

Preface

Workforce 2000 provides a statistical focus on the state of Greater Philadelphia's labor market in order to clarify and highlight the region's workforce challenges. A better understanding of our shared challenges is essential to a unified community response. In a separate publication the **Regional Workforce Partnership** sets forth these regional challenges and proposes a set of strategic initiatives to address them. We urge you to read this companion piece.

Workforce 2000's overarching goal is to convince business, government and community leaders that a serious commitment to workforce development is essential to the region's economic development. High quality human resources have always been an important component to a region's economic success. And now more than ever, in this fast-changing, technology-driven economy, workforce issues must be an integral part of the debate about how to position the Philadelphia region for sustainable economic growth. Regional economic development cannot succeed without a stronger emphasis on and strategic investment in workforce development.

The Partnership invites the region's businesses, government, labor, religious, education and community leaders to discuss the meaning of this report. We urge you to share it with other business and community leaders. We expect **Workforce 2000** to be a fact-based catalyst for debate, and most importantly, to prompt action at many levels.

Acknowledgements

We gratefully acknowledge the research provided by the Pennsylvania Economy League under the leadership of David Thornburgh and Steve Wray. The bulk of the report was prepared by the League's Annette Goldberg and Anuj Gupta who developed the excellent narrative, statistics and descriptive graphs. All the information provided in the Market Interventions boxes was "self-reported" i.e., it came from the described program, company or the government agency. No effort was made to confirm this information from other sources. We also appreciate the fine assistance provided by The Reinvestment Fund (TRF), especially Esther Wiesner, Ira Goldstein, and Sandra Choukroun. In addition, we sincerely appreciate the financial support of the Annie E. Casey Foundation, the William Penn Foundation, the Ford Foundation and the Pew Charitable Trusts as well as the Samuel S. Fels Fund, the City of Philadelphia's Office of Housing and Community Development and the Mott Foundation.

Finally, we thank all the members of the Regional Workforce Partnership, the Pennsylvania Economy League, The Reinvestment Fund (TRF) and the Jobs Policy Network (JPN) for providing ideas and suggestions. After June 1, 2000 you will be able to obtain a copy of the report from our website: www.trfund.com. Until then please contact:

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Workforce 2000: An Annual Report on Greater Philadelphia's Labor Market

Introduction

The region's workforce can be thought of as a market consisting of worker supply and employer demand. *Workforce 2000* evaluates the efficiency of the region's workforce market – in short, how well supply and demand are matching up. In the first two sections we characterize workforce supply and demand using the following measures:

Workforce Supply

Quantity

Population and geographic dispersion – how is the population distributed across the counties

Working-age population – how are age demographics shaping the workforce

Labor force participation – who is looking for employment and who has obtained employment

Population projections – how will growth patterns affect the region's workforce supply

Potential Worker Population

- *Youth* – what are regional high school graduation and drop-out rates and what do high school students do after graduation
- *Graduates of regional colleges, universities, and other post-secondary training programs* – how many students graduate each year and from what programs
- *Foreign immigration* – how many immigrants are coming to the region and from where
- *Welfare population* – what is the expected influx of workers into the workforce due to welfare reform

Quality

Education and skills – what are residents' educational attainment levels and occupations

Workforce Demand

Quantity

Employment and geographic dispersion – how is employment distributed across the counties

Industry and cluster employment – in what industries and strategic economic clusters is employer demand strongest

Industry employment projections – in what industries and in what part of the region will demand be strongest

Quality

Average annual wages – how does growth in annual wages compare to inflation

Occupational employment – what training is needed to satisfy employer demand

Alternative work arrangements – how is the nature of work arrangements changing

Market Gaps

In the third section of the *Annual Report* we characterize several apparent gaps between workforce supply and demand:

Technical skills,

Worker readiness,

Spatial barriers to work, and

Regional image

Market Interventions

The final component of the regional workforce market is referred to as “market interventions.” We consider interventions to be essentially a sampling of the components of the regional workforce development system. This system is composed of a wide range of public and private efforts that attempt to address gaps in the workforce market. Interspersed throughout the *Workforce 2000* are some examples of the many workforce development programs and policies in Greater Philadelphia.

Report Appendices

The report concludes with several appendices that should be useful for continued research on the region's workforce market. Appendix A describes the data and methodology used to calculate the various measures in the report, organized by section. Appendix B consists of county-level data that was used to calculate supply and demand measures. This data is being made available for individuals or organizations who wish to engage in more detailed analysis of the region's workforce market. Appendix C acknowledges the many people who assisted in the completion of the *Annual Report*. Appendix D lists several other market interventions that due to space constraints have not been included in the main body of the report.

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Greater Philadelphia's Workforce Supply

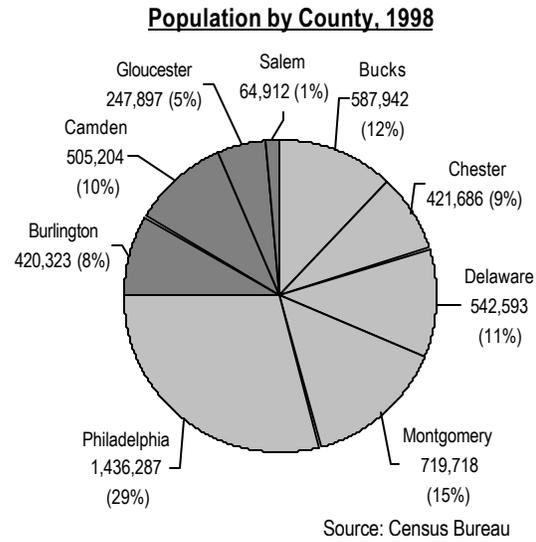
Greater Philadelphia's greatest workforce asset is its size. With a labor force of almost 2.5 million people, the region is able to provide employers with a workforce possessing a wide array of skills, experience, and cultural backgrounds. However, changing demographics – the region is getting older and the population base is becoming more dispersed – are creating shortages of labor in key segments and areas. Projections of slow population growth into the future suggest challenges in both attracting young, skilled workers and getting workers to an increasingly dispersed set of employers. Highlights of this section include:

- **Strong economy fueling low unemployment rates.** While Greater Philadelphia's labor force participation rate is slightly lower than the nation's, employment rates are at an all-time high in great part due to an eight-year national economic expansion. As a whole, the region's workers have a wide range of skills and educational backgrounds.
- **Slowly growing workforce.** Today's favorable employment conditions, however, belie the strong demographic trends that are shaping our current and future workforce. One concern is the base of our workforce, the region's population, which has grown slowly in recent years. Low foreign immigration and net domestic immigration are significant factors in the region's slow growth.
- **Spreading region.** Slow growth has not meant little activity. The population has become increasingly dispersed throughout the region as people left the city of Philadelphia and older suburban communities for newer, more affluent exurban neighborhoods. From a workforce standpoint, this population dispersion means employers have to draw workers from a larger geographic area.
- **Aging population.** Of equal concern to slow population growth is our aging population. The region's population of 18-35 year olds has declined in recent years, while the older population is the only age group projected to experience significant growth well into the 21st century. These trends are partly attributable to differences in generation size and longer life expectancies, but they also suggest that many young people are not coming to or staying in the region.
- **Potential entrants into workforce.** While any person is free to come to the region for employment, each year potential workers are introduced to the region's workforce market, including tens of thousands of graduates from the region's high schools, colleges, universities, and other post-secondary training programs, and foreign immigrants. Given fairly tight labor market conditions, the influx of the welfare population into the workforce could be an opportunity for the region.

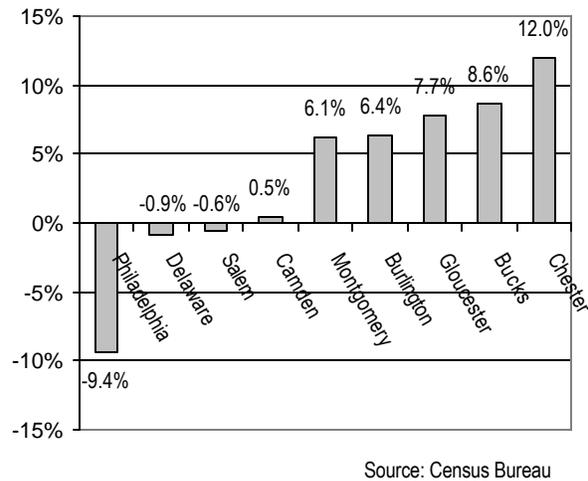
Population and Geographic Dispersion

Fundamental characteristics of the population – its size, demographics, and geographic dispersion – figure greatly into companies’ location and expansion decisions.

- From a workforce standpoint, one of Greater Philadelphia’s greatest competitive advantages is its sheer size. The 9-county region is the 4th largest metropolitan area in the country with 4.95 million people; Philadelphia’s population of 1.44 million makes it the 5th largest city in the country.
- The region has experienced relatively little population growth in the 90s, a trend continuing from the 70s and 80s. Between 1990 and 1998, the combined 9-county residential population grew 0.5 percent or by 24,000 people. This lackluster growth took place during a period of unprecedented economic expansion throughout the rest of the country and during two administrations of a very popular mayor in the city of Philadelphia.
- Little growth, however, has not meant little activity. The population continues to shift outward as residents leave Philadelphia and older suburban communities for other suburban communities, many of them newly developed, comparatively affluent exurbs. Philadelphia’s net loss of more than 149,000 residents since 1990 was essentially offset by the 177,000 net gain of growing suburban counties (Bucks, Chester, Montgomery, Burlington, and Gloucester).
- With fewer employed residents in relation to the entire population (ratio of .42), Philadelphia’s employed residents carry a greater burden in supporting the city. In the other counties of the region there were more employed residents in relation to the total county population.



Percentage Change in Population by County, 1990-1998



Ratio of Employed Population to Total Population by County, 1998

	Total 1998 Population	No. Employed	Employed/Population
Bucks	587,942	307,600	.52
Chester	421,686	221,200	.52
Delaware	542,593	265,000	.49
Montgomery	719,718	379,200	.53
Philadelphia	1,436,287	600,400	.42
Burlington	420,323	213,400	.51
Camden	505,204	244,600	.48
Gloucester	247,897	122,800	.50
Salem	64,912	30,700	.47

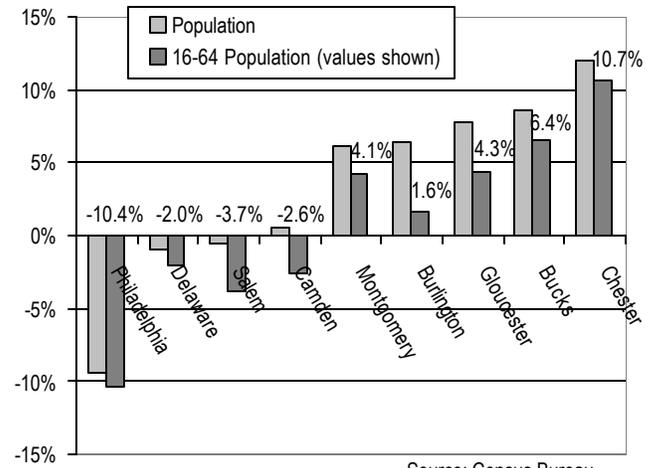
Source: Census Bureau, PA Department of Labor & Industry, NJ Department of Labor

Working-Age Population

In the broadest sense, the workforce can be thought of as the adult population age 16 years and older. From the standpoint of workforce development, a more practical definition of the working-age population might be individuals between ages 16 and 64.

- Between 1990 and 1998 there was a combined net loss of people ages 16 and 64 of almost 42,000 (-1.3 percent) for the 9 counties of the region. Philadelphia’s working-age population declined by some 104,000 16-64 year olds.
- Growing suburban counties (Bucks, Chester, Montgomery, Burlington, and Gloucester Counties) did gain significant numbers of working-age people, but their combined net gain of almost 79,000 did not offset the net loss of counties with a declining 16-64 population (Philadelphia, Delaware, Camden, and Salem Counties), which was almost 121,000.
- The region’s decline in the working-age population was mostly young people – between 1990 and 1998 the 16-35 year old population declined by almost 234,000 people, compared to a net gain of almost 192,000 people between 36 and 64 years old. In 1990, the region’s 16-35 year old population was almost 6 million. By 1998, eight years later, this age cohort (now 24 to 43 years old) had a net decline of almost 67,000 people.
- A shrinking working-age population is of equal if not greater concern than slow population growth. Fewer young people in the region means less replenishment of regional workers and an overall aging workforce. The net loss of young people from the region is also a troubling indicator of the region’s economic offerings.

Percentage Change in Regional (9-County) vs. 16-64 Population, 1990-1998



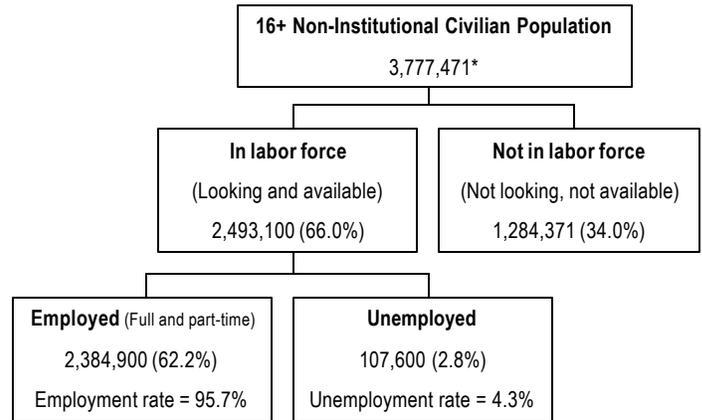
Labor Force Participation

Adults who choose to look for and are available for employment comprise the region’s *labor force*.

- Labor Force.** Almost 2.5 million people who live in the region make up the labor force of employed (full- and part-time workers) and unemployed workers. A very high percentage of the labor force was employed in 1998 (95.7 percent).
- Unemployment.** The region’s 1998 unemployment rate (percentage of people looking and available for work but not employed) was slightly lower than that of the nation – 4.3 percent across all 9 counties compared to 4.5 percent for the nation. However, there was a fairly wide range in the unemployment rate between counties – from a low of 2.7 percent in Chester County to a high of 6.2 percent in Philadelphia. More than a third (40,000) of the region’s unemployed lived in Philadelphia.
- Not in the Labor Force.** In 1998, 34 percent of the adult population residing in the region did not participate in the labor force. This percentage was somewhat higher than the national percentage of 32.9 percent. If the region’s labor force participation rate was that of the nation, about 41,000 more people would be participating in the labor force as either an employed or unemployed (but available and looking) worker.

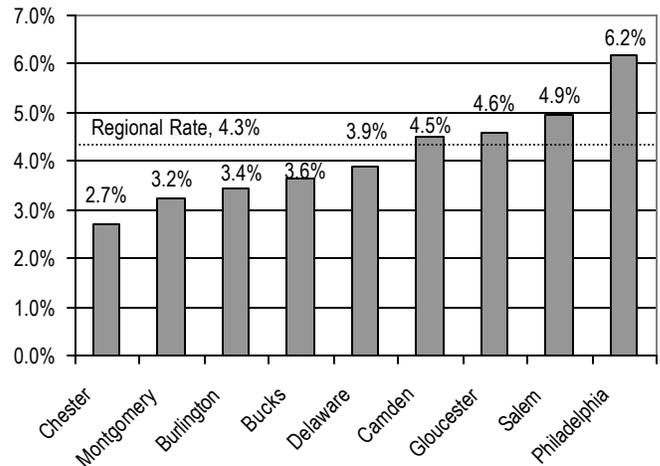
The 1.28 million people in the region who chose not to participate in the labor force did so for many reasons – they may have been college students, stay-at-home parents or caretakers, high school students, or retirees. However, not having a job for some of these people was a chronic problem, meaning they had not recently looked for or held a job or maybe they had never held a job.

Regional (9-County) Labor Force Participation, 1998



Source: Census Bureau, PA Department of Labor and Industry, NJ Department of Labor
 *Figure adjusted to exclude individuals living in nursing homes, hospitals, and prisons
 Note: The sum of "Employed" and "Unemployed" do not equal "In labor force" due to round-off error.

