

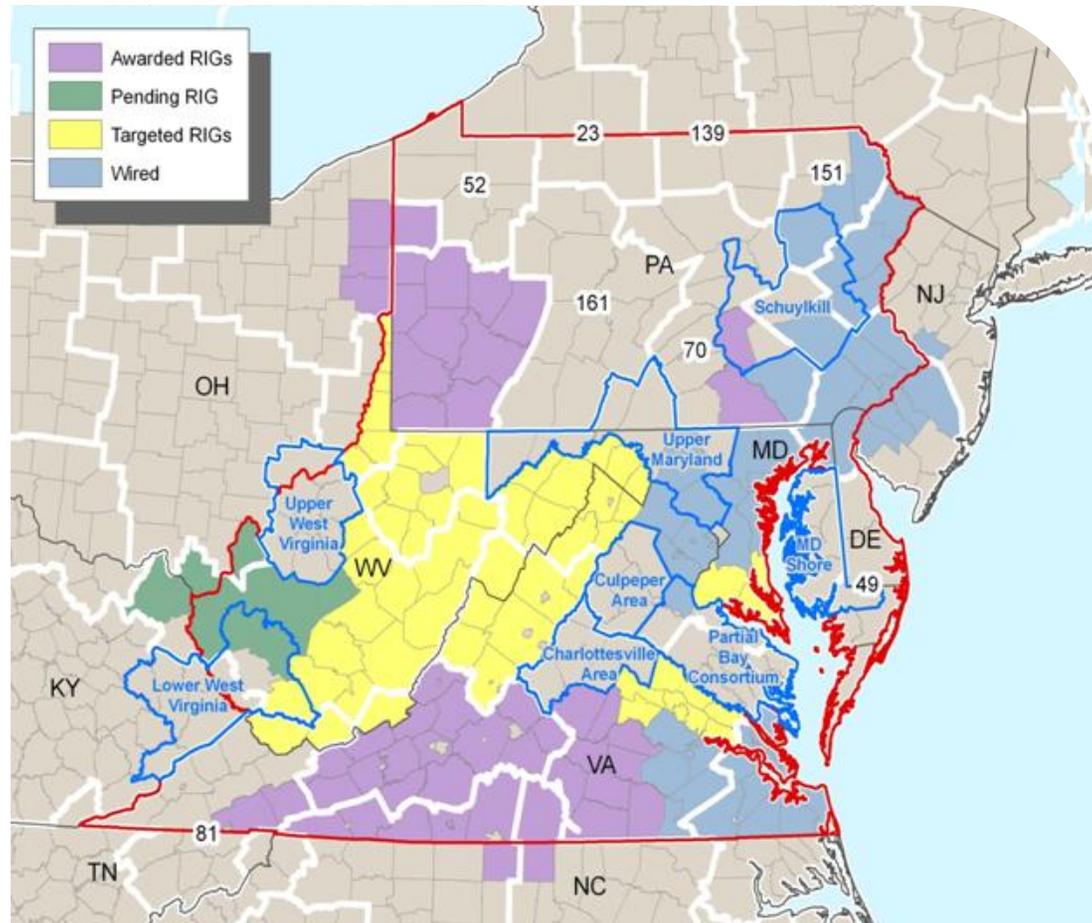


# Analysis of Regions Not Currently Involved in WIRED Grants or RIGs: BEA Region 139

October 2008

## BEA Region 139

- Chemung County, New York
- Genesee County, New York
- Livingston County, New York
- Monroe County, New York
- Ontario County, New York
- Orleans County, New York
- Schuyler County, New York
- Seneca County, New York
- Steuben County, New York
- Wayne County, New York
- Wyoming County, New York
- Yates County, New York
- Bradford County, Pennsylvania
- Sullivan County, Pennsylvania
- Tioga 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.

