Pennsylvania defines industry clusters to serve as the basis for data-driven workforce development policies. An industry cluster includes industries closely linked by common products, labor pools, technologies, supplier chains and training needs. They take on strategic importance for long-term economic planning as changes that benefit one group member will generally impact other members of the cluster.

Industry clusters are comprised of specific six-digit North American Industry Classification System, or NAICS, codes. They are mutually exclusive, so that no two clusters contain the same NAICS code. Currently, there are 12 clusters identified, along with several critical sub-clusters. Combined, these 12 industry clusters account for nearly 85 percent of all employment in the commonwealth.

Cluster Summary

The Wood, Wood Products & Publishing (WWP) cluster incorporates a supply line from raw material to finished product. It includes logging and lumber production through the production of paper to the publishing of magazines and newspapers. Industries found within the cluster include sawmills, truss manufacturing, stationery product manufacturing, printing machinery & equipment manufacturing, book stores and greeting card publishers.

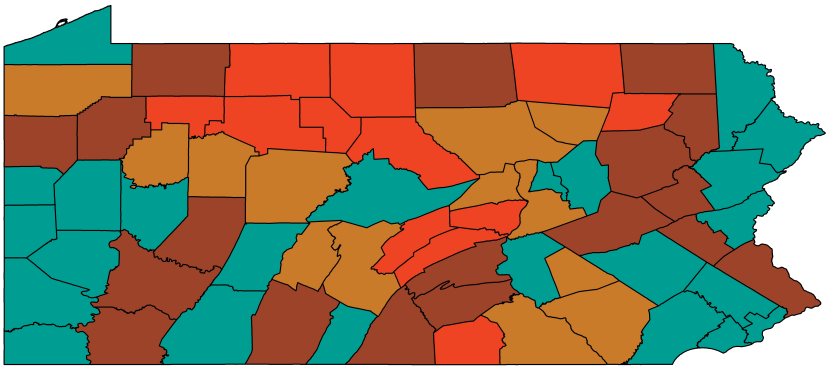
	2018	2023
Employer Units	4,527	4,647
Number of Jobs	101,143	88,885
Percent of Total Pennsylvania Jobs	1.7%	1.5%
Average Annual Wages	$53,526	$65,542
Location Quotient (LQ)	1.23	1.21

LQs greater than one suggest a competitive advantage.

While WWP cluster employment has declined by approximately 12 percent in Pennsylvania, the losses are not as great as those experienced nationwide. The state maintains a competitive location quotient (LQ) and, at 1.21, it is the third highest among industry clusters. Many of the local areas remain competitive (as seen on page 3) regardless of the cluster's small size. The cluster still pays a reasonable average wage and is within 6% of the statewide average for all jobs ($69,300).

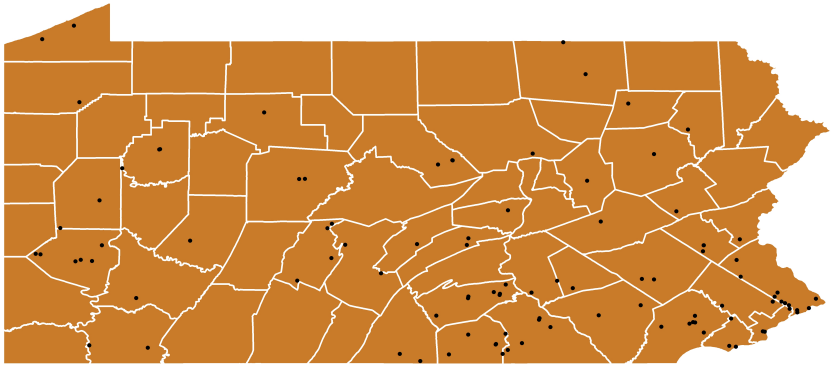
Percent Employment by County

- >4.0%
- 4.0% - 2.5%
- 2.5% - 1.5%
- < 1.5%



Major Employers

- The Procter & Gamble Paper Products Co.
- Packaging Corporation of America
- Uline INC
- Jeld-Wen Inc
- Conestoga Wood Specialties
- First Quality Retail Services

