

Workforce Analysis

Northern Ohio

Economic Development Region 8



*Cuyahoga, Geauga, Lake
and Lorain Counties*

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October
2007

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Preface

The Ohio Bureau of Labor Market Information (BLMI) recently published a series of *Workforce Analysis* reports for each of Ohio's Workforce Investment Areas (WIAs), along with all twelve One-Stop Systems in WIA 7. These customized regional publications have been designed to help local workforce professionals and others gain a better understanding of the local economy and how it has fared compared to other areas. Now we have expanded the coverage to Economic Development Regions (EDRs). Related publications include the *Ohio Job Outlook to 2014* for Ohio, eight of the state's Metropolitan Statistical Areas (MSAs) and the twelve EDRs. A complementary report, released in June 2007, is *Ohio Economic Analysis, 2007: Understanding the Environment and Charting a Course for the Future*.

This *Workforce Analysis* report provides a summary snapshot of EDR 8: Northern Ohio, which includes Cuyahoga, Geauga, Lake and Lorain Counties. The first section begins with a brief review of the region's basic demographic and economic characteristics. The second section shows trends in several important local economic indicators, including population, nonfarm employment, unemployment rates, per capita income and residential construction. The next section contains regional employment projections and a list of occupations with high prospects through 2014. The final section presents overall educational attainment in this region and looks ahead to which skills will be in demand in the future.

A careful review of this information can yield important insights about the regional economy. One may assess the health of the local economy by examining key economic trends and comparing them to the state or the nation. Or an examination of occupational composition will yield insights into the strengths and weaknesses that regional policy might address. A regional analysis is at a level or scope that allows for greater opportunities of alignment and synergy across service providers. Hopefully the economic insights provided here will encourage asset mapping of resources and partnerships that span workforce development, education and economic development. The objective of this analysis is to give impetus to and inform such work.

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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Ohio Department of Job and Family Services

Executive Summary

- This region is contained completely within the Cleveland-Elyria-Mentor MSA. Nearly 77,000 workers in net commute into the region to work.
- 2006 regional population was 1.94 million residents, a decline of 3.4 percent since 1995. This region has an older age profile than the rest of Ohio and the U.S.
- Total nonfarm employment was about 989,700 in 2006, a decline of 6.6 percent since 2000 but posting a slight gain from 2005.
- Unemployment was 5.4 percent in 2006, a drop of 1.3 percentage points from the last peak in 2003.
- Regional per capita income in 2005 was \$35,591, having shown a 3.4 percent annual compound rate of growth from 1995. Geauga County had Ohio's highest per capita income level for 2005.
- Four thousand residential building permits were granted in 2006, a similar decline as experienced statewide. Average valuation climbed to about \$200,000, much higher than state and national averages.
- This EDR is projected to create 57,300 net new jobs between 2004 and 2014. The fastest-growing sectors expected to add a substantial number of jobs include health care and social assistance; administrative and waste services; professional, scientific and technical services; and wholesale trade.
- The fastest-growing occupational groups will be computer and mathematical; healthcare; business and financial operations; education, training and library occupations; and construction and extraction occupations. Office and administrative support occupations are projected to have the most average annual openings.
- Northern Ohio has a slightly higher level of overall educational attainment than the rest of the state.
- This region has 56 postsecondary training providers offering over 2,000 different programs. Over 19,000 certificates and degrees were awarded in 2006.
- The most important workplace skills through 2014 will be reading comprehension, critical thinking, coordination, speaking and active listening.

I. Understanding the Local Labor Market

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 inputs used to define metropolitan areas.

The Northern Ohio EDR is contained entirely within the Cleveland-Elyria-Mentor MSA, so it is not surprising that this region draws a large number of commuters from outside the area. Cuyahoga County, which contains the main central city, has a net inflow of nearly 126,000 commuters. In total, only 4.7 percent of workers commute out of the region to work. This total excludes commuting between counties within the region.

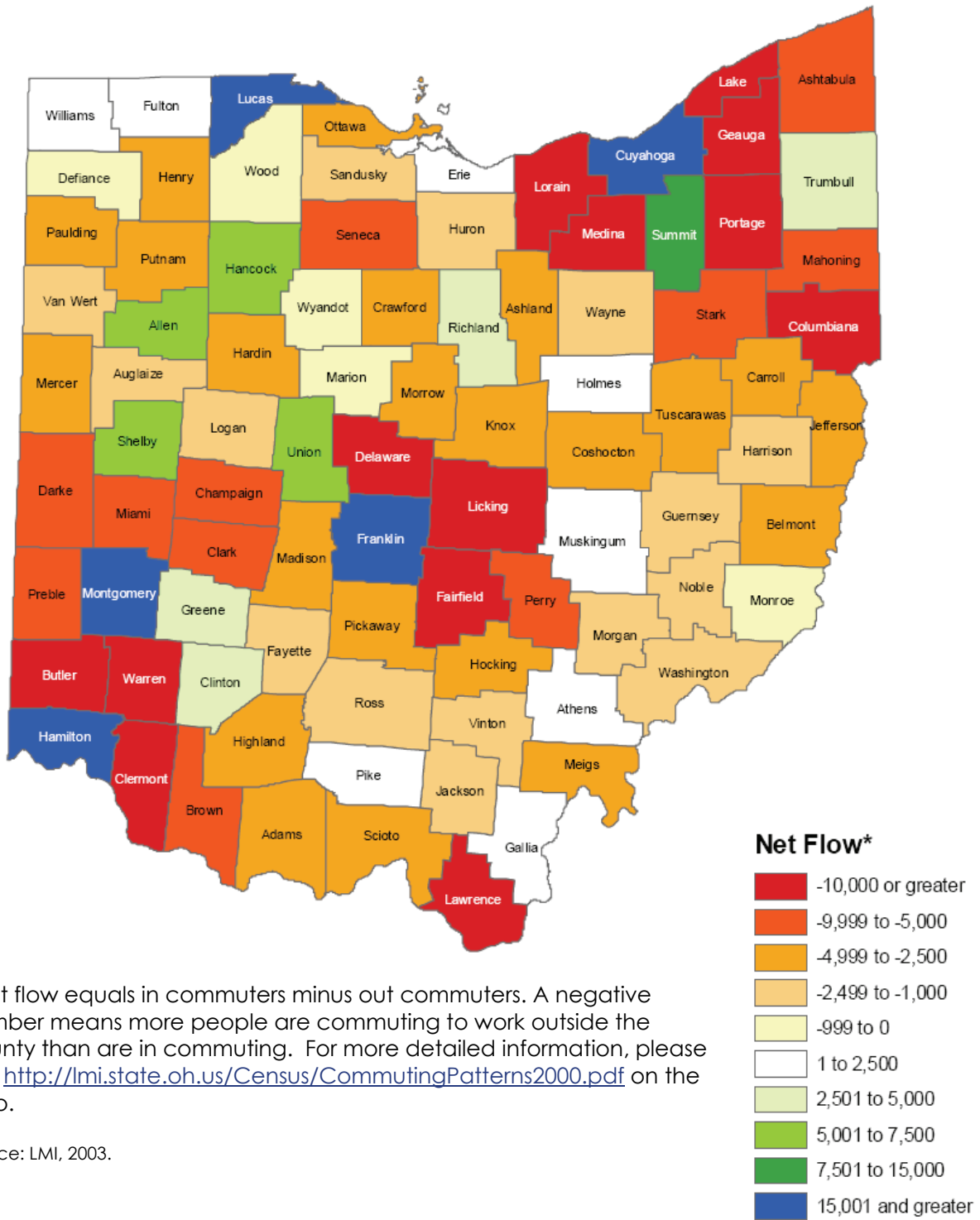
Figure 1: Regional Commuting Patterns

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
Cuyahoga	748,630	182,725	24.4%	622,876	56,971	9.1%	125,754	52.5%
Geauga	34,417	15,379	44.7%	44,499	25,461	57.2%	-10,082	-24.7%
Lake	102,913	30,045	29.2%	116,830	43,962	37.6%	-13,917	-18.8%
Lorain	108,001	19,185	17.8%	132,895	44,079	33.2%	-24,894	-39.3%
Northern Ohio	993,961	119,875	12.1%	917,100	43,034	4.7%	76,841	47.2%

Figure 2 on the next page shows a visual summary of the net flow of commuters from the 2000 decennial census. Most workers commuting into a county to work usually do so from adjacent counties. Detailed county-to-county commuting is shown in Appendix C.

¹ Goldstein, 2005 (p. 1).

Figure 2: Net Flow of Ohio Commuters



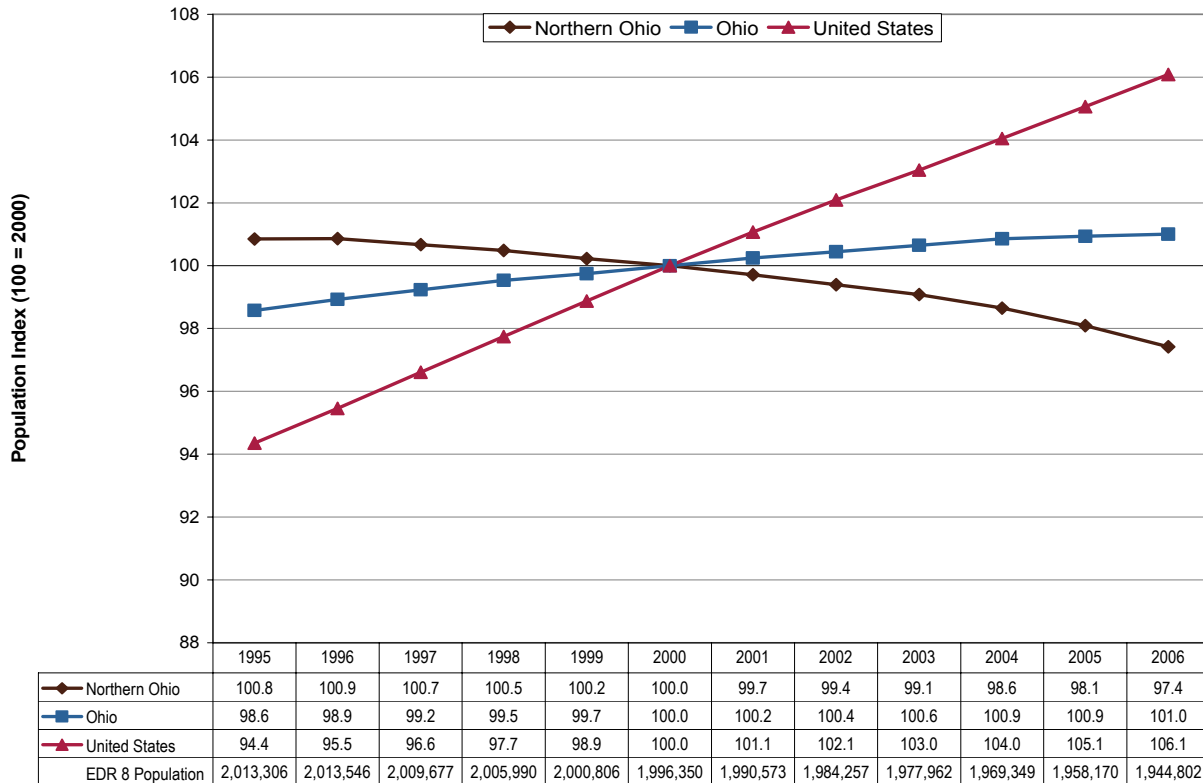
*Net flow equals in commuters minus out commuters. A negative number means more people are commuting to work outside the county than are in commuting. For more detailed information, please visit <http://lmi.state.oh.us/Census/CommutingPatterns2000.pdf> on the web.

