



Pennsylvania House Select Subcommittee on Technical Education and Career Readiness

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Testimony from

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Introduction

The recently released report, *Inflection Point: Supply, Demand and the Future of Work in the Pittsburgh Region*, provides the first comprehensive, forward-looking assessment (2015-2025) of the Pittsburgh region’s transforming workforce. The Allegheny Conference’s Workforce Steering Committee, chaired by Bill Demchak (Chairman, President and CEO of PNC Financial Services Group, Inc.) commissioned Burning Glass Technologies, a leading labor market analytics firm with unique workforce-related analytical tools, to undertake the workforce supply and demand study. The report uses both quantitative and qualitative data to assess the region’s strengths, weaknesses, opportunities and threats for the workforce over the next decade.

Workforce Shortage Ahead

The report’s projection of industry demand for workers versus the potential number in the pipeline is sobering, made even more so by the exponential change technology is having on every occupation, increasing the demand and skills for some jobs, and reducing demand for others. The workforce outlook is as follows:

WORKFORCE OPENINGS	10 YEAR TOTAL 2015-2025
Baby Boomer Retirements, 29,000/year	290,000
Job Growth, 5,000/year	50,000
	TOTAL= 340,000

PIPELINE	10 YEAR TOTAL
Ten County High School Graduates 26,000/year	260,000
	POTENTIAL SHORTFALL= 80,000

Changing Skill Demands

Inflection Point notes that not only will there be a shortage of workers over the next ten years, but much of the existing pipeline will not be adequately prepared for rapidly changing occupations requiring new skills and competencies across all industry sectors.

Digital skills and customer service skills will be in high demand in all occupations and industries, becoming essential baseline skills for all workers. Burning Glass’s proprietary software scans more than 50 million job postings per year, illuminating in great detail, in real time, exactly which skills,

competencies and credentials employers are asking for today. In contrast, publicly available labor data, used in nearly all workforce reports, lags, often by two or more years.

In addition to increasing technical skills, employers are beginning to blend diverse skill sets into a single occupation where in the past, each skill may have represented a single, unique job. For example, Information Technology (IT) now requires far more than technical skills: in Business and Financial Services, IT workers will be required to have an understanding of the company's business model in order to understand how technology solutions tie into business functions. In utilities, field technicians will work from hand-held devices that connect to the central system and will now be expected to have direct interface with customers, requiring customer service skills that previously were assumed by call center workers.

As healthcare systems move away from the traditional acute care/hospital focused delivery to long-term wellness, building relationships with patients will become increasingly vital for every occupation whether it be entry level or the most senior MD. Healthcare leaders indicate that Certified Nursing Assistants (CNAs) and Licensed Practical Nurses (LPNs) are often the first point of contact for patients and family members. Their patients are becoming their long term customers. While our CTEs and postsecondary training providers excel at clinical training, an entirely new skill set (customer service) must have new curriculum that becomes embedded in the healthcare training pipeline.

The ability to mine real-time job postings also revealed a worrisome trend that is called "upcredentialing." In the absence of being able to verify baseline skills for which we have no clear achievement indicators (such as teamwork, customer service, leadership), employers are increasingly using degree attainment (and most often a four-year degree) as a placeholder. Usually this occurs for positions where no credential or a lesser credential would previously have sufficed. This can eliminate otherwise qualified candidates from consideration based on a degree requirement. It constrains opportunities for upward mobility, increases time to fill jobs, and impacts starting salaries. More communication between training providers and employers is needed in order to have a mutual understanding of skill requirements for the workforce.

Finally, workers need to be increasingly nimble and agile as they progress through their careers and adapt to changing technology and a changing market. Workers will need to broaden their skill set, or "upskill" to keep up with these changes and adapt to new conditions. That call for agility applies equally to our education and training providers who will need to respond effectively and quickly to the rapid pace of innovation in the workplace.

The Importance of Career and Technical Education

As technology drives change and disrupts entire sectors, occupations will increasingly require technical skills in order to keep pace, and the CTE system can and should be central to preparing the worker pipeline. While the current secondary-level CTE system is providing students with valuable skills, and in many cases industry-recognized certifications, more must be done to strengthen it and to make the system able to respond to new requirements in a competitive timeframe.

Too often the lack of current and transparent data about where demand will be and where it won't be results in a supply and demand mismatch (see below). All students should have access to relevant and current data from which to make career choices so that their pathway is chosen with clarity and realistic expectations.

Cosmetology

CTE Enrollment	Projected Annual Openings	Avg. Salary
1,215	1,240	\$23,171

Machine Tool Technology

CTE Enrollment	Projected Annual Openings	Avg. Salary
358	777	\$37,520

The region’s cosmetology enrollment is meeting demand, but the average salary is low and upward mobility is limited. On the other hand, enrollment in the machine tool technology program falls far short of real industry demand. Occupations that align with this program have a significantly higher average salary and many opportunities for upward mobility.

A significant impediment to building a larger skilled worker pipeline is persistent negative perception about opportunities afforded through CTE. Students, parents and some educators often steer those who may be interested in a CTE program away, and negatively impact CTE enrollment. In the Allegheny Conference’s study, *Mapping a Pathway: Regional Career and Technical Education for Occupations in Energy and Manufacturing*, we found that often cited negative views include:

- CTE is not for those that are college bound and in fact may preclude college.
- Courses taught at a career and technology center are usually for dirty and dangerous occupations.

While these views can be pervasive, they are not accurate representations of CTE today. Many skills taught at CTCs are for high-tech occupations that are in high demand, require technical knowledge (and overall strong STEM skills) and which pay well. CTE graduates have the option to begin their career with an industry-recognized certification earned while in high school, or to go on to post-secondary training which could include earning an Associate degree, Bachelor’s degree or higher. We believe that any level of post-secondary training should be considered “college.”

Since the March 18, 2016 Pennsylvania House Subcommittee on Technical Education and Career Readiness, the Allegheny Conference has been working with regional CTE directors to begin to frame and develop common messaging about the benefits of CTE designed to attract more students to their programs. The plan will also target parents in an attempt to change attitudes. Consensus points from the group include:

- CTE’s strength is that it provides excellent opportunities for students to move on to post-secondary education through articulated college credit, cost-effectiveness and real-life industry exposure.
- A weakness identified by the group was the inability of CTCs to create new programs in response to rapidly changing market demand. Programs submitted for approval often “get caught in bureaucratic red tape” and can take up to two years to be approved.

- Discussions with the group on strategies to strengthen CTE in the near future showed that many directors were interested in building a better alliance with the “maker movement” which is not currently closely associated with CTE. This is not competitive.

Too often, students and parents are unaware of the career and post-secondary options available to them, particularly a lack of awareness of seamless college pathways via articulation agreements that can allow CTE graduates to go on to post-secondary training while preserving credits already earned. Just as importantly, students and parents need to understand the benefits of these options which often include a significant amount of time and money saved.

The Allegheny Conference is currently developing concepts for a digital Jobs Data and Career Awareness Hub that when completed, will cater to many different audiences and allow students and other users to explore careers, career pathways and education/training providers based on the current and projected workforce demand data in *Inflection Point* in order to help them make well-informed decisions about their future.

Recommendations

Inflection Point: Supply, Demand and the Future of Work in the Pittsburgh Region is an important call to action. With its findings in mind, the Allegheny Conference puts forth the following recommendations:

Improve and Increase Marketing for Seamless Pathways to College

Articulation agreements and other tools that provide seamless pathways to postsecondary education must be kept reliably up to date and reviewed annually, and be transparent for students and parents and easily accessible.

An improved online experience for articulation agreement searches and more effective career counseling to give students clearer college and career pathways is also highly recommended. *Mapping a Pathway* revealed that lack of awareness of college credit availability and how it can be linked to CTE is widespread. Deeper direct engagement of employers with career counselors, educators and students can help to change negative stigma.

Support Strategic CTE Grants

There are many funding and policy issues relating to CTE that must be addressed to both modernize and upgrade technical education. However, the need to better align supply and demand is urgent and cannot be put off until systemic solutions can be determined and created at the state level. Using funding to encourage new and best practices focused on high demand occupations can stimulate immediate and important improvements. Therefore, we urge the approval of the governor’s proposed CTE grants for innovation, equipment and counseling to support CTE programs, but focus them on occupations that are market relevant and teach high demand skills.

Innovation Grants

- Grants for school districts that specifically indicate their commitment both to meaningful employer engagement and a willingness to act as a laboratory for best practices and new ideas should be favored. A willingness to share outcomes, both positive and negative, should also be determining factor.
- Often students who have completed rigorous training find themselves unable to afford to take expensive industry-recognized certification tests offered by CTCs. Funding should be made

available to support these certifications for high demand occupations. These credentials can clearly show employers that they have advanced skills in the newest technology.

Equipment Grants

- With consultation with their occupational advisory committee, CTCs should have state-of-the-art equipment in which to teach skills in high-demand. However, these grants could also introduce a new capacity to see how equipment could be shared among schools, including community colleges, creating a far superior ROI for public dollars.

Counseling Grants

- Effective and customized career counseling is needed to help students identify industries that have a high-demand for workers and will allow for upward mobility. The digital career hub could enable counselors to meet the Pennsylvania Department of Education's requirements (339 Plan) for career planning.
- Career Counselors are too often overwhelmed by their myriad duties, and in many schools, the ratio of counselor to students exceeds 350 to 1.
- Career Counselors need current job demand and salary data as well as effective and forward-looking information about what occupations are actually like to help students envision what their careers might be. This could also help to better inform parents about what future career opportunities can be accessed with technical training.

Conclusion

Inflection Point: Supply, Demand and the Future of Work in the Pittsburgh Region has demonstrated the need for the workforce to be able to adapt to a rapidly changing labor market that is largely due to the exponential changes in technology. Career and Technical Education's role in assuring the workforce is ready for these changes is of the utmost importance. A workforce that is technology minded, customer service oriented, aware of leadership growth and upward mobility, and is agile and nimble in adapting to changing market conditions is a workforce that will thrive into the future.