

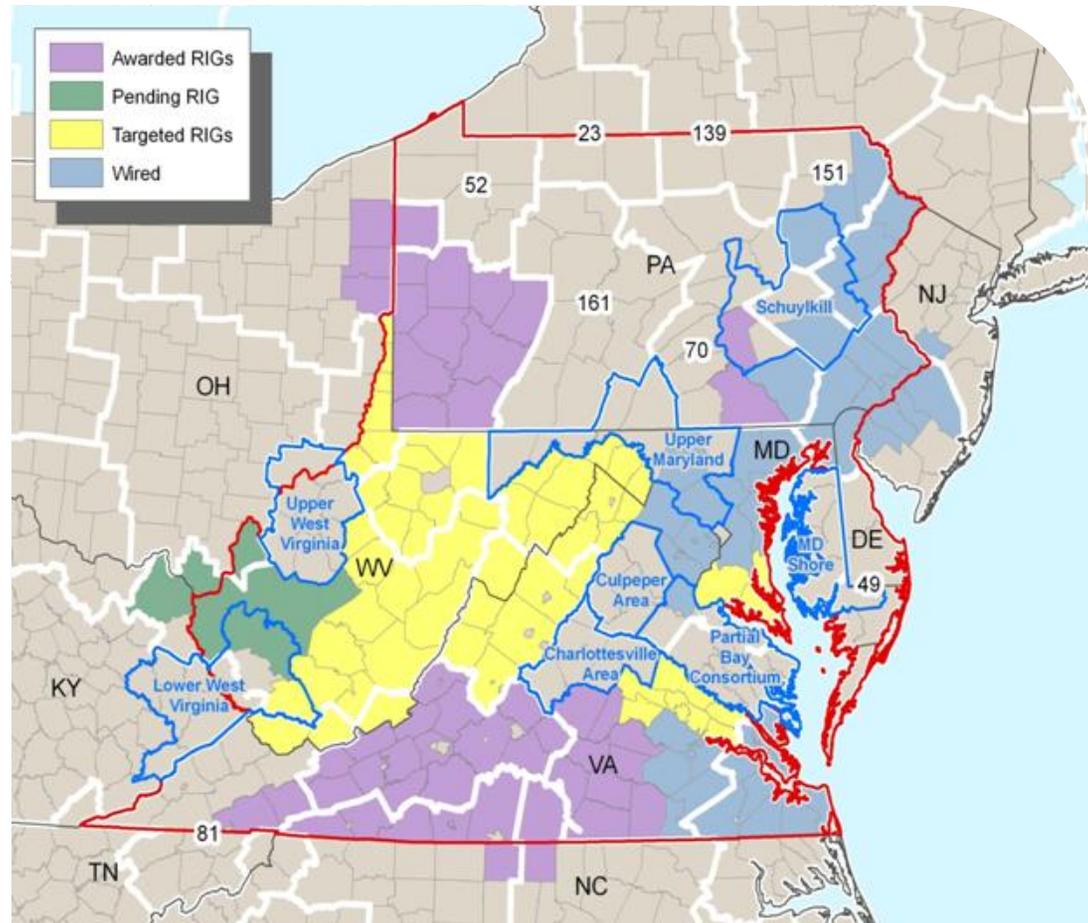


# Analysis of Regions Not Currently Involved in WIRED Grants or RIGs: BEA Region 23

October 2008

## BEA Region 23

Allegany County, New York  
Cattaraugus County, New York  
Chautauqua County, New York  
Erie County, New York  
Niagara County, New York  
McKean County, Pennsylvania  
Potter County, Pennsylvania





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## About This Report

Chmura Economics & Analytics recognizes that accurate, timely data can be difficult to find. This regional report provides employment, wages, occupations, and skills data that can be used as background for an RIG application.

## Frequently Asked Questions

### What data sources were utilized in the creation of this report?

The data for this report come from a variety of sources. All data are checked, cleaned, combined, organized, and displayed in a way to maximize its usefulness. Yearly employment data in the below charts are based on four-quarter averages. Data for regions outside of Virginia and Ohio are imputed when not disclosed. A few of the sources of data which have been used in the creation of this report are:

- Quarterly Census of Employment and Wages (QCEW)
- Local Area Unemployment Statistics (LAUS)
- Occupation and Industry Forecasts
- Local Employment Dynamics (LED)
- O\*Net
- National Center for Education Statistics
- Occupational Employment Statistics (OES)

### Who is Chmura Economics & Analytics?

Chmura Economics & Analytics (Chmura) is a provider of applied economic consulting, quantitative research, and software solutions requiring the integration of advanced economic analysis. Chmura publishes *Virginia Economic Trends*, *Ohio Economic Trends*, electronic publications, and forecasts available via [www.chmuraecon.com](http://www.chmuraecon.com). Software products include JOBSeq®, WIBeq™, and OnStage.

