# Manufacturing FAST FACTS

## 4TH Quarter 2012 Edition *

*Each of the following sections is a quick snapshot of labor market information for Pennsylvania's Manufacturing sector.*


| Section | Page |
|---|---|
| PA Economic Background | 2 |
| PA & US Manufacturing Jobs | 3 |
| PA Manufacturing Jobs Detail | 4 |
| MSA Manufacturing Jobs | 5 |
| PA Manufacturing New Hires | 6 |
| PA Mfg. Employment Detail | 7 |
| Location Quotient Detail | 8 |
| Location Quotient County Map | 9 |
| Manufacturing Demographics | 10 |

| Section | Page |
|---|---|
| Mfg. Industries of Interest | 11 |
| Mfg. Help Wanted Online | 12-15 |
| Mfg. Long-Term Projections | 16 |
| Mfg. IMPLAN Multipliers | 17 |
| Mfg. High Priority Occupations | 18 |
| County Unemployment Rate Map | 19 |
| Definitions | 20-23 |
| Mfg. Job Postings County Map | 24 |


*Note: For each data set included in this document, the most current data available at the time of publication are included. Data is identified as "seasonally adjusted" or "not seasonally adjusted" when applicable.


For additional information, please contact:
**Center for Workforce Information & Analysis (CWIA)**
Call: 1-877-493-3282; Fax: 1-717-772-2168
E-mail: workforceinfo@pa.gov
www.paworkstats.pa.gov


pennsylvania
DEPARTMENT OF LABOR & INDUSTRY


**Release Date: 2-12-13**

CWIA-MFG


# PA Economic Background

- **Pennsylvania's seasonally adjusted unemployment rate for December 2012 was 7.9%.**
  - This was up 0.1 percentage points from November 2012.
  - The December 2012 rate was up 0.2 from December 2011.

- **Pennsylvania's seasonally adjusted total nonfarm jobs for December 2012 were at 5,751,500.**
  - This was a decrease of 4,800 from November 2012.
  - December 2012 jobs were 38,700 higher than December 2011.

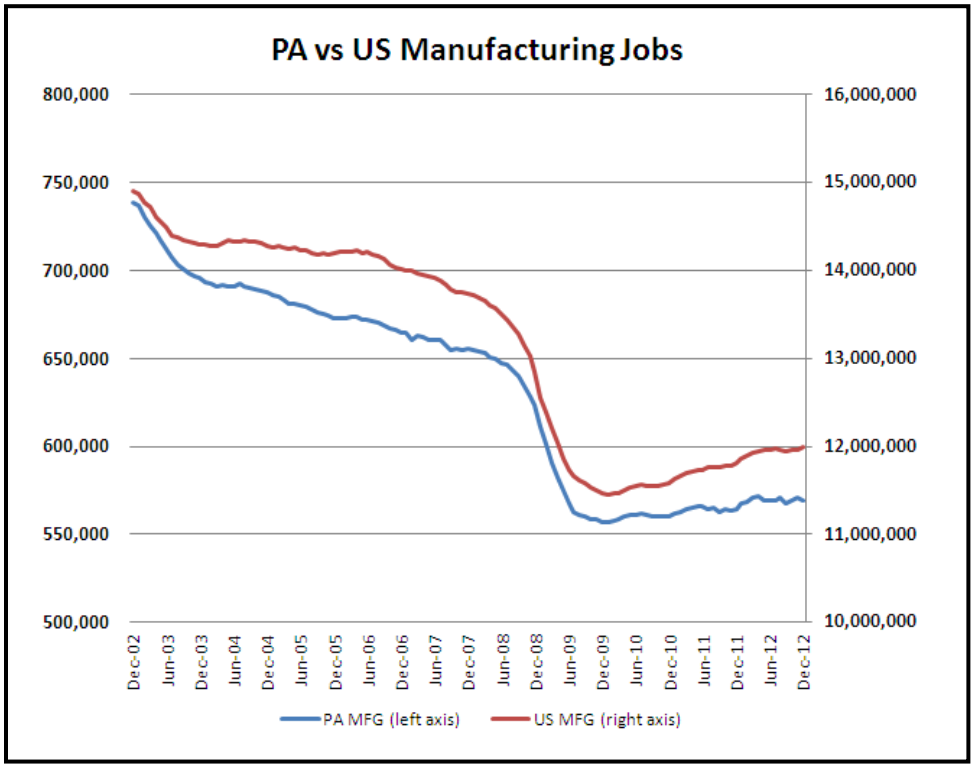
- **Pennsylvania's new hire activity increased.**
  - There were 619,100 new hires reported across all industries in the 3rd quarter of 2012.
  - This was an increase of 39,700 over 3rd quarter 2011 (7 percent increase).

- **Employer demand increased in Pennsylvania.**
  - 168,100 job ads were posted online in December 2012.
  - This was an increase of 9,200 from December 2011 (5.8 percent increase).

- **In Pennsylvania there were 2.7 unemployed persons for every online job posting (December 2012).**
  - The Pennsylvania rate was higher than the U.S. rate, which stood at 2.5.
  - The Pennsylvania rate was down from a peak of 4.8 unemployed per online job posting in late 2009.

# PA & US Manufacturing Jobs

### Seasonally Adjusted




- **PA Manufacturing Employment December 2012: 569,600.**
  - Decrease of 1,100 over the month (-0.2%).
  - Increase of 5,500 over the year (1.0%).
  - Down 169,000 manufacturing jobs from 10 years ago (-22.9%).

- **US Manufacturing Employment December 2012: 11,988,000.**
  - Increase of 25,000 over the month (0.2%).
  - Increase of 180,000 over the year (1.5%).
  - Down 2,920,000 manufacturing jobs from 10 years ago (-19.6%).



# PA Manufacturing Jobs Detail

### Seasonally Adjusted

*PA Manufacturing Jobs December 2012 (in thousands)*

| | Dec. 2012 | Nov. 2012 | Dec. 2011 | Change from Nov. 2012 | | Change from Dec. 2011 | |
|---|---|---|---|---|---|---|---|
| | | | | Vol. | Pct. | Vol. | Pct. |
| Manufacturing | 569,600 | 570,700 | 564,100 | -1,100 | -0.2% | 5,500 | 1.0% |
| Durable Goods | 348,900 | 349,200 | 344,400 | -300 | -0.1% | 4,500 | 1.3% |
| Nondurable Goods | 220,700 | 221,500 | 219,700 | -800 | -0.4% | 1,000 | 0.5% |

*Source: Current Employment Statistics*

- Manufacturing jobs were down 1,100 in December, with declines in both durable and nondurable goods. The December drop followed two months of increases and was the fourth drop in 2012.

- Over the year, manufacturing jobs were up 5,500. Manufacturers have shown over-the-year increases since September 2010. This is the longest streak of over-the-year growth on record (data set back to 1990).

- Both durable and nondurable goods were up from last December.

- Nondurable goods showed 12-month increases for the past three months, matching the longest streak of year-over-year growth on record (data set back to 1990).

- Looking at the *not seasonally adjusted* industries within manufacturing, the largest over-the-year gains were within fabricated metal product manufacturing (+2,200, +2.6%) and transportation equipment manufacturing (+1,200, +3.2%).