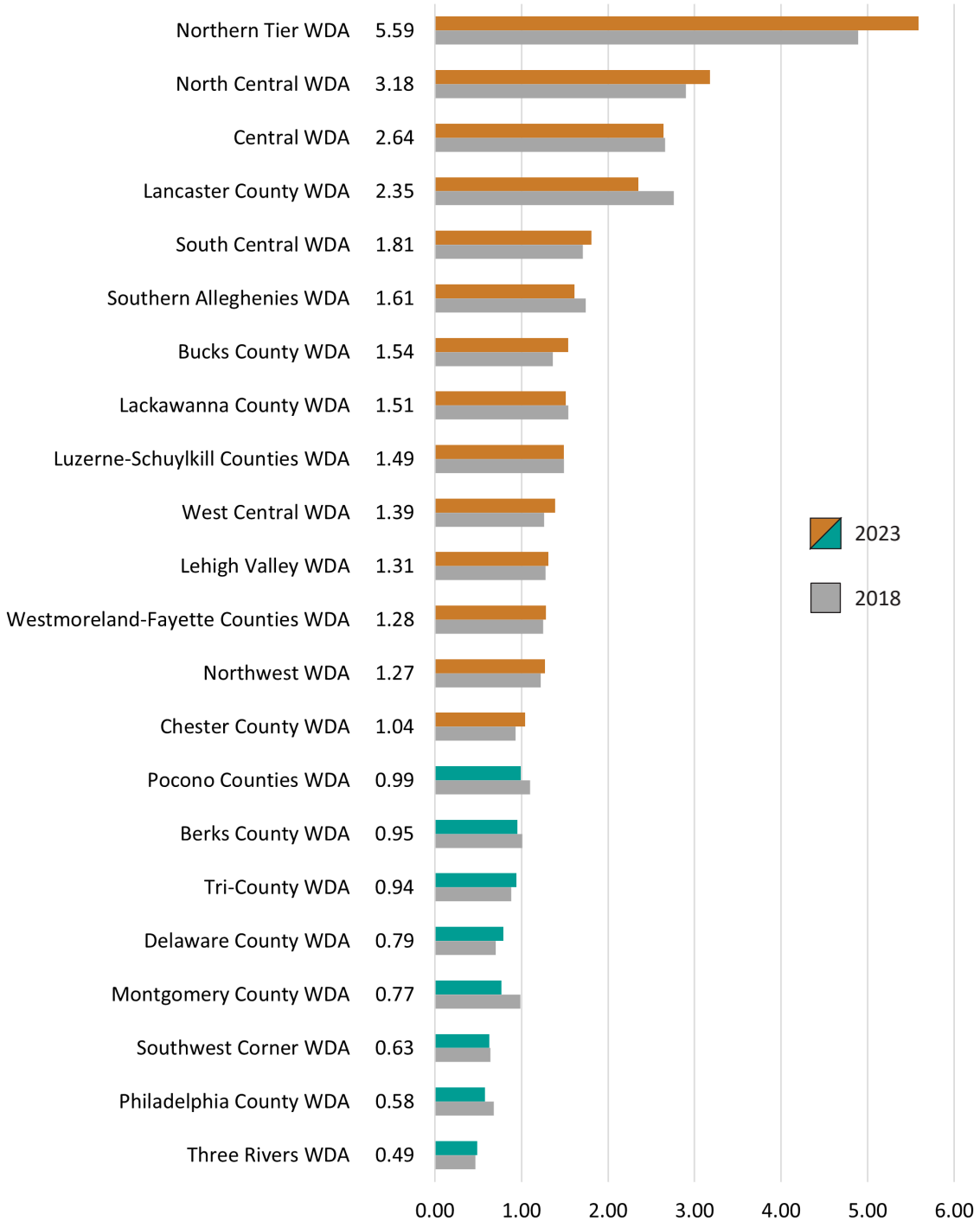


Top Industries Based on Employment

- Commercial Printing
- Corrugated & Solid Fiber Box Manufacturing
- Wood Kitchen Cabinet & Countertop Manufacturing
- Lumber & Wood Merchant Wholesalers
- Newspaper Publishers
- Wood Container & Pallet Manufacturing
- Commercial Screen Printing
- Sawmills
- Periodical Publishers
- Industrial Paper Merchant Wholesalers
- All Other Miscellaneous Wood Product Mfg
- Paper Bag & Coated & Treated Paper Manufacturing
- Book Retailers & News Dealers
- Book Publishers
- Paper Mills
- Wood Window & Door Manufacturing
- Stationery Product Manufacturing
- All Other Converted Paper Product Manufacturing
- Engineered Wood Member Manufacturing
- Other Millwork

