

PORTSfuture Program

WORKFORCE ANALYSES

2025



PORTSFUTURE

IMAGINING THE OPPORTUNITIES, GATHERING YOUR IDEAS
THE FACILITY AT PIKETON, OHIO

OHIO
UNIVERSITY

Voinovich School of
Leadership and Public Service



Remington Road Group

PORTSfuture Program Workforce Analyses Report Introduction

**CONTACT: STEPHANIE HOWE
DIRECTOR OF ENERGY PROGRAMS
HOWE@OHIO.EDU**

Southern Ohio is experiencing an economic resurgence largely attributed to the decommissioning and redevelopment of the U.S. Department of Energy (DOE) former Portsmouth Gaseous Diffusion Plant (PORTS) in Pike County, Ohio. Under the leadership of the DOE Office of Environmental Management Portsmouth/Paducah Project Office and the Southern Ohio Diversification Initiative (SODI), the site is being reindustrialized into an energy hub that pairs advanced nuclear and other power generation technologies with high-volume, tech-driven users. This initiative is sparking a regional economic revival, attracting billions of dollars in private investment, and creating thousands of well-paying jobs for generations to come.

Since 2010, the DOE-funded Ohio University PORTSfuture Program has partnered with DOE and SODI to advance decommissioning and redevelopment to ensure the site is leveraged to the highest economic benefit for the region. PORTSfuture leverages data-driven technical expertise to inform DOE decommissioning and property transfers while expanding SODI's redevelopment capacity. Our work is helping to attract private investment, prepare the regional workforce, and strengthen community involvement through stakeholder engagement and STEM outreach.

PORTS redevelopment is supported by local, regional, and state economic and workforce development organizations, Chambers of Commerce, elected officials, labor groups, community members, and a multitude of regional stakeholders.

BACKGROUND AND REDEVELOPMENT FOCUS

PORTS was constructed in the early 1950s to enrich uranium for the nation's nuclear defense and energy missions. The site was vital to our country's efforts to fight and win the Cold War, and for over 70 years it has served as a major employer in the region. DOE ceased uranium enrichment operations at PORTS in 2001, and decommissioning activities began in earnest in 2010. As decommissioning progresses, DOE continues to transfer assets for beneficial reuse.

As the DOE-designated community reuse organization for the site, SODI repurposes clean and remediated land and leverages other site assets for regional economic growth. Key nuclear industries driving the reindustrialization of the PORTS site include the ongoing and expanding operations at Centrus Energy Corp., which is producing High-Assay, Low-Enriched Uranium (HALEU) for advanced nuclear reactors, and the Mission Conversion Services Alliance (MCSA) Depleted Uranium Hexafluoride (DUF6) Conversion Facility. MCSA stabilizes depleted uranium for safer storage or reuse while generating industrial-grade hydrofluoric acid. Oklo Inc. announced a partnership with Meta Platforms Inc. in January 2026 to develop a 1.2 GW nuclear power project utilizing land Oklo purchased from SODI (formerly Department of Energy property). Backed by prepayments from Meta, this agreement allows Oklo to speed up the rollout of its Aurora Powerhouse reactors, delivering clean energy to Meta's facilities, including its central Ohio AI supercluster. Trillium H2Power is an energy producer that utilizes natural gas for power generation and hydrogen production. Hecate Energy is a global energy developer planning a utility scale energy battery storage project at the site.

Redevelopment of the PORTS site is bolstered by recent federal and state policies designed to expedite the commercialization of advanced nuclear technologies and expand the use of natural gas to ensure our nation's energy security.

WORKFORCE ANALYSES - OVERVIEW OF FOUR SECTIONS

The primary labor market for DOE operations at the PORTS site has historically been residents of surrounding southern Ohio communities that fall within the federal designation of Appalachian Ohio. The PORTSfuture Program Workforce Analyses study area encompassed the Ohio Valley Regional Development Commission (OVRDC) 12-county service area that includes Adams, Brown, Clermont, Fayette, Gallia, Highland, Jackson, Lawrence, Ross, Scioto, and Vinton counties. The OVRDC region serves as a reasonable labor market for current and future jobs due to the proximity of these counties to the DOE PORTS site.

The workforce analyses has four areas of focus. The first section of this document is the OVRDC Region Workforce Strength Analysis. This analysis was conducted to determine skills that are concentrated in the regional labor market and to identify workforce strengths of the region.

The second section of this document is the Partner Survey Analysis. This analysis was conducted to identify workforce needs during construction phases and operations and maintenance phases for companies currently operating/expanding at the PORTS site as well as planned developments by private industry. Companies participating in the survey included Centrus Energy Corp., Mission Conversion Services Alliance DUF6, Trillium H2Power, and Hecate Energy. Other companies will be added to the data as new projects are announced.

WORKFORCE ANALYSES - OVERVIEW OF FOUR SECTIONS CONTINUED

Companies were queried to identify:

- Summary information on the company
- Employment needs including numbers of workers needed, by occupation, during both construction/expansion phase and ongoing operations and maintenance phase including:
 - Duration of time workers needed
 - Pay ranges
 - Security levels
- Company recruitment and worker retention challenges
- Workforce trends over the next 3-5 years
- Preferred training programs and/or partnerships
- Programs companies would utilize if available
- Experience with employing labor unions

The third section of this document is the Labor Training Center Analysis. This analysis created an inventory of the scope and capacity of apprenticeship programs to address the workforce needs for existing regional apprenticeship programs that recruit and train workers. Eight apprenticeship programs were surveyed including USW Local 689 Appalachian Career Empowerment (ACE), Boilermakers Local 105, KORCC Training Center, Iron Workers Local 172 JATC, Ohio Laborers Training Center, Ohio Operating Engineers, Plumbers and Pipefitters Local 577 Joint Apprenticeship and Training Committee (JATC), and the Electrical Training Academy. Other apprenticeship programs will be added to the data as warranted.

WORKFORCE ANALYSES - OVERVIEW OF FOUR SECTIONS CONTINUED

Apprenticeship programs were queried to identify:

- Service area coverage
- Branches of trade offered, skills required, and compensation
- Training centers' capacity and graduation output
- Training centers and higher education institutions partnerships
- Additional specialized training programs offered
- Recruitment and outreach strategies

The fourth section of this document provides recommendations for consideration and illustrates alignment of training programs to employer workforce needs. Fifty-one unique occupations were identified in the analysis across the four participating employers with 30 of those occupations in construction phases and 23 of those occupations in the ongoing operations and maintenance phases. Two of the occupations overlapped both categories thus there were 51 unique occupations in total. Occupations were matched to available training programs. Gaps were identified for some occupations that are needed that could not be trained by apprenticeship programs with many of these occupations requiring higher education degrees.

For questions related to this report, please contact Stephanie Howe:
howe@ohio.edu.

PORTSfuture Program Workforce Analyses Report Sections

- 1 OVRDC Workforce Strength Analysis**
PP. 7-75
- 2 Partner Workforce Needs Survey Report**
PP. 76-89
- 3 Labor Training Center Survey Report**
PP. 90-104
- 4 Recommendations Report**
PP. 105-113

**PREPARING FOR PORTS SITE REINDUSTRIALIZATION
WORKFORCE:**

**AN ANALYSIS OF WORKFORCE STRENGTH
IN THE OVRDC REGION
(OVRDC WORKFORCE STRENGTH ANALYSIS)**

PREPARED BY:

**OHIO UNIVERSITY
VOINOVICH SCHOOL OF LEADERSHIP AND PUBLIC
SERVICE
PORTSFUTURE PROGRAM
AND
REMINGTON ROAD GROUP**

JULY 10, 2025

1. Understanding the OVRDC Region Workforce Specialization and Economic Strengths

A region's workforce is one of its most valuable assets, directly shaping its economic growth, business competitiveness, and long-term prosperity. Understanding regional workforce strengths and vulnerabilities is crucial for economic planners, policymakers, and business leaders as they develop targeted workforce strategies to drive sustainable development.

For example, the Appalachian Regional Commission (ARC) POWER Initiative targets areas previously dependent on coal mining by analyzing regional workforce trends and funding programs that help transition workers into renewable energy, advanced manufacturing, and healthcare occupations¹. By recognizing the shifting job landscape, ARC can support economic diversification and resilience. Understanding regional workforce strengths also enables regions to identify key occupations and industries that provide a competitive advantage, ensuring that workforce development initiatives align with employer needs and emerging economic opportunities.

Location Quotient (LQ) analysis is a widely used tool for identifying regional labor force strengths. Location Quotient (LQ) is a metric that measures the concentration of specific occupations within a region relative to a broader reference area, such as a state or the national economy. It quantifies workforce specialization by comparing the share of employment in a given occupation at the regional level to its share in the larger economy.

Location Quotient is calculated as follows:

$$LQ = \frac{\frac{\text{Employment in occupation in region}}{\text{Total employment in region}}}{\frac{\text{Employment in occupation in reference area}}{\text{Total employment in reference area}}}$$

¹ For more details regarding the POWER Initiative, please visit: [://www.eda.gov/archives/2016/power/](http://www.eda.gov/archives/2016/power/).

A Location Quotient greater than 1.0 indicates that an occupation is more concentrated in the region than the reference area, suggesting a competitive workforce advantage or regional specialization (U.S. Bureau of Labor Statistics, 2022). This information is crucial for policymakers, economic developers, and businesses seeking to identify key occupations that distinguish a region's workforce and drive economic development.

By identifying strong occupational clusters, Location Quotient (LQ) analysis helps guide workforce training programs, ensuring that education and skill development efforts align with regional labor market needs (Feser and Sweeney, 2003; Glasmeier and Fuellhart, 1999). A high LQ in a particular occupation signals a strong talent pool in that field, making the region attractive for industry expansion and investment (U.S. Bureau of Labor Statistics, 2022; Fullenbaum and McNeill, 1995).

However, a high LQ in a declining industry or occupation can indicate economic vulnerability, as regions heavily dependent on shrinking sectors may face job losses and economic instability (Herzog and Olsen, 2003; Feser and Sweeney, 2003). For instance, areas with historically high LQ values in manufacturing or coal mining may struggle to sustain employment as automation, globalization, or environmental policies reshape those industries (Acemoglu and Restrepo, 2020; Autor et al., 2013; Houseman, 2018; Bessen, 2019; Popper and Popper, 1994; Bernstein et al., 2000), emphasizing the need for workforce transition programs and economic diversification (Wood and Bischak, 1999).

A specific example in Ohio is the occupation ***Chemical Equipment Operators and Tenders***, which has an LQ of 1.63 relative to the national average (IMPLAN® Model, 2022). While this suggests a regional specialization, employment in this field is projected to decline by 8.7% between 2020 and 2030, leading to an estimated loss of 462 jobs (Ohio Department of Job and Family Services, Bureau of Labor Market Information, 2020). This highlights how a high LQ does not always signify a growing or stable occupation, reinforcing the importance of proactive workforce planning. Conversely, an

occupation with a low LQ suggests underrepresentation and potential workforce gaps, which could be addressed through targeted workforce development strategies (Feser and Sweeney, 2003). Economic planners rely on LQ data to assess labor market trends, support industry diversification, and enhance regional economic resilience by fostering employment opportunities in established and emerging sectors (Feser and Sweeney, 2003; U.S. Bureau of Labor Statistics, 2022; Glasmeier and Fuellhart, 1999).

Location Quotient analysis can help indicate the regional workforce's strengths, influencing decisions related to workforce training, education investments, and economic development initiatives. It also plays a critical role in assessing labor supply, helping to align workforce skills with regional employer needs, and attracting industry growth. By identifying dominant occupations and emerging workforce trends, Location Quotient analysis is a valuable tool for shaping regional economic resilience and developing targeted workforce strategies that foster sustainable economic growth.

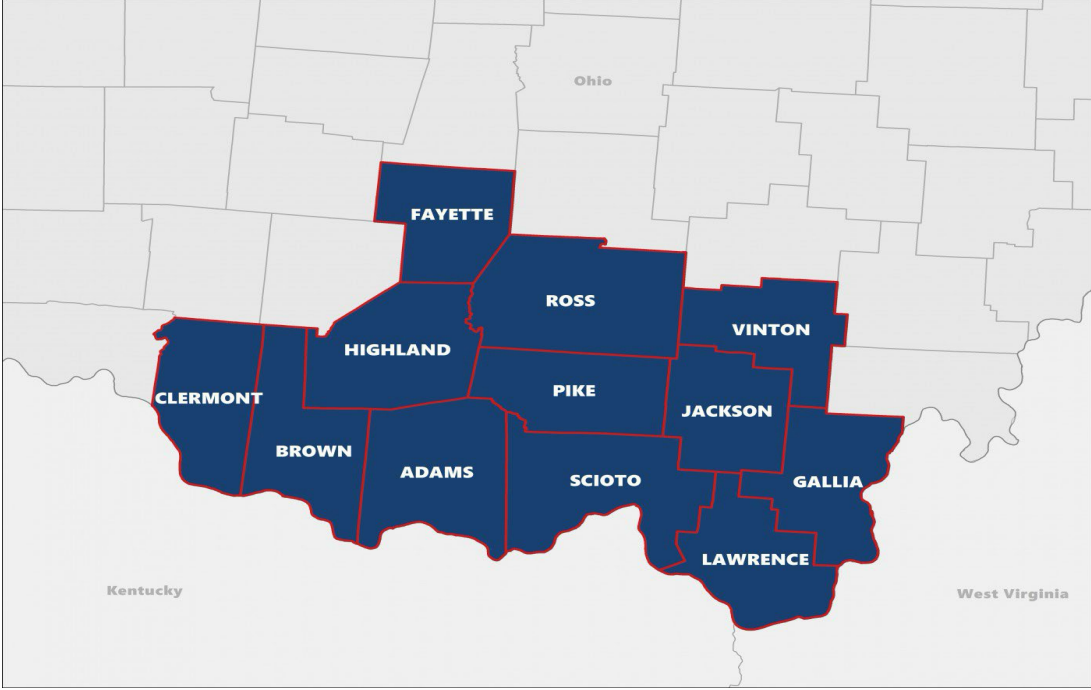
The Ohio Valley Regional Development Commission (OVRDC) Region serves as a regional economic and workforce development organization covering twelve counties in southern Ohio, including Adams, Brown, Clermont, Fayette, Gallia, Highland, Jackson, Lawrence, Pike, Ross, Scioto, and Vinton (Figure 1). With a total workforce of 214,890 (IMPLAN® Model, 2022), OVRDC Region offers a diverse talent pool and specialized industry expertise, making it a key area for workforce development and economic planning. Additionally, all counties in the OVRDC Region are within a reasonable driving distance of the PORTS site in Pike County, enhancing workforce accessibility and regional mobility for industries and employers seeking talent in this strategic location.

To assess the skills and strengths of the OVRDC Region workforce, we utilize Location Quotient (LQ) analysis to identify occupations that are more concentrated in the region compared to Ohio as a whole. This approach highlights key workforce specializations, providing valuable insights for policymakers, workforce developers, and economic planners to guide training programs, education strategies, and workforce policies that align with employer needs and regional economic opportunities. Ohio was selected as the

reference area instead of the national labor market to ensure regional strengths are assessed within the state’s economic context. This makes the findings more relevant and actionable for local decision-makers.

Figure 1: OVRDC Region’s map Figure --Counties in the Ohio Valley Regional Development Commission (OVRDC) Region.

*Source: Ohio Valley Regional Development Commission.
Retrieved from [https:// www. ovrdc. org/ about](https://www.ovrdc.org/about)*



To maintain statistical reliability and economic significance, we apply a minimum threshold of 50 workers per occupation in the LQ analysis. This ensures that only economically meaningful occupations are considered, preventing artificially high LQ values that may arise due to small workforce sizes.

The Location Quotient (LQ) for a specific occupation *i* in the OVRDC Region, relative to Ohio as the reference area, is calculated as:

$$LQ_i = \frac{\frac{\text{Employment in occupation } i \text{ in OVRDC Region}}{\text{Total employment in OVRDC Region}}}{\frac{\text{Employment in occupation } i \text{ in Ohio}}{\text{Total employment in Ohio}}}$$

where:

- **LQ_i** represents the Location Quotient for occupation *i*.
- **The numerator** measures the share of occupation *i* in total employment within the OVRDC Region.
- **The denominator** measures the share of occupation *i* in total employment within Ohio.

LQ_i > 1 indicates that occupation *i* is more concentrated in the OVRDC Region than in Ohio, suggesting regional specialization. *LQ_i* = 1 indicates that occupation *i* has the same concentration in the OVRDC Region as in Ohio. Lastly, *LQ_i* < 1 indicates that occupation *i* is less concentrated in OVRDC, suggesting a possible workforce gap compared to Ohio.

Among the 844 occupations in the region, we identified 215 occupations with an LQ greater than 1, meaning these jobs are more concentrated in OVRDC than in Ohio as a whole². This higher concentration indicates that OVRDC has a greater supply of skills and talent in these fields, highlighting regional workforce strengths that could support industry growth, workforce development, and economic expansion opportunities.

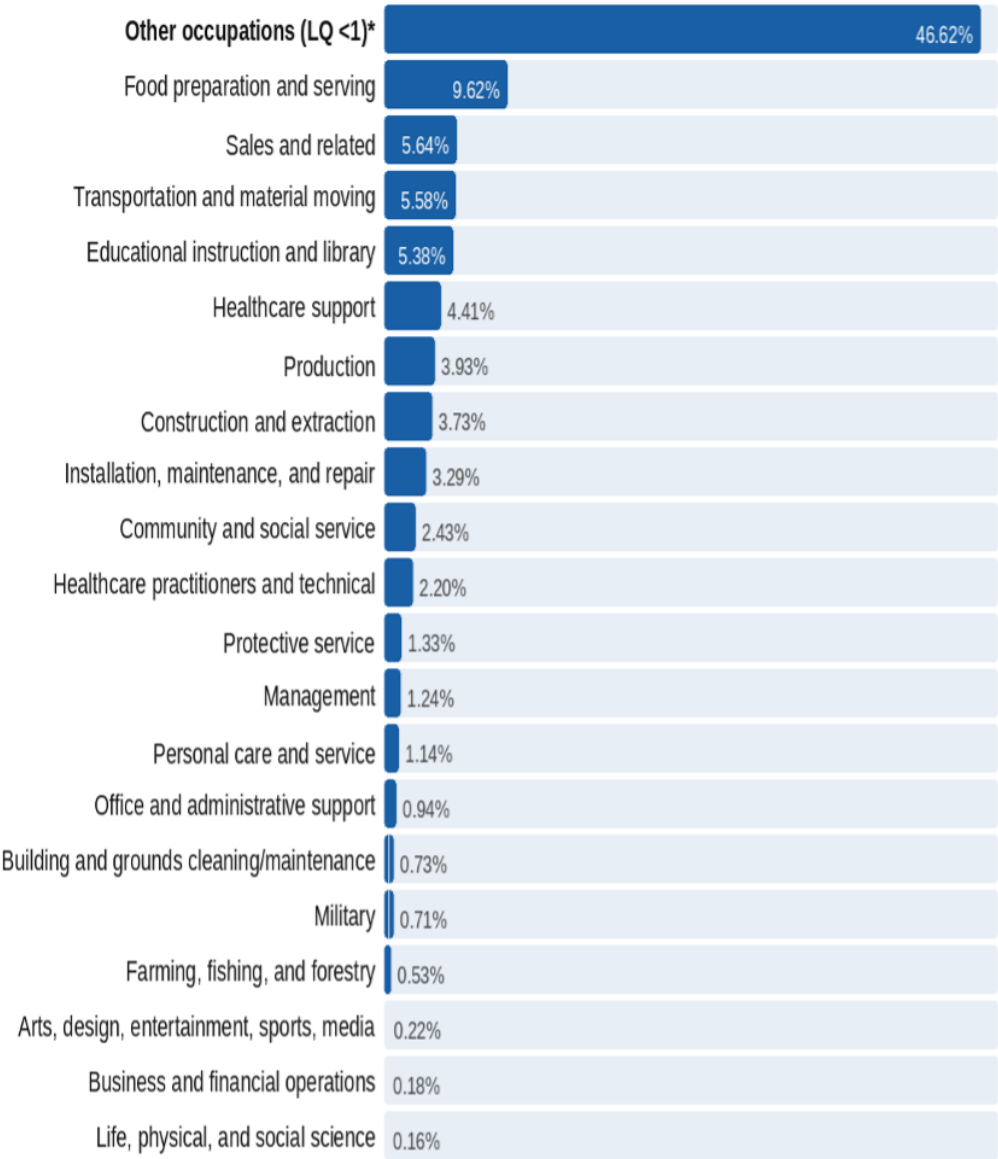
In the OVRDC Region, **215 occupations** with a Location Quotient (LQ) greater than 1 collectively account for **114,704 jobs**, representing **53.4%** of the region’s total employment of **214,890** (IMPLAN® Model, 2022). To better understand this workforce distribution, we group these occupations into broader occupational categories (Figure 2), with the 10 largest contributors to regional employment being:

² To see the full list of occupations in the OVRDC Region with *LQ* > 1, please refer to **Appendix A**.

- **Food Preparation and Serving Related Occupations** – 20,680 employees (9.62% of the total region’s workforce)
- **Sales and Related Occupations** – 12,115 employees (5.64% of the total region’s workforce)
- **Transportation and Material Moving Occupations** – 11,985 employees (5.58% of the total region’s workforce)
- **Educational Instruction and Library Occupations** – 11,569 employees (5.38% of the total region’s workforce)
- **Healthcare Support Occupations** – 9,477 employees (4.41% of the total region’s workforce)
- **Production Occupations** – 8,448 employees (3.93% of the total region’s workforce)
- **Construction and Extraction Occupations** – 8,011 employees (3.73% of the total region’s workforce)
- **Installation, Maintenance, and Repair Occupations** – 7,071 employees (3.29% of the total region’s workforce)
- **Community and Social Service Occupations** – 5,217 employees (2.43% of the total region’s workforce)
- **Healthcare Practitioners and Technical Occupations** – 4,722 employees (2.20% of the total region’s workforce)

Figure 2: Share of Regional Employment by Occupation Groups - OVRDC Region, 2022

Share of regional employment by occupation group — OVRDC, 2022



* 'Other occupations (LQ <1)' includes all groups with a location quotient below 1.

