

Supply and Demand in Pittsburgh's Middle Ground

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Supply and Demand in Pittsburgh’s Middle Ground

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Overview

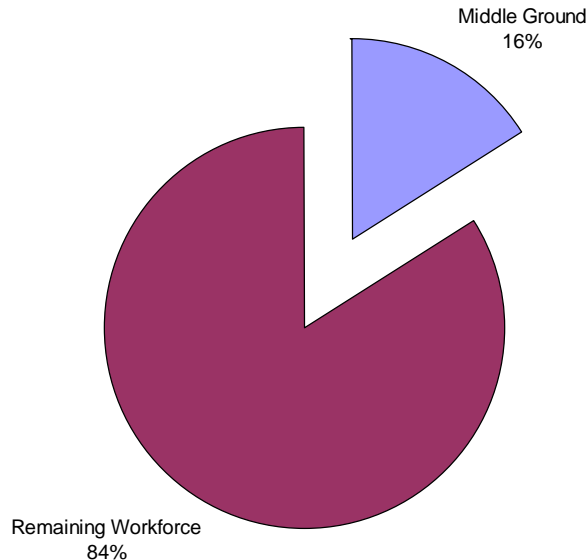
Tuition at Pittsburgh’s four-year public universities is high – 59 percent higher than the national average. And while higher education costs can usually be offset by higher incomes, this is not the case for Pittsburgh. Average wages in Pittsburgh are lower than the national average, and this is not accounted for by lower costs of living.

In addition, studies have shown that many high school students are interested in finding careers that pay well, but that do not require a college degree, and that it can be difficult for students to find information about these careers. We have identified occupations that do not require a college degree, but that pay above \$33,010, the average wage in the Pittsburgh MSA at the time of our study. This paper is a study of these jobs, which we have classified as the “middle ground”.

Description

There are estimated to be more than 170,000 jobs in the middle ground in the Pittsburgh region. Comprising 16 percent of the total workforce, occupations in the middle ground do not require a four-year college degree, but pay above-average annual wages.

Middle Ground as Percentage of Workforce



Instead of four years of college, jobs in the middle ground require some form of post secondary vocational training, on-the-job training, or an associate’s degree. There is a great deal of variety in the middle ground; occupations range from radiation therapists

to chefs and head cooks to cement masons to crane and tower operators. Average compensation for middle ground occupations is 25 percent higher than average wages for the total workforce.

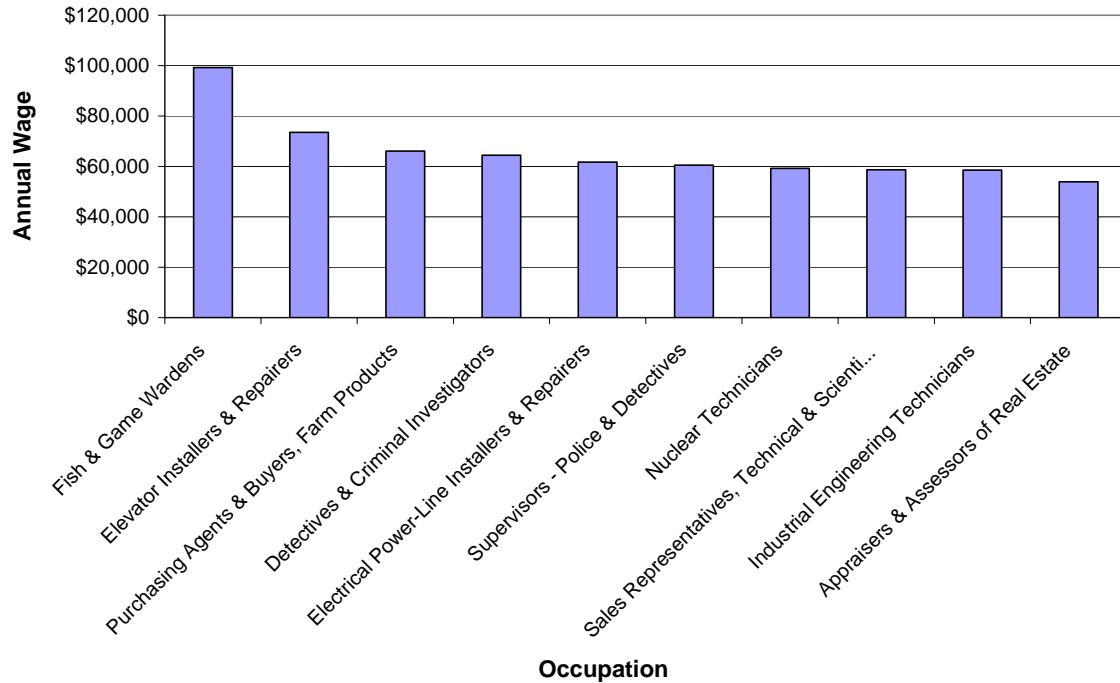
The occupation with the highest number of employees in the middle ground is registered nursing; there are over 23,000 registered nurses in southwestern Pennsylvania earning an average wage of \$43,320. Other major occupations include heavy and tractor trailer truck drivers, supervisors of office and administrative support workers, and sales representatives for technical and scientific products. These four occupations account for nearly 35 percent of the middle ground, and nearly six percent of the total workforce.