Unemployment Rate by County, 1998



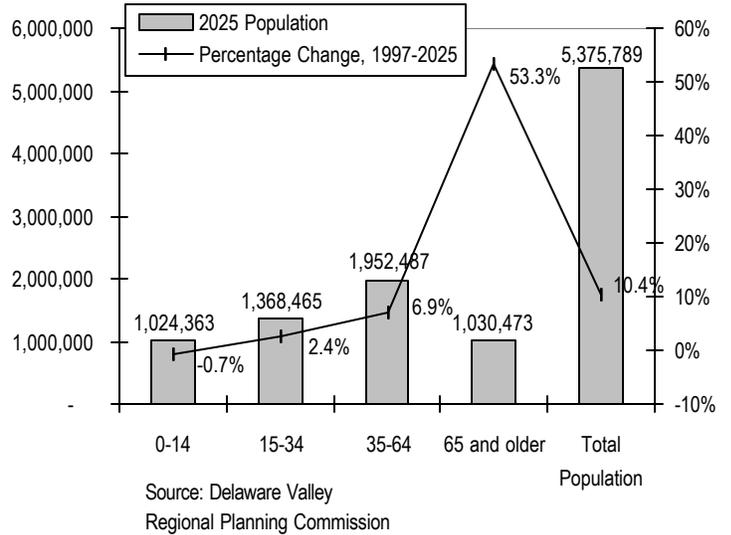
Source: PA Department of Labor & Industry, NJ Department of Labor

Population Projections

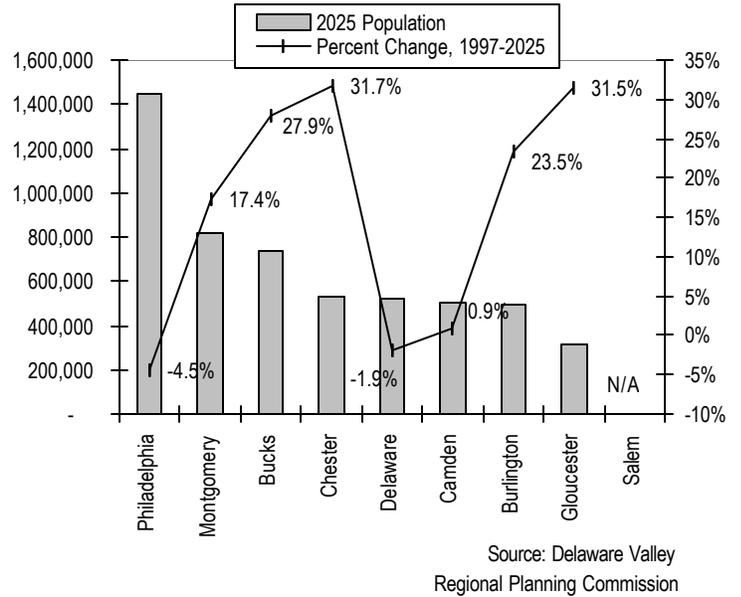
Future changes in the population and workforce will be greatly influenced by the aging of the baby boomers and longer life expectancies. As this large generation moves out of the workforce and into its retirement years, the region’s workforce will be comprised of a smaller share of the population.

- The 8-county region (all counties except Salem County, NJ) is projected to continue along the course of slow population growth – by 2005 the region’s residential population is expected to grow by only 2.3 percent and by 2025 only 10.4 percent.
- Slow growth is not likely to keep the population from dispersing geographically. Counties that have been gaining population are expected to continue gaining population – Bucks, Chester, Montgomery, and Burlington Counties – and counties that have experienced little growth or lost population will continue along this course – Delaware County, Philadelphia, and Camden County. Philadelphia will bear the brunt of net population loss, though this loss will not be as dramatic as in recent years – by 2005 the city is projected to have a net loss of 63,000 people and by 2025 a net loss of 67,000.
- Shifts are also projected for the age of the region’s population, particularly the elderly population. By 2025 the region’s 65 and older population is projected to grow by 53 percent or almost 360,000 people. While the 15-64 population will experience modest growth, by 2025 it will make up a smaller share of the region’s overall population.

Regional (8-County) Population Projections by Age Group, 2025 Total and Growth between 1997-2025



Population Projections by County, 2025 Total and Growth between 1997-2025



Youth

While the region as a whole has not experienced much population growth in recent years, the number of young people (15 years and younger) grew between 1990 and 1998. Whether or not they graduate from high school and what they do after high school has great bearing on the region's workforce supply.

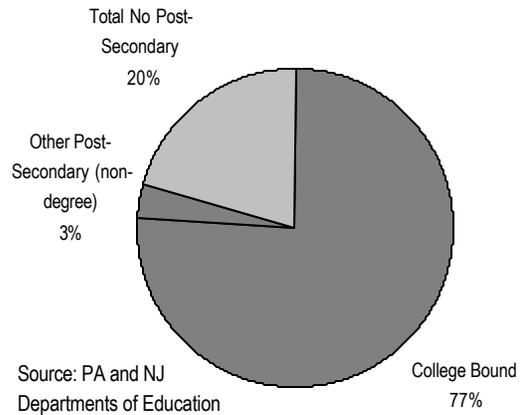
- According to figures released by the PA and NJ Departments of Education, almost 332,000 students in the 9-county metro area were enrolled in secondary schools (9-12 grades) in the 1997-98 school year. Of this figure, 286,000 students were enrolled in public secondary schools.

- **High School Graduates.** At the end of the 1997-98 school year, roughly 50,000 students graduated from high school. Of these graduates, 20 percent said they did not plan on pursuing a post-secondary activity (college or other), representing an immediate source of potential workers for area employers.

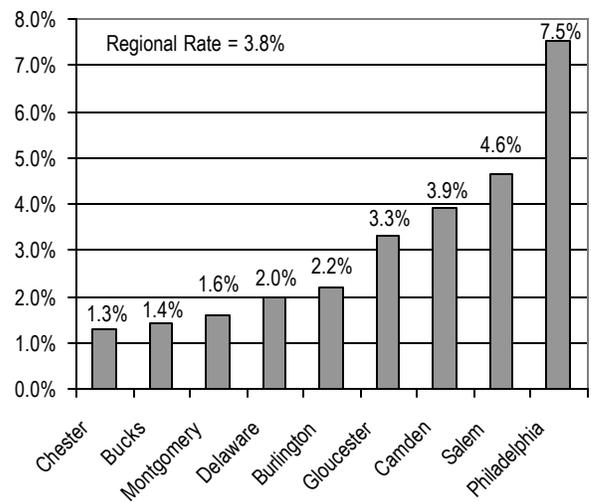
Some 77 percent of high school graduates said they intended to go to college and another 3 percent planned on pursuing some other post-secondary training. Of the college-bound graduates from Pennsylvania high schools, 86 percent or almost 23,000 stayed in the region for their college education, while 14 percent left for schools outside the region. All college-bound students, whether they stay in the region for school or not, represent a future pool of candidates for job opportunities in the region; ties to and familiarity with the region might be a strong draw back upon graduation from college. However, the risk is young people will not return if they find better opportunities elsewhere.

- **High School Dropouts.** Not all high school students completed the 1997-98 school year – 10,716 or 3.8 percent of high school students throughout the 9-county

Destination of Regional (9-County) High School Graduates, 1997-98 School Year



High School Dropout Rate by County, 1997-98 School Year



Source: PA and NJ Departments of Education

region dropped out of high school. About 6,900 of these students dropped out of Philadelphia high schools. No data is collected on the workforce status of the students once they drop out of high school.

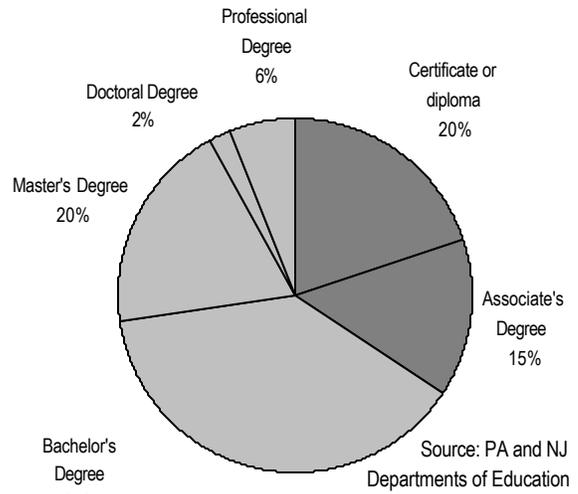
MARKET INTERVENTIONS	
<p>Philadelphia High School Academies' mission is to encourage young people to stay in school by creating "mini schools within schools" that have a career focus. Students in the Academy program are rostered to take the majority of their classes together, taught by a team of Academy teachers, and have a career theme infused throughout the curriculum. Eligible juniors and seniors may compete for paid work experiences arranged for students by the Academies. In the 1998-99 school year, 28 Academy programs were operating in 19 of the city's public high schools. Regional businesses provide advice on Academy curricula, assist in professional development of teachers, and offer a wide range of direct career experiences for students.</p>	
<p>Targeted Population/Eligibility: Students enrolled in Philadelphia public high schools</p>	
<p>Program Partners: School District of Philadelphia, high schools hosting Academy programs, regional businesses, and Philadelphia High School Academies</p>	
<hr/> <p>Performance Measures:</p>	
<p>18-month Follow-up of 1997 Graduates</p>	
Total graduates.....	629
%Working (FT, PT)	31%
%College	53%
%Military or trade school.....	9%
%Unemployed	4%
%Not in Labor Force	3%
<p>6-month Follow-up of 1998 Graduates</p>	
Total graduates.....	865
%Working (FT, PT)	28%
%College	54%
%Military or trade school.....	11%
%Unemployed	3%
%Not in Labor Force	4%

Graduates of Post-Secondary Programs

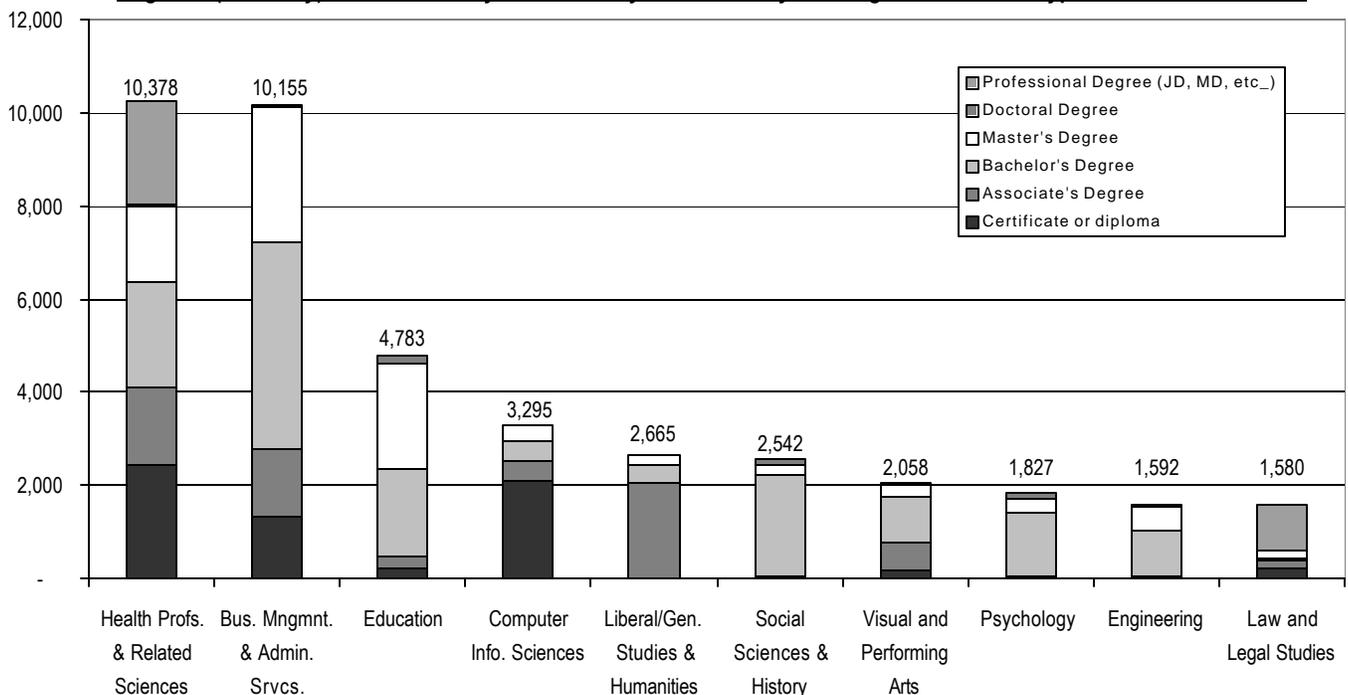
The system of post-secondary institutions throughout the 9 counties of the region represents an important potential input of new workers into the workforce market. The system helps train young people and existing workers seeking to upgrade skills. Just as important, the system draws people to the area, particularly young people who upon graduation might consider staying. The substantial number of people graduating from post-secondary institutions each year is a key competitive strength. However, the region only capitalizes on this advantage if students stay after graduating.

- The region has 188 institutions that provide post-secondary training, including 83 degree granting institutions (i.e., all institutions except vocation, technical programs).
- In the 1997-98 academic year, regional educational institutions produced more than 56,000 graduates of various programs and degree types. Most of these

Regional (9-County) Post-Secondary Graduates by Degree/Certificate Type, 1997-98 School Year



Regional (9-County) Post-Secondary Graduates by Field of Study and Degree/Certificate Type, 1997-98 School Year



Source: PA and NJ Departments of Education

graduates earned a 4-year Bachelor’s degree or higher. The top ten programs accounted for about 41,000 or 73 percent of all graduates from post-secondary programs.

- The region has a high graduation rate of students in health-related and business-related programs – in the 1997-98 academic year more than 20,000 degrees and certificates (10,000 each) were awarded to students in these programs, accounting for 38 percent of all degrees and certificates awarded that year. The fact that health-related and business-related programs are the top two ranking programs is likely a reflection of the region’s historic economic strength in these industries; however, they do not necessarily represent the strongest employment growth prospects.
- The number of graduates from liberal arts programs (2,700 graduates), all from degree-granting programs, can be considered a regional strength. Students with a broad-based, multidisciplinary background tend to have writing and communication skills, which are valued as much as technical skills by some employers. Given the fast-changing economy where technical skills quickly become outdated and even obsolete, some employers might even prefer hiring college graduates with broad-based backgrounds and conducting technical skills training themselves. When social sciences and history (2,500 graduates) and psychology (1,800 graduates) programs are added to liberal arts programs, broad-based program graduates increase to 7,000, most of them earning Associate’s and Bachelor’s Degrees.
- Graduates from computer and information sciences programs were ranked fourth in the 1997-98 academic year (3,300). The vast majority of these graduates earned certificates from their programs, not degrees. The lower graduation rate from degree-granting programs in computer and information sciences reflects the dominance of liberal arts degree-granting institutions in the region.