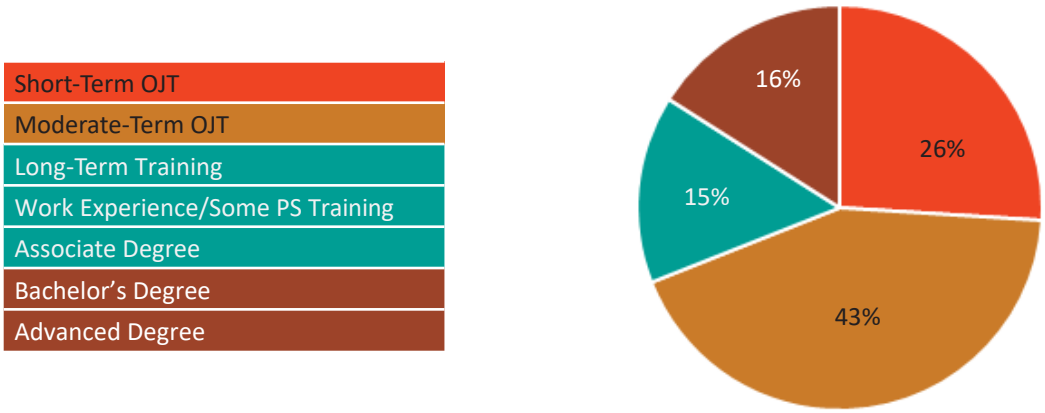
Employment Concentration

A location quotient, or LQ, compares a cluster's share of local employment to its share of national employment. This value can be used when evaluating the strength of an industry cluster within an area. An LQ greater than one indicates that the cluster has, on average, more employees locally than typically expected implying a possible competitive advantage. Fourteen Workforce Development Areas (WDAs) have LQs greater than one with Northern Tier WDA the highest at 5.59. Nine of those 14 areas also increased their competitiveness since 2018.



Educational Requirements

This graph illustrates the minimum educational attainment levels for jobs found in this cluster's various industries. Almost 70 percent of WWP jobs require less than one year of on-the-job training to enter employment. Many of these jobs still fall into the skilled trades category and do not suffer from the high turnover and lower wages found in the Hospitality, Leisure & Entertainment cluster.



Occupations with Significant Employment

The following table lists occupations that employ at least 1,500 people in the WWP cluster.

			Annual Demand	
SOC Code	Occupation	Average Wage	All Industries	Industry Cluster
53-7062	Laborers & Freight/Stock/Material Movers	$42,240	20,336	649
51-2090	Misc. Assemblers & Fabricators	$44,950	5,131	572
51-9196	Paper Goods Machine Setters/Oprs/Tenders	$52,210	543	538
51-5112	Printing Press Operators	$46,780	794	507
51-9198	Helpers--Production Workers	$41,170	1,798	416
41-4012	Sales Representatives	$80,780	5,344	310
41-2031	Retail Salespersons	$34,320	22,324	258
43-4051	Customer Service Representatives	$45,870	15,206	255
51-1011	Supervisors - Production & Operating Workers	$74,070	2,628	253
51-7011	Cabinetmakers & Bench Carpenters	$46,640	475	235
53-3032	Heavy & Tractor-Trailer Truck Drivers	$58,620	10,255	227
51-7041	Sawing Machine Setters/Oprs/Tenders, Wood	$41,950	268	197
53-7051	Industrial Truck & Tractor Operators	$49,210	3,364	180
51-7042	Woodworking Machine Setters/Oprs/Tenders	$43,180	272	158
27-1024	Graphic Designers	$61,600	933	136

*The 2024 average annual wage reflects wages across all industries and is not specific to the cluster.