Top 10 Occupational Categories in the Middle Ground with Highest Employment



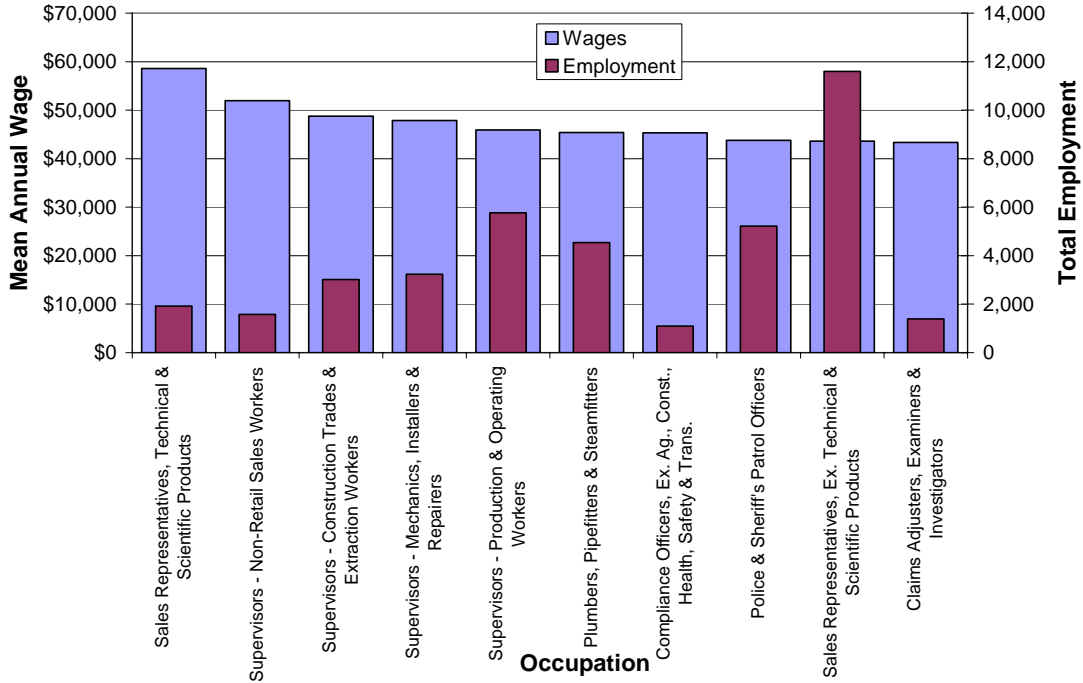
The average annual wage in the middle ground amounts to more than \$41,000 while the average annual wage of the total workforce is \$33,010. Wages in the middle ground range from \$33,000 to nearly \$100,000. Fish and game wardens make nearly \$100,000 annually and meter readers earn a little more than \$33,000.

Top 10 Wage Earners in the Middle Ground



Although fish and game wardens are well compensated, there are not a lot of them. It is more useful to examine high-paying occupations with a presence in the region. The highest paying occupations in the middle ground that have a substantial presence in the region (employing over 1,000 workers) are sales representatives, supervisors of production workers, plumbers, police officers and claims adjusters.