These groups represent the most prevalent high-LQ occupations in the OVRDC Region, emphasizing the region’s strengths in **hospitality, logistics, education, healthcare, and skilled trades**, including **manufacturing** and **construction**. This suggests these fields benefit from established expertise, industry infrastructure, and a readily available skills and talent pool.

Conversely, occupations with $LQ < 1$ —those less concentrated in the region—comprise **100,186 jobs**, or **46.62%** of total employment, indicating areas where the workforce is less specialized compared to the state average. While some of these occupations may reflect naturally less prominent occupations in the region, others may point to potential workforce gaps or emerging opportunities for economic diversification.

Table 1: Largest businesses in the OVRDC Region by revenues*

Company Name	County, State	Sales	Employees	Industry
KGBO Holdings, Inc.	Clermont County, Ohio	\$8,848,904,025	4,077	Process, Physical Distribution, and Logistics Consulting Services
Total Quality Logistics, LLC	Clermont County, Ohio	\$6,686,053,627	9,000	Process, Physical Distribution, and Logistics Consulting Services
Alcon, Inc.	Clermont County, Ohio	\$1,309,919,399	51–200	Current-Carrying Wiring Device Manufacturing
Milacron Holdings Corp.	Clermont County, Ohio	\$1,239,575,317	5,000–10,000	Special Die and Tool, Die Set, Jig, and Fixture Manufacturing
Ohio Valley Electric Corporation	Pike County, Ohio	\$855,001,574	525	Fossil Fuel Electric Power Generation
Adena Health System	Ross County, Ohio	\$670,036,465	4,100	General Medical and Surgical Hospitals

Company Name	County, State	Sales	Employees	Industry
Southern Ohio Medical Center	Scioto County, Ohio	\$546,101,359	3,000	General Medical and Surgical Hospitals
Indiana-Kentucky Electric Corporation	Pike County, Ohio	\$374,039,381	525	Fossil Fuel Electric Power Generation
Holzer Hospital Foundation Inc.	Gallia County, Ohio	\$220,846,143	2,400	General Medical and Surgical Hospitals
Milacron Marketing Company LLC	Clermont County, Ohio	\$218,339,811	2,000	Machine Tool Manufacturing
Holzer Health System	Gallia County, Ohio	\$204,072,228	2,400	General Medical and Surgical Hospitals
National Cooperative Bank, N.A.	Highland County, Ohio	\$199,181,000	328	Commercial Banking
County of Clermont	Clermont County, Ohio	\$196,660,351	1,000	Executive Offices
Midland-Guardian Co.	Clermont County, Ohio	\$140,799,242	1,080	Direct Life Insurance Carriers
Geiger Brothers, Inc.	Jackson County, Ohio	\$140,149,974	51–200	Industrial Building Construction
Big Sandy	Scioto	\$136,237,772	500–	Furniture Stores

Company Name	County, State	Sales	Employees	Industry
Distribution, Inc.	County, Ohio		1,000	
West Clermont Local School District	Clermont County, Ohio	\$123,822,900	1,231	Elementary and Secondary Schools
Mercy Health – Clermont Hospital LLC	Clermont County, Ohio	\$121,158,894	33,500	General Medical and Surgical Hospitals
Fluor-BWXT Portsmouth LLC	Pike County, Ohio	\$149,645,071	1,900	Site Preparation Contractors
Life Enriching Communities	Clermont County, Ohio	\$146,576,273	650	Assisted Living Facilities for the Elderly

** For companies with multiple regional operations, sales and employee numbers are based on total company estimates and may not reflect regional sales and employment.*

Top 20 Industries in the OVRDC Region (By Employment)

The top 20 employing industries in the OVRDC region (*listed below*) are a mix of healthcare, manufacturing, retail, and service-based sectors, reflecting the region’s economic strengths and industrial composition. This mix highlights both the diversity of the local economy and its reliance on essential services and production.

1. Food Services and Drinking Places
2. Ambulatory Health Care Services

3. Nursing and Residential Care Facilities
4. General Merchandise Stores
5. Social Assistance
6. Professional, Scientific, and Technical Services
7. Food and Beverage Stores
8. Administrative and Support Services
9. Transportation Equipment Manufacturing
10. Specialty Trade Contractors
11. Fabricated Metal Product Manufacturing
12. Motor Vehicle and Parts Dealers
13. Religious, Civic, and Professional Organizations
14. Merchant Wholesalers, Durable Goods
15. Machinery Manufacturing
16. Building Material and Garden Supply Stores
17. Food Manufacturing
18. Truck Transportation
19. Credit Intermediation and Related Activities
20. Management of Companies and Enterprises

For the detailed trends in employment and the number of establishments for each of these industries from 2001 to 2022, please refer to **Appendix B**.

2. Assessing The OVRDC Region Workforce Core Competencies

After identifying occupations with a high Location Quotient (LQ) in the OVRDC Region, we further analyzed the core competencies of workers in these occupations in terms of their skills and knowledge. To achieve this, we rely on the **O*NET 28.2 database**. (National Center for O*NET Development. O*NET 28.0 Database. O*NET Resource Center. Retrieved April 26, 2024, from <https://www.onetcenter.org/database.html>.) This database contains 277 descriptors collected through the **O*NET program**, covering

various aspects such as work activities, work context, and occupational requirements. These requirements include knowledge, skills, and the education level necessary to perform a given occupation effectively. Since this analysis aims to identify the core competencies of high-LQ occupations in the OVRDC Region, we focus on two domains that are most relevant to workforce abilities and capacities: knowledge (33 descriptors) and skills (35 descriptors).

Each descriptor in the database is rated based on two factors: **Level** and **Importance**. The **Level** rating, ranging from 0 (*no requirement*) to 7 (*mastery*), indicates the extent to which workers must possess a specific competency to perform their jobs effectively. The Importance rating, ranging from 1 (*not important*) to 5 (*extremely important*), reflects how critical each descriptor is for a given occupation. In this analysis, we use the **Level** rating to identify the core competencies of workers employed in occupations with high LQ in the OVRDC Region.

To make this report more intuitive for readers, we convert the O*NET Level rating from the original 0-7 scale to a standardized 0-100 scale (Burrus et al., 2013) using the following formula:

$$Score_{ij} = \frac{(O_{ij} - L_j)}{(H_j - L_j)} \times 100$$

(3)

For each occupation i and descriptor j , $Score_{ij}$ is the new standardized score, O_{ij} is the original level rating, L_j is the lowest original rating for descriptor j among all occupations with high LQ in the OVRDC Region, and H_j is the highest original rating for descriptor j in the same set.

For example, if an occupation has a descriptor with an **original level rating of 4**, it is converted to a new **standardized score of 57**. Calculated as: $(4-0) \times 100 = 57$

Tables 2 and 3 display the top knowledge and skill-related descriptors with the highest standardized scores, respectively. The descriptive statistics in Table 2 show that workers in the OVRDC Region have high levels of knowledge in **Customer and Personal Service, Computers and Electronics, English Language, and Administrative** fields, as these descriptors exhibit the highest mean standardized scores. Additionally, they also have strong knowledge in **Education and Training, Administration and Management, Mathematics, Production and Processing, Personnel and Human Resources, and Public Safety and Security** (Table 2).

Table 3 displays the top 10 skills possessed by workers in the OVRDC Region. OVRDC Region workers demonstrate high levels of proficiency in **Instructing, Management of Personnel Resources, Coordination, and Critical Thinking**, which have the highest standardized scores. Additionally, they also excel in **Quality Control Analysis, Writing, Time Management, Service Orientation, Negotiation, and Systems Analysis** (Table 3).

Table 2: OVRDC Workers' Top 10 Knowledge Areas

Knowledge Areas	Mean Standardized Score	SD	% High Level
Customer and Personal Service	58.45	21.93	0.68
Computers and Electronics	54.17	23.88	0.59
English Language	49.46	18.86	0.45
Administrative	48.94	21.90	0.46
Education and Training	46.21	21.99	0.39
Administration and Management	45.84	18.47	0.41

Knowledge Areas	Mean Standardized Score	SD	% High Level
Mathematics (Knowledge)	45.12	17.00	0.36
Production and Processing	44.69	21.78	0.38
Personnel and Human Resources	40.92	20.25	0.28
Public Safety and Security	39.57	18.52	0.23

N=215. % High Level represents the percentage of occupations among the 215 occupations with a high Location Quotient (LQ) that have a standardized competency score exceeding 50.

Table 3: OVRDC Workers' Top 10 Skills

Skills	Mean Standardized Score	SD	% High Level
Instructing	63.55	17.48	0.72
Management of Personnel Resources	57.50	16.47	0.62
Coordination	57.32	24.17	0.51
Critical Thinking	55.81	24.81	0.54
Quality Control Analysis	54.76	23.26	0.60
Writing	53.70	23.00	0.56
Time Management	52.72	21.01	0.60
Service Orientation	49.53	23.88	0.48
Negotiation	48.30	23.86	0.44
Systems Analysis	47.89	22.04	0.46

N=215. % High Level represents the percentage of occupations among the 215 occupations with a high Location Quotient (LQ) that have a standardized competency score exceeding 50.

The O*NET data contains vast information on knowledge, skills, and abilities. Analyzing all these variables individually may introduce redundancies due to the high correlation among descriptors. To address this high-dimensionality problem and identify the OVRDC Region work-force's core competencies, we utilize Principal Component Analysis (PCA), a statistical technique widely used to reduce dimensionality while preserving key patterns of complex datasets. Principal Component Analysis (PCA) addresses the challenge of analyzing high-dimensional data by transforming it into a smaller set of uncorrelated variables called **principal components**. These components effectively capture the most significant variations within the original O*NET dataset, reducing redundancy while preserving essential information.

Based on an analysis of 215 occupations with a high Location Quotient in the OVRDC Region, we apply Principal Component Analysis (PCA) to identify eight principal components of OVRDC Region workers' competencies. Each component consists of several descriptors and represents a distinct domain of expertise required across various occupations in the OVRDC Region. According to the PCA Standardized Component Loading Matrix presented in Table 4, the eight principal components (core competencies) are as follows.

Component 1: Leadership, Coordination, & Decision-Making

This component groups skills that are fundamental for people management, organizational leadership, and strategic decision-making. The high loadings for **Management of Personnel Resources (0.75)**, **Coordination (0.71)**, **Time Management (0.65)**, and **Complex Problem Solving (0.61)** suggest that workers in the OVRDC Region possess the ability to lead teams, allocate resources efficiently, and solve workplace challenges effectively. This component is particularly relevant to industries such as business management, government, corporate leadership, and human resources.

Component 2: Engineering, Construction, & Technical Design

Component 2 consists of technical and applied engineering skills fundamental in construction, engineering, and design-driven industries. The high loadings for **Installation (1.17)**, **Building and Construction (1.13)**, **Design (1.10)**, and **Engineering and Technology (0.80)** highlight proficiency in problem-solving, technical planning, and structural design. This component is essential for the construction, manufacturing, and engineering industries.

Component 3: Manufacturing, Production, & Quality Control

This component highlights skills necessary for monitoring, controlling, and optimizing production processes. High loadings in **Food Production (0.81)**, **Operations Monitoring (0.75)**, **Quality Control Analysis (0.63)**, **Operation and Control (0.59)**, and **Production and Processing (0.53)** suggest a strong focus on efficiency, process management, and maintaining high product quality. This component is critical for positions in the manufacturing, food processing, and industrial industries.

Component 4: Business, Finance, & Administrative Management

This component encompasses finance, business strategy, and administrative operations. High loadings in **Economics and Accounting (1.11)**, **Sales and Marketing (1.08)**, **Management of Material Resources (0.83)**, **Administration and Management (0.74)**, and **Personnel and Human Resources (0.65)** suggest proficiency in budgeting, business growth strategies, and operational efficiency. This component is essential in industries such as banking, corporate finance, human resources, and marketing.

Component 5: Education, Communication, & Cultural Competency

This component highlights teaching, communication, and cross-cultural skills. The high loadings for **Fine Arts (1.5)**, **History and Archeology (1.44)**, **Philosophy and**

Theology (0.65), Foreign Language (0.54), Education and Training (0.48), and Communications and Media (0.52) suggest that individuals with these skills excel in knowledge transfer, effective communication, and working in diverse environments. This component highlights cultural, linguistic, and educational expertise, making it crucial for educators, historians, communication specialists, and cultural researchers.

Table 4: PCA Component Loading Matrix of Knowledge and Skills for OVRDC Region Workers Employed in Occupations with High LQ

Descriptor	Com p 1	Com p 2	Com p 3	Com p 4	Com p 5	Com p 6	Com p 7	Com p 8
Management of Personnel Resources	0.75							
Coordination	0.71							
Time Management	0.65							
Complex Problem Solving	0.61							
Persuasion	0.57							
Systems Evaluation	0.56							
Monitoring	0.55							
Negotiation	0.54							
Operations Analysis	0.52							
Systems Analysis	0.52							
Social Perceptiveness	0.49							
Judgment and Decision Making	0.48							
Instructing	0.45							
Management of Financial Resources	0.43			0.87				

Descriptor	Com p 1	Com p 2	Com p 3	Com p 4	Com p 5	Com p 6	Com p 7	Com p 8
Installation		1.17						
Building and Construction		1.13						
Design		1.10						
Engineering and Technology		0.80						
Technology Design		0.70						
Mathematics (Knowledge)		0.70		0.57			0.48	
Physics		0.66				0.43		
Equipment Selection		0.59						
Mechanical		0.56						
Repairing		0.52						
Food Production			0.81	0.78	0.45	0.69		
Geography			0.75		0.87		0.42	0.73
Operations Monitoring			0.75					0.41
Quality Control Analysis			0.63					
Operation and Control			0.59					0.50
Production and Processing			0.53	0.82				
History and Archeology			0.52		1.44			
Biology			0.51			1.45		
Troubleshooting			0.43					
Chemistry			0.41			1.13		

Descriptor	Com p 1	Com p 2	Com p 3	Com p 4	Com p 5	Com p 6	Com p 7	Com p 8
Fine Arts			0.40		1.50			
Economics and Accounting				1.11				
Sales and Marketing				1.08				
Management of Material Resources				0.83				
Administration and Management				0.74				
Personnel and Human Resources				0.65				0.49
Mathematics				0.56				
Philosophy and Theology					0.65			
Foreign Language					0.54			
Communications and Media					0.52			0.47
Education and Training					0.49			
Learning Strategies					0.41			
Medicine and Dentistry						1.31		
Science						0.99		
Psychology						0.51		
Therapy and Counseling						0.44		
Programming							1.28	
Computers and							1.15	

Descriptor	Com p 1	Com p 2	Com p 3	Com p 4	Com p 5	Com p 6	Com p 7	Com p 8
Electronics								
Administrative							0.70	
Reading Comprehension							0.50	
English Language							0.43	
Writing							0.43	
Transportation								1.32
Public Safety and Security								1.25
Telecommunications								1.16
Law and Government								0.96
Customer and Personal Service								
Sociology and Anthropology								
Active Listening								
Speaking								
Critical Thinking								
Active Learning								
Service Orientation								
Equipment Maintenance								

Component 6: Science, Research, & Healthcare Professions

This component represents expertise in medicine, mental health, and therapeutic practices. The high loadings for **Medicine and Dentistry (1.31)**, **Biology (1.45)**, **Chemistry (1.13)**, **Science (0.99)**, **Physics (0.66)**, **Psychology (0.51)**, and **Therapy and Counseling (0.44)** indicate the need for specialized medical knowledge, diagnostic abilities, and psychological understanding. This component is essential in the healthcare, mental health, and social services industries.

Component 7: Technology, IT, & Digital Skills

This component emphasizes skills and expertise in computer and IT. The high loadings for **Computers and Electronics (1.15)**, **Programming (1.28)**, **Knowledge in Mathematics (0.48)**, **Reading Comprehension (0.50)**, **Writing (0.43)**, and **English Language (0.43)** indicate suggests proficiencies in this component possess strong computational, analytical, and communication skills essential for roles in technology, software development, and data analysis. This component is relevant for software developers, IT specialists, and digital professionals.

Component 8: Public Safety, Security, & Law

This component emphasizes skills and expertise in law enforcement, governance, and public infrastructure. The high loadings for **Public Safety and Security (1.25)**, **Law and Government (0.96)**, **Telecommunications (1.16)**, **Transportation (1.32)**, and **Geography (0.73)** indicate that individuals proficient in this component possess strong regulatory, logistical, and crisis management skills essential for roles in government, public policy, and security operations.

The result from PCA analysis of 215 occupations with high LQ in the OVRDC Region indicates a diverse and specialized workforce with strengths in **leadership**, **technical trades**, **manufacturing**, **business administration**, and **public safety**. The region

has a well-established industrial base, supported by strong production, engineering, and quality control expertise, while also demonstrating growing capabilities in healthcare, IT, and digital skills.

Education, healthcare, and research competencies in the region help to ensure long-term sustainability in human capital development, equipping the workforce with the adaptability needed for future economic shifts. These findings highlight strategic opportunities for workforce development, economic diversification, and investment in emerging sectors to ensure long-term regional growth and resilience.

3. Key Takeaways

The workforce in the OVRDC Region is heavily concentrated in several key industries, including **food preparation, sales, transportation, education, healthcare, production, and construction**. The high workforce concentration in these industries suggests that OVRDC Region has established expertise and infrastructure to sustain these occupations over time. However, not all high-LQ occupations indicate growth, as some face projected job declines. If high-LQ occupations are expected to shrink, it signals economic vulnerability, as the region may be overly dependent on industries undergoing structural changes. Therefore, this analysis should be supplemented with an employment projection study to evaluate the long-term sustainability of these occupations and identify where workforce development efforts should be prioritized.

By analyzing workforce skills and knowledge using Principal Component Analysis (PCA), we identified eight key competency areas that define the strengths of the OVRDC Region workforce. These competencies highlight the dominant skills that support employment in the region and provide insight into potential opportunities for workforce development:

- Leadership, Coordination, & Decision-Making
- Engineering, Construction, & Technical Design
- Manufacturing, Production, & Quality Control
- Business, Finance, & Administrative Management
- Education, Communication, & Cultural Competency
- Science, Research, & Healthcare Professions
- Technology, IT, & Digital Skills
- Public Safety, Security, & Law

The region has a well-established industrial base, strong healthcare, and emerging digital skills. Workforce development programs should focus on bridging skill gaps, supporting economic diversification, and preparing for future industry shifts. Insights from this analysis can guide education programs, training initiatives, and investment priorities to align with regional labor market trends, ensuring long-term economic resilience and job growth.

4. Conclusion

The combined findings from the Location Quotient (LQ) analysis and Principal Component Analysis (PCA) provide a comprehensive understanding of the workforce strengths and specialization in the OVRDC Region. The LQ analysis identified **215 occupations** with a higher concentration in the region compared to Ohio, collectively accounting for **114,704 jobs** or **53.4% of total regional employment**. These occupations indicate key areas of specialization that drive economic activity and labor market competitiveness.

The LQ analysis highlights the region's high concentration in **food preparation and serving, sales, transportation and material moving, education, healthcare support, production, and construction**. These occupational clusters reflect the economic foundation of the region, with manufacturing, logistics, and skilled trades playing a critical role in job creation and industry specialization. Additionally, a significant

proportion of employment is concentrated in **healthcare, educational instruction, and community services**, reinforcing the importance of human capital-driven industries.

The PCA further refines these insights by identifying eight core competencies that define the region's workforce expertise. The results indicate that the OVRDC Region has a diverse and specialized labor force with strengths in **leadership, skilled trades, manufacturing, business administration, and public safety**. The region's well-established industrial base is supported by strong capabilities in **production, engineering, and quality control**. The region's competencies in **healthcare, education, IT, and digital skills** suggest opportunities for workforce transformation and economic diversification.

From both analyses, the findings highlight that **manufacturing, skilled trades, business administration, and public safety** are dominant workforce strengths in the region. At the same time, expertise in technology and IT presents opportunities for digital transformation and expansion into knowledge-based industries. Furthermore, competencies in education, healthcare, and research ensure long-term sustainability by fostering continuous workforce adaptability and resilience.

From an economic development perspective, these insights offer a roadmap for workforce training programs, investment priorities, and industry partnerships that align with regional labor market trends. By leveraging its existing strengths while fostering innovation in emerging fields, the OVRDC Region can enhance economic resilience and create sustainable employment opportunities. Strategic workforce planning, targeted educational initiatives, and industry-driven training programs will be key to ensuring long-term regional growth and competitiveness in an evolving economic landscape.

References

- Abdi, H. and Williams, L. J. (2010). Principal component analysis. *Wiley Interdisciplinary Reviews: Computational Statistics*, 2(4):433–459.
- Acemoglu, D. and Restrepo, P. (2020). Robots and jobs: Evidence from us labor markets. *Journal of Political Economy*, 128(6):2188–2244.
- Autor, D., Dorn, D., and Hanson, G. (2013). The China syndrome: Local labor market effects of import competition in the united states. *American Economic Review*, 103(6):2121–2168.
- Bernstein, J., McNichol, E. C., Mishel, L., and Zahradnik, R. (2000). Pulling apart: A state-by-state analysis of income trends. Technical report, Economic Policy Institute, Center on Budget and Policy Priorities.
- Bessen, J. (2019). Ai and jobs: The role of demand. *Economics of Artificial Intelligence*.
- Burrus, J., Jackson, T., Xi, N., and Steinberg, J. (2013). Identifying the most important 21st century workforce competencies: An analysis of the occupational information network (o* net). *ETS Research Report Series*, 2013(2):i–55.
- Feser, E. and Sweeney, S. (2003). Out-migration, population decline, and regional economic distress. *Regional Studies*, 37(1):17–35.
- Fullenbaum, R. F. and McNeill, M. A. (1995). Survey and comparison of distressed area definitions. Technical report, Appalachian Regional Commission.
- Glasmeier, A. K. and Fuellhart, K. G. (1999). Building on past experience: Creating a new future for distressed counties. *Regional Studies*, 33(6):429–442.

Herzog, H. and Olsen, R. (2003). Regional labor markets and workforce competitiveness: The role of specialization and economic development. *Regional Studies*, 37(2):157–176.