# PA Manufacturing Jobs by MSA[1]

## Not Seasonally Adjusted

| | Dec. 2012 | Nov. 2012 | Dec. 2011 | Change from Nov. 2012 | | Change from Dec. 2011 | |
|---|---|---|---|---|---|---|---|
| | | | | Vol. | Pct. | Vol. | Pct. |
| Allentown-Bethlehem-Easton | 37,100 | 37,100 | 35,700 | 0 | 0.0% | 1,400 | 3.9% |
| Altoona | 7,500 | 7,500 | 7,500 | 0 | 0.0% | 0 | 0.0% |
| Erie | 22,000 | 22,000 | 21,700 | 0 | 0.0% | 300 | 1.4% |
| Harrisburg-Carlisle | 19,500 | 19,700 | 20,000 | -200 | -1.0% | -500 | -2.5% |
| Johnstown | 4,300 | 4,300 | 4,300 | 0 | 0.0% | 0 | 0.0% |
| Lancaster | 35,100 | 34,700 | 34,900 | 400 | 1.2% | 200 | 0.6% |
| Lebanon | 9,100 | 9,100 | 9,000 | 0 | 0.0% | 100 | 1.1% |
| Philadelphia Metro | 131,600 | 131,300 | 131,900 | 300 | 0.2% | -300 | -0.2% |
| Pittsburgh | 88,300 | 88,700 | 88,100 | -400 | -0.5% | 200 | 0.2% |
| Reading | 28,300 | 28,600 | 28,500 | -300 | -1.0% | -200 | -0.7% |
| Scranton-Wilkes-Barre | 27,600 | 27,800 | 26,900 | -200 | -0.7% | 700 | 2.6% |
| State College | 4,100 | 4,100 | 4,100 | 0 | 0.0% | 0 | 0.0% |
| Williamsport | 9,400 | 9,400 | 9,300 | 0 | 0.0% | 100 | 1.1% |
| York-Hanover | 31,900 | 32,100 | 31,800 | -200 | -0.6% | 100 | 0.3% |

*Source: Current Employment Statistics*

- Eight of Pennsylvania's MSAs gained manufacturing jobs over the year, with three MSAs losing manufacturing jobs, and three MSAs remaining unchanged.
- The MSAs with the largest over-the-year job gains in manufacturing were Allentown-Bethlehem-Easton (+3.9%), Scranton-Wilkes-Barre (+2.6%), and Erie (+1.4%).
- The largest over-the-year manufacturing jobs decrease was in the Harrisburg-Carlisle MSA (-2.5%), followed by Reading (-0.7%).

[1]MSA: Metropolitan Statistical Area, as defined by the US Census Bureau.



# PA New Hires by Manufacturing Sector

## Not Seasonally Adjusted

| NAICS | Industry Title | 2011 Q3 New Hires | 2012 Q3 New Hires | Pct. Change |
|---|---|---|---|---|
| 311 | Food Mfg. | 8,552 | 7,327 | -14.3% |
| 312 | Beverage & Tobacco Product Mfg. | 294 | 423 | 43.9% |
| 313 | Textile Mills | 113 | 136 | 20.4% |
| 314 | Textile Product Mills | 258 | 366 | 41.9% |
| 315 | Apparel Mfg. | 388 | 340 | -12.4% |
| 316 | Leather & Allied Product Mfg. | 17 | 13 | -23.5% |
| 321 | Wood Product Mfg. | 953 | 1,188 | 24.7% |
| 322 | Paper Mfg. | 746 | 846 | 13.4% |
| 323 | Printing & Related Support Activities | 941 | 772 | -18.0% |
| 324 | Petroleum & Coal Products Mfg. | 86 | 77 | -10.5% |
| 325 | Chemical Mfg. | 1,081 | 1,212 | 12.1% |
| 326 | Plastics & Rubber Products Mfg. | 1,802 | 2,044 | 13.4% |
| 327 | Nonmetallic Mineral Product Mfg. | 1,349 | 1,320 | -2.1% |
| 331 | Primary Metal Manufacturing | 1,634 | 1,340 | -18.0% |
| 332 | Fabricated Metal Product Mfg. | 4,947 | 3,844 | -22.3% |
| 333 | Machinery Mfg. | 2,431 | 1,995 | -17.9% |
| 334 | Computer & Electronic Product Mfg. | 1,365 | 1,162 | -14.9% |
| 335 | Elec. Equip., App., and Component Mfg. | 860 | 955 | 11.0% |
| 336 | Transportation Equip. Mfg. | 1,681 | 1,306 | -22.3% |
| 337 | Furniture & Related Product Mfg. | 813 | 788 | -3.1% |
| 339 | Miscellaneous Mfg. | 1,033 | 1,110 | 7.5% |
| **Manufacturing Total** | | **31,344** | **28,564** | **-8.9%** |

*Source: Pennsylvania New Hire Program*

From 3rd Quarter 2011 to 3rd Quarter 2012 in Pennsylvania:

- Total Manufacturing New Hires decreased by 8.9% (all industries +6.9%).
- 9 of the 21 Manufacturing subsectors experienced over-the-year growth in New Hire activity, while 12 experienced an over-the-year decrease.
- The largest over-the-year increases in New Hire activity among Manufacturing subsectors were in Beverage & Tobacco Product Manufacturing (+43.9%), Textile Product Mills (+41.9%), Wood Product Manufacturing (+24.7%), and Textile Mills (+20.4%).
- The largest over-the-year decreases were in Leather & Allied Products Manufacturing (-23.5%), Fabricated Metal Product Manufacturing (-22.3%), Transportation Equipment Manufacturing (-22.3%), and Primary Metal Manufacturing (-18.0%).

# PA Employment by Industry Subsector

### Not Seasonally Adjusted[1]

| NAICS | Industry Title | Jun. 2011 Emp. | Jun. 2012 Emp. | Pct. Change |
|---|---|---|---|---|
| 311 | Food Mfg. | 66,559 | 67,059 | 0.8% |
| 312 | Beverage & Tobacco Product Mfg. | 6,684 | 6,953 | 4.0% |
| 313 | Textile Mills | 3,665 | 3,579 | -2.3% |
| 314 | Textile Product Mills | 4,059 | 4,242 | 4.5% |
| 315 | Apparel Mfg. | 6,086 | 5,768 | -5.2% |
| 316 | Leather & Allied Product Mfg. | 997 | 999 | 0.2% |
| 321 | Wood Product Mfg. | 19,067 | 18,514 | -2.9% |
| 322 | Paper Mfg. | 24,573 | 24,066 | -2.1% |
| 323 | Printing & Related Support Activities | 27,145 | 25,612 | -5.6% |
| 324 | Petroleum & Coal Products Mfg. | 6,519 | 5,968 | -8.5% |
| 325 | Chemical Mfg. | 42,601 | 41,475 | -2.6% |
| 326 | Plastics & Rubber Products Mfg. | 35,544 | 35,697 | 0.4% |
| 327 | Nonmetallic Mineral Product Mfg. | 21,505 | 20,654 | -4.0% |
| 331 | Primary Metal Manufacturing | 38,625 | 39,851 | 3.2% |
| 332 | Fabricated Metal Product Mfg. | 80,799 | 82,770 | 2.4% |
| 333 | Machinery Mfg. | 47,322 | 49,503 | 4.6% |
| 334 | Computer & Electronic Product Mfg. | 32,176 | 32,063 | -0.4% |
| 335 | Elec. Equip., App., and Component Mfg. | 26,072 | 26,122 | 0.2% |
| 336 | Transportation Equip. Mfg. | 37,732 | 39,569 | 4.9% |
| 337 | Furniture & Related Product Mfg. | 15,111 | 15,463 | 2.3% |
| 339 | Miscellaneous Mfg. | 26,673 | 27,159 | 1.8% |
| **Manufacturing Total** | | **569,514** | **573,083** | **0.6%** |

*Source: Quarterly Census of Employment & Wages*

From June 2011 to June 2012 in Pennsylvania:

- Total manufacturing employment increased by approximately 3,600 (0.6%).
- The largest employment gains were in Transportation Equipment Manufacturing (+4.9%), Machinery Manufacturing (+4.6%), and Textile Product Manufacturing (+4.5%).
- The largest employment decreases were in Petroleum & Coal Products Manufacturing (-8.5%), Printing & Related Support Activities (-5.6%), and Apparel Manufacturing (-5.2%).