Source: LMI, 2003.

II. Economic Indicators

Population Trends. Combined regional population in 2006 was approximately 1.94 million residents. While other EDRs around the state have grown since 1995, Northern Ohio has shed population in the last ten years, declining 3.4 percent during that time. For comparison, Ohio's population rose 2.5 percent while the national population rose 12.4 percent.

Figure 3: Population Trends, 1995-2006



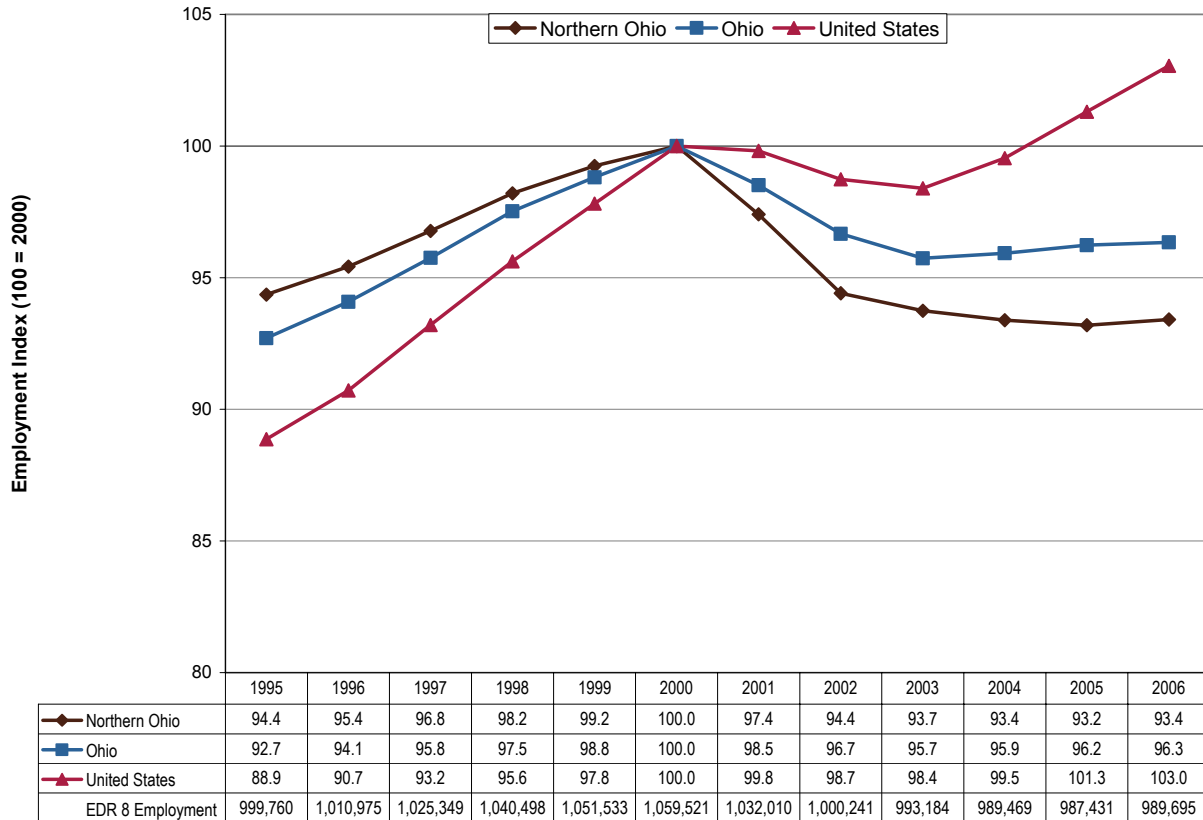
Demographic Traits. Population estimates for 2006, shown in Figure 4 below, reveal differences between this EDR and the rest of the state and nation. Northern Ohio is slightly older than the rest of Ohio, with smaller proportions younger than 25 (32.5%) and between 25 and 54 (41.4%). 26.1 percent of the region's population is 55 or older.

Figure 4: Demographic Characteristics, 2006

	United States		Ohio		Northern Ohio	
Total	299,238,484	100.0%	11,478,006	100.0%	1,944,802	100.0%
Under 5	20,417,636	6.8%	734,735	6.4%	119,924	6.2%
5 to 14	40,337,284	13.5%	1,534,571	13.4%	263,111	13.5%
15 to 24	42,435,426	14.2%	1,597,458	13.9%	249,830	12.8%
25 to 34	40,415,979	13.5%	1,459,394	12.7%	218,206	11.2%
35 to 44	43,666,950	14.6%	1,621,662	14.1%	278,449	14.3%
45 to 54	43,278,174	14.5%	1,738,480	15.1%	308,377	15.9%
55 to 64	31,586,683	10.6%	1,259,712	11.0%	222,203	11.4%
65 and older	37,260,352	12.5%	1,531,994	13.3%	284,702	14.6%

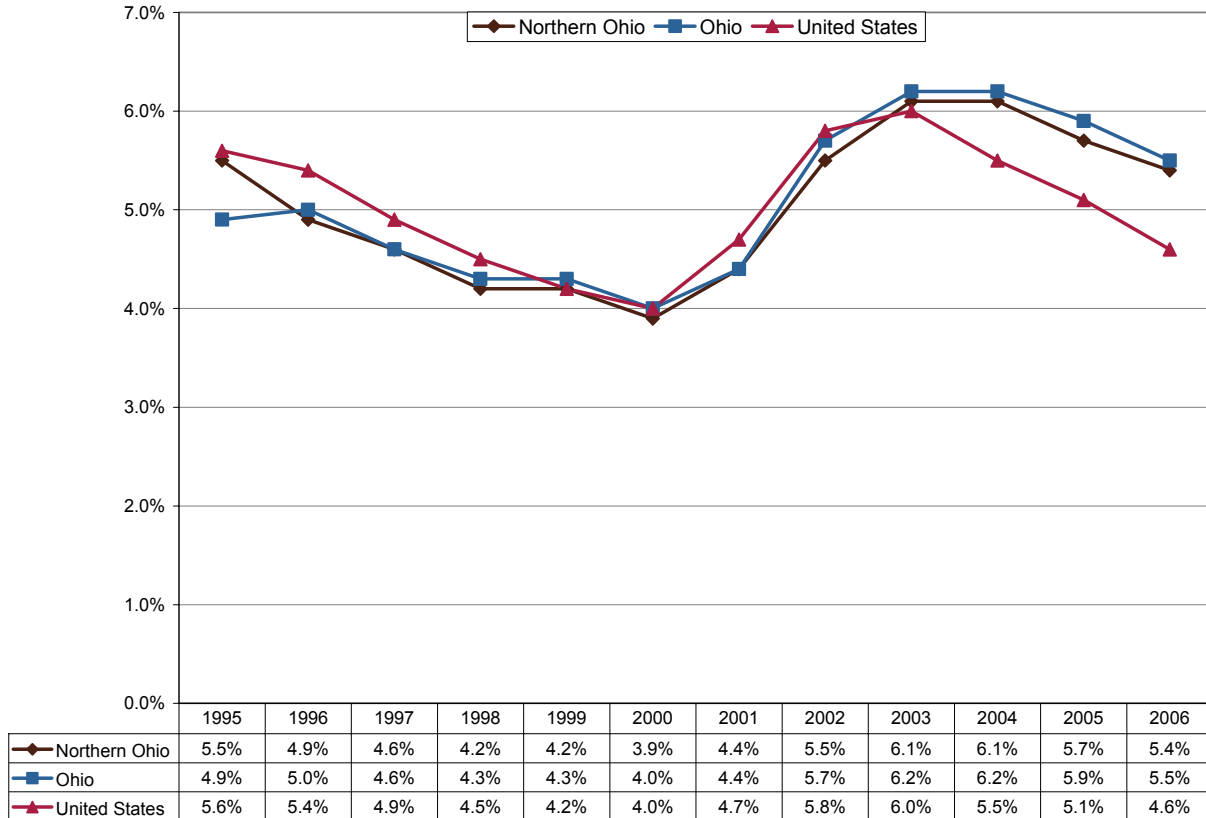
Employment Trends. Northern Ohio's nonfarm payroll employment was about 989,700 in 2006, 18.6 percent of the state total. As Figure 5 below indicates, Northern Ohio followed business cycle trends with a peak in employment in 2000 but has only recently begun recovery after a sharp decline in employment. Since 2000, total employment in this region has fallen 6.6 percent, compared with a 3.7 percent drop across Ohio. The United States as a whole has recovered from the recession, having grown 3.0 percent since 2000.

Figure 5: Nonfarm Employment Trends, 1995-2006



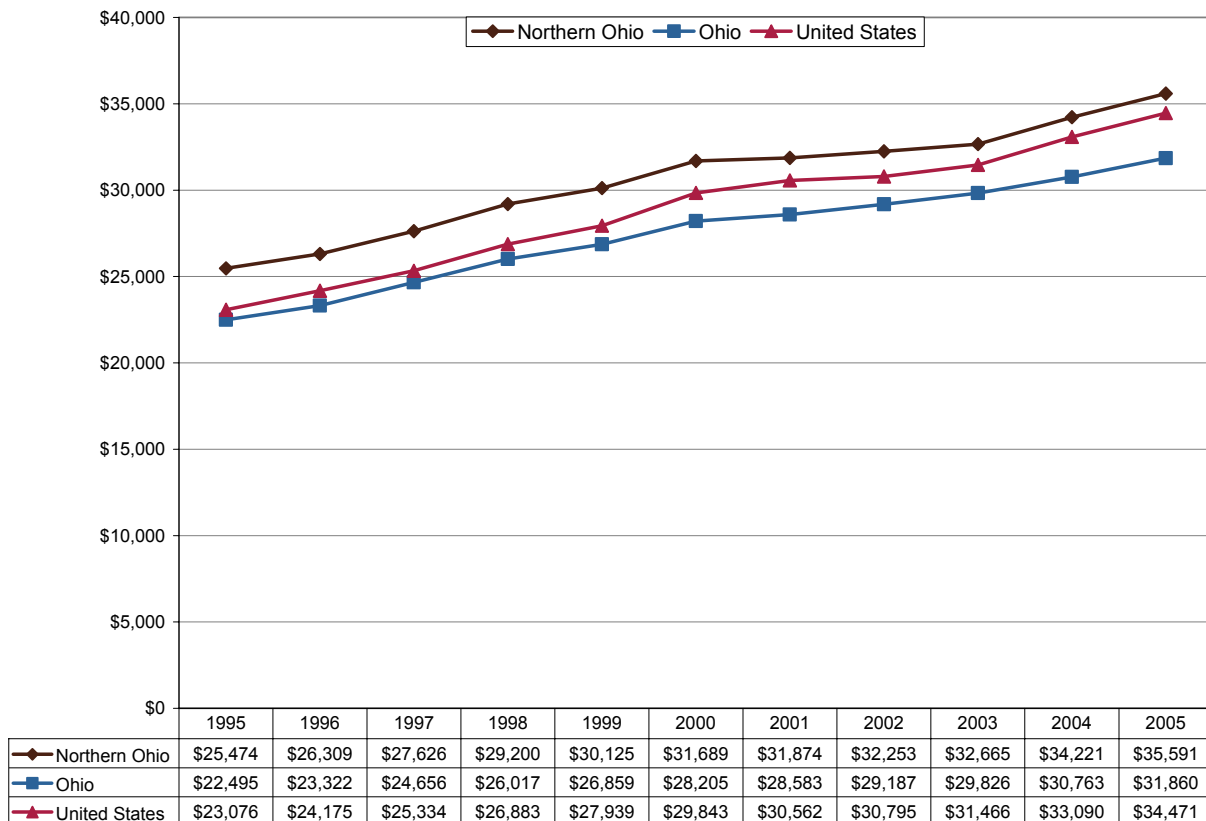
Unemployment Rate Trends. The unemployed are those in the non-institutional population 16 years or older who were not employed during the reference week but were actively seeking work, waiting to be called back to a job after a layoff, or waiting to report within 30 days to a new job. The regional unemployment rate for 2006 was 5.4 percent, about on par with the statewide rate. Since the last peak in 2003, the unemployment rate has fallen 1.3 percentage points, the same as the statewide decline. National unemployment was 4.6 percent in 2006, falling 1.4 percentage points since 2003.

