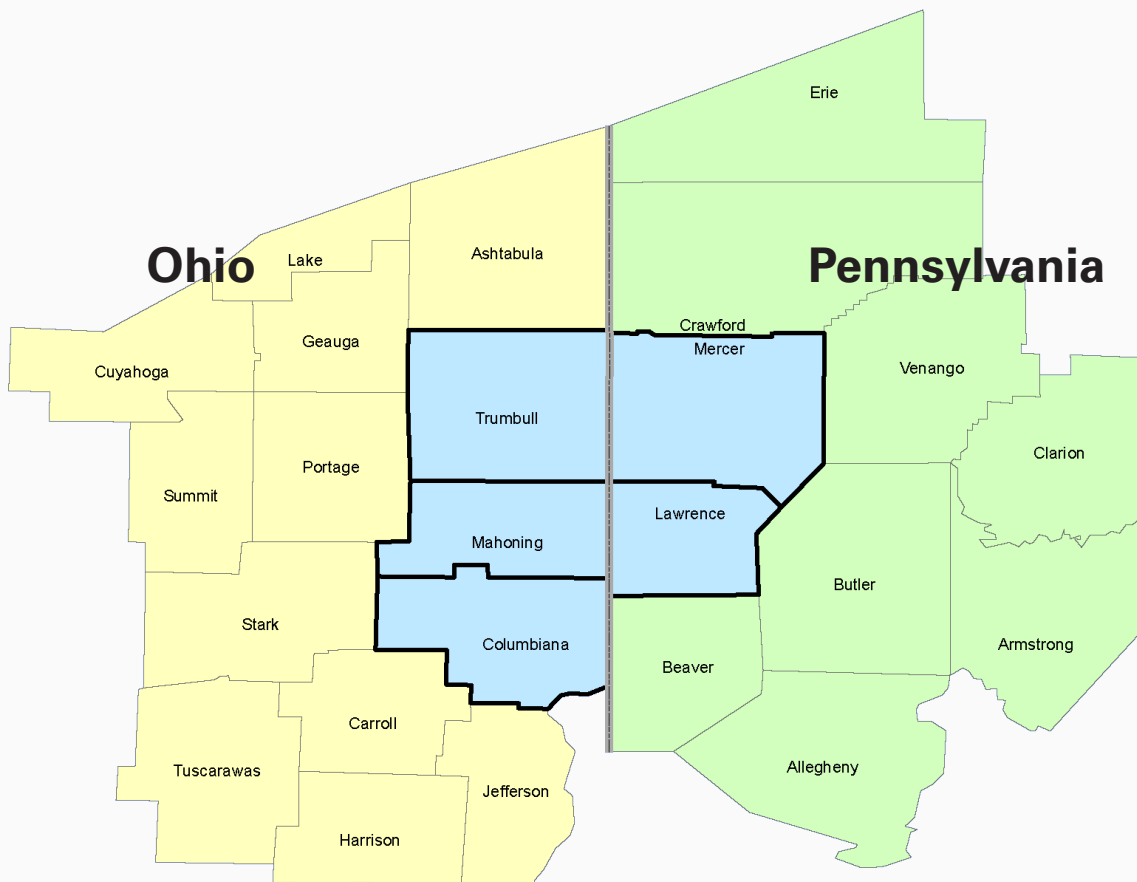


Workforce Analysis

Ohio & Pennsylvania's Five-County Interstate Region

- Trumbull, Mahoning & Columbiana Counties in Ohio
- Mercer & Lawrence Counties in Pennsylvania



Ohio & Pennsylvania's Five-County Interstate Region
Workforce Analysis

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Ohio/Pennsylvania Five-County Interstate WIA

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Preface

In 2007, the Ohio Bureau of Labor Market Information (BLMI) published a series of Workforce Analysis publications examining the local labor force for various regions around the state—first for each of Ohio’s Workforce Investment Areas (WIAs), and later for twelve Economic Development Regions (EDRs). Created in cooperation with the Pennsylvania Center for Workforce Information and Analysis, this report is an update for a newly-formed Workforce Investment Area.

The first of its kind, the Ohio/Pennsylvania Five-County Interstate Region covers portions of two states: Columbiana, Mahoning, and Trumbull Counties in Ohio, and Lawrence and Mercer Counties in Pennsylvania. This workforce analysis report provides a summary snapshot of this area’s economy and examines some of the key economic and demographic trends over the past ten years. The first section begins with a review of the area’s basic demographic and economic characteristics. The second section shows trends in important statistics in the area, including population, employment, unemployment rates and income. Industry employment characteristics receive a detailed examination in the third section. The fourth and final section looks briefly at the area’s educational characteristics.

A careful review of this information can yield important insights about the local economy. One may assess the health of the local economy by examining key economic trends and comparing them to a broader geographic region. Or an examination of industry composition will yield insights into the strengths and weaknesses that local economic development policy might address. Please refer to the Technical Notes and References sections at the end of this publication for reference and documentation of the wide variety of statistical data presented.

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Highlights

- The Five-County region contains the central city of the Youngstown-Warren-Boardman Metropolitan Statistical Area.
- This region is a net out-commuter, with a combined flow of 18,309 workers leaving the area to work. About 11.9 percent of employed residents must commute out.
- Demographically, the Five-County area has an older age distribution than the rest of the country.
- While populations in Ohio and Pennsylvania rose 2.5 and 2.0 percent from 1995 to 2006, respectively, the labor market area's total population fell 4.1 percent.
- Total employment rolls in this region fell 7.6 percent from 2000 to 2006, without any significant recovery following the 2001 recession. Unemployment rates for the individual counties have generally been higher than Ohio and Pennsylvania rates in the last ten years, while following the same pattern.
- Nominal per capita income in the Five-County region had a combined 2.9 percent annual compound growth rate from 1995 to 2005, compared with 3.5 percent for Ohio, 4.2 percent in Pennsylvania, and 4.2 percent nationwide.
- The three largest employment sectors in 2006 were trade, transportation and utilities; education and health services; and manufacturing. Manufacturing, while have shed many jobs in the last six years, is an important export industry.
- Health care and social assistance; administrative and waste services; education services; and mining all added jobs from 2000 to 2006.
- Utilities; management of companies and enterprises; and federal government had the area's highest average weekly earnings in 2006.
- Generally, the Five-County WIA has a lower level of overall educational attainment than the wholes of Ohio and Pennsylvania.
- The largest number of postsecondary degrees and awards in this area were given in health professions and related clinical sciences.

I. Understanding Local Labor Markets

Labor economists define a *labor market* as a geographic area in which both the demand and supply for labor are met primarily within that region.¹ In other words, it is an area where there are jobs and the majority of workers needed for those jobs. An important first step in identifying local labor markets is to examine the commuting patterns of individuals who live or work in the area. These patterns are one of the primary factors used to define metropolitan and micropolitan areas.

Local commuting patterns are shown in figure 1 below. Please note that the totals at the bottom of the table do not include commuting within the workforce area. The high percentages of commuting in and out of the counties indicate a large degree of churn within the region but comparatively little entering and exiting the area. In net, about 18,300 workers commute out of the WIA to work.

Figure 1: Regional Commuting Patterns

County	In-Commuters			Out-Commuters			Net Comparisons	
	Working in the County	In-Commuters	Percent of In-Commuters	Employed Living in the County	Out-Commuters	Percent of Out-Commuters	Net Flow of Commuters	Percent of Total Commuters
Columbiana, OH	37,705	7,790	20.7%	49,461	19,546	39.5%	-11,756	-43.0%
Mahoning, OH	102,992	26,310	25.5%	109,102	32,420	29.7%	-6,110	-10.4%
Trumbull, OH	100,101	29,040	29.0%	97,485	26,424	27.1%	2,616	4.7%
Lawrence, PA	35,728	8,192	22.9%	40,285	12,749	31.6%	-4,557	-21.8%
Mercer, PA	50,986	10,667	20.9%	51,120	10,801	21.1%	-134	-0.6%
New WIA	327,512	23,091	7.1%	347,453	41,400	11.9%	-18,309	-28.4%

Source: U.S. Census Bureau, 2003a.