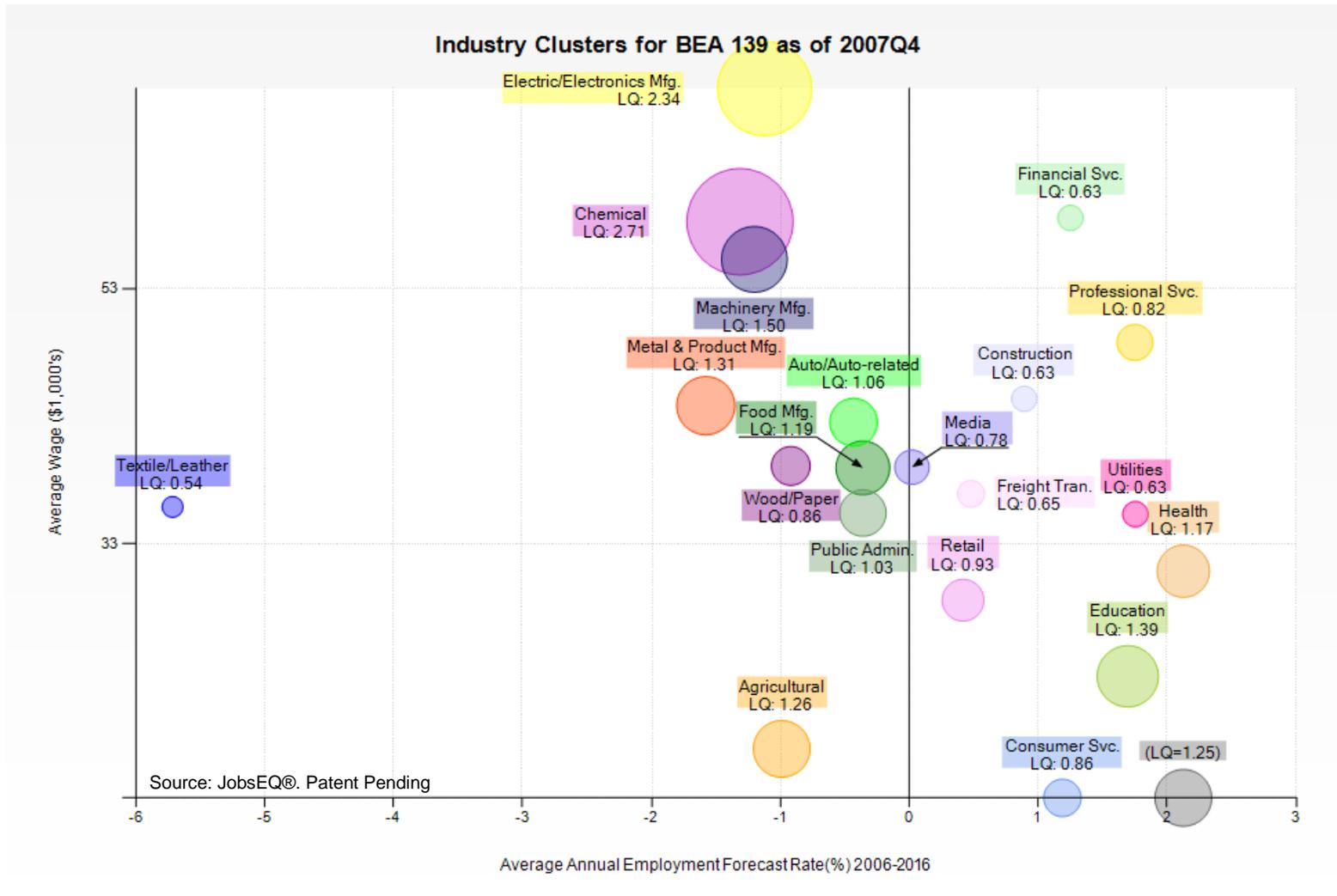
Chmura has headquarters in Richmond, Virginia and a branch office in Cleveland, Ohio. Chmura Economics & Analytics is committed to achieving 100% customer satisfaction in all project engagements. The Chmura philosophy is that when our customer succeeds, Chmura has been successful. To contact us, send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