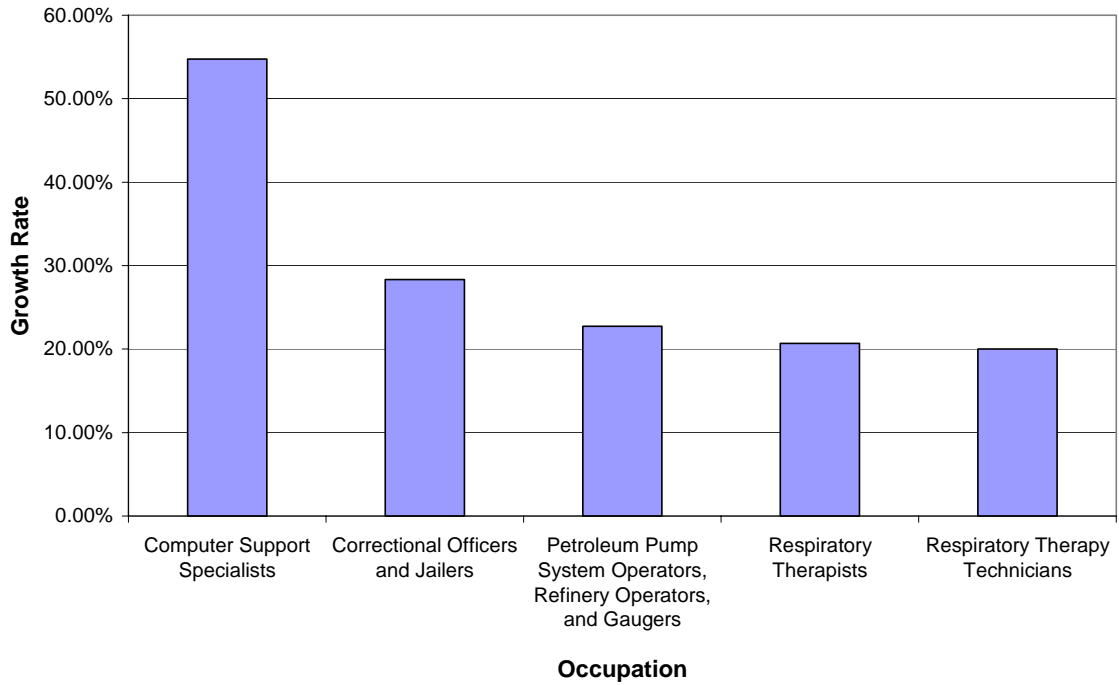
**Highest Paying Occupational Categories in the Middle Ground with
Employment > 1000**



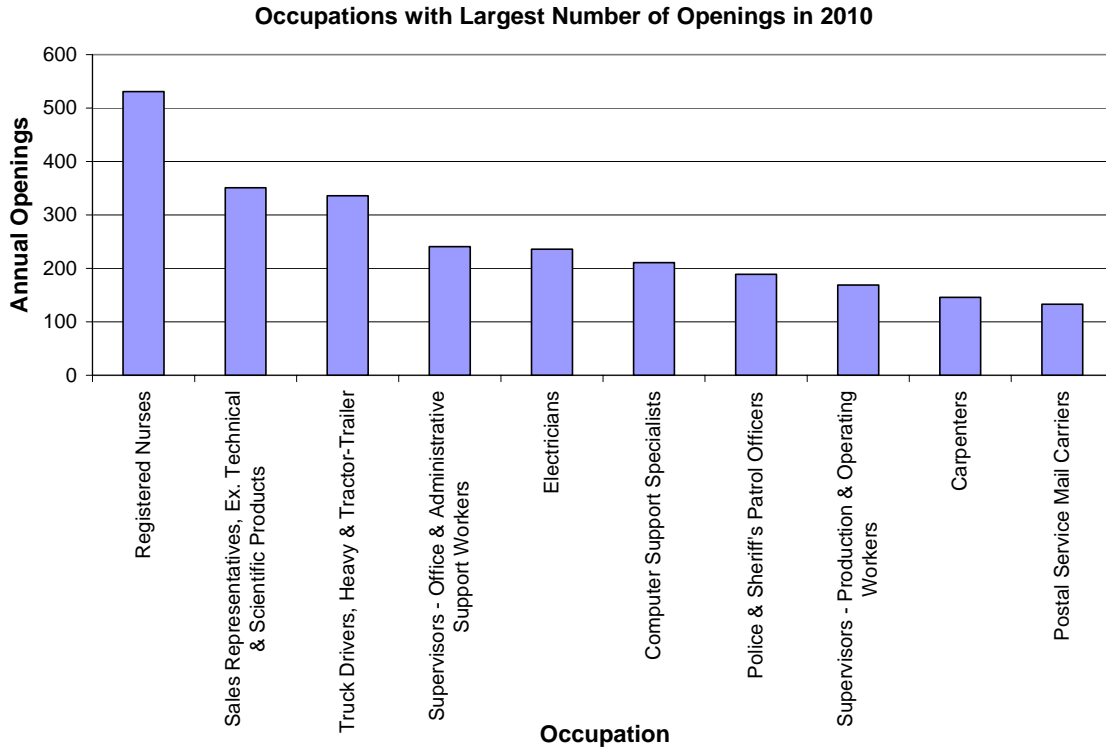
**Demand:
Is the Middle Ground Growing?**