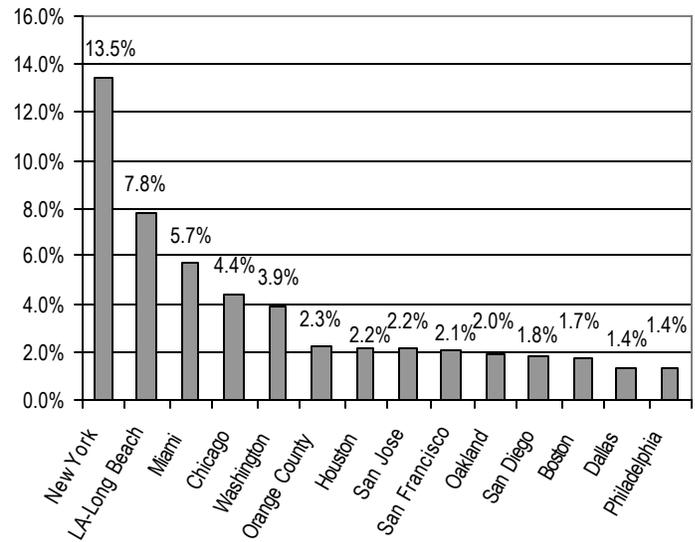
MARKET INTERVENTIONS
<p>Greater Philadelphia First’s Business/Academic Partnership for the Information Technology Workforce is a consortium of the region’s larger employers of information technology (IT) talent that was formed to develop solutions to the region’s growing need for skilled IT professionals. The Partnership is committed to expanding the region’s IT workforce through:</p> <ul style="list-style-type: none"> • Curriculum and instructional changes in college academic programs to create better prepared and more highly skilled graduates who become productive in a shorter period of time; • Greater awareness and encouragement of IT careers among high school students to cultivate the IT workers of the future; and, • Joint promotion of Greater Philadelphia’s companies, career opportunities, and lifestyles to prospective employees. <p>A recent study issued by the Partnership introduces “academic exit standards” and “business entry standards” to guide academic and internship program development at regional academic institutions. The study focuses on behavioral and organizational skills (the soft skill set), which are critical for success in the knowledge-driven economy. The Partnership recommends internships and co-ops as among the most important “accelerators” to bridge the gap between the exit and entry standards because they give students and faculty real-world business experience. In the end, better-prepared college graduates will improve employers’ bottom line by reducing training costs and increasing productivity. Equally important will be the improvement in Greater Philadelphia’s competitiveness and an increase in the region’s attractiveness to technology-driven business.</p> <p>Targeted Population: Degree-granting institutions, college students, recent college graduates, regional employers, high school students</p> <p>Program Partners: Greater Philadelphia First, large regional employers, regional academic institutions</p>

Foreign Immigration

Immigrants represent an important potential source of new workers into the region’s workforce supply, though we cannot assume that all are seeking employment. In many regions foreign immigration has been a driving factor in population growth.

- Comparatively fewer immigrants come to the Philadelphia region – in fiscal year 1997, slightly fewer than 11,000 immigrants were admitted to the region, about 1.4 percent of all immigrants admitted to the US that year. The Greater Philadelphia region was ranked 14th of all metropolitan areas that immigrants selected for residency.
- The region is not a traditional point of entry for immigrants coming to the US, unlike New York, Los Angeles, and Texas, and its comparatively low share of admitted immigrants reflects that. If the region’s share of immigration was equal to its share of the country’s population, about 3,700 more immigrants would have come to Greater Philadelphia in 1997.
- Even though immigration rates are low, the immigrant population that chooses to come to the Philadelphia region appears to be more diverse than the overall immigrant population admitted to the US. In 1997, the largest group that came to the region was from India, representing 9 percent. This top-ranking group was small compared to the largest group admitted to the US overall – Mexicans, which comprised 18 percent of all admitted immigrants.
- Furthermore, much of the region’s immigrant population is coming from countries with higher educational attainment rates, such as India, the Ukraine, and Russia (combined share of 19 percent). From this figure we might infer that many are coming to the US for employment opportunities, perhaps as a result of employer recruitment. Given that the region is not a traditional point of entry for immigrants to the US, the

Percentage of All Immigration to US by Metro Area of Destination, 1997



Source: US Immigration and Naturalization Service

Top Ten Immigrant Groups for Region (9-County) vs. United States, Total and Percentage of All Immigrants Admitted to Area in 1997

	Greater Philadelphia		United States
India	1,015 (9%)	Mexico	146,865 (19%)
People's Rep. of China	832 (9%)	Phillipines	49,117 (8%)
Vietnam	629 (8%)	People's Rep. of China	41,147 (5%)
Ukraine	623 (8%)	Vietnam	38,519 (5%)
Mexico	433 (4%)	India	38,071 (5%)
Phillipines	414 (4%)	Cuba	33,587 (4%)
Korea	412 (4%)	Dominican Republic	27,053 (3%)
Russia	398 (4%)	El Salvador	17,969 (2%)
Jamaica	373 (3%)	Jamaica	17,840 (2%)
United Kingdom	280 (3%)	Russia	16,632 (2%)

Source: US Immigration and Naturalization Service

immigrant population that does come to the region might be viewed as a favorable sign of the region’s economic offerings in terms of employment opportunities.

Welfare Population

In Pennsylvania, all adult welfare recipients are now required to be participating in some type of work activity. This activity at a minimum is a self-directed employment search. After 24 months the state requires adults to be in a work-related activity (e.g., job, subsidized unemployment, unpaid community service, job search) in order to stay on cash assistance. Federal law requires that cash assistance be cut off for recipients after five years regardless of employment status; currently, the state has not opted to extend cash assistance to recipients beyond five years.

- As of September 1999, 43,500 adults were receiving cash assistance in the 5 counties of Southeastern Pennsylvania. Most of these adults were in Philadelphia (39,000); in fact, Philadelphians represented 54 percent of all adults in the state receiving cash assistance at that time.
- Of these 43,500 adults on cash assistance, 63 percent or almost 28,000 were required to be engaged in some type of work activity. Many of these recipients had reached the 24-month period and therefore they were required to be in a work-related activity (assuming they decided to stay in the welfare system). This figure is probably an underestimate – some of the exemptions that have been granted are temporary in nature (e.g., the individual has a child under the age of one or a child under the age of six

MARKET INTERVENTIONS

Greater Philadelphia Works (GPW), the City of Philadelphia’s welfare-to-work program, is funded by a two-year, \$54 million grant from the U.S. Department of Labor. GPW has set the goal of placing 15,000 TANF recipients into jobs throughout the Greater Philadelphia region by September 2000. Clients are recruited through the County Assistance Office and outreach campaigns. Regional Service Centers provide direct services to GPW clients, including assistance with job placement, development, and retention, information on and referrals for child care, professional attire for interviewing, and post-placement skills training. In addition to direct services, GPW offers incentives to employers, such as wage subsidies and tax credit filing services, and is working with SEPTA and other transportation service providers in support of clients whose jobs are in suburban locations.

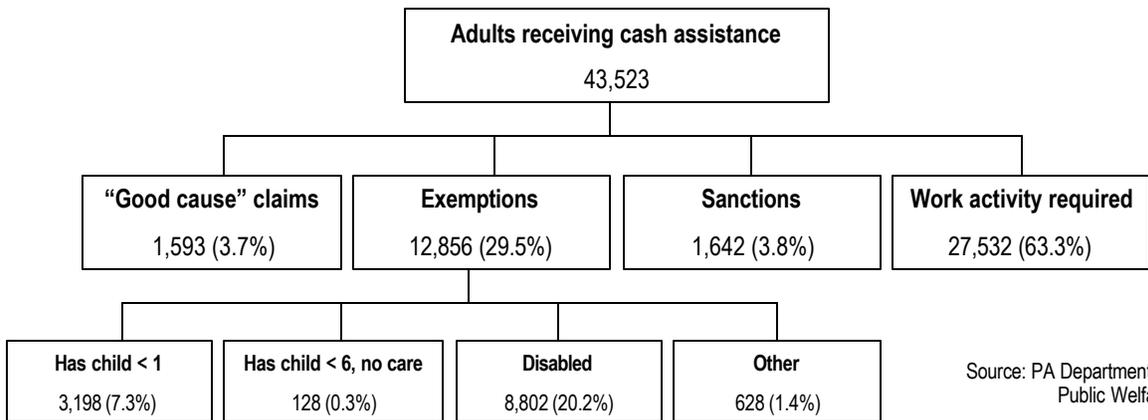
Targeted Population/Eligibility: TANF recipients (i.e., welfare-to-work population) in Philadelphia

Program Partners: Mayor’s Office of Policy and Planning (City of Philadelphia), Philadelphia Workforce Development Corporation (formally known as the Private Industry Council of Philadelphia), regional employers

Performance Measures (Cumulative Since 10/98)

No. enrolled.....	7,995
No. placed in jobs.....	3,800
Average hourly wages	\$6.92

Welfare Reform as Applied to Adult Population in Region (5-County), as of September 1999

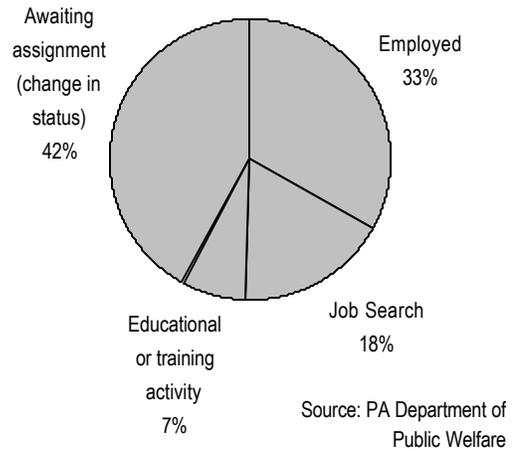


Source: PA Department of Public Welfare

but no childcare). It is likely that at some point these adults will lose their temporary exemptions and be required to work as well. The question remains: Are there enough private-sector jobs to absorb this influx of workers? Conversely, do these adults have skills to obtain jobs that provide family-sustaining wages?

- The majority of adults required to be in a work-related activity were not employed as of September 1999. These adults were either searching for jobs, engaged in some type of educational or training activity, or awaiting an assignment for their work activity. Only 33 percent of adults still receiving cash assistance and required to be in a work-related activity were employed. The fact that these employed adults were still receiving cash assistance suggests they are laboring in jobs that do not provide family-sustaining wages.
- The net decline in the number of adults receiving cash assistance in the region was 5,400 between March and September of 1999; many of these adults had been required to be in a work activity. Whether adults are leaving the system because they obtain employment with livable wages or they are leaving due to frustration with the new work requirements is not clear from the data. The system does not track the status of adults once they stop receiving cash assistance (e.g., employment status, job retention, wage levels, job types).

Status of Regional (5-County) Adult Welfare Population Required to be In Work Activity, As of September 1999



MARKET INTERVENTIONS

Philadelphia @ Work places TANF recipients who are not work-ready in 6-month transitional jobs. Since the program's inception, most of these jobs have been with non-profit organizations and government agencies; more recently, these placements have been with for-profit businesses. After the 6-month period the participant is placed in a permanent job by Regional Service Center Staff of GPW.

Targeted Population/Eligibility: Greater Philadelphia Works clients (i.e., TANF recipients in Philadelphia) who are not job-ready

Program Partners: Mayor's Office of Policy and Planning (City of Philadelphia), Philadelphia Workforce Development Corporation (formally known as the Private Industry Council of Philadelphia), regional employers

Performance Measures (Cumulative Since 9/98)

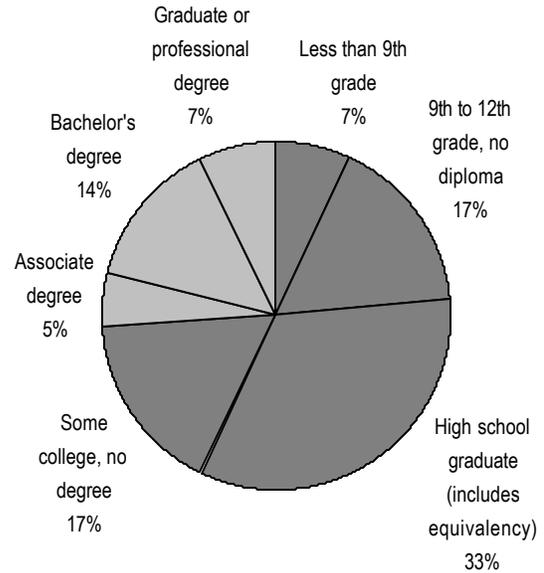
No. enrolled	1,223
No. in transitional jobs.....	368
No. moved to permanent jobs.....	292
Permanent placements in private sector	207
Permanent placements in nonprofit sector	69
Permanent placements in government jobs	16
Average hourly wages for permanent job holders.....	\$7.05

Education and Skills

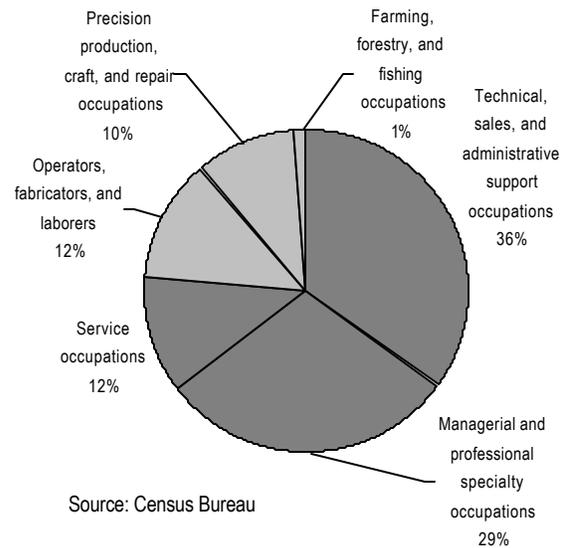
Worker quality is a key ingredient for productivity. To a great extent, worker quality is determined by the education and skills attained by residents of the 9-county metro area, whether through the formal education system or on-the-job. Worker quality from a skills standpoint also can be inferred from the types of occupations regional workers fill.

- The most recent data available on the region’s educational attainment level comes from the 1990 census. About one-quarter of the population obtained formal educational training from a post-secondary degree-granting institution. Three-quarters did not have a post-secondary degree, and 24 percent did not earn a high school diploma.
- The 1990 census also reported that the majority of regional residents filled occupations that did not involve direct activity in a production or extraction process – 36 percent had technical, sales, and administrative support occupations, 29 percent had managerial and professional specialty occupations, 23 percent had service occupations, 12 percent had operators, fabricators, and laborers, 10 percent had precision production, craft, and repair occupations, and 1 percent had farming, forestry, and fishing occupations.

Regional (9-County) Educational Attainment, 1990



Occupation of Regional (9-County) Population, 1990



MARKET INTERVENTIONS

Pennsylvania's Customized Job Training (CJT) program provides funding to companies that seek to train workers. Any business, professional services, or other enterprise, with the exception of point-of-sale retail businesses, can apply to the CJT program. CJT stands apart from other workforce development programs because of its employer-driven approach – employers set their own training goals and objectives, determine the content and delivery of training, and choose the workers who participate in the training program.

In fiscal year 1998, the state appropriated \$18 million to the CJT program that resulted in state-wide training for 9,000 entry-level workers and 9,000 retention workers as well as upgrades in skills for another 9,800 workers. CJT funding for fiscal year 1999 is \$29 million to the CJT program, a significant increase from past years but still a small share of all state and federal dollars that are spent on workforce development in Pennsylvania. While the five Pennsylvania counties of our region received more CJT funding in fiscal year 1999 than ever before, the region's share of total state funding remained around 20 percent.

Targeted Population/Eligibility: Businesses that are starting, expanding in, or relocating to Pennsylvania

Program Partners: Commonwealth of Pennsylvania (Department of Community and Economic Development), local education agencies/LEA (intermediate units, community colleges, etc.)

PA CJT Funding Level in Greater Philadelphia vs. Share of State Funding: FY1996 to FY1999

	Total Regional Funding	Region's Share of State Funding
FY 1996	\$222,501	2.9%
FY 1997	\$2,488,512	19.7%
FY 1998	\$3,383,068	21.6%
FY 1999	\$3,702,300	20.0%

Source: PA Department of Community and Economy Development

MARKET INTERVENTIONS

In January 1999, a collaborative was formed between the **Women's Association for Women's Alternatives (WAWA)**, the **Delaware County Legal Assistance Association**, **Wider Opportunities for Women** and the **National Economic Development and Law Center** in order to promote a workforce development system that incorporates **sector intervention strategies**. In 1999, there were approximately 200 sector projects across the nation targeting a variety of industries including health care, manufacturing, constructions and telecommunications.

Sector intervention strategies involve a systematic approach to analyzing the regional labor market that results in the development of a program that meets both the needs of fast-growing industries and those of low-income residents. This industry-focused approach differs from typical workforce development strategies through its emphasis on changing how an industry operates in order to enhance the businesses within that industry while at the same time creating access to jobs for low income residents. Initial findings from focus groups suggest the health care industry is potentially a good sector to target given the high demand for workers, the availability of internal training programs and good career mobility. The research phase is anticipated to be completed by May 2000 and culminate in a labor market analysis and recommendations report.

Targeted Population: Workforce development system, industry-specific employers and low-income residents.