Houseman, S. (2018). Understanding the decline of U.S. manufacturing employment. Working paper, Upjohn Institute for Employment Research. Accessed: 2024-02-24.

IMPLAN® Model (2022). IMPLAN System (data and software). 2022 Data, using inputs provided by the user and IMPLAN Group LLC. Accessed: 2025-02-25. <https://www.implan.com>.

Ohio Department of Job and Family Services, Bureau of Labor Market Information (2020). Ohio occupational employment projections by occupational group, 2020-2030. Accessed: 2025-02-25.

Popper, D. and Popper, F. (1994). Great plains: Checkered past, hopeful future. *Forum for Applied Research and Public Policy*, 9(1):89–100.

U.S. Bureau of Labor Statistics (2022). Employment location quotients: Measuring regional occupational strength. Technical report, U.S. Bureau of Labor Statistics. Accessed: 2024-02-24.

Wood, L. E. and Bischak, G. A. (1999). Progress and challenges in reducing economic distress in Appalachia: An analysis of national and regional trends since 1960. Technical report, Appalachian Regional Commission.

Appendix A

List of Occupations in the OVRDC Region with LQ > 1

(Ordered by Employment in Descending Order)

**Note: A SOC (Standard Occupational Classification) code is a federal statistical standard that uses a six-digit number to classify workers into occupational categories, providing a hierarchical structure from broad groups to specific job titles. The SOC codes used in this table represent the most detailed level of classification, corresponding to specific job titles.*

SOC Code	Occupation	OVRDC Employment	Ohio Employment	OVRDC LQ	Average Compensation per hour
35-3023	Fast Food and Counter Workers	7190	137,971	1.38	\$ 17.80
31-1121	Home Health and Personal Care Aides	6060	116,470	1.38	\$ 18.86
41-2011	Cashiers	5412	104,276	1.37	\$ 20.44
41-2031	Retail Salespersons	4448	107,932	1.09	\$ 22.41
53-7065	Stockers and Order Fillers	4006	102,040	1.04	\$ 24.23
51-2098	Miscellaneous Assemblers and Fabricators	3301	84,044	1.04	\$ 29.94
35-3031	Waiters and Waitresses	3006	77,546	1.02	\$ 18.80
31-1131	Nursing Assistants	2622	60,107	1.15	\$ 22.11

SOC Code	Occupation	OVRDC Employment	Ohio Employment	OVRDC LQ	Average Compensation per hour
25-2021	Elementary School Teachers, Except Special Education	2589	48,013	1.43	\$ 42.42
25-9045	Teaching Assistants, Except Postsecondary	2295	43,806	1.39	\$ 26.35
35-1012	First-Line Supervisors of Food Preparation and Serving Workers	2249	47,406	1.25	\$ 22.63
49-3023	Automotive Service Technicians and Mechanics	2057	42,874	1.27	\$ 27.81
352014	Cooks, Restaurant	1896	48,448	1.03	\$ 17.77
25-2031	Secondary School Teachers, Except Special and Career/Technical Education	1870	35,610	1.39	\$ 41.76
35-2021	Food Preparation Workers	1587	35,088	1.2	\$ 18.19
35-2011	Cooks, Fast Food	1585	29,213	1.43	\$ 15.83
37-2012	Maids and Housekeeping Cleaners	1569	36,914	1.12	\$ 15.06
41-1011	First-Line Supervisors of Retail Sales	1560	33,690	1.22	\$ 28.14

SOC Code	Occupation	OVRDC Employment	Ohio Employment	OVRDC LQ	Average Compensation per hour
	Workers				
53-3033	Light Truck Drivers	1542	39,926	1.02	\$ 22.15
47-2061	Construction Laborers	1456	35,399	1.09	\$ 25.37
47-2031	Carpenters	1402	33,808	1.1	\$ 29.52
29-2061	Licensed Practical and Licensed Vocational Nurses	1252	26,853	1.23	\$ 34.35
39-9011	Childcare Workers	1165	24,413	1.26	\$ 14.81
53-7061	Cleaners of Vehicles and Equipment	1164	25,223	1.22	\$ 30.51
25-2022	Middle School Teachers, Except Special and Career/Technical Education	1129	21,034	1.42	\$ 42.15
49-1011	First-Line Supervisors of Mechanics, Installers, and Repairers	1007	24,446	1.09	\$ 43.01
47-2111	Electricians	990	23,948	1.09	\$ 36.67
53-	First-Line Supervisors	929	23,899	1.03	\$ 39.29

SOC Code	Occupation	OVRDC Employment	Ohio Employment	OVRDC LQ	Average Compensation per hour
1047	of Transportation and Material Moving Workers,				
33-3051	Police and Sheriff's Patrol Officers	903	19,685	1.21	\$ 35.02
47-1011	First-Line Supervisors of Construction Trades and Extraction Workers	880	20,451	1.14	\$ 37.23
35-2012	Cooks, Institution and Cafeteria	863	19,565	1.17	\$ 20.18
49-9041	Industrial Machinery Mechanics	851	21,081	1.07	\$ 39.78
51-4121	Welders, Cutters, Solderers, and Brazers	842	21,710	1.02	\$ 31.05
25-2011	Preschool Teachers, Except Special Education	794	18,540	1.13	\$ 22.99
533031	Driver/Sales Workers	774	18,048	1.13	\$ 17.73
11-9111	Medical and Health Services Managers	759	19,592	1.02	\$ 68.00
29-2052	Pharmacy Technicians	747	18,452	1.07	\$ 25.01
25-	Substitute Teachers,	715	13,739	1.38	\$ 25.67

SOC Code	Occupation	OVRDC Employment	Ohio Employment	OVRDC LQ	Average Compensation per hour
3031	Short-Term				
21-2011	Clergy	706	14,360	1.3	\$ 23.79
21-1018	Substance Abuse, Behavioral Disorder, and Mental Health Counselors	701	12,474	1.49	\$ 31.31
51-9111	Packaging and Filling Machine Operators and Tenders	699	17,720	1.04	\$ 26.16
41-2022	Parts Salespersons	695	14,180	1.3	\$ 18.28
21-1093	Social and Human Service Assistants	683	13,053	1.38	\$ 24.45
45-2092	Farmworkers and Laborers, Crop, Nursery, and Greenhouse	668	10,696	1.65	\$ 20.13
35-9021	Dishwashers	648	16,687	1.03	\$ 16.99
53-3051	Bus Drivers, School	636	12,814	1.31	\$ 28.25
33-3012	Correctional Officers and Jailers	606	11,765	1.36	\$ 30.38
47-2152	Plumbers, Pipefitters, and Steamfitters	604	14,486	1.1	\$ 35.87

SOC Code	Occupation	OVRDC Employment	Ohio Employment	OVRDC LQ	Average Compensation per hour
53-7081	Refuse and Recyclable Material Collectors	574	5,054	3	\$ 44.23
47-2073	Operating Engineers and Other Construction Equipment Operators	570	12,529	1.2	\$ 32.56
49-3031	Bus and Truck Mechanics and Diesel Engine Specialists	554	12,428	1.18	\$ 37.43
35-9031	Hosts and Hostesses, Restaurant, Lounge, and Coffee Shop	537	14,066	1.01	\$ 18.30
21-1021	Child, Family, and School Social Workers	536	10,697	1.33	\$ 34.73
29-1051	Pharmacists	532	13,714	1.03	\$ 74.75
49-9021	Heating, Air Conditioning, and Refrigeration Mechanics and Installers	512	12,837	1.06	\$ 30.71
11-9032	Education Administrators, Kindergarten through Secondary	507	9,871	1.36	\$ 27.51

SOC Code	Occupation	OVRDC Employment	Ohio Employment	OVRDC LQ	Average Compensation per hour
21-2021	Directors, Religious Activities and Education	505	10,197	1.31	\$ 26.43
11-9021	Construction Managers	494	12,397	1.05	\$ 73.76
49-3021	Automotive Body and Related Repairers	475	10,642	1.18	\$ 31.24
35-3041	Food Servers, Non-restaurant	473	11,165	1.12	\$ 19.70
51-9196	Paper Goods Machine Setters, Operators, and Tenders	469	5,350	2.32	\$ 33.96
53-5021	Captains, Mates, and Pilots of Water Vessels	463	3,964	3.09	\$ 54.46
43-5052	Postal Service Mail Carriers	457	11,744	1.03	\$ 40.51
53-3052	Bus Drivers, Transit and Intercity	441	6,401	1.82	\$ 39.75
33-2011	Firefighters	436	9,711	1.19	\$ 21.68
21-1012	Educational, Guidance, and Career Counselors and Advisors	433	9,876	1.16	\$ 41.97

SOC Code	Occupation	OVRDC Employment	Ohio Employment	OVRDC LQ	Average Compensation per hour
11-9051	Food Service Managers	409	9,612	1.13	\$ 55.64
39-9032	Recreation Workers	394	9,477	1.1	\$ 21.52
51-9198	Helpers–Production Workers	394	9,579	1.09	\$ 28.10
51-3092	Food Batchmakers	381	7,987	1.26	\$ 25.04
51-5112	Printing Press Operators	377	7,498	1.33	\$ 33.92
25-2052	Special Education Teachers, Kindergarten through Grade 12	367	6,588	1.47	\$ 43.01
39-7018	Tour and Travel Guides	365	3,706	2.61	\$ 59.99
51-9124	Coating, Painting, and Spraying Machine Setters, Operators, and Tenders	365	9,438	1.02	\$ 30.88
53-3053	Shuttle Drivers and Chauffeurs	361	7,861	1.22	\$ 22.41
29-1123	Physical Therapists	349	8,884	1.04	\$ 59.11
21-	Healthcare Social	318	7,247	1.16	\$ 33.87

SOC Code	Occupation	OVRDC Employment	Ohio Employment	OVRDC LQ	Average Compensation per hour
1022	Workers				
29-2099	Health Technologists and Technicians, All Other	316	6,303	1.33	\$ 26.52
13-1051	Cost Estimators	315	8,144	1.02	\$ 39.98
49-9051	Electrical Power-Line Installers and	311	5,380	1.53	\$ 52.41
99-8012	Military Engineering, Science, and Technical Occupations	309	6,767	1.21	\$ 19.01
53-6031	Automotive and Watercraft Service	303	6,051	1.32	\$ 27.31
43-5032	Dispatchers, Except Police, Fire, and	289	7,461	1.02	\$ 33.06
49-3093	Tire Repairers and Changers	289	5,573	1.37	\$ 20.17
25-2058	Special Education Teachers, Secondary School	283	5,154	1.45	\$ 44.80
47-2141	Painters, Construction and Maintenance	269	6,652	1.07	\$ 27.92
11-9151	Social and Community Service	267	5,460	1.29	\$ 71.11

SOC Code	Occupation	OVRDC Employment	Ohio Employment	OVRDC LQ	Average Compensation per hour
	Managers				
53-5011	Sailors and Marine Oilers	266	2,362	2.97	\$ 36.33
25-9031	Instructional Coordinators	264	6,520	1.07	\$ 46.59
29-1127	Speech-Language Pathologists	264	5,807	1.2	\$ 56.50
35-1011	Chefs and Head Cooks	260	6,737	1.02	\$ 30.88
49-3042	Mobile Heavy Equipment Mechanics,	254	6,139	1.09	\$ 35.98
99-8021	Military Combat Specialty Occupations	249	5,455	1.21	\$ 19.01
47-2051	Cement Masons and Concrete Finishers	248	6,016	1.09	\$ 28.40
35-2015	Cooks, Short Order	248	5,687	1.15	\$ 17.28
29-2042	Emergency Medical Technicians	244	5,816	1.11	\$ 23.74
43-4031	Court, Municipal, and License Clerks	244	4,995	1.29	\$ 28.48
51-8031	Water and Wastewater Treatment	240	5,276	1.2	\$ 34.35

SOC Code	Occupation	OVRDC Employment	Ohio Employment	OVRDC LQ	Average Compensation per hour
99-8028	Military Transportation and Material Handling Occupations	235	5,144	1.21	\$ 19.01
43-4061	Eligibility Interviewers, Government	228	4,689	1.28	\$ 30.06
47-4041	Hazardous Materials Removal Workers	225	1,845	3.23	\$ 50.16
39-9041	Residential Advisors	225	4,320	1.38	\$ 29.88
47-4051	Highway Maintenance Workers	223	4,618	1.28	\$ 26.06
21-1023	Mental Health and Substance Abuse	222	3,869	1.52	\$ 30.89
21-2099	Religious Workers, All Other	220	4,444	1.31	\$ 17.11
25-2012	Kindergarten Teachers, Except Special Education	219	4,153	1.4	\$ 44.73
27-2042	Musicians and Singers	214	4,589	1.24	\$ 73.18
29-1122	Occupational Therapists	213	5,235	1.07	\$ 56.73
99-8029	Military Vehicle and Machinery	204	4,478	1.21	\$ 19.01

SOC Code	Occupation	OVRDC Employment	Ohio Employment	OVRDC LQ	Average Compensation per hour
	Mechanical Occupations				
31-9097	Phlebotomists	198	4,811	1.09	\$ 22.87
49-9098	Helpers—Installation, Maintenance,	195	4,356	1.18	\$ 29.38
21-1015	Rehabilitation Counselors	194	3,065	1.68	\$ 25.93
33-1012	First-Line Supervisors of Police and	182	3,965	1.22	\$ 47.63
47-2181	Roofers	181	4,287	1.12	\$ 29.00
47-2211	Sheet Metal Workers	180	4,500	1.06	\$ 34.08
29-2053	Psychiatric Technicians	178	4,002	1.17	\$ 25.56
25-3099	Teachers and Instructors, All Other	177	4,238	1.1	\$ 43.73
51-7042	Woodworking Machine Setters, Operators, and Tenders	176	2,338	1.99	\$ 27.65
25-4022	Librarians and Media Collections	176	3,915	1.19	\$ 40.99
25-2032	Career/Technical Education Teachers,	168	2,982	1.49	\$ 40.99

SOC Code	Occupation	OVRDC Employment	Ohio Employment	OVRDC LQ	Average Compensation per hour
	Middle School				
43-4181	Reservation and Transportation	167	3,444	1.28	\$ 37.11
43-5053	Postal Service Mail Sorters, Processors, and Processing Machine Operators	167	4,284	1.03	\$ 42.06
51-3021	Butchers and Meat Cutters	160	3,643	1.16	\$ 23.32
25-2057	Special Education Teachers, Middle	157	2,809	1.48	\$ 43.65
29-2056	Veterinary Technologists and Technicians	155	3,150	1.3	\$ 24.10
21-1092	Probation Officers and Correctional	154	2,938	1.38	\$ 38.97
25-9099	Educational Instruction and Library	152	3,971	1.01	\$ 33.53
31-9096	Veterinary Assistants and Laboratory	152	3,131	1.28	\$ 19.76
31-2021	Physical Therapist Assistants	150	3,730	1.06	\$ 37.53
31-9099	Healthcare Support Workers, All	149	3,802	1.04	\$ 27.38
99-	Military Electronic and	148	3,253	1.21	\$ 19.01

SOC Code	Occupation	OVRDC Employment	Ohio Employment	OVRDC LQ	Average Compensation per hour
8023	Electrical Equipment Repair Occupations				
51-9041	Extruding, Forming, Pressing, and	145	3,803	1.01	\$ 26.90
51-7041	Sawing Machine Setters, Operators,	144	1,279	2.97	\$ 29.38
21-1099	Community and Social Service Specialists, All Other	143	3,165	1.19	\$ 30.76
333021	Detectives and Criminal Investigators	143	3,204	1.18	\$ 46.99
45-2093	Farmworkers, Farm, Ranch, and	142	3,416	1.1	\$ 17.61
33-9099	Protective Service Workers, All Other	141	3,165	1.18	\$ 39.29
35-9099	Food Preparation and Serving Related Workers, All Other	138	3,468	1.05	\$ 17.51
29-2043	Paramedics	136	3,232	1.11	\$ 25.71
33-9091	Crossing Guards and Flaggers	134	3,211	1.1	\$ 30.49
51-9032	Cutting and Slicing Machine Setters,	132	2,940	1.19	\$ 31.84
45-2091	Agricultural Equipment Operators	129	1,728	1.98	\$ 22.04

SOC Code	Occupation	OVRDC Employment	Ohio Employment	OVRDC LQ	Average Compensation per hour
43-5031	Public Safety Telecommunicators	129	2,909	1.17	\$ 25.49
51-8013	Power Plant Operators	127	971	3.47	\$ 70.66
49-9043	Maintenance Workers, Machinery	121	3,089	1.04	\$ 38.13
29-1031	Dietitians and Nutritionists	120	2,975	1.07	\$ 40.69
99-8024	Military Health Care Occupations	118	2,594	1.21	\$ 19.01
47-2081	Drywall and Ceiling Tile Installers	117	2,785	1.11	\$ 31.53
33-1021	First-Line Supervisors of Firefighting and Prevention Workers	112	2,499	1.19	\$ 34.41
29-2081	Opticians, Dispensing	112	2,654	1.12	\$ 30.38
33-9094	School Bus Monitors	111	2,330	1.26	\$ 24.13
51-5113	Print Binding and Finishing Workers	110	1,961	1.49	\$ 33.47
19-3034	School Psychologists	109	2,034	1.42	\$ 55.48
43-5051	Postal Service Clerks	109	2,792	1.03	\$ 44.31
47-	Septic Tank Servicers	107	1,043	2.72	\$ 40.71

SOC Code	Occupation	OVRDC Employment	Ohio Employment	OVRDC LQ	Average Compensation per hour
4071	and Sewer Pipe Cleaners				
99-8011	Military Administrative Occupations	106	2,318	1.21	\$ 19.01
11-9031	Education and Childcare Administrators, Preschool and Daycare	106	2,575	1.08	\$ 64.91
53-6061	Passenger Attendants	105	940	2.97	\$ 43.70
29-1131	Veterinarians	104	2,090	1.32	\$ 65.82
21-1013	Marriage and Family Therapists	103	1,978	1.38	\$ 39.95
99-8026	Military Protective Service Occupations	101	2,221	1.21	\$ 19.01
27-2041	Music Directors and Composers	100	2,123	1.25	\$ 45.67
33-1011	First-Line Supervisors of Correctional Officers	100	1,875	1.41	\$ 38.57
53-7063	Machine Feeders and Offbearers	100	2,355	1.12	\$ 31.00
45-1011	First-Line Supervisors of Farming, Fishing,	98	1,588	1.63	\$ 24.95

SOC Code	Occupation	OVRDC Employment	Ohio Employment	OVRDC LQ	Average Compensation per hour
	and Forestry Workers				
21-1094	Community Health Workers	96	2,206	1.15	\$ 29.35
19-2041	Environmental Scientists and Specialists, Including Health	96	2,436	1.04	\$ 53.57
47-3013	Helpers—Electricians	95	2,293	1.09	\$ 24.53
19-3033	Clinical and Counseling Psychologists	93	2,173	1.13	\$ 58.30
39-1014	First-Line Supervisors of Entertainment and Recreation Workers, Except Gambling Services	93	2,396	1.02	\$ 35.09
43-4121	Library Assistants, Clerical	93	2,100	1.17	\$ 20.53
45-4022	Logging Equipment Operators	92	439	5.52	\$ 27.86
25-4031	Library Technicians	91	2,080	1.16	\$ 24.43
53-2012	Commercial Pilots	88	1,742	1.34	\$ 82.80
49-	Millwrights	85	1,693	1.32	\$ 36.58

SOC Code	Occupation	OVRDC Employment	Ohio Employment	OVRDC LQ	Average Compensation per hour
9044					
53-4031	Railroad Conductors and Yardmasters	85	1,296	1.73	\$ 49.10
49-3051	Motorboat Mechanics and Service Technicians	85	1,386	1.62	\$ 35.60
47-2221	Structural Iron and Steel Workers	85	2,159	1.04	\$ 36.63
27-4011	Audio and Video Technicians	84	2,141	1.03	\$ 29.89
49-9012	Control and Valve Installers and Repairers, Except Mechanical Door	82	1,934	1.12	\$ 51.91
21-1091	Health Education Specialists	76	1,954	1.03	\$ 40.96
39-9099	Personal Care and Service Workers, All Other	76	1,860	1.08	\$ 19.05
21-1029	Social Workers, All Other	75	1,627	1.22	\$ 36.35
53-5022	Motorboat Operators	75	605	3.28	\$ 47.01
31-9095	Pharmacy Aides	75	1,722	1.15	\$ 21.63
51-	Food Cooking	74	1,157	1.7	\$ 24.84

SOC Code	Occupation	OVRDC Employment	Ohio Employment	OVRDC LQ	Average Compensation per hour
3093	Machine Operators and Tenders				
47-2121	Glaziers	73	1,756	1.11	\$ 30.20
39-4021	Funeral Attendants	73	1,465	1.33	\$ 21.61
53-4011	Locomotive Engineers	73	1,104	1.74	\$ 51.43
13-2081	Tax Examiners and Collectors, and Revenue Agents	72	1,559	1.23	\$ 39.59
49-2095	Electrical and Electronics Repairers, Powerhouse, Substation, and Relay	72	962	1.98	\$ 62.93
47-2021	Brickmasons and Blockmasons	72	1,756	1.09	\$ 33.66
51-9197	Tire Builders	71	1,651	1.14	\$ 30.04
31-2011	Occupational Therapy Assistants	71	1,694	1.11	\$ 42.11
25-2059	Special Education Teachers, All Other	70	1,428	1.29	\$ 44.98
51-3099	Food Processing Workers, All Other	69	1,545	1.19	\$ 21.15
49-	Home Appliance	67	1,496	1.18	\$ 28.19

SOC Code	Occupation	OVRDC Employment	Ohio Employment	OVRDC LQ	Average Compensation per hour
9031	Repairers				
27-3091	Interpreters and Translators	65	1,602	1.07	\$ 38.05
47-3015	Helpers–Pipelayers, Plumbers, Pipefitters, and Steamfitters	63	1,509	1.11	\$ 23.78
51-5111	Prepress Technicians and Workers	63	1,229	1.35	\$ 35.57
11-1031	Legislators	60	1,284	1.23	\$ 69.28
43-9022	Word Processors and Typists	59	1,296	1.21	\$ 31.85
47-3012	Helpers–Carpenters	59	1,435	1.09	\$ 23.33
11-9013	Farmers, Ranchers, and Other Agricultural Managers	57	822	1.84	\$ 65.39
47-2044	Tile and Stone Setters	56	1,401	1.06	\$ 30.56
47-2071	Paving, Surfacing, and Tamping Equipment Operators	56	1,363	1.09	\$ 25.46
51-8021	Stationary Engineers and Boiler Operators	56	1,105	1.33	\$ 42.49
49-3022	Automotive Glass Installers and	54	1,258	1.14	\$ 27.35

SOC Code	Occupation	OVRDC Employment	Ohio Employment	OVRDC LQ	Average Compensation per hour
	Repairers				
51-8093	Petroleum Pump System Operators, Refinery Operators, and Gaugers	53	1,292	1.09	\$ 67.94
25-3011	Adult Basic Education, Adult Secondary Education, and English as a	53	1,135	1.24	\$ 38.48
39-4031	Morticians, Undertakers, and Funeral Arrangers	53	1,062	1.32	\$ 31.42
21-1019	Counselors, All Other	52	1,053	1.32	\$ 28.64
99-8013	Military Human Resource Development Occupations	52	1,129	1.21	\$ 19.01
19-3051	Urban and Regional Planners	51	1,187	1.14	\$ 46.15

Note: Average compensation includes average wage and salaries and average supplements to wages and salaries.