According to employment growth projections computed by Pennsylvania's Department of Labor and Industry, the middle ground category that will grow the most in the next decade is computer support specialists; the number of computer specialists is projected to increase by nearly 55 percent by 2010. Insurance claims and policy processing clerks will see the biggest drop in jobs. Jobs in the middle ground will grow nearly six percent by 2010 while jobs in the total workforce will increase by four percent in the same period, increasing the percentage of the total workforce comprised by the middle ground.

Occupations with Highest Projected Growth Rate



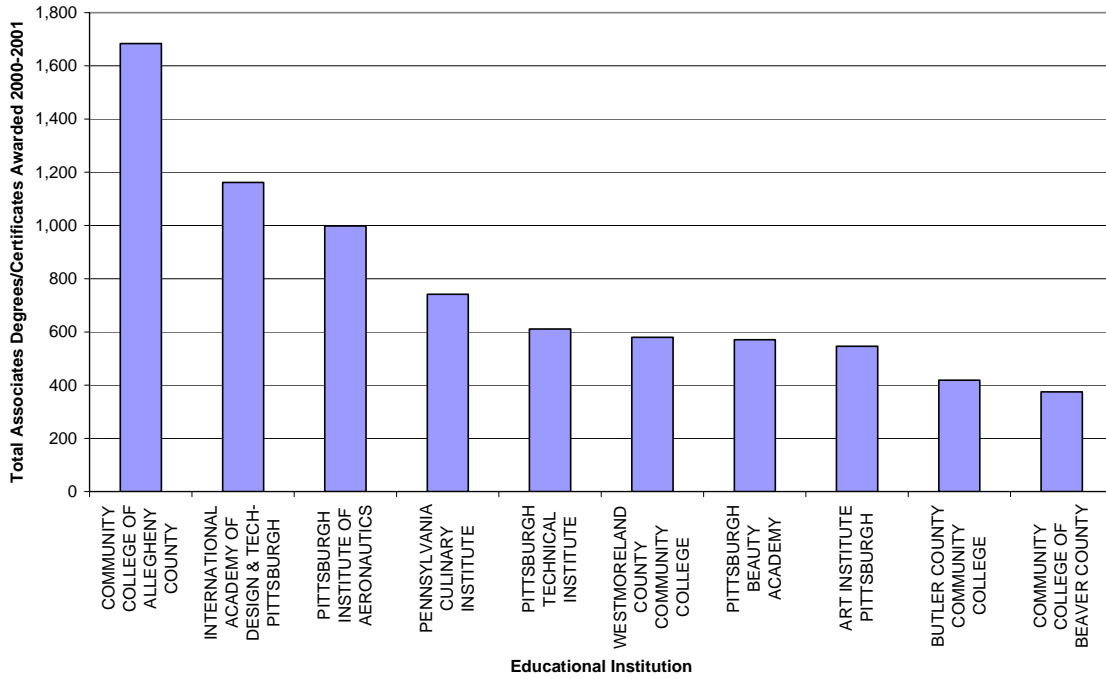
Examining occupational demand in terms of job openings (an occupation with low growth but high turnover could have more openings than an occupation with higher growth), the middle ground shows promise. More than 15 percent of the projected annual openings for the next decade in southwestern PA will be in the middle ground. Registered nurses have the largest projected number of annual openings, followed by sales representatives, truck drivers, and administrative supervisors.