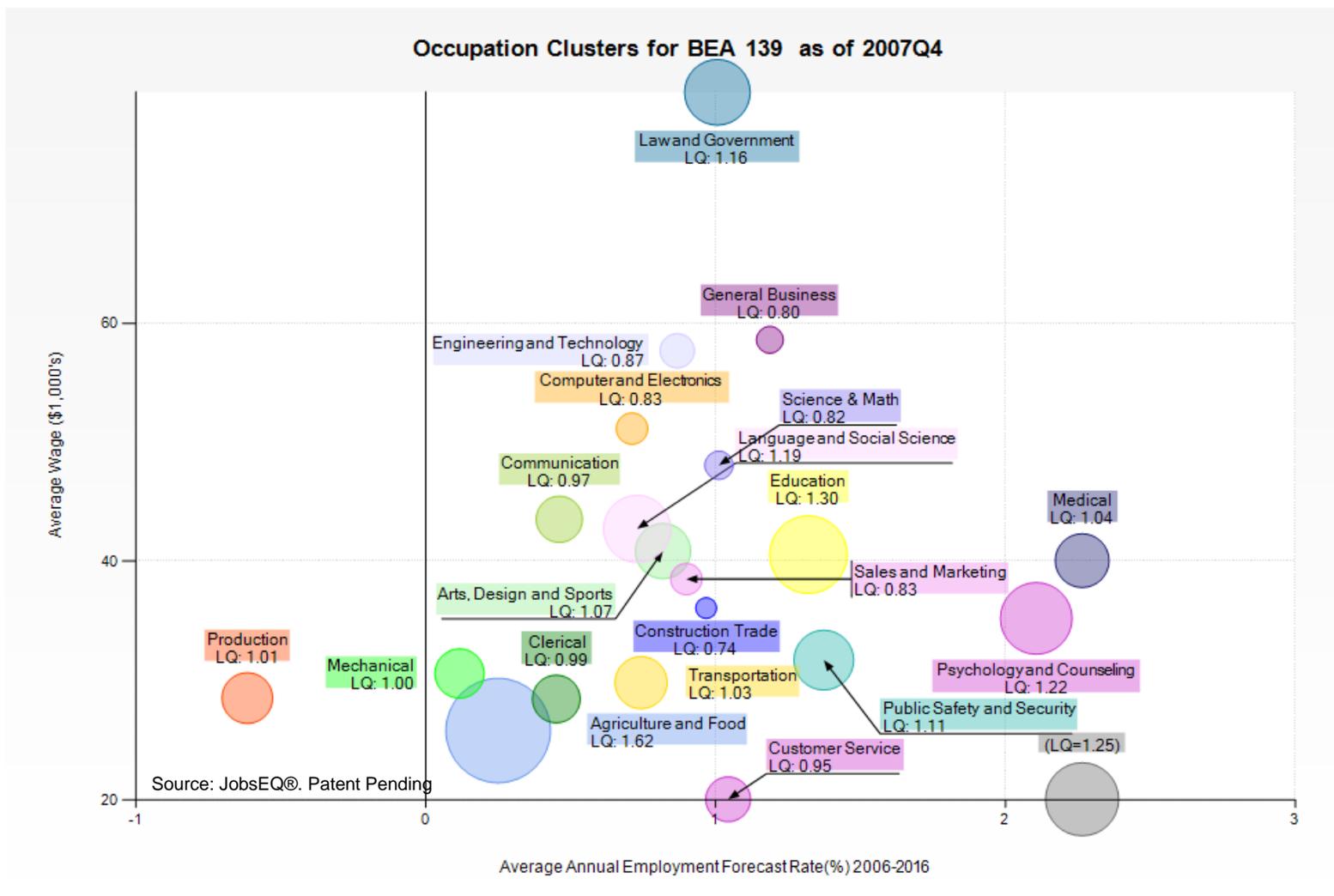
## **Executive Summary**

BEA Region 139 contains three counties in Pennsylvania and twelve counties in New York. Traditional manufacturing clusters are strong in the region with the largest being chemical, electric/electronics, and machinery. The rural nature of part of the region is also apparent in the size of the agriculture and food manufacturing clusters. Unfortunately, though, the expectation of declining employment for these clusters suggest that individuals in the occupations related to these industries will likely need retraining to obtain jobs in demand industries. The largest occupation deficits forecast in the region are healthcare related.

# 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 139 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	666,325	664,357	664,624	\$ 38,950	1,968	0.1%	0.1%
11	Agriculture, Forestry, Fishing and Hunting	6,532	6,626	6,201	\$ 13,903	(94)	-0.7%	1.0%
21	Mining, Quarrying, and Oil and Gas Extraction	1,035	1,004	781	\$ 34,390	31	1.5%	5.8%
22	Utilities	2,430	2,539	1,944	\$ 29,393	(108)	-2.2%	4.6%
23	Construction	23,146	22,628	21,989	\$ 43,724	518	1.1%	1.0%
31	Manufacturing	103,521	107,669	120,119	\$ 53,820	(4,148)	-1.9%	-2.9%
42	Wholesale Trade	21,436	20,859	21,354	\$ 52,964	578	1.4%	0.1%
44	Retail Trade	78,454	78,876	79,989	\$ 21,946	(421)	-0.3%	-0.4%
48	Transportation and Warehousing	21,557	21,926	22,226	\$ 18,519	(369)	-0.8%	-0.6%
51	Information	12,193	13,768	16,145	\$ 50,843	(1,575)	-5.9%	-5.5%
52	Finance and Insurance	18,851	18,614	17,833	\$ 57,857	236	0.6%	1.1%
53	Real Estate and Rental and Leasing	8,893	9,997	11,873	\$ 26,722	(1,104)	-5.7%	-5.6%
54	Professional, Scientific, and Technical Services	28,715	28,247	27,201	\$ 54,443	468	0.8%	1.1%
55	Management of Companies and Enterprises	13,425	12,642	12,457	\$ 75,763	784	3.1%	1.5%
56	Administrative and Support and Waste Management and Remediation Services	30,524	29,163	26,268	\$ 27,564	1,361	2.3%	3.0%
61	Educational Services	77,663	77,048	74,204	\$ 23,705	616	0.4%	0.9%
62	Health Care and Social Assistance	99,015	95,270	91,416	\$ 30,577	3,745	1.9%	1.6%
71	Arts, Entertainment, and Recreation	13,173	12,725	11,559	\$ 12,089	447	1.7%	2.6%
72	Accommodation and Food Services	45,507	44,383	42,901	\$ 13,247	1,124	1.3%	1.2%
81	Other Services (except Public Administration)	21,848	21,881	20,710	\$ 21,034	(33)	-0.1%	1.1%
92	Public Administration	37,501	37,155	36,513	\$ 35,082	346	0.5%	0.5%