Source: IMPLAN® Model (2022) Data and Authors' calculation.

Appendix B:

Trends in Employment and the Number of Establishments in the Top 20 Industries by Employment in the OVRDC Region

1. Food Services and Drinking Places
2. Ambulatory Health Care Services
3. Nursing and Residential Care Facilities
4. General Merchandise Stores
5. Social Assistance
6. Professional, Scientific, and Technical Services
7. Food and Beverage Stores
8. Administrative and Support Services
9. Transportation Equipment Manufacturing
10. Specialty Trade Contractors
11. Fabricated Metal Product Manufacturing
12. Motor Vehicle and Parts Dealers
13. Religious, Civic, and Professional Organizations
14. Merchant Wholesalers, Durable Goods
15. Machinery Manufacturing
16. Building Material and Garden Supply Stores
17. Food Manufacturing
18. Truck Transportation
19. Credit Intermediation and Related Activities
20. Management of Companies and Enterprises

Trends in Employment and Number of Establishments in the OVRDC Region: Food Services and Drinking Places

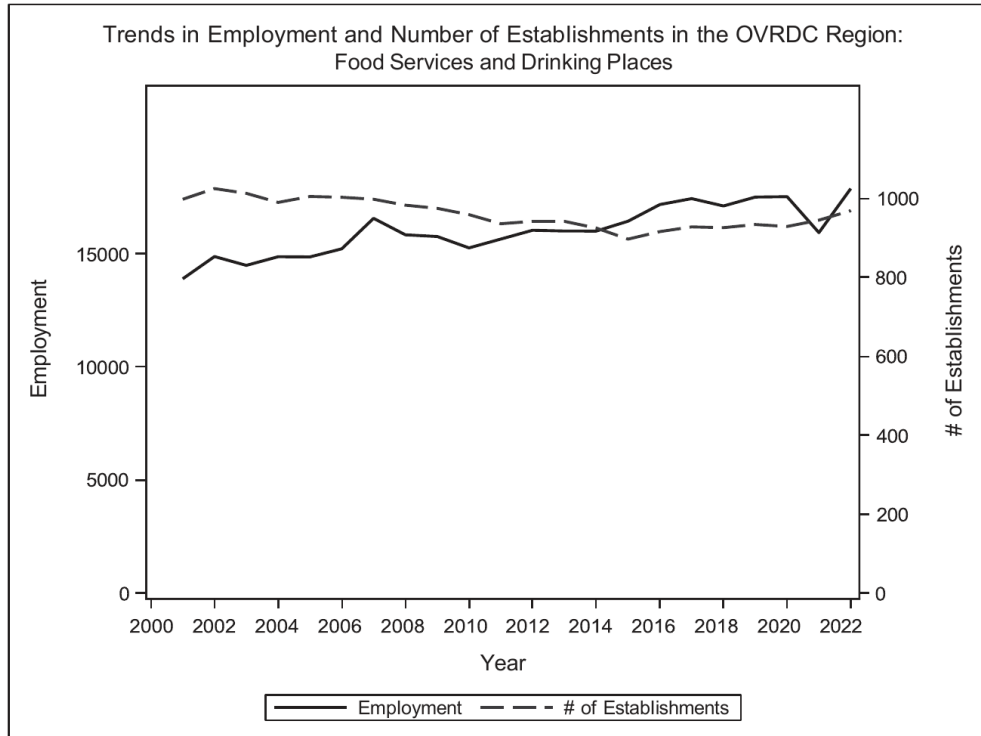


Figure Description: Employment in Food Services and Drinking Places remained relatively stable from 2001 to 2022, ranging between approximately 13,000 and 17,000 workers. The number of establishments held steady at around 900–1,000 throughout the period, with a slight dip around 2020 likely reflecting pandemic-related impacts.

Source: IMPLAN® Model (2022). Data covers 2001–2022.

Trends in Employment and Number of Establishments in the OVRDC Region: Ambulatory Health Care Services

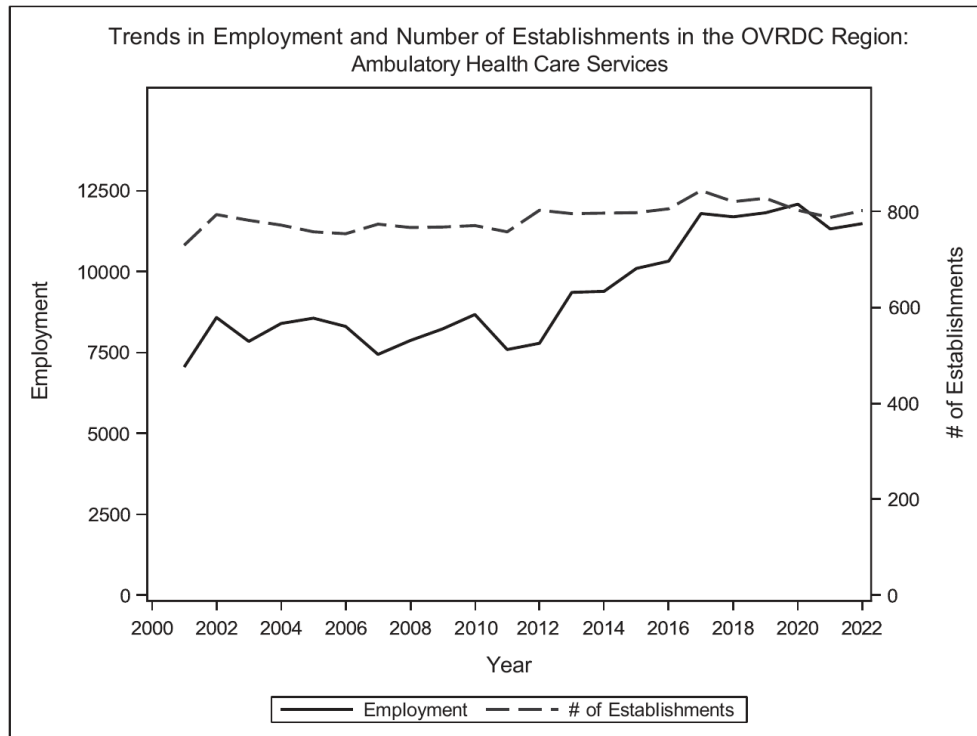


Figure Description: Employment in Ambulatory Health Care Services grew steadily from approximately 7,500 in 2001 to over 12,000 by 2022, reflecting consistent expansion of the healthcare sector. The number of establishments also increased over the period, rising from around 600 to approximately 800.

Source: IMPLAN® Model (2022). Data covers 2001–2022.

Trends in Employment and Number of Establishments in the OVRDC Region: Nursing and Residential Care Facilities

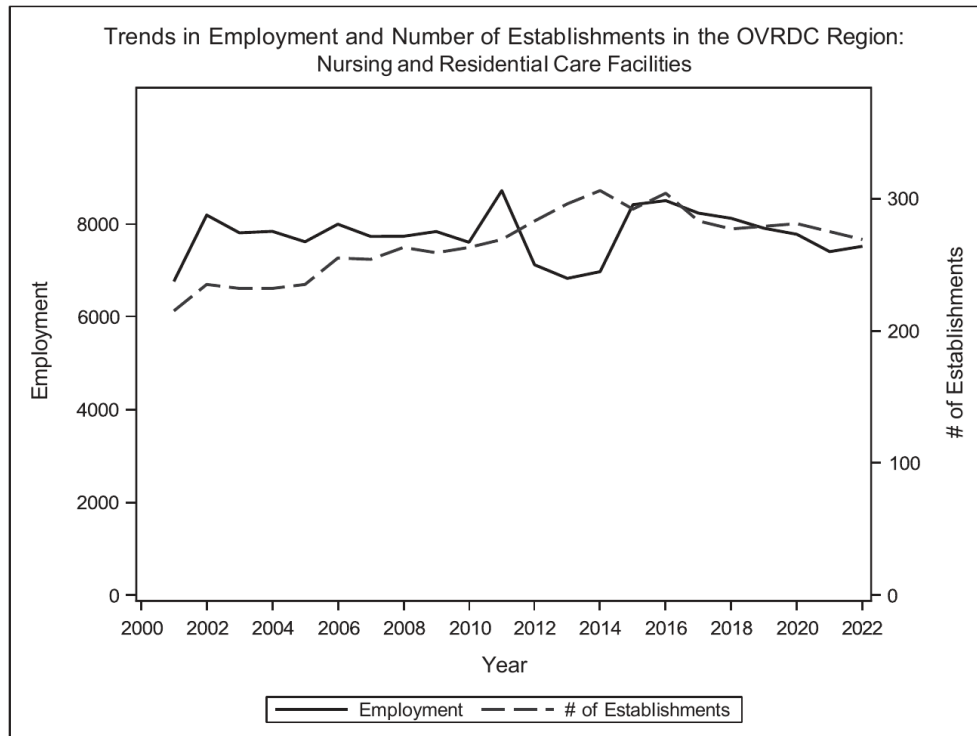


Figure Description: Employment in Nursing and Residential Care Facilities fluctuated between approximately 6,500 and 9,000 from 2001 to 2022. The number of establishments remained relatively stable at around 200–300, with a slight downward trend in both employment and establishments in recent years.

Source: IMPLAN® Model (2022). Data covers 2001–2022.

Trends in Employment and Number of Establishments in the OVRDC Region: General Merchandise Stores

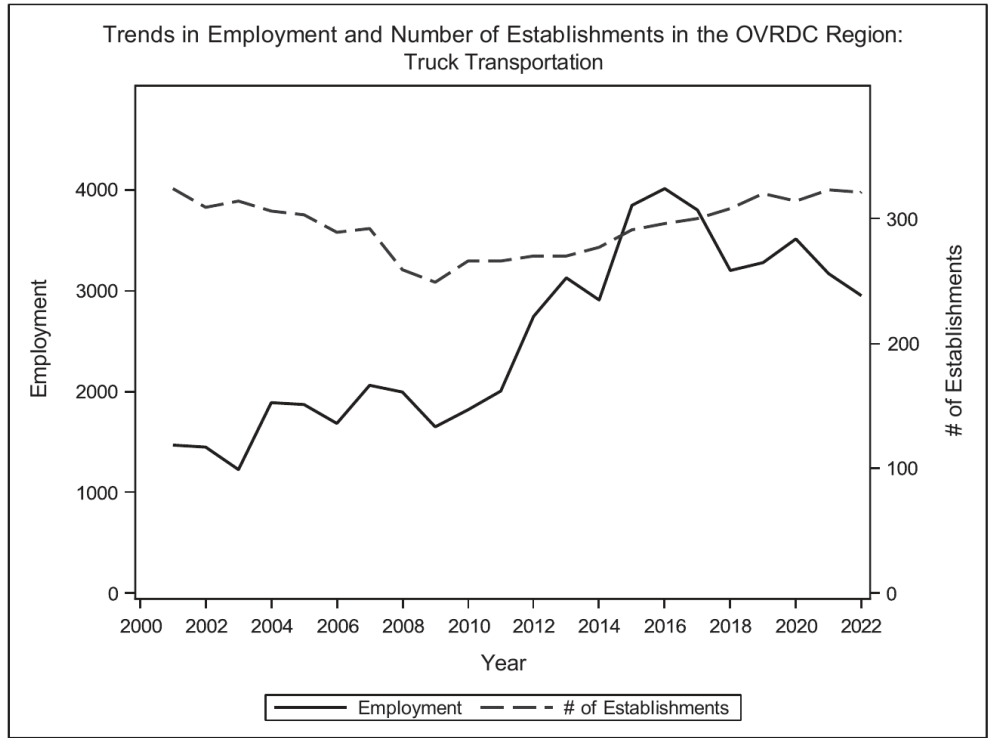


Figure Description: Employment in General Merchandise Stores showed significant volatility, peaking around 6,500 in 2007 before declining sharply to approximately 2,000 by 2013, then recovering to around 5,000 by 2022. The number of establishments grew gradually from roughly 100 to 200 over the period.

Source: IMPLAN® Model (2022). Data covers 2001–2022.

Trends in Employment and Number of Establishments in the OVRDC Region: Social Assistance



Figure Description: Employment in Social Assistance grew dramatically from under 1,000 in 2001 to approximately 5,000 by 2014, before declining moderately to around 4,000 by 2022. The number of establishments also rose significantly, from approximately 100 to over 300, reflecting major expansion of social services in the region.

Source: IMPLAN® Model (2022). Data covers 2001–2022.

Trends in Employment and Number of Establishments in the OVRDC Region: Professional, Scientific, and Technical Services

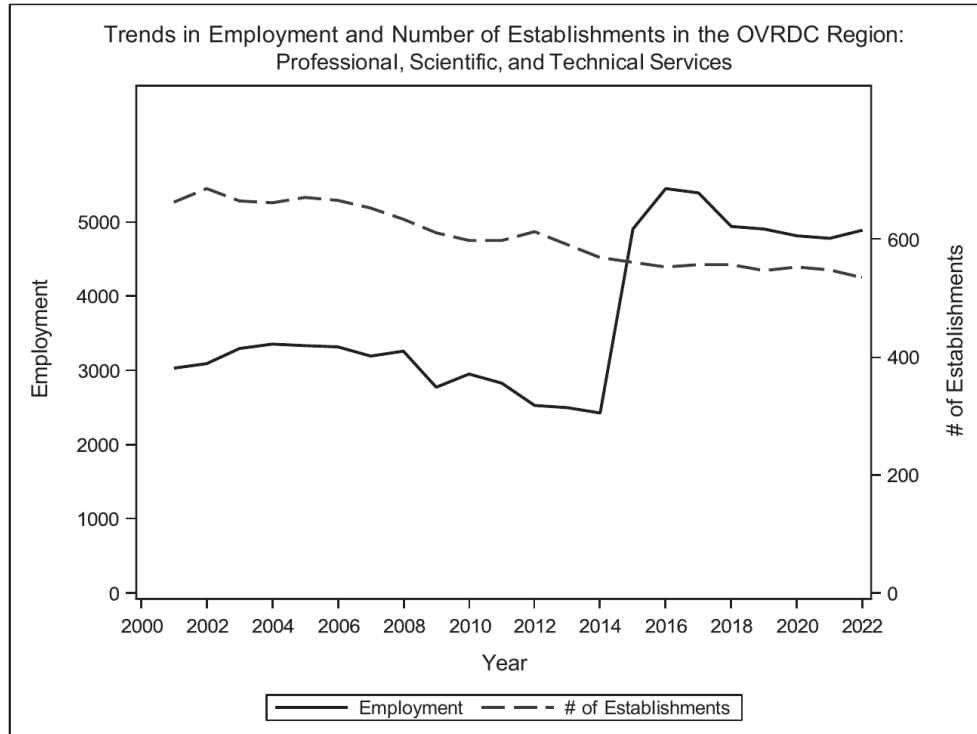


Figure Description: Employment in Professional, Scientific, and Technical Services declined from approximately 3,200 in 2001 to around 2,700 by 2013, then recovered sharply to over 5,000 by 2016 before settling near 4,500 by 2022. The number of establishments held relatively steady between 400 and 600 throughout the period. Source: IMPLAN® Model (2022). Data covers 2001–2022.

Trends in Employment and Number of Establishments in the OVRDC Region: Food and Beverage Stores

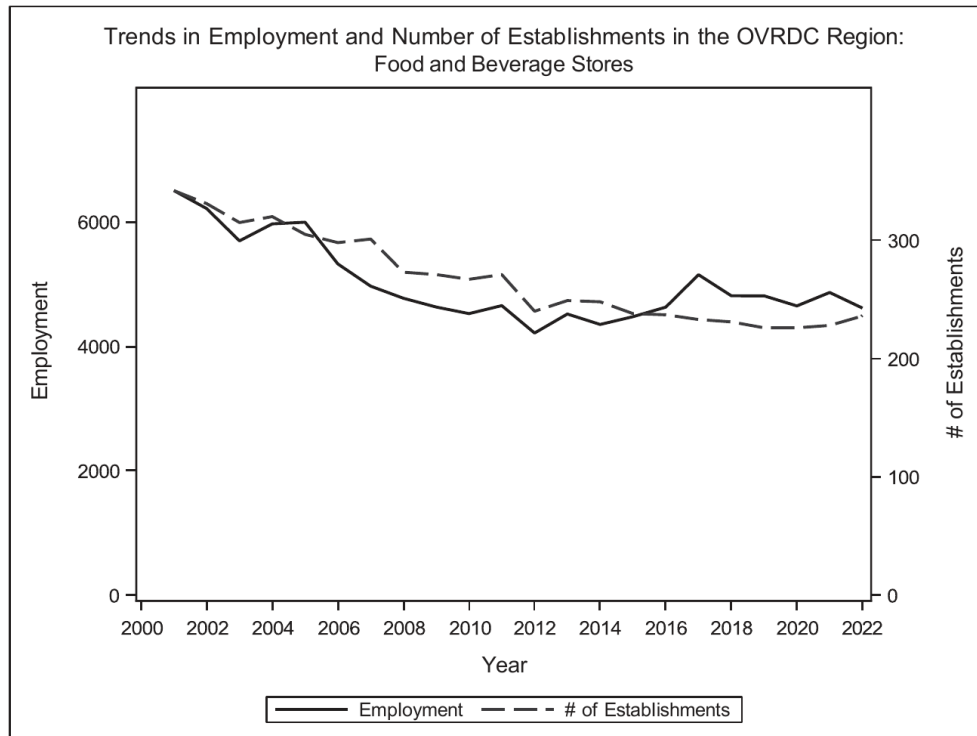


Figure Description: Employment in Food and Beverage Stores declined overall from approximately 6,400 in 2001 to around 4,500 by 2022. The number of establishments similarly decreased from approximately 300 to around 225, reflecting consolidation trends in the retail grocery sector.

Source: IMPLAN® Model (2022). Data covers 2001–2022.

Trends in Employment and Number of Establishments in the OVRDC Region: Administrative and Support Services

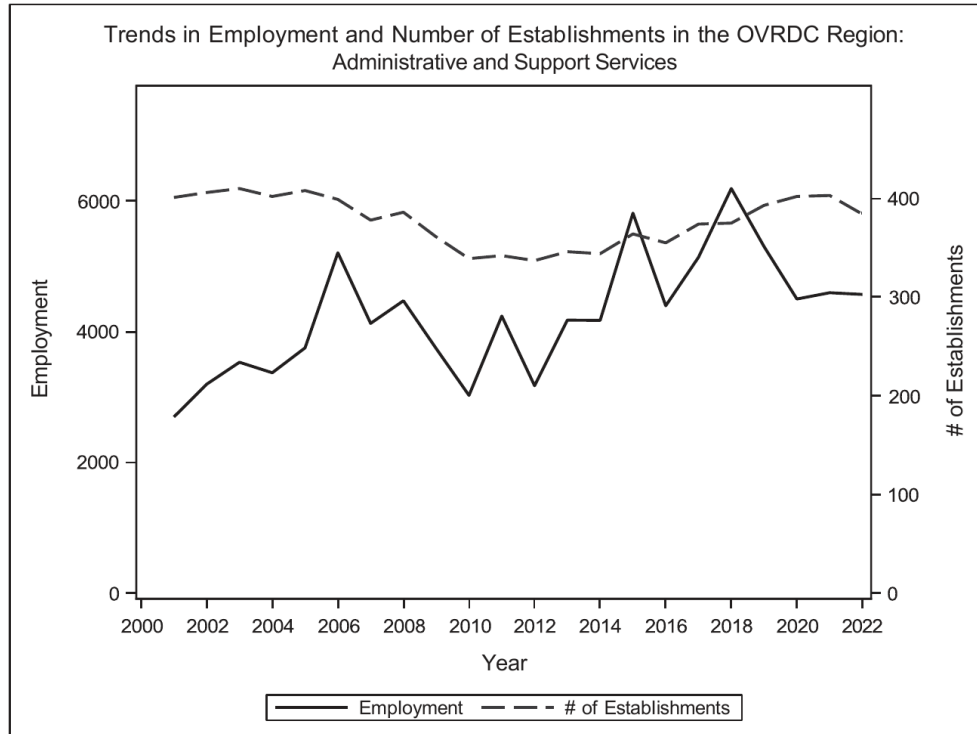


Figure Description: Employment in Administrative and Support Services was highly volatile, ranging from approximately 3,000 to 6,500 between 2001 and 2022. The number of establishments fluctuated between roughly 200 and 400, with no clear long-term trend, suggesting sensitivity to broader economic cycles.

Source: IMPLAN® Model (2022). Data covers 2001–2022.