Figure 6: Unemployment Trends, 1995-2006



Per Capita Income Trends. Northern Ohio's per capita income reached \$35,591 in 2005, higher than the state and national income figures that year. Urban areas tend to have higher income levels than rural areas, and this EDR is highly urbanized. In addition, the region includes Geauga County, which had Ohio's highest per capita income level for 2005. Since 1995, regional per capita income has grown at a 3.4 percent annual compound rate, compared with 3.5 percent across Ohio and 4.1 percent nationally.

Figure 7: Per Capita Income, 1995-2005



Residential Construction Permit Trends. There were about 4,000 residential building permits granted in Northern Ohio in 2006, a significant drop-off from the peak of nearly 6,000 permits granted in 2004. There has been a significant nationwide decline in construction activity in the last year. Building valuation has generally been much higher than nationwide.

Figure 8: Number of New Residential Building Permits, 1995-2006

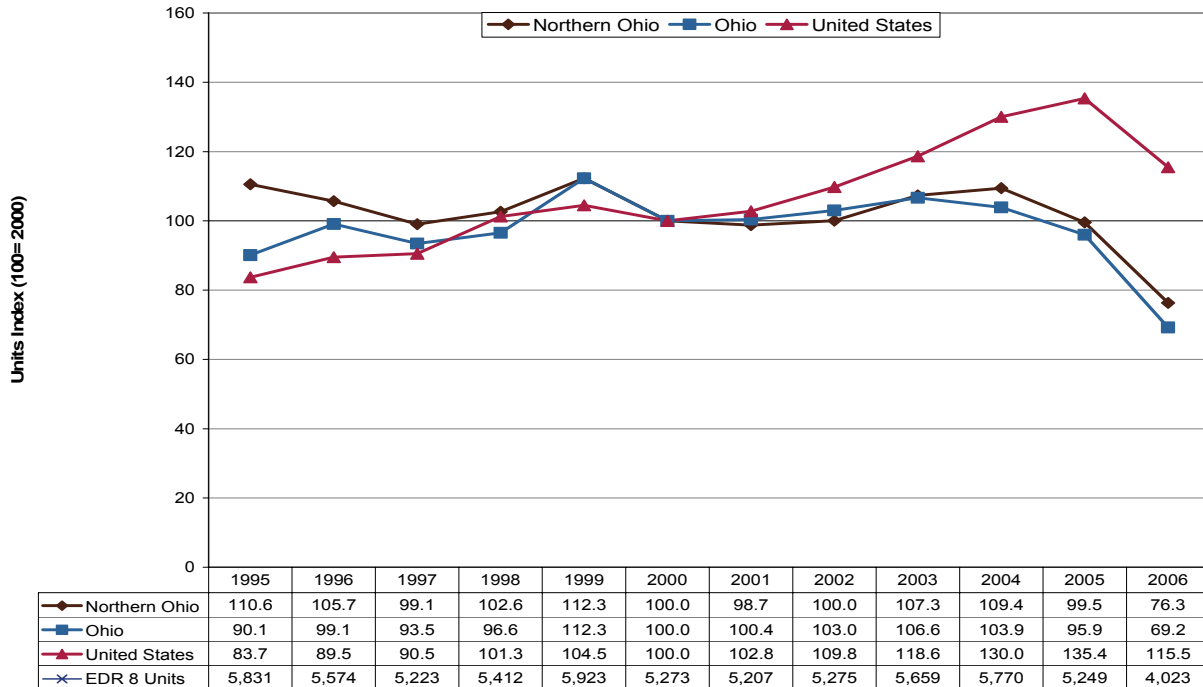
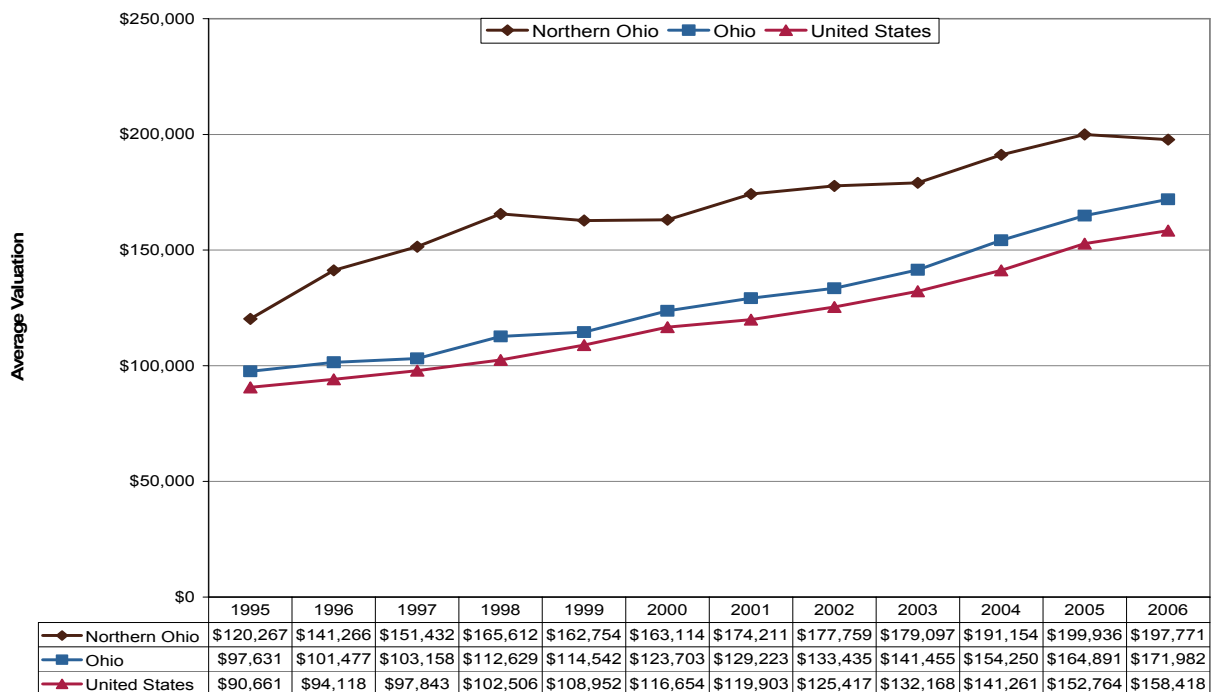


Figure 9: Valuation of New Residential Building Permits, 1995-2006



III. Employment Projections to 2014

Projections by Industry Sector. Figure 10 below shows projections from the Job Outlook to 2014 for Northern Ohio. As of 2004, 17.2 percent of local employment was in goods-producing industries such as construction and manufacturing. For comparison, the statewide average was 19.9 percent. Another 76.2 percent was in service-providing industries like health care and retail trade. The remainder consisted of the self-employed and private household workers.

From 2004 to 2014, this EDR is projected to create 57,300 net new jobs (5.3%), most of them in service-providing industries. Health care and social assistance will add the most new jobs: 19,600. Strong demand for health services will arise from an aging population and new emerging medical technologies. Professional and business services are also expected to grow rapidly and add many new jobs, including administrative and waste services (21.7%) and professional, scientific and technical services (15.6%). Wholesale trade employment is projected to increase by more than 5,000 (10.7%). Manufacturing job losses are projected to number about 15,000.

Figure 10: Northern Ohio Projections to 2014 by Industry Sector

Industry Sector	2004 Annual Employment	2014 Projected Employment	Change in Employment 2004-2014	Percent Change 2004-2014
Total Employment	1,076,800	1,134,100	57,300	5.3%
Goods-Producing	185,600	174,600	-11,000	-5.9%
Natural Resources and Mining	5,500	5,000	-500	-9.1%
Construction	39,000	43,900	4,900	12.6%
Manufacturing	141,000	125,700	-15,300	-10.9%
Service-Providing	820,400	888,800	68,400	8.3%
Trade, Transportation and Utilities	183,100	191,500	8,400	4.6%
Wholesale Trade	48,800	54,000	5,200	10.7%
Retail Trade	105,100	106,400	1,300	1.2%
Information	19,200	19,400	200	1.0%
Financial Activities	78,600	81,200	2,600	3.3%
Finance and Insurance	62,400	64,500	2,100	3.4%
Real Estate and Rental and Leasing	16,200	16,700	500	3.1%
Professional and Business Services	124,100	146,500	22,400	18.0%
Professional, Scientific & Technical Services	49,500	57,200	7,700	15.6%
Management of Companies and Enterprises	15,600	17,500	1,900	12.2%
Administrative and Waste Services	59,000	71,800	12,800	21.7%
Education and Health Services	154,800	177,800	23,000	14.9%
Educational Services	23,000	26,500	3,500	15.2%
Health Care & Social Assistance	131,800	151,400	19,600	14.9%
Leisure and Hospitality	86,200	92,600	6,400	7.4%
Arts, Entertainment & Recreation	13,400	15,300	1,900	14.2%
Accommodation and Food Services	72,700	77,300	4,600	6.3%
Other Services	41,800	44,300	2,500	6.0%
Government	132,600	135,600	3,000	2.3%
Federal Government	18,100	17,600	-500	-2.8%
State Government	6,700	6,900	200	3.0%
Local Government	107,800	111,000	3,200	3.0%
Self-Employed, Private Household and Unpaid Family Workers	70,900	70,600	-300	-0.4%

Projections by Occupational Group. Figure 11 shows the region's employment projections arranged by major occupational group. As of 2004, the largest occupational groups in Northern Ohio were office and administrative support; sales and related; and production occupations.

Between 2004 and 2014, healthcare occupations are projected to add the most jobs in this region: about 13,400 net new positions (14.2%). Again, this is related to strong demand for health services and concentration in this region. Computer and math occupations are expected to have the fastest growth: 24.0 percent. Other fast-growing occupational groups include business and financial operations (12.1%); education, training and library occupations (12.2%); and construction and extraction (11.2%).