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 139 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	77,663	77,048	74,204	\$ 23,705	616	0.4%	0.9%
722	Food Services and Drinking Places	40,891	39,711	38,450	\$ 12,690	1,180	1.5%	1.2%
622	Hospitals	33,834	32,744	30,916	\$ 34,803	1,090	1.7%	1.8%
561	Administrative and Support Services	28,892	27,691	24,352	\$ 27,041	1,201	2.1%	3.5%
541	Professional, Scientific, and Technical Services	28,715	28,247	27,201	\$ 54,443	468	0.8%	1.1%
921	Executive, Legislative, and Other General Government Support	27,311	27,922	27,842	\$ 34,445	(611)	-1.1%	-0.4%
623	Nursing and Residential Care Facilities	24,220	24,155	23,103	\$ 25,669	65	0.1%	0.9%
621	Ambulatory Health Care Services	23,326	21,978	21,993	\$ 33,684	1,348	3.0%	1.2%
445	Food and Beverage Stores	20,495	21,090	21,990	\$ 18,111	(594)	-1.4%	-1.4%
333	Machinery Manufacturing	17,908	18,605	24,015	\$ 64,001	(697)	-1.9%	-5.7%
624	Social Assistance	17,641	16,393	15,405	\$ 25,276	1,248	3.7%	2.7%
238	Specialty Trade Contractors	14,318	13,899	14,083	\$ 42,822	419	1.5%	0.3%
452	General Merchandise Stores	13,806	12,787	12,848	\$ 17,795	1,019	3.9%	1.4%
551	Management of Companies and Enterprises	13,425	12,642	12,457	\$ 75,763	784	3.1%	1.5%
423	Merchant Wholesalers, Durable Goods	12,970	12,283	12,842	\$ 54,289	687	2.8%	0.2%
325	Chemical Manufacturing	12,887	17,516	19,659	\$ 69,856	(4,629)	-14.2%	-8.1%
332	Fabricated Metal Product Manufacturing	11,478	11,566	11,331	\$ 44,101	(88)	-0.4%	0.3%
813	Religious, Grantmaking, Civic, Professional, and Similar Organizations	10,274	9,991	9,784	\$ 17,524	283	1.4%	1.0%
334	Computer and Electronic Product Manufacturing	9,876	8,992	10,894	\$ 64,647	884	4.8%	-1.9%
441	Motor Vehicle and Parts Dealers	9,534	10,176	9,901	\$ 35,857	(642)	-3.2%	-0.8%

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 139 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	
621	Ambulatory Health Care Services	23,326	21,978	21,993	\$ 33,684	1,347.87	3.0%	1.2%
624	Social Assistance	17,641	16,393	15,405	\$ 25,276	1,247.95	3.7%	2.7%
722	Food Services and Drinking Places	40,891	39,711	38,450	\$ 12,690	1,180.22	1.5%	1.2%
922	Justice, Public Order, and Safety Activities	7,593	6,475	5,835	\$ 45,343	1,117.48	8.3%	5.4%
452	General Merchandise Stores	13,806	12,787	12,848	\$ 17,795	1,018.63	3.9%	1.4%
551	Management of Companies and Enterprises	13,425	12,642	12,457	\$ 75,763	783.59	3.1%	1.5%
423	Merchant Wholesalers, Durable Goods	12,970	12,283	12,842	\$ 54,289	686.60	2.8%	0.2%
713	Amusement, Gambling, and Recreation Industries	9,184	8,726	7,025	\$ 11,227	458.23	2.6%	5.5%
524	Insurance Carriers and Related Activities	7,387	7,000	6,224	\$ 55,638	386.74	2.7%	3.5%
448	Clothing and Clothing Accessories Stores	5,858	5,487	5,272	\$ 14,148	371.21	3.3%	2.1%
446	Health and Personal Care Stores	4,408	4,097	3,997	\$ 28,635	310.46	3.7%	2.0%
813	Religious, Grantmaking, Civic, Professional, and Similar Organizations	10,274	9,991	9,784	\$ 17,524	282.82	1.4%	1.0%
447	Gasoline Stations	4,867	4,614	5,109	\$ 16,477	253.25	2.7%	-1.0%
443	Electronics and Appliance Stores	2,379	2,144	2,199	\$ 30,901	235.59	5.4%	1.6%
493	Warehousing and Storage	1,693	1,470	1,104	\$ 1,520	222.76	7.3%	8.9%
523	Securities, Commodity Contracts, Other Financial Investments, Related Activiti	2,088	1,877	2,131	\$ 115,270	210.40	5.5%	-0.4%
237	Heavy and Civil Engineering Construction	2,550	2,361	2,209	\$ 48,009	188.34	3.9%	2.9%
562	Waste Management and Remediation Services	1,632	1,472	1,916	\$ 36,973	159.50	5.3%	-3.2%
311	Food Manufacturing	7,938	7,806	8,466	\$ 39,214	131.57	0.8%	-1.3%
335	Electrical Equipment, Appliance, and Component Manufacturing	2,534	2,414	3,245	\$ 49,112	120.39	2.5%	-4.8%