Greater Philadelphia's Workforce Demand

The region's growing economy has increased the demand for workers at almost all skill and experience levels, as evidenced by low unemployment and growing wages. However, it remains relatively difficult to gauge unmet demand – employer surveys are sporadic and often county-specific, rather than regional. Anecdotal evidence suggests that there is an increasing need for workers with technical skills in all industries, and that employers are often forced to provide that training themselves. If employers are unable to meet unmet demand, there must be concern that new growth will occur in other regions. Highlights of this section include:

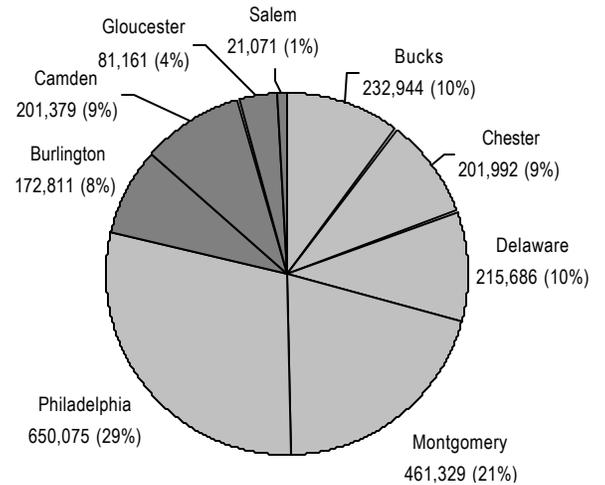
- **Strong employment growth in strategic clusters.** Construction and the services sector have experienced the strongest growth, the former due to favorable economic conditions and the latter due to fundamental changes in the region's economy. Significant employer demand as measured by employment growth is also evident in four of the region's strategic economic clusters – professional services, hospitality, data-intensive services, and health care services and products. Manufacturing was the only cluster that continued to lose jobs, though wages have been increasing and some sectors within manufacturing have experienced employment growth. Annual wages for four of the region's five economic clusters grew faster than inflation in recent years, a sign of strong employer demand.
- **A regional economy.** Like population, the region's employment has become more dispersed among the nine counties. While Philadelphia still represents the region's central employment base, most employment growth in the region's industries and clusters took place in growing suburban counties, specifically Chester, Montgomery, and Burlington Counties. More regional workers are commuting from suburb to suburb and city to suburb than ever before.
- **Continuing suburban and service sector growth.** Workforce demand as measured by employment growth is projected to continue along a similar course of growth into the next century. The continuing transition to a service-based economy and the incorporation of technology into business operations will likely drive employment growth – significant employment gains are projected for the service sector, building on an already large base in the region. Growing suburban counties are expected to continue capturing most employment growth, resulting in employment that is even more dispersed throughout the region.

Employment and Geographic Dispersion

In the absence of regular, detailed surveys, employer demand for workers can be inferred from employment and employment growth. At the regional level, employers' demand for workers is constantly changing over time as companies start, grow, fail, and relocate.

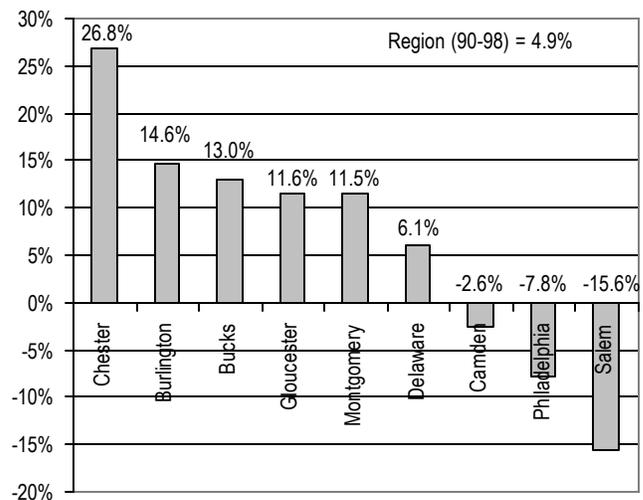
- In 1998, private and public sector employers provided 2.24 million full- and part-time jobs in Greater Philadelphia. (Note: Employment figures represent the number of *jobs* in the 9-county metro area, not the number of *people* who are working; a person holding two jobs, for instance, would be counted twice in an employment figure. Furthermore, employment is based on the location of the employer, not the residence of the worker. Refer to *labor force participation* for the number of regional residents who are employed.)
- Employment was predominantly located in the Pennsylvania counties, which accounted for 79 percent of regional employment in 1998. Philadelphia continued to have the greatest share of jobs in the region (29 percent), though employers in Montgomery County, with 21 percent of the region's employment, also contributed strongly to the employment base.
- Between 1990 and 1998, the region's private sector employment grew by 4.9 percent or a net gain of 91,000 jobs. Job growth over this period was mainly limited to Chester, Burlington, Bucks, Gloucester, and Montgomery Counties. There were net job losses in Philadelphia, Camden, and Salem Counties.

Total Public and Private Employment by County, 1998



Source: PA Department of Labor & Industry, NJ Department of Labor

Private Sector Employment Growth by County, 1990-1998



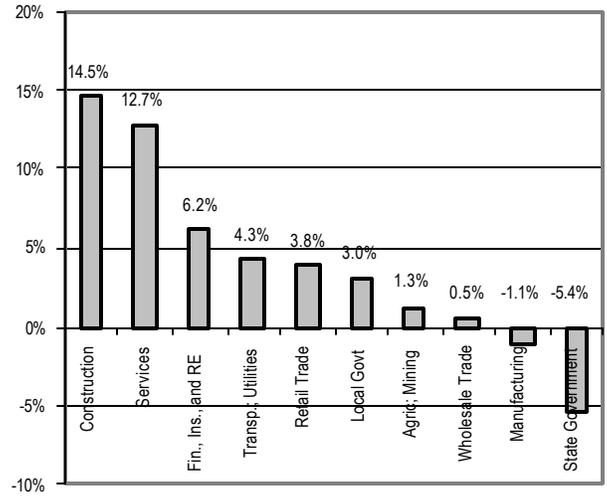
Source: PA Department of Labor & Industry, NJ Department of Labor

Industry Employment

Workforce demand as measured by employment can be viewed through the lens of the standard industry classification system.

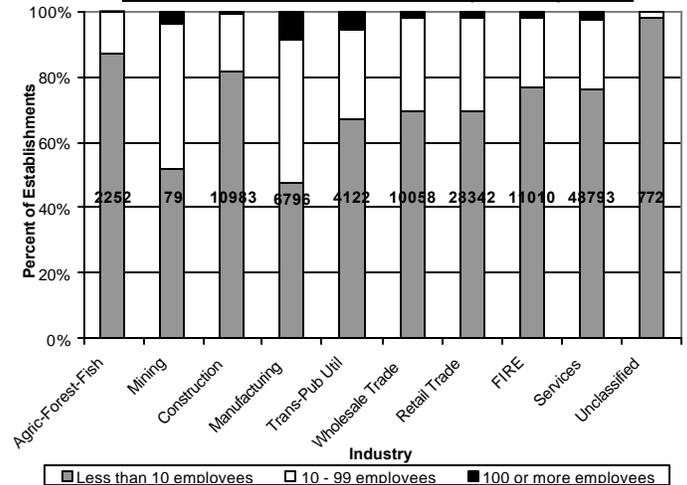
- The employment base of the 9-county metro area is a diverse mix of industries, though fully a third (34 percent) of employment is in the service sector. The next largest sector is retail (17 percent) followed closely by manufacturing (14 percent). Smaller industrial groupings include: local government (9 percent); finance, insurance and real estate (7 percent); transportation and public utilities (5 percent); construction (4 percent); federal government (3 percent); state government (1 percent); agriculture, forestry and fishing, mining (1 percent).
- Most (73 percent) employment in the 9-county area occurs within establishments that are relatively small (i.e., fewer than 10 employees). On average, establishments in the 9-county area have 15 employees. There is notable variation across industries. For example, while less than one-half (47.7 percent) of establishments in the manufacturing industry have fewer than 10 employees, over 82 percent of establishments within the construction industry are of that smaller size.
- The strongest employment growth between 1995 and 1998 in the region was in the construction industry (14.5 percent or 11,000 net new jobs), a likely reflection of the overall robust economy throughout the nation. The services industry also continued to grow (12.7 percent or almost 88,000 net new jobs), reinforcing the core role this industry plays in the employment base.

Growth in Regional (9-County) Employment by Major Division, 1995-1998



Source: PA Department of Labor & Industry, NJ Department of Labor

Distribution of Establishment Size by Industry Group



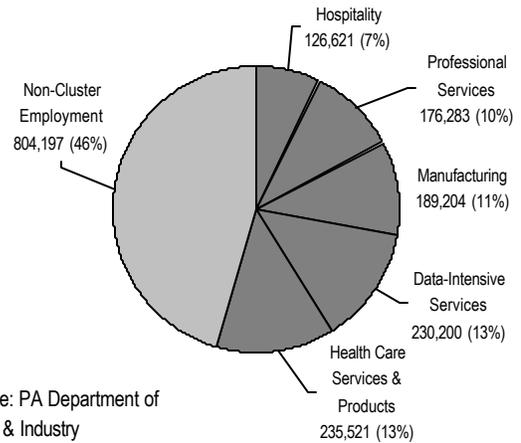
Source: County Business Patterns, 1997

Cluster Employment

Workforce demand also can be viewed through the lens of the region’s strategic economic clusters. Clusters are sub-sectors of different industries that when combined reflect a more accurate picture of the activity between and within major industry groups in the regional economy. The region’s industry clusters are professional services, hospitality, data-intensive services, health care services and products, and manufacturing. (See box below for more details on the region’s economic clusters.)

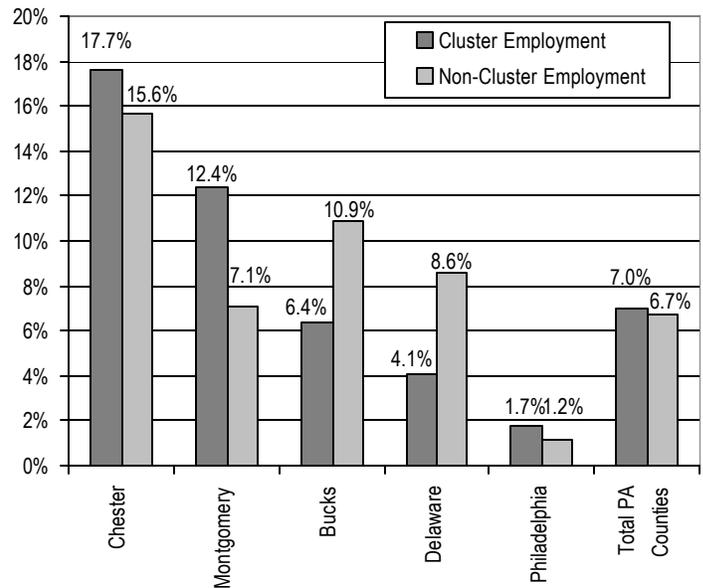
- In 1998, about 54 percent of all employment in the five counties of Southeastern Pennsylvania came from the five strategic economic clusters. Cluster employment grew by 7 percent or almost 63,000 net new jobs between 1995 and 1998, slightly stronger than non-cluster employment growth of 6.7 percent.
- **County cluster employment growth.** All counties had net gains and positive growth in combined cluster employment between 1995 and 1998. Cluster employment growth was stronger than non-cluster employment growth in Philadelphia, Chester, and Montgomery Counties, but not in Bucks or Delaware Counties.
- **Professional Services Cluster.** The professional services cluster was the fastest growing industry cluster in the region in recent years – between 1995 and 1998, the

Cluster vs. Non-Cluster Regional (5-County) Employment, 1998



Source: PA Department of Labor & Industry

Cluster vs. Non-Cluster Employment by County, 1998



Source: PA Department of Labor & Industry

Regional Strategic Economic Clusters

In 1995, Greater Philadelphia First put forth an economic strategy identifying five industry clusters that present the greatest growth opportunities for the region or are of strategic importance to the region. These five industry clusters represent opportunities not only for regional employment growth, but also for regional economic growth because they are tradable or exportable industries. Growth in these industries draws in dollars from outside the region that boost wages, create more jobs, raise the skill levels of workers, and ultimately generate wealth for the region.

Professional Services: Engineering and management services; educational services; membership organizations; manufacturing admin. and auxiliary; legal services; computer programming services; computer integrated systems design; advertising; prepackaged software

Hospitality: Eating and drinking places; amusement and recreation services; hotels and other lodging places; museums, botanical, zoological gardens

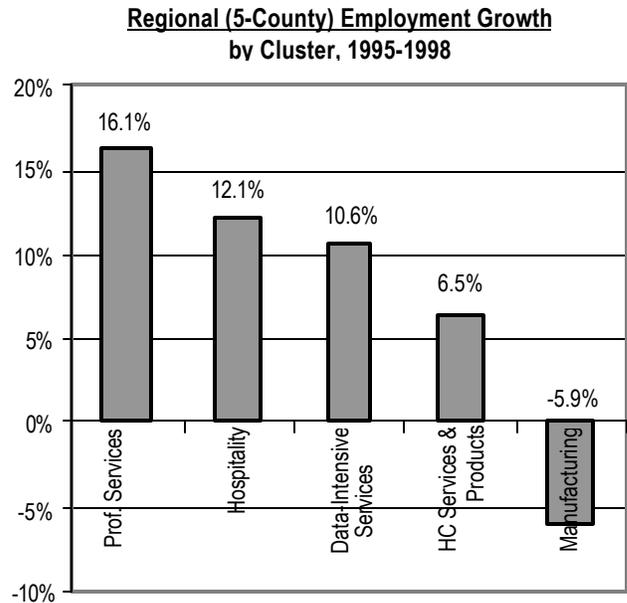
Data-Intensive Services: Business services; insurance carriers; printing and publishing; depository institutions; insurance agents, brokers, and service; non-depository credit institutions; catalog and mail-order houses

Health Care Services and Products: Health services; drugs; surgical, medical, & dental instruments and support; ophthalmic goods

Manufacturing: precision manufacturing sub-cluster; heavy manufacturing sub-cluster; processing industries sub-cluster; other manufacturing sub-cluster

cluster grew by 16.1 percent or more than 24,000 net new jobs. The growth was strong across the board – all counties had positive gains in employment, including the city of Philadelphia, which added more than 10,000 net jobs in the professional services cluster.

- Hospitality Cluster.** Economic development investments in the region’s hospitality and tourism cluster (hotels, convention center, entertainment venues) appear to be paying off in terms of employment – the region’s hospitality cluster grew by 12.1 percent or a net gain of almost 14,000 jobs between 1995 and 1998. Unlike other clusters, where much of the region’s employment growth occurred in the suburban counties, the greatest employment gains were in Philadelphia and Montgomery County, which accounted for more than 70 percent of the region’s employment growth or a net gain of 10,000 jobs. Philadelphia’s employment gain is likely the result of hotel and other hospitality-related venue construction, while growing retail outlets such as the King of Prussia Mall probably explain much of the employment gain in Montgomery County.
- Data-Intensive Services.** Growth in the data-intensive services cluster was strong between 1995 and 1998 (10.6 percent or a net gain of 22,000 jobs), but the bulk of employment gains were concentrated in two counties – Chester and Montgomery Counties, which together added almost 20,000 jobs in the data-intensive services cluster.
- Health Care Services and Products.** In spite of tremendous change taking place in health care throughout the nation, the region’s health care services and products cluster employment grew by 6.5 percent or about 14,000 net gain in jobs between 1995 and 1998. Growth was not very evenly dispersed across the counties of the region – employment gains were greatest in Chester and Montgomery Counties, a likely reflection of the growing population that has moved to these counties in the past decade. Weaker growth took place in Bucks and



MARKET INTERVENTIONS

District 1199C Training & Upgrading Fund focuses on healthcare workers by providing a career ladder from unemployment to every level of healthcare employment. Program components include: adult basic education and an alternative high school diploma; self improvement and leadership programs; a tuition reimbursement plan providing up to \$5,000 per year; a full-time scholarship program including tuition costs, stipends, and healthcare benefits; and, a continuing education program with a Licensed Practical Nurse program scheduled for early 2000. The continuing education program provides training in a wide range of occupations and technology, such as mental health/mental retardation technician, medical billing and coding, medical terminology, therapeutic services support education, and nurses aides.