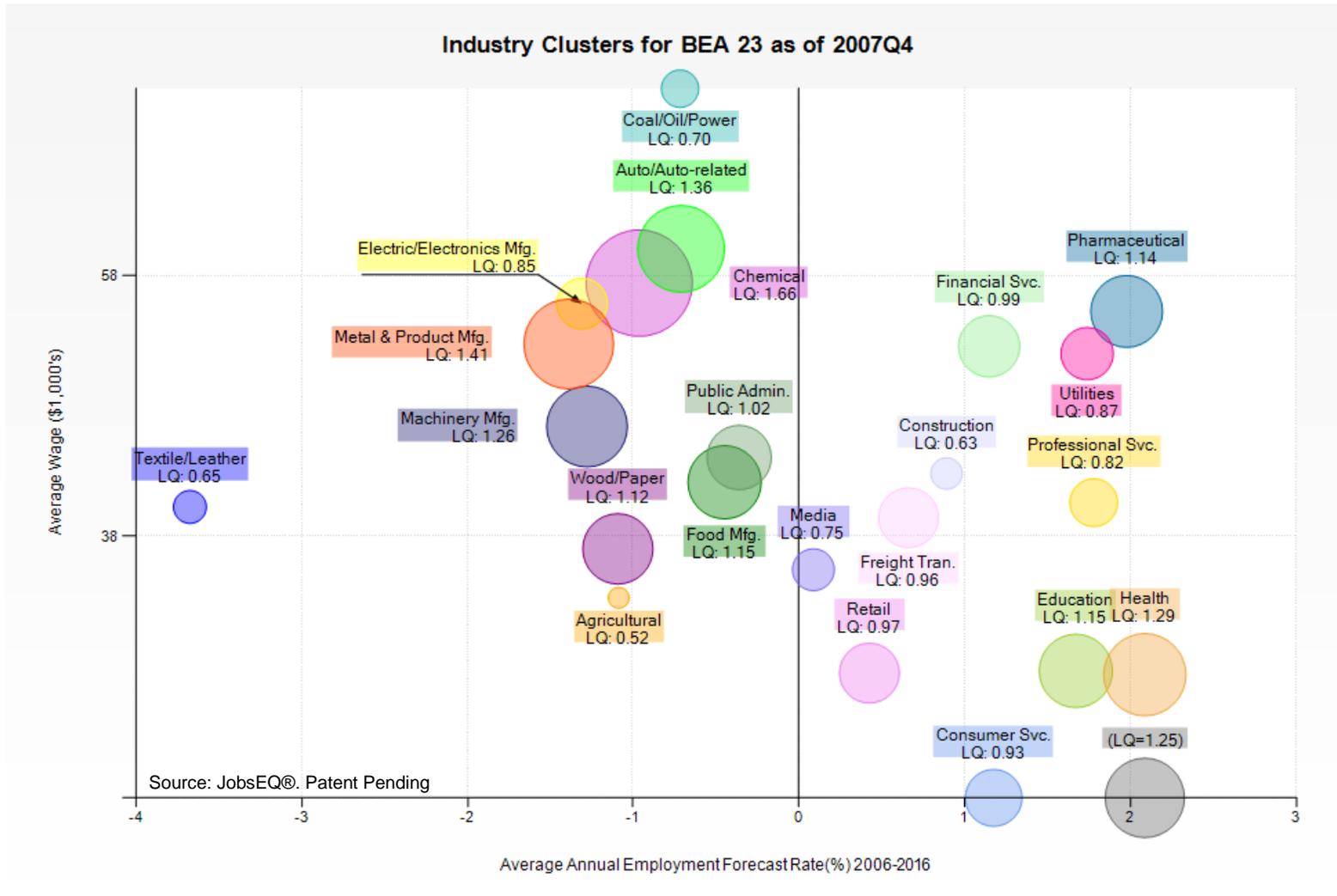
Chmura has headquarters in Richmond, Virginia and a branch office in Cleveland, Ohio. Chmura Economics & Analytics is committed to achieving 100% customer satisfaction in all project engagements. The Chmura philosophy is that when our customer succeeds, Chmura has been successful. To contact us, send an email to [info@chmuraecon.com](mailto:info@chmuraecon.com).