**Trends in Employment and Number of Establishments in the OVRDC Region:
Region: Transportation Equipment Manufacturing**

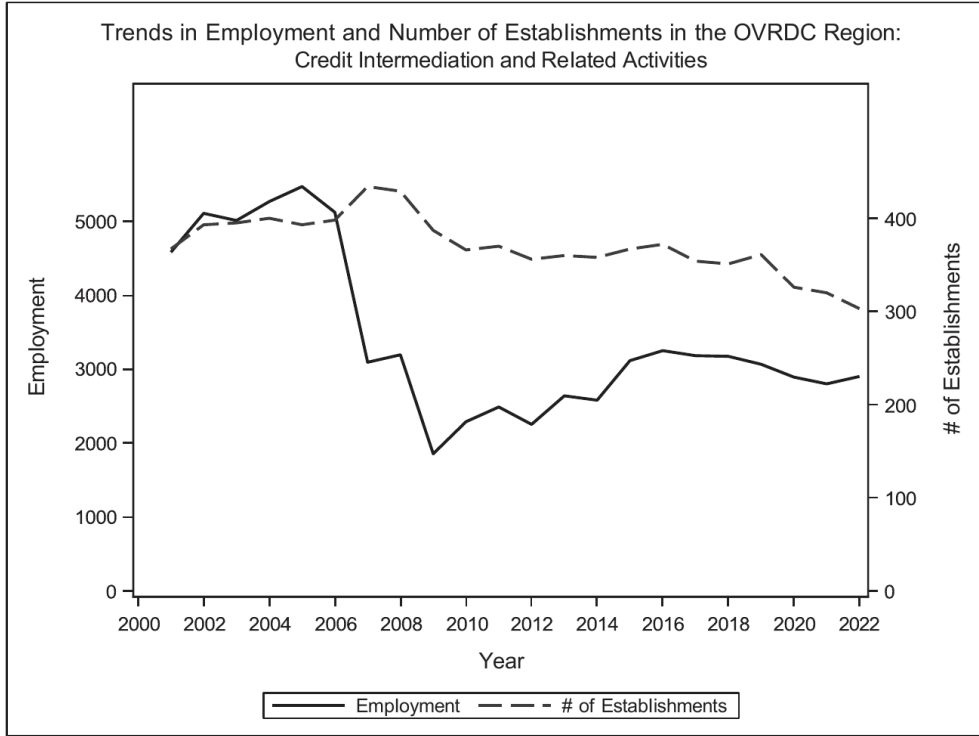


Figure Description: Employment in Transportation Equipment Manufacturing was highly volatile, dropping sharply to near zero around 2003 and 2008 before recovering. By 2022 employment stood at approximately 2,200. The number of establishments remained low throughout, generally between 15 and 30, reflecting a small number of large employers in this sector.

Source: IMPLAN® Model (2022). Data covers 2001–2022.

Trends in Employment and Number of Establishments in the OVRDC Region: Specialty Trade Contractors

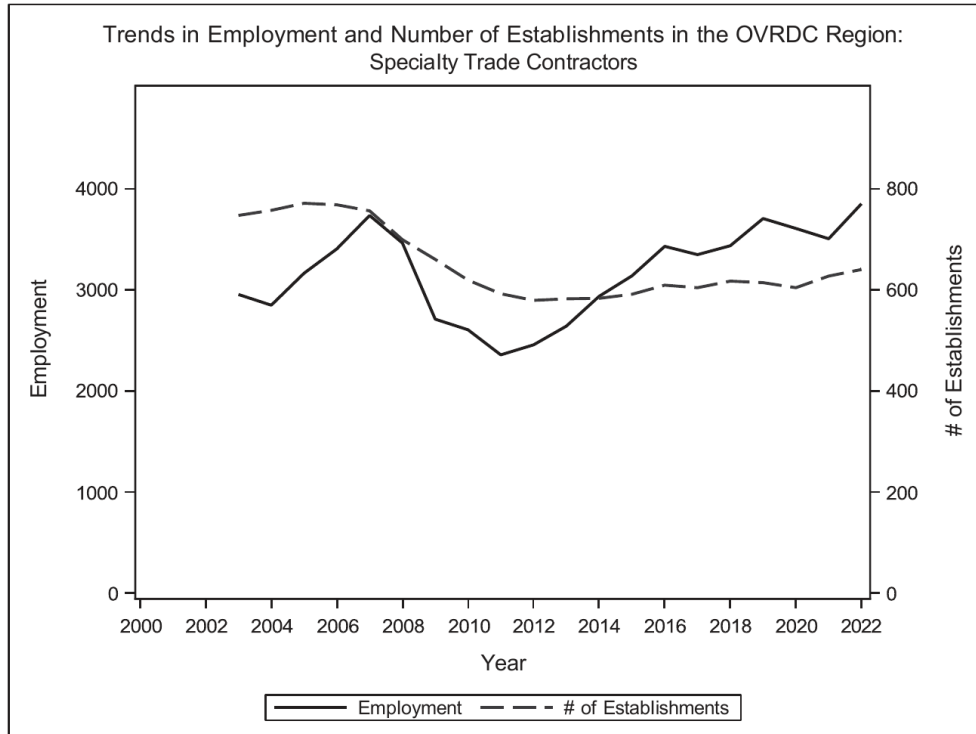


Figure Description: Employment in Specialty Trade Contractors declined from approximately 3,500 in 2001 to a low of around 2,500 by 2012, then recovered to approximately 3,800 by 2022. The number of establishments followed a similar pattern, dipping from around 800 to 600 before recovering, consistent with construction industry cycles.

Source: IMPLAN® Model (2022). Data covers 2001–2022.

Trends in Employment and Number of Establishments in the OVRDC Region: Fabricated Metal Product Manufacturing

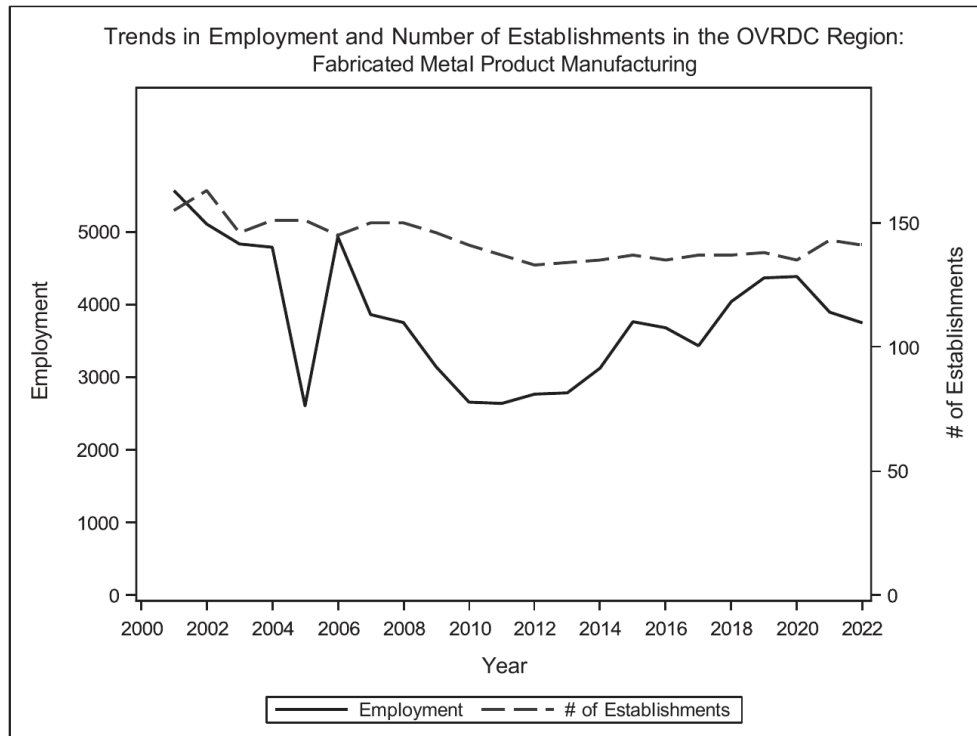


Figure Description: Employment in Fabricated Metal Product Manufacturing declined sharply from approximately 5,300 in 2001 to around 2,800 by 2012, then partially recovered to approximately 4,000 by 2022. The number of establishments decreased steadily from about 150 to around 100, reflecting ongoing consolidation in manufacturing.

Source: IMPLAN® Model (2022). Data covers 2001–2022.

Trends in Employment and Number of Establishments in the OVRDC Region: Motor Vehicle and Parts Dealers

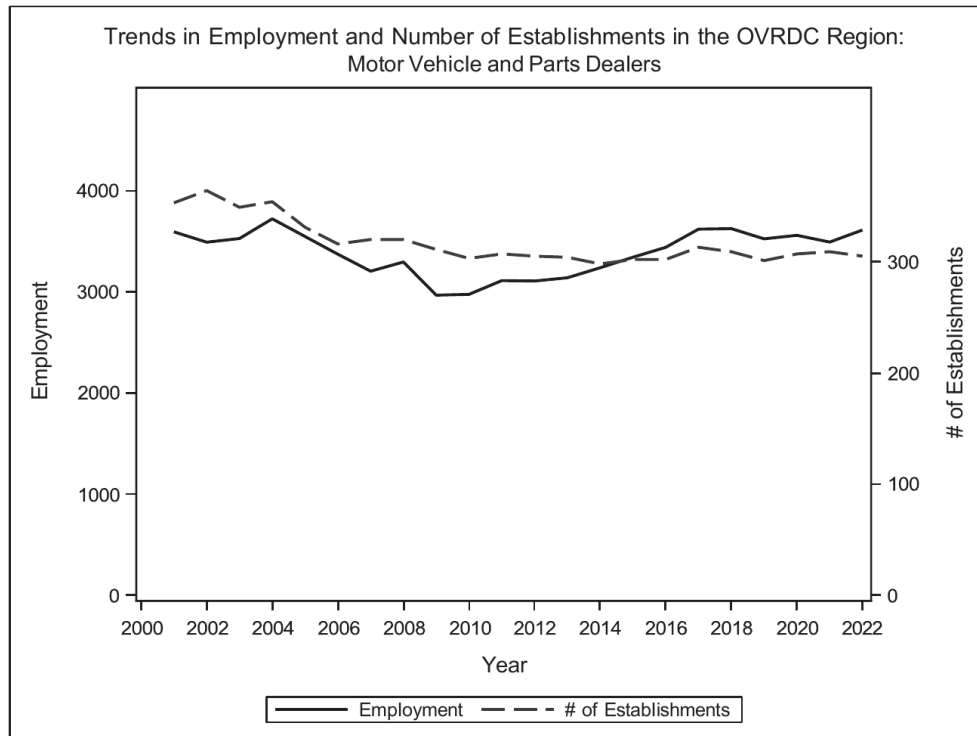


Figure Description: Employment in Motor Vehicle and Parts Dealers remained relatively stable between approximately 3,200 and 4,000 from 2001 to 2022. The number of establishments declined gradually from around 350 to approximately 280, likely reflecting dealership consolidation over the period.

Source: IMPLAN® Model (2022). Data covers 2001–2022.

Trends in Employment and Number of Establishments in the OVRDC Region: Religious, Civic, and Professional Organizations

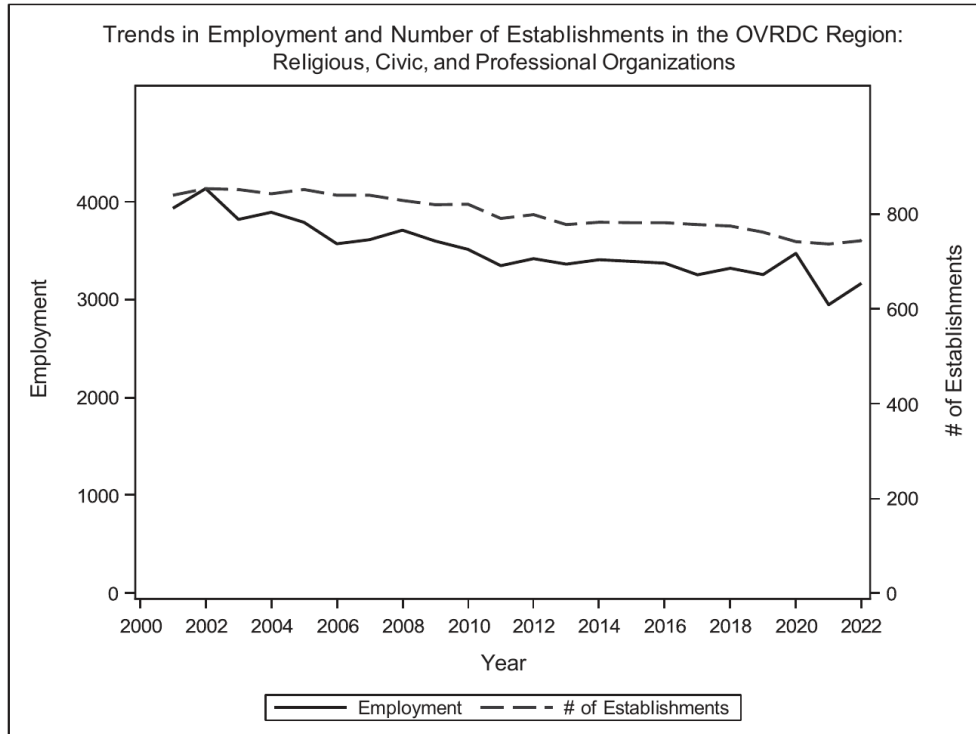


Figure Description: Employment in Religious, Civic, and Professional Organizations declined gradually from approximately 4,000 in 2001 to around 3,000 by 2022. The number of establishments also decreased, from approximately 900 to around 700, reflecting a long-term contraction in this sector across the region.

Source: IMPLAN® Model (2022). Data covers 2001–2022.

Trends in Employment and Number of Establishments in the OVRDC Region: Merchant Wholesalers, Durable Goods

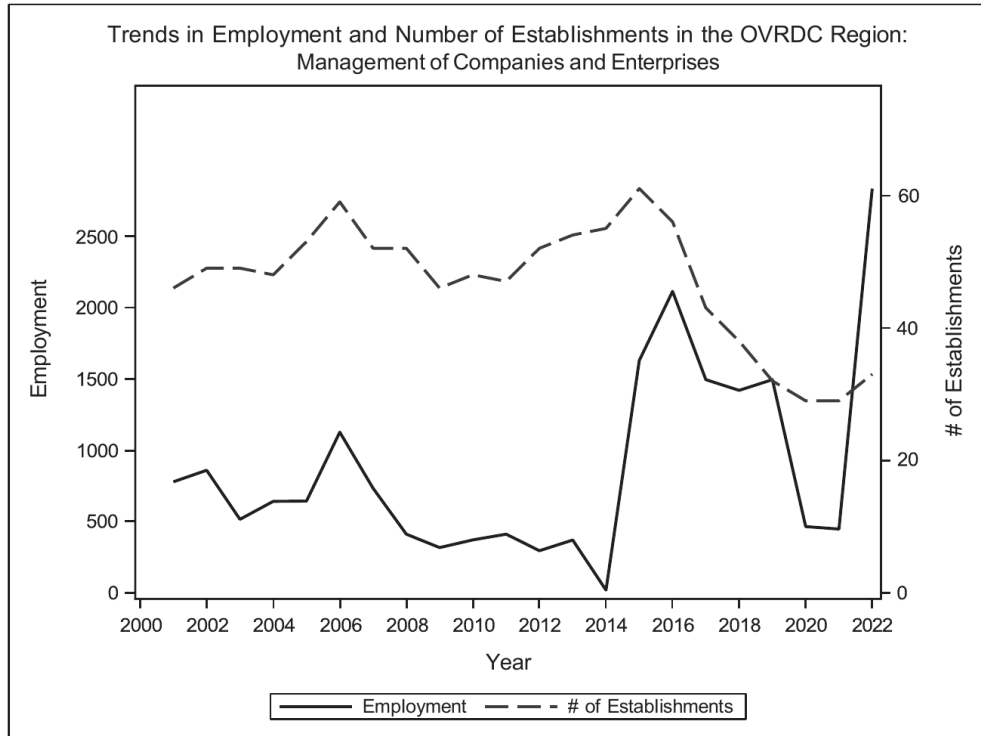


Figure Description: Employment in Merchant Wholesalers, Durable Goods was volatile, declining from approximately 2,500 in 2003 to around 1,200 by 2007 before recovering to approximately 3,000 by 2015 and then declining again. The number of establishments fluctuated between roughly 150 and 250 throughout the period.

Source: IMPLAN® Model (2022). Data covers 2001–2022.

Trends in Employment and Number of Establishments in the OVRDC Region: Machinery Manufacturing

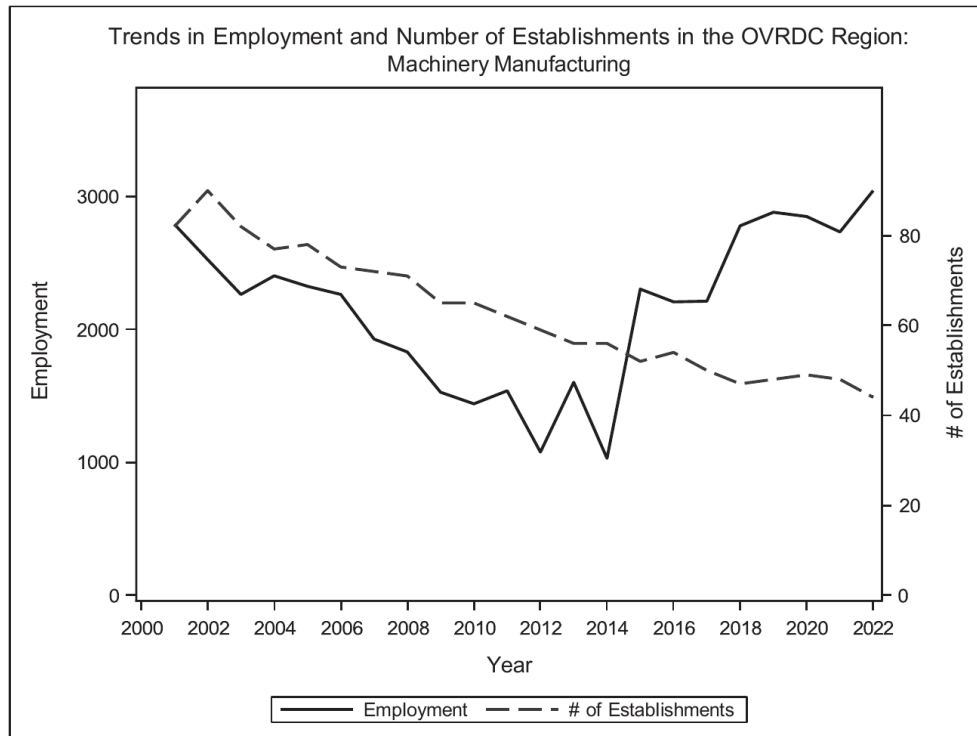


Figure Description: Employment in Machinery Manufacturing declined consistently from approximately 3,000 in 2001 to around 1,500 by 2015, with a partial recovery to near 2,500 by 2018 before declining again. The number of establishments fell from approximately 80 to around 40, reflecting significant contraction in this manufacturing segment.

Source: IMPLAN® Model (2022). Data covers 2001–2022.

Trends in Employment and Number of Establishments in the OVRDC Region: Building Material and Garden Supply Stores

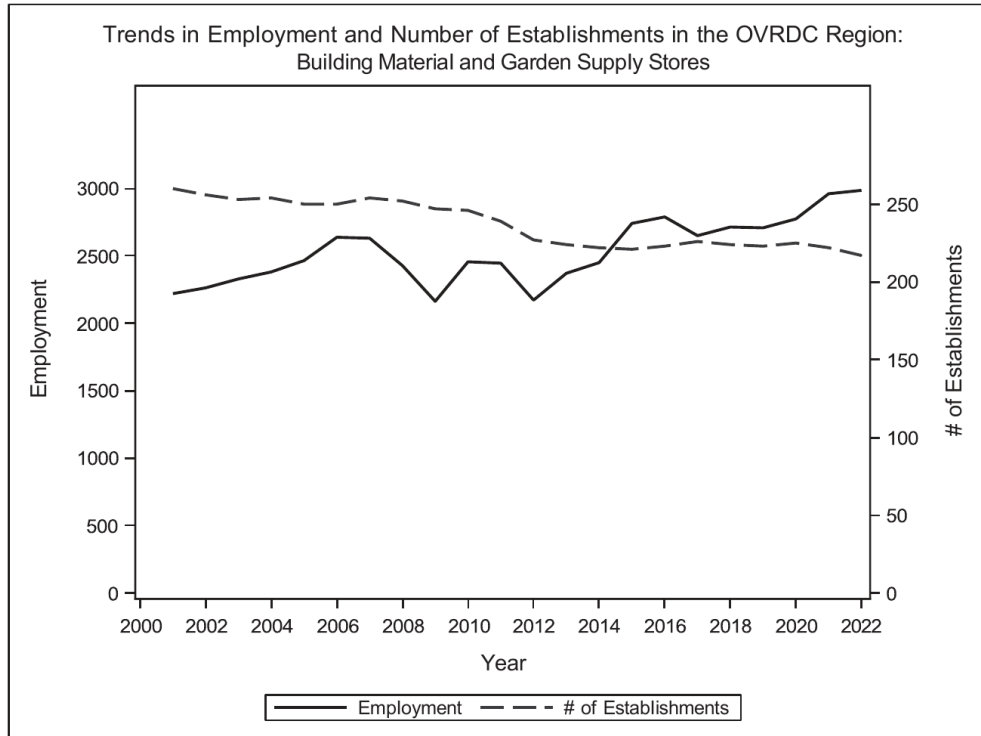


Figure Description: Employment in Building Material and Garden Supply Stores remained relatively stable between approximately 2,200 and 3,000 from 2001 to 2022. The number of establishments held steady at around 200–250 throughout the period, with modest growth toward the end reflecting construction activity in the region. Source: IMPLAN® Model (2022). Data covers 2001–2022.