On average there will be about 31,000 job openings per year in Northern Ohio. Many of the occupational groups with high average annual opening figures are those with high replacement needs such as food preparation and serving and sales. Note that although production occupations are expected to shed over 7,000 jobs during the period of analysis, there will also be a large number of openings. About three out of every four job openings are for replacement hires.

Figure 11: Northern Ohio Projections to 2014 by Occupational Group

Occupational Group	2004 Annual	2014 Proj.	Change in Employment		Avg. Ann. Openings
	Empl.	Empl.	2004-2014	Percent	
Total, All Occupations	1,076,800	1,134,100	57,300	5.3%	31,027
Management Occupations	50,330	54,320	3,990	7.9%	1,317
Business and Financial Operations Occupations	56,480	63,310	6,830	12.1%	1,684
Computer and Mathematical Occupations	21,040	26,090	5,050	24.0%	786
Architecture and Engineering Occupations	17,740	18,940	1,200	6.8%	524
Life, Physical, and Social Science Occupations	7,590	8,270	680	9.0%	253
Community and Social Services Occupations	17,620	19,550	1,930	11.0%	522
Legal Occupations	12,590	13,670	1,080	8.6%	255
Education, Training, and Library Occupations	50,280	56,430	6,150	12.2%	1,704
Arts, Design, Entertainment, Sports, & Media Occ.	16,820	18,180	1,360	8.1%	448
Healthcare Occupations, total	94,370	107,740	13,370	14.2%	3,037
Protective Service Occupations	25,830	27,590	1,760	6.8%	894
Food Preparation and Serving Related Occupations	77,300	82,500	5,200	6.7%	3,538
Building & Grounds Cleaning & Maintenance Occup.	36,930	39,310	2,380	6.4%	970
Personal Care and Service Occupations	31,730	33,750	2,020	6.4%	967
Sales and Related Occupations	114,370	117,200	2,830	2.5%	3,894
Office and Administrative Support Occupations	186,890	183,610	-3,280	-1.8%	4,211
Farming, Fishing, and Forestry Occupations	2,460	2,470	10	0.4%	66
Construction and Extraction Occupations	42,470	47,240	4,770	11.2%	1,284
Installation, Maintenance, and Repair Occupations	40,200	41,840	1,640	4.1%	1,073
Production Occupations	97,910	90,790	-7,120	-7.3%	2,347
Transportation and Material Moving Occupations	75,910	81,320	5,410	7.1%	2,292

High Prospect Occupations. A high prospect occupation is one that pays at least \$12 per hour on average and is expected to have at least 50 average annual openings. There are about 100 such occupations identified for Northern Ohio. Figure 12 shows these high prospect occupations arranged by required education and training.

Figure 12: High Prospect Occupations in Northern Ohio

Code	Occupational Title**	Employment		Change in Employment		Avg. Ann. Openings	2006 Avg. Wage*
		2004 Annual	2014 Projected	2004 - 2014	Percent		
Occupations Requiring Short-Term On-the-Job Training (up to one month)							
41-9041	Telemarketers	5,460	4,710	-750	-13.7%	90	\$12.53
43-3011	Bill and Account Collectors	3,790	4,390	600	15.8%	132	\$14.39
43-4031	Court, Municipal, and License Clerks	2,850	3,100	250	8.8%	88	\$15.43
43-4111	Interviewers, except Eligibility and Loan	2,390	2,700	310	13.0%	93	\$12.85
43-5052	Postal Service Mail Carriers	2,780	2,630	-150	-5.4%	87	\$23.56
43-5053	Postal Service Mail Sorters/Proc/Proc Mach. Op.	1,920	1,820	-100	-5.2%	51	\$21.61
43-5061	Production, Planning, and Expediting Clerks	2,830	2,770	-60	-2.1%	68	\$21.00
43-5071	Shipping, Receiving, and Traffic Clerks	6,900	6,640	-260	-3.8%	142	\$14.18
51-2022	Electrical & Electronic Equipment Assemblers	2,980	2,450	-530	-17.8%	70	\$12.53
53-3033	Truck Drivers, Light or Delivery Services	8,160	8,880	720	8.8%	147	\$14.79
53-7051	Industrial Truck and Tractor Operators	4,320	4,440	120	2.8%	94	\$14.54
Occupations Requiring Moderate-Term On-the-Job Training (one to twelve months combined experience/training)							
21-1093	Social and Human Service Assistants	1,620	1,920	300	18.5%	59	\$12.34
31-9091	Dental Assistants	2,130	2,700	570	26.8%	117	\$13.46
31-9092	Medical Assistants	3,090	4,300	1,210	39.2%	178	\$12.06
33-3012	Correctional Officers and Jailers	3,570	3,620	50	1.4%	79	\$16.61
41-4011	Sales Rep., Wholesale & Mfg, Tech./Sci. Prod.	3,110	3,550	440	14.1%	126	\$33.06
41-4012	Sales Rep., Wholesale/Mfg, ex. Tech./Sci. Prod.	14,130	15,770	1,640	11.6%	535	\$31.07
43-3021	Billing & Posting Clerks & Machine Operators	4,380	4,120	-260	-5.9%	74	\$14.50
43-3031	Bookkeeping, Accounting, and Auditing Clerks	15,350	15,000	-350	-2.3%	287	\$15.18
43-3051	Payroll and Timekeeping Clerks	1,720	1,870	150	8.7%	61	\$16.25
43-4051	Customer Service Representatives	17,690	20,110	2,420	13.7%	505	\$15.41
43-6011	Executive Secretaries & Administrative Assistants	12,410	12,850	440	3.5%	282	\$19.33
43-6014	Secretaries, except Legal, Medical & Executive	15,010	13,710	-1,300	-8.7%	288	\$14.49
43-9021	Data Entry Keyers	2,580	2,500	-80	-3.1%	61	\$12.83
43-9041	Insurance Claims and Policy Processing Clerks	3,300	3,300	0	0.0%	53	\$14.02
47-2061	Construction Laborers	5,690	5,870	180	3.2%	94	\$19.28
47-2073	Operating Engineers & Other Con. Equip. Op.	1,750	1,920	170	9.7%	62	\$24.37
47-2141	Painters, Construction and Maintenance	2,680	3,020	340	12.7%	75	\$17.37
47-2181	Roofers	1,440	1,700	260	18.1%	59	\$17.48
49-9042	Maintenance and Repair Workers, General	9,910	10,490	580	5.9%	248	\$16.78
51-2092	Team Assemblers	9,520	9,370	-150	-1.6%	246	\$12.56
51-4031	Cutting/Punching/Press Machine S/O/T, M/P	4,260	3,300	-960	-22.5%	99	\$14.22
51-4072	Molding/Coremaking/Casting Mach. S/O/T, M/P	3,200	2,690	-510	-15.9%	80	\$17.79
51-9023	Mixing/Blending Mach. Setter/Operator/Tenders	2,290	2,100	-190	-8.3%	60	\$16.01
51-9061	Inspectors/Testers/Sorters/Samplers/Weighers	6,140	5,640	-500	-8.1%	140	\$16.69
53-3032	Truck Drivers, Heavy and Tractor-Trailer	10,050	11,330	1,280	12.7%	292	\$18.59
Occupations Requiring Long-Term On-the-Job Training (twelve months or more combined experience/training)							
33-2011	Fire Fighters	3,280	3,850	570	17.4%	152	\$17.39
33-3051	Police and Sheriff's Patrol Officers	3,870	4,220	350	9.0%	135	\$23.59
47-2031	Carpenters	8,060	9,300	1,240	15.4%	255	\$19.49
47-2111	Electricians	5,430	5,910	480	8.8%	155	\$26.23