[1]Although QCEW data are not seasonally adjusted, comparing the same month in different years eliminates seasonal patterns in the data.



# Location Quotients[1] by Industry Subsector

PA vs. US

| NAICS | Industry Title | March 2012 Location Quotient: PA vs. US |
|---|---|---|
| 311 | Food Mfg. | 1.10 |
| 312 | Beverage & Tobacco Product Mfg. | 0.81 |
| 313 | Textile Mills | 0.71 |
| 314 | Textile Product Mills | 0.80 |
| 315 | Apparel Mfg. | 0.92 |
| 316 | Leather & Allied Product Mfg. | 0.78 |
| 321 | Wood Product Mfg. | 1.26 |
| 322 | Paper Mfg. | 1.48 |
| 323 | Printing & Related Support Activities | 1.31 |
| 324 | Petroleum & Coal Products Mfg. | 1.30 |
| 325 | Chemical Mfg. | 1.24 |
| 326 | Plastics & Rubber Products Mfg. | 1.29 |
| 327 | Nonmetallic Mineral Product Mfg. | 1.31 |
| 331 | Primary Metal Manufacturing | 2.32 |
| 332 | Fabricated Metal Product Mfg. | 1.38 |
| 333 | Machinery Mfg. | 1.05 |
| 334 | Computer & Electronic Product Mfg. | 0.68 |
| 335 | Elec. Equip., App., and Component Mfg. | 1.65 |
| 336 | Transportation Equip. Mfg. | 0.62 |
| 337 | Furniture & Related Product Mfg. | 1.02 |
| 339 | Miscellaneous Mfg. | 1.09 |
| **Manufacturing Total** | | **1.12** |

*Source: Quarterly Census of Employment & Wages*

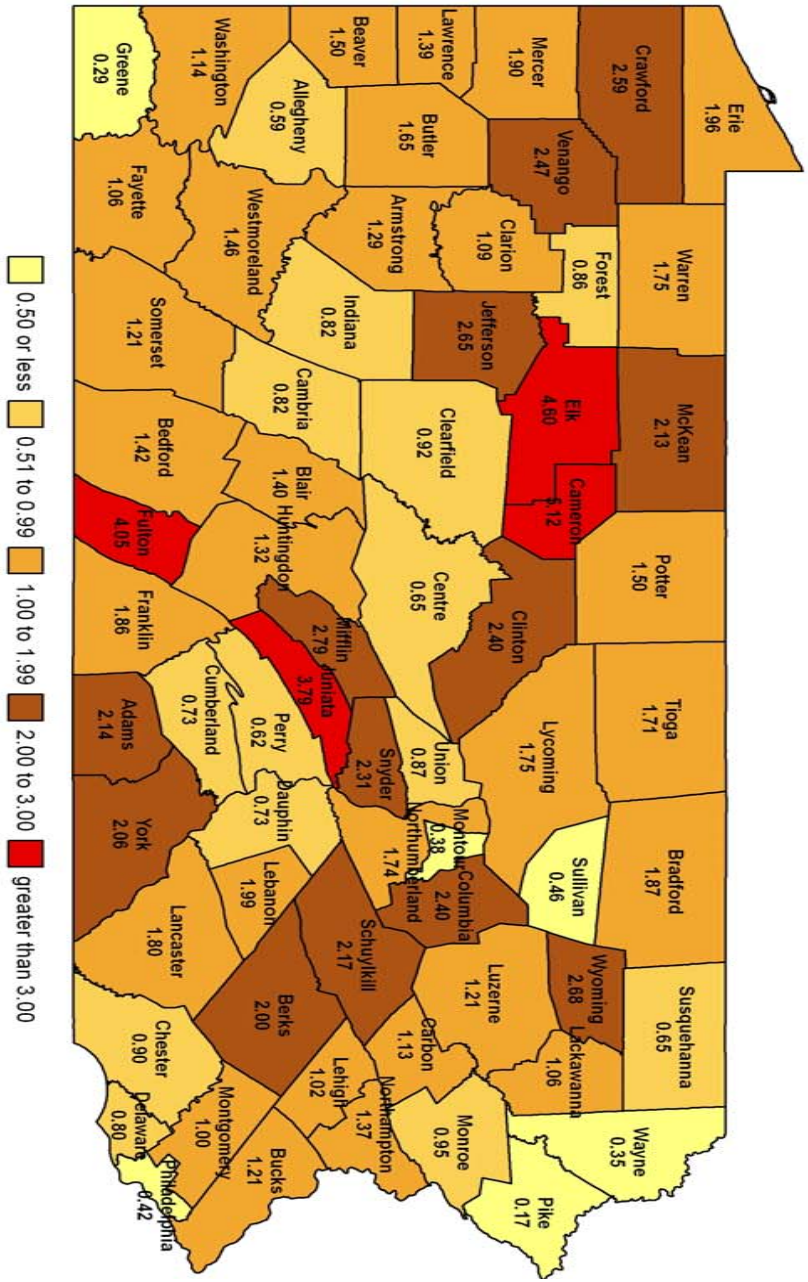
In March 2012:

- Pennsylvania had a location quotient greater than 1, indicating that a larger share of Pennsylvania's workers are employed in Manufacturing industries than the national average.
- Pennsylvania's location quotient compared to the nation was highest in Primary Metal Manufacturing (2.32), Electrical Equipment, Appliance, & Component Manufacturing (1.65), and Paper Manufacturing (1.48).
- Pennsylvania's location quotient compared to the nation was lowest in Transportation Equipment Manufacturing (0.62), Computer & Electronic Product Manufacturing (0.68), and Textiles Mills (0.71).

[1]For a detailed explanation of location quotients, please refer to the definitions section of this document.