Targeted Population/Eligibility: Unionized healthcare workers and community members who are laid off hospital workers, TANF recipients and Pennsylvania residents

Program Partners/Founders: 60 participating healthcare employers, Region III of U.S. Department of Labor, PA Department of Education, the National Union of Hospital & Healthcare Employees, AFSCME, AFL-CIO

Performance Measures (Participating in Past Two Years)

Tuition reimbursement.....	2,334
Full-time scholarships.....	77
Part-time courses.....	2,104
Community members in grant programs	1,207
Nurse Aide certification testing	3,620
Placement through Hiring Hall	2,853

Delaware Counties, and practically no growth was seen in Philadelphia.

Great disparities in employment growth existed not only between counties, but also between sub-sectors of the cluster. Hospitals, by far the largest sub-sector in terms of employment, experienced no employment growth in recent years, while sub-sector employment growth was strongest in pharmaceuticals, home health care services, specialty outpatient facilities, offices and clinics of health practitioners, and medical laboratories. These employment trends reflect nation-wide trends in health care – the shift away from more expensive, in-patient service to outpatient care and the delivery of service closer to people’s homes, which increasingly is in suburban communities. This year has seen a spate of job cutbacks by hospitals (the Hospital of the University of Pennsylvania most recently), which could lead to a much different future for the largest segment of this cluster.

- Manufacturing.** The manufacturing cluster was the only regional employment cluster to experience a decline in employment in recent years (-5.9 percent or a net loss of almost 12,000 jobs). In spite of the overall loss of jobs, Bucks and Chester Counties managed to post slight gains in manufacturing jobs. Bucks County’s gain appeared to be in heavy, assembly-type sub-sectors that traditionally are identified with manufacturing in the region (e.g., fabricated metal products, apparel and other textile products, paper and allied products). Chester County’s growing manufacturing base, on the other hand, appears to be “lighter,” more precision-demanding processing than traditionally required of manufacturers. Chester County’s strongest manufacturing employment growth was in chemical and allied products.

MARKET INTERVENTIONS

Philadelphia Area Accelerated Manufacturing Education, Inc. (PhAME) provides training in precision-machining expertise, interpersonal skills, and work ethics. The program was developed in direct response to employers’ need for qualified workers in the manufacturing industry. Program candidates earn certificates in precision machining, improving their math and reading skills along the way. The 61-week program is an intense schedule of modules, with candidates putting in the same time and hours as a regular, full-time job. Candidates who complete the PhAME program are in a good position to pursue an associates, bachelors, or masters degree.

Targeted Population/Eligibility: Open to under-employed and disadvantaged men and women with an eight-grade or higher education

Program Partners/Founders: Crown Cork and Seal Company, Inc., The Reinvestment Fund, Delaware Valley Industrial Resource Center, Ogontz Avenue Revitalization Corporation, Community College of Philadelphia, Lehigh University

Performance Measures (Cumulative since 2/98)

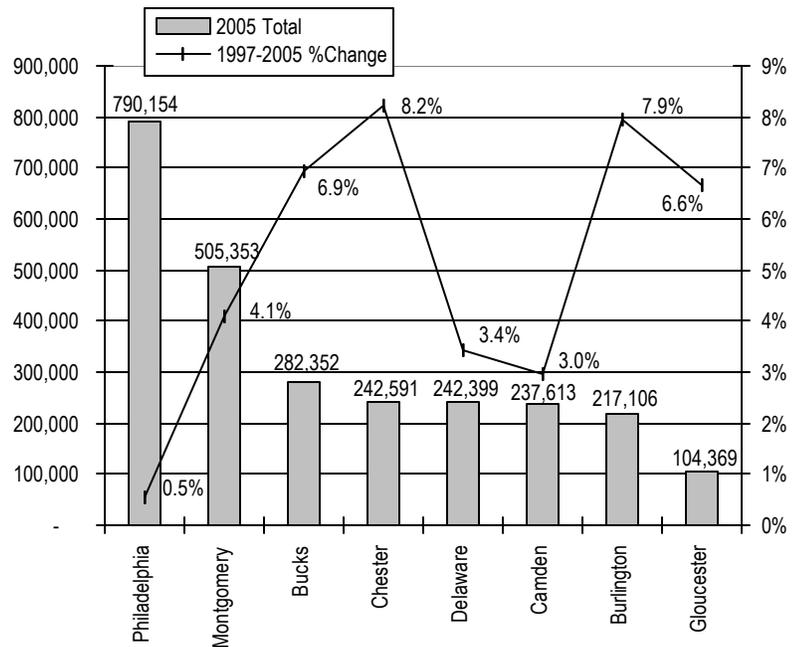
No. enrolled (as of 8/99).....	284
Total no. of placements.....	80
Average wages of placements.....	\$11.19/hr

Industry Employment Projections

Employment levels will grow and contract as the region’s economy continues to transition from manufacturing-based to technology-driven and service-based. Inevitable changes in economic cycles will also have an effect on future employment demand.

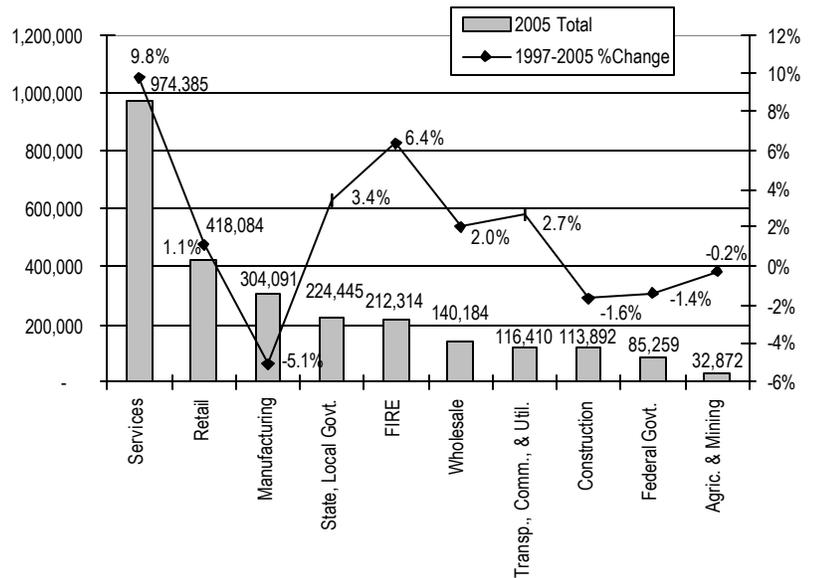
- The combined 8-county region (all counties except Salem, NJ) is expected to experience modest growth of 3.9 percent (or 98,000 net new jobs) in employment between 1997 and 2005, according to the Delaware Valley Regional Planning Commission’s most recent employment projections.
- Employment growth will continue to be strongest in suburban counties that are currently growing, particularly Chester (8.2 percent), Burlington (7.9 percent), and Bucks (6.9 percent). Montgomery County, which has an increasing share of the region’s employment base, will experience somewhat slower growth of 4.1 percent. No county will have employment losses, however Philadelphia will remain relatively unchanged with 0.5 percent employment growth.
- Employment growth between 1997 and 2005 is projected to be strongest at the region’s base industry – service sector employment will increase by 9.8 percent or a projected net gain of 87,000 jobs. By 2005 the service sector will be comprised of 974,000 jobs or about 37 percent of all employment, compared to 34 percent of all employment in 1998.
- Significant employment growth of 6.4 percent is also projected for the finance, insurance, and real estate industry, though this industry will make up only about 8 percent of 2005 employment in the region.

Employment Projections by County, 2005 Total Employment & Growth between 1997-2005



Source: Delaware Valley Regional Planning Commission

Regional (8-County) Employment Projections by Industry, 2005 Total Employment & Growth between 1997-2005



Source: Delaware Valley Regional Planning Commission

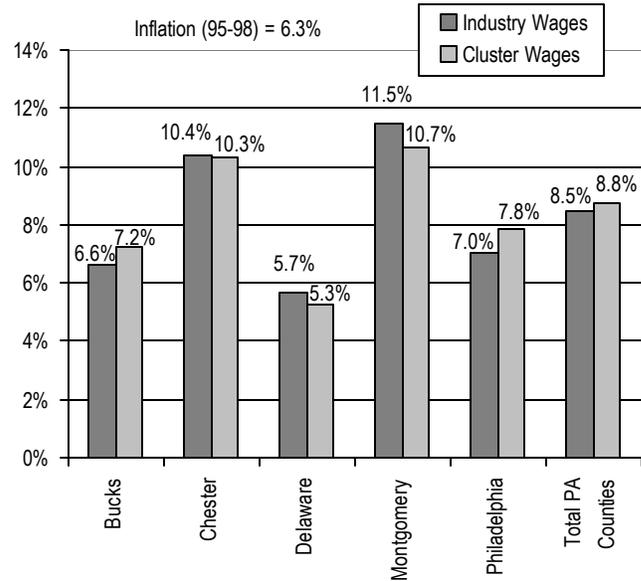
Manufacturing is expected to continue declining over the next decade. By 2005 employment will have decreased by 5.1 percent or a net loss of 16,000 jobs. The projected decline in construction employment, 1.6 percent, will probably coincide with regional economic cycles.

Average Annual Wages

Beyond the sheer number of jobs is the quality of workforce demand. To some degree we can assess the quality of workforce demand by looking at growth in workers' wages – any growth in wages beyond inflation could be a measure of the quality of workforce demand.

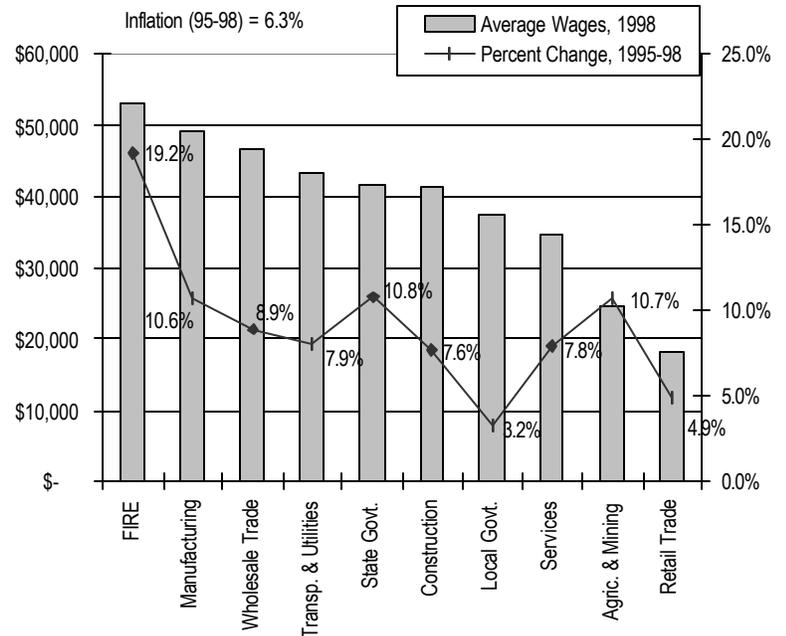
- Industry wages for the 5 counties of Southeastern Pennsylvania grew by 8.5 percent between 1995 and 1998; during the same period, combined wages for the clusters in these counties grew by 8.8 percent. Both these wage growth rates were faster than inflation in Greater Philadelphia over the same period (6.3 percent), a positive sign for the quality of employer demand.
- Wage growth was strongest in Montgomery and Chester Counties, a reflection of their robust economies in recent years. Average wages in Bucks County grew only slightly faster than inflation. In the context of strong residential growth, this trend suggests that Bucks County remains a strong commuter suburb given the significant employment opportunities that surround it – Mercer County, NJ and New York City to the east, Lehigh County to the north, Philadelphia to the south, and Montgomery County to the east. Delaware County was the only county whose average annual wages lagged behind inflation, possibly due to a lack of strong employment centers in Delaware County other than the Philadelphia Airport. Philadelphia was in the middle of the pack, with wage growth that was slightly faster than inflation.
- Average annual wages for all industries in the 5 counties were \$36,800 in 1998. Wages for all major industry divisions grew between 1995 and 1998, all of them at a rate faster than inflation including manufacturing. Finance, insurance, and real estate had the strongest wage growth of 19.2 percent and the highest annual wages of almost \$53,000.

Growth in Real Annual Wages for Industries & Clusters by County, 1995-1998 (\$1998)



Source: PA Department of Labor & Industry

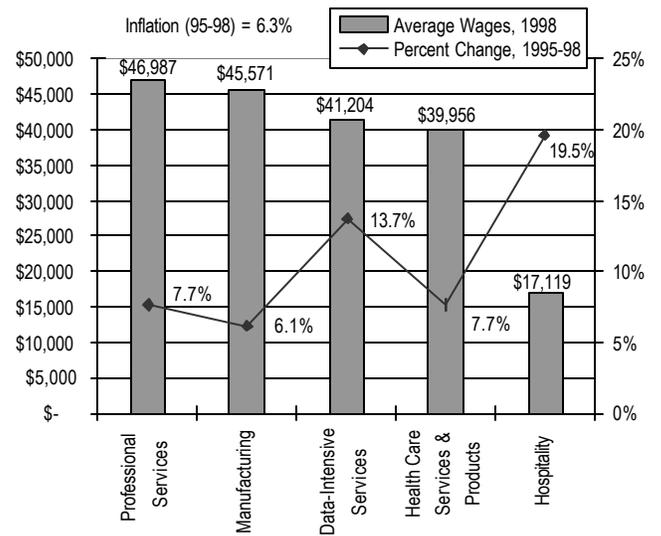
Regional (5-County) Real Annual Wages, 1998 & Growth 1995-1998 (\$1998)



Source: PA Department of Labor & Industry

- In 1998, workers in the five industry clusters had average annual wages of \$39,600. Wages in all the economic clusters grew between 1995 and 1998, all faster than inflation, again with the exception of manufacturing.
- Strong growth in average annual wages for the data-intensive services cluster (13.7 percent) and better than average 1998 wages suggests that the quality of opportunities being offered by employers in this cluster improved significantly. This differs from the hospitality cluster, which experienced the strongest employment growth (19.5 percent) of all the industry clusters, but by far had the lowest average wages of all the clusters.
- The professional services cluster and health care services and products clusters both had growth rates only slightly better than inflation. Even so, the strong wages in these clusters suggest that employer demand in these clusters is favorable for regional workers.
- Manufacturing was the only cluster whose average wages did not grow faster than inflation, though the fact that average wages grew at all was promising, given the 5.9 decline in employment for this cluster between 1995 and 1998 (the only cluster to experience decline in employment).

Regional (5-County) Real Annual Wages for Clusters, 1998 & Growth 1995-1998 (\$1998)



Source: PA Department of Labor & Industry

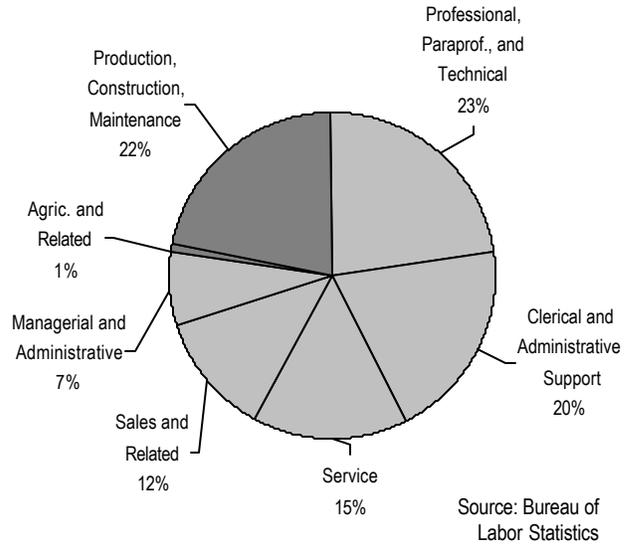
Occupational Employment

Occupational employment in the 9-county region gives some sense of workers' skill levels and the environment in which they complete their work assignments. Quality of workforce demand might also be inferred from the source through which workers obtain the skills they employ in their jobs, whether it was formal schooling or on-the-job-training.