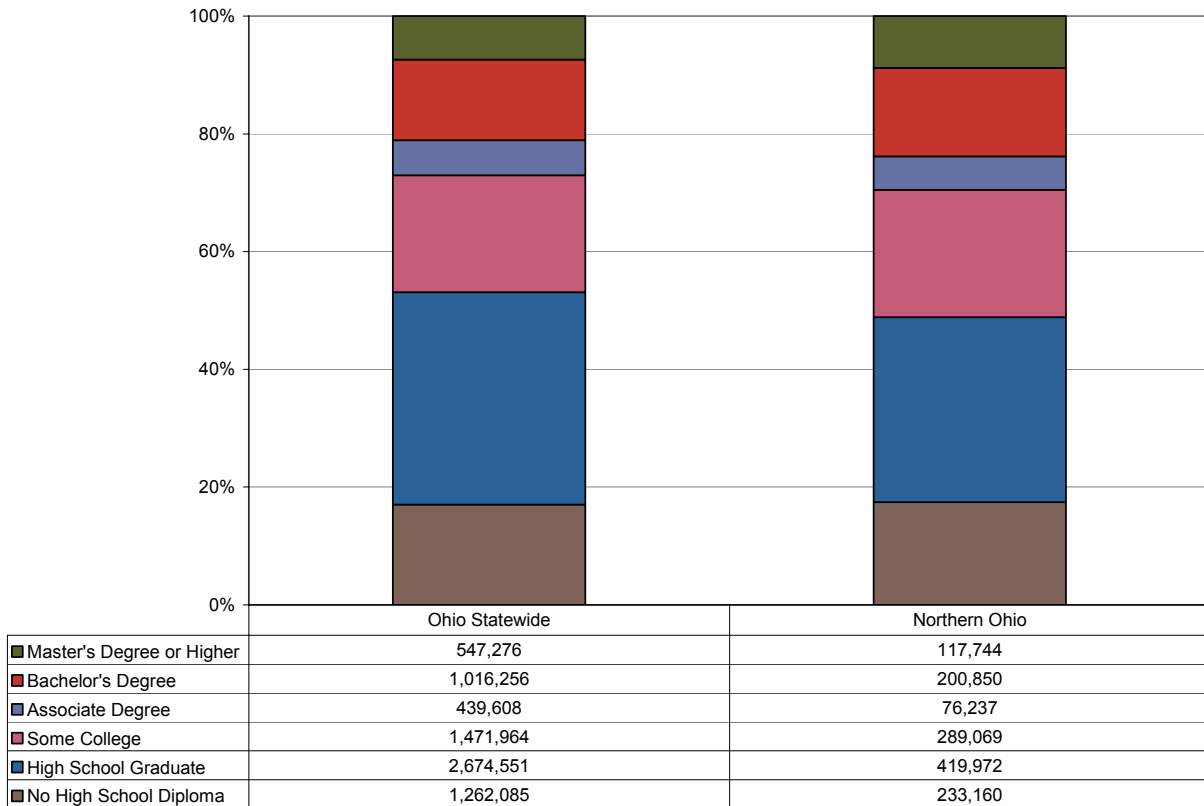
Code	Occupational Title**	Employment		Change in Employment		Avg. Ann. Openings	2006 Avg. Wage*
		2004 Annual	2014 Projected	2004 - 2014	Percent		
Occupations Requiring Long-Term On-the-Job Training (twelve months or more combined experience/training) [con't]							
47-2152	Plumbers, Pipefitters and Steamfitters	2,510	2,810	300	12.0%	88	\$26.55
49-9021	Heating, AC, & Refrigeration Mechanics/Installers	1,570	1,880	310	19.7%	52	\$18.84
51-4041	Machinists	6,390	6,280	-110	-1.7%	149	\$16.15
51-4111	Tool and Die Makers	2,480	2,230	-250	-10.1%	56	\$22.52
51-4121	Welders, Cutters, Solderers, and Brazers	2,890	2,750	-140	-4.8%	82	\$16.79
Occupations Requiring Work Experience in a Related Occupation							
11-9051	Food Service Managers	2,690	2,890	200	7.4%	64	\$21.07
13-1023	Purchasing Agents, ex. Whole., Retail, & Farm	2,330	2,360	30	1.3%	61	\$25.17
13-1051	Cost Estimators	1,850	2,090	240	13.0%	66	\$25.72
35-1011	Chefs and Head Cooks	1,440	1,540	100	6.9%	53	\$16.45
35-1012	FL Sup/Mgrs of Food Prep. & Serving Workers	4,510	4,870	360	8.0%	143	\$13.51
41-1011	First-Line Superv./Mgrs of Retail Sales Workers	11,240	11,240	0	0.0%	202	\$19.50
41-1012	First-Line Sup./Mgrs of Non-Retail Sales Workers	4,110	4,080	-30	-0.7%	78	\$34.73
43-1011	First-Line Sup/Mgrs of Office & Admin. Support	8,630	8,580	-50	-0.6%	185	\$22.86
47-1011	First-Line Sup/Mgrs of Con. Trades/Extract. Work	3,320	3,730	410	12.3%	97	\$29.97
49-1011	FL Sup/Mgrs of Mechanics/Installers/Repairers	3,350	3,530	180	5.4%	102	\$27.16
51-1011	FL Sup/Mgrs of Production/Operating Workers	7,150	6,860	-290	-4.1%	150	\$26.40
53-1031	FL Sup/Mgr of Trans/Mat.-Mov. Mach & Veh Op	1,530	1,700	170	11.1%	53	\$24.16
Occupations Requiring Postsecondary Vocational Training							
29-2061	Licensed Practical & Licensed Vocat. Nurses	7,050	7,520	470	6.7%	201	\$19.36
31-9011	Massage Therapists	1,660	1,840	180	10.8%	50	\$15.13
39-5012	Hairdressers, Hairstylists and Cosmetologists	7,170	7,800	630	8.8%	201	\$12.93
43-6012	Legal Secretaries	2,940	3,220	280	9.5%	84	\$18.84
43-6013	Medical Secretaries	6,610	7,100	490	7.4%	176	\$13.57
49-3023	Automotive Service Technicians and Mechanics	6,150	6,590	440	7.2%	208	\$17.24
49-3031	Bus & Truck Mechanics & Diesel Engine Spec.	1,860	2,080	220	11.8%	70	\$19.55
Occupations Requiring an Associate Degree							
15-1041	Computer Support Specialists	3,140	3,620	480	15.3%	87	\$20.56
23-2011	Paralegals and Legal Assistants	2,060	2,490	430	20.9%	60	\$22.95
29-1111	Registered Nurses	23,510	28,500	4,990	21.2%	991	\$28.03
29-2034	Radiologic Technologists and Technicians	1,710	1,990	280	16.4%	60	\$20.44
Occupations Requiring a Bachelor's Degree							
11-9021	Construction Managers	1,630	1,840	210	12.9%	51	\$43.82
13-1071	Employment, Recruitment & Placement Specialists	1,440	1,750	310	21.5%	53	\$23.04
13-1073	Training and Development Specialists	2,200	2,590	390	17.7%	73	\$25.03
13-2011	Accountants and Auditors	12,460	13,720	1,260	10.1%	361	\$27.00
13-2051	Financial Analysts	2,180	2,510	330	15.1%	65	\$32.99
13-2072	Loan Officers	2,720	2,840	120	4.4%	56	\$26.71
15-1021	Computer Programmers	2,940	2,900	-40	-1.4%	69	\$31.20
15-1031	Computer Software Engineers, Applications	3,310	4,790	1,480	44.7%	181	\$33.66
15-1032	Comp. Software Engineers, Systems Software	1,450	1,990	540	37.2%	68	\$35.59
15-1051	Computer Systems Analysts	3,140	3,780	640	20.4%	100	\$33.70
15-1071	Network and Computer Systems Administrators	2,380	3,100	720	30.3%	98	\$29.89
15-1081	Network Systems & Data Comm. Analysts	1,550	2,300	750	48.4%	93	\$32.03
17-2112	Industrial Engineers	2,100	2,320	220	10.5%	73	\$32.28
17-2141	Mechanical Engineers	2,360	2,440	80	3.4%	72	\$29.75
19-3021	Market Research Analysts	1,730	1,970	240	13.9%	69	\$31.64

Code	Occupational Title**	Employment		Change in Employment		Avg. Ann. Openings	2006 Avg. Wage*
		2004 Annual	2014 Projected	2004 - 2014	Percent		
Occupations Requiring a Bachelor's Degree [con't]							
21-1021	Child, Family and School Social Workers	3,260	3,520	260	8.0%	82	\$19.79
21-1022	Medical and Public Health Social Workers	1,620	1,880	260	16.0%	54	\$18.68
25-2021	Elementary School Teachers, ex.Special Ed.†	7,680	8,350	670	8.7%	236	\$49,578
25-2022	Middle School Teachers, ex. Special & Voc. Ed.†	4,850	5,040	190	3.9%	126	\$50,651
25-2031	Secondary Sch. Teachers, ex. Spec. & Voc. Ed.†	8,960	9,530	570	6.4%	309	\$44,904
25-2043	Special Education Teachers, Secondary School†	1,720	1,920	200	11.6%†	61	\$50,060
29-2011	Medical and Clinical Laboratory Technologists	1,590	1,730	140	8.8%	57	\$21.32
41-3021	Insurance Sales Agents	4,040	4,210	170	4.2%	114	\$18.74
41-3031	Securities/Commodities/Fin. Serv. Sales Agents	3,130	3,390	260	8.3%	61	\$38.44
Occupations Requiring Work Experience plus a Bachelor's Degree							
11-1011	Chief Executives	3,240	3,500	260	8.0%	87	\$77.27
11-1021	General and Operations Managers	12,010	13,050	1,040	8.7%	331	\$50.33
11-2022	Sales Managers	1,980	2,200	220	11.1%	59	\$49.37
11-3021	Computer and Information Systems Managers	1,680	1,960	280	16.7%	59	\$48.86
11-3031	Financial Managers	3,350	3,570	220	6.6%	70	\$50.46
11-9032	Education Admin., Elem. & Secondary School†	1,870	1,980	110	5.9%	57	\$70,655
11-9111	Medical and Health Services Managers	1,980	2,270	290	14.6%	68	\$35.31
13-1111	Management Analysts	4,280	4,740	460	10.7%	105	\$32.84
Occupations Requiring a First Professional Degree							
23-1011	Lawyers	7,530	8,400	870	11.6%	184	\$52.95
29-1051	Pharmacists	2,020	2,390	370	18.3%	76	\$45.73
*May 2005 wages aged to April 2006. Wages in <i>italics</i> are for the Cleveland-Elyria-Mentor MSA because EDR wages were unavailable.							
**Abbreviations							
FL Sup/Mgrs = First-Line Supervisors/Managers							
M/P = Metal and Plastic							
O/T = Operators and Tenders							
S/O/T = Setters, Operators and Tenders							
†Annual earnings, typically for a 9½ month school year							
Source: Ohio Department of Job and Family Services, Bureau of Labor Market Information, 2007a.							

IV. Education & Training

Educational Attainment. As Figure 13 below indicates, the Northern Ohio EDR has a slightly higher level of educational attainment than the rest of the state. The region has comparable proportions of adults 25 and older with some college education and with associate's degrees as the rest of the state. 23.8 percent of adults have a bachelor's degree or better, compared with 21.1 percent across Ohio.

Figure 13: Educational Attainment, 2000



Institutions and Degree Completions. There are about 56 postsecondary training providers in Northern Ohio offering over 2,000 different programs: 6 public adult schools with vocational programs; 19 two-year technical and community colleges; 19 four-year colleges and universities; and 12 private business and technical schools. From 2005 to 2006, the number of completers from these institutions increased by more than 500. The most growth during this period was in bachelor's degrees and award programs less than two years long. Details on educational institutions and program completers are available in Appendices E and F, respectively.

Figure 14: Degree Completions in Northern Ohio

Award Type	2005	2006	Net Growth
Postsec. Awards; < 2 yrs.	3,998	4,117	119
Associate's Degrees	4,026	4,098	72
Bachelor's Degrees	5,996	6,273	277
Master's Degrees	3,454	3,382	-72
Doctor's Degrees	243	281	38
First-Professional Degrees	678	701	23
All Other Awards	324	378	54
Totals	18,719	19,230	511

Skills-Based Projections. The Bureau of Labor Market Information recently analyzed occupational projections to determine the workplace skills that will be in demand in 2014. There are 35 skills that have been identified as potentially related to a job by the Occupational Information Network (O*NET) system. Skills are learned capabilities that allow workers to master and perform the specific activities of their jobs. On average, each occupation has about five skills associated with it. For additional details on how the skills-based projections analysis was conducted, please refer to the Technical Notes at the end of this report.

Figure 15 on the next page ranks all 35 skills by the projected need for training and gives several importance measures for both Northern Ohio and the entire state. The first, supply rank, ranks the skills based on how many jobs today require each. Percent demand gives the proportion of average annual openings through 2014 that will require a skill, with higher percentages indicating stronger demand. The gap index is the difference between the available supply of a workplace skill and its projected demand, standardized to a range of 0 to 100. A higher gap index indicates stronger need for training. Finally, the replacement index gives the proportion of projected annual openings requiring a given skill that will arise to replace exiting workers (e.g. through dismissals, retirements, etc.) rather than to fill a new position. Demand for skills with higher replacement indices may be tempered with poor employment growth.

As is typical for much of the state, reading comprehension will be the most important workplace skill in the coming years. It will be required in 54.4 percent of all projected job openings and also has the largest gap between supply and projected demand. Other important skills include critical thinking, coordination, speaking and active listening.

In general, the Northern Ohio EDR will require a much more skilled workforce than other regions in the state. Of the top-ten ranked workplace skills in the area, each will be required in a greater proportion of projected openings than statewide, especially active listening—demanded in 52.9 percent of openings compared with only 46.6 percent across Ohio. None of the workplace skills will be in lower demand here.