# Manufacturing Location Quotient County Map[1]

County vs. US




[1]*Based on 2012 March QCEW Employment.*



# PA Manufacturing Quarterly Workforce Indicators - Demographics by Education Level[1]

| NAICS | Industry Title | < HS | HS | Post. Second. or Assoc. | Bach. or Higher |
|---|---|---|---|---|---|
| 311 | Food Mfg. | 15.1% | 38.3% | 30.2% | 16.4% |
| 312 | Beverage & Tobacco Product Mfg. | 11.0% | 38.1% | 32.8% | 18.1% |
| 313 | Textile Mills | 13.4% | 39.9% | 29.2% | 17.5% |
| 314 | Textile Product Mills | 14.8% | 41.5% | 28.8% | 15.0% |
| 315 | Apparel Mfg. | 18.1% | 36.7% | 27.7% | 17.5% |
| 316 | Leather & Allied Product Mfg. | 15.1% | 41.2% | 28.0% | 15.7% |
| 321 | Wood Product Mfg. | 15.1% | 43.4% | 28.7% | 12.9% |
| 322 | Paper Mfg. | 10.7% | 40.1% | 31.9% | 17.4% |
| 323 | Printing & Related Support Activities | 9.8% | 38.2% | 32.5% | 19.4% |
| 324 | Petroleum & Coal Products Mfg. | 7.8% | 33.7% | 31.3% | 27.2% |
| 325 | Chemical Mfg. | 7.9% | 27.1% | 30.3% | 34.6% |
| 326 | Plastics & Rubber Products Mfg. | 12.9% | 39.6% | 31.1% | 16.5% |
| 327 | Nonmetallic Mineral Product Mfg. | 11.6% | 40.3% | 30.2% | 17.9% |
| 331 | Primary Metal Manufacturing | 10.0% | 39.9% | 31.9% | 18.2% |
| 332 | Fabricated Metal Product Mfg. | 11.2% | 40.7% | 31.5% | 16.6% |
| 333 | Machinery Mfg. | 9.5% | 38.9% | 32.0% | 19.6% |
| 334 | Computer & Electronic Product Mfg. | 8.3% | 33.2% | 32.2% | 26.2% |
| 335 | Elec. Equip., App., and Component Mfg. | 10.6% | 37.2% | 32.0% | 20.3% |
| 336 | Transportation Equip. Mfg. | 10.4% | 35.7% | 31.3% | 22.6% |
| 337 | Furniture & Related Product Mfg. | 13.0% | 41.1% | 30.2% | 15.7% |
| 339 | Miscellaneous Mfg. | 10.3% | 35.6% | 32.2% | 21.9% |
| **Manufacturing Total** | | **11.1%** | **37.7%** | **31.2%** | **20.0%** |

*Source: US Census Bureau; Local Employment Dynamics*

For 2011 Quarter 4:

- Chemical Manufacturing had the highest percentage of workers with at least a bachelor's degree (34.6%), followed by Petroleum & Coal Products Manufacturing (27.2%), and Computer & Electronic Products Manufacturing (26.2%).
- Apparel Manufacturing had the highest percentage of workers with less than a high school diploma (18.1%), followed by Food Manufacturing, Leather & Allied Product Manufacturing, and Wood Product Manufacturing (all with 15.1%).
- Overall, approximately 89% of individuals working in manufacturing in Pennsylvania have at least a high school diploma, and more than half have completed education beyond high school.

[1] *Please note these education levels apply only to Local Employment Dynamics Data, and do not correspond to the educational attainments in the definition section of this document.*

# PA Manufacturing Industries of Interest

Industries of Interest (IOIs) are identified as either Hi-Growth or Growth.

**Hi-Growth**: Industries that have had four consecutive quarters of employment growth totaling at least ten percent over-the-year, with an employment gain of at least 25.

**Growth**: Industries that have had over-the-year employment growth of at least 10 percent, with an employment gain of at least 25.

| Industry Code | Industry Description | Emp. 2012Q2 | Emp. Gain from 2011Q2 | Pct. Gain from 2011Q2 | Type of Change |
|---|---|---|---|---|---|
| 333120 | Construction Machinery Manufacturing | 4,822 | 634 | 15% | Hi-Growth |
| 336211 | Motor Vehicle Body Manufacturing | 3,808 | 535 | 16% | Hi-Growth |
| 333131 | Mining Machinery and Equipment Manufacturing | 3,645 | 379 | 12% | Hi-Growth |
| 326160 | Plastics Bottle Manufacturing | 2,614 | 329 | 14% | Growth |
| 339999 | All Other Miscellaneous Manufacturing | 2,764 | 279 | 11% | Growth |
| 332996 | Fabricated Pipe and Pipe Fitting Manufacturing | 2,056 | 262 | 15% | Growth |
| 323113 | Commercial Screen Printing | 2,569 | 253 | 11% | Growth |
| 333111 | Farm Machinery and Equipment Manufacturing | 1,234 | 235 | 24% | Growth |
| 331513 | Steel Foundries (except Investment) | 1,468 | 193 | 15% | Hi-Growth |
| 333912 | Air and Gas Compressor Manufacturing | 1,632 | 157 | 11% | Hi-Growth |
| 312120 | Breweries | 1,296 | 150 | 13% | Growth |
| 331491 | Nonferrous Metal (except Copper and Aluminum) Rolling, Drawing, and Extruding | 1,490 | 137 | 10% | Hi-Growth |
| 312112 | Bottled Water Manufacturing | 1,308 | 131 | 11% | Growth |
| 326291 | Rubber Product Manufacturing for Mechanical Use | 913 | 125 | 16% | Growth |
| 333613 | Mechanical Power Transmission Equipment Manufacturing | 1,041 | 111 | 12% | Growth |
| 333132 | Oil and Gas Field Machinery and Equipment Manufacturing | 445 | 88 | 25% | Hi-Growth |
| 333924 | Industrial Truck, Tractor, Trailer, and Stacker Machinery Manufacturing | 755 | 78 | 12% | Growth |
| 314120 | Curtain and Linen Mills | 747 | 76 | 11% | Growth |
| 325212 | Synthetic Rubber Manufacturing | 248 | 74 | 43% | Hi-Growth |
| 325411 | Medicinal and Botanical Manufacturing | 245 | 63 | 35% | Hi-Growth |
| 327420 | Gypsum Product Manufacturing | 395 | 37 | 10% | Growth |
| 334517 | Irradiation Apparatus Manufacturing | 235 | 29 | 14% | Hi-Growth |

*Source: Quarterly Census of Employment & Wages (QCEW) and the Center for Workforce Information & Analysis*

*Note: Not all changes in industry employment counts are necessarily due to employment growth; non-economic codes changes may impact the identification of IOIs.*



# Help Wanted Online Ads Manufacturing Industry Subsectors in PA

| NAICS | Industry Title | Dec. 2011 | Dec. 2012 | Pct. Change |
|---|---|---|---|---|
| 311 | Food Mfg. | 582 | 653 | 12.2% |
| 312 | Beverage & Tobacco Product Mfg. | 95 | 60 | -36.8% |
| 313 | Textile Mills | 14 | 10 | -28.6% |
| 314 | Textile Product Mills | 16 | 13 | -18.8% |
| 315 | Apparel Mfg. | 28 | 23 | -17.9% |
| 316 | Leather & Allied Product Mfg. | 87 | 4 | -95.4% |
| 321 | Wood Product Mfg. | 60 | 86 | 43.3% |
| 322 | Paper Mfg. | 126 | 141 | 11.9% |
| 323 | Printing & Related Support Activities | 149 | 143 | -4.0% |
| 324 | Petroleum & Coal Products Mfg. | 36 | 24 | -33.3% |
| 325 | Chemical Mfg. | 966 | 1,014 | 5.0% |
| 326 | Plastics & Rubber Products Mfg. | 347 | 265 | -23.6% |
| 327 | Nonmetallic Mineral Product Mfg. | 136 | 123 | -9.6% |
| 331 | Primary Metal Manufacturing | 361 | 397 | 10.0% |
| 332 | Fabricated Metal Product Mfg. | 521 | 452 | -13.2% |
| 333 | Machinery Mfg. | 759 | 752 | -0.9% |
| 334 | Computer & Electronic Product Mfg. | 786 | 832 | 5.9% |
| 335 | Elec. Equip., App., and Component Mfg. | 255 | 387 | 51.8% |
| 336 | Transportation Equip. Mfg. | 504 | 370 | -26.6% |
| 337 | Furniture & Related Product Mfg. | 72 | 78 | 8.3% |
| 339 | Miscellaneous Mfg. | 307 | 529 | 72.3% |
| **Total Manufacturing Postings by Subsector** | | **6,207** | **6,356** | **2.4%** |

*Source: Help Wanted Online; The Conference Board*

From December 2011 to December 2012:

- Nine industry subsectors showed over-the-year increases in job posting activity. The largest increase was seen in Miscellaneous Manufacturing (+72.3%), Electrical Equipment, Appliance, & Component Manufacturing (+51.8%), and Wood Product Manufacturing (+43.3% ).
- The largest over-the-year decreases by percentage were in Leather & Allied Product Manufacturing (-95.4%), Beverage & Tobacco Product Manufacturing (-36.8%), and Petroleum & Coal Products Manufacturing (-33.3%).
- Overall, Manufacturing job postings were up 2.4% over-the-year.