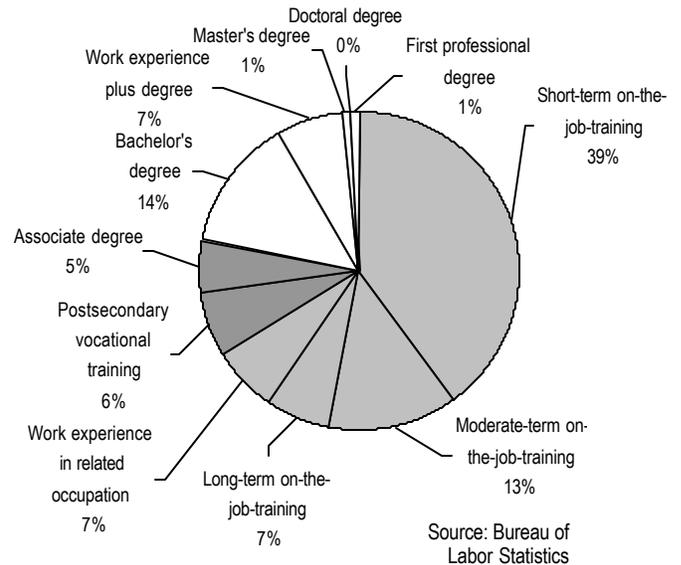
- In 1997, the region's occupational employment was 2.15 million. While workers held a broad range of occupations in 1997, to a limited extent these occupational divisions can be grouped by work environment. About 23 percent of the region's occupations were involved in direct production or extraction processes (e.g., production, construction, agriculture, fishing). The remaining 77 percent of the region's occupational employment were in a variety of settings – offices, retail venues, on-the-road sales calls, among other work environments.

- The Bureau of Labor Statistics has identified the most likely source of training for each of the major occupation divisions. (See the following page for definitions.) Using this information, occupational employment can be re-sorted to show the most significant source from which workers obtained their training in order to fulfill their job responsibilities. According to this re-sorting, the most significant source of training for workers filling two-thirds of occupations in the region was on-the-job training; for 40 percent of occupational employment the most significant source of training was only short-term. The most significant source of training for the remaining one-third of workers was through the formal system – either a vocational/technical program or a degree-granting institution.

Regional (9-County) Occupational Employment by Major Division, 1997



Regional (9-County) Occupational Employment by Most Significant Source of Training, 1997

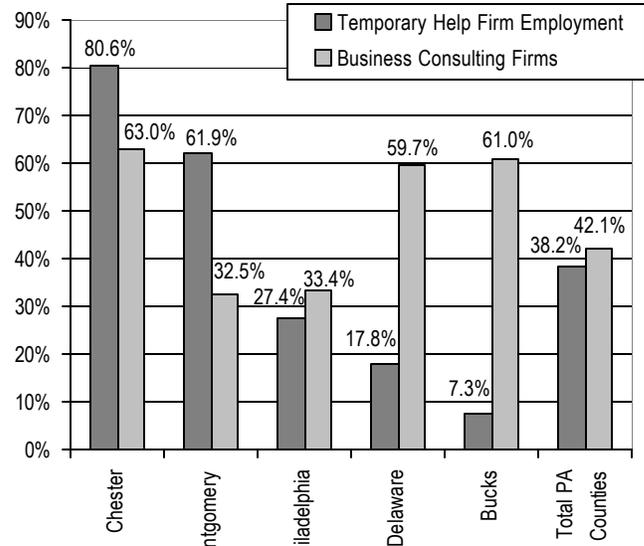


Alternative Work Arrangements

A widely accepted belief is that our national economy over the past two decades has begun to see a shift away from the lifetime, full-time employee to a variety of alternative temporary work arrangements. These arrangements include independent contractors, on-call workers, employees of temporary help agency workers, or workers hired out by contract firms.

- Although there is no national or regional data set that fully captures these changes in work arrangements, one measure that can be used to examine a small portion of this changing dynamic is regional employment growth in temporary help firms and business consulting firms. From 1995 to 1998, the five Southeastern Pennsylvania counties saw a tremendous amount of growth in these firms. While some of this growth is attributable to a robust economy, most likely some of it also is attributable to an increasing reliance on temporary employees and outsourcing.
- Both classifications grew much faster than the regional professional services cluster did as a whole. Overall, the professional services cluster grew 16 percent within the same three-year period, compared to 38 percent employment growth in temporary help firms and 42 percent employment growth in business consulting firms.

Regional (5-County) Employment Growth in Temporary Help and Business Consulting Firms, 1995-1998



Source: PA Department of Labor & Industry

Greater Philadelphia's Workforce Gaps

There are many positive aspects to Greater Philadelphia's workforce – on the supply side, a large and diverse worker pool; on the demand side, strong growth in employment and wages in recent years. Yet, quantitative and anecdotal evidence seem to suggest that there are gaps between supply and demand. These gaps are not necessarily unique to this region, but part of trends influencing the workforce market nation-wide. In some cases, workforce gaps are absolute shortages of workers, while in other cases the gap results from a lack of preparedness for work. There also is growing evidence that gaps are resulting from the region's spatial development as well as the competitive image of the region. Highlights of this section include:

- **Technical skills gap.** There appears to be a regional shortage of workers with technical skills, reflective of an absolute, nation-wide shortage. In Greater Philadelphia, home-grown talent does not appear to be sufficient to meet growing employer demand for information technology workers. Anecdotal evidence suggests there is a shortage of manufacturing workers with technical skills, even though the manufacturing industry continues to lose jobs.
- **Worker readiness gap.** The work readiness of job candidates, even basic skill levels, is of growing concern to regional employers. There is significant disparity in the skill levels of students in Philadelphia schools and suburban schools in the region. Philadelphia students had lower test scores and SAT scores as well as fewer computers per student as compared to their suburban counterparts. Limited data from employer surveys suggests that a lower quality candidate pool in the region also appears to be keeping employers from filling vacant jobs.
- **Spatial barriers to work.** For many workers, there are barriers to work aside from differences in skill or educational attainment levels. These barriers are spatial in nature and include transportation issues, child care, and housing. While all workers are affected by spatial barriers, especially as employment becomes more dispersed throughout the region, low-income workers lack the means to overcome them. As unemployment levels hit all-time lows in suburban communities, the ability of lower-income workers to reach suburban employment opportunities is likely to grow in importance.
- **Image and attitude.** The region's image is an important ingredient in attracting and retaining top talent. Business rankings and student surveys suggest that other regions have greater appeal than Greater Philadelphia, perhaps resulting in a regional "image gap."

Technical Skills

Data on employment growth and graduation rates and surveys done at the national, regional, and local levels shed some light on unmet demand for technical workers in the region.

- Information Technology.** The gap between the number of available information technology workers and the number of open information technology positions is growing. One study projected that the nation will need an average of 95,000 additional computer scientists per year until 2005. Yet, the supply of graduates is not keeping pace with demand – in 1994 only 24,553 students in the country graduated with a bachelor’s degree in computer and information sciences. And while the demand of IT professionals increases, the supply chain is slowing down – between 1986 and 1994, the number of bachelor’s degrees awarded in computer science declined by more than 40 percent. One way employers are filling the gap is to look overseas for IT professionals – countries such as India, Russia, East Asian nations and South Africa have become major feeders of IT workers for U.S. firms.

In the Philadelphia region, there also appears to be a gap between the supply of new technical workers and the net growth of IT jobs in recent years. The data-intensive services cluster, which relies heavily on workers with IT skills, gained about 7,300 net new jobs each year between 1995 and 1998 for a total gain of 22,000 jobs. On the new worker supply side, regional institutions graduated 3,300 students from computer and information sciences programs (degrees and certificates) in the 1997-98 school year. Most of these graduates earned certificates, which suggests that some of these students were existing workers who were upgrading their skills. If this is the case, the yearly supply of new IT workers is probably even lower. All in all, home-grown talent does not appear to be sufficient to meet growing employer demand for IT workers in the region.

Regional (9-County) Graduates from Technical Programs, 1997-98 School Year

	Computer Information Sciences	Engineering	Eng.-Related Technologies	Precision Production	TOTAL
Certificate/Diploma	2,090		456	56	2,602
Associate's Degrees	427	42	327	58	854
Bachelor's Degrees	409	985	10		1,404
Master's Degrees	353	490	17		860
Doctoral Degrees	16	75			91
TOTAL	3,295	1,592	810	114	5,811

Source: PA and NJ Departments of Education

MARKET INTERVENTIONS

SCT Corporation, a regional leader in information technology management solutions, created **SCT Academy** as a corporate initiative to attract students with technical and non-technical backgrounds and train them for careers in information technology. Students who demonstrate the ability to learn – through their college GPA, for example – are recruited to attend the Academy’s 3-month training program in product consulting, product support, database administration, software development, technical consulting, and networking. After an initial evaluation Academy participants are placed on a job-specific track or a product track. SCT developed the Academy after determining that directly equipping the best and the brightest with technical skills was more cost effective recruiting than solely competing for graduates with technical skills, most of whom have several offers upon graduation. Now in its fourth year, SCT Academy produces workers who have a leg up in their careers once they finish their 3 months of training.

Targeted Population/Eligibility: Recent colleges graduates, many of them from regional institutions

Program Partners: SCT Corporation

**Performance Measures
(Cumulative estimates, 1995 to present)**

Total trainees/graduates.....	350
Percent placed on technical track	64%
Percent place on product track.....	36%

Another interesting possible indicator of a regional shortage of technical workers is foreign immigration to the region – some of the major immigrant groups coming to the region are from countries with higher educational attainment rates, such as India, China, Vietnam, the Ukraine, Korea, and Russia. However, it is not clear if IT employers are recruiting technical workers from abroad.

- **Manufacturing.** There also appears to be a national crisis in finding able, qualified candidates to work in manufacturing. In a 1997 national survey of manufacturers, one quarter responded that more than 75 percent of all potential job candidates were unqualified. Apparently, the worker skill deficiency has become so severe that 21 percent of surveyed companies had postponed or decided not to add new lines of business. A 1999 follow-up survey reported that 83 percent of manufacturer respondents were having extreme difficulties finding and retaining employees.

In Greater Philadelphia, the manufacturing cluster experienced a net loss of almost 12,000 jobs between 1995 and 1998, while the manufacturing industry as a whole lost 3,400 net jobs. On the supply side, the region graduated 2,500 students from programs in engineering, engineering-related technologies, and precision production trades. While employment could be interpreted as diminishing employer demand, anecdotal evidence suggests that demand is growing for workers who have technical skills that are applicable to the manufacturing process. Also, the difference between employment losses in the manufacturing industry as a whole and the manufacturing cluster suggests that employment is growing in drug manufacturing, the only sub-sector that is not part of the cluster. It is likely that some of this demand is not being met because of a technical worker shortage.

Chester County Employer Survey

Skills in highest demand over next 3-5 years (% responding "yes"):

Computer software	48%
Problem solving	43.5%
Computer systems	42%
Interpersonal relational skills	42%
Written communication	40%

Source: Chester County Development Council,
1999 Workforce Development Survey

- **Survey of Chester County Employers.** Some data does exist on employer demand for technical workers in Chester County, which has experienced strong employment growth in recent years. In a survey of roughly 300 Chester County employers representing a wide array of size, total sales, and industries, more than three-fourths reported that they need employees with “higher skills.” Almost half reported that “computer software skills” will be the skills set in greatest demand over the next 3 to 5 years; 40 percent cited “computer systems” as the skills set with the greatest employer demand. However, these employers also reported increasing demand for workers with non-technical skills, such as problem solving and communication skills.

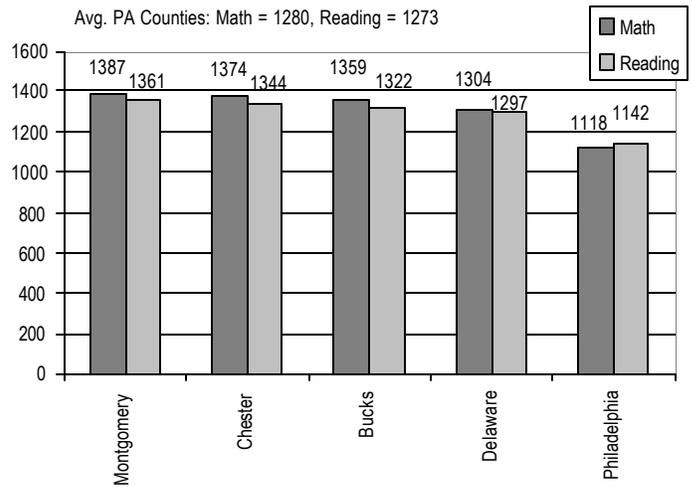
Worker Readiness

Much of the preparation young people receive for work is in elementary and high schools, where they are equipped with basic skills in math and reading and introduced to work ethics and behavioral skills. In today’s technology-driven work environment, many employers now also expect workers, including people in entry-level positions, to have some degree of computer proficiency coming out of school.

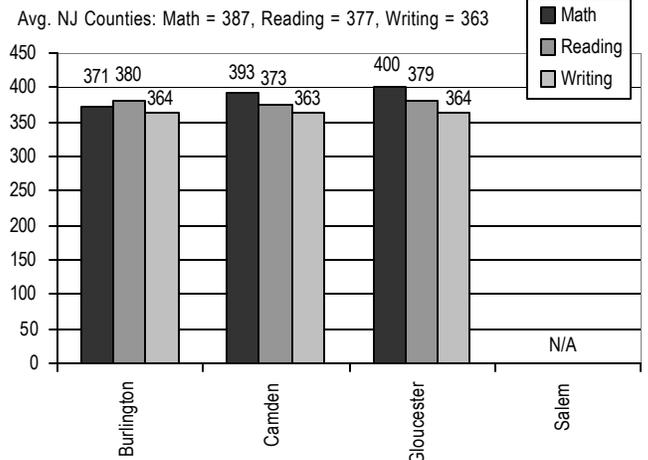
- **Test scores.** Scores on the Pennsylvania System of School Assessment (PSSA) test, which is administered to 11th graders in Greater Philadelphia, indicate great disparity in the skills of young people in Philadelphia versus suburban schools. In 1998, average PSSA test scores in math and reading of Philadelphia 11th graders (1118 and 1142, respectively) were considerably lower than those of Pennsylvania suburban schools, all of which had averages about 1300 and above. (The possible range of scores was between 1000 and 1600; the state-wide average scores for math and reading were 1300). New Jersey 11th graders (all except Salem County), who are administered the High School Proficiency Test (HSPT), had passing test scores of 387 in math, 377 in reading, and 363 in writing in 1998 (a passing score was 300).

The same disparity is evident for college-bound students in the 8-county metro area. While the region’s average 1998 SAT score of 1011 was almost equal to the national average of 1017, Philadelphia’s average SAT score of 892 was by far the lowest in the region. All other counties in the region had scores equal to or higher than the national average. As an overall measure of student quality, SAT scores are probably an overestimate since only students who intend to go to college are required to take the SATs. In addition, Philadelphia had a lower proportion of students who took the SAT than suburban counties, which makes the city’s average SAT score of even greater concern.

