

## WHO IS?

### A.W. Beattie

- Offers advanced technical training, career development, business ethics and career-related employment opportunities in 16 technical areas.
- Serves high school students from Avonworth, Deer Lakes, Fox Chapel Area, Hampton Township, North Allegheny, North Hills, Northgate, Pine-Richland, and Shaler Area.
- Students may enroll in a one, two, or three year technical program and must have completed the ninth grade in his/her memberhigh school.

Please visit our website for additional details about Beattie initiatives and updates to the renovation:  
[beattietech.com](http://beattietech.com)

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### TRWIB, INC.

- Informs decision-making on regional development to ensure that current and future market needs of businesses and job seekers are met by:
  - Acquiring, managing, interpreting, and sharing relevant workforce data
  - Identifying and researching critical workforce issues
  - Consulting and advising on public policy with employers and employment sectors.
- TRWIB, Inc. serves several fundamental roles in the region:
  - *Policy Advisor* – for local and regional economic development and urban planning decisions
  - *Private Consultant* – for businesses, educational organizations and other non-profit organizations
  - *Data Master* – through data acquisition, management, and specialized analysis of local, national and international workforce and labor market statistics
  - *Researcher* – by bringing to the forefront and examining critical issues about the local, regional and national workforce
  - WIA (Workforce Investment Act) Administrator – through administration of an intricate set of federal and state workforce funds allocated to workforce development research, projects, services and WIA compliance and monitoring

Board members, appointed by the mayor of Pittsburgh and the chief executive of Allegheny County, include a mix of private and public sector organizations. Please visit our website for additional details about this research and other TRWIB, Inc. initiatives: [trwib.org](http://trwib.org)

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## EXECUTIVE SUMMARY

### SW PA Labor Market: Applications for Beattie



How can a school best prepare their students for the global economy? What kind of skills and knowledge will give youth today the best foundation for success? These are the types of questions A.W. Beattie Career Center asked TRWIB to see if we could help with a decision about renovating the school's 40 year old building. For more

than a year, several renovation plans were scrutinized about why and how the building needed to be upgraded with an investment of over \$20 million on the table. Considering the sizeable amount of resources required, Beattie's board and sending schools wanted to ensure that the changes they would make would reflect the best knowledge of what the southwestern PA labor market demands. The goal of the TRWIB analysis was to give Beattie decision-makers an in-depth understanding of the current and projected labor market as they considered this major investment.

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## THE OUTCOME

### Beattie school renovation approved and work could start in spring 2009

~Pittsburgh, PA – April 2008 - After several years of vetting many renovation options, the nine school districts that comprise the Beattie coalition approved spending \$21.6 million to upgrade the school north of Pittsburgh.

**"I think the thing that clinched the deal was when we got the Three Rivers Workforce Investment Board study," said Ms. Ingram, Beattie Administrative Director<sup>1</sup>,** because it showed that the school's selection of programs were on the right track. Beattie's sending school districts gained confidence in the overall Beattie strategy.

### HOW DID WE ADVISE BEATTIE?

We examined specialized labor market and economic data to help guide Beattie's decision about renovation. The pivotal findings were as follows:

- Beattie's programs are in line with the regional labor market.
- There are 16 critical Knowledge, Skills and Abilities (KSAs) shared by all growing regional occupations.
- 18 occupations were identified for Beattie's future consideration.

These findings had implications for Beattie's programs, facility use, the school's business strategy, and ultimately career education for the region. Detailed findings are available at [trwib.org](http://trwib.org).

## ABOUT THIS RESEARCH

### The Business Questions

As they considered renovation to their facility, A.W. Beattie Career Center asked TRWIB, Inc. to provide decision support. TRWIB was asked to help guide the decision by supplying intelligence about labor market dynamics, growth potential for occupations, critical skills and general expertise about career education. The data and analysis were intended to provide a deeper understanding of the current and projected labor market to help Beattie reach a decision about appropriate programming that would affect decisions regarding changes to the building.

### How Do Current Labor Market Dynamics Impact the Next Workforce?

More specifically, we set out to help address the following questions based on existing labor market data and other specialized research sources:

- What occupations will southwestern PA's labor market most likely demand in the short and long term?
- To enter the labor market or for further education, what are the basic KSAs (Knowledge, Skills, Abilities) students need to obtain at Beattie?
- What are the opportunities for Beattie?

## THE RESEARCH APPROACH

Our approach was comprehensive and relied on multiple data sources and research methods:

- Industry cluster analysis (more than 300 industries analyzed)
- Occupational cluster analysis (more than 780 occupations analyzed)
- Knowledge/Skills/Abilities (KSA) analysis - more than 2,000 unique KSA combinations/sets analyzed
- Expert opinion panel (13 regional and national professionals consulted)
- Lessons Learned (TRWIB's regional career education initiatives evaluated)
- Literature Review (national research of best practices compiled)

## STUDY HIGHLIGHTS – WHAT WE LEARNED ABOUT THE MARKET

Based on several criteria including size, growth, concentration, projections, and Beattie's current offerings, our goal was to bring to the surface promising occupations for Beattie to consider. These occupations are listed in Table 1. From the occupations listed in Table 1, TRWIB advised Beattie to consider offering a business administration and a sales/customer service program, since the majority of the occupations in Table 1 could fit into those two categories.