# Help Wanted Online Ads by Manufacturing Industry in PA– Top 25

| NAICS | Industry Title | Dec. 2011 | Dec. 2012 | Pct. Change |
|---|---|---|---|---|
| 325412 | Pharmaceutical Preparation Manufacturing | 403 | 433 | 7.4% |
| 334512 | Automatic Environmental Control Manufacturing for Residential, Commercial, and Appliance Use | 105 | 201 | 91.4% |
| 339932 | Game, Toy, and Children's Vehicle Manufacturing | 4 | 189 | 4625.0% |
| 326199 | All Other Plastics Product Manufacturing | 162 | 164 | 1.2% |
| 325120 | Industrial Gas Manufacturing | 209 | 146 | -30.1% |
| 331111 | Iron and Steel Mills | 163 | 124 | -23.9% |
| 335314 | Relay and Industrial Control Manufacturing | 44 | 121 | 175.0% |
| 333298 | All Other Industrial Machinery Manufacturing | 122 | 96 | -21.3% |
| 311421 | Fruit and Vegetable Canning | 67 | 96 | 43.3% |
| 333120 | Construction Machinery Manufacturing | 67 | 94 | 40.3% |
| 334220 | Radio and Television Broadcasting and Wireless Communications Equipment Manufacturing | 43 | 91 | 111.6% |
| 325414 | Biological Product (except Diagnostic) Manufacturing | 74 | 91 | 23.0% |
| 336411 | Aircraft Manufacturing | 70 | 90 | 28.6% |
| 333111 | Farm Machinery and Equipment Manufacturing | 90 | 88 | -2.2% |
| 325181 | Alkalies and Chlorine Manufacturing | 52 | 87 | 67.3% |
| 339999 | All Other Miscellaneous Manufacturing | 59 | 85 | 44.1% |
| 339112 | Surgical and Medical Instrument Manufacturing | 97 | 84 | -13.4% |
| 334516 | Analytical Laboratory Instrument Manufacturing | 39 | 78 | 100.0% |
| 334417 | Electronic Connector Manufacturing | 81 | 76 | -6.2% |
| 311320 | Chocolate and Confectionery Manufacturing from Cacao Beans | 90 | 73 | -18.9% |
| 331315 | Aluminum Sheet, Plate, and Foil Manufacturing | 28 | 71 | 153.6% |
| 332919 | Other Metal Valve and Pipe Fitting Manufacturing | 32 | 70 | 118.8% |
| 311119 | Other Animal Food Manufacturing | 31 | 70 | 125.8% |
| 336412 | Aircraft Engine and Engine Parts Manufacturing | 42 | 66 | 57.1% |
| 311830 | Tortilla Manufacturing | 38 | 65 | 71.1% |

*Source: Help Wanted Online; The Conference Board*

From December 2011 to December 2012:

- The largest over-the-year gains in job posting activity by industry were Game, Toy, & Children's Vehicle Manufacturing (+4625.0%), Relay & Industrial Control Manufacturing (+175.0%), and Aluminum Sheet, Plate, & Foil Manufacturing (+153.6%).
- The largest over-the-year decreases by industry were in Industrial Gas Manufacturing (-30.1%), Iron & Steel Mills (-23.9%), and All Other Industrial Machinery Manufacturing (-21.3%).



# Help Wanted Online Ads by Manufacturing Occupation in PA – Top 25

| SOC | Occupation Title | Dec. 2011 | Dec. 2012 | Pct. Change |
|---|---|---|---|---|
| 17-2112 | Industrial Engineers | 500 | 456 | -8.8% |
| 51-1011 | First-Line Supervisors/Managers of Production and Operating Workers | 337 | 321 | -4.7% |
| 11-2021 | Marketing Managers | 165 | 193 | 17.0% |
| 15-1051 | Computer Systems Analysts | 156 | 190 | 21.8% |
| 41-4012 | Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products | 110 | 188 | 70.9% |
| 17-2141 | Mechanical Engineers | 186 | 171 | -8.1% |
| 11-2022 | Sales Managers | 113 | 159 | 40.7% |
| 13-2011 | Accountants | 121 | 139 | 14.9% |
| 41-2031 | Retail Salespersons | 58 | 130 | 124.1% |
| 11-1021 | General and Operations Managers | 76 | 130 | 71.1% |
| 41-4041 | Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products | 86 | 116 | 34.9% |
| 15-1031 | Computer Software Engineers, Applications | 127 | 108 | -15.0% |
| 17-2071 | Electrical Engineers | 101 | 103 | 2.0% |
| 41-1011 | First-Line Supervisors/Managers of Retail Sales Workers | 29 | 97 | 234.5% |
| 49-9042 | Maintenance and Repair Workers, General | 107 | 96 | -10.3% |
| 13-1023 | Purchasing Agents, Except Wholesale, Retail, and Farm Products | 68 | 96 | 41.2% |
| 15-1051 | Computer Support Specialists | 121 | 95 | -21.5% |
| 43-4051 | Customer Service Representatives | 115 | 91 | -20.9% |
| 49-1011 | First-Line Supervisors/Managers of Mechanics, Installers, and Repairers | 77 | 85 | 10.4% |
| 11-3061 | Purchasing Managers | 50 | 82 | 64.0% |
| 19-3021 | Market Research Analysts | 66 | 81 | 22.7% |
| 51-4041 | Machinists | 123 | 80 | -35.0% |
| 11-3040 | Human Resources Managers | 72 | 78 | 8.3% |
| 19-1042 | Medical Scientists, Except Epidemiologists | 56 | 77 | 37.5% |
| 49-9041 | Industrial Machinery Mechanics | 88 | 75 | -14.8% |

*Source: Help Wanted Online; The Conference Board*

From December 2011 to December 2012:

- The largest over-the-year gains in job posting activity by occupation were for First-Line Supervisors/Managers of Retail Sales Workers (+234.5%), Retail Sales Persons (+124.1%), and General & Operations Managers (+71.1%).
- The largest over-the-year decreases were for Machinists (-35.0%), Computer Support Specialists (-21.5%), and Customer Service Representatives (-20.9%).