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 139 Top 20 Industries with Largest Employment Loss 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	
325	Chemical Manufacturing	12,887	17,516	19,659	\$ 69,856	(4,629)	-14.2%	-8.1%
444	Building Material and Garden Equipment and Supplies Dealers	6,450	7,207	6,830	\$ 27,954	(757)	-5.4%	-1.1%
441	Motor Vehicle and Parts Dealers	9,534	10,176	9,901	\$ 35,857	(642)	-3.2%	-0.8%
921	Executive, Legislative, and Other General Government Support	27,311	27,922	27,842	\$ 34,445	(611)	-1.1%	-0.4%
445	Food and Beverage Stores	20,495	21,090	21,990	\$ 18,111	(594)	-1.4%	-1.4%
485	Transit and Ground Passenger Transportation	8,169	8,650	10,001	\$ (1,647)	(481)	-2.8%	-4.0%
999	Unclassified	911	1,357	875	\$ 20,925	(446)	-18.1%	0.8%
511	Publishing Industries (except Internet)	3,732	4,151	4,127	\$ 39,687	(419)	-5.2%	-2.0%
522	Credit Intermediation and Related Activities	9,267	9,550	9,419	\$ 46,248	(283)	-1.5%	-0.3%
454	Nonstore Retailers	1,716	1,989	2,479	\$ 31,401	(273)	-7.1%	-7.1%
814	Private Households	651	863	851	\$ 17,560	(212)	-13.1%	-5.2%
532	Rental and Leasing Services	2,394	2,603	2,648	\$ 28,382	(209)	-4.1%	-2.0%
322	Paper Manufacturing	2,072	2,270	2,475	\$ 45,316	(198)	-4.5%	-3.5%
451	Sporting Goods, Hobby, Book, and Music Stores	3,256	3,452	3,190	\$ 14,922	(196)	-2.9%	0.4%
327	Nonmetallic Mineral Product Manufacturing	3,925	4,118	5,114	\$ 47,080	(193)	-2.4%	-5.2%
812	Personal and Laundry Services	5,381	5,544	5,260	\$ 19,483	(163)	-1.5%	0.5%
453	Miscellaneous Store Retailers	3,663	3,807	4,080	\$ 16,977	(144)	-1.9%	-2.1%
481	Air Transportation	366	493	372	\$ 31,199	(127)	-13.8%	-0.3%
221	Utilities	2,430	2,539	1,944	\$ 29,393	(108)	-2.2%	4.6%
115	Support Activities for Agriculture and Forestry	322	429	405	\$ (155,376)	(107)	-13.3%	-4.5%

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 139 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	7,768	8,365	8,193	\$ 24,867	(597)	-3.6%	-1.1%
Cashiers	41-2011	10,003	10,414	10,683	\$ 17,579	(411)	-2.0%	-1.3%
Mixing and Blending Machine Setters, Operators, and Tenders	51-9023	1,102	1,445	1,637	\$ 30,414	(343)	-12.7%	-7.6%
Packaging and Filling Machine Operators and Tenders	51-9111	1,017	1,331	1,504	\$ 26,851	(313)	-12.6%	-7.5%
Chemists	19-2031	671	908	1,017	\$ 58,403	(237)	-14.0%	-8.0%
Stock Clerks and Order Fillers	43-5081	4,275	4,489	4,623	\$ 20,348	(213)	-2.4%	-1.5%
Bus Drivers, School	53-3022	4,065	4,278	4,930	\$ 25,323	(213)	-2.5%	-3.8%
Laborers and Freight, Stock, and Material Movers, Hand	53-7062	1,610	1,821	1,910	\$ 21,789	(212)	-6.0%	-3.4%
Chemical Plant and System Operators	51-8091	522	708	795	\$ 39,100	(186)	-14.2%	-8.1%
First-Line Supervisors/Mgrs of Production and Operating Workers	51-1011	984	1,163	1,266	\$ 46,439	(180)	-8.0%	-4.9%
Inspectors, Testers, Sorters, Samplers, and Weighers	51-9061	669	841	947	\$ 31,230	(172)	-10.8%	-6.7%
Packers and Packagers, Hand	53-7064	1,034	1,201	1,285	\$ 18,031	(168)	-7.2%	-4.3%
General and Operations Mgrs	11-1021	1,690	1,849	1,908	\$ 83,770	(159)	-4.4%	-2.4%
Office Clerks, General	43-9061	2,856	3,013	3,065	\$ 23,790	(157)	-2.6%	-1.4%
Maintenance and Repair Workers, General	49-9042	1,082	1,239	1,307	\$ 34,051	(157)	-6.5%	-3.7%
Customer Service Representatives	43-4051	2,282	2,437	2,457	\$ 26,335	(155)	-3.2%	-1.5%
Team Assemblers	51-2092	541	689	784	\$ 23,417	(148)	-11.4%	-7.2%
First-Line Supervisors/Mgrs of Retail Sales Workers	41-1011	2,364	2,497	2,521	\$ 38,117	(133)	-2.7%	-1.3%
Bookkeeping, Accounting, and Auditing Clerks	43-3031	1,672	1,802	1,855	\$ 27,466	(130)	-3.7%	-2.1%
Automotive Service Technicians and Mechanics	49-3023	1,987	2,113	2,077	\$ 35,181	(126)	-3.0%	-0.9%