Detailed commuting tables are shown for each of the area's five counties in appendix B at the end of this report. While a majority of daily commuting stays within state lines, a significant number—roughly five percent—cross between Ohio and Pennsylvania to work. Individual counties have some surprising commuting patterns that do not appear heavily linked with the Youngstown metropolitan statistical area (MSA). One would normally expect Mahoning County to have the largest number and percentage of in-commuters, containing the MSA's central city. Instead, Trumbull County appears to have the greatest degree of in-commuting and is the only county in the area with a positive net flow of commuters. (Youngstown does, however, sit right on the border between the two counties.)

Figure 2 on the next page summarizes age demographics in the area and compares them with national age demographics. In general, this region is much older than the rest of the country, with a higher proportion of the population 45 or older (44.3%). The two age groups that comprise the prime-age working population—25 to 44 years and 45 to 64 years—is slightly smaller in this region than nationally: 51.6 percent locally versus 53.1 percent nationally.

¹ Goldstein, 2005 (p. 10).

Figure 2: Age Demographics, 2006

	Columbiana	Mahoning	Trumbull	Lawrence	Mercer	New WIA	Percent	U.S. Pct.
Total Population	110,542	95,676	251,026	91,795	118,551	667,590	100.0%	100.0%
Under 5 years	6,005	5,523	13,018	4,792	6,188	35,526	5.3%	6.8%
5 to 14 years	13,600	13,363	30,904	11,059	14,298	83,224	12.5%	13.5%
15 to 24 years	13,683	13,078	39,101	12,131	16,984	94,977	14.2%	14.2%
25 to 44 years	29,744	21,488	57,508	21,521	28,125	158,386	23.7%	28.1%
45 to 64 years	30,784	28,978	68,813	25,417	32,065	186,057	27.9%	25.0%
65 years and older	16,726	13,246	41,682	16,875	20,891	109,420	16.4%	12.4%

Source: U.S. Census Bureau, 2007a.

Finally, figure 3 below reviews area employment by supersector in the workforce area, including changes from 2000 to 2006. While manufacturing was in the past the region's largest employer, it has fallen to second place behind trade, transportation and utilities, following drastic employment drops during the period of analysis (-26.7%). The only supersector to experience significant employment growth during this period was education and health services (12.8%).

Figure 3: Regional Employment by Supersector

Supersector	2000	2006	Net Growth, 2000-06	Percent Growth, 2000-06
Total, All Industries	323,758	298,818	-24,940	-7.7%
Natural Resources and Mining	1,526	1,309	-217	-14.2%
Construction	14,009	12,456	-1,553	-11.1%
Manufacturing	68,750	50,387	-18,363	-26.7%
Trade, Transportation and Utilities	68,020	62,010	-6,010	-8.8%
Information	4,413	4,118	-295	-6.7%
Financial Activities	12,231	12,028	-203	-1.7%
Professional and Business Services	25,184	25,334	150	0.6%
Education and Health Services	46,935	52,955	6,020	12.8%
Leisure and Hospitality	29,749	28,358	-1,391	-4.7%
Other Services, except Public Administration	10,843	9,642	-1,201	-11.1%
Government, including Public Schools	41,938	40,098	-1,840	-4.4%

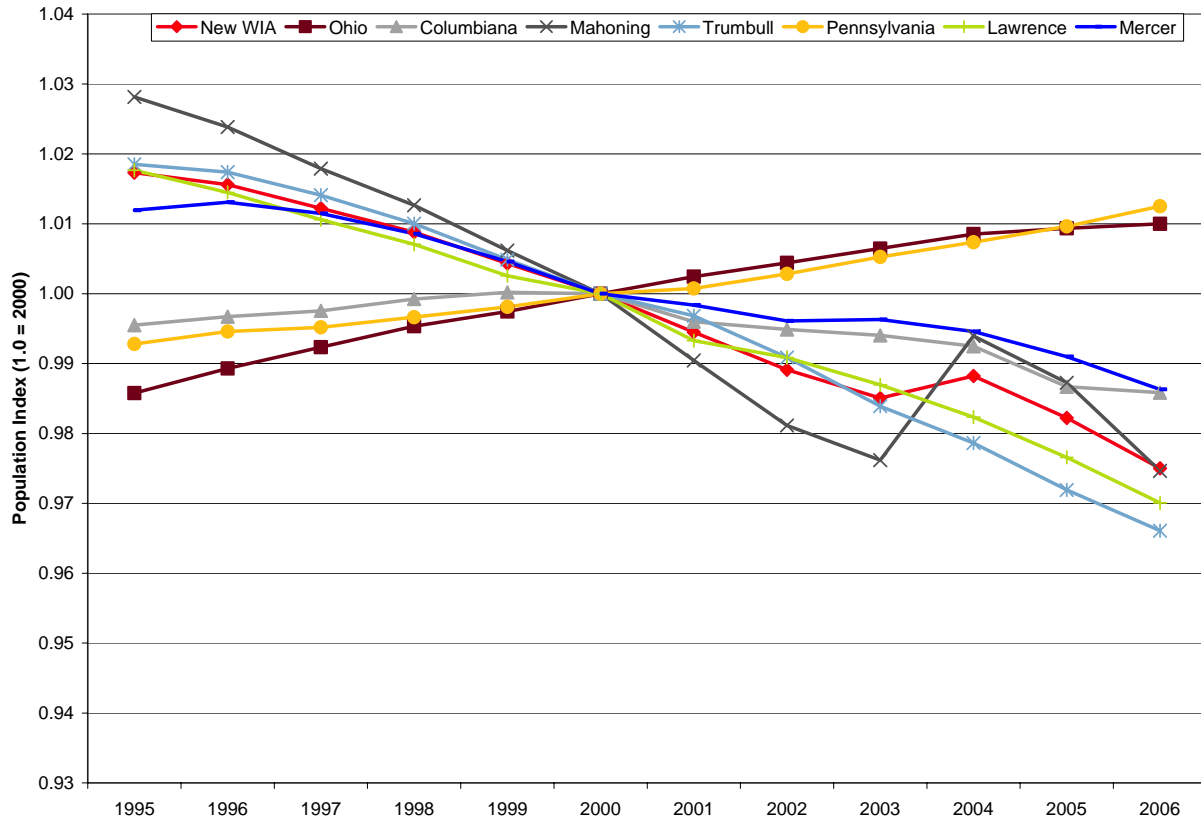
Source: U.S. Bureau of Labor Statistics [BLS], 2007b.

II. Key Trends

Population

Ohio's population rose from 11,203,000 in 1995 to 11,478,000 in 2006, an increase of 2.5 percent. Pennsylvania's population grew from 12,198,000 to 12,441,000 during the same period—about 2.0 percent. However, population levels across the entire region fell, as figure 4 below shows. Total population dropped from 824,000 in 1995 to 789,000 in 2006 (-4.1%).