Trends in Employment and Number of Establishments in the OVRDC Region: Food Manufacturing

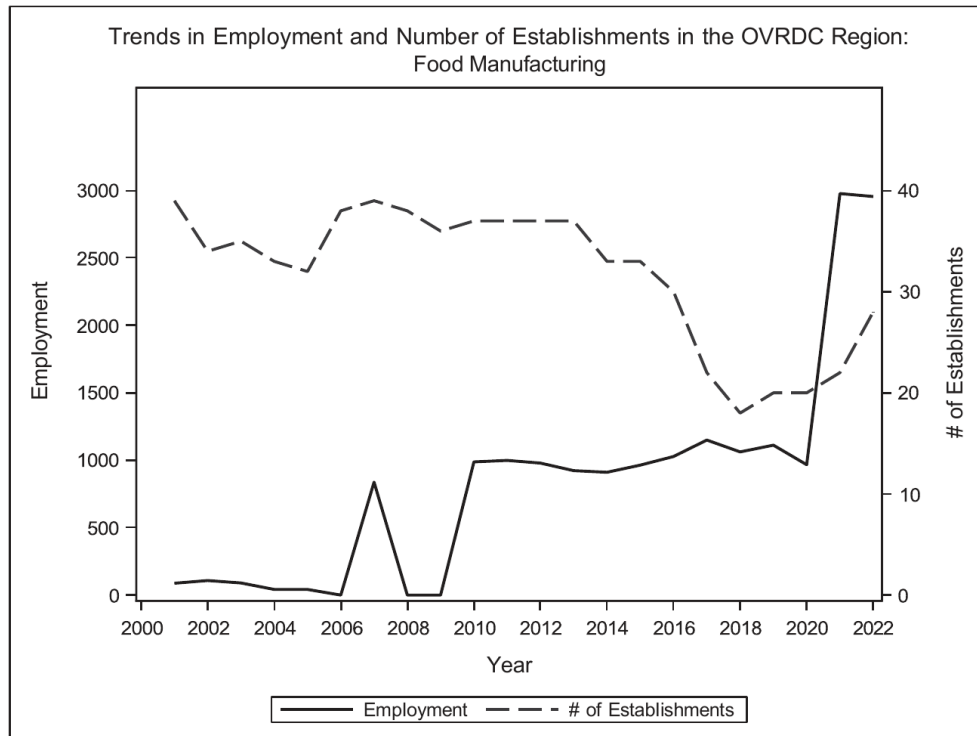


Figure Description: Employment in Food Manufacturing was near zero until approximately 2010, when it rose sharply to over 1,000 and remained at that level through 2022. The number of establishments fluctuated dramatically, peaking at approximately 40 around 2022, suggesting the entry of major food production facilities into the region in the last decade.

Source: IMPLAN® Model (2022). Data covers 2001–2022.

Trends in Employment and Number of Establishments in the OVRDC Region: Truck Transportation



Figure Description: Employment in Truck Transportation grew significantly from approximately 1,500 in 2001 to over 3,500 by 2016, before declining to around 3,000 by 2022. The number of establishments grew from approximately 100 to around 300, reflecting the growing importance of logistics and distribution in the regional economy. Source: IMPLAN® Model (2022). Data covers 2001–2022.

Trends in Employment and Number of Establishments in the OVRDC Region: Credit Intermediation and Related Activities

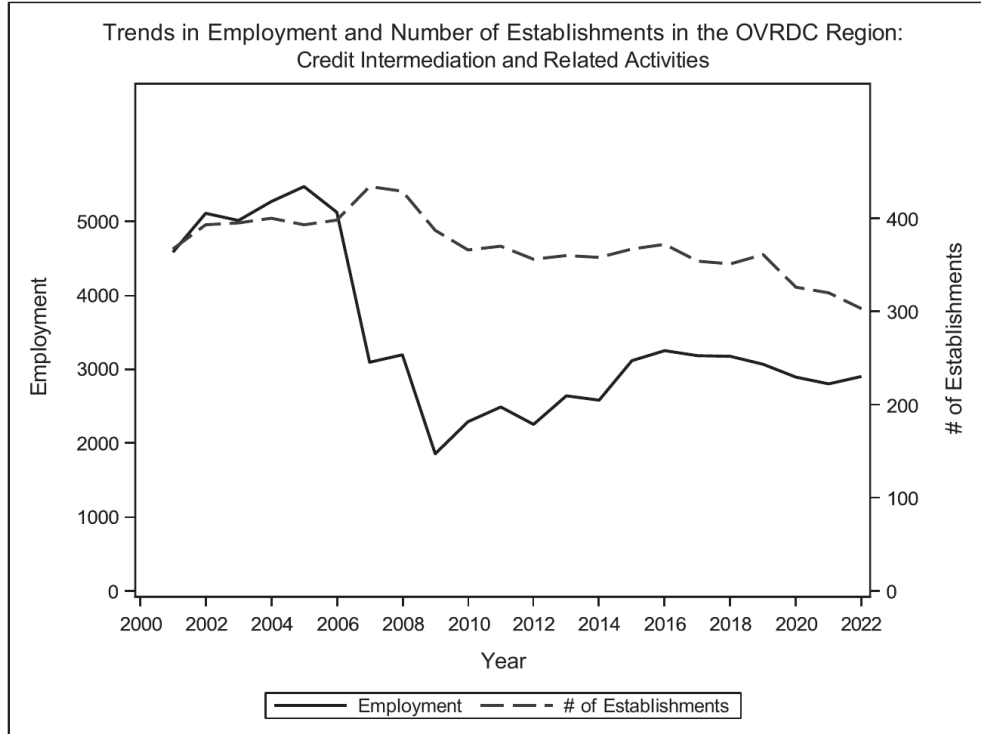


Figure Description: Employment in Credit Intermediation and Related Activities declined from approximately 5,000 in 2001 to around 2,000 by 2012, then partially recovered to approximately 3,000 by 2022. The number of establishments fell from roughly 400 to around 300, consistent with broader trends of bank consolidation and branch reduction.

Source: IMPLAN® Model (2022). Data covers 2001–2022.

Trends in Employment and Number of Establishments in the OVRDC Region: Management of Companies and Enterprises

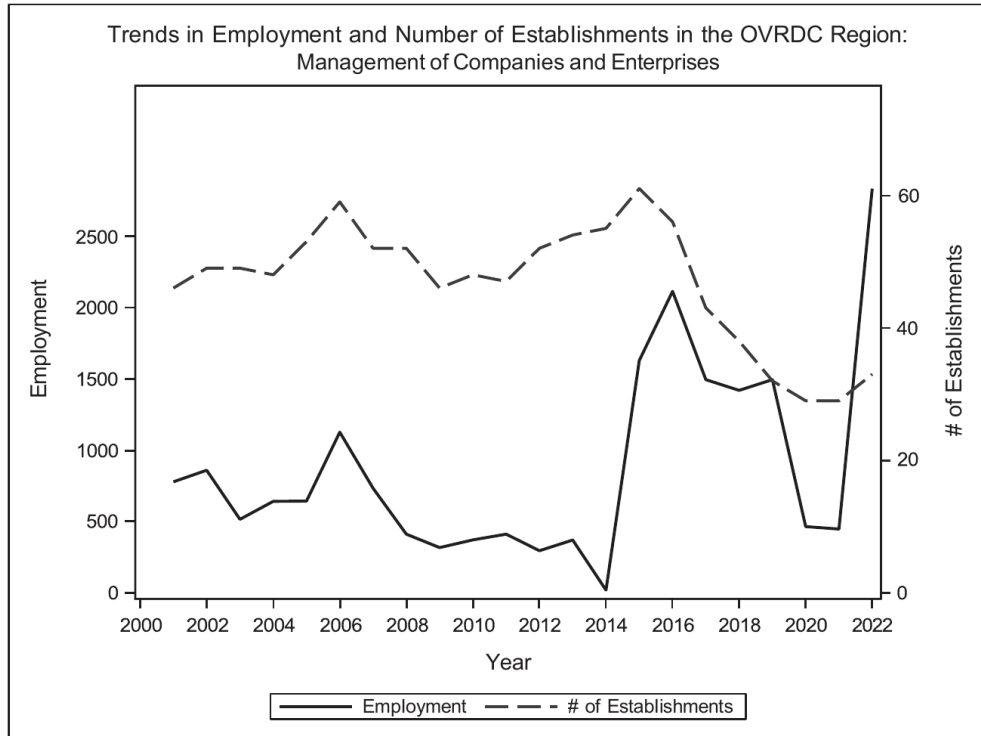


Figure Description: Employment in Management of Companies and Enterprises was highly variable, ranging from near zero to approximately 2,200, with significant peaks around 2016. The number of establishments remained low throughout, generally between 20 and 60, indicating a small number of corporate management entities operating in the region.

Source: IMPLAN® Model (2022). Data covers 2001–2022.

**PREPARING FOR PORTS SITE REINDUSTRIALIZATION
WORKFORCE:**

PARTNER WORKFORCE NEEDS SURVEY

PREPARED BY:

**OHIO UNIVERSITY
VOINOVICH SCHOOL OF LEADERSHIP AND PUBLIC
SERVICE
PORTSFUTURE PROGRAM
AND
REMINGTON ROAD GROUP**

JULY 10, 2025

1. Trillium H2 Power

Trillium H2 Power is leading the development of a first-of-its-kind installation in the United States that integrates the production of ammonia, liquid nitrogen, and dispatchable electric power, all utilizing hydrogen as the primary energy source. This innovative project uses hydrogen generated through an air separation unit and a partial oxidation methane reformer. To ensure environmental sustainability, the facility incorporates carbon capture, utilization, and storage (CCUS) technology, sequestering CO₂ in a Class VI wells. Trillium's approach represents a significant step forward in decarbonizing industrial and energy systems through advanced hydrogen-based solutions, according to their website.

Website: <https://www.th2power.com>.

Sector: Manufacturing

Industries: Energy Production, Hydrogen, Power, and Ammonia (Energy or Commodity)

Community Engagement: Engages with the community through workforce development, community fund establishment and distribution, community engagement for education, and grant sourcing and private industry partnership in grants for community groups.

Employment Needs: During the construction phase, Trillium H2 Power anticipates hiring approximately 3,308 workers. The largest workforce needs are for Construction and Extraction Occupations (1,196), followed by Installation, Maintenance, and Repair (655), and Transportation and Material Moving roles (585). Additional demand includes Management (294), Business and Financial Operations (178), and Office and Administrative Support (174). Most of these positions will be hired within 6 months (short-term) of the project launch date and require only basic or intermediate security clearance. Compensation spans from \$20 to \$95 per hour, reflecting a wide mix of skilled labor and professional oversight essential to initial facility development. (Table 1)

For the operations and maintenance phase, the projected workforce is around 268 workers, primarily focused on sustaining long-term operations. High-demand positions include *Production Occupations* (85), *Business and Financial Operations* (41), *Architecture and Engineering* (40), and *Management* (23). Other roles include *Life, Physical, and Social Sciences*, *Office Support*, *IT*, and *Transportation*. All roles in this phase will be filled over a *long-term* timeline (3+ years after the project launch date), with pay ranging from \$20 to \$75 per hour, especially for technical and engineering jobs. (Table 2)

Recruitment challenges: Specialized skill shortages, rapidly changing technology requiring continuous skill updates, and remote location challenges.

Worker retention challenges: Competition from other sectors with attractive packages, rapidly changing technology requiring continuous skill updates, remote location challenges, and concerns about job security due to industry shifts.

Expected workforce trend or change over the next 3-5 years: Lack of availability of trained workforce at all levels capable of working on medium-high voltage power systems, in cyber security/defense, and in specialized energy systems/material handling for emerging energy commodities (H2, NH3, LN2).

Preferred training programs or partnerships: MOUs with building trades, USW, and GRIT / Future Plans, to be exercised when hiring is imminent.

Other programs you would utilize if available: Looking for programs with a simpler, more efficient approach would help future employers connect more effectively with schools, training centers, colleges, and other workforce programs like second-chance or recovery initiatives.

Union Experience: Yes – USW MSSC, GRIT, pre-apprenticeship programs, becoming more familiar with all union training as applicable for the site workforce.

Table 1: Trillium H2 Power’s hiring needs for the construction phase

Occupation Category	# Workers	Hiring Timeline	Pay Range	Security Level
Construction and Extraction Occupations	1196	Short term	\$40–\$95	Basic
Management Occupations	294	Medium term	\$45–\$70	Intermediate
Business and Financial Operations Occupations	178	Medium term	\$35–\$60	Intermediate
Office and Administrative Support Occupations	174	Short term	\$20–\$30	Basic
Architecture and Engineering Occupations	75	Medium term	\$40–\$60	Basic
Installation, Maintenance, and Repair Occupations	655	Short term	\$40–\$75	Basic

Occupation Category	# Workers	Hiring Timeline	Pay Range	Security Level
Transportation and Material Moving Occupations	585	Short term	\$20–\$45	Basic
Production Occupations	39	Short term	\$20–\$45	Basic
Sales and Related Occupations	19	Short term	\$20–\$45	Basic
Building and Grounds Cleaning and Maintenance Occupations	13	Short term	\$20–\$30	Basic

Table 2: Trillium H2 Power’s hiring needs for the operations & maintenance phase

Occupation Category	# Workers	Hiring Timeline	Pay Range	Security Level
Production Occupations	85	Long term	\$20–\$75	Basic
Life, Physical, and Social Science Occupations	17	Long term	\$35–\$60	Basic
Architecture and Engineering Occupations	40	Long Term	\$40–\$75	Intermediate
Office and Administrative Support Occupations	26	Long term	\$20–\$35	Basic
Management Occupations	23	Long term	\$45–\$65	Intermediate
Business and Financial Operations Occupations	41	Long term	\$35–\$60	Intermediate
Installation, Maintenance, and Repair Occupations	10	Long term	\$25–\$75	Basic
Transportation and Material Moving Occupations	14	Long term	\$20–\$25	Basic
Computer and Mathematical Occupations	6	Long term	\$40–\$75	Intermediate
Sales and Related Occupations	6	Long term	\$20–\$35	Basic

2. Centrus Energy Corp

Centrus Energy Corp is a leading American supplier of nuclear fuel and services, dedicated to supporting the global shift toward clean, affordable, carbon-free energy. Since 1998, Centrus has delivered over 1,850 reactor years of fuel—equivalent to more than 7 billion tons of coal—helping power civilian nuclear reactors around the world.

Centrus is the world's most diversified supplier of enriched uranium fuel and is pioneering the production of High-Assay, Low-Enriched Uranium (HALEU), a critical material for next-generation nuclear reactors. The company is also advancing U.S. energy and national security by restoring domestic uranium enrichment capabilities through its American Centrifuge technology—the only enrichment technology ready to scale in the United States.

Beyond nuclear fuel, Centrus offers turnkey engineering, design, and advanced manufacturing solutions to customers across the energy, aerospace, chemical, and defense sectors. Leveraging its world-class technical and engineering capabilities, Centrus is positioned at the forefront of innovation and national security in the evolving energy landscape, according to their website.

Website: <https://www.centrusenergy.com/>.

Sector: Utilities

Industries: Nuclear energy

Community Engagement: Current engagement is limited to the small scale of current operations. However, looking forward to the expansion of operations. Centrus Energy expects to engage in volunteerism (especially in the surrounding school districts and secondary schools), training and workforce development, and grant funding where available.

Employment Needs: During the construction phase, Centrus Energy plans to hire approximately 255 workers across a wide range of skilled trades and technical roles. The largest hiring needs include General Construction (48), Electricians (36), Pipe Fitters (36), Riggers (24), and Mechanic/Millwrights (24), with salaries generally ranging from \$50,000 to \$70,000. Higher-level roles such as Construction Engineers, EPC Engineers, and Project Managers command salaries up to \$120,000, often requiring Q or Top Secret clearance. This hiring wave reflects the intensive labor and specialized oversight needed during site buildout. (Table 3)

For the operations and maintenance phase, the company expects to hire around 243 workers in technical, supervisory, and administrative roles. Key occupations include *Operations Technicians* (59), *Engineers* (25), *Management and Supervisors* (40 combined), and various *Maintenance staff*. Salaries range broadly, with the majority of roles earning between \$70,000 and \$130,000, and some management positions

reaching up to \$150,000. This phase emphasizes stability and long-term operation, with a strong focus on technical expertise, regulatory compliance, and safety-related functions. (Table 4)

Recruitment challenges: They identify multiple challenges, including a shortage of specialized skills, competition from other sectors offering attractive packages, personnel availability to obtain the necessary clearance levels, lack of applicable skills and industry experience, and a lack of desire among candidates to relocate to Southern Ohio.

Worker retention challenges: Competition from other sectors with attractive packages.

Expected workforce trend or change over the next 3-5 years: Artificial Intelligence incorporation.

Preferred training programs or partnerships: United Steel Workers - manufacturing training, health physics training, and other partnerships are in development with college programs.

Other programs you would utilize if available: Open to other partnerships if they are beneficial to those involved.

Union Experience: Yes – While they have not yet had the opportunity to hire from specific training programs such as those offered by the United Steelworkers, manufacturing classes, or health physics classes, they are supportive of and open to doing so.

Table 3: Centrus Energy’s hiring needs for the construction phase

Occupation Category	# Workers	Hiring Timeline	Pay Range	Security Level
General Construction	48	Medium term	\$50–70K	Basic
Electrician	36	Medium term	\$50–70K	Basic
Pipe Fitter	36	Medium term	\$50–70K	Basic
Rigger	24	Medium term	\$50–70K	Basic
Mechanic/Millwright	24	Medium term	\$50–70K	Basic
Construction Engineer	15	Short term	\$90–120K	Q / Top Secret
Welder	12	Medium term	\$50–70K	Basic

Occupation Category	# Workers	Hiring Timeline	Pay Range	Security Level
Plumber	12	Medium term	\$50–70K	Basic
HVAC	12	Medium term	\$50–70K	Basic
EPC Engineer	9	Short term	\$90–120K	Q / Top Secret
EPC Project Management	8	Short term	\$90–120K	Q / Top Secret
Construction Scheduler	8	Short term	\$70–90K	Q / Top Secret
Construction Project Manager	7	Short term	\$90–120K	Q / Top Secret
EPC Data Management	4	Short term	\$70–90K	Q / Top Secret

Table 4: Centrus Energy’s hiring needs for the operations & maintenance phase

Occupation Category	# Workers	Hiring Timeline	Pay Range	Security Level
Operations Technician	59	Medium term	\$90–110K	Q / Top Secret
Engineer	25	Short term	\$100–130K	Q / Top Secret
Management	20	Short term	\$120–150K	Q / Top Secret
Operations Supervisor	20	Medium term	\$100–130K	Q / Top Secret
Maintenance Electrician	11	Medium term	\$90–110K	Q / Top Secret
Maintenance Mechanic	10	Medium term	\$90–110K	Q / Top Secret
Health Physics Tech	10	Medium term	\$90–110K	Q / Top Secret
NDA Technician	8	Long term	\$90–110K	Q / Top Secret

Occupation Category	# Workers	Hiring Timeline	Pay Range	Security Level
Maintenance Supervisor	7	Medium term	\$100–130K	Q / Top Secret
Administrative Specialist	7	Medium term	\$60–80K	Q / Top Secret
Procurement	4	Short term	\$100–130K	Q / Top Secret
Safety Specialist	4	Medium term	\$70–90K	Q / Top Secret
Security Personnel	4	Medium term	\$50–70K	Q / Top Secret
Quality Control Inspector	3	Medium term	\$80–100K	Q / Top Secret
Regulatory Engineer	3	Short term	\$100–130K	Q / Top Secret
Information Technology Tech	3	Medium term	\$70–90K	Q / Top Secret
Security Analysts	3	Medium term	\$70–90K	Q / Top Secret
Quality Assurance Engineer	3	Short term	\$100–130K	Q / Top Secret
Accountant	2	Medium term	\$70–90K	Q / Top Secret
Program Management	2	Short term	\$100–130K	Q / Top Secret
Project Controls	2	Short term	\$100–130K	Q / Top Secret
Regulatory Specialist	2	Short term	\$80–100K	Q / Top Secret
Environmental Specialist	2	Medium term	\$70–90K	Q / Top Secret
Training Specialists	2	Medium term	\$70–90K	Q / Top Secret
NDA Supervisor	2	Long term	\$100–130K	Q / Top Secret
Health Physics Supervisor	1	Medium term	\$100–130K	Q / Top Secret

Occupation Category	# Workers	Hiring Timeline	Pay Range	Security Level
Quality Control Supervisor	1	Medium term	\$100–130K	Q / Top Secret

3. Mid-America Conversion Services LLC

Mid-America Conversion Services, LLC (MCS) manages the Depleted Uranium Hexafluoride (DUF6) Conversion Facilities at the U.S. Department of Energy (DOE) sites near Paducah, Kentucky, and Portsmouth, Ohio. The conversion facilities were designed and constructed to convert DOE's inventory of DUF6 produced by the former Paducah Gaseous Diffusion and the Portsmouth Gaseous Diffusion Plants to a more stable uranium oxide form for reuse, storage, and/or transportation and disposition. MCS' focus will be on continuing to provide cylinder surveillance and maintenance for the DUF6 conversion facilities and associated equipment; operating the conversion facilities to convert the DUF6 inventory at Paducah and Portsmouth to uranium oxide; reusing, storing, transporting and/or disposing of the DUF6 conversion process end-products; and selling the aqueous hydrofluoric acid (AqHF) product., according to their website.

Website: <https://duf6mcs.com>

Sector: Professional, Scientific, and Technical Services.

Industries: Serve the U.S. Department of Energy in a broad array of needs, including nuclear operations, site stewardship, utilities, infrastructure, emergency services, protective services, and laboratory and technical services.

Community Engagement: Donates to local charities and interests, employees volunteer, support local businesses, and hire locally as much as possible.

Employment Needs: During the operations & maintenance phase, MCS plans to employ approximately 585 workers, primarily by transferring staff from its current contract. The largest occupational group is USW-represented positions, totaling 300 workers with a median salary of \$125,000 including overtime and benefits. Other significant needs include Emergency Services/Protective Force (80 workers), Technical roles (70 workers), and both Engineering and Health and Safety/Radiological positions (50 workers each).