**Supply:
Training Workers for the Middle Ground**

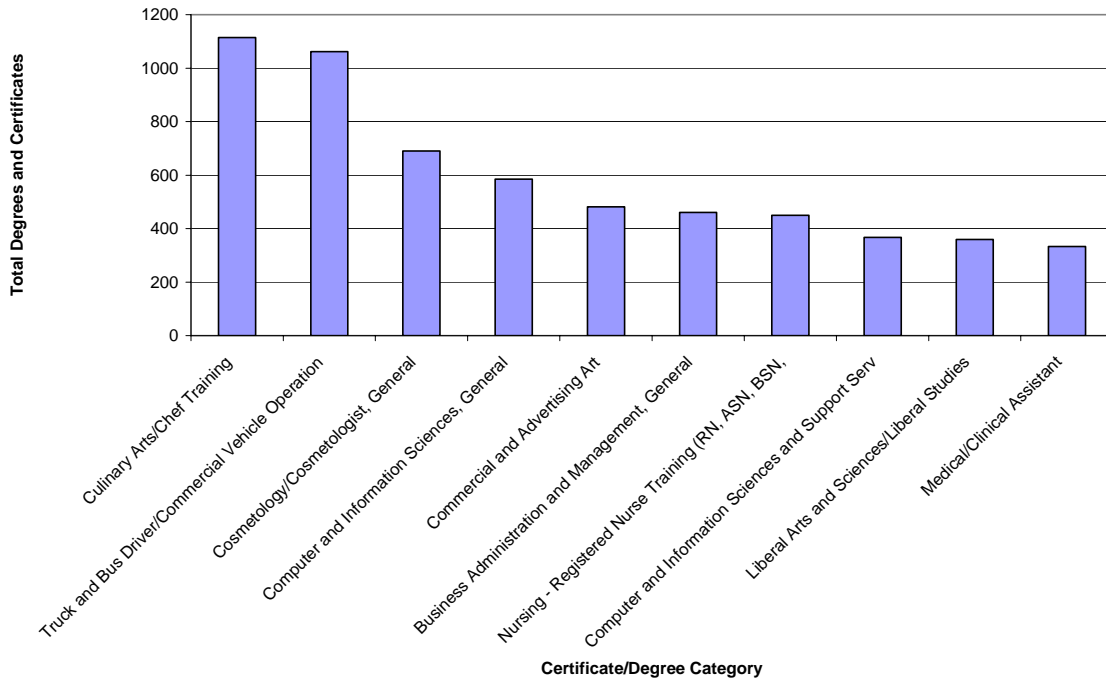
What infrastructure exists in Pittsburgh to train workers for the middle ground? There are currently 67 institutions offering either associate's degrees or certificates in the Pittsburgh MSA. These institutions include beauty schools, nursing schools, community colleges, and universities. The institution offering the highest number of associate's degrees and certificates is the Community College of Allegheny County; other major training providers include the International Academy of Design of Technology (Pittsburgh), the Pittsburgh Institute of Aeronautics, and the Pennsylvania Culinary Institute.

Major Training Providers in the Pittsburgh MSA



These institutions offer associate's degrees and certificates in 237 subject areas. The most popular area is culinary arts and chef training – over 1,000 degrees were conferred in this area in 2000. The top ten occupational categories in terms of associate's degrees and certificates are shown in the graph below.

Total Associates Degrees and Certificates in the Pittsburgh MSA, 2000-2001



Because there is so much variety within the middle ground, it is useful to focus on occupations for which projected demand in the Pittsburgh region is high.

Nurses

The occupation with the highest annual number of openings is nursing. This situation is not unique to Pittsburgh; with a growing elderly population and an emphasis on increasing the role of nurses in the health care field in order to bring down costs, there are nursing shortages all over the United States. However, because of Pittsburgh's relatively high proportion of elderly residents, the need is especially pronounced.

The Pennsylvania Department of Labor and Industry projections indicate that registered nurses will continue to see the highest number of annual openings in the Pittsburgh MSA. Currently, receiving training to become a registered nurse appears to be popular but in terms of number of degrees awarded, less people are being trained in nursing than in culinary arts, computer and information sciences and cosmetology.

Four hundred and fifty associate's degrees for registered nurses were conferred in the Pittsburgh MSA in 2000. There are 12 institutions in the area that offer training for registered nurses. Community College of Allegheny County trained the most nurses with 172 degrees in 2000, followed by Butler County Community College with 53 and Westmoreland County Community College with 46.

Computer Support Specialists

The Pennsylvania Department of Labor and Industry projects computer support specialists will see the highest growth in the Pittsburgh MSA. It is estimated that the region will have openings for more than 200 Computer Support Specialists every year through 2010.

Of the several degrees that train workers for this occupation, only a few are offered in Pittsburgh region – namely computer engineering technology, computer systems technology and data processing. A total of 137 degrees for computer support specialist related fields were awarded in the Pittsburgh region in 2000. Five institutions in the area offer courses towards these degrees. ICM School of Business and Medical Careers conferred the most degrees with 51, followed by Westmoreland County College and Community College of Allegheny County with 33 and 32 respectively.