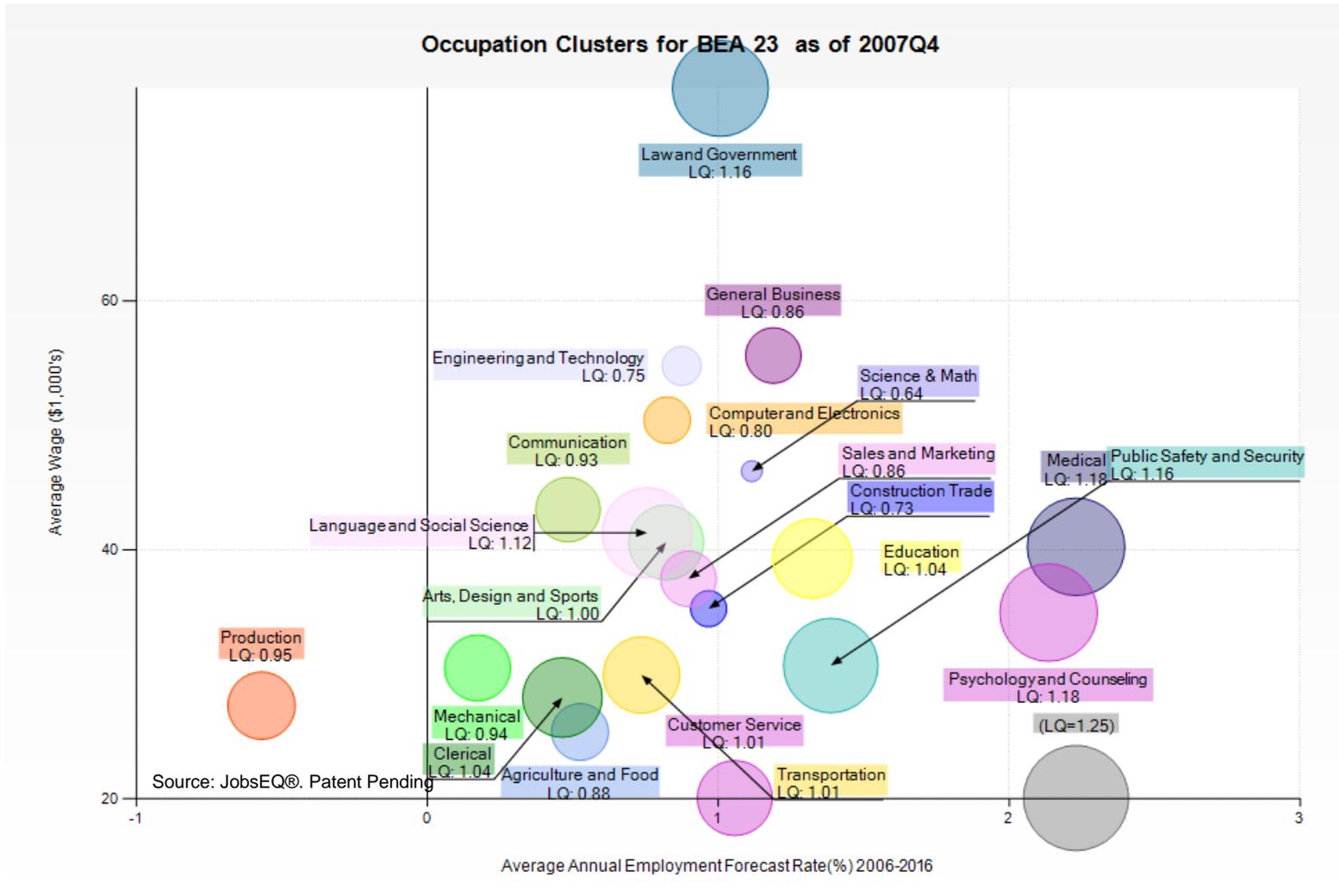
## **Executive Summary**

BEA Region 23 comprises two counties in Pennsylvania and five counties in New York. The following traditional manufacturing clusters, which are prominent in the region, are expected to shed jobs: chemical, metal and products, auto/auto-related, and machinery. In contrast, the region contains a pharmaceutical cluster which is expected to grow. The largest deficits in the region are expected to occur for healthcare-related occupations.

# Industry and Occupation Clusters



Note: See the appendix for an explanation of how to use industry and occupation cluster charts.



## Employment by Major Sector

Bureau of Economic Analysis Region 23 Employment by Major Sector

NAICS	Industry Description	Employment				Employment Change Since 2005		Annual Average Change Since 2002
		2007	2005	2002	Annual Average Wages 2007	Number	Annual Average	
0	Total	650,791	651,128	651,371	\$ 36,572	(337)	0.0%	0.0%
11	Agriculture, Forestry, Fishing and Hunting	2,339	2,416	2,444	\$ 17,658	(77)	-1.6%	-0.9%
21	Mining, Quarrying, and Oil and Gas Extraction	1,619	1,376	977	\$ 53,454	243	8.5%	10.6%
22	Utilities	2,658	2,961	3,406	\$ 87,557	(302)	-5.2%	-4.8%
23	Construction	22,863	22,537	22,967	\$ 42,646	326	0.7%	-0.1%
31	Manufacturing	83,619	87,582	97,623	\$ 52,155	(3,963)	-2.3%	-3.0%
42	Wholesale Trade	25,062	24,789	24,423	\$ 47,660	273	0.5%	0.5%
44	Retail Trade	75,993	76,662	76,871	\$ 21,255	(669)	-0.4%	-0.2%
48	Transportation and Warehousing	24,409	23,797	24,698	\$ 35,523	613	1.3%	-0.2%
51	Information	11,048	12,959	13,625	\$ 44,662	(1,911)	-7.7%	-4.1%
52	Finance and Insurance	28,569	29,277	28,466	\$ 52,848	(708)	-1.2%	0.1%
53	Real Estate and Rental and Leasing	8,976	8,982	9,036	\$ 27,256	(6)	0.0%	-0.1%
54	Professional, Scientific, and Technical Services	27,666	25,185	24,635	\$ 46,918	2,480	4.8%	2.3%
55	Management of Companies and Enterprises	10,112	9,153	8,651	\$ 63,820	959	5.1%	3.2%
56	Administrative and Support and Waste Management and Remediation Services	35,090	35,166	31,342	\$ 26,746	(76)	-0.1%	2.3%
61	Educational Services	60,458	60,576	59,414	\$ 29,826	(118)	-0.1%	0.3%
62	Health Care and Social Assistance	105,895	104,408	99,573	\$ 27,404	1,487	0.7%	1.2%
71	Arts, Entertainment, and Recreation	11,782	11,462	10,034	\$ 27,907	319	1.4%	3.3%
72	Accommodation and Food Services	51,860	50,064	50,097	\$ 12,909	1,795	1.8%	0.7%
81	Other Services (except Public Administration)	23,253	22,915	23,678	\$ 20,436	337	0.7%	-0.4%
92	Public Administration	36,692	37,671	38,431	\$ 44,075	(979)	-1.3%	-0.9%

Employment growth is the broadest and most timely indicator of the general health of an economy.

Information obtained from this table provides insight to questions such as:

- Which industries are posting the largest increases or decreases in employment? What are their average wages—will the trend lead to a decrease or increase in the region’s overall wealth?
- Are changes in employment levels cyclical or is a particularly industry in long-term decline? What is driving that trend?