Figure 4: Population Trends, 1995 to 2006

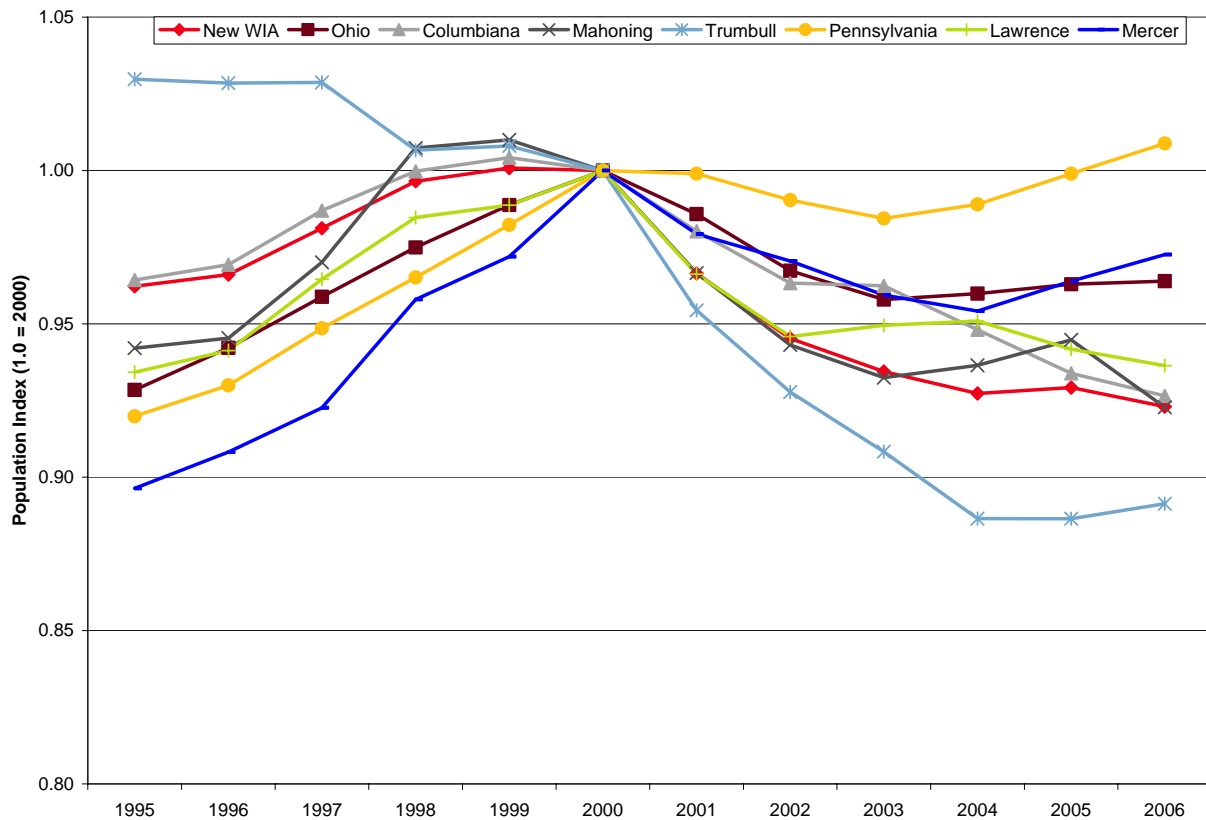


Source: U.S. Census Bureau, 2003b; 2007b.

Employment

Both Ohio and Pennsylvania sustained heavy job losses following the 2001 recession. While Pennsylvania ultimately made a complete recovery, gaining 0.8 percent from 2000 to 2006, Ohio has only made a partial job recover with net losses of 3.6 percent during the same period. Each of the individual counties in this WIA sustained job losses with only partial recoveries. In total, employment in this region fell 7.6 percent to 298,818 from 2000 to 2006.

Figure 5: Employment Trends, 1995-2006

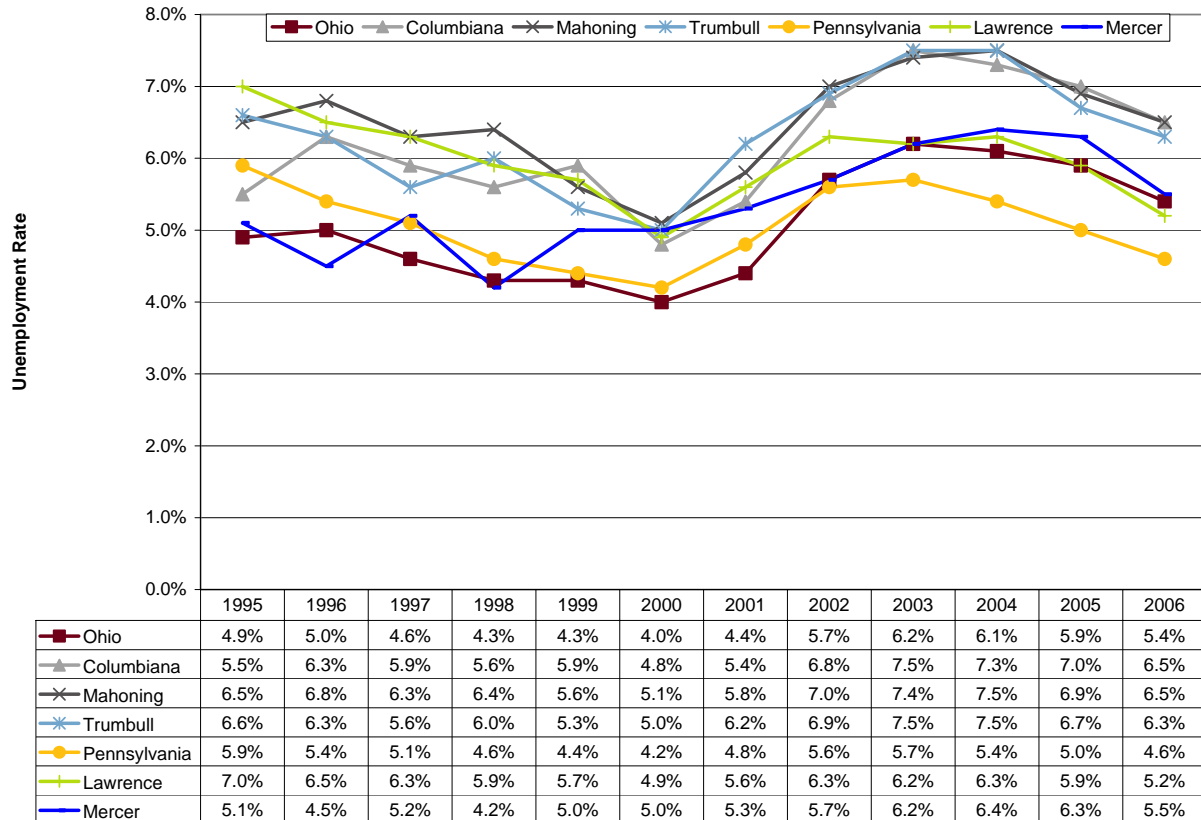


Source: BLS, 2007b.

Unemployment

We have not yet calculated the combined unemployment rate for this WIA. Local unemployment rates for Ohio, Pennsylvania and each of the counties are shown in figure 6 below. Compared with the national unemployment rate for 2006 (4.6%), unemployment rates have been very high across this region. Trumbull County has had the greatest unemployment rate drop of 1.2 percentage points from its peak of 7.5 percent in 2003. Mercer County, while generally having the lowest unemployment rates in the area, had the smallest drop—0.9 percentage points.

Figure 6: Unemployment Rate Trends, 1995-2006

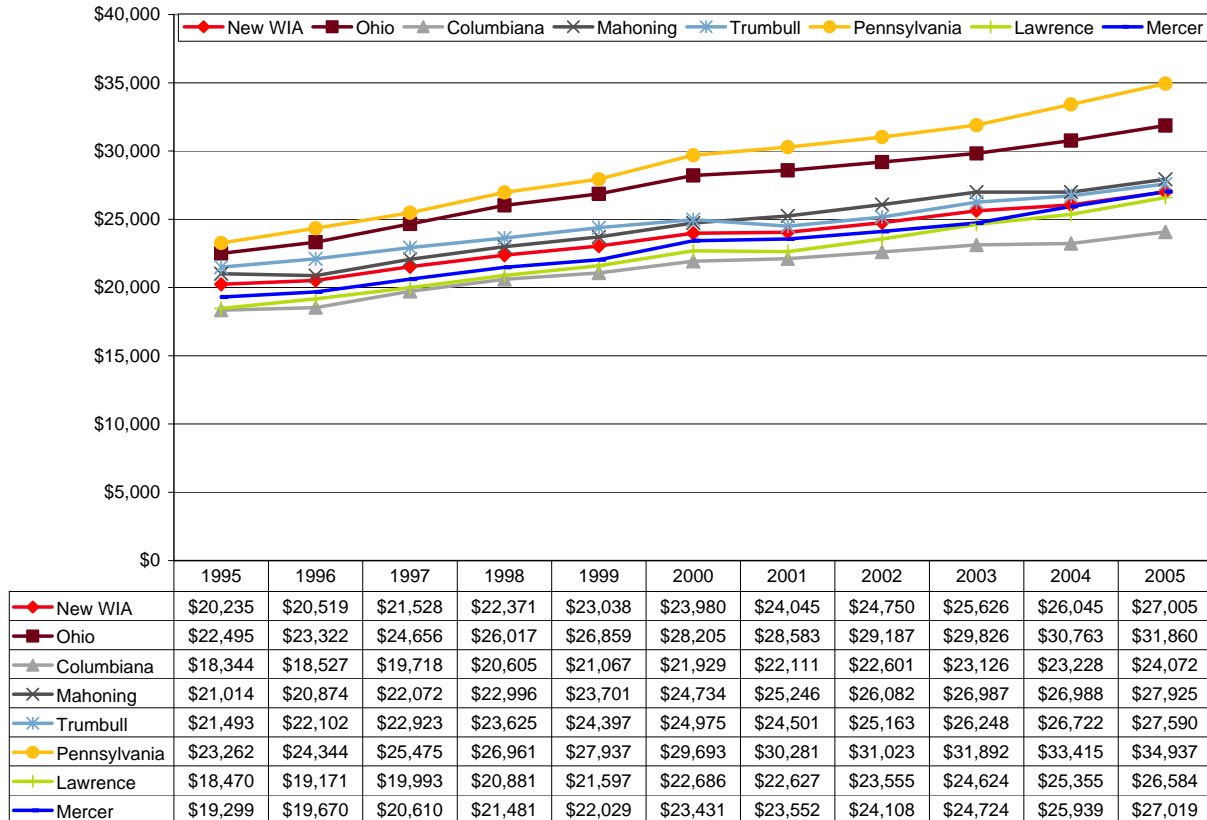


Source: BLS, 2007a.

Per Capita Income

Growth in per capita personal income is shown in figure 7 below. Throughout the period of analysis, Mahoning and Trumbull Counties generally had the highest per capita income levels of the area, while Columbiana County generally had the lowest income level. Lawrence County had the fastest annual compound rate of growth—3.7 percent—while Trumbull County had the lowest growth rate of 2.5 percent. The region had a combined compound growth rate of 2.9 percent per year, compared with 3.5 percent for Ohio, 4.2 percent in Pennsylvania, and 4.2 percent nationwide.

Figure 7: Per Capita Income Trends, 1995-2005



Source: U.S. Bureau of Economic Analysis, 2007.

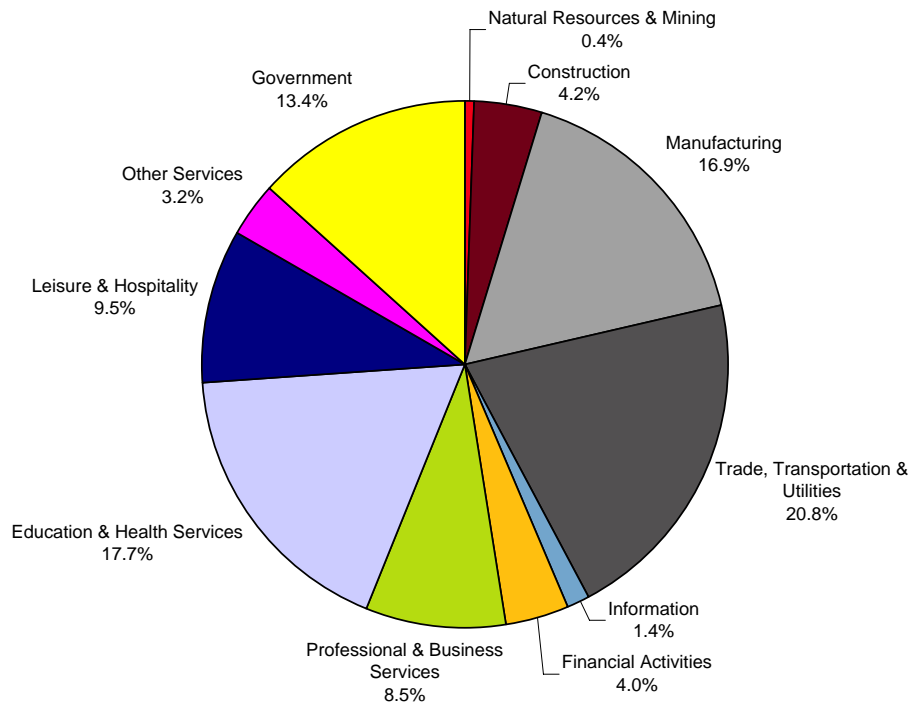
III. Industry Analysis

Employment by Sector

Figure 8 below shows the distribution of industry employment in 2006 for the Five-County area. These statistics do not generally include farmers, self-employed workers, and others not covered by unemployment insurance. The three largest sectors here, together accounting for 55.4 percent of all local covered employment, are trade, transportation and utilities, which includes retail stores and trucking; education and health services, including private hospitals, clinics, and private schools; and manufacturing.

Other supersectors represented on this chart are government, including public schools and hospitals (13.4%); leisure and hospitality, such as restaurants and hotels (9.5%); professional and business services, which includes law and accounting firms, corporate offices and administrative support (8.5%); construction (4.2%); financial activities such as banking, insurance and real estate (4.0%); other defined service industries like laundries, repair shops and certain non-profit organizations (3.2%); information, which includes publishing and telecommunications (1.4%); and a small number of workers in natural resources and mining (0.4%).

Figure 8: Employment by Supersector, 2006



Source: BLS, 2007b.

Figure 9 on the next page shows more detailed information about sector employment in the Five-County region and how it compares with the rest of the U.S. In addition to local employment levels, this table shows sectors' location quotients (LQs)—the ratio of local employment distribution to national employment distribution. An industry or sector with an LQ of 1.2 or higher is considered an export industry, or important to the local economy. The sector that stands out the most in this regard is manufacturing, which has an LQ of 1.6. Two other

sectors with high LQs in this area are health care and social assistance (1.5) and retail trade (1.2). Conversely, professional, scientific and technical services only has an LQ of 0.43.

Going into greater detail on sector employment, we can see that many of the supersectors from figures 3 and 8 are dominated by more specific sectors. For example, employment in trade, transportation and utilities consists mostly of retail trade, and most government employment in the region is local government.

Figure 9: Employment by Industry Sector, 2006

Industry Sector	Local Employment	Percent Distrib.	U.S. Employment	Location Quotient
Total, All Industries	298,818	100.0%	133,833,839	1.00
Natural Resources and Mining	1,309	0.4%	1,777,413	0.33
Agriculture, Forestry, Fishing and Hunting	524	0.2%	1,160,881	0.20
Mining	784	0.3%	616,532	0.57
Construction	12,456	4.2%	7,601,481	0.73
Manufacturing	50,387	16.9%	14,113,387	1.60
Trade, Transportation and Utilities	62,010	20.8%	26,003,677	1.07
Wholesale Trade	10,522	3.5%	5,884,525	0.80
Retail Trade	41,142	13.8%	15,367,132	1.20
Transportation and Warehousing	9,310	3.1%	4,205,427	0.99
Utilities	1,038	0.3%	546,593	0.85
Information	4,118	1.4%	3,040,708	0.61
Financial Activities	12,028	4.0%	8,160,741	0.66
Finance and Insurance	8,761	2.9%	6,007,002	0.65
Real Estate and Rental and Leasing	3,268	1.1%	2,153,739	0.68
Professional and Business Services	25,334	8.5%	17,468,277	0.65
Professional, Scientific and Technical Services	7,124	2.4%	7,389,517	0.43
Management of Companies and Enterprises	2,290	0.8%	1,785,155	0.57
Administrative and Waste Services	15,918	5.3%	8,293,605	0.86
Education and Health Services	52,955	17.7%	16,909,749	1.40
Education Services	3,814	1.3%	2,206,905	0.77
Health Care and Social Assistance	49,141	16.4%	14,702,844	1.50
Leisure and Hospitality	28,358	9.5%	17,388,068	0.73
Arts, Entertainment and Recreation	2,771	0.9%	1,901,683	0.65
Accommodation and Food Services	25,586	8.6%	11,122,634	1.03
Other Services, except Public Administration	9,642	3.2%	4,363,751	0.99
Government, including Public Schools	40,098	13.4%	21,114,528	0.85
Federal Government	3,081	1.0%	2,727,987	0.51
State Government	6,487	2.2%	4,566,906	0.64
Local Government	30,530	10.2%	13,819,635	0.99

Source: BLS, 2007b.

Industry Employment Prospects

Figure 10 below looks at industry classifications and is color coded to more quickly identify those sectors most important to the region. The left column ranks twenty-two sectors by their employment levels in 2006. Sectors with high employment levels are often a major source of job openings, since two-thirds of all openings are to meet replacement needs.² The top ten sectors in this column are printed in blue. The right column ranks sectors by the net number of new jobs created since 2000. The growth sectors in this second column are printed in red. Sectors that appear at the top of both lists are printed in purple. Sectors for which a growth rate could not be established due to confidentiality requirements are printed in italics.

Although manufacturing was the largest sector in terms of employment, it also had the largest job losses in the last six years, shedding nearly 18,400 jobs. Health care and social assistance was the largest sector to have added employment during this period, creating nearly 6,000 net new jobs. Administrative and waste services was another large sector to have added employment. The only other sectors to create jobs were education services and mining.

Figure 10: Employment Prospects by Industry Sector

2006 Employment	New Jobs, 2000-2006
Manufacturing	Health Care and Social Assistance
Health Care and Social Assistance	Administrative and Waste Services
Retail Trade	Education Services
Local Government	Mining
Accommodation and Food Services	Real Estate and Rental and Leasing
Administrative and Waste Services	Finance and Insurance
Construction	State Government
Wholesale Trade	Information
Other Services, except Public Administration	Agriculture, Forestry, Fishing and Hunting
Transportation and Warehousing	Arts, Entertainment and Recreation
Finance and Insurance	Federal Government
Professional, Scientific and Technical Services	Accommodation and Food Services
State Government	Local Government
Information	Other Services, except Public Administration
Education Services	Construction
Real Estate and Rental and Leasing	Manufacturing
Federal Government	<i>Retail Trade</i>
Arts, Entertainment and Recreation	<i>Wholesale Trade</i>
Management of Companies and Enterprises	<i>Transportation and Warehousing</i>
Utilities	<i>Professional, Scientific and Technical Services</i>
Mining	<i>Management of Companies and Enterprises</i>
<i>Agriculture, Forestry, Fishing and Hunting</i>	<i>Utilities</i>

Source: BLS, 2007b.

² BLS, 2006 (pp. 46-88).

Average Weekly Earnings

Figure 11 below ranks the sectors in the Five-County area by their average weekly earnings—total wage or salary regardless of hours worked—and shows how much employment has grown or declined since 2000. Average weekly earnings in 2006 were \$742 in Ohio and \$795 in Pennsylvania, compared with only \$538 in this region. This table also uses the same color-coding system as figure 10 on the previous page, with sectors printed in purple being large sectors with growth.

This region's highest-paying sector was utilities, where the average worker earned \$1,210 per week. This was followed by management of companies and enterprises at \$1,088, federal government at \$1,031, and manufacturing, the highest-paying large sector at \$1,023 per week. The highest paying sector to have added jobs since 2000 was mining, with average weekly earnings of \$854. Health care and social assistance, the region's fastest-growing sector, paid an average \$616 per week.

Figure 11: Sectors Ranked by 2006 Average Weekly Earnings

Industry Sector	2000 Employment	2006 Employment	Net Change	Percent Change	Average Weekly Earnings
Utilities	NA	1,038	NA	NA	\$1,210
Management of Companies and Enterprises	NA	2,290	NA	NA	\$1,088
Federal Government	3,646	3,081	-565	-15.5%	\$1,031
Manufacturing	68,750	50,387	-18,363	-26.7%	\$1,023
Mining	693	784	91	13.1%	\$854
State Government	6,726	6,487	-239	-3.6%	\$785
Finance and Insurance	8,873	8,761	-112	-1.3%	\$773
Wholesale Trade	NA	10,522	NA	NA	\$769
Construction	14,009	12,456	-1,553	-11.1%	\$737
Transportation and Warehousing	NA	9,310	NA	NA	\$720
Information	4,413	4,118	-295	-6.7%	\$711
Professional, Scientific and Technical Services	NA	7,124	NA	NA	\$710
Local Government	31,566	30,530	-1,036	-3.3%	\$671
Health Care and Social Assistance	43,382	49,141	5,759	13.3%	\$616
Real Estate and Rental and Leasing	3,359	3,268	-91	-2.7%	\$520
Education Services	3,553	3,814	261	7.3%	\$489
Administrative and Waste Services	15,434	15,918	484	3.1%	\$438
Retail Trade	NA	41,142	NA	NA	\$392
Other Services, except Public Administration	10,843	9,642	-1,201	-11.1%	\$364
Agriculture, Forestry, Fishing and Hunting	832	524	-308	-37.0%	\$362
Arts, Entertainment and Recreation	3,180	2,771	-409	-12.9%	\$229
Accommodation and Food Services	26,569	25,586	-983	-3.7%	\$201

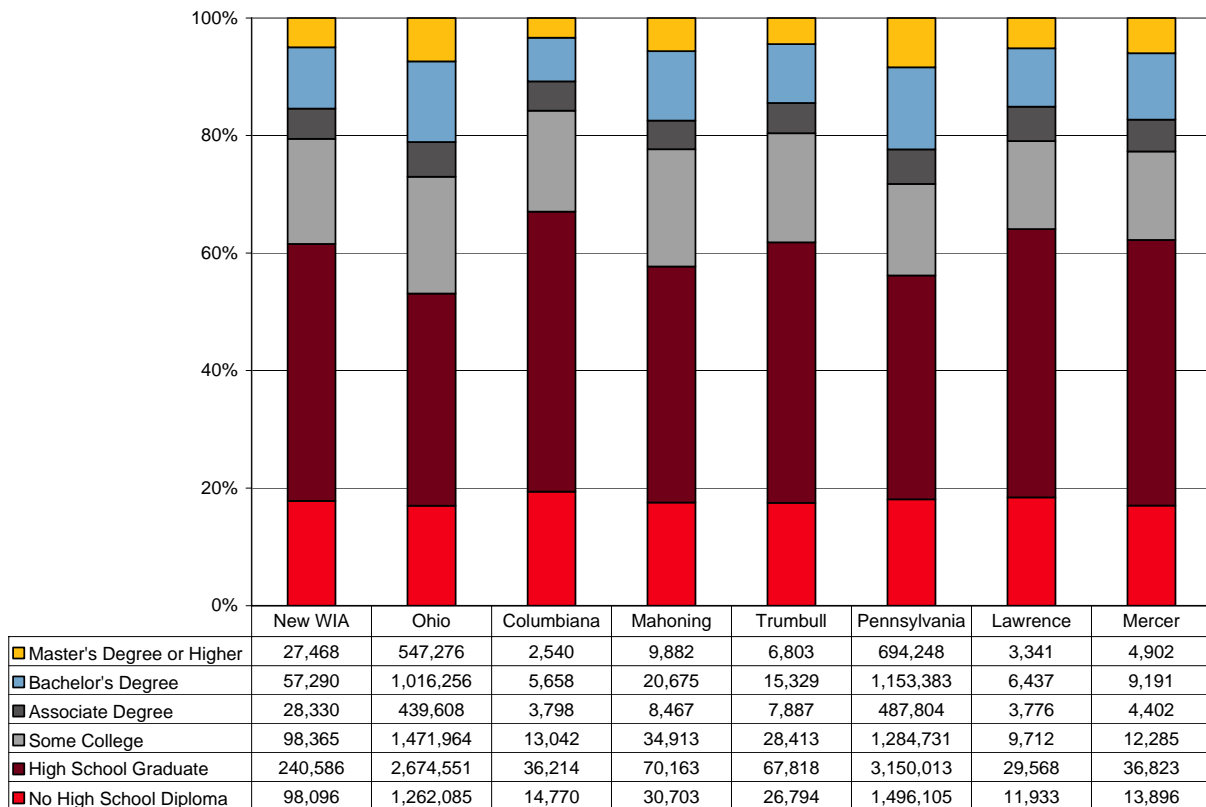
NA-Data not available due to confidentiality requirements. See technical notes.

Source: BLS, 2007b.

IV. Educational Infrastructure

Figure 12 below shows educational attainment for persons 25 and older in the area, according to data from the 2000 decennial census. (Persons included in the survey would today be 33 years old.) This table shows the greatest differences lie in the degree of postsecondary education held. Mahoning County has the largest proportion of adults with at least some college education, as well as the largest share with a bachelor's degree or higher. In total, 5.2 percent of adults in the Five-County region have an associate degree, 10.4 percent have a bachelor's degree, and 5.0 percent have a master's degree or higher.

Figure 12: Educational Attainment



Source: U.S. Census Bureau, 2003a.

The Five-County area has 35 postsecondary education and training providers offering about 480 different programs: 7 public adult schools with occupational programs; 10 two-year, technical and community colleges; 7 four-year colleges and universities; 9 private business and technical schools; and 2 hospital-based programs. Figure 13 on the next page shows that over 6,000 awards and certificates were granted in the 2005-06 school year. When examining a local labor market such as this, however, one should bear in mind that people with bachelor's degrees and higher tend to have greater geographic mobility than those with less education. People earning bachelor's degrees or higher in this area may seek employment in other regions, and people earning degrees in other areas may find employment here. To look strictly at the local supply of trained workers, we will only consider awards below the baccalaureate level—about 3,104 in 2006.

Figure 13: Degree Completions by Degree Level and County, 2005-06

Degree Type	Columbiana	Mahoning	Trumbull	Lawrence	Mercer	Total
Postsec. Award, < 1 yr.	510	484	79	66	2	1,141
Postsec. Award, 1-2 yrs.	42	93	121	86	103	445
Associate Degree	298	336	314	246	169	1,363
Postsec. Award, 2-4 yrs.		76	39	40		155
Bachelor's Degree	25	1,516		327	690	2,558
Postbac. Certificate		28				28
Master's Degree		387		44		431
Doctoral Degree		13				13
Total	875	2,933	553	809	964	6,134

Source: Department of Education, 2007.

Appendix D at the end of this report breaks down degree completions in the 2005-06 school year by program type. Looking only at awards below the baccalaureate level, most degrees were granted in health professions and related clinical sciences (953); family and consumer sciences (343); transportation and materials moving (309); and personal and culinary services (278). The predominance of healthcare training in this region is consistent with this industry's continued rapid growth and labor shortages in some related occupations.³

If one includes baccalaureate degrees and higher, health professions and related clinical sciences is still the largest program group, but is followed by business, management, marketing and related support services and education. Education in particular had the largest number of master's and doctoral degrees in the region.

³ ODJFS, 2008.

Technical Notes

All population and demographic figures are from the U.S. Census Bureau. These figures are estimates only and not true census counts. Population estimates preceding 2000 are from *Intercensal State and County Characteristics Population Estimates with 1990-Base Race Groups* (2003b). Total population estimates after 2000 are from *Annual County Total Population, Population Change and Estimated Components of Population Change: April 1, 2000 to July 1, 2006* (2007b). Demographic figures are from *Annual County Estimates by Demographic Characteristics* (2007a).

Commuting data are estimates from the 2000 Decennial Census (2003a) and were tabulated by ODJFS staff.

All employment data were obtained from the Quarterly Census of Employment and Wages (QCEW) from the U.S. Bureau of Labor Statistics (BLS) (2007b), administered by the Ohio Bureau of Labor Market Information and the Pennsylvania Center for Workforce Information and Analysis. The data are based on reports filed by employers subject to the Unemployment Compensation Law in Ohio and Pennsylvania, as well as those covered under Unemployment Compensation for Federal Employees, by place of work. All employment establishments are classified under the North American Industrial Classification System (NAICS). Visit <http://www.census.gov/epcd/www/naics.html> for details. Because data for some industry sectors in some counties were suppressed due to confidentiality requirements, we were not able to report data for those sectors in the area. Total employment may include employment and wage data for non-classifiable establishments.

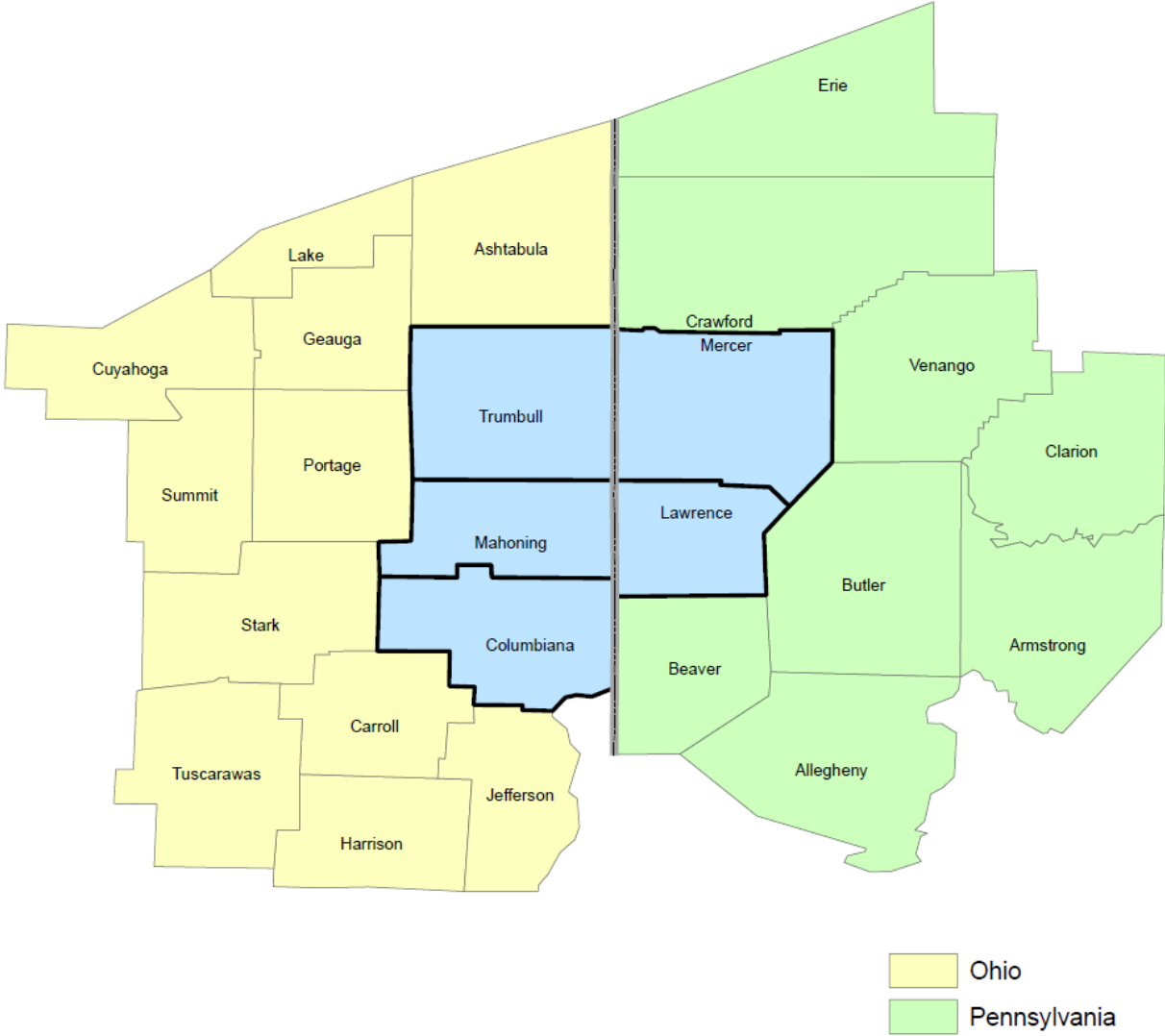
Unemployment rates are from the Local Area Unemployment Statistics (LAUS) program from the BLS (2007a), administered by the Ohio Bureau of Labor Market Information and the Pennsylvania Center for Workforce Information and Analysis. An unemployment rate estimate for the combined Five-County area has not yet been calculated.

Educational degree completion figures are from the Integrated Postsecondary Education Data System (IPEDS), administered by the U.S. Department of Education. IPEDS is an annual survey sent to educational institutions around the country measuring school enrollment, degree awards, financial aid, student demographics, and other factors. Educational program types, as shown in appendix D, were tabulated using Classification of Instructional Programs (CIP) 2000 edition. Visit <http://nces.ed.gov/pubs2002/cip2000/> for details.

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Appendix A: Map of Five-County Interstate Region



Appendix B: Detailed County-to-County Commuting Patterns

Columbiana			Percent of workers that work outside the county			39.5%					
			Average commute time in minutes			22.7					
Number of workers 16+ years of age living in county			49,461			Number of workers 16+ years of age working in county			37,705		
Commuting Out To		Number	Percent	Commuting In From		Number	Percent				
Mahoning Co. OH	7,371	14.9%	Mahoning Co. OH	3,684	9.8%						
Stark Co. OH	3,306	6.7%	Hancock Co. WV	831	2.2%						
Beaver Co. PA	1,889	3.8%	Stark Co. OH	640	1.7%						
Trumbull Co. OH	1,719	3.5%	Jefferson Co. OH	632	1.7%						
Hancock Co. WV	1,488	3.0%	Beaver Co. PA	443	1.2%						
Allegheny Co. PA	735	1.5%	Trumbull Co. OH	344	0.9%						
Jefferson Co. OH	517	1.0%	Carroll Co. OH	297	0.8%						
Summit Co. OH	464	0.9%	Portage Co. OH	182	0.5%						
Carroll Co. OH	453	0.9%	Lawrence Co. PA	152	0.4%						
Portage Co. OH	316	0.6%	Allegheny Co. PA	88	0.2%						

Mahoning			Percent of workers that work outside the county			29.7%					
			Average commute time in minutes			21.5					
Number of workers 16+ years of age living in county			109,102			Number of workers 16+ years of age working in county			102,992		
Commuting Out To		Number	Percent	Commuting In From		Number	Percent				
Trumbull Co. OH	19,210	38.8%	Trumbull Co. OH	12,003	31.8%						
Columbiana Co. OH	3,684	7.4%	Columbiana Co. OH	7,371	19.5%						
Stark Co. OH	2,548	5.2%	Lawrence Co. PA	1,620	4.3%						
Portage Co. OH	1,171	2.4%	Stark Co. OH	1,158	3.1%						
Cuyahoga Co. OH	1,117	2.3%	Mercer Co. PA	1,083	2.9%						
Summit Co. OH	1,096	2.2%	Portage Co. OH	603	1.6%						
Lawrence Co. PA	718	1.5%	Summit Co. OH	460	1.2%						
Mercer Co. PA	624	1.3%	Cuyahoga Co. OH	268	0.7%						
Allegheny Co. PA	508	1.0%	Beaver Co. PA	172	0.5%						
Beaver Co. PA	224	0.5%	Allegheny Co. PA	159	0.4%						

Trumbull			Percent of workers that work outside the county			27.1%					
			Average commute time in minutes			21.0					
Number of workers 16+ years of age living in county			97,485			Number of workers 16+ years of age working in county			100,101		
Commuting Out To		Number	Percent	Commuting In From		Number	Percent				
Mahoning Co. OH	12,003	24.3%	Mahoning Co. OH	19,210	50.9%						
Geauga Co. OH	3,900	7.9%	Mercer Co. PA	2,805	7.4%						
Mercer Co. PA	2,457	5.0%	Columbiana Co. OH	1,719	4.6%						
Cuyahoga Co. OH	1,976	4.0%	Portage Co. OH	1,449	3.8%						
Portage Co. OH	1,863	3.8%	Lawrence Co. PA	653	1.7%						
Summit Co. OH	1,038	2.1%	Ashtabula Co. OH	485	1.3%						
Ashtabula Co. OH	892	1.8%	Summit Co. OH	447	1.2%						
Columbiana Co. OH	344	0.7%	Geauga Co. OH	310	0.8%						
Lawrence Co. PA	251	0.5%	Cuyahoga Co. OH	281	0.7%						
Stark Co. OH	202	0.4%	Stark Co. OH	172	0.5%						

Lawrence			Percent of workers that work outside the county	31.6%	
			Average commute time in minutes	21.3	
Number of workers 16+ years of age living in county			40,285		
			Number of workers 16+ years of age working in county	35,728	
Commuting Out To	Number	Percent	Commuting In From	Number	Percent
Beaver Co. PA	2,717	6.7%	Beaver Co. PA	2,003	5.6%
Butler Co. PA	2,366	5.9%	Mercer Co. PA	1,743	4.9%
Mercer Co. PA	2,300	5.7%	Butler Co. PA	1,013	2.8%
Allegheny Co. PA	2,043	5.1%	Allegheny Co. PA	736	2.1%
Mahoning Co. OH	1,620	4.0%	Mahoning Co. OH	718	2.0%
Trumbull Co. OH	653	1.6%	Chester Co. PA	706	2.0%
Columbiana Co. OH	152	0.4%	Trumbull Co. OH	251	0.7%
Westmoreland Co. PA	103	0.3%	Westmoreland Co. PA	165	0.5%
Venango Co. PA	102	0.3%	Washington Co. PA	69	0.2%
Washington Co. PA	53	0.1%	Columbiana Co. OH	66	0.2%

Mercer			Percent of workers that work outside the county	21.1%	
			Average commute time in minutes	19.6	
Number of workers 16+ years of age living in county			51,120		
			Number of workers 16+ years of age working in county	50,986	
Commuting Out To	Number	Percent	Commuting In From	Number	Percent
Trumbull Co. OH	2,805	7.0%	Trumbull Co. OH	2,457	6.9%
Lawrence Co. PA	1,743	4.3%	Lawrence Co. PA	2,300	6.4%
Butler Co. PA	1,282	3.2%	Butler Co. PA	1,628	4.6%
Crawford Co. PA	1,172	2.9%	Crawford Co. PA	1,393	3.9%
Mahoning Co. OH	1,083	2.7%	Venango Co. PA	783	2.2%
Venango Co. PA	738	1.8%	Mahoning Co. OH	624	1.7%
Allegheny Co. PA	616	1.5%	Beaver Co. PA	280	0.8%
Ashtabula Co. OH	146	0.4%	Allegheny Co. PA	230	0.6%
Erie Co. PA	134	0.3%	Clarion Co. PA	143	0.4%
Beaver Co. PA	114	0.3%	Erie Co. PA	84	0.2%

Source: U.S. Census Bureau, 2003a.

Appendix C: Postsecondary Institutions

Name	Address	Phone	Web
Allegheny Wesleyan College	2161 Woodsdale Rd., Salem, OH 44460	(330) 337-6403	awc.edu
Business Institute of Pennsylvania	335 Boyd Dr., Sharon, PA 16146	(724) 983-0700	www.biop.edu
Casal Aveda Institute	6000 Mahoning Ave., Youngstown, OH 44515	-	-
Choffin Career and Technical Center	200 E. Wood St., Youngstown, OH 44503	(330) 744-8710	www.choffincareers.com
Columbiana County Vocational School	9364 St. Rt. 45, Lisbon, OH 44432	(330) 424-9561	www.ccctc.k12.oh.us/
Erie Business Center-South	170 Cascade Galleria, New Castle, PA 16101	(724) 658-9066	www.eriebc.edu
ETI Technical College	2076 Youngstown-Warren Rd., Niles, OH 44446	(330) 652-9919	eticollege.edu
Grove City College	100 Campus Dr., Grove City, PA 16127	(724) 458-2000	www.gcc.edu
Hannah E Mullins School of Practical Nursing	230 N. Lincoln Ave., Ste. 3, Salem, OH 44460	(330) 332-8940	www.salem.k12.oh.us/mullins/mullins.html
ITT Technical Institute-Youngstown	1030 N. Meridian Rd., Youngstown, OH 44509	(330) 270-1600	www.itt-tech.edu
Jameson Health System	1211 Wilmington Ave., New Castle, PA 16105	(724) 656-4052	www.jamesonhealthsystem.com
Kent State University-East Liverpool Campus	400 E. 4th St., East Liverpool, OH 43920	(330) 382-7400	www.eliv.kent.edu
Kent State University-Salem Campus	2491 St. Rt. 45 S., Salem, OH 44460	(330) 332-0361	www.salem.kent.edu
Kent State University-Trumbull Campus	4314 Mahoning Ave. N.W., Warren, OH 44483	(330) 847-0571	www.trumbull.kent.edu
Lawrence County Career and Technical Center	750 Phelps Way, New Castle, PA 16101	-	www.lcvt.tec.pa.us
Mahoning County Career and Technical Center	7300 N. Palmyra Rd., Canfield, OH 44406	(330) 729-4100	www.mahoningctc.com
Mercer County Career Center	776 Greenville Rd., Mercer, PA 16137	(724) 662-3000	www.mccc.tec.pa.us
New Castle School of Beauty Culture	314 Washington St., New Castle, PA 16101	(724) 287-0708	-
New Castle School of Trades	4164 US 422, Pulaski, PA 16143	(724) 964-8811	www.ncstrades.com
Ohio Valley College of Technology	16808 Saint Clair Ave., East Liverpool, OH 43920	(330) 385-1070	-
Pennsylvania State University-Shenango	147 Shenango Ave., Sharon, PA 16146	(724) 983-2803	www.shenango.psu.edu
PSC Academy Inc	2200 E. State St., Hermitage, PA 16148	(724) 347-4503	www.pscacademy.com
Raphaels School of Beauty Culture	1324 Youngstown-Warren Rd., Niles, OH 44446	(330) 652-1559	www.raphaelsbeautyschool.com
Raphaels School of Beauty Culture	3307 Center Rd., Brunswick, OH 44212	(330) 225-0195	www.raphaelsbeautyschool.com
Raphaels School of Beauty Culture	5311 Market St., Boardman, OH 44512	(330) 782-3395	www.raphaelsbeautyschool.com
Sharon Regional Health System School of Nursing	740 E. State St., Sharon, PA 16146	(724) 983-3865	-
Slippery Rock University of Pennsylvania*	1 Morrow Way, Slippery Rock, PA 16057	(724) 738-9000	www.sru.edu
TCTC Adult Training Center	528 Educational Hwy., Warren, OH 44483	-	www.tctcadulttraining.org
TDDS Technical Institute	1688 N. Pricetown Rd., Lake Milton, OH 44429	(330) 538-2216	www.tdds.edu
Tri-State College of Massotherapy	9159 Market St., Ste. 26, North Lima, OH 44452	(330) 629-9998	www.tristatemasso.com
Trumbull Business College	3200 Ridge Rd., Warren, OH 44484	(330) 369-3200	www.tbc-trumbullbusiness.com
Westminster College	319 S. Market St., New Wilmington, PA 16172	(724) 946-8761	www.westminster.edu
Winner Institute of Arts & Sciences	One Winner Place, Transfer, PA 16154	(724) 646-2433	www.winner-institute.edu
Youngstown College of Massotherapy	14 Highland Ave., Struthers, OH 44471	(330) 755-1406	www.ycm.edu
Youngstown State University	One University Plaza, Youngstown, OH 44555	(877) 468-6978	www.ysu.edu

*Slippery Rock University of Pennsylvania lies slightly outside the Five-County area, in Butler Co., Pennsylvania. This institution's completion statistics were not included in figure 13 or appendix D, but due to its proximity and size, it may be regarded as supplying significant training to the local labor market and was thus included in this list.

Source: Department of Education, 2007.

Appendix D: Degree Completions by Program Class

Program Group	Postsec. <1 yr.	Postsec. 1-2 yrs.	Assoc.	Postsec. 2-4 yrs	Bach.	Above Bach.	Total
Agriculture, Agriculture Operations & Rel. Sciences			10				10
Natural Resources & Conservation					4	3	7
Area, Ethnic, Cultural & Gender Studies					5		5
Communication, Journalism & Rel. Programs					104		104
Computer & Information Sciences & Support Svcs.	2	6	176		68	2	254
Personal & Culinary Services	103	22	38	115			278
Education			16		466	214	696
Engineering			8		137	19	164
Engineering Technologies/Technicians	51		233		44		328
Foreign Languages, Literatures & Linguistics					47		47
Family & Consumer Sciences/Human Sciences	311		32		24		367
Legal Professions & Studies			30				30
English Language & Literature/Letters					106	34	140
Liberal Arts & Sciences, Gen. Studies & Humanities			75		33		108
Biological & Biomedical Sciences			1		127	5	133
Mathematics & Statistics					46	18	64
Multi/Interdisciplinary Studies		1			6	1	8
Parks, Recreation, Leisure & Fitness Studies					29	1	30
Philosophy & Religious Studies					54	4	58
Theology & Religious Vocations					7		7
Physical Sciences					65	15	80
Psychology					70		70
Security & Protective Services	35		21		83	9	148
Public Administration & Social Service Professions			2		45	6	53
Social Sciences		5			158	5	168
Construction Trades	12		21				33
Mechanic & Repair Technologies/Trades		102	85				187
Precision Production	19	39	17				75
Transportation & Materials Moving	309						309
Visual & Performing Arts					103	4	107
Health Professions & Rel. Clinical Sciences	271	270	372	40	167	39	1,159
Business, Mgmt., Marketing & Rel. Support Svcs.	28		226		477	84	815
History					83	9	92
Total, All Programs	1,141	445	1,363	155	2,558	472	6,134

Source: Department of Education, 2007.

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Acknowledgements:

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Labor and Industry

The Center for
Workforce Information and Analysis