# Help Wanted Online Ads by Manufacturing Employer in PA – Top 30

| Company | Dec. 2012 Postings |
|---|---|
| Johnson Controls | 262 |
| ANN INC. | 189 |
| ALCOA | 174 |
| Air Products and Chemicals, Inc. | 107 |
| Tyco Electronics | 95 |
| Lockheed Martin | 93 |
| Teva Phamraceutical Inc. | 89 |
| System One | 85 |
| United Technologies Corporation | 83 |
| Merck | 80 |
| CNH America | 72 |
| Bimbo Bakeries USA | 69 |
| THE HERSHEY COMPANY | 68 |
| Creative Circle | 65 |
| The Scotts Miracle-Gro Company | 58 |
| Mylan Inc | 56 |
| Superior Lamp | 56 |
| Lord Corporation | 52 |
| Motorola Mobility | 52 |
| The Boeing Company | 50 |
| Victaulic | 50 |
| Shire Pharmaceutical, Inc. | 50 |
| Carpenter Technology Corporation | 49 |
| Bayer | 48 |
| Lutron Electronics | 46 |
| United States Steel Corporation | 43 |
| Fmc Corporation | 43 |
| Northwood | 42 |
| Oshkosh Corporation | 40 |
| Arkema Inc. | 40 |

*Source: Help Wanted Online; The Conference Board.*



# Pennsylvania Manufacturing Industry Employment 2010-2020 Long-Term Projections

| | | Employment | | Change | | Avg. Annual |
|---|---|---|---|---|---|---|
| **NAICS** | **Industry Title** | **2010** | **2020** | **Level** | **Percent** | **Change** |
| ***31-33*** | ***Manufacturing*** | ***560,440*** | ***557,760*** | ***-2,680*** | ***-0.5%*** | ***-268*** |
| 311 | Food Mfg. | 66,440 | 65,140 | -1,300 | -2.0% | -130 |
| 312 | Beverage & Tobacco Product Mfg. | 6,740 | 6,650 | -90 | -1.3% | -9 |
| 313 | Textile Mills | 3,780 | 2,610 | -1,170 | -31.0% | -117 |
| 314 | Textile Product Mills | 4,010 | 2,550 | -1,460 | -36.4% | -146 |
| 315 | Apparel Mfg. | 6,740 | 3,470 | -3,270 | -48.5% | -327 |
| 316 | Leather & Allied Product Mfg. | 820 | 510 | -310 | -37.8% | -31 |
| 321 | Wood Product Mfg. | 19,410 | 18,200 | -1,210 | -6.2% | -121 |
| 322 | Paper Mfg. | 24,820 | 22,700 | -2,120 | -8.5% | -212 |
| 323 | Printing & Related Support Activities | 28,260 | 26,390 | -1,870 | -6.6% | -187 |
| 324 | Petroleum & Coal Products Mfg. | 6,320 | 5,940 | -380 | -6.0% | -38 |
| 325 | Chemical Mfg. | 42,970 | 42,610 | -360 | -0.8% | -36 |
| 326 | Plastics & Rubber Products Mfg. | 35,160 | 36,470 | 1,310 | 3.7% | 131 |
| 327 | Nonmetallic Mineral Product Mfg. | 21,380 | 21,660 | 280 | 1.3% | 28 |
| 331 | Primary Metal Manufacturing | 36,000 | 37,210 | 1,210 | 3.4% | 121 |
| 332 | Fabricated Metal Product Mfg. | 77,800 | 83,830 | 6,030 | 7.8% | 603 |
| 333 | Machinery Mfg. | 45,300 | 47,830 | 2,530 | 5.6% | 253 |
| 334 | Computer & Electronic Product Mfg. | 31,970 | 29,560 | -2,410 | -7.5% | -241 |
| 335 | Elec. Equip., App., and Component Mfg. | 24,680 | 28,090 | 3,410 | 13.8% | 341 |
| 336 | Transportation Equip. Mfg. | 36,790 | 38,930 | 2,140 | 5.8% | 214 |
| 337 | Furniture & Related Product Mfg. | 14,820 | 13,950 | -870 | -5.9% | -87 |
| 339 | Miscellaneous Mfg. | 26,230 | 23,460 | -2,770 | -10.6% | -277 |

*Source: The Center for Workforce Information & Analysis*

# IMPLAN Multipliers for Manufacturing Industry Subsectors

| NAICS | Industry Title | IMPLAN Multiplier |
|---|---|---|
| 311 | Food Mfg. | 3.77 |
| 312 | Beverage & Tobacco Product Mfg. | 4.19 |
| 313 | Textile Mills | 1.85 |
| 314 | Textile Product Mills | 2.05 |
| 315 | Apparel Mfg. | N/A |
| 316 | Leather & Allied Product Mfg. | 2.04 |
| 321 | Wood Product Mfg. | 2.06 |
| 322 | Paper Mfg. | 3.66 |
| 323 | Printing & Related Support Activities | 1.99 |
| 324 | Petroleum & Coal Products Mfg. | 11.14 |
| 325 | Chemical Mfg. | 6.62 |
| 326 | Plastics & Rubber Products Mfg. | 2.13 |
| 327 | Nonmetallic Mineral Product Mfg. | 2.74 |
| 331 | Primary Metal Manufacturing | 5.28 |
| 332 | Fabricated Metal Product Mfg. | 2.27 |
| 333 | Machinery Mfg. | 2.71 |
| 334 | Computer & Electronic Product Mfg. | 2.86 |
| 335 | Elec. Equip., App., and Component Mfg. | 2.76 |
| 336 | Transportation Equip. Mfg. | 2.74 |
| 337 | Furniture & Related Product Mfg. | 2.07 |
| 339 | Miscellaneous Mfg. | 2.25 |

*Source: Minnesota IMPLAN Group (MIG)*

Whenever a job is added in any industry, it causes additional jobs, both indirect and induced, to be generated in other industries. Direct, indirect, and induced jobs are defined as follows:

**Direct**: Jobs added into the industry itself.
**Indirect**: Jobs added to industries that are suppliers to, or customers of, the direct industry.
**Induced**: Jobs added to industries such as retail trade and healthcare that are affected due to increased spending from workers in direct and indirect industries.

The **multiplier effect** is the sum of the total number of new jobs that can be expected for each job added into a direct industry. For example, for each job added in Food Manufacturing, an additional 2.77 jobs are expected to be added into indirect and induced industries, for a resulting multiplier of 3.77.