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 139 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	
Registered Nurses	29-1111	12,706	12,971	11,620	\$ 52,085	(265)	-2.0%	1.8%
Mixing and Blending Machine Setters, Operators, and Tenders	51-9023	1,857	2,076	2,443	\$ 29,455	(219)	-10.5%	-5.3%
Packaging and Filling Machine Operators and Tenders	51-9111	2,842	3,047	3,431	\$ 25,042	(205)	-6.7%	-3.7%
Nursing Aides, Orderlies, and Attendants	31-1012	8,669	8,851	8,038	\$ 20,717	(182)	-2.1%	1.5%
Maintenance and Repair Workers, General	49-9042	6,698	6,875	7,087	\$ 30,205	(177)	-2.6%	-1.1%
Chemists	19-2031	1,020	1,188	1,354	\$ 58,971	(168)	-14.1%	-5.5%
Fitness Trainers and Aerobics Instructors	39-9031	1,921	2,073	1,632	\$ 31,766	(153)	-7.4%	3.3%
Janitors and Cleaners, Except Maids and Housekeeping Cleaners	37-2011	13,270	13,398	12,981	\$ 19,889	(127)	-1.0%	0.4%
Chemical Plant and System Operators	51-8091	649	771	924	\$ 39,141	(122)	-15.8%	-6.8%
Maids and Housekeeping Cleaners	37-2012	3,759	3,871	3,625	\$ 17,480	(112)	-2.9%	0.7%
First-Line Supervisors/Mgrs of Production and Operating Workers	51-1011	4,218	4,320	4,754	\$ 46,555	(101)	-2.3%	-2.4%
Inspectors, Testers, Sorters, Samplers, and Weighers	51-9061	2,894	2,994	3,342	\$ 30,422	(100)	-3.3%	-2.8%
Team Assemblers	51-2092	7,990	8,089	8,777	\$ 24,989	(99)	-1.2%	-1.9%
Landscaping and Groundskeeping Workers	37-3011	3,056	3,145	2,863	\$ 20,845	(89)	-2.8%	1.3%
Chemical Technicians	19-4031	492	567	647	\$ 39,826	(74)	-13.1%	-5.3%
Chemical Equipment Operators and Tenders	51-9011	409	477	574	\$ 35,917	(69)	-14.4%	-6.6%
Packers and Packers, Hand	53-7064	3,508	3,577	3,699	\$ 19,414	(69)	-1.9%	-1.1%
Industrial Machinery Mechanics	49-9041	1,274	1,338	1,499	\$ 38,586	(63)	-4.7%	-3.2%
Truck Drivers, Heavy and Tractor-Trailer	53-3032	5,956	6,017	5,907	\$ 33,685	(61)	-1.0%	0.2%
Financial Mgrs	11-3031	2,510	2,570	2,523	\$ 89,725	(60)	-2.3%	-0.1%