- There are about 1.5 millions jobs in the 10 county region defined as Allegheny, Armstrong, Beaver, Butler, Fayette, Greene, Indiana, Lawrence, Washington & Westmoreland. The majority of 2006 jobs were in office and administrative support occupations (230,242) followed by sales and related occupations (190,965) and food preparation and serving related occupations (115, 043). Fewer jobs were found in: farming, fishing, and forestry (1,316) and military occupations (8,209). [Source: Strategic Advantage 2007, Users' Manual, EMSI, Inc. www.economicmodeling.com/].
- Allegheny County accounts for 70% of the growing industries in the SWPA region. Furthermore, it contains more than half of SWPA's employers, and it provides a more diverse look at industries. (Source: CWIA).
- We found that Beattie's current programs are in line with the regional labor market, but we also provided Beattie with program opportunities. We identified 62 growing occupations based on size, growth, and concentration as a start. We then looked at projection levels for those 62 occupations into 2017 and removed all occupations that had negative growth over the next ten years. We were left with 31 occupations, and we compared these 31 occupations to the programming Beattie already offered, through which we found Beattie already offered training in 13 of them. The remaining 18 occupations for Beattie to consider are shown in Table 1.

**Table 1 - 18 OCCUPATIONS IDENTIFIED FOR BEATTIE'S CONSIDERATION**

Occupation	2006 Jobs	2017 Jobs	% Change from 2006-2017	Median Hourly Earnings
Chief executives	8,612	9,055	5%	\$49.51
Lawyers	9,020	10,412	15%	\$42.90
General and operations managers	9,345	9,874	6%	\$35.93
Financial managers	4,845	5,056	4%	\$34.38
Postsecondary teachers	16,423	22,188	35%	\$32.47
Management analysts	10,713	11,791	10%	\$28.08
Managers, all other	11,760	12,313	5%	\$27.73
Business operation specialists, all other	4,967	5,728	15%	\$23.81
Accountants and auditors	14,529	5,728	8%	\$22.69
Sales representatives, wholesale and manufacturing, except technical and scientific products	17,842	18,200	2%	\$21.91
Insurance sales agents	7,574	8,094	7%	\$18.26
Property, real estate, and community association managers	6,468	7,973	23%	\$15.60
Truck drivers, heavy and tractor-trailer	15,253	15,455	1%	\$15.44
Real estate sales agents	10,322	12,847	24%	\$15.19
Executive secretaries and administrative assistants	9,710	9,853	1%	\$14.74
First-line supervisors/managers of retail sales workers	18,048	19,181	6%	\$14.32
Customer service representatives	23,080	25,934	12%	\$11.82
Receptionists and information clerks	13,091	14,693	12%	\$8.96

## THE BIG PICTURE

### Knowledge, Skills and Abilities (KSA)

Our next step was to analyze the knowledge, skills and abilities (KSAs) associated with all growing occupations using O\*NET.

O\*NET, the nation's primary source of occupational information that includes a continuously updated database of hundreds of standardized and occupation-specific descriptors, defines Knowledge, Skills, and Abilities (KSAs) as the "attributes required to perform a job and are generally demonstrated through qualifying service, education, or training".

- **Knowledge** - A body of information applied directly to the performance of a function.
- **Skill** - An observable competence to perform a learned psychomotor act.
- **Ability** - Competence to perform an observable behavior or a behavior that results in an observable product.

(Definition by U.S. Department of Labor - Employment & Training Administration)

Each occupation is associated with a specific set of KSAs ranked on a scale from very important, important, somewhat important to not important. The purpose of our analysis was not only to review the KSAs a person needs for any one of the growing occupations identified in this research, but more importantly to find out if there is an universal set of KSAs needed for all of the growing occupations.

[Source: collected by the US Department of Labor/Employment and Training Administration (USDOL/ETA) and stored in O\*NET; www.onetcenter.org/overview.htm]

Several core KSAs emerged in our analysis and are highlighted in Table 2.

These KSAs appear across all growing occupations and show a blend of both soft skills and academic skills. Blending soft skills and academic skills is vital for the future of career education. This topic emerged when talking with our expert panelists, including the National Center on Education and the Economy, and through our own national and local research that we conducted to form the TRWIB Work Ready Competencies, a set of workforce skills needed by young people joining the workforce.

**Table 2- KSA's Across All Growing Occupations**

Knowledge	Skills	Abilities
English Language	Active Listening	Communication Clarity
Mathematics	Coordination	Information Ordering
Administration and Management	Reading Comprehension	Problem Sensitivity
Customer and Personal Service	Critical Thinking	Written Comprehension
	Learning Strategies	
	Time Management	
	Judgment Decision Making	
	Speaking	

The results of these 16 core KSAs offer a broad base for curriculum adjustments and represents potential for both secondary and post-secondary career pathways.

### Conclusion

According to the Bureau of Labor Statistics (BLS) at the national level the makeup of new and replacement jobs in 2017 are as follows:

- 55% will only require some amount of OJT
- 25% will require more than high school, less than a Bachelor's degree
- 20% will require Bachelors degree or higher

In such an economy that values technical skills and practical abilities, it is critical for our youth and our region's economic health that our education and technical preparation are world-class. Through a data-driven analysis, TRWIB is confident that one key asset for this work is career and technical education such as A.W. Beattie offers.

Career and technical education must be considered an important resource among business leaders, policy makers, educators, parents and students in order to provide relevance to education and competitiveness to our workforce.