# 2012 PA High Priority Occupations in Advanced Materials & Diversified Manufacturing

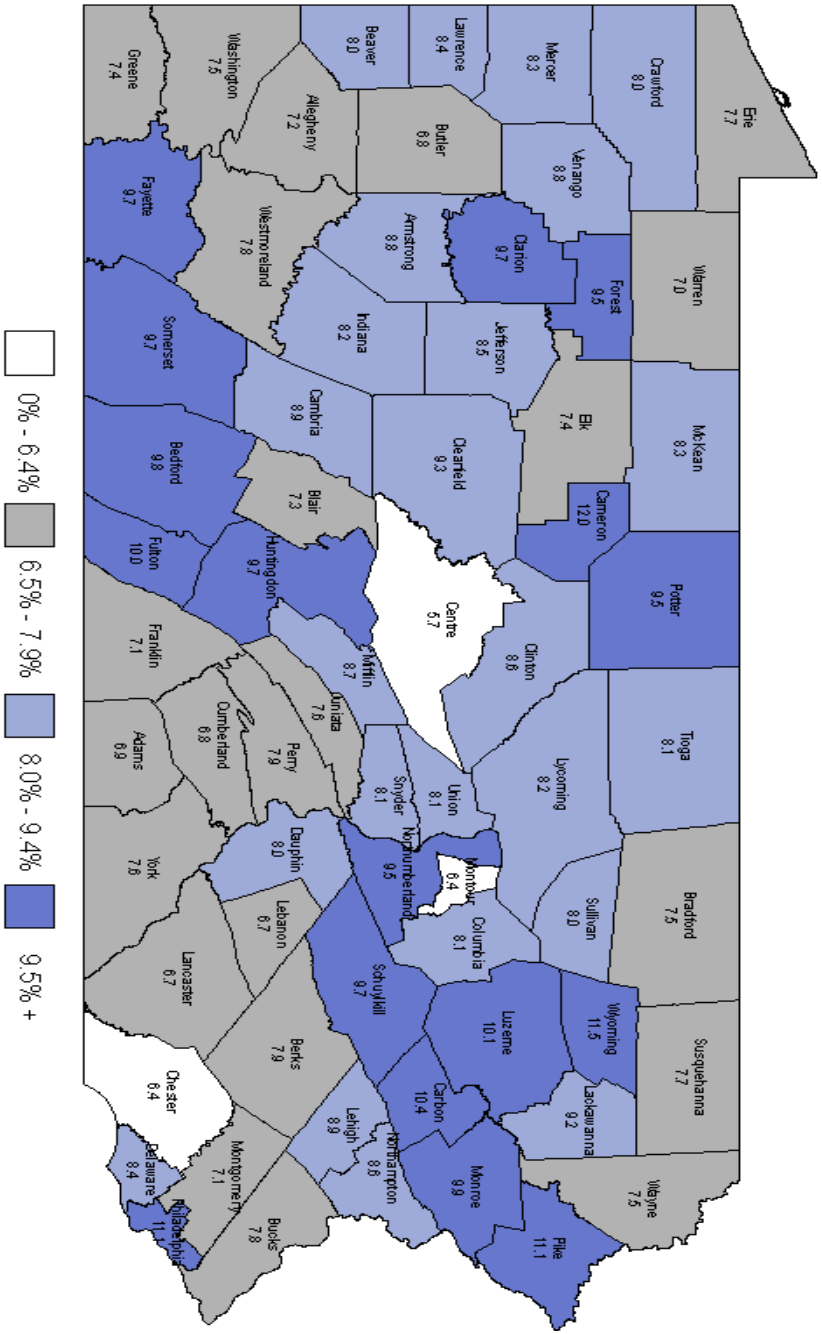
***Highlighted occupations are new additions in 2012***

| SOC Code | Occupation | Educational Attainment | Industry Cluster Wage, 2011 |
|---|---|---|---|
| 11-1021 | General & Operations Managers | AD+ | $117,213 |
| 11-3051 | Industrial Production Managers | BD+ | $95,149 |
| 13-1023 | Purchasing Agents | LT OJT | $57,750 |
| 17-2112 | Industrial Engineers | BD | $75,667 |
| 17-2141 | Mechanical Engineers | BD | $74,353 |
| 17-3013 | Mechanical Drafters | AD | $48,791 |
| 17-3026 | Industrial Engineering Technicians | AD | $52,446 |
| 41-4012 | Sales Representatives | MT OJT | $67,543 |
| 43-4051 | Customer Service Representatives | ST OJT | $39,352 |
| 43-5061 | Production, Planning & Expediting Clerks | MT OJT | $48,173 |
| 43-5071 | Shipping, Receiving & Traffic Clerks | ST OJT | $33,848 |
| 49-9041 | Industrial Machinery Mechanics | LT OJT | $46,340 |
| 49-9043 | Maintenance Workers, Machinery | MT OJT | $37,622 |
| 49-9071 | Maintenance & Repair Workers, General | MT OJT | $41,621 |
| 51-1011 | Supervisors - Production & Operating Workers | PS | $57,257 |
| 51-4011 | Computer-Controlled Machine Tool Operators, Metal & Plastic | MT OJT | $37,191 |
| 51-4012 | Numerical Tool & Process Control Programmers | MT OJT | $45,268 |
| 51-4021 | Extruding & Drawing Machine Setters, Oprs & Tenders, Metal & Plastic | MT OJT | $37,761 |
| 51-4041 | Machinists | LT OJT | $39,894 |
| 51-4081 | Multiple Machine Tool Setters, Operators & Tenders, Metal & Plastic | MT OJT | $35,339 |
| 51-4121 | Welders, Cutters, Solderers & Brazers | MT OJT | $37,297 |
| 51-4191 | Heat Treating Equipment Setters, Operators & Tenders, Metal & Plastic | MT OJT | $36,882 |
| 51-9061 | Inspectors, Testers, Sorters, Samplers & Weighers | MT OJT | $38,100 |

*Source: Center for Workforce Information & Analysis*

[1]*For educational attainment acronyms, please refer to the definitions section.*

# Pennsylvania Unemployment Rates by County December 2012






# Definitions:

## Quarterly Census of Employment and Wages

*Source: The Pennsylvania Department of Labor & Industry,*

Employment: Employment data include all employment covered under the Pennsylvania Unemployment Compensation program for each of the three months in the quarter. The employment count represents the number of full-time and part-time employees who worked during or received pay for the payroll period including the 12th of the month. The employment totals for each month are averaged for the quarter employment count. Included are persons on paid vacations or on paid sick leave. Workers temporarily earning no wages due to labor-management disputes, layoffs or other reasons are not reported as employed. Persons on the payroll of more than one employer during the same reference week are reported more than once.

Establishment: The location of a certain economic activity, such as a factory, store, office, or mine, that produces goods or services. It is typically at a single physical location and engaged in one, or predominantly one, type of economic activity. An employer may have one or more establishments.

Wages: Total wages include total compensation paid during a calendar quarter (including bonuses). Average wages are calculated by dividing total wages for a quarter by average employment in that quarter.

## Location Quotient (LQ)

*Source: Quarterly Census of Employment & Wages*

A Location Quotient is calculated to measure the concentration of employment within an industry in one geographic region to another; in this case comparing Pennsylvania counties to the US average. A county LQ greater than 1.0 indicates a higher concentration of employment in that industry than the national average. A county LQ lower than 1.0 indicates a smaller concentration of employment in that industry than the national average.

## New hires

*Source: The Pennsylvania Department of Labor & Industry*

New Hire Reporting is a process by which employers report information on all employees hired on or after January 1, 1998 to locate non-custodial parents, establish child support orders, or enforce existing orders. Company and individual data are confidential and cannot be reported on. However, the data can be aggregated to show where and in what industries hiring is taking place as an indication of what sectors of the economy are experiencing growth or decline. Approximately sixty percent of all new hires are captured. New hire counts by industry are an indication of trend only.

# Definitions:

## Labor Force Statistics

*Source: Pennsylvania Local Area Unemployment Statistics (LAUS)*

The labor force and unemployment data are based on the same concepts and definitions as those used for the official national estimates obtained from the Current Population Survey (CPS). The LAUS program measures employment and unemployment on a place-of-residence basis and produces estimates using equations based on regression techniques. This method utilizes data from several sources, including the CPS, the Current Employment Statistics (CES) program, and state unemployment insurance (UI) programs. The LAUS program does not produce estimates for any demographic groups.

Unemployment Rate: The number of unemployed as a percent of the labor force.

Unemployment: All persons aged 16 years and older who had no employment during the reference week (contains the 12th day of the month), were available for work (except for temporary illness), and had made specific efforts to find employment sometime during the four-week period ending with the reference week. Persons who were waiting to be recalled to jobs from which they had been laid off need not to have been looking for work to be classified as unemployed.

Employment: All persons who, during the week which includes the 12th day of the month, (a) did any work as paid employees, worked in their own businesses or professions or on their own farm, or worked 15 hours or more as unpaid workers in enterprises operated by members of their families, or (b) were not working but who had jobs from which they were temporarily absent. Each employed person is counted only once, even if the person holds more than one job. Included are the self-employed, unpaid family workers, agricultural workers, and private household workers, who are excluded by the CES survey.

Labor Force: All persons either working or looking for work or classified as employed or unemployed.