Figure 15: Projected Skills Needs for 2014

Skill	Northern Ohio				Ohio	
	Supply Rank	Percent Demand	Gap Index	Repl. Index	Percent Demand	Gap Index
Reading Comprehension	1	54.4%	100	70	48.3%	100
Critical Thinking	3	47.1%	97	69	41.9%	94
Coordination	6	40.9%	94	67	36.8%	89
Speaking	4	43.7%	91	68	38.4%	91
Active Listening	2	52.9%	89	71	46.6%	97
Monitoring	7	39.2%	86	67	34.3%	83
Active Learning	5	41.8%	83	69	37.4%	86
Writing	8	38.3%	80	68	33.6%	80
Time Management	10	35.7%	77	68	31.6%	74
Learning Strategies	11	35.6%	74	68	31.3%	71
Instructing	9	37.2%	71	69	34.1%	77
Social Perceptiveness	12	31.7%	69	68	28.6%	69
Service Orientation	13	28.5%	66	67	25.4%	66
Judgment and Decision Making	14	26.8%	63	67	23.6%	63
Persuasion	15	24.9%	60	67	22.2%	60
Complex Problem Identification	16	24.4%	57	67	21.3%	57
Mathematics	17	21.3%	54	67	18.9%	54
Equipment Selection	18	16.9%	51	71	16.0%	51
Negotiation	19	13.5%	49	71	12.0%	49
Management of Personnel Resources	21	10.6%	46	73	10.1%	46
Troubleshooting	20	12.4%	43	70	11.0%	43
Installation	23	8.4%	40	68	7.6%	40
Operations Analysis	29	5.9%	37	59	5.2%	31
Systems Evaluation	30	5.4%	34	54	4.3%	29
Systems Analysis	33	4.1%	31	51	3.2%	26
Management of Financial Resources	24	7.2%	29	71	6.6%	37
Equipment Maintenance	22	9.5%	26	75	9.3%	34
Technology Design	34	3.6%	23	51	2.9%	17
Science	32	4.2%	20	68	3.9%	23
Repairing	28	6.1%	17	72	5.9%	20
Management of Material Resources	31	3.9%	14	68	3.5%	14
Programming	35	1.2%	11	42	1.0%	9
Quality Control	25	7.2%	9	74	6.0%	11
Operation and Control	27	6.1%	6	79	5.4%	6
Operation Monitoring	26	7.5%	3	82	6.8%	3

Technical Notes

Population, demographic and commuting estimates were obtained from the U.S. Census Bureau. Population and demographics are available online at <http://www.census.gov/popest/datasets.html>. Commuting data are available online at <http://www.census.gov/population/www/cen2000/commuting.html>.

Current employment data were obtained from the Quarterly Census of Employment and Wages (QCEW), as conducted by the Ohio Bureau of Labor Market Information, Administrative Industry Statistics Section. The data are based on reports filed by employers subject to the Ohio Unemployment Compensation Law, as well as those covered under Unemployment Compensation for Federal Employees, by place of work. Total employment figures may include some employment in establishments which could not be classified. See the Economic Development Profiles at <http://lmi.state.oh.us/CEP/CEP.htm> or the "Data Query" menu for Employment and Wages by Industry at <http://www.OhioWorkforceInformer.org>. For details on industry classifications, visit *2002 North American Industry Classification System (NAICS) Codes and Titles* at <http://www.census.gov/epcd/naics02/naicod02.htm>.

Unemployment rate estimates were developed by the Ohio Bureau of Labor Market Information, Local Area Unemployment Statistics (LAUS) Section. Data are available online at <http://www.OhioWorkforceInformer.org> under the "Data Query" tab.

Per capita income figures at the county level are from the U.S. Bureau of Economic Analysis and were recalculated for EDRs by the Ohio Bureau of Labor Market Information, Workforce Research Section. County data are downloadable from <http://www.bea.gov/beat/regional/reis> and EDR data from <http://www.OhioWorkforceInformer.org>.

Employment projections data, by industry and occupation, were obtained from the *Ohio Job Outlook to 2014*, published by the Ohio Bureau of Labor Market Information, Workforce Research Section. These were rounded estimates and columns may not total. Outlooks for each of Ohio's EDRs are available for download at <http://lmi.state.oh.us/proj/OhioJobOutlook.htm>. For details on occupational classifications, visit *Standard Occupational Classification (SOC) System* at <http://www.bls.gov/soc/home.htm>. The number of average annual openings needed to qualify as a high-prospect occupation may vary depending on the EDR's relative size and total employment levels.

Data on education were obtained from the Ohio Department of Development, Office of Strategic Research, based on information from the 2000 decennial census. Detailed information on each of Ohio's 88 counties, including a list of major employers, is available at <http://www.odod.state.oh.us/research/files/s0.htm>.

Degree completion data are from the Integrated Postsecondary Education Data System (IPEDS) by the U.S. Department of Education. IPEDS collects data from higher education institutions around the country on the number of degree completers, degree or award types, and educational program types. For more information, visit <http://nces.ed.gov/IPEDS/about/> or contact BLMI at (888) 296-7541.

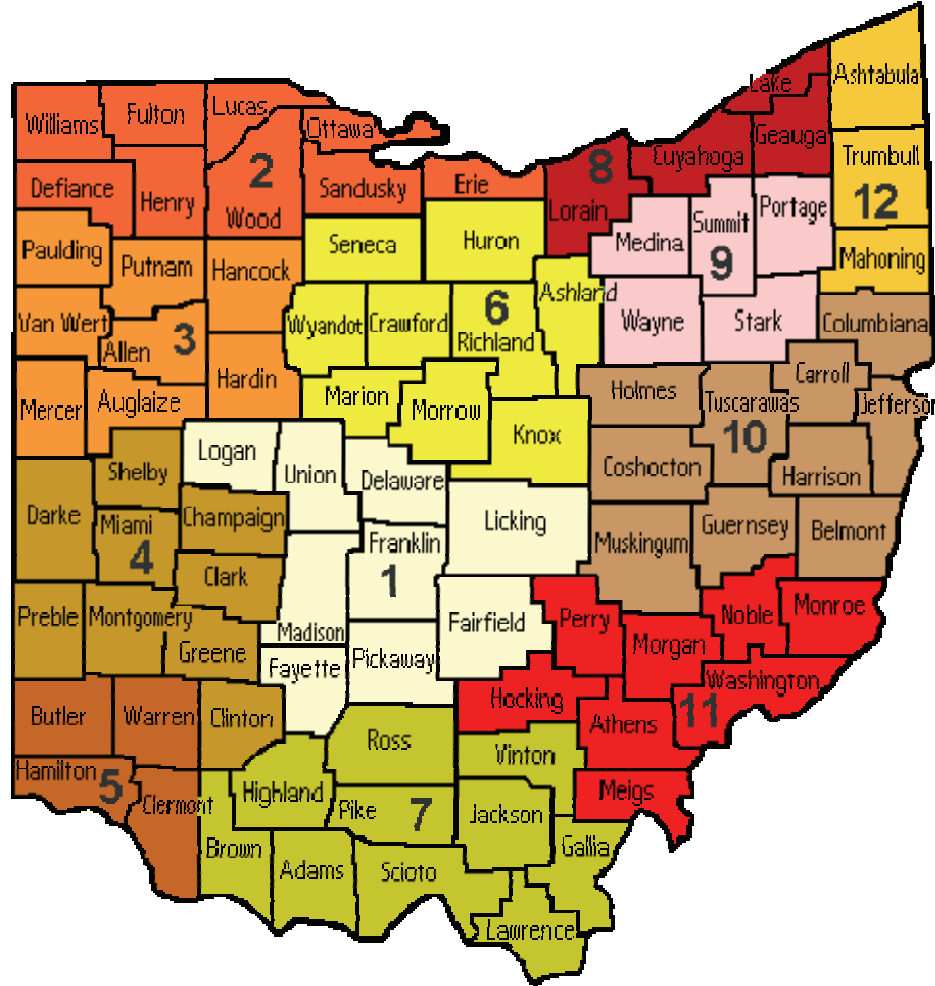
Skills-based projections were developed using the Skills Based Employment Projections web software from the Projections Workgroup. Skills were classified using O*NET—a matching of SOC-like occupations with typically required knowledge, skills and abilities. Skill-occupation matchings were included in the analysis if the skill had an importance score of at least 3 out of 5 and a level score of at least 4 out of 7. A detailed content model is available online at http://www.onetcenter.org/dl_files/ContentModel_DetailedDesc.pdf.

For more information on Ohio workforce statistics, visit the Ohio Workforce Informer online at <http://www.OhioWorkforceInformer.org> or the Ohio Labor Market Information Classic website at <http://lmi.state.oh.us>.

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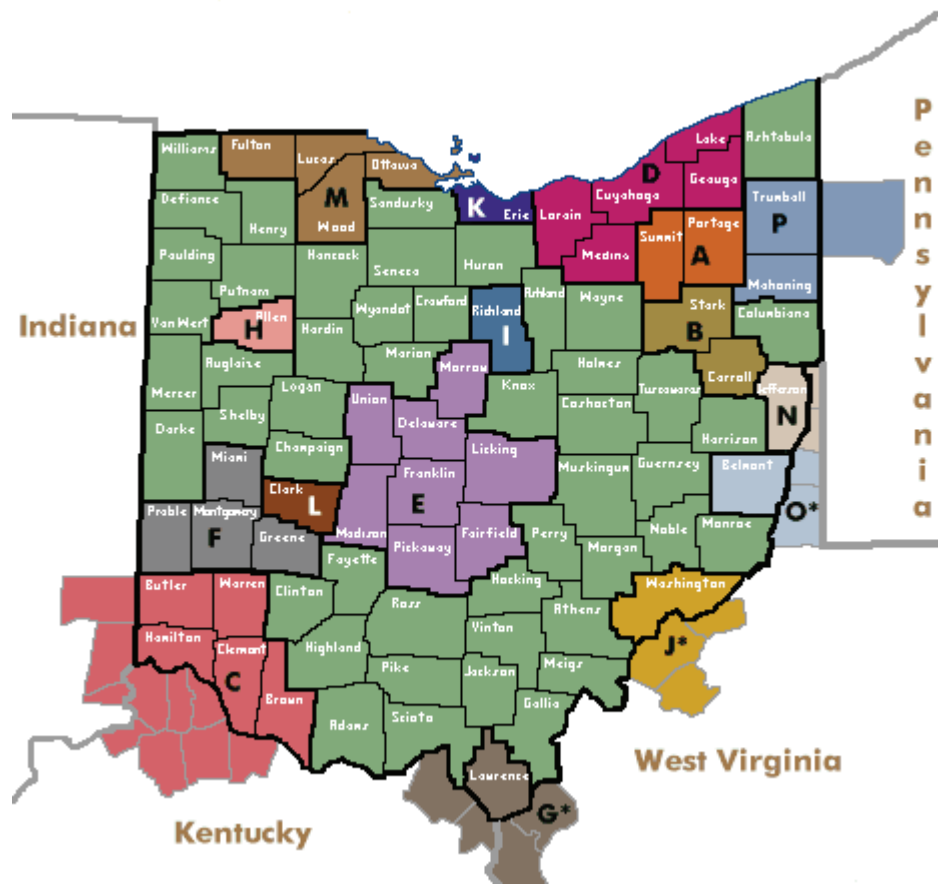
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Appendix A: Ohio's Economic Development Regions



1. **Central Ohio:** Delaware, Fairfield, Fayette, Franklin, Licking, Logan, Madison and Union Counties
2. **Northwest Ohio:** Defiance, Erie, Fulton, Henry, Lucas, Ottawa, Sandusky, Williams and Wood Counties
3. **West Central Ohio:** Allen, Auglaize, Hancock, Hardin, Mercer, Paulding, Putnam and Van Wert Counties
4. **Southwest Central Ohio:** Champaign, Clark, Clinton, Darke, Greene, Miami, Montgomery, Preble, and Shelby Counties
5. **Southwest Ohio:** Butler, Clermont, Hamilton and Warren Counties
6. **North Central Ohio:** Ashland, Crawford, Huron, Knox, Marion, Morrow, Richland, Seneca and Wyandot Counties
7. **Southern Ohio:** Adams, Brown, Gallia, Highland, Jackson, Lawrence, Ross, Scioto and Vinton Counties
8. **Northern Ohio:** Cuyahoga, Geauga, Lake and Lorain Counties
9. **Northeast Central Ohio:** Medina, Portage, Stark, Summit and Wayne Counties
10. **East Central Ohio:** Belmont, Carroll, Columbiana, Coshocton, Harrison, Holmes, Jefferson, Muskingum and Tuscarawas Counties
11. **Southeast Ohio:** Athens, Hocking, Meigs, Monroe, Morgan, Noble, Perry and Washington Counties
12. **Northeast Ohio:** Ashland, Mahoning and Trumbull Counties