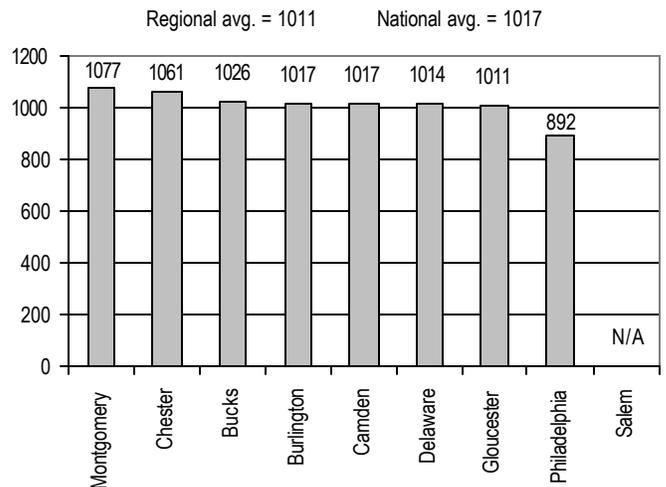
PSSA Test Scores for PA 11th Graders, 1998



HSPT Scores for NJ 11th Graders, 1998



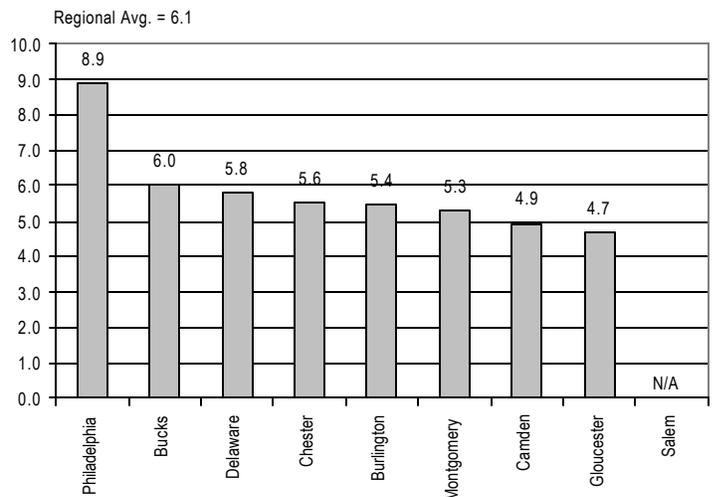
SAT Scores by County, 1998



Source: The Philadelphia Inquirer, 1999 Report on the Schools

- Technology in schools.** As computer proficiency has become part of the basic skills set required in many positions, high schools in the 8-county region have begun investing in new computer equipment and teacher training in computers. Like test scores, there appears to be significant disparity between the city and suburban counties in terms of technology in schools – in 1999, the average number of students per computer was 8.9 in Philadelphia, compared to 6.0 and fewer for the other counties of the region.
- DVRPC Employer Survey.** In 1999 DVRPC conducted a survey of 150 companies with 100 or more employees that focused on entry-level hiring. Employers were asked about basic skills training that entry-level workers would need prior to employment with their companies; most employers reported that entry-level requirements now go beyond basic math and reading skills to include communication, professional demeanor, and organization skills. On a scale of 1 to 7, with 1 being “extremely easy” and 7 being “extremely difficult,” 58 percent of respondents reported a 5 or higher in terms of difficulty in finding qualified candidates for entry-level positions. The vast majority of respondents (76 percent) attributed this difficulty to an unqualified labor supply.
- Chester County Employer Survey.** In Chester County’s survey of employers, 77 percent said they recruit employees straight out of high school; of this group, 63 percent rated high school recruits’ work readiness as average or above. Eighty-three percent said they recruit from college; 94 percent of this group rated the work readiness of college recruits as average or above. The survey also asked employers about general skill levels of employees – 64 percent of employers reported that they were displeased with employees’ general skill levels, particularly basic skills in math, reading, customer relations, and interpersonal relations.

Number of Students per Computer by County, 1998



Source: The Philadelphia Inquirer, 1999 Report on the Schools

DVRPC Employer Survey

Basic skills entry-level workers are expected to have prior to employment (% who felt 40% or more of their entry-level jobs needed these skills):

Communication.....	76%
Professional demeanor.....	76%
Organization.....	70%
Writing.....	63%
Math.....	50%
Computers.....	49%

Source: Delaware Valley Regional Planning Commission, 1999 Regional Employer Survey

Chester County Employer Survey

Skills lacking in most candidates age 21 and < (% responding “yes”):

Problem solving.....	26%
Written communication.....	23%
Interpersonal relational skills.....	20%

Skills lacking in most candidates age 18-21:

Interpersonal relational skills.....	28%
Written communication.....	23%
Basic math.....	17%
Customer relations/service.....	16%

Source: Chester County Development Council, 1999 Workforce Development Survey

Spatial Barriers to Work

In recent years, employment growth for the most part has taken place outside the central business district and in the suburban counties of the region. While suburban workers have been able to fill many of the growing number of positions in suburban companies, tight labor markets and all-time low unemployment rates in the suburban counties are forcing employers to look to city workers to fill positions, including entry-level or lower-skilled positions. Yet, many city residents who could fill these positions face serious obstacles in reaching employment opportunities in increasingly far-flung suburban locations. Some of these obstacles are less related to skills and education and more to spatial considerations.

- Car Ownership.** A 1998 study compared the estimated cost of owning a vehicle in Philadelphia. The study found that for a low wage-earning Philadelphia resident (i.e., \$6 per hour during a 30-hour work week), the cost of owning a car would use up 11 percent of his or her income. This figure might underestimate car ownership costs since it does not take into account costs imposed by highway congestion and longer commuting distances.
- Public Transit.** Transit provided by SEPTA, the region’s transit authority, is comprised of a network of mostly fixed, centrally-focused transportation lines (i.e., regional rail lines and radial surface transit routes). This system was an effective use of resources when more of the region’s employment based was located in Philadelphia. However, city residents who are now trying to reach suburban jobs are often faced with long, expensive commutes, assuming the location is even reachable by public transit. Suburban residents have even less choice in reaching suburban jobs via public transit because fewer suburb to suburb routes exist. SEPTA has made significant progress in expanding service to suburban employment locations using bus routes, such as Routes 124 and 125, which run from Philadelphia to the

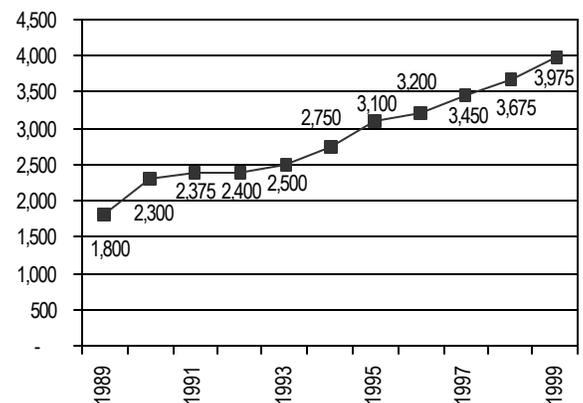
MARKET INTERVENTIONS

Suburban Transportation Planning and Management: SEPTA has achieved some success expanding suburban service, either by restructuring old routes that have low ridership or introducing new routes using subsidies from suburban employers and suburban counties. In some cases, these routes are last leg trips between a regional rail line and an employment center, such as Route 201, which connects the R5 with the Fort Washington Office Center. In other cases, service is expanded through the exclusive use of buses, such as Routes 124 and 125, which travel from Philadelphia along the Schuylkill Expressway to King of Prussia. The methods behind SEPTA’s suburban service delivery also have evolved to better meet the needs of riders and suburban employers. Smaller, 25-seat vehicles make more frequent trips and often provide door-to-door service in the case of office centers. Bus service connecting with the regional rail system is timed to ensure riders make their connection, and service is often provided at night to accommodate evening and late-night shifts.

Targeted Population: Transit riders commuting from the city to the suburbs for employment opportunities, suburban employers

Program Partners: SEPTA, suburban counties, suburban employers, Transportation Management Associations (TMAs)

Annual Weekday Ridership, Routes 124 and 125 (Bus Service between Philadelphia and King of Prussia)



Source: SEPTA

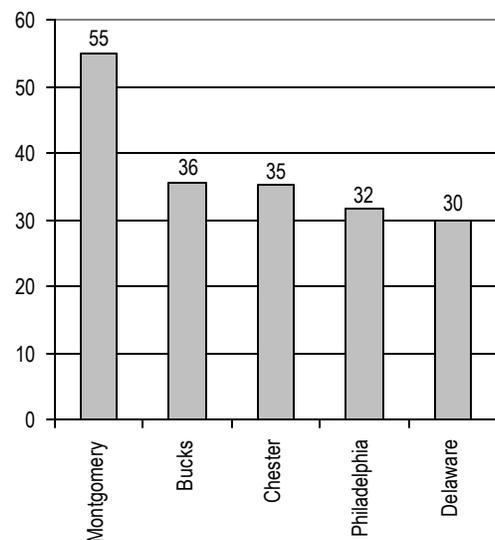
King of Prussia Mall. However, expanding suburban service is largely dependent on subsidization by suburban employers and counties.

- Child Care.** Affordable and available child care is one of the greatest barriers to getting and keeping jobs. Most people regardless of economic status prefer that the care of their child or children be close to home, as opposed to their place of work. A recent study found that child care availability varies to some extent across the five Southeastern Pennsylvania counties – Montgomery County has a very high number of slots per 100 children (55), while the other Pennsylvania counties of the region had 30 to 37 slots per 100 children. This survey did not include data on the affordability of these child care slots. As the travel distance continues to increase for many workers, and as workers are increasingly required to work all hours of the day, not just the normal 8-5 workday, child care arrangements will have to become that much more flexible and affordable in order to ensure workers can stay in jobs.
- Another major concern for workers is the quality of available child care. According to information compiled by the Philadelphia Citizens for Children and Youth (PCCY) in 1999, the annual turnover rate among child care teachers is 31% and among teacher’s aides it is 51%. A major reason for this high turnover is low wages. Child Care teachers make about one-third what kindergarten and elementary school teachers earn. A recent report by the Pennsylvania Legislative Budget and Finance Committee shows that average salaries for child care workers in center-based programs range from \$5.86 for an aide to \$8.49 for a teacher.
- Housing.** In recent years, much of the region’s employment growth has occurred in newly developed, relatively affluent suburban communities. In many of these communities, strong employment growth has coincided with the development of mostly higher-end

residential housing. This construction of higher-end housing is likely limiting the affordability of housing near growing employment opportunities in the region, particularly for lower-skilled, lower-income workers. On the flip side, suburban employers are less able to draw on a diverse workforce, especially as the supply of labor residing in the suburbs tightens.

A study recently completed by the National Low Income Housing Coalition sheds some light on the question of affordable housing in the region. According to NLIHC, the fair market rent for a two-bedroom unit in Greater Philadelphia is \$579 per month; an extremely low income household (i.e., earning 30 percent of 1999 area median income), however, can afford monthly rent of no more than \$347. Low-income residents are not the only workers facing serious barriers to employment because of housing costs – the NLIHC study concludes that 47 percent of all renters in the region are not able to afford the fair market rent of \$579 for a two-bedroom unit. The study does not distinguish between housing costs in the city versus the suburbs.

Number of Child Care Slots per 100 Children, by County



Source: Philadelphia Citizens for Children and Youth

Regional Image

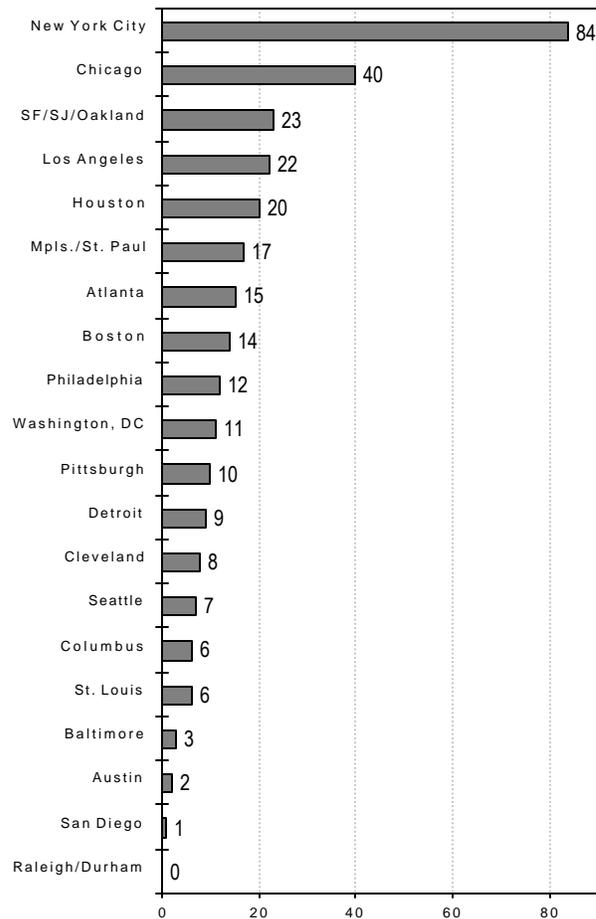
In today’s tight labor market, top talent can go where employment opportunities are greatest. Often their location decisions are decided by a favorable impression of a region (e.g., thriving business activity, positive quality of life).

- The presence of major corporations – public, privately-held, and fast-growing – is a major draw for highly talented workers, particularly knowledge workers. On this front, Greater Philadelphia is consistently outranked by regions such as San Francisco, New York, Boston, and Chicago, which have a strong presence in national business rankings such as the *Fortune* and *Inc. 500*. These metro areas also have the prestige of being home to major corporate headquarters. Most recently, *Forbes Magazine* in its annual *Best Places to Live* survey ranked Greater Philadelphia 84th out of the largest 162 metropolitan areas in the country; the region was not even mentioned in the *Wall Street Journal’s* recently published *New Map of High Tech*.
- While Greater Philadelphia’s colleges and universities attract top talent to the region, studies of this population suggest that many of these students do not necessarily stay in the region upon graduation. In a survey of the 1999 graduating MBA class from the Wharton School (University of Pennsylvania), only 4 percent stayed in Philadelphia; the greatest percentage, 32 percent, chose New York City as the place to start their careers. The same study concluded that a lower proportion of MBA students at Philadelphia schools stay in the region upon graduation than MBA students at schools in other cities such as New York, Boston, San Francisco, and Atlanta.
- Together these studies suggest that the region has a “gap” in its image, a gap that might be hindering the attraction and retention of top talent. Whether the gap is related to a comparatively less enticing business environment, as indicated by the region’s business rankings, or whether this gap is tied to the region’s quality of life is not clear. It

Fortune 500	13 (tied for 6 th)
Forbes 500	15 (tied for 5 th)
Inc. 500.....	16 (tied for 5 th)

Source: Greater Philadelphia First, 1999 Regional Economic Benchmarks

Major Corporate Headquarters in Greater Philadelphia (9-County) and Other Major Metro Areas



Source: Greater Philadelphia First, 1999 Regional Economic Benchmarks

may be that Greater Philadelphia is not lacking in either of these traits, but rather that other regions are comparatively more attractive in terms of employment opportunities and quality of life.

This report defines the Greater Philadelphia region to consist of nine counties – Bucks, Chester, Delaware, Montgomery, and Philadelphia Counties in Pennsylvania, and Burlington, Camden, Gloucester, Salem Counties in New Jersey. All data is for this 9-county Metropolitan Statistical Area (MSA) unless otherwise indicated.

Workforce Supply

Note: All supply measures are residence-based – where people in the region live.

Labor Force Participation: This diagram is based upon data obtained from the U.S. Census Bureau, the Pennsylvania Department of Labor & Industry, and the New Jersey Department of Labor. At the national level, labor force participation is the percentage of the 16+ non-institutional population that is looking and available for work. National data from the Census Bureau was used to estimate the 16+ non-institutional civilian population for the counties of the region in order to make comparisons with national labor force participation. (County population figures issued by the Census Bureau are for the entire population, institutional and non-civilian.) Unemployment rates were obtained from the Pennsylvania Department of Labor & Industry as well as the New Jersey Department of Labor. The unemployment rate is the percentage of people in the *labor force* who are unemployed. The unemployment rate, therefore, does not include individuals who are not in the labor force (i.e., not looking or not available for work).

Population and Geographic Dispersion: The geographic dispersion of the region is measured using the 1990 census figure and a 1998 estimate provided by the U.S. Census bureau. Note: The City of Philadelphia has consistently challenged estimates of the city's population, including the 1990 figure derived through the census count. Recently, the City filed its first formal complaint with the Census Bureau, claiming that the agency undercounted the city's 1998 population by at least 85,000.

Working-age Population: The working-age population is defined as the region's 16-year and older adult population. This measure was calculated using the 1990 census figure and a 1998 estimate issued by the U.S. Census Bureau. Population is inclusive in this measure (i.e., includes institutional and non-civilian population).