**Seasonally Adjusted Data -** Seasonal adjustment removes the change in employment that is due to normal seasonal hiring or layoffs (holidays, weather, etc.), thus leaving an over-the-month change that reflects only employment changes due to trend and irregular movements.

**High Priority Occupations -** Occupations identified as in demand by employers, have higher skills needs, and are most likely to provide family sustaining wages, as determined by the Pennsylvania Department of Labor & Industry processes and analyses.



# Definitions:

## Jobs

*Source: Pennsylvania Department of Labor & Industry, Current Employment Statistics (CES)*

Each month the CES program surveys about 140,000 national businesses and government agencies in order to provide detailed industry data on employment, hours, and earnings of workers on non-farm payrolls. This is a collaborative effort between BLS and the states. CES produces a count of jobs, not of people.

Nonfarm Jobs: The total number of persons on establishment payrolls employed full or part time who received pay for any part of the pay period that includes the 12th day of the month. Temporary and intermittent employees are included, as are any employees who are on paid sick leave, on paid holiday, or who work during only part of the specified pay period. A striking employee who only works a small portion of the survey period, and is paid, would be included as employed under the CES definitions. Persons on the payroll of more than one establishment are counted in each establishment. Data exclude proprietors, self-employed, unpaid family or volunteer workers, farm workers, and domestic workers. Persons on layoff , strike, or leave without pay for the entire pay period, or who have not yet reported for work are not counted as employed. Government employment covers only civilian employees.

## Help Wanted Online Ads

*Source: The Conference Board Help Wanted OnLine™ (HWOL) data set*

The Conference Board HWOL data set provides real-time insight into the employment marketplace through the world's largest database of online job ads. Jobs ads can be classified by industry, occupation, employer, and geographic area. Data are analyzed for employment trends and to forecast economic conditions. The underlying data for The Conference Board HWOL are provided by Wanted Technologies Corporation.

**Long-Term Industry Employment Projections -** Estimates of current and projected employment levels by 4-digit industry code for various geographical areas (statewide, Metropolitan Statistical Areas and Workforce Investment Areas). Data supporting the industry projections were derived from a monthly survey of employers (Current Employment Statistics Program) and a quarterly tax report from employers (QCEW program).

# Definitions:

**Educational Attainment -** The Bureau of Labor Statistics (BLS) provides information about entry-level education, related work experience, and typical on-the-job training requirements for each of several hundreds of occupations.

**Educational Attainment Level Abbreviations -**

- Short-term or Moderate-term OJT – basic tasks and skills are learned through a period of on-the-job training lasting up to one year. A high school diploma may be required.
- Long-term training – a high school diploma and at least one year of on-the-job training or an apprenticeship.
- HS diploma plus experience – a high school diploma and training gained through hands-on work in a similar occupation.
- Postsecondary training – training is gained through a postsecondary training program. Some period of related work experience may be required.
- Associate degree – degree completed after two years of full-time schooling beyond high school. Some period of related work experience may be required.
- Bachelor's degree – degree completed after four years of full-time schooling beyond high school. Some period of related work experience may be required.
- Master's Degree – degree completed after two years of full-time schooling beyond a bachelor's degree. Some period of related work experience may be required.
- Doctoral, or Professional degree – degree programs requiring 3-6 years of education at the college or university level beyond a four-year bachelor's degree.

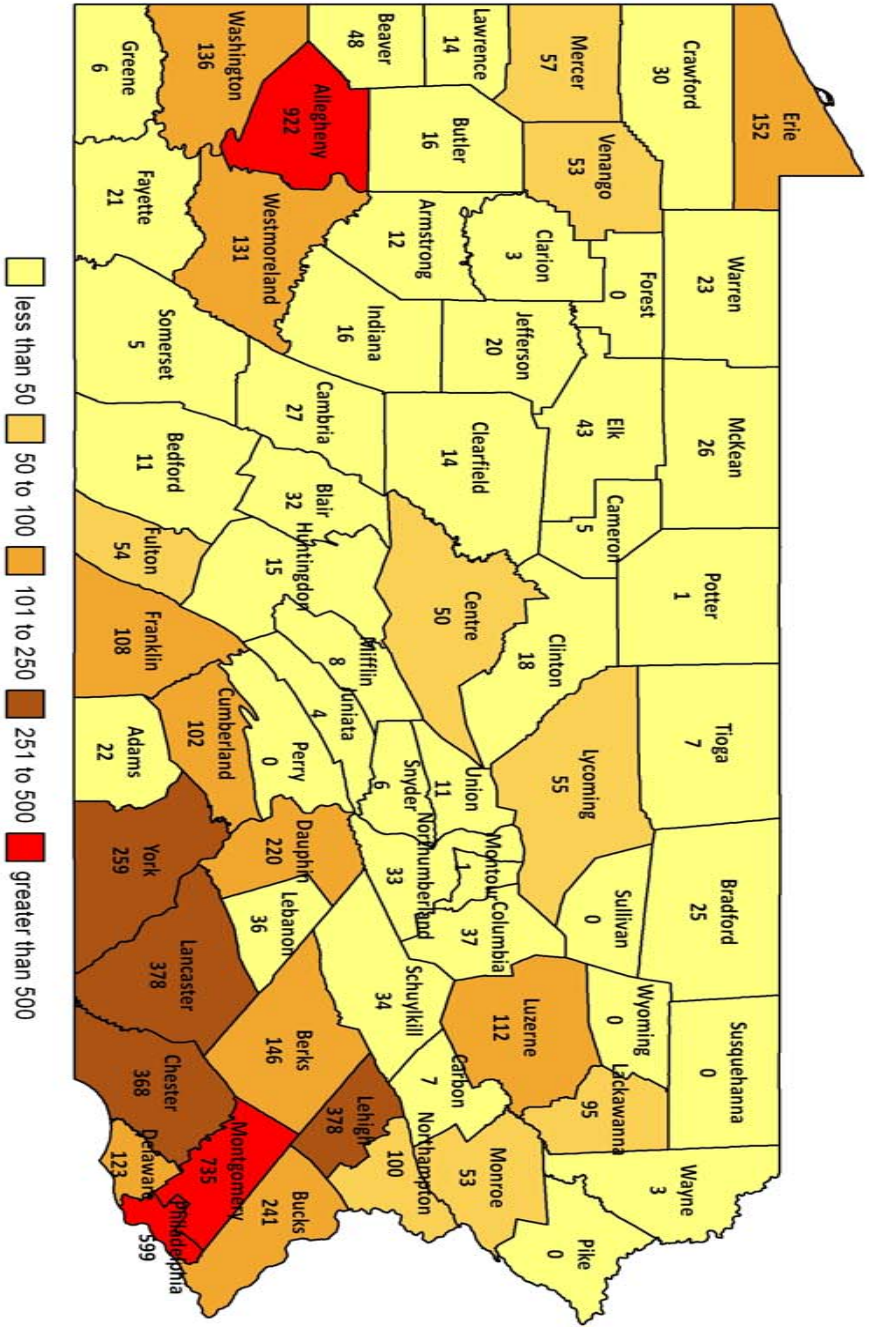
**Quarterly Workforce Indicators**

*Source: U.S. Census Bureau, Local Employment Dynamics*

The Quarterly Workforce Indicators (QWI) are a set of economic indicators that can be queried by different levels of geography as well as by industry, gender, and age of workers. The QWI are built upon wage records in the Unemployment Insurance (UI) system and information from state Quarterly Census of Employment and Wages (QCEW) data.



# MFG Job Postings by County – December 2012




*Source: Help Wanted Online; The Conference Board*