Appendix B: Ohio's Metropolitan Statistical Areas



- A. **Akron MSA:** Portage and Summit Counties.
- B. **Canton-Massillon MSA:** Carroll and Stark Counties.
- C. **Cincinnati-Midletown MSA:** Brown, Butler, Clermont, Hamilton and Warren Counties in Ohio; Dearborn, Franklin and Ohio Counties in Indiana; and Boone, Bracken, Campbell, Gallatin, Grant, Kenton and Pendleton Counties in Kentucky.
- D. **Cleveland-Elyria-Mentor MSA:** Cuyahoga, Geauga, Lake, Lorain and Medina Counties.
- E. **Columbus MSA:** Delaware, Fairfield, Franklin, Licking, Madison, Morrow, Pickaway and Union Counties
- F. **Dayton MSA:** Greene, Miami, Montgomery and Preble Counties
- G. **Huntington-Ashland MSA*:** Cabell and Wayne Counties in West Virginia; Boyd and Greenup Counties in Kentucky; and Lawrence County in Ohio.
- H. **Lima MSA:** Allen County.
- I. **Mansfield MSA:** Richland County.
- J. **Parkersburg-Marietta-Vienna MSA*:** Pleasants, Wirt and Wood Counties in West Virginia and Washington County in Ohio.
- K. **Sandusky MSA:** Erie County.
- L. **Springfield MSA:** Clark County.
- M. **Toledo MSA:** Fulton, Lucas, Ottawa and Wood Counties.
- N. **Weirton-Steubenville MSA:** Jefferson County in Ohio and Brooke and Hancock Counties in West Virginia.
- O. **Wheeling MSA*:** Marshall and Ohio Counties in West Virginia and Belmont County in Ohio.
- P. **Youngstown-Warren-Boardman MSA:** Mahoning and Trumbull Counties in Ohio and Mercer County in Pennsylvania.

*Statistical Areas in other states that include Ohio counties.

Appendix C: Detailed County-to-County Commuting Patterns

Cuyahoga			Percent of workers that work outside the county -			9.1%					
			Average commute time in minutes -			24.4					
Number of workers 16+ years of age living in Cuyahoga County			622,876			Number of workers 16+ years of age working in Cuyahoga County			748,630		
Commute Out To			Number	Percent	Commute In From			Number	Percent		
Lake Co. OH	15,692	2.5%	Lorain Co. OH	36,888	4.9%						
Summit Co. OH	14,207	2.3%	Lake Co. OH	36,741	4.9%						
Lorain Co. OH	9,289	1.5%	Summit Co. OH	34,476	4.6%						
Medina Co. OH	4,795	0.8%	Medina Co. OH	26,572	3.5%						
Geauga Co. OH	2,973	0.5%	Geauga Co. OH	16,676	2.2%						
Portage Co. OH	2,632	0.4%	Portage Co. OH	11,934	1.6%						
Stark Co. OH	565	0.1%	Ashtabula Co. OH	2,683	0.4%						
Franklin Co. OH	524	0.1%	Stark Co. OH	2,443	0.3%						
Ashtabula Co. OH	397	0.1%	Trumbull Co. OH	1,976	0.3%						
Cook Co. IL	298	0.0%	Wayne Co. OH	1,193	0.2%						

Geauga			Percent of workers that work outside the county -			57.2%					
			Average commute time in minutes -			27.0					
Number of workers 16+ years of age living in Geauga County			44,499			Number of workers 16+ years of age working in Geauga County			34,417		
Commute Out To			Number	Percent	Commute In From			Number	Percent		
Cuyahoga Co. OH	16,676	37.5%	Trumbull Co. OH	3,900	11.3%						
Lake Co. OH	5,276	11.9%	Lake Co. OH	3,147	9.1%						
Summit Co. OH	1,130	2.5%	Cuyahoga Co. OH	2,973	8.6%						
Portage Co. OH	1,002	2.3%	Ashtabula Co. OH	2,265	6.6%						
Trumbull Co. OH	310	0.7%	Portage Co. OH	1,989	5.8%						
Ashtabula Co. OH	257	0.6%	Summit Co. OH	563	1.6%						
Mahoning Co. OH	105	0.2%	Mahoning Co. OH	107	0.3%						
Stark Co. OH	82	0.2%	Lorain Co. OH	70	0.2%						
Lorain Co. OH	68	0.2%	Mercer Co. PA	40	0.1%						
Medina Co. OH	43	0.1%	Medina Co. OH	32	0.1%						

Lake			Percent of workers that work outside the county -			37.6%					
			Average commute time in minutes -			22.9					
Number of workers 16+ years of age living in Lake County			116,830			Number of workers 16+ years of age working in Lake County			102,913		
Commute Out To			Number	Percent	Commute In From			Number	Percent		
Cuyahoga Co. OH	36,741	31.4%	Cuyahoga Co. OH	15,692	15.2%						
Geauga Co. OH	3,147	2.7%	Ashtabula Co. OH	5,775	5.6%						
Ashtabula Co. OH	1,200	1.0%	Geauga Co. OH	5,276	5.1%						
Summit Co. OH	1,157	1.0%	Summit Co. OH	1,148	1.1%						
Portage Co. OH	307	0.3%	Portage Co. OH	436	0.4%						
Lorain Co. OH	277	0.2%	Lorain Co. OH	342	0.3%						
Trumbull Co. OH	119	0.1%	Medina Co. OH	307	0.3%						
Stark Co. OH	108	0.1%	Stark Co. OH	142	0.1%						
Medina Co. OH	65	0.1%	Trumbull Co. OH	135	0.1%						
Franklin Co. OH	43	0.0%	Erie Co. PA	62	0.1%						

Lorain			Percent of workers that work outside the county -			33.2%					
			Average commute time in minutes -			22.8					
Number of workers 16+ years of age living in Lorain County.			132,895			Number of workers 16+ years of age working in Lorain County			108,001		
Commute Out To			Number	Percent		Commute In From			Number	Percent	
Cuyahoga Co. OH			36,888	27.8%		Cuyahoga Co. OH			9,289	8.6%	
Medina Co. OH			1,874	1.4%		Erie Co. OH			3,923	3.6%	
Erie Co. OH			1,594	1.2%		Huron Co. OH			1,501	1.4%	
Summit Co. OH			970	0.7%		Medina Co. OH			1,418	1.3%	
Huron Co. OH			421	0.3%		Ashland Co. OH			648	0.6%	
Lake Co. OH			342	0.3%		Summit Co. OH			588	0.5%	
Portage Co. OH			182	0.1%		Lake Co. OH			277	0.3%	
Ashtabula Co. OH			138	0.1%		Portage Co. OH			152	0.1%	
Franklin Co. OH			135	0.1%		Wayne Co. OH			145	0.1%	
Lucas Co. OH			113	0.1%		Ashtabula Co. OH			134	0.1%	

Source: U.S. Census Bureau, 2004.

Appendix D: Major Employers by County

Cuyahoga	
American Greetings Corp.	Publishing
Case Western Reserve University	Education
Cleveland Clinic Health System	Health Care
Continental Airlines	Transportation
Ford Motor Co.	Manufacturing
General Motors Corp.	Manufacturing
KeyCorp	Finance
Lincoln Electric Holding, Inc.	Manufacturing
National City Corp.	Finance
Parker Hannifin Corp.	Manufacturing
Progressive Corp.	Insurance
Sherwin-Williams Co.	Manufacturing
University Hospitals Health System	Health Care
Geauga	
Chardon Local Board of Education	Government
Duramax, Inc./Johnson Rubber	Manufacturing
Geauga County Government	Government
Great Lakes Cheese Company	Manufacturing
Kenston Local Board of Education	Government
Masco Corp./KraftMaid Cabinetry, Inc.	Manufacturing
Myers Holding Corp.	Manufacturing
Pentair, Inc.	Manufacturing
Tarkett/Johnsonite, Inc.	Manufacturing
University Hospitals Health System	Health Care
Lake	
ABB, Inc.	Manufacturing
Avery Dennison Corp.	Manufacturing
Cleveland Clinic Health System	Health Care
FirstEnergy Corp.	Utilities
Lake County Government	Government
Lake Hospital System	Health Care
Lubrizol Corp.	Manufacturing
Mentor Exempted Village Board of Education	Government
STERIS Corp.	Manufacturing
Willoughby-Eastlake City Board of Education	Government
Lorain	
Community Health Partners	Health Care
Elyria City Board of Education	Government
Emerson Electric/Ridge Tool	Manufacturing
EMH Regional Medical Center	Health Care
Ford Motor Co.	Manufacturing
Invacare Corp.	Manufacturing
Lorain City Board of Education	Government
Lorain County Government	Government
Nordson Corp.	Manufacturing
Oberlin College	Education
PolyOne Corp.	Manufacturing
Republic Engineered Products, Inc.	Manufacturing
State of Ohio	Government

Source: Ohio Department of Development, 2007.
Employers are listed in alphabetical order.