Additional staffing includes Administrative (30 workers) and Management (5 workers) personnel. Most roles will be filled by current employees under existing contracts, with some new hires drawn from training programs. Compensation levels range from \$100,000 to over \$200,000, with most positions requiring security clearances ranging from uncleared level to Q-level (Top Secret). (Table 5)

Recruitment challenges: The employer faces several key challenges in recruiting workers. These include a shortage of specialized skills, strong competition from other sectors offering more attractive compensation packages, and difficulties associated with the remote location. Engineering support is particularly hard to find, making it one of the most challenging roles to fill. Additionally, positions in

radiological control (RadCon) and industrial hygiene are also challenging to recruit for. As a “captive audience” on the reservation, the employer notes that frequent poaching among contractors creates further instability. Relocation to Piketon remains a persistent barrier, compounding recruitment difficulties.

Worker retention challenges: Employers anticipate key challenges in retaining workers, primarily due to competition from other sectors offering more attractive compensation packages. Additionally, the remote location of the site poses a significant challenge, making it harder to retain talent in the long term. These factors may contribute to higher turnover rates and difficulty in sustaining a stable workforce over the project’s duration.

Expected workforce trend or change over the next 3-5 years: Pretty stable.

Preferred training programs or partnerships: The employer expressed interest in expanding training efforts through the USW Local 689 Hall, noting that past training provided by the Building Trades effectively prepared workers for site needs. For professional roles, particularly engineers, they prefer to recruit from Ohio University, The Ohio State University, the University of Cincinnati, and other local institutions. This approach not only helps identify qualified candidates but also increases the likelihood of hiring individuals who are interested in living and staying in the region.

Other programs you would utilize if available: The employer emphasized the need for expanded training across several critical areas. Specifically, they identified a need for more Radiological Worker (Rad Worker) training, OSHA training, Supervisor training, and Work Control Planning training. They are also looking at the current Training Matrix.

Union Experience: Yes – Rad Worker. IH. MSSC.

Table 5: Mid-America Conversion Services’ hiring needs for the operation & maintenance phase

Occupation Category	# Workers	Hiring Timeline	Pay Range	Security Level
USW	300	Most will be transferred from current contracts (<i>new hires will be within the first year</i>)	125K median w/ overtime and benefits	Uncleared through Q
Emergency Services / Protective Force	80	Some will be transferred	130K median	Uncleared through Q

Occupation Category	# Workers	Hiring Timeline	Pay Range	Security Level
		from current contracts		
Management	5	Many will be transferred from current contracts	150–200K median	Uncleared through Q
Technical	70	Some will be transferred from current contracts	\$150K median	Uncleared through Q
Engineering	50	Most will be transferred from current contracts	\$150–200K median	Uncleared through Q
Health and Safety / Radiological	50	Mix of current contracts and new from training programs	120K median	Uncleared through Q
Administrative	30	Transferred from current contracts	100K median	Uncleared through Q

4. Hecate Energy LLC

Hecate Energy is a leading developer, owner, and operator of renewable power projects and storage solutions in the United States. They specialize in clean energy and energy storage projects, from planning and inception through construction and operation. Hecate Energy LLC discovers and deploys creative approaches to structuring power purchase agreements and financing for power projects in the United States, according to their website.

Website: <https://www.hecateenergy.com>.

Sector: Utilities.

Industries: Renewable Energy Developers.

Community Engagement: Community engagement is a cornerstone of successful development. Hecate Energy is committed to understanding the unique needs of each community and works collaboratively to align project goals accordingly. The company actively engages with community groups and local governments, listening closely to their priorities to ensure that each project reflects their vision. Recognizing that every community is different, Hecate Energy meets with stakeholders individually and develops tailored engagement plans based on their specific needs.

Employment Needs: Hecate Energy LLC plans to hire about 89 workers for the construction phase, with the largest group (47 workers) in Construction and Extraction Occupations. Other roles include Management (14), Business and Financial Operations (11), and Office Support (7). Smaller numbers will be needed in Engineering, Maintenance, Production, Transportation, Sales, and Science. Compensation for these jobs ranges from approximately \$44,000 to over \$118,000 annually, based on Ohio statewide averages. (Table 6).

In the operations and maintenance phase, staffing will decrease to around 16 workers, including 4 in *Maintenance*, 3 in *Management*, and 3 in *Production*. A few additional workers will be needed for *business, office, and technical support*. (Table 7)

Expected workforce trend or change over the next 3-5 years: Advancement of renewable technologies (PV panels, batteries, etc.). The renewable energy industry is an ever-evolving industry.

Preferred training programs or partnerships: Yes (*However, the employer did not specify which programs.*)

Other programs you would utilize if available: Yes (*However, the employer did not specify which programs.*)

Union Experience: Yes – The employer stated that they have developments across the country and have worked with numerous unions and trade groups on the construction of our projects.

Table 6: Hecate Energy LLC’s hiring needs for the construction phase

Occupation Category	# Workers	Annual Mean Wage
Construction and Extraction Occupations	47	\$61,020
Management Occupations	14	\$118,330
Business and Financial Operations Occupations	11	\$80,700
Office and Administrative Support Occupations	7	\$45,650
Architecture and Engineering Occupations	3	\$92,310
Installation, Maintenance, and Repair Occupations	2	\$56,020
Production Occupations	2	\$46,250
Transportation and Material Moving Occupations	1	\$44,000
Sales and Related Occupations	1	\$48,990
Life, Physical, and Social Science Occupations	1	\$79,200

Note: The annual mean wages in this table reflect statewide averages for Ohio. For more information, please visit the U.S. Bureau of Labor Statistics’ Ohio Occupational Employment and Wage Estimates: https://www.bls.gov/oes/2023/may/oes_oh.htm

Table 7: Hecate Energy LLC’s hiring needs for the operations & maintenance phase

Occupation Category	# Workers	Annual Mean Wage
Installation, Maintenance, and Repair Occupations	4	\$56,020
Management Occupations	3	\$118,330
Production Occupations	3	\$46,250
Business and Financial Operations Occupations	2	\$80,700
Office and Administrative Support Occupations	2	\$45,650
Architecture and Engineering Occupations	1	\$92,310
Sales and Related Occupations	0.5	\$48,990
Construction and Extraction Occupations	0.5	\$61,020

Note: The annual mean wages in this table reflect statewide averages for Ohio. For more information, please visit the U.S. Bureau of Labor Statistics’ Ohio Occupational Employment and Wage site.

**PREPARING FOR PORTS SITE REINDUSTRIALIZATION
WORKFORCE:
TRADE TRAINING CAPACITY ACROSS SOUTHERN
OHIO
(LABOR UNION TRAINING CENTER SURVEY)**

PREPARED BY:

**OHIO UNIVERSITY
VOINOVICH SCHOOL OF LEADERSHIP AND PUBLIC
SERVICE
PORTSFUTURE PROGRAM
AND
REMINGTON ROAD GROUP**

MAY 29, 2025

Executive Summary

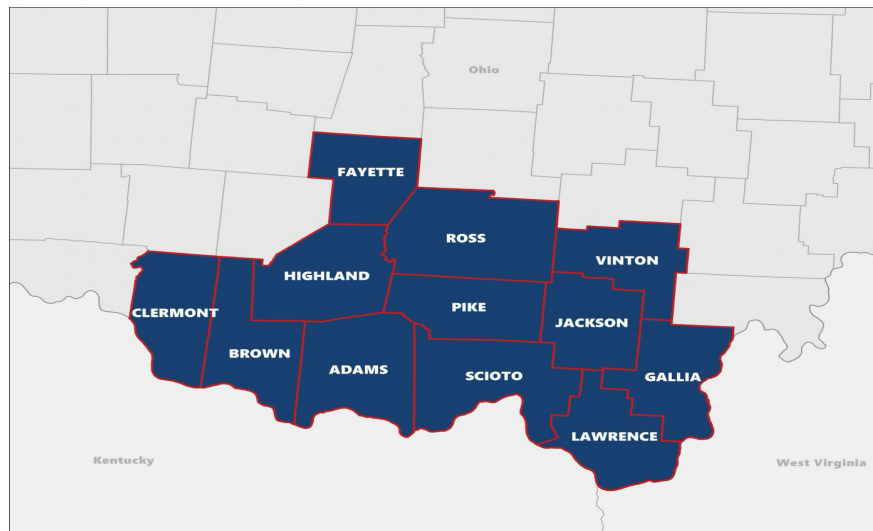
This report presents a comprehensive overview of eight trade training centers operating across southern and southeastern Ohio. These centers serve as critical workforce development hubs for high-demand industries such as construction, utilities, energy, and industrial maintenance. The survey highlights each center’s geographic reach, training programs, wages and benefits, institutional partnerships, and capacity to meet growing regional workforce needs.

All centers surveyed have a significant presence within the Ohio Valley Regional Development Commission (OVRDC) region, covering 12 counties: Adams, Brown, Clermont, Fayette, Gallia, Highland, Jackson, Lawrence, Pike, Ross, Scioto, and Vinton (Figure 1). Some centers, such as Boilermakers Local 105, serve a broader geography, reaching 35 counties in Ohio, while others focus on targeted service areas aligned with specific branches of trade.

Figure 1: OVRDC region’s map

Source: Ohio Valley Regional Development Commission.

Retrieved from <https://www.ovrdc.org/about>



The centers offer training across a wide range of skilled trades, including carpentry, welding, pipe fitting, plumbing, electrical work, heavy equipment operation, nuclear facility maintenance, and iron work. Total compensation - including wages and benefits - across trades are competitive, with total compensation packages ranging from \$46.81/hour for Limited Energy Technicians to \$73.88/hour for Boilermakers. Most programs include OSHA certifications, first aid, CPR, and trade-specific safety credentials.

Annual graduation rates vary widely. Appalachian Career Empowerment (ACE) leads scale, expecting 240 graduates annually. Other centers operate below capacity. For example, Boilermakers Local 105 has the infrastructure to train 340 students annually, but currently graduates 15 annually due to demand level. Most programs demonstrate the potential for scaled growth and, based upon need, have the ability to expand to full capacity.

Most of the training centers maintain formal partnerships with community colleges and universities, allowing apprentices to earn college credit toward associate degrees. Notable examples include ACE’s affiliation with Sinclair College, and Shawnee State, as well as The Indiana/Kentucky/Ohio Regional Council of Carpenters’ (IKORCC) integration with Ivy Tech, through which all graduates earn a tuition-free two-year degree in Construction Management.

In addition to core trade skills, many centers offer specialized certifications, such as Radiological Control Technician, HAZWOPER, Infection Control Risk Assessment (ICRA), and GPS-based construction systems. These programs enhance employability and support industry-specific compliance and safety standards.

1. 8 Participating training centers

Table 1: Participating Training Centers

Training Center	Address	Website
Appalachian Career Empowerment (ACE)	3930 US-23, Piketon, OH 45661	www.acetrainingprogram.com
Boilermakers Local 105	4575 State Route 220, Piketon, OH 45661	www.boilermakers105.com
Indiana/Kentucky/Ohio Regional Council of Carpenters (IKORCC) Training Center – Grayson Campus	574 Carpenters Way, Grayson, KY 41143	www.ikorcc.com
Iron Workers Local Union 172 Joint Apprenticeship Training Committee (JATC)	2867 S High St, Columbus, OH 43207	www.ironworkers172.com
Ohio Laborers Training Center	25721 Coshocton Rd, Howard, OH 43028	www.oltc.org
Ohio Operating Engineers Apprenticeship & Training, District 3 Logan Center	30410 Strawn Rd, Logan, OH 43138	www.local18training.com

Training Center	Address	Website
Plumbers and Pipefitters Local 577 Joint Apprenticeship and Training Committee (JATC)	1236 Gallia St, Portsmouth, OH 45662	www.ualocal577.org
Electrical Training Academy	24 Gingersnap Road, Portsmouth, OH 45662	electricaltrainingacademy.org

2. Service area coverage

The training centers that participated in this survey primarily serve southern and southeast-ern Ohio (Table 2), with strong overlap in the 12-county region covered by the Ohio Val-ley Regional Development Commission (OVRDC). The OVRDC region includes the following counties: Adams, Brown, Clermont, Fayette, Gallia, Highland, Jackson, Lawrence, Pike, Ross, Scioto, and Vinton.

Appalachian Career Empowerment (ACE) currently serves five counties in Ohio: Jackson, Pickaway, Pike, Ross, and Scioto. Four of those fall within the OVRDC region. The center have plans to expand training throughout central Appalachia, including counties in Kentucky and West Virginia

Boilermakers Local 105 has the largest footprint among the centers, serving 35 counties, including all counties within the OVRDC region: Adams, Brown, Clermont, Fayette, Gallia, Highland, Jackson, Lawrence, Pike, Ross, Scioto, and Vinton.

IKORCC Training Center – Grayson Campus serves 12 Ohio counties, 10 of which are in the OVRDC region: Adams, Fayette, Gallia, Highland, Jackson, Lawrence, Pike, Ross, Scioto, and Vinton.

Iron Workers Local 172 JATC serves 25 counties in Ohio, including many OVRDC counties such as Fayette, Highland, Jackson, Pike, Ross, and Vinton.

Ohio Laborers Training Center operates in 11 counties, including 9 within the OVRDC region: Adams, Gallia, Highland, Jackson, Lawrence, Pike, Ross, Scioto, and Vinton.

Ohio Operating Engineers – Logan Center serves 23 counties, with significant over-lap in OVRDC counties: Gallia, Jackson, Lawrence, Pike, Ross, and Vinton.

Plumbers and Pipefitters Local 577 Joint Apprenticeship and Training Committee (JATC) trains in 9 counties, 8 of which are within the OVRDC region:

Adams, Gallia, Highland, Jackson, Lawrence, Pike, Scioto, and Vinton.

Electrical Training Academy serves 10 counties in Ohio and 4 counties in Kentucky. Eight of the 10 counties in Ohio fall within the OVRDC boundaries: Adams, Fayette, Highland, Jackson, Pike, Ross, Scioto, and Vinton. The center focuses on commercial and industrial electrical training, supporting the local infrastructure and commercial development.

Table 2: Counties in Ohio Served by the Participating Training Centers

Training Center	# Counties Served	County Names
Appalachian Career Empowerment (ACE)	5	Jackson, Pickaway, Pike, Ross, Scioto, with plans to expand training throughout central Appalachia, including counties in Kentucky and West Virginia.
Boilermakers Local 105	35	Adams, Athens, Brown, Butler, Champaign, Clark, Clermont, Clinton, Fairfield, Fayette, Franklin, Gallia, Greene, Guernsey, Hamilton, Highland, Hocking, Jackson, Lawrence, Licking, Madison, Meigs, Miami, Montgomery, Morgan, Muskingum, Noble, Perry, Pickaway, Pike, Preble, Ross, Scioto, Vinton, Warren.
IKORCC Training Center – Grayson Campus	12	Adams, Fayette, Gallia, Hocking, Highland, Jackson, Lawrence, Meigs, Pike, Ross, Scioto, Vinton.
Iron Workers Local 172 JATC	25	Champaign, Clark, Crawford, Delaware, Fairfield, Fayette, Franklin, Hardin, Highland, Hocking, Jackson, Knox, Licking, Logan, Madison, Marion, Morrow, Muskingum, Perry, Pickaway, Pike, Ross, Union, Vinton, Wyandot.
Ohio Laborers Training Center	11	Adams, Athens, Gallia, Highland, Jackson, Lawrence, Meigs, Pike, Ross, Scioto, Vinton.
Ohio Operating Engineers – Logan Center	23	Athens, Crawford, Delaware, Fairfield, Franklin, Gallia, Hocking, Jackson, Knox, Lawrence, Licking, Marion, Meigs, Morgan, Morrow, Muskingum, Perry, Pickaway, Pike, Ross, Union, Vinton, Wyandot.
Plumbers and Pipefitters Local 577 JATC	9	Adams, Athens, Gallia, Highland, Jackson, Lawrence, Pike, Scioto, Vinton.
Electrical Training Academy	10	Adams, Fayette, Highland, Hocking, Jackson, Pickaway, Pike, Ross, Scioto, Vinton.

3. Branches of trade offered, skill required, and compensation

3.1 Appalachian Career Empowerment (ACE)

ACE offers cross-disciplinary training rooted in nuclear operations and decommissioning. Its programs support technical roles in operations, maintenance, and service functions for high-risk, regulated environments.

Service Workers

Skills: Labor work, sanitation services

Total Compensation (including wages and benefit): Starting at \$47/hour.

Maintenance Technicians

Skills: Includes all skill crafts: electricians, mechanics, instrument maintenance.

Total Compensation (including wages and benefit): Starting at \$49/hour.

Operations Technicians

Skills: Power operations, process operations, utility operations, uranium operations, chemical operations.

Total Compensation (including wages and benefit): Starting at \$49/hour.

Professional Technical

Skills: Buyers, environmental technicians, planners, radiological control technicians, industrial hygiene technicians.

Total Compensation (including wages and benefit): \$26.73/hour to \$50.61/hour.

3.2 Boilermakers Local 105

Boilermakers Local 105 specializes in heavy industrial and power generation work. Training is focused on high-skill trades such as welding, rigging, and mechanical assembly. All three Boilermaker roles share a common skill set and compensation.

Boilermaker – Mechanic, Welder, Rigger

Skills: Welding, rigging, layout, burning, gouging

Wage: \$44.25/hour

Benefits: \$29.63/hour

Total Compensation: \$73.88/hour

3.3 IKORCC – Grayson Campus

IKORCC Grayson offers an intensive, multi-year apprenticeship across a variety of construction trades, from precision millwrighting to detailed finish work in flooring and carpentry.

Millwright

Skills: Precision alignment, rotating equipment, welding

Wage: \$37.78/hour

Benefits: \$28.05/hour

Total Compensation: \$65.83/hour

Floor Coverer

Skills: Installation of sheet vinyl, VCT, LPV, hardwood, and ceramics

Wage: \$32.82/hour

Benefits: \$27.03/hour

Total Compensation: \$59.85/hour

Carpenter

Skills: Wood and metal framing, drywall hanging, acoustical ceilings, concrete formwork, scaffold building, welding, bridge formwork

Wage: \$32.82/hour

Benefits: \$27.03/hour

Total Compensation: \$59.85/hour

Pile Driver

Skills: Pile driving, welding, concrete formwork

Wage: \$33.00/hour

Benefits: \$26.90/hour

Total Compensation: \$59.90/hour

3.4 Iron Workers Local 172

Iron Workers Local 172 specializes in ironwork trades, with core training in welding, rigging, reinforcing, and blueprint reading. The center offers a registered apprenticeship

that prepares workers for structural and reinforcing ironwork roles.

Iron Worker

Skills: Welding, rigging, reinforcing, blueprint reading.

Wage: \$36.77/hour

Benefits: \$23.79/hour

Total Compensation: \$60.56/hour

3.5 Ohio Laborers Training Center

This center supports training in general construction labor through stackable, modular programs that include certifications and specialty skills.

Laborers

Skills: Measuring and leveling instruments, introduction to transits, pipelaying, mason tending, burning, carpenter tending & pneumatic tools, small engines/powered tools, asphalt & traffic control, concrete placement, traffic control supervisor, asbestos and lead abatement, rigging, skiff steer and forklift training, scaffold builder, basic welding, solar farm construction, ICRA and Hazardous Waste Training, OSHA 10 and 30, Confined Space/CPR/First Aid, excavation safety, plastic pipe fusion & blue prints and foreman training.

Wage:

Heavy Highway Laborers: \$35.52/hour

Pipeline Laborers: \$38.15/hour

Local Building Agreement: \$40.97/hour

Benefits:

Heavy Highway Laborers: \$14.6/hour

Pipeline Laborers: \$14.1/hour

Local Building Agreement: \$14.24/hour

Total Compensation:

Heavy Highway Laborers: \$50.12/hour

Pipeline Laborers: \$52.25/hour

Local Building Agreement: \$55.21/hour

3.6 Ohio Operating Engineers Apprenticeship & Training - Logan Training Center

The Ohio Operating Engineers program includes training in heavy machinery operation, safety certifications, and equipment maintenance.

Operating Engineers

Skills: Machines, Mechanics, Forklift, CDL, OSHA 10-STP, Signal Person Qualification, Skid Steer, Labor History, Trench Safety. Industrial and Rough Terrain Forklift Certification, Skid Steer Certification. Apprentices will attend 160 hours (4 weeks) of related instruction per year for four years (training sessions are unpaid). Training sessions are scheduled in four 40-hour blocks. one week in the Fall, two weeks in the Winter, one week in the Spring for the first 3 years, and in the 4th year it will be two weeks in the Fall and two weeks in the Spring.

Wage: \$44.14/hour

Benefits: \$16.60/hour

Total Compensation: \$60.74/hour

Maintenance Technicians

Skills: Principles of Diesel Engines, Support Equipment Repair (small engines, compressors, pumps, generators, welders, chain saws), Electrical Systems, Hydraulic & Air Brake Systems, Power Trains, Shop Operations, Engines & Components ,Final Drives, Electrical Systems ,Welding Processes, Crane Assembly & Disassembly, Excavator Hydraulic Systems, Line Boring, Engines, GPS Overview & Diagnosis. Maintenance Technician minimum requirement for graduation: 4,000 hours of on-the-job training, all classroom/shop training completed with passing scores on exams, At-tendance of annual MSHA Refresher, Attendance of Forklift Certification Refresher, and attendance at a minimum of 3 union meetings.

Wage: In the field, Maintenance Technicians will get a similar rate to Operating Engineers' wages; if working in a shop, they will get a lower rate depending on the shop.

Benefits: Varies

Total Compensation: Varies

3.7 Plumbers and Pipefitters Local 577 JATC

Local 577 supports both industrial and commercial plumbing and pipefitting with added certifications like medical gas and backflow prevention.

Industrial Plumber/Pipe fitter/Welders/Service Technicians

Skills: Plumbing, pipe fitting, welding, rigging, instrumentation, rigging certification, backflow certification, medical gas installation, OSHA 10 and 30.

Wage: \$41.65/hour

Benefits: \$27.60/hour

Total Compensation: \$69.25/hour

Commercial Plumber/Pipe fitter/Welders/Service Technicians

Skills: Plumbing, pipe fitting, welding, rigging, instrumentation, rigging certification, backflow certification, medical gas installation, OSHA 10 and 30.