Healthcare Technicians

The health care industry in Pittsburgh is growing at a rapid pace and with it grows the need for trained healthcare technicians. Ranging from dental hygienists to veterinary technicians to nuclear medicine technicians to clinical technicians, most of these occupations require associate's degrees and offer annual wages ranging between \$35,000 and \$47,000.

In the Pittsburgh region there are nearly 1,600 dental hygienists and the number is expected to grow to nearly 1,800 by 2010. State projections estimate that the region will have more than 40 openings for dental hygienists every year through 2010. There are 1,550 radiologic technicians, nuclear medicine technicians and diagnostic medical sonographers in Pittsburgh; by 2010, combined employment in these occupations is expected to grow by more than 21 percent to reach 1,880.

Several institutions in the region provide training for healthcare technicians. Overall, Community College of Allegheny County is the primary training provider of healthcare technicians. The University of Pittsburgh (main campus) and Westmoreland County Community College (the only other institute in the area that offers associate's degrees for dental hygienists) together conferred 64 degrees in 2003. The Community College of Allegheny County offers the largest program for diagnostic medical sonography, medical radiologic technology and nuclear medical technology in the region. Forty-five percent of the degrees awarded in these fields in 2000 were awarded by the Community College of Allegheny County. Some schools are more specialized; the Ultrasound Diagnostic School provides training in diagnostic medical sonography, while the Washington Hospital School of Radiology provides training in medical radiologic technology.

Carpenters/Electricians

Carpenters and electricians are occupations often overlooked in the middle ground because they appear less glamorous. However, examining the numbers reveals that these occupations provide competitive wages and have consistently high demand. Carpenters make an average of nearly \$41,300 annually and electricians earn approximately \$43,300 annually. There are over 5,000 carpenters in the Pittsburgh region and the number is expected to grow to more than 7,000 by 2010; there are more than 6,500 electricians and

the number is expected to grow to more than 7,700 by 2010. In terms of projected openings, both carpenters and electricians figure in the list of the top 10 occupations in the middle ground with the highest number of annual openings. According to state projections, there will be 146 annual openings for carpenters and 236 for electricians, through 2010.

While some carpenter and electrician positions require long-term on the job training, it is possible to get an associate's degree or a certificate and be qualified for these vocations in a shorter amount of time. Despite the high demand for these jobs, there are only three institutes in the area that provide training to become a carpenter and together these institutes conferred only 35 degrees in 2000. Triangle Tech Inc. has the largest program and conferred 29 associate's degrees. Connelly Technical Institute and Adult Education Center conferred only six. Community College of Allegheny County, despite has infrastructure for the program in place, but awarded no degrees during the year in question. The situation with associate's degrees for electricians is similar. There are four institutes that provide training for electricians in the area and together they conferred 106 degrees in 2000. Once again Triangle Tech Inc. has the largest program with 64 degrees awarded in 2000, followed by Dean Institute of Technology with 35 degrees and Connelly Technical Institute and Adult Education Center with 7.

Chefs/Cooks

An interesting phenomenon in the Pittsburgh region is the large number of culinary arts degrees awarded each year. While there are too few people receiving training to become carpenters or electricians, there are far too many receiving training to become chefs and cooks. The demand for workers trained in the culinary arts is far outrun by the supply.

Culinary arts and chef training is by far the most popular form of post secondary vocational training in the region. Over 1,100 degrees were awarded in 2000. With only 1,300 chefs and head cooks in the region and the number expected to grow to just 1,340 by 2010, there is no real prospects for employment of the large number of Culinary Arts graduates. State projections predict only 44 regional openings in this field annually. While these graduates could perhaps work not only as chefs or head cooks but as other staff in restaurants and hotels, or leave the region to find employment, the Pittsburgh market's capacity to absorb these individuals is limited.