## Top 20 Employers by 3-Digit NAICS

Bureau of Economic Analysis Region 23 Top 20 Employers by 3-Digit NAICS

NAICS	Industry Description	Employment				Employment Change Since 2005		Annual Average Change Since 2002
		2007	2005	2002	Annual Average Wages 2007	Number	Annual Average	
611	Educational Services	60,458	60,576	59,414	\$ 29,826	(118)	-0.1%	0.3%
722	Food Services and Drinking Places	46,190	44,548	44,507	\$ 12,524	1,642	1.8%	0.7%
623	Nursing and Residential Care Facilities	36,155	34,399	29,986	\$ 21,878	1,756	2.5%	3.8%
561	Administrative and Support Services	33,151	33,062	29,132	\$ 25,475	88	0.1%	2.6%
622	Hospitals	28,508	29,617	29,825	\$ 24,519	(1,109)	-1.9%	-0.9%
541	Professional, Scientific, and Technical Services	27,666	25,185	24,635	\$ 46,918	2,480	4.8%	2.3%
621	Ambulatory Health Care Services	27,216	26,615	23,533	\$ 41,219	600	1.1%	3.0%
921	Executive, Legislative, and Other General Government Support	25,051	25,427	26,764	\$ 38,241	(376)	-0.7%	-1.3%
445	Food and Beverage Stores	18,911	19,261	19,704	\$ 16,705	(350)	-0.9%	-0.8%
238	Specialty Trade Contractors	15,892	15,440	15,638	\$ 41,523	451	1.5%	0.3%
423	Merchant Wholesalers, Durable Goods	15,528	15,154	15,051	\$ 48,303	374	1.2%	0.6%
522	Credit Intermediation and Related Activities	14,290	15,089	15,258	\$ 50,479	(799)	-2.7%	-1.3%
624	Social Assistance	14,015	13,776	16,229	\$ 20,715	239	0.9%	-2.9%
332	Fabricated Metal Product Manufacturing	13,529	13,238	14,445	\$ 47,654	291	1.1%	-1.3%
452	General Merchandise Stores	12,145	12,141	12,470	\$ 16,829	4	0.0%	-0.5%
524	Insurance Carriers and Related Activities	12,105	12,164	11,218	\$ 51,051	(59)	-0.2%	1.5%
813	Religious, Grantmaking, Civic, Professional, and Similar Organizations	10,944	10,782	10,585	\$ 16,944	162	0.7%	0.7%
551	Management of Companies and Enterprises	10,112	9,153	8,651	\$ 63,820	959	5.1%	3.2%
441	Motor Vehicle and Parts Dealers	9,336	9,963	9,698	\$ 35,486	(628)	-3.2%	-0.8%
333	Machinery Manufacturing	9,145	8,701	8,969	\$ 52,931	444	2.5%	0.4%

The **North American Industry Classification System** (NAICS) was developed cooperatively between the United States, Canada, and Mexico to provide data users with accurate information pertaining to the economy in the 21st century. The NAICS Code is composed of six digits. The first two digits define the top-level category. The three-digit industries shown above represent components of the major sectors.

Similar to the previous table, information obtained from this table provides insight to questions such as:

- Which industries are posting the largest increases or decreases in employment? What are their average wages—will the trend lead to a decrease or increase in the region’s overall wealth?
- Are changes in employment levels cyclical or is a particularly industry in long-term decline? What is driving that trend?

## Industries with Largest Employment Gains and Losses

Bureau of Economic Analysis Region 23 Top 20 Industries with Largest Employment Gain by 3-Digit NAICS

NAICS	Industry Description	Employment			Annual Aver Wages 2007	Employment Change Since 2005		Annual Aver Change Since 2002
		2007	2005	2002		Number	Annual Average	
623	Nursing and Residential Care Facilities	36,155	34,399	29,986	\$ 21,878	1,756.27	2.5%	3.8%
722	Food Services and Drinking Places	46,190	44,548	44,507	\$ 12,524	1,641.72	1.8%	0.7%
551	Management of Companies and Enterprises	10,112	9,153	8,651	\$ 63,820	958.76	5.1%	3.2%
448	Clothing and Clothing Accessories Stores	6,941	6,185	5,881	\$ 14,643	756.04	5.9%	3.4%
621	Ambulatory Health Care Services	27,216	26,615	23,533	\$ 41,219	600.09	1.1%	3.0%
443	Electronics and Appliance Stores	2,152	1,778	1,935	\$ 30,472	374.57	10.0%	2.2%
423	Merchant Wholesalers, Durable Goods	15,528	15,154	15,051	\$ 48,303	374.36	1.2%	0.6%
485	Transit and Ground Passenger Transportation	6,081	5,715	5,401	\$ 24,338	365.64	3.1%	2.4%
713	Amusement, Gambling, and Recreation Industries	8,566	8,209	6,290	\$ 10,327	356.56	2.1%	6.4%
332	Fabricated Metal Product Manufacturing	13,529	13,238	14,445	\$ 47,654	291.28	1.1%	-1.3%
425	Wholesale Electronic Markets and Agents and Brokers	1,684	1,445	1,483	\$ 59,423	239.25	8.0%	2.6%
624	Social Assistance	14,015	13,776	16,229	\$ 20,715	239.20	0.9%	-2.9%
523	Securities, Commodity Contracts, and Other Financial Investments and Related	1,830	1,595	1,578	\$ 87,178	235.65	7.1%	3.0%
483	Water Transportation	604	401	374	\$ 61,401	203.08	22.7%	10.1%
928	National Security and International Affairs	1,138	938	1,081	\$ 54,745	199.79	10.1%	1.0%
812	Personal and Laundry Services	6,322	6,143	6,148	\$ 19,153	179.17	1.4%	0.6%
446	Health and Personal Care Stores	5,963	5,800	5,818	\$ 27,091	163.00	1.4%	0.5%
813	Religious, Grantmaking, Civic, Professional, and Similar Organizations	10,944	10,782	10,585	\$ 16,944	162.15	0.7%	0.7%
721	Accommodation	5,670	5,517	5,590	\$ 16,038	153.74	1.4%	0.3%
444	Building Material and Garden Equipment and Supplies Dealers	6,141	5,991	5,532	\$ 24,994	149.42	1.2%	2.1%

Information obtained from the table above identifies the industries that are adding the largest number of jobs which translates into those creating the greatest demand for new workers.