Population Projections: Population projections for 8 counties in the region were provided by the Delaware Valley Regional Planning Commission (DVRPC) – all counties except Salem County, which is not part of

DVRPC's service area. (DVRPC includes Mercer County in its definition of the metropolitan area. In order to maintain continuity with other data sets in this report, data for Mercer County has been excluded from this report.) Projections are from base year 1997 to year 2025, in 5-year increments. Figures include projections by age, grouped in 5-year increments. *Note from DVRPC: The City of Philadelphia has challenged the results of the 1990 Census, contending that the final count of 1,585,000 did not include at least 60,000 residents. Given this level of undercount, the 1990 and 1997 Total population for Philadelphia is estimated to be 1,645,000 and 1,555,000, respectively.*

Youth: All figures based on data for the 1997-98 school year; data comes from the Pennsylvania and New Jersey Departments of Education. *Enrollment figures* are based on attendance as recorded in October of 1997. Enrollment figures include public, private, and non-public secondary schools in Pennsylvania and public secondary schools in New Jersey; they do not include enrollment for private and non-public secondary schools in New Jersey, whose enrollment figures are not collected or released by the state. *Total public school enrollment* is based on enrollment as recorded at the conclusion of the 1997-98 school year. *Graduation figures* include all secondary schools in the region except private and non-public schools in New Jersey. With respect to the *destination of high school graduates*, comprehensive data is available for graduates of Pennsylvania high school students in the region; New Jersey data, which is self-reported, does not account for all high school graduates. Approximately 88 percent of all high school graduates in the 9-county metro area are represented in the reported figure. With respect to the *destination of college-bound high school students*, these figures are only available for graduates of Pennsylvania high schools (i.e., attending a school in state versus outside of the state). The *high school drop-out rate* is the percentage of students who are enrolled at the beginning of the 1997-98 school year but did not complete the year. It does not reflect the year-to-year activity of students throughout their high school education (e.g., a student who completes one year but does not enroll the following year). High school drop-out figures are for public schools only – neither Pennsylvania nor New Jersey collects data on high school drop-outs from private or non-public schools.

Graduates of Post-Secondary Programs: This data was obtained from the Pennsylvania and New Jersey Departments of Education and includes graduates from degree-granting institutions in Pennsylvania and New Jersey as well as graduates from proprietary schools in Pennsylvania. Graduation statistics are not available for New Jersey proprietary schools. For a complete list of the different programs that make up each field of study, refer to <http://nces.ed.gov/ipeds/>

Foreign Immigration: Data was obtained from the U.S. Immigration and Naturalization Service. Note: The top ten immigrant groups listed are not a complete count of all immigrants who came to the region (or the US) in 1997.

Welfare Population: These figures were obtained from the Pennsylvania Department of Public Welfare. They represent only *adults* who are subject to work activity requirements in order to receive cash assistance (as opposed to the number of families or budgets in which an adult is subject to work activity requirements). Note that there may be more than one adult in a family who is subject to work activity requirements. This figure does not include families who are receiving cash assistance solely because of a child, such as guardians or caretakers of foster children, because they are not subject to the state's work activity requirements. Data reported is for both March and September of 1999. Currently, figures on the New Jersey adult welfare population are not available to the general public.

Education and Skills: This data is from the 1990 census. More recent estimates are not available at the regional or county level.

Workforce Demand

Note: All demand measures are establishment-based – where people are employed.

Employment and Geographic Dispersion: Employment data used throughout this report is part of the ES202 series, which is collected from all establishments that are subject to state unemployment compensation laws. Employment and wage data on these establishments is collected and made available by the Pennsylvania Department of Labor & Industry and the New Jersey Department of Labor. The ES202 series does not include sole proprietors, family workers, and some foreign workers because they are not subject to

unemployment compensation laws; it also does not include agriculture workers, armed forces workers, elected officials, some rail road workers, some domestic workers, student workers, and some non-profit workers. (Where possible, government figures are added in to private sector employment in this report.) The ES202 series was used because data from this series is believed to more accurately capture the actual place of employment (as opposed to attributing employment to the location of an establishment's headquarters). Also, industry classification in this data set is believed to be more up-to-date than other employment statistics. Note: Employment figures for 1990 are for private sector establishments only (government figures for New Jersey are not available). Also, New Jersey employment figures for 1990 are based on 3rd quarter average monthly employment. Employment represents the number of *jobs* in the region, not the number of *people* employed (See labor force participation for the number of people employed.)

Industry Employment: The employment data for 1995 and 1998 is part of the ES202 series, as described under Employment and Geographic Dispersion above. Final employment figures for 1998 are not yet available for the counties in New Jersey; 1998 New Jersey employment, therefore, is based on preliminary figures for March 1998. Figures reported in this section represent comprehensive data on the region's employment base (as opposed to cluster employment, which only refers to sub-sectors that are part of a cluster.) Note that growth rates in this section do not include federal government employment (although overall employment does include federal government jobs); the 1995 figure for federal government employment is not comparable to the 1998 figure because of a "break" in the collection series.

Cluster Employment: Cluster employment for 1995 and 1998 was measured using data from the ES202 series, as described under Employment and Geographic Dispersion above. Industry clusters, groupings of industry sub-sectors organized at the 3- and 4-digit SIC code level, were developed and presented by Greater Philadelphia First in a 1996 publication entitled *An Economic Development Strategy for the Greater Philadelphia Region*. Cluster employment is only reported for the 5 Pennsylvania counties in the region in this report because 4-digit level employment data for 1998 is presently not available for the New Jersey counties in the region. (The most recent year for which 4-digit level employment for the New Jersey counties is available is 1996.) Total employment of the five

Pennsylvania counties does not include federal employment. Cluster figures reported in this section are not comprehensive data on the region's employment base; rather, they represent the portion of the region's employment that is part of one of the region's five economic clusters. Note that the manufacturing industry is different from the manufacturing cluster. The manufacturing industry represents all manufacturing employment in the region. Employment in the manufacturing cluster, however, does not include drug manufacturers; drug manufacturers are part of the health care services and products cluster.

Industry Employment Projections: Industry employment projections for 8 counties in the region were provided by the Delaware Valley Regional Planning Commission (DVRPC) – all counties except Salem County, which is not part of DVRPC's service area. (DVRPC includes Mercer County in its definition of the metropolitan area. In order to maintain continuity with other data sets in this report, data for Mercer County has been excluded from this report.) Projections are from base year 1997 to year 2025, in 5-year increments, and include county-level projections using standard industry classifications.

Average Annual Wages: Data on average annual wages for 1995 and 1998 are part of the ES202 series data, as described under Employment and Geographic Dispersion above. Wage figures are only reported for the 5 Pennsylvania counties of the region for reasons described under Cluster Employment above. Wages are adjusted for inflation (base year = 1998). The term *industries* refers to wages for all industries in the region, while cluster wages do not include wages for sub-sectors that are not part of one of the region's five economic clusters. Note that the manufacturing industry is different from the manufacturing cluster. The manufacturing industry represents all manufacturing wages in the region. Wages for the manufacturing cluster, however, does not include drug manufacturers; drug manufacturers are part of the health care services and products cluster. This explains why wage growth between 1995 and 1998 is greater for the manufacturing industry than the manufacturing cluster (i.e., the cluster does not include drug manufacturers).

Occupational Employment: Data was obtained from the Bureau of Labor Statistics' Occupational Employment Statistics (OES) program; this data is only available at the MSA level. Occupational employment is based on a survey that covers full-time and part-time wage and salary workers in nonfarm industries; the survey does

not cover the self-employed, owners and partners in unincorporated firms, household workers, or unpaid family workers. OES data is not comparable to industry employment figures because of differences in collection methodology. BLS has determined the most significant source of training for all occupations. (For a definition of these categories, refer to the BLS publication *Occupational Projections and Training Data, 1998-99 Edition*.) The region's occupation employment is re-sorted to represent the most significant source from which workers who fill occupations are obtaining their training. The figures are not meant to indicate that employees with a higher skill level are not currently working in jobs that have a lower minimum skill standard and vice versa. Rather, it is intended to provide a rough sketch of the skill attainment level associated with the region's occupational employment.

Alternative Work Arrangements: Data used to calculate this measure is part of the ES202 series, as described under Employment and Geographic Dispersion above. Because these industries are coded at the three- and four-digit level, New Jersey employment was not included for reasons discussed under Cluster Employment above. The SIC codes used in this measure are 7361, 7363, and 874.

Workforce Gaps

Technical Skills: The nation-wide shortage of IT workers was documented by the US Department of Commerce, Office of Technology Policy, in their 1997 publication *America's New Deficit: The Shortage of Information Technology Workers*. The nation-wide gap in manufacturing workers with technical skills was documented by the National Association of Manufacturers in their *Survey of the American Manufacturing Workforce* (1997, 1999). Employment data on the data-intensive services cluster and manufacturing cluster/industry are part of the ES202 series, as described under Graduates of Post-Secondary Programs above. *The Chester County Employment Survey* was conducted by the Chester County Development Corporation (CCDC) in 1999. The survey, officially called *A Needs Assessment of the Chester County Workforce*, is based on responses from 191 employers in Chester County. The survey is part of a larger CCDC effort – the *Workforce Development Partners of Chester County* -- whose mission is to increase “collaboration, communication, coordination, cooperation, and commitment among workforce development providers within the county.”

Worker Readiness: Test scores for 11th graders in 8 counties of the region (Pennsylvania System of School Assessment or PSSA test scores for Pennsylvania students and High School Proficiency Test or HSPT scores for New Jersey students) were obtained from the annual *Philadelphia Inquirer: 1999 Report Card on the Schools* and the Pennsylvania and New Jersey Departments of Education. The *Report Card* does not include data for Salem County schools. Of 242 public and private high schools in the eight counties, test score data was only available for 166 (68.5 percent). Figures for each county and for the region overall are weighted averages based on the number of students in every school that reported test scores. The following are the percentages of schools reporting their respective SAT scores in each of the eight counties for which data is available: Bucks (60.8%), Chester (58.3%), Delaware (79.17%), Montgomery (66.0%), Philadelphia (57.6%), Burlington (86.4%), Camden (76.9%), Gloucester (92.3%). Technical schools and many private schools did not release their SAT scores; private schools are not required to take the PSSA 11th grade test in Pennsylvania. Data on New Jersey private schools also was not available. Data on the average number of students per computer was obtained from the *Philadelphia Inquirer: 1999 Report Card on the Schools* as well. The *DVRPC Employer Survey* was conducted in 1999 by the Delaware Valley Regional Planning Commission. The survey's 150 respondents represent employers in a variety of industries, all employing 100 people or more. Survey questions focused on employers' entry-level hiring. See Technical Skills above for details on the *Chester County Employer Survey*.

Spatial Barriers to Work: Car ownership costs were obtained from a study completed by the National Conference of State Legislators (*Legisbrief*, August/September, Vol. 6, No. 32). Data on child care slots was provided by the Philadelphia Citizens for Children and Youth. The data was originally collected by the Pennsylvania Department of Public Welfare. The numbers represent the maximum number of slots at each child care facility and not necessarily the number of slots that have actually been taken or left open. Slots were estimated in cases where the maximum number of slots was not available (i.e., family care facilities). Data on housing costs was obtained from a study completed by the National Low Income Housing Coalition (www.nlihc.org).

Regional Image: Business rankings and the number of major corporate headquarters were obtained from the

Greater Philadelphia First *1999 Regional Economic Benchmarks*, which can be downloaded from www.gpfirst.com. *Forbes' 1999 Best Places to Live* is available on-line at www.forbes.com. *The Wall Street Journal's* "New Map of High Tech" was published on November 23, 1999. Universum's studies on graduate retention are described in the *Philadelphia Inquirer* article "MBA's lured from Region: Wharton graduates tend to leave because of opportunity and pay – local leaders want to keep them" (August 4, 1999).

The authors of this report wish to thank the following individuals for their assistance.

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Binney Wietlisbach, Rittenhouse Trust
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Chip Box, PA Department of Public Welfare
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Linda Carlson, SCT Academy/SCT Corporation
Jeannie Corkery, Opportunities Industrialization Center
Joel Fontaine, DVRPC
Maureen Greene, Bureau of Labor Statistics
Richard Greene, Phila. Citizens for Children & Youth
Mike Grigalonis, Chester County Development Corp.
Karen Hanson, Greater Philadelphia First
Paige Huey, Philadelphia High School Academies
Eliza Lebkicher, PA Department of Labor & Industry
Joseph Nagel, Job Corps
Michael Pahides, DVIRC
Len Preston, NJ Department of Labor

These market interventions due to space constraints could not been included in the main body of the report.

MARKET INTERVENTIONS	
<p>Philadelphia Job Corps' participants are enrolled in job centers (some of them residential) where they are given skills training; training is available in 160 vocations. Participants are encouraged to finish their GED and are taught good work habits.</p> <p>Targeted Population/Eligibility: Youth 16 to 24 years old who are from low-income homes and are in "conditions that keep them from getting an education or a job."</p> <p>Program Partners: Region III of U.S. Department of Labor, regional employers</p>	
<hr/> <p>Performance Measures (Follow-up Conducted between 7/99 and 9/99)</p>	
No. of Graduates.....	not available
No. of Completed GEDs.....	139
Graduation Rate	64.1%
Graduate Placement Rate	96.8%
Average Hourly Wage	\$7.66
13-Week Placement Rate	56.0%
13-Week Weekly Earnings.....	\$257.00

MARKET INTERVENTIONS	
<p>The Orleans Technical Institute provides training for adults in technical skills for several vocations, including building maintenance, plumbing, carpentry, business and computer skills, and food service. Training is conducted in day and evening classes.</p> <p>Targeted Population/Eligibility: Open enrollment for Philadelphia area residents who are seeking to attain new skills or build on existing skills; services also target recent immigrants, refugees, and residents for who English is not the first language</p> <p>Program Partners: Jewish Employment and Vocational Service (JEVS)</p>	
<hr/> <p>Performance Measures (1997-98 School Year)</p>	
No. starting classes	480
No. completed training	410
No. available for placement.....	354
No. available and placed.....	319
Average starting hourly salary	\$9.40
Range of average starting hourly salary.....	\$5.25-\$30.00

MARKET INTERVENTIONS

School-to-Work/Career initiatives are part of system-wide reform encouraging performance-based education and work-based learning. Programs throughout the region facilitate career awareness and exposure through job shadowing, internships, service learning projects, and mentoring. Many programs also include professional development opportunities for faculty and administrators.

Targeted Population/Eligibility: High school students in Philadelphia and suburban counties

Program Partners: Commonwealth of Pennsylvania (Department of Community and Economic Development, Department of Labor and Industry), regional high schools, school districts, intermediate units (IUs), area employers

Performance Measurements: An unpublished study completed by Drexel University compared work-ready students who had participated in the Philadelphia School District’s School-to-Career program (specifically the work-based learning component) to work-ready students who had not participated. A preliminary finding of this study was that work-based learning (WBL) had a “positive, [statistically] significant effect on [WBL students’] GPA and attendance [in school].” A separate survey of alumni from Philadelphia high schools concluded that WBL students felt their education helped prepared them for employment, twice as many as alumni who had not participated in WBL programs. However, this same survey concluded that the current [post-high school] activities of WBL alumni were comparable to the activities of [students who had not participated in WBL programs].” Both the WBL group and the non-WBL group had unemployment rates of 10 percent at the time of the survey.

MARKET INTERVENTIONS

The **Retail Skills Center** trains TANF recipients in retail skills such as customer service, teamwork, store appearance, and taking inventory over a 6-week period, with the goal of placing them in Mall jobs. The King of Prussia Mall employs more than 6,000 people and three times as many during the holiday season. On any given day, there are anywhere from 100 to 800 openings in the Mall. Three thousand openings were created with the Mall expansion a few years ago.

Targeted Population/Eligibility: TANF recipients (welfare-to-work population)

Program Partners: King of Prussia Chamber of Commerce, retail employers in King of Prussia, National Retail Federation, Jewish Employment and Vocational Service (JEVS), and Kravco (owner and manager of King of Prussia Mall)

**Performance Measures
(Cumulative since 3/98)**

No. placed in jobs..... 138

MARKET INTERVENTIONS

The **Philadelphia Opportunities Industrialization Center (OIC)** assists the unemployed and underemployed, the homeless, and disadvantage youth and adults achieve self-sufficiency and empowerment through education, job training, job placement, and supportive human services, housing and economic development. One significant outgrowth of OIC’s mission is **Opportunities Inn: The Training Institute**. Funded by the Pennsylvania Convention Center Authority, Opportunities Inn trains and places people in front desk, culinary arts, food service, housekeeping, and travel tourism positions.

Targeted Population/Eligibility: Adults who meet entrance requirements

Program Partners: Philadelphia OIC, Pennsylvania Convention Authority

Performance Measures (Fiscal Year 1998-1999)

No. of graduates..... 137
 45-day placement rate62%
 90-day placement rate72%
 120-day placement rate78%