Appendix E: Postsecondary Institutions

Name	Type	Address	Telephone	URL
Academy of Court Reporting-Cleveland	Two-Year	2044 Euclid Avenue, Cleveland, OH 44115	(216) 861-3222	
ATS Institute of Technology	Two-Year	230 Alpha Park Dr, Highland Heights, OH 44143	(440) 449-1700	www.atsinstitute.com
Auburn Career Center	Pub. Adult Sch.	8140 Auburn Rd, Concord Twp, OH 44077	(800) 544-9750	www.auburncc.org
Baldwin-Wallace College	Four-Year	275 Eastland Rd, Berea, OH 44017	(440) 826-2900	www.bw.edu
Beatrice Academy of Beauty	Priv. Bus. & Tech.	10500-04 Cedar Ave, Cleveland, OH 44106	(216) 421-2313	
Brown Aveda Institute	Priv. Bus. & Tech.	8816 Mentor Ave, Mentor, OH 44060	(440) 255-9494	www.brownaveda.com
Bryant and Stratton College-Cleveland	Four-Year	1700 E 13th St, Cleveland, OH 44114	(216) 771-1700	www.bryantstratton.edu
Bryant and Stratton College-Parma	Four-Year	12955 Snow Rd, Parma, OH 44130	(216) 265-3151	www.bryantstratton.edu
Bryant and Stratton College-Willoughby Hills	Two-Year	27557 Chardon Rd, Willoughby Hills, OH 44092	(440) 944-6800	www.bryantstratton.edu
Case Western Reserve University	Four-Year	10900 Euclid Ave, Cleveland, OH 44106	(216) 368-2000	www.case.edu
Central School of Practical Nursing	Priv. Bus. & Tech.	4600 Carnegie Ave, Cleveland, OH 44103	(216) 391-8434	www.cspnohio.org
Cleveland Clinic Health System-School of Diagnostic Im	Two-Year	18901 Lakeshore Blvd, Euclid, OH 44119	(216) 692-8665	www.cchseast.org/schools
Cleveland Industrial Training Center	Two-Year	1311 Brookpark Rd, Cleveland, OH 44109	(216) 459-9292	
Cleveland Institute of Art	Four-Year	11141 East Blvd, Cleveland, OH 44106	(216) 421-7000	www.cia.edu
Cleveland Institute of Dental-Medical Assistants	Priv. Bus. & Tech.	2450 Prospect Ave E. 2nd Fl., Cleveland, OH 44115	(216) 241-2930	www.cidma.com
Cleveland Institute of Dental-Medical Assistants	Priv. Bus. & Tech.	5733 Hopkins Rd, Mentor, OH 44060	(216) 241-2930	www.cidma.com
Cleveland Institute of Dental-Medical Assistants	Priv. Bus. & Tech.	5564 Mayfield Rd, Lyndhurst, OH 44124	(216) 241-2930	www.cidma.com
Cleveland Institute of Music	Four-Year	11021 East Blvd, Cleveland, OH 44106	(216) 791-5000	www.cim.edu
Cleveland Municipal School District Adult and Continuing Education	Pub. Adult Sch.	4600 Detroit Ave, Cleveland, OH 44102	(216) 634-2157	www.cmsdnet.net
Cleveland State University	Four-Year	2121 Euclid Avenue, Cleveland, OH 44115	(216) 687-2000	www.csuohio.edu/
Cuyahoga Community College District	Two-Year	700 Carnegie Ave, Cleveland, OH 44115	(800) 954-8742	www.tri-c.edu
David N Myers University	Four-Year	3813 Euclid Avenue, Cleveland, OH 44115	(216) 391-6937	www.myers.edu
Euclid Beauty College	Priv. Bus. & Tech.	22741 Shore Ctr Dr, Euclid, OH 44123	(216) 261-2600	
Fairview Beauty Academy	Priv. Bus. & Tech.	22610 Lorain Rd, Fairview Park, OH 44126	(216) 734-5555	
Huron School of Nursing	Two-Year	13951 Terrace Rd, Cleveland, OH 44112	(216) 761-7996	www.cchseast.org/schools
Inner State Beauty School	Priv. Bus. & Tech.	5150 Mayfield Road, Lyndhurst, OH 44124	(440) 461-1000	www.innerstatebeautyschool.com
ITT Technical Institute-Strongsville	Two-Year	14955 Sprague Rd, Strongsville, OH 44136	(440) 234-9091	www.itt-tech.edu
ITT Technical Institute-Warrensville Heights	Two-Year	4700 Richmond Rd., Suite 3000, Warrensville Heights, OH 44128	(216) 896-6500	www.itt-tech.edu
John Carroll University	Four-Year	20700 N Park Blvd, Cleveland, OH 44118	(216) 397-1886	www.jcu.edu
Kent State University-Geauga Campus	Two-Year	14111 Claridon-Troy Rd, Burton, OH 44021	(440) 834-4187	www.geauga.kent.edu
Lake Erie College	Four-Year	391 W Washington St, Painesville, OH 44077	(440) 375-7000	www.lec.edu
Lakeland Community College	Two-Year	7700 Clocktower Dr, Kirtland, OH 44094	(440) 525-7000	www.lakelandcc.edu
Laura and Alvin Siegal College of Judaic Studies	Four-Year	26500 Shaker Blvd, Beachwood, OH 44122	(216) 464-4050	www.siegalcollege.edu
Lincoln Welding School	Priv. Bus. & Tech.	22801 Saint Clair Avenue, Cleveland, OH 0	(216) 481-8100	www.lincolnelectric.com
Lorain County Community College	Two-Year	1005 North Abbe Rd, Elyria, OH 44035	(440) 366-5222	www.lorainccc.edu
Lorain County Joint Vocational School District	Pub. Adult Sch.	15181 St Rte 58 S, Oberlin, OH 44074	(440) 774-1051	www.loraincounty.com/jvsadult
Northern Institute of Cosmetology	Priv. Bus. & Tech.	669 Broadway, Lorain, OH 44052	(440) 244-4282	

Appendix E: Postsecondary Institutions

Name	Type	Address	Telephone	URL
Notre Dame College	Four-Year	4545 College Rd, Cleveland, OH 44121	(216) 381-1680	www.notredamecollege.edu
Oberlin College	Four-Year	70 N Professor St, Oberlin, OH 44074	(440) 775-8411	www.oberlin.edu
Ohio Business College-Lorain	Two-Year	1907 N Ridge Rd, Lorain, OH 44055	(440) 277-0021	ohiobusinesscollege.edu
Ohio Center for Broadcasting	Priv. Bus. & Tech.	9000 Sweet Valley Dr, Valley View, OH 44125	(216) 447-9117	www.beonair.com
Ohio College of Podiatric Medicine	Four-Year	10515 Carnegie Ave, Cleveland, OH 44106	(216) 231-3300	www.ocpm.edu
Ohio Institute of Health Careers-Elyria	Two-Year	631 Griswold Rd, Elyria, OH 44035	(440) 324-2293	ohioinstituteofhealthcareers.com
Ohio Technical College	Two-Year	1374 E 51st St, Cleveland, OH 44103	(216) 881-1700	ohiotechnicalcollege.com
Polaris Career Center	Pub. Adult Sch.	7285 Old Oak Blvd, Middleburg Heights, OH 44130	(440) 891-7600	www.polaris.edu
Quest Career College	Two-Year	6248 Pearl Rd, Parma Heights, OH 44130	(440) 886-5544	www.quest.edu
Rabbinical College Telshe	Four-Year	28400 Euclid Ave, Wickliffe, OH 44092	(440) 943-5300	
Remington College-Cleveland Campus	Two-Year	14445 Broadway Ave, Cleveland, OH 44125	(216) 475-7520	www.remingtoncollege.edu
Remington College-Cleveland West Campus	Two-Year	26350 Brookpark Road, North Olmsted, OH 44070	(440) 777-2560	www.remingtoncollege.edu
Saint Mary Seminary	Four-Year	28700 Euclid Ave, Wickliffe, OH 0	(440) 943-7600	www.stmarysem.edu
Sanford-Brown Institute	Two-Year	17535 Rosbough Dr Ste 100, Middleburg Heights, OH 44130	(440) 202-3232	www.sbcleveland.com
School of Nursing at Cuyahoga Valley Career Center	Pub. Adult Sch.	8001 Brecksville Road, Brecksville, OH 44141	(440) 746-8200	www.cvcc.k12.oh.us
Stautzenberger College-Strongsville Campus	Two-Year	12925 Pearl Rd, Strongsville, OH 44136	(440) 846-1999	www.sctoday.edu
The Cleveland Clinic Foundation-Dietetic Internship	Four-Year	9500 Euclid Ave Ste M17, Cleveland, OH 44195	(216) 444-6487	www.clevelandclinic.org/education/diet
Total Technical Institute	Priv. Bus. & Tech.	8720 Brookpark Road, Brooklyn, OH 44129	(216) 485-0900	www.ttinst.com
University of Phoenix-Cleveland Campus	Four-Year	5005 Rockside Road, Suite 130, Independence, OH 44131	(216) 447-8807	www.phoenix.edu
Ursuline College	Four-Year	2550 Lander Rd, Pepper Pike, OH 44124	(440) 449-4200	www.ursuline.edu
Vatterott College-Cleveland	Two-Year	5025 E Royalton Rd, Broadview Heights, OH 44147	(440) 526-1660	
Virginia Marti College of Art and Design	Two-Year	11724 Detroit Avenue, Lakewood, OH 44107	(216) 221-8584	www.vmcad.edu
Vocational Guidance Services	Priv. Bus. & Tech.	2239 E 55th St, Cleveland, OH 0	(216) 431-7800	www.vgsjob.org
Willoughby-Eastlake School of Practical Nursing	Pub. Adult Sch.	25 Public Sq, Willoughby, OH 44094	(440) 946-7085	www.willoughby-eastlake.k12.oh.us/tech/

Source: Integrated Postsecondary Educational Data System (IPEDS), College Opportunities Online (COOL)

<http://nces.ed.gov/collegenavigator>

Appendix F: Degree Completers by Program Class for Economic Development Region 8

Program Class	2005 Completions					2006 Completions				
	Assoc. Degrees	Bachelor's Degrees	Master's Degrees	Doctoral Degrees	First-Prof. Degrees	Assoc. Degrees	Bachelor's Degrees	Master's Degrees	Doctoral Degrees	First-Prof. Degrees
Agriculture, Agriculture Operations and Related Sciences	7	16				6	21			
Natural Resources and Conservation		41	5				57	6		
Area, Ethnic, Cultural and Gender Studies		70					73			
Communication, Journalism and Related Programs		331	14				303	21		
Communications Technologies/Technicians and Support Services	7					2				
Computer and Information Sciences and Support Services	357	135	77	1		283	138	64	4	
Education	45	518	807	9		49	492	785	7	
Engineering	52	327	239	78		44	409	230	75	
Engineering Technologies/Technicians	239	23	34			212	26	31		
Foreign Languages, Literatures and Linguistics	10	110	6			11	115	8		
Family and Consumer Sciences/Human Sciences	7	3	26			12	15	30	3	
Legal Professions and Studies	77	35	41		417	68	31	33		454
English Language and Literature/Letters		293	27	3			250	26	2	
Liberal Arts and Sciences, General Studies and Humanities	1,410	28	7			1,473	21	8		
Biological and Biomedical Sciences		317	63	54			321	66	48	
Mathematics and Statistics		84	25	4			65	24	3	
Multi/Interdisciplinary Studies		87	1	3			130	1	6	
Parks, Recreation, Leisure and Fitness Studies	1	45	27			7	63	25		
Philosophy and Religious Studies		110	38				121	28		
Theology and Religious Vocations		5	16	7			5	8	2	
Physical Sciences		135	23	23			155	31	24	
Science Technologies/Technicians	10	3				8	5			
Psychology		388	60	6			353	78	8	
Security and Protective Services	130	43				192	48			
Public Administration and Social Service Professions	22	91	290	7		29	84	287	6	
Social Sciences		560	33	7			608	43	8	
Construction Trades	21					29				
Mechanic and Repair Technologies/Trades	54					60				
Precision Production	4					1				
Visual and Performing Arts	96	560	102	4		93	602	113	9	
Health Professions and Related Clinical Sciences	900	278	286	13	261	919	316	260	47	247
Business, Management, Marketing and Related Support Services	577	1,205	1,185	22		600	1,258	1,155	26	
History		155	22	2			188	21	3	
Total, All Programs	4,026	5,996	3,454	243	678	4,098	6,273	3,382	281	701

Source: Integrated Postsecondary Educational Data System (IPEDS), College Opportunities Online (COOL)

<http://nces.ed.gov/collegenavigator>

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State of Ohio
Department of Job and Family Services
Office of Workforce Development
Bureau of Labor Market Information

Ted Strickland, Governor
Helen E. Jones-Kelley, Director

(10/2007)

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