## Bureau of Economic Analysis Region 23 Top 20 Industries with Largest Employment Loss by 3-Digit NAICS

NAICS	Industry Description	Employment			Annual Aver Wages 2007	Employment Change Since 2005		
		2007	2005	2002		Number	Annual Average	Annual Aver Change Since 2002
522	Credit Intermediation and Related Activities	14,290	15,089	15,258	\$ 50,479	(799)	-2.7%	-1.3%
451	Sporting Goods, Hobby, Book, and Music Stores	2,784	3,547	3,591	\$ 14,811	(763)	-11.4%	-5.0%
441	Motor Vehicle and Parts Dealers	9,336	9,963	9,698	\$ 35,486	(628)	-3.2%	-0.8%
311	Food Manufacturing	8,981	9,550	10,867	\$ 45,194	(569)	-3.0%	-3.7%
323	Printing and Related Support Activities	3,095	3,655	3,933	\$ 37,236	(560)	-8.0%	-4.7%
921	Executive, Legislative, and Other General Government Support	25,051	25,427	26,764	\$ 38,241	(376)	-0.7%	-1.3%
999	Unclassified	830	1,201	959	\$ 20,360	(371)	-16.9%	-2.8%
445	Food and Beverage Stores	18,911	19,261	19,704	\$ 16,705	(350)	-0.9%	-0.8%
922	Justice, Public Order, and Safety Activities	6,040	6,386	5,648	\$ 62,066	(345)	-2.7%	1.4%
424	Merchant Wholesalers, Nondurable Goods	7,849	8,190	7,889	\$ 44,000	(341)	-2.1%	-0.1%
325	Chemical Manufacturing	5,317	5,654	6,454	\$ 67,828	(337)	-3.0%	-3.8%
453	Miscellaneous Store Retailers	4,113	4,433	4,402	\$ 19,934	(319)	-3.7%	-1.3%
221	Utilities	2,658	2,961	3,406	\$ 87,557	(302)	-5.2%	-4.8%
491	Postal Service	4,128	4,363	4,931	\$ 50,603	(235)	-2.7%	-3.5%
237	Heavy and Civil Engineering Construction	2,101	2,305	2,470	\$ 53,894	(204)	-4.5%	-3.2%
532	Rental and Leasing Services	2,317	2,516	2,699	\$ 27,961	(199)	-4.0%	-3.0%
562	Waste Management and Remediation Services	1,940	2,104	2,210	\$ 49,587	(164)	-4.0%	-2.6%
923	Administration of Human Resource Programs	1,708	1,863	1,934	\$ 54,586	(155)	-4.3%	-2.5%
511	Publishing Industries (except Internet)	3,047	3,201	3,540	\$ 39,160	(154)	-2.4%	-3.0%
335	Electrical Equipment, Appliance, and Component Manufacturing	2,493	2,641	4,208	\$ 66,623	(148)	-2.8%	-9.9%

Information obtained from the table above identifies the industries that are shedding the largest number of workers which translates into the number of people who are likely looking for jobs in the region or in need of retraining.

## Declining Occupations

Bureau of Economic Analysis Region 23 Top 20 Declining Occupations Based on Top 20 Declining Industries

Occupation Description	SOC	Employment			Annual Aver Wages 2007	Employment Change Since 2005		Annual Aver Change Since 2002
		2007	2005	2002		Number	Annual Average	
Retail Salespersons	41-2031	5,203	5,858	5,842	\$ 24,360	(655)	-5.8%	-2.3%
Cashiers	41-2011	8,913	9,304	9,531	\$ 16,932	(391)	-2.1%	-1.3%
Customer Service Representatives	43-4051	2,861	3,032	3,138	\$ 26,406	(172)	-2.9%	-1.8%
Office Clerks, General	43-9061	3,413	3,565	3,658	\$ 23,526	(153)	-2.2%	-1.4%
Sales Representatives, Wholesale and Mfg, Ex Technical and Scientific Products	41-4012	2,713	2,862	2,889	\$ 49,681	(149)	-2.6%	-1.2%
Laborers and Freight, Stock, and Material Movers, Hand	53-7062	2,349	2,488	2,609	\$ 21,617	(139)	-2.8%	-2.1%
First-Line Supervisors/Mgrs of Retail Sales Workers	41-1011	1,935	2,071	2,099	\$ 37,058	(135)	-3.3%	-1.6%
Stock Clerks and Order Fillers	43-5081	3,953	4,088	4,198	\$ 20,067	(135)	-1.7%	-1.2%
Tellers	43-3071	2,341	2,473	2,503	\$ 19,947	(132)	-2.7%	-1.3%
Automotive Service Technicians and Mechanics	49-3023	1,923	2,049	2,011	\$ 34,198	(126)	-3.1%	-0.9%
Printing Machine Operators	51-5023	695	808	877	\$ 31,036	(114)	-7.3%	-4.6%
First-Line Supervisors/Mgrs of Office and Administrative Support Workers	43-1011	2,129	2,236	2,303	\$ 39,944	(106)	-2.4%	-1.6%
Bookkeeping, Accounting, and Auditing Clerks	43-3031	1,879	1,984	2,047	\$ 27,399	(106)	-2.7%	-1.7%
General and Operations Mgrs	11-1021	1,734	1,839	1,931	\$ 82,492	(104)	-2.9%	-2.1%
Truck Drivers, Heavy and Tractor-Trailer	53-3032	1,554	1,650	1,760	\$ 34,542	(96)	-3.0%	-2.5%
Truck Drivers, Light or Delivery Services	53-3033	1,441	1,526	1,582	\$ 25,925	(86)	-2.8%	-1.9%
Construction Laborers	47-2061	1,016	1,095	1,160	\$ 28,850	(78)	-3.6%	-2.6%
Executive Secretaries and Administrative Assistants	43-6011	1,467	1,542	1,608	\$ 34,081	(75)	-2.5%	-1.8%
Packaging and Filling Machine Operators and Tenders	51-9111	1,193	1,268	1,445	\$ 24,542	(75)	-3.0%	-3.8%
Secretaries, Ex Legal, Medical, and Executive	43-6014	1,297	1,371	1,424	\$ 27,445	(74)	-2.7%	-1.9%

The **Standard Occupational Classification (SOC)** system is used by all Federal statistical agencies to classify workers into occupational categories for the purpose of collecting, calculating, or disseminating data. All workers are classified into one of over 820 occupations according to their occupational definition. Each occupation group includes detailed occupation(s) requiring similar job duties, skills, education, or experience. This system is provided by the U.S. Department of Labor, Bureau of Labor Statistics.