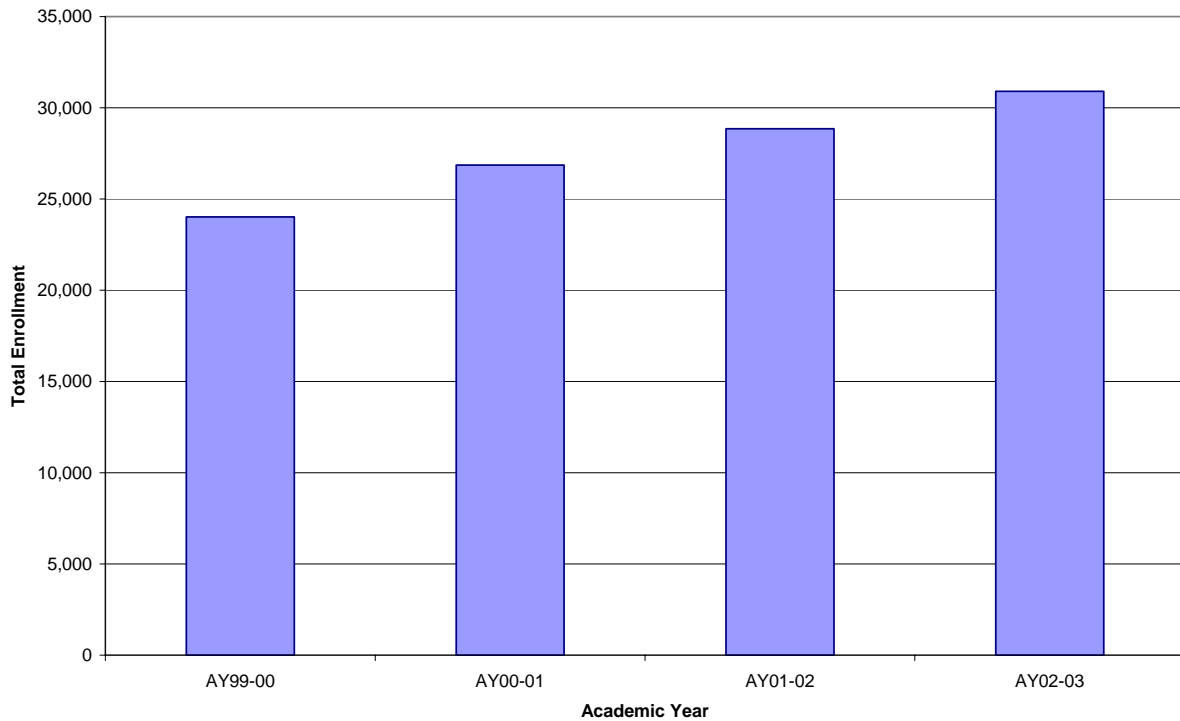
Supply: Middle Ground Training Infrastructure

The occupations profiled above are all key components of the middle ground workforce in the Pittsburgh region. What infrastructure actually provides the training for these occupations? The Community College of Allegheny County (CCAC) is the largest educational services provider in southwestern Pennsylvania, enrolling 90,000 students annually in degree and non-degree programs. CCAC is the leading provider of education not only for several of the occupations profiled in this study, but for much of the middle ground, and will be the focus of the next segment of this paper.

Student Enrollment

Overall enrollment at CCAC has been increasing. Between 2002 and 2003 total enrollment in CCAC grew by nearly 10 percent. The graph below shows the steady rise in program enrollment since 1999. Because CCAC provides many training programs that feed into the middle ground, this implies that regional supply of workers for the middle ground is also increasing.

Annual Headcount Enrollment at CCAC, 1999-2003



CCAC has training programs geared towards most of the occupations profiled earlier in this paper. A significant portion of nursing and healthcare technology graduates in southwestern Pennsylvania are trained at CCAC. The school also provides training for computer support specialists and electricians.

In the year 2000, more than thirty-eight percent of registered nursing graduates in the region were graduates of CCAC. Nursing is one of the fastest growing programs at the college.

CCAC has also seen growth in its healthcare technology programs. Enrollment in the nuclear medical technology program for example, grew by more than twenty-six percent between 2001 and 2002. Forty-five percent of graduates in the fields of nuclear medical technology, diagnostic medical sonography and medical radiologic technology in the year 2000 were from CCAC.

Although CCAC is not the leading provider of education for computer support specialists, computer specialist training programs have seen a recent sharp rise in enrollment. Ninety-one full- and part-time students were enrolled in the program in the spring of 2001. More than sixty percent of the students in this program are enrolled part time.

Employment

People receiving training in middle ground related programs tend to find employment. According to a spring 2002 CCAC exit survey report, thirty-eight percent of the students who enrolled in a program did so with the objective of graduating and obtaining a job. In 2001, ninety-two percent of the nursing graduates had a job. Students graduating with degrees in healthcare technology, computer support and carpentry have also had similar high placement percentages.

CCAC is particularly important to the regional workforce because many graduates live in the Pittsburgh region. Nearly 84 percent of the students who attended CCAC in the fall of 2002 were from Allegheny County. Based on surveys of graduates, administrators at CCAC estimate that 94 percent of graduates remain in the Pittsburgh area.