Wage: \$37.89/hour

Benefits: \$27.60/hour

Total Compensation: \$65.49/hour

3.8 Electrical Training Academy

This registered apprenticeship trains apprentices in the electrical construction industry with two programs, the Inside program and the Limited Energy program, dedicated to developing highly skilled professionals. Their comprehensive programs blend theoretical instruction with hands-on experience, ensuring graduates are fully prepared to meet industry demands. The rigorous curriculum combines classroom instruction with practical application, ensuring graduates possess both theoretical knowledge and real-world skills. Through strong industry partnerships, they provide relevant, cutting-edge training that directly translates to workplace success. Educational classes cover essential areas, including electrical principles and applications, advanced safety protocols and certifications, first aid/CPR/AED training and certification, OSHA 10 and 30, code compliance and industry standards, and specialized technical skills.

Inside Electrician

Skills: Electrical Theory and Principles, circuitry, National Electrical Code (NEC), code compliance, blueprint reading, wiring and installation, troubleshooting and di-agnostics, safety protocols and hazard preventions, tool and equipment proficiency, Smart technology integration, fire alarm systems, and more.

Wage: \$38.00/hour

Benefits: \$21.12/hour

Total Compensation: \$59.12/hour

Limited Energy Technician

Skills: Low Voltage systems, telecommunications, security systems, fire alarm systems, audio/visual technology, cable management, fiber optic installation, building automation, blueprint interpretation, testing and certification, code compliance, troubleshooting methodologies, and more.

Wage: \$32.37/hour

Benefits: \$14.25/hour

Total Compensation: \$46.62/hour

4. Training centers’ capacity and graduation output

Table 3: Training Centers’ Capacity and Graduation Output

Center	Average Graduates per Year	Max Capacity
Appalachian Career Empowerment (ACE)	Up to 240 graduates for 2025	Total of 720 projected over a three-year period (with ability to expand based on need)
Boilermakers Local 105	15	340 per year (with ability to expand based on need)
IKORCC Grayson Campus	200	300 per year (with ability to expand based on need)
Iron Workers Local 172 JATC	40	80 (with ability to expand based on need)

Center	Average Graduates per Year	Max Capacity
Ohio Laborers Training Center	15	25 per year (with ability to expand based on need)
Ohio Operating Engineers – Logan Center	100	Unlimited capacity to expand depending on ability to hire instructors
Plumbers & Pipefitters Local 577 JATC	15	25 (with ability to expand based on need)
Electrical Training Academy	12	500 (with changes in the format of training, the appropriate additional resources, and instructors)

- Appalachian Career Empowerment (ACE): The center reports 240 graduates expected in 2025, with a total of 720 projected over a three-year period. While no maximum capacity is officially defined, ACE appears to be operating at a high volume and is structured to consistently accommodate this level of output.
- Boilermakers Local 105: This center graduates approximately 15 individuals per year, despite having the capacity to train up to 340. It is operating significantly below its capacity due to demand level.
- IKORCC Grayson Campus: The campus graduates about 200 individuals annually, with a stated capacity of 300. It is operating at approximately two-thirds of its capacity and has the ability to train an additional 100 individuals per year due to demand level.
- Iron Workers Local 172 JATC: This center has an average of 40 graduates per year and a maximum capacity of 80. It is also operating below capacity due to demand level.
- Ohio Laborers Training Center: This center graduates around 15 apprentices per year. With a per-class capacity of 25. It is currently operating below potential capacity due to demand level.
- Ohio Operating Engineers – Logan Center: The center averages 100 graduates annually. It has no fixed capacity limit and is considered scalable. Its ability to expand depends on hiring additional instructors. Due to the demand level, it is not currently at full instructional capacity.

- Plumbers and Pipefitters Local 577 JATC: The center trains 15 individuals per year and has a maximum capacity of 25. It is operating below capacity due to demand level.
- Electrical Training Academy: This training center has an average of 12 graduates per year and a maximum capacity of 500 with changes in the training format and the appropriate resources. The average graduates per year will increase to approximately 32 due to industry demands and class sizes that have expanded due to the needs.

5. Training centers and higher education institutions partnerships

Several of the trade-focused training centers maintain partnerships with local colleges and universities to offer college credit for apprentices and trainees. These partnerships play a vital role in creating clear pathways from apprenticeship programs to higher education credentials, while also supporting regional economic development.

- The Appalachian Career Empowerment (ACE) is affiliated with Sinclair Community College and Shawnee State University. Through these partnerships, ACE offers college credit opportunities to its apprentices and trainees. It serves as a regional hub for technical and industrial workforce training.
- Boilermakers Local 105 currently does not have a formal partnership with a higher education institution.
- IKORCC Training Center – Grayson Campus partners with Ivy Tech in Indiana. Every apprentice at the Grayson Campus graduates with a two-year associate degree in Construction Management with an emphasis in Carpentry. The program is free to members; the Carpenters Union pays Ivy Tech for the credits. All coursework is completed on-site at the Grayson Campus.
- Iron Workers Local 172 JATC partners with Cuyahoga Community College to offer college credit for their apprentices.
- Ohio Laborers Training Center partners with Cuyahoga Community College to offer college credit for apprenticeship training.
- Ohio Operating Engineers Training Center – Logan maintains several partnerships with educational institutions. It supports Hocking College's Heavy Equipment Management Program and has an articulation agreement with Columbus State Community College that grants 39 credit hours to apprentice graduates. These graduates can earn an associate degree by completing 10 additional courses. The center also partners with Buckeye Hills Career Center, Collins Career Center, New Lexington Workforce Center, and Eastland Career Center. At Eastland, the center delivers a 10-hour OSHA course for students in

the diesel mechanics program.

- Plumbers and Pipefitters Local 577 JATC partners with Owens Community College to offer college credit for its apprenticeship program.
- Electrical Training Academy partners with Northwest State Community College to offer college credit. Apprentices can take additional classes to earn a degree.

6. Additional specified training programs offered

The participating training centers reported offering additional specified training programs beyond their core apprenticeship curriculum. These include safety certifications, health-related training, and specialized technical credentials.

Acronyms from Training Programs Overview

- Training Programs
 - * STP – Safety Training Passport
- Certifications & Safety Training
 - * AED – Automated External Defibrillator
 - * CPR – Cardiopulmonary Resuscitation
 - * HAZWOPER – Hazardous Waste Operations and Emergency Response
 - * ICRA – Infection Control Risk Assessment
 - * OSHA – Occupational Safety and Health Administration
 - * MSHA – Mine Safety and Health Administration
 - * NFPA – National Fire Protection Association
 - * NEC – National Electrical Code
- Other Technical/Industry Terms
 - * DSI – Door Safety Inspector
 - * GPS – Global Positioning System
- Appalachian Career Empowerment (ACE) offers Radiological Control Technician Training, Industrial Hygiene Technician Training, OSHA 10/30/511/501, and HAZWOPER Training.
- Boilermakers Local 105 offers OSHA 10, OSHA 30, CPR, and First Aid.

- IKORCC Grayson Campus offers their journeyman and apprentices OSHA 10 and 30, defibrillator, first aid, CPR, 40-hour scaffold qualification/competent person, certified rigging and signaling class, door safety inspectors/DSI, ICRA (Infection Control Risk Assessment Training), steam and gas turbine welding certifications, Install Certification for Flooring, 40 HAZWOPER Training, lead abatement training (all are certifications or qualifications).
- Iron Workers Local 172 JATC offers First Aid, CPR, AED, confined space, cranes and rigging, welding, fire watch, fall protection, aerial work platform, bidding and estimating, rough terrain forklift, instrument layout, OSHA, OSHA 30, OSHA 500, OSHA 510, scaffold, silica, structural steel, unbonded post tension, curtain wall, and foreman training.
- Ohio Laborers Training Center offers OSHA 10 & 30, First Aid, CPR, and STP.
- Ohio Operating Engineers – Logan Center offers Continuing education classes for journeymen include Asphalt Paving, Asphalt Milling, Crane I, Crane II, Luffing Crane, Crane I Refreshers, Lift Director, Tower Crane, Crane Rigging, Pile Driving, Signal Person, Directional Drill, Drones in Construction, Entry Level Driver Training, First Aid/CPR/AED, Forklift/Industrial & Rough Terrain, GPS Grade Control, Intro to Grade Checking, Grader, Grades & Planes, HAZWOPER, HAZ-WOPER Refresher, Load Securement, Infection Control Risk Assessment, MSHA, MSHA Refresher, OSHA 10 - STP (Safety Training Passport), OSHA 30 - STP, Distribution & Locating, Hydro Excavating, Deep Excavation, Trench Safety, 24 Hour Skid Steer, Skid Steer Refresher, Remote Control Equipment, Solar Field Post Pounder, Welding, Support Equipment & Maintenance, and Operating Engineers Certification Program Certification Exams and Practical Exams.
- Plumbers and Pipefitters Local 577 JATC offers their journeyman classes in advanced OSHA, rigging, and instrumentation.
- Electrical Training Academy offers OSHA 10, OSHA 30, First Aid/CPR/AED, Welding, Ohio Fire Alarm, Kentucky Journeyman Exam, as well as Continuing Education classes for contractors and journey level workers which include NFPA 70E, NEC Code Changes, and other necessary industry updates.

**PREPARING FOR PORTS SITE REINDUSTRIALIZATION
WORKFORCE:**

**FINAL SUMMARY AND WORKFORCE READINESS
RECOMMENDATIONS**

PREPARED BY:

**OHIO UNIVERSITY
VOINOVICH SCHOOL OF LEADERSHIP AND PUBLIC
SERVICE
PORTSFUTURE PROGRAM
AND
REMINGTON ROAD GROUP**

AUGUST 11, 2025

1. Workforce Strength and Challenges

The Ohio Valley Regional Development Commission (OVRDC) region has a total workforce of 214,892 aged 16 and over (IMPLAN® Model, 2022), offering a diverse talent pool and specialized industry expertise, making it a key area for workforce development and economic development. The region's labor market strengths lie in traditional industries, including hospitality, transportation, logistics, education, healthcare, manufacturing, and construction. These occupations are highly concentrated in the region, suggesting competitive workforce advantages with well-established expertise.

However, not all concentrated occupations offer long-term stability. Several roles with strong regional specialization, such as Cashiers, Home Health Aides, Stockers and Order Fillers, and Shipping, Receiving, and Inventory Clerks, are projected to decline by 2032. For instance, Cashiers alone are projected to lose more than 225 jobs, representing a decline of approximately 4% in total employment for this occupation.

Using the long-term employment forecast, we identify 14 occupations in the region that are expected to experience notable employment declines. Many of these roles—such as cashiers, administrative assistants, janitors, and home health aides—are typically routine, lower-wage, and labor-intensive. These workers are at high risk of economic displacement since their jobs are highly specialized in the region but are projected to decline due to structural shifts in the economy. This trend highlights the importance of targeted workforce strategies in supporting economic resilience and enhancing worker mobility.

2. New Opportunities from the PORT Site Redevelopment

The redevelopment of the PORTS site in Pike County presents a transformative opportunity for the OVRDC region. Major developers, such as Trillium H2 Power and Centrus Energy, anticipate hiring thousands of workers across their construction and operational phases. During the construction phase alone, Trillium plans to hire over 3,300 workers, while Centrus Energy expects to hire more than 250. Key construction occupations in demand include construction laborers, electricians, pipefitters, heavy equipment operators, and welders. These jobs offer competitive compensation ranging from \$20 to over \$95 per hour, depending on role and skill level.

During the operations and maintenance phase, both Trillium and Centrus Energy anticipate smaller but steady long-term hiring, with a focus on technical and supervisory roles. Trillium plans to hire approximately 268 employees for their operational phase, with high-demand occupations in production, business and financial operations, engineering, and management. Other positions include roles in science, office support, IT, and transportation, with wages ranging from \$20 to \$75 per hour. Centrus Energy expects to hire around 243 workers in operations, engineering, maintenance, and supervisory roles. Most positions will offer annual salaries between \$70,000 and \$130,000, with some management roles reaching up to \$150,000. Both companies

emphasize stability, long-term operations, and a strong focus on technical expertise, safety, and regulatory compliance.

Besides Trillium and Centrus Energy, smaller developers are also contributing to the region's workforce demand. For example, Hecate Energy LLC anticipates hiring 89 workers during its construction phase, including 47 positions in construction and extraction, 14 in management, and 11 in business and financial operations, among others, with annual salaries ranging from \$44,000 to over \$118,000. In the operation and maintenance phase, Hecate anticipates hiring 16 workers, including 4 in maintenance, 3 in management, and 3 in production, with a few additional positions in business, office, and technical support.

3. Training Capacity, Gaps, and Worker Readiness

The workforce demand during the construction phase of the PORTS site redevelopment is overwhelmingly concentrated in the skilled trades. Most of the projected jobs—such as electricians, pipefitters, welders, equipment operators, and construction laborers—require trade-specific technical training and certifications. Fortunately, the region has the training capacity needed to meet the workforce demand for the construction phase of the PORT redevelopment. Union-affiliated training centers across southern Ohio offer programs closely aligned with the expected growing occupations, positioning the local workforce to take full advantage of emerging opportunities at the PORTS site (see Table 2).

As stated previously, we identified 14 occupations in the region that are projected to decline significantly by 2032. The majority of these roles are service-related occupations, such as cashiers, home health aides, janitors, and administrative assistants, which are characterized by low wages, limited credentialing, and minimal upward mobility (Table 1).

According to the skillshed analysis, workers currently employed in the declining skilled trades, such as maintenance and repair workers, are more likely to transition successfully into growing skilled trade occupations due to transferable competencies and similar training requirements. In contrast, service-sector workers face greater barriers to entry, as their skills are less aligned with the requirements of high-demand technical roles.

To support the workforce needs of the PORTS redevelopment, regional training centers should focus on two key populations. The first population is skilled trade workers, who are employed in declining skilled trade occupations such as maintenance and repair workers. These individuals already have technical foundations that make them strong candidates for short-term upskilling or lateral movement into high-demand roles like welding, pipefitting, and equipment operation. Training centers can enhance their existing competencies by offering targeted programs that accelerate their transition into new job opportunities.

The second group includes workers from the service sector—such as cashiers, home health aides, and janitors, who face both significant projected job decline and greater barriers to entering skilled trades. These occupations are highly concentrated in the region, meaning a large share of the local workforce is employed in roles that are disappearing.

Unlike workers in the skilled trades, service-sector workers often have limited transferable skills and face difficulty finding future employment. These workers often lack the technical credentials or experience required for direct transition to the new in-demand occupations. Without targeted support, they are at high risk of long-term unemployment. Training centers should focus on developing accessible, entry-level pathways for this population, and also actively recruit them into programs that offer more stable and higher-paying careers.

While the region has a strong training infrastructure for many skilled trades, notable gaps exist in training pathways for higher-level managers, engineers, and specialists, such as civil engineers, industrial engineers, environmental engineers and specialists, health and safety specialists, supervisors, and construction managers (Tables 2 and 3). These positions are crucial for the long-term operation of the site. However, they typically require college degrees or advanced certifications that training centers do not offer. Stronger collaboration with regional colleges and universities is required to create educational pathways for these positions and fill this gap.

In the construction phase, some essential trades, such as construction managers, telecommunications equipment installers, and security and fire alarm installers, are currently not supported by local union training centers that were surveyed. These gaps may require new programs or partnerships to ensure roles can be filled locally.

Table 1: Declining Occupations in the OVRDC Region (2022–2032)

Occupation Code	Occupation Title	Occupational Cluster
43-5071.00	Shipping, Receiving, and Inventory Clerks	Engineers, Technicians, and Specialists
53-7064.00	Packers and Packagers, Hand	Engineers, Technicians, and Specialists
53-7061.00	Cleaners of Vehicles and Equipment	Skilled Trade Workers
49-9071.00	Maintenance and Repair Workers, General	Skilled Trade Workers
41-2011.00	Cashiers	Managers, Teachers, and Service Related Workers
31-1121.00	Home Health Aides	Managers, Teachers, and

Occupation Code	Occupation Title	Occupational Cluster
		Service Related Workers
43-6014.00	Secretaries and Administrative Assistants, Except Legal, Medical, and Executive	Managers, Teachers, and Service Related Workers
25-2021.00	Elementary School Teachers, Except Special Education	Managers, Teachers, and Service Related Workers
43-4051.00	Customer Service Representatives	Managers, Teachers, and Service Related Workers
49-3023.00	Automotive Service Technicians and Mechanics	Managers, Teachers, and Service Related Workers
37-2011.00	Janitors and Cleaners, Except Maids and Housekeeping Cleaners	Managers, Teachers, and Service Related Workers
35-3031.00	Waiters and Waitresses	Managers, Teachers, and Service Related Workers
53-7065.00	Stockers and Order Fillers	Managers, Teachers, and Service Related Workers

Table 2: Construction Phase Workforce Demand (Identified by Developers)

Occupation Code	Occupation Title	Labor Organizations / Training Centers Support
11-3012.00	Administrative Services Managers	Not supported
47-2021.00	Brick Masons and Block Masons	Bricklayers and Allied Craftworkers Local 23 JATC* (Batavia), Ohio Laborers Training Center
47-2051.00	Cement Masons and Concrete Finishers	Operative Plasterers and Cement Masons JATC* (Ironton), Ohio Laborers Training Center
17-2051.00	Civil Engineers	Not supported
11-9021.00	Construction Managers	Not directly supported

Occupation Code	Occupation Title	Labor Organizations / Training Centers Support
15-1242.00	Database Administrators	Not supported Indiana/Kentucky/Ohio Regional
47-2081.00	Drywall and Ceiling Tile Installers	Council of Carpenters (Grayson Campus) Electrical Training Academy
47-2111.00	Electricians	(Portsmouth)
47-4031.00	Fence Erectors	Indiana/Kentucky/Ohio Regional Council of Carpenters (Grayson Campus), Ohio Laborers Training Center
47-2121.00	Glaziers	International Union of Painters and Allied Trades Finishing Trades Institute*, Ohio Region
49-9021.00	Heating, A/C, and Refrigeration Mechanics	Plumbers and Pipefitters Local 577 JATC* Electrical Training Academy
47-3013.00	Helpers—Electricians	(Portsmouth)
49-9098.00	Helpers—Installation, Maintenance, and Repair Workers	Ohio Laborers Training Center
47-3015.00	Helpers—Pipelayers, Plumbers, Pipefitters, and Steamfitters	Plumbers and Pipefitters Local 577 JATC (Portsmouth)
47-2131.00	Insulation Workers, Floor, Ceiling, and Wall	International Association of Heat Frost Insulators and Allied Workers, Local 80* (Charleston), Ohio Laborers Training Center International Association of Heat
47-2132.00	Insulation Workers, Mechanical	Frost Insulators and Allied Workers, Local 80* (Charleston)
49-9044.00	Millwrights	Council of Carpenters (Grayson Campus)
19-4051.00	Nuclear Technicians	Appalachian Career Empowerment (ACE) (Piketon)

Occupation Code	Occupation Title	Labor Organizations / Training Centers Support
47-2073.00	Operating Engineers and Other Construction Equipment Operators	Ohio Operating Engineers Apprenticeships and Training Center (Logan)
47-2141.00	Painters, Construction and Maintenance	International Union of Painters and Allied Trades Finishing Trades Institute* Ohio Region, Ohio Laborers Training Center Plumbers and Pipefitters Local
47-2152.00	Plumbers, Pipefitters, and Steamfitters	577 JATC (Portsmouth)
29-2034.00	Radiologic Technologists and Technicians	Appalachian Career Empowerment (ACE) (Piketon) Boilermakers Local 105 (Piketon),
49-9096.00	Riggers	Iron Workers Local 172 JATC (Columbus), Ohio Laborers
47-2181.00	Roofers	Roofers and Water proofers JATC*, Ohio Laborers Training Center
49-2098.00	Security and Fire Alarm Systems Installers	Electrical Training Academy (Portsmouth)
33-9032.00	Security Guards	Not supported
47-2211.00	Sheet Metal Workers	Sheet Metal Workers Local 24* Iron Workers Local 172 JATC
47-2221.00	Structural Iron and Steel Workers	(Columbus)
49-2022.00	Telecommunications Equipment Installers	Not supported Ohio Operating Engineers Apprenticeship and Training
51-4121.00	Welders, Cutters, Solderers, and Brazers	Center (Logan), Boilermakers Local 105 (Piketon), Plumbers and Pipefitters Local 577 JATC (Portsmouth)

Table 3: Operation Phase Workforce Demand (Identified by Developers)

Occupation Code	Occupation Title	Labor Organizations / Training Centers Support
13-2011.00	Accountants and Auditors	Not supported
51-9011.00	Chemical Equipment Operators and Tenders	Appalachian Career Empowerment (ACE) (Piketon)
19-4031.00	Chemical Technicians	Appalachian Career Empowerment (ACE) (Piketon)
13-1041.00	Compliance Officers	Not supported
15-1231.00	Computer Network Support Specialists	Not supported Electrical Training Academy
47-2111.00	Electricians	(Portsmouth), Appalachian Career Empowerment (Piketon)
17-2081.00	Environmental Engineers	Not supported
19-2041.00	Environmental Scientists and Specialists, Including Health	Not supported
49-1011.00	First-Line Supervisors of Mechanics, Installers, and Repairers	Not directly supported
43-1011.00	First-line Supervisors of Office and Administrative Support Workers	Not supported
33-1012.00	First-Line Supervisors of Police and Detectives	Not supported
51-1011.00	First-Line Supervisors of Production and Operating Workers	Not directly supported
11-1021.00	General and Operations Managers	Not directly supported
17-2112.00	Industrial Engineers	Not supported
49-9041.00	Industrial Machinery Mechanics	Indiana/Kentucky/Ohio Regional Council of Carpenters (Grayson Campus)
51-9061.00	Inspectors, Testers, Sorters, Samplers, and Weighers	Not supported

Occupation Code	Occupation Title	Labor Organizations / Training Centers Support
51-8011.00	Nuclear Power Reactor Operators	Appalachian Career Empowerment (ACE) (Piketon)
29-9011.00	Occupational Health and Safety Specialists	Not supported

References

IMPLAN® Model (2022). IMPLAN System (data and software). 2022 Data, using inputs provided by the user and IMPLAN Group LLC. Accessed: 2025-02-25. <https://www.implan.com>.

*Indicates the entity was not part of the initial survey