The table above identifies the most prevalent occupations in the regional industries shedding the most workers over the past year. The occupations on this list identify those that are in need of retraining or transferring to other industries.

## Bureau of Economic Analysis Region 23 Top 20 Declining Occupations Based on All Industries

Occupation Description	SOC	Employment			Annual Aver Wages 2007 Q4	Employment		Annual Aver Change Since 2002 Q4
		2007 Q4	2006 Q4	2002 Q4		Number	Percent	
Home Health Aides	31-1011	7,651	7,831	7,536	\$ 18,470	(180)	-2.3%	0.3%
Telecommunications Line Installers and Repairers	49-9052	476	653	629	\$ 42,108	(177)	-27.2%	-5.4%
Team Assemblers	51-2092	6,929	7,105	8,116	\$ 23,956	(176)	-2.5%	-3.1%
Customer Service Representatives	43-4051	9,077	9,242	9,196	\$ 27,502	(165)	-1.8%	-0.3%
Tellers	43-3071	2,519	2,654	2,649	\$ 20,131	(136)	-5.1%	-1.0%
First-Line Supervisors/Mgrs of Office and Administrative Support Workers	43-1011	8,128	8,240	8,039	\$ 40,506	(111)	-1.4%	0.2%
Registered Nurses	29-1111	14,603	14,713	13,601	\$ 50,451	(109)	-0.7%	1.4%
Bus Drivers, School	53-3022	5,447	5,544	5,298	\$ 23,143	(97)	-1.7%	0.6%
Dental Assistants	31-9091	1,465	1,561	1,411	\$ 23,806	(96)	-6.1%	0.8%
Sewing Machine Operators	51-6031	1,231	1,326	1,441	\$ 18,147	(95)	-7.2%	-3.1%
Medical Assistants	31-9092	1,628	1,716	1,553	\$ 23,874	(88)	-5.1%	1.0%
Truck Drivers, Light or Delivery Services	53-3033	4,721	4,787	4,811	\$ 25,636	(67)	-1.4%	-0.4%
Printing Machine Operators	51-5023	1,352	1,406	1,611	\$ 29,508	(54)	-3.9%	-3.5%
Loan Officers	13-2072	1,026	1,078	1,068	\$ 50,537	(52)	-4.8%	-0.8%
Dental Hygienists	29-2021	773	825	746	\$ 53,383	(52)	-6.3%	0.7%
Musicians and Singers	27-2042	675	727	716	\$ 38,650	(51)	-7.1%	-1.2%
Receptionists and Information Clerks	43-4171	6,685	6,735	6,456	\$ 21,236	(49)	-0.7%	0.7%
Couriers and Messengers	43-5021	1,128	1,177	1,134	\$ 22,287	(48)	-4.1%	-0.1%
Secretaries, Except Legal, Medical, and Executive	43-6014	11,630	11,676	11,308	\$ 24,955	(46)	-0.4%	0.6%
Cashiers	41-2011	18,982	19,025	19,494	\$ 16,254	(42)	-0.2%	-0.5%

The table above identifies the most prevalent occupations that are declining from ALL industries in the region. The occupations on this list identify those that are in need of retraining or transferring to other industries.

## Growing Occupations

Bureau of Economic Analysis Region 23 Top 20 Growing Occupations Based on All Industries

Occupation Description	SOC	Employment			Annual Aver Wages 2007 Q4	Employment Change		Annual Aver Change Since 2002 Q4
		2007 Q4	2006 Q4	2002 Q4		Number	Percent	
Retail Salespersons	41-2031	20,225	19,832	19,968	\$ 21,258	393	2.0%	0.3%
Waiters and Waitresses	35-3031	12,448	12,059	12,056	\$ 14,606	389	3.2%	0.6%
Teacher Assistants	25-9041	8,849	8,648	8,827	\$ 19,705	202	2.3%	0.1%
Fitness Trainers and Aerobics Instructors	39-9031	1,447	1,270	1,522	\$ 30,508	177	13.9%	-1.0%
Combined Food Preparation and Serving Workers, Including Fast Food	35-3021	7,480	7,310	7,319	\$ 14,618	170	2.3%	0.4%
Elementary School Teachers, Except Special Education	25-2021	6,166	6,000	6,115	\$ 42,385	166	2.8%	0.2%
Janitors and Cleaners, Except Maids and Housekeeping Cleaners	37-2011	13,252	13,087	12,632	\$ 19,015	165	1.3%	1.0%
Secondary School Teachers, Except Special and Vocational Education	25-2031	5,386	5,239	5,330	\$ 45,114	147	2.8%	0.2%
Postsecondary Teachers, All Other	25-1199	4,003	3,875	3,771	\$ 56,829	127	3.3%	1.2%
Lawyers	23-1011	3,232	3,114	3,005	\$ 107,594	119	3.8%	1.5%
Sales Representatives, Wholesale and Manufacturing, Except Technical and Scien	41-4012	9,084	8,971	9,095	\$ 50,038	113	1.3%	0.0%
Food Preparation Workers	35-2021	7,113	7,000	6,937	\$ 16,531	113	1.6%	0.5%
First-Line Supervisors/Managers of Food Preparation and Serving Workers	35-1012	4,425	4,316	4,304	\$ 26,364	109	2.5%	0.6%
Cooks, Restaurant	35-2014	3,389	3,283	3,286	\$ 18,358	106	3.2%	0.6%
Bartenders	35-3011	2,950	2,848	2,860	\$ 16,044	101	3.6%	0.6%
Maintenance and Repair Workers, General	49-9042	6,320	6,224	6,349	\$ 28,859	96	1.5%	-0.1%
Counter Attendants, Cafeteria, Food Concession, and Coffee Shop	35-3022	3,845	3,759	3,875	\$ 15,078	86	2.3%	-0.2%
Landscaping and Groundskeeping Workers	37-3011	2,981	2,900	2,805	\$ 20,108	81	2.8%	1.2%
Middle School Teachers, Except Special and Vocational Education	25-2022	2,842	2,763	2,788	\$ 43,074	80	2.9%	0.4%
Dishwashers	35-9021	2,624	2,546	2,547	\$ 14,334	78	3.1%	0.6%

The table above identifies the most prevalent occupations that are in demand for the industries in the region that are showing the largest employment growth.

## Forecast Occupation Gaps

Bureau of Economic Analysis Region 23 Gaps in Top 20 Occupations (Requiring 2-Year Degree or Greater) Over Next 7 Years

Occupation Description	SOC	Annual Occupation Gaps	Employment			Annual Average Wages 2007 Q4
			2007 Q4	2006 Q4	2002 Q4	
Registered Nurses	29-1111	230	14,603	14,713	13,601	\$ 50,451
Elementary School Teachers, Except Special Education	25-2021	74	6,166	6,000	6,115	\$ 42,385
Executive Secretaries and Administrative Assistants	43-6011	74	8,828	8,772	8,536	\$ 34,059
Postsecondary Teachers, All Other	25-1199	64	4,003	3,875	3,771	\$ 56,829
Bookkeeping, Accounting, and Auditing Clerks	43-3031	63	9,029	8,962	8,954	\$ 27,733
Accountants and Auditors	13-2011	55	5,740	5,675	5,595	\$ 51,595
Teacher Assistants	25-9041	53	8,849	8,648	8,827	\$ 19,705
Social and Human Service Assistants	21-1093	48	1,990	1,982	2,026	\$ 24,438
Middle School Teachers, Except Special and Vocational Education	25-2022	44	2,842	2,763	2,788	\$ 43,074
Medical Assistants	31-9092	41	1,628	1,716	1,553	\$ 23,874
Licensed Practical and Licensed Vocational Nurses	29-2061	37	4,545	4,584	4,211	\$ 32,761
Preschool Teachers, Except Special Education	25-2011	30	1,867	1,841	1,952	\$ 23,672
Computer Software Engineers, Applications	15-1031	26	1,280	1,268	1,235	\$ 68,777
Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific	41-4012	25	9,084	8,971	9,095	\$ 50,038
Sales Representatives, Services, All Other	41-3099	24	1,442	1,438	1,425	\$ 50,283
Fitness Trainers and Aerobics Instructors	39-9031	23	1,447	1,270	1,522	\$ 30,508
Management Analysts	13-1111	20	1,592	1,570	1,521	\$ 64,934
Rehabilitation Counselors	21-1015	19	909	904	888	\$ 27,536
Social and Community Service Managers	11-9151	19	947	940	956	\$ 45,907
Medical and Health Services Managers	11-9111	18	1,989	2,002	1,852	\$ 69,853

The **Gap** forecasts the average annual number of individuals needed in the occupation beyond the supply of new workers. It includes changes due to replacements. For example, consider the case in which a retail salesperson gets a degree, leaves their occupation, and becomes a financial analyst. This turnover dictates that a new retail salesperson is needed. Even though the total number of retail salespersons in the region is unchanged, the gap counts this situation as an increase of one in demand for retail salesperson. It also includes expected changes due to worker preferences and wages.

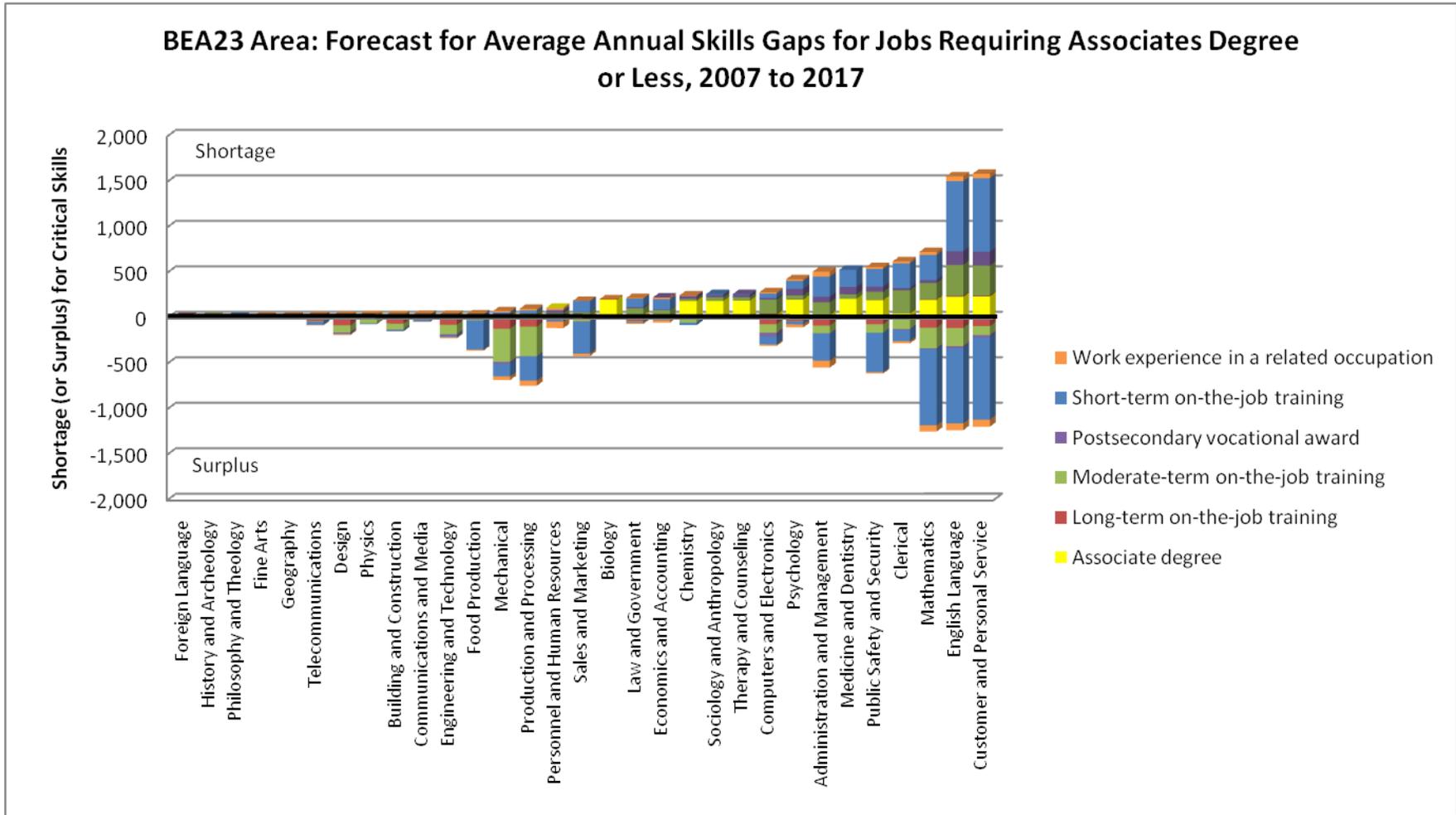
This table provides insight into the occupations that typically require a 2-year degree or greater that are expected to be in greatest demand.

## Bureau of Economic Analysis Region 23 Gaps in Top 20 Occupations (Requiring Less than 2-Year Degree) Over Next 7 Years

SOC	Occupation Description	Annual Occupation Gaps	Employment			Annual Aver Wages 2007 Q4
			2007 Q4	2006 Q4	2002 Q4	
31-1011	Home Health Aides	254	7,651	7,831	7,536	\$ 18,470
39-9021	Personal and Home Care Aides	206	4,872	4,894	5,067	\$ 16,960
37-2011	Janitors and Cleaners, Except Maids and Housekeeping Cleaners	156	13,252	13,087	12,632	\$ 19,015
43-9061	Office Clerks, General	135	15,401	15,360	15,094	\$ 22,656
33-9032	Security Guards	116	7,583	7,524	6,874	\$ 20,877
41-2031	Retail Salespersons	92	20,225	19,832	19,968	\$ 21,258
43-4051	Customer Service Representatives	69	9,077	9,242	9,196	\$ 27,502
31-1012	Nursing Aides, Orderlies, and Attendants	62	9,596	9,541	8,798	\$ 19,971
43-4171	Receptionists and Information Clerks	60	6,685	6,735	6,456	\$ 21,236
37-2012	Maids and Housekeeping Cleaners	43	4,196	4,174	4,045	\$ 16,861
53-3032	Truck Drivers, Heavy and Tractor-Trailer	39	6,951	6,988	7,185	\$ 32,684
35-3021	Combined Food Preparation and Serving Workers, Including Fast Food	38	7,480	7,310	7,319	\$ 14,618
53-3033	Truck Drivers, Light or Delivery Services	24	4,721	4,787	4,811	\$ 25,636
37-3011	Landscaping and Groundskeeping Workers	19	2,981	2,900	2,805	\$ 20,108
41-2021	Counter and Rental Clerks	16	1,579	1,559	1,645	\$ 20,847
31-9091	Dental Assistants	15	1,465	1,561	1,411	\$ 23,806
43-6013	Medical Secretaries	11	998	1,034	943	\$ 25,635
53-3022	Bus Drivers, School	11	5,447	5,544	5,298	\$ 23,143
29-2052	Pharmacy Technicians	9	1,050	1,036	1,029	\$ 22,643
41-9011	Demonstrators and Product Promoters	9	384	377	371	\$ 26,062

This table provides insight into the occupations that typically require less than a 2-year degree that are expected to be in greatest demand.

# Forecast Skill Needs



The chart above identifies the skills needed for the gap occupations identified on the previous page that typically require less than a 2-year degree.



## Appendix: Clusters

Cluster charts display a geographic concentration of interrelated industries or occupations.

- **Cluster**
  - Industry clusters can form and grow because of a region's competitive advantage—resources such as location, trained labor, and education systems.
  - Occupation clusters describe the specialization of a region's workforce.
- **Location Quotient - (LQ)** This value is shown by the size of the circle; the larger the circle, the larger the location quotient.
  - A location quotient greater than 1.0 indicates that the region has a higher concentration of employment in a particular industry or occupation than the nation; a location quotient less than 1 indicates the region has a lower concentration of employment in the cluster than the nation.
  - If a regional industry group has a location quotient of 1.25 or higher, it is considered to possess a *Competitive Advantage* in that industry.
  - Only industries or occupations with an LQ higher than .5 are shown in the clusters chart.
  - Nondisclosure - if cluster data are nondisclosable, a range will be given for the LQ.
- **Average Wages** - This value is shown on the vertical axis. The higher the circle is shown on the chart, the higher the average wages in that cluster.
- **Forecast Growth** - The forecast growth rate for a cluster is the annual average percentage change in employment expected over the given period. This value is shown along the horizontal axis. The further to the right a cluster's circle is shown, the greater the growth expected in that cluster. The expected growth is based upon a long-range national industry and occupation forecast and may not reflect short-term and regional fluctuations.