CCAC has no formal relationships with employers but there are informal connections that exist between the school's students and potential employers. Some employers provide employee training through CCAC. The college also has relationships with regional hospitals which assist in finding placement for nurses.

Marketing

The Community College of Allegheny County conducts routine marketing campaigns. The college places targeted ads on the radio and at strategic times on television. Advertisements are also placed in the print media and billboards. The school maintains a toll free number to answer questions from potential students.

Conclusion

Both state and regional policy makers need to recognize the growing middle ground and identify means to improve its visibility. Recently state and local agencies in southwestern Pennsylvania began to place emphasis on attracting and retaining health care professionals. Through the Pennsylvania Workforce Investment Act and other initiatives the government and non profit firms have been researching and addressing the shortages in healthcare personnel in Pennsylvania. Health Careers Futures, a supporting organization of the Jewish Healthcare Foundation was established to study and create ways of attracting and retaining healthcare workers in the region. The organization has been working on creating “pathways” to understand how and when decisions to enter the healthcare workforce are made. Similar processes should be created to help job-seekers understand and obtain all occupations in the middle ground, not just those related to health care. The media, educators and employers can work together to create “pathways” for more people to be trained for and obtain these occupations. The middle ground has great potential for replacing lost manufacturing jobs, and to be a source of much needed employment growth in the region.

Sources

- All projections and occupational data are from the Pennsylvania Department of Labor and Industry, “Long Term Occupational Projections” for the Pittsburgh MSA, 2000-2010. Classification of occupations by training is also from the Pennsylvania Department of Labor and Industry.
- All wage related data is from the Bureau of Labor Statistics “2001 Metropolitan Area Occupational Employment and Wage Estimates”.
- All degree data and data related to regional training institutions is from the National Center for Educational Statistics Integrated Post-Secondary Education Data System (IPEDS).
- All data pertaining specifically to the Community College of Allegheny County was obtained directly from the Community College of Allegheny County.

Appendix

This report is one of two recent similar research projects on the local job market conducted by two separate institutions: the Center for Economic Development at the H.J. Heinz III School of Public Policy and Management at Carnegie Mellon University, and the Center for Competitive Workforce Development at the Institute of Economic Transformation at the John F. Donahue School of Business at Duquesne University.

Both pieces of research were initiated partly in response to research by Ken Gray at Penn State. Although the projects were slightly different, both came to some similar conclusions. Whereas one report focused on “in-demand” occupations, the other focused on “middle ground occupations.” Although the subject, scope, data, and methodologies used by each research team varied, both support one common theme: that a large number of currently filled jobs and expected job openings require less than a four year degree and pay above average compensation.

Both reports can be found on the web at www.smartpolicy.org/pdf/middleground.pdf and www.iet.duq.edu/ccwd.

For reference, here are the major differences between the two research efforts.

Item	CED	CCWD
Geographical Scope	Six county MSA: Allegheny, Beaver, Butler, Fayette, Washington, and Westmoreland County. (This analysis took place before the addition of Armstrong County.)	Nine county WIB: Allegheny, Armstrong, Beaver, Butler, Fayette, Greene, Indiana, Washington and Westmoreland.
Projection data source:	Pennsylvania Department of Labor and Industry, Long-Term Occupational Employment Projections for Metropolitan Statistical Areas: Pittsburgh MSA, 2000-2010.	Pennsylvania Department of Labor and Industry, Long-Term Occupational Employment Projections by Workforce Investment Areas, 1998-2008.
Projection scope	Projected jobs and job openings analyzed through 2010.	Projected job openings analyzed through 2008.
Existing jobs data source	Bureau of Labor Statistics, Occupational Employment and Wage Estimates, Pittsburgh MSA, 2001.	Not measured.
Occupational subgroup studied	Middle ground occupations.	In-demand occupations.
Criteria for subgroup studied	(1) Occupation does not require a 4 year degree (2) Occupation pays above average wages	(1) Local demand for workers to fill occupation is 150% of local supply. (2) Occupation pays at or above \$12.50/hour. (3) 50 local openings a year expected for occupation.
Wage criteria	Average annual wage of \$33,010 based on BLS Data (Occupational Employment and Wage Estimates, 2001). Hourly would be \$15.87. (2080 hours in full-time year)	\$12.50/hour based on 1.5% poverty thresholds for a family of 4, (Census Bureau Poverty Thresholds, 2002).
Source of educational requirement estimates for occupation	Pennsylvania Department of Labor and Industry	Bureau of Labor Statistics Occupational Outlook Handbook 2002-2003 edition