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 139 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	
Bus Drivers, School	53-3022	7,958	5,795	8,936	\$ 25,592	2,163	37.3%	-2.3%
Child Care Workers	39-9011	5,960	5,466	5,821	\$ 18,229	494	9.0%	0.5%
Taxi Drivers and Chauffeurs	53-3041	1,505	1,094	1,679	\$ 25,832	411	37.6%	-2.2%
Bus Drivers, Transit and Intercity	53-3021	2,178	1,790	2,317	\$ 30,314	388	21.6%	-1.2%
Retail Salespersons	41-2031	20,291	19,909	19,948	\$ 22,028	382	1.9%	0.3%
Cashiers	41-2011	19,857	19,610	20,195	\$ 16,880	247	1.3%	-0.3%
Teacher Assistants	25-9041	10,979	10,742	10,353	\$ 20,757	237	2.2%	1.2%
Dispatchers, Except Police, Fire, and Ambulance	43-5032	1,216	1,040	1,298	\$ 30,663	176	16.9%	-1.3%
Elementary School Teachers, Except Special Education	25-2021	7,963	7,804	7,619	\$ 44,061	159	2.0%	0.9%
Printing Machine Operators	51-5023	1,634	1,485	1,565	\$ 30,505	149	10.0%	0.9%
Secondary School Teachers, Except Special and Vocational Education	25-2031	6,965	6,824	6,662	\$ 46,800	141	2.1%	0.9%
Bus and Truck Mechanics and Diesel Engine Specialists	49-3031	1,394	1,278	1,466	\$ 35,851	116	9.1%	-1.0%
Postsecondary Teachers, All Other	25-1199	5,202	5,087	4,929	\$ 58,769	115	2.3%	1.1%
Waiters and Waitresses	35-3031	11,179	11,081	10,616	\$ 15,173	98	0.9%	1.0%
Home Health Aides	31-1011	7,130	7,035	6,660	\$ 19,171	94	1.3%	1.4%
Office Clerks, General	43-9061	15,186	15,095	14,842	\$ 23,615	91	0.6%	0.5%
Ambulance Drivers and Attendants, Except Emergency Medical Technicians	53-3011	340	250	372	\$ 21,321	90	36.0%	-1.8%
Medical Assistants	31-9092	1,402	1,313	1,312	\$ 24,886	89	6.8%	1.3%
First-Line Supervisors/Managers of Transportation and Material-Moving Machine	53-1031	1,066	981	1,115	\$ 48,079	86	8.7%	-0.9%
Combined Food Preparation and Serving Workers, Including Fast Food	35-3021	7,007	6,928	6,701	\$ 15,240	79	1.1%	0.9%

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 139 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	199	12,706	12,971	11,620	\$ 52,085
Executive Secretaries and Administrative Assistants	43-6011	91	8,875	8,934	8,745	\$ 35,458
Bookkeeping, Accounting, and Auditing Clerks	43-3031	78	9,001	8,969	8,983	\$ 28,847
Teacher Assistants	25-9041	69	10,979	10,742	10,353	\$ 20,757
Postsecondary Teachers, All Other	25-1199	55	5,202	5,087	4,929	\$ 58,769
Elementary School Teachers, Except Special Education	25-2021	53	7,963	7,804	7,619	\$ 44,061
Social and Human Service Assistants	21-1093	50	2,113	2,095	1,925	\$ 25,115
Licensed Practical and Licensed Vocational Nurses	29-2061	44	4,049	4,072	3,775	\$ 34,057
Medical Assistants	31-9092	36	1,402	1,313	1,312	\$ 24,886
Accountants and Auditors	13-2011	36	5,721	5,740	5,738	\$ 53,866
Preschool Teachers, Except Special Education	25-2011	34	2,192	2,153	1,982	\$ 24,933
Fitness Trainers and Aerobics Instructors	39-9031	34	1,921	2,073	1,632	\$ 31,766
Computer Software Engineers, Applications	15-1031	22	1,428	1,457	1,527	\$ 71,657
Sales Representatives, Services, All Other	41-3099	22	1,338	1,356	1,398	\$ 52,296
Child, Family, and School Social Workers	21-1021	20	1,510	1,494	1,381	\$ 36,485
Social and Community Service Managers	11-9151	19	1,013	1,005	921	\$ 47,393
Rehabilitation Counselors	21-1015	18	930	929	836	\$ 28,467
Middle School Teachers, Except Special and Vocational Education	25-2022	18	3,686	3,610	3,520	\$ 44,829
Substance Abuse and Behavioral Disorder Counselors	21-1011	16	523	531	473	\$ 34,990
Bill and Account Collectors	43-3011	15	1,849	1,857	1,807	\$ 28,879

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.

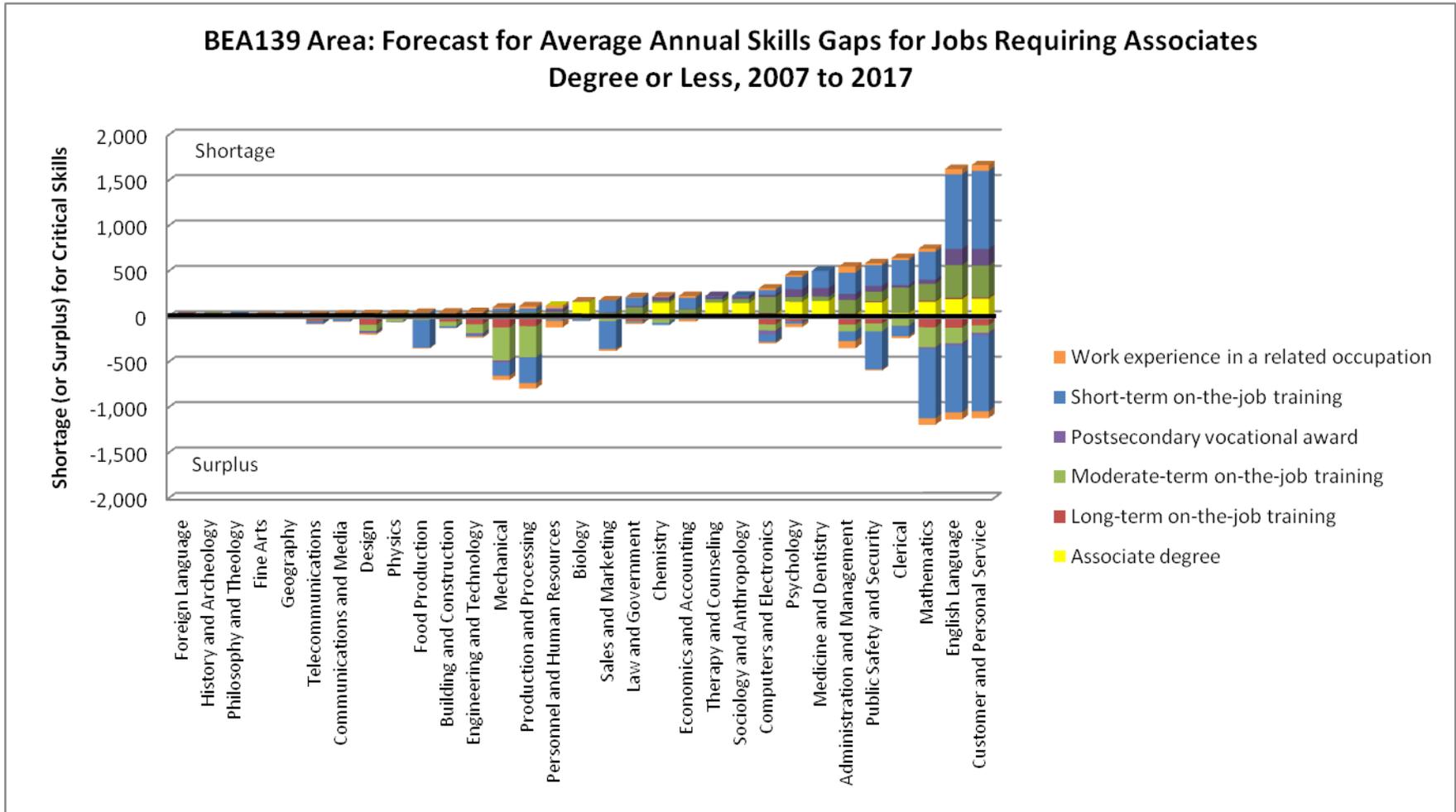
This table provides insight into the occupations that typically require a 2-year degree or greater that are expected to be in greatest demand.

## Bureau of Economic Analysis Region 139 Gaps in Top 20 Occupations (Requiring Less than 2-Year Degree) Over Next 7 Years

SOC	Occupation Description	Annual Occupation Gaps	Employment			Annual Average Wages 2007 Q4
			2007 Q4	2006 Q4	2002 Q4	
31-1011	Home Health Aides	254	7,130	7,035	6,660	\$ 19,171
39-9021	Personal and Home Care Aides	228	5,167	5,092	4,791	\$ 17,536
37-2011	Janitors and Cleaners, Except Maids and Housekeeping Cleaners	189	13,270	13,398	12,981	\$ 19,889
43-9061	Office Clerks, General	142	15,186	15,095	14,842	\$ 23,615
33-9032	Security Guards	115	6,929	6,983	6,547	\$ 21,709
41-2031	Retail Salespersons	95	20,291	19,909	19,948	\$ 22,028
31-1012	Nursing Aides, Orderlies, and Attendants	79	8,669	8,851	8,038	\$ 20,717
43-4051	Customer Service Representatives	66	8,104	8,125	8,394	\$ 28,745
43-4171	Receptionists and Information Clerks	64	6,274	6,239	6,004	\$ 21,903
37-2012	Maids and Housekeeping Cleaners	43	3,759	3,871	3,625	\$ 17,480
35-3021	Combined Food Preparation and Serving Workers, Including Fast Food	41	7,007	6,928	6,701	\$ 15,240
53-3022	Bus Drivers, School	34	7,958	5,795	8,936	\$ 25,592
53-3032	Truck Drivers, Heavy and Tractor-Trailer	34	5,956	6,017	5,907	\$ 33,685
53-3033	Truck Drivers, Light or Delivery Services	25	4,177	4,181	4,248	\$ 25,956
37-3011	Landscaping and Groundskeeping Workers	24	3,056	3,145	2,863	\$ 20,845
41-2021	Counter and Rental Clerks	16	1,619	1,664	1,642	\$ 22,296
31-9091	Dental Assistants	14	1,155	1,127	1,089	\$ 24,773
53-3021	Bus Drivers, Transit and Intercity	13	2,178	1,790	2,317	\$ 30,314
39-3091	Amusement and Recreation Attendants	12	806	862	703	\$ 15,992
43-6013	Medical Secretaries	12	903	848	840	\$ 26,759

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.