persist, even as industry has transformed.

The state can play a critical role in helping manufacturers reshape this narrative by assisting us in elevating the visibility, dignity, and perception of long-term value of careers in the skilled trades. Some concepts of what that might look like:

- Supporting public-facing awareness efforts that highlight what manufacturing looks like today—advanced technology, automation, robotics, AI enabled production—all in highly critical industries with strong futures. These stories resonate deeply with students and parents, but too few have the opportunity to hear and see them. Manufacturers and industry need assistance producing and distributing more impactful messaging that reaches a broader audience.



- Helping manufacturers reach the influencers who shape career decisions for young people: educators, guidance counselors, coaches, and families. If these adults have a clearer understanding of the breadth of opportunity in manufacturing—competitive wages, stable employment, debt free entry points, and pathways for continuous advancement—they can help open doors for more students.
- Investing in statewide campaigns, regional partnerships, or digital platforms that celebrate local career success stories and show Pennsylvanians what it means to “make real things” in their own communities. These efforts can reinforce a positive identity for the trades and amplify models that already work, such as student plant tours and hands-on exposure programs.
- Continuing to extend recent improvements in career-focused, real-world skills and engineering-related curriculum requirements and guidance.
- Supporting sustained engagement between employers and schools—whether through awareness events, regional manufacturing days, industry speaker programs, student design challenges, internship experiences, or digital content initiatives—ensures that young people see manufacturing as a first class, future focused career choice.

These actions, taken together, represent one of the most impactful ways the Commonwealth can help manufacturers address workforce shortages. By elevating the visibility of modern skilled trades, Pennsylvania can inspire more young people to pursue high-tech, hands-on careers, help families understand the opportunities available close to home, and reinforce the message that manufacturing is not only part of our past—it is an essential, thriving part of our future.

Conclusion

Your Committee’s focus on workforce development in the skilled trades is both timely and essential. With strategic, employer-driven policy support, Pennsylvania can strengthen our manufacturing competitiveness, expand access to family-sustaining careers, and build a resilient talent pipeline for the next generation.

Thank you for the opportunity to provide testimony and for